

State of Maine Department of Education
in coordination with the
National Association of State Procurement Officials
PROPOSAL COVER PAGE

RFP # 201210412
MULTI-STATE LEARNING TECHNOLOGY INITIATIVE

| | | |
|--|-------------------|-----------------------------|
| Bidder's Organization Name: CTL | | |
| Chief Executive - Name/Title: Erik Stromquist / COO | | |
| Tel: 800.642.3087 x 212 | Fax: 503.641.5586 | E-mail: estromquist@ctl.net |
| Headquarters Street Address: 3460 NW Industrial St. | | |
| Headquarters City/State/Zip: Portland, OR 97210 | | |
| <i>(provide information requested below if different from above)</i> | | |
| Lead Point of Contact for Proposal - Name/Title: Michael Mahanay / GM, Sales & Marketing | | |
| Tel: 800.642.3087 x 205 | Fax: 503.641.5586 | E-mail: mmahanay@ctl.net |
| Street Address: 3460 NW Industrial St. | | |
| City/State/Zip: Portland, OR 97219 | | |

| | |
|---|-----------|
| Proposed Cost: | \$294/yr. |
| <i>The proposed cost listed above is for reference purposes only, not evaluation purposes. In the event that the cost noted above does not match the Bidder's detailed cost proposal documents, then the information on the cost proposal documents will take precedence.</i> | |

- This proposal and the pricing structure contained herein will remain firm for a period of 180 days from the date and time of the bid opening.
- No personnel on the multi-state Sourcing Team or any other involved state agency participated, either directly or indirectly, in any activities relating to the preparation of the Bidder's proposal.
- No attempt has been made or will be made by the Bidder to induce any other person or firm to submit or not to submit a proposal.
- The undersigned is authorized to enter into contractual obligations on behalf of the above-named organization.

To the best of my knowledge all information provided in the enclosed proposal, both programmatic and financial, is complete and accurate at the time of submission.

| | | |
|---|------------------------|--|
|  <hr/> Authorized Signature | 1/9/2012 <hr/> Date | Michael Mahanay, GM, Sales & Marketing <hr/> Name and Title (Typed) |
|---|------------------------|--|



Response to:

RFP # 201210412

MULTI-STATE LEARNING TECHNOLOGY INITIATIVE

Prepared for:

State of Maine Department of Education

in coordination with the

National Association of State Procurement Officials

Table of Contents

PROPOSAL COVER PAGE..... 1

Section I Organization Qualifications and Experience..... 8

1. Description of the Organization..... 8

2. Organizational Description and Qualifications..... 9

 a. List the location of the Bidder’s corporate headquarters. Also, describe the current or proposed location where services will be provided or from which the contract will be managed..... 9

 b. Attach documentation of any applicable licensure requirements (or any specific credentials required). 9

 c. Attach a certificate of insurance on a standard Acord form (or the equivalent) evidencing the Bidder’s general liability, professional liability, and any other relevant liability insurance policies that might be associated with this contract..... 9

3. Organizational Experience..... 10

4. Description of Experience with Similar Projects..... 12

 a. Provide a description of five projects that occurred within the past five years which reflect experience and expertise needed in performing the functions described in the “Scope of Services” portion of this RFP. For each of the five examples provided, a contact person from the client organization involved should be listed, along with that person’s telephone number and email address. Please note that contract history with the any states on the Sourcing Team, whether positive or negative, may be considered in rating proposals even if not provided by the Bidder. 12

Section II Specifications of Work to be Performed 16

1. Scope of Work..... 16

 1.1. Bidder Response to Service Specifications and Requirements..... 16

2. Overview 16

 2.1. Maine Education Strategic Plan..... 18

3. Scope of Procurement: Learning Technology Wireless Classroom Solution 18

 3.1. Maine Scope of Procurement..... 18

 3.2. Hawaii Scope of Procurement 19

4. Services Provided By Other Entities 19

 4.1. Building Preparedness 20

 4.2. Connectivity and Adequate Bandwidth to Each School Building..... 20

 4.3. Home Access to the Internet..... 20

 4.4. Content, Assessment, and Integration..... 20

 4.5. Primary Research Databases..... 21

 4.6. Program Evaluation and Assessment..... 21

5. Participation by Schools 21

 5.1.1. Maine school participation 21

 5.1.2. Hawaii school participation 23

 5.1.3. Vermont school participation 23

 5.2. Opt-in..... 23

 5.2.1. Maine Opt-in..... 24

- 5.2.2. Hawaii Opt-in..... 24
- 5.2.3. Vermont Opt-in..... 24
- 5.3. Full Deployment 24
 - 5.3.1. Maine Deployment..... 24
 - 5.3.2. Hawaii Deployment 25
 - 5.3.3. Vermont Deployment..... 25
- 6. Personal Computing Device & Software Applications 25
 - 6.1.1. Maine Participating Users..... 25
 - 6.1.2. Hawaii Participating Users 26
 - 6.1.3. Vermont Participating Users..... 26
 - 6.2. Device Quantities..... 26
 - 6.2.1. Teachers and Staff..... 26
 - 6.3. Students..... 27
 - 6.3.1. Maine Students..... 28
 - 6.3.2. Hawaii Students 29
 - 6.3.3. Vermont Students..... 30
 - 6.4. Students with Disabilities 31
 - 6.5. Device Functional Requirements..... 31
 - 6.5.1. Assessment Compatibility 32
 - 6.5.2. Device Connectivity..... 33
 - 6.5.3. Device Portability 34
 - 6.5.4. Device Durability..... 34
 - 6.5.5. Device Power 35
 - 6.5.6. Keyboard..... 36
 - 6.5.7. Screen..... 37
 - 6.5.8. Mouse/Pointing Function..... 38
 - 6.5.9. Audio..... 38
 - 6.5.10. Camera 38
 - 6.5.11. Size..... 39
 - 6.5.12. Ports 39
 - 6.5.13. Boot Time/Wake Time 40
 - 6.5.14. Upgrades 40
 - 6.5.15. Ergonomics 40

| | | |
|---------|---|-----|
| 6.5.16. | Accessibility..... | 40 |
| 6.5.17. | Disposal..... | 42 |
| 6.6. | Software and Function | 43 |
| 6.6.1. | Applications | 43 |
| 6.6.2. | Multi-State Standards..... | 60 |
| 6.6.3. | State Specific Standards..... | 72 |
| 6.6.4. | Network and Device Connectivity | 96 |
| 6.6.5. | Distance and Online Learning | 96 |
| 6.6.6. | Student Information Systems..... | 97 |
| 6.6.7. | Stand-alone | 97 |
| 6.6.8. | Cloud Requirements..... | 98 |
| 6.6.9. | Software Updating | 98 |
| 6.6.10. | Software Restore..... | 99 |
| 6.6.11. | Operating System and Software..... | 99 |
| 6.7. | Device Options..... | 100 |
| 6.7.1. | Optional Software | 101 |
| 6.7.2. | Optional Hardware..... | 102 |
| 6.8. | Pricing Schedules for Additional Educational Groups | 103 |
| 6.8.1. | Maine K-6 schools | 103 |
| 6.8.2. | Maine Pre-service Teachers and Higher Education..... | 104 |
| 7. | Network Connectivity and Infrastructure..... | 104 |
| 7.1. | Building Readiness | 105 |
| 7.1.1. | Maine - Existing MLTI Wireless Networks | 105 |
| 7.1.2. | Hawaii - Existing Wireless Networks..... | 106 |
| 7.2. | Local Network and Access | 106 |
| 7.2.1. | Wireless Coverage | 106 |
| 7.2.2. | Wireless Access | 107 |
| 7.2.3. | Wireless Bandwidth..... | 109 |
| 7.2.4. | Internet Access..... | 111 |
| 7.2.5. | Existing School Networks..... | 113 |
| 7.2.6. | Server Functional Partitioning | 113 |
| 7.2.7. | Growth | 113 |
| 7.2.8. | Print Services | 114 |

| | |
|---|-----|
| 7.3. Remote Network Access..... | 114 |
| 7.3.1. Portability..... | 114 |
| 7.3.2. Other Devices..... | 114 |
| 8. Performance and Quality | 115 |
| 8.1. Uptime..... | 115 |
| 8.2. Device Reliability | 116 |
| 8.3. Response Time..... | 116 |
| 8.4. Business Continuity/Disaster Recovery..... | 116 |
| 8.5. Server Failure..... | 117 |
| 8.6. UPS | 117 |
| 8.7. Performance Metrics and Reporting | 117 |
| 9. Functional and Asset Security | 118 |
| 9.1. Wireless Security | 118 |
| 9.2. Authorization Control | 118 |
| 9.3. Anti-virus Protection..... | 119 |
| 9.4. Backups..... | 119 |
| 9.5. Warranty, Insurance, Damage, and Theft | 120 |
| 9.5.1. Warranty | 120 |
| 9.5.2. Insurance and Damage..... | 120 |
| 9.5.3. No-Fault Protection..... | 121 |
| 9.5.4. Theft Deterrent..... | 122 |
| 9.6. Asset Management..... | 124 |
| 9.6.1 Site and District Management..... | 125 |
| 9.6.2. Transfers | 125 |
| 9.6.3. Replacements | 126 |
| 9.6.4. Asset History..... | 127 |
| 9.6.5. School Information | 127 |
| 9.6.6. Reporting..... | 128 |
| 10. Professional Development, Curriculum Integration, and Consultation..... | 128 |
| 10.1.1. Maine Transition Support | 129 |
| 10.2. Curriculum Integration Professional Development..... | 130 |
| 10.2.1. Educator Professional Development..... | 130 |
| 10.2.2. Leadership Professional Development | 138 |
| 10.2.3. Technical Professional Development | 142 |
| 10.3. Ownership of Content and Curricula..... | 146 |
| 11. Support and Maintenance | 146 |
| 11.1. Solution Support..... | 149 |
| 11.2 Service and Support Plan | 149 |

| | |
|--|-----|
| 12. Project Management and Implementation | 149 |
| 12.1. Project Plan and Deliverables | 150 |
| 12.1.1. Project Plan | 150 |
| 12.1.2. Validation Testing..... | 150 |
| 12.1.3. Educational Conferences | 151 |
| 12.1.4. Implementation | 151 |
| 12.1.5. Professional Development | 153 |
| 12.1.6. Support and Service | 155 |
| 12.1.7. Timeline | 155 |
| 12.1.8. Project Staffing | 157 |
| 12.1.9. Coordination with Schools..... | 159 |
| 12.1.10. Work Within Schools | 160 |
| 12.1.11. Change Control | 160 |
| 12.1.12. Project Management Reporting..... | 161 |
| 12.1.13. Ongoing Improvements..... | 161 |
| Section III Cost Proposal | 163 |
| COST PROPOSAL FORM | 163 |
| COST PROPOSAL FORM | 164 |
| Section IV Economic Impact | 165 |
| CTL Appendix A - Forms from RFP Appendix G | 166 |
| Staff Experience with Similar Projects | 167 |
| Portable Computing Device Specifications Summary | 174 |
| CTL Appendix B – Additional Documents | 180 |

Section I Organization Qualifications and Experience

1. Description of the Organization

Present a detailed statement of qualifications and summary of relevant experience. If subcontractors are to be used, provide a list that specifies the name, address, phone number, contact person, and a brief description of the subcontractors' organizational capacity and qualifications.

CTL Response:

CTL has been quietly manufacturing high quality Laptops, Desktop PC's, Monitors and Servers since 1989 for select authorized accounts, with a strong focus in the education, local and federal government sectors. We have been recognized as one of the Oregon's fastest growing companies and were listed in CRN Magazine's annual list of leading system builders as the 5th largest system builder in the United States (<http://www.crn.com/white-box/199905036>).

CTL is one of a handful of system builders in the country that have been named both Microsoft Gold OEM's and Intel Technology Providers at the Platinum level. CTL is headquartered in Portland, Oregon. CTL's PC manufacturing, sales and support are all located in the United States not in another country.

Some of CTL customers include:

- Education customers such as Linfield College, Mount Hood Community College, Lower Columbia Community College, Central Washington University and Tigard Tualatin School District
- Government customers such as the US Department of Fish and Wildlife (US Department of the Interior), the Oregon Department of Human Services, the Oregon Department of Education and the City of Eugene, Oregon.
- Corporate customers such as Intel and Delphi

CTL's vision is to provide high quality computing products at competitive prices to government, education and corporate customers while providing industry leading service and support that is responsive, flexible, comprehensive and complete.

CTL holds a number of Public Sector computer hardware contracts including that give us a wealth of experience relevant to the Multi-State Learning Technology Initiative. Some of these contracts include: The WSCA/NASPO PC Contract Master Price Agreement #B27159 and WSCA participating addendums with 13 States including Oregon (#B27159); California (#B27159); Colorado (#20511YYY38M/WSCA); Delaware (#GSS09133-COMPUTERV18); Hawaii (#10-01); Alaska (#WN2010-COMP0002); Missouri (#B27159); Nebraska (#122550

OC); Nevada (#B27159); New Mexico (#00-000-00-00014AR); South Dakota (#15723); Washington (#T11-MST-510); Wisconsin (#15-20400-905). CTL also holds contracts with Central Washington University (Contract #8499); Oregon State University (Contract #

Sub-Contractors

CTL partners with OnForce and will utilize OnForce as a sub-contractor for onsite installation and service and support. OnForce has service professionals covering 99% of zip codes in all 50 states with over 33,000 certifications in areas including Apple (Pro Applications, Mac OS, hardware, iLife, iWork, ACMT), CEDIA, CISCO (CCENT, CCNA, CCIE, CCNP), CompTIA (A+, Network +, Server +, PDI +), Dell (DCSE), HP, Microsoft and Novell.

OnForce has completed more than 1.5 million service events and maintains a 98.9% satisfaction rating.

OnForce Headquarters

10 Maguire Road - Bldg. 2, Suite 232
 Lexington, MA 02421
 888.515.0100
 Contact: Sanji Alwis

2. Organizational Description and Qualifications

- a. List the location of the Bidder’s corporate headquarters. Also, describe the current or proposed location where services will be provided or from which the contract will be managed.**

CTL Response:

CTL is headquartered in Portland, Oregon USA. Manufacturing and final assembly of desktop PC's, servers, notebooks, and netbooks is conducted our facility located at 3460 NW Industrial St. PORTLAND, OREGON 97210. Our management, engineering, sales and in-house support and service staff are located in Portland, Oregon. We will provide these services and manage the contract from this central location.

- b. Attach documentation of any applicable licensure requirements (or any specific credentials required).**

CTL Response:

CTL’s proposed solution complies with this requirement.

- c. Attach a certificate of insurance on a standard Acord form (or the equivalent) evidencing the Bidder’s general liability, professional liability,**

and any other relevant liability insurance policies that might be associated with this contract.

CTL Response:

CTL has attached a certificate of insurance on a standard Acord form in ‘CTL Appendix B – Additional Documents’ at the end of this proposal.

3. Organizational Experience

Briefly describe the history of the Bidder’s organization, especially regarding skills pertinent to the specific work required by the RFP and any special or unique characteristics of the organization which would make it especially qualified to perform the required work activities. Include similar information for any subcontractors.

CTL Response:

CTL has been quietly manufacturing high quality Laptops, Desktop PC’s, Monitors and Servers since 1989 for select authorized accounts, with a strong focus in the education, local and federal government sectors.

A USA Based Company

Like multi-national computer companies, CTL is one of a handful of Microsoft OEM’s and Intel Technology Provider Platinum Partners in the country. Unlike our competitors, however, CTL is headquartered in Portland, Oregon...with manufacturing, sales and service occurring in our main Portland, Oregon facility...not in another country.

Quality and Consistency

As a privately owned Oregon company, CTL has continuously grown by holding ourselves to a higher standard. CTL PCs, Notebooks and Netbooks are built and extensively tested with top of the line, non-proprietary name-brand components. We consistently use these component brands because we know that manufacturing a computer with the best components result in the best, most reliable system. And because the component brands that we use are not proprietary...and because we don’t change component brands based upon the “deal of the day” our systems are easier to maintain, support and upgrade resulting in a lower Total Cost of Ownership.

Highly Responsive, Flexible and Easy To Work With

CTL understands that our education customers each have specific needs, and we’re happy to work with each customer to accommodate IT, Purchasing, Shipping or Procedural requests...we’re highly responsive and do things the way our customers want us to rather than telling our customers how to do them. Furthermore, our education customers have a dedicated single point of contact – which means that a customer doesn’t have to look up 15 different numbers or call 15 different people to get something done...they can make just one call to their primary CTL Representative who will make sure that they get taken care of.

Service and Support

Our flexibility extends to the service and support that we offer to our customers. We are offering in this bid, image installation and image maintenance at no charge, and provide customers with unit inventory and parts inventory programs which increases support efficiency and customer uptime.

Hardware Designed Specifically for Education

In 2007, CTL was one of the very first companies to develop a Netbook product. Since then, our line of 2go Classmate netbooks and convertible tablets has achieved widespread industry recognition and commercial success. CTL's 2go Classmate line is built using the Intel Classmate PC reference design. With the Convertible Classmate PC reference design, Intel set out to design a mobile device that moves the way students do. Intel ethnographers studied how students use computers and technology. Their resulting reference design can change instantly from a clamshell to a tablet, allowing students to naturally switch form factors as they change activities and locations in the classroom and around school.

CTL's implementation of the latest Convertible Classmate PC reference design is the CTL 2go Convertible Classmate PC NL4. The NL4 features a touch-screen with a user interface optimized for eReading applications, water-resistant keyboard, touchpad and screen, improved ruggedness with drop test from desk height, bump and scratch resistance surfaces and structures, and an optional anti-microbial keyboard. In tablet mode, the "palm rejection" feature ignores the touch of hands resting on the screen, allowing students to write and draw intuitively. The NL4 is energy efficient and features a rechargeable battery with up to 8 of battery life so students and teachers don't have to worry about plugging in.

CTL's 2go Classmate line has received industry accolades:

Engadget: "We can tell you that the kids are lucking out this time. We've been playing around with the netvertible for the last few days, and must say it's one tough piece of hardware." (<http://www.engadget.com/2010/04/26/ctl-2go-convertible-classmate-pc-nl2-now-available-for-the-kids/>)

Laptop Magazine: "If durability and educational value are your highest priorities, the Classmate is worth a look" (<http://www.laptopmag.com/review/laptops/ctl-2go-nl2.aspx#axzz17dkuzuIb>)

Technical Expertise

CTL's status as both an Intel Technology Provider Platinum Partner and a Microsoft Gold Certified Partner speaks to CTL's technical expertise.

Microsoft Gold Certified Partners are the elite Microsoft Business Partners who earn the highest customer endorsement. They have the knowledge, skills, and commitment to help implement technology solutions that match your exact business needs. Microsoft Gold Certified Partners have passed the highest level of requirements from Microsoft and have demonstrated the most robust, efficient and scalable implementations of Microsoft technologies in demonstrated enterprise customer deployments or an on-site Microsoft assessment.

Intel Technology Provider Platinum status is earned by the top Intel partners who demonstrate the ability to develop innovative customer solutions based on Intel technologies.

Additionally, CTL has received Microsoft Windows Hardware Quality Labs (WHQL) certification for our PCs

CTL’s sub-contracting partner, OnForce utilizes service professionals with over 33,000 certifications in areas Apple (Pro Applications, Mac OS, hardware, iLife, iWork, ACMT), CEDIA, CISCO (CCENT, CCNA, CCIE, CCNP), CompTIA (A+, Network +, Server +, PDI +), Dell (DCSE), HP, Microsoft and Novell. OnForce has completed more than 1.5 million service events and maintains a 98.9% satisfaction rating.

4. Description of Experience with Similar Projects

- a. **Provide a description of five projects that occurred within the past five years which reflect experience and expertise needed in performing the functions described in the “Scope of Services” portion of this RFP. For each of the five examples provided, a contact person from the client organization involved should be listed, along with that person’s telephone number and email address. Please note that contract history with the any states on the Sourcing Team, whether positive or negative, may be considered in rating proposals even if not provided by the Bidder.**

CTL Response:

Oregon Department of Health and Human Services

Contact: Annette Young

Phone: 503-945-5818

Email: Annette.Young@state.or.us

With an annual budget of approximately 10.8 billion and 9,800, the Oregon Department of Human Services (DHS) is the primary health and human services agency in the State of Oregon.

During the last 5 years, CTL has provided the Oregon Department of Health and Human Services over 7500 Desktop Computers through CTL’s WSCA/NASPO PC Contract #B27159 and CTL’s State of Oregon’s WSCA/NASPO Participating Addendum #9757.

CTL has worked closely with DHS to provide solutions tailored to the unique needs of various DHS departments. These solutions have ranged from providing high end PC workstations for DHS developers, to a recent project for the Oregon Health Authority (a division of DHS) to provide small but powerful PCs to the backs of LCD monitors. As an Intel Technology Provider at the Platinum level, CTL has been able to bring technical and engineering resources from Intel to add to the solution.

San Francisco Unified School District

Contact: Jazzy Lee

Phone: 415-469-4000

Email: leej2@sfusd.edu

San Francisco Unified School District (SFUSD) was the first in the state of California. Under the management of the San Francisco Board of Education, the district serves more than 55,500 students in more than 160 institutions.

In 2010 San Francisco Unified School District partnered with CTL to roll out a 1:1 grade school computing project funded by an Enhancing Education Through Technology (EETT) grant. CTL worked closely with the district to develop a custom image incorporating the Intel Learning Series software suite as well as classroom management functionality. CTL worked with SFUSD to deploy over six hundred CTL 2go Classmate Convertible Tablet PC's over several months.

Tigard Tualatin School District

Contact: Susan James – IT Director

Phone: 503-431-4054

Email: sjames@ttsd.k12.or.us

The Tigard Tualatin School District (TTSD) was established in 1875 and serves K-12 in areas of the suburban Portland metropolitan area in Oregon including the cities of Tigard, Tualatin, Durham, and King City.

CTL has been a preferred vendor of Tigard Tualatin School District's since 1999. For over a decade, CTL has been supplying the school district with; pre-sales consultation services, imaging services, IT hardware production and fulfillment, delivery logistics and post deployment technical support and services. In the past 5 years CTL has successfully completed the districts IT related projects involving the procurement and deployment of 500+ CTL branded LCD/LED monitors, 700+ CTL branded PCs and 350+ CTL branded laptops.

In addition to consultation, production and fulfillment of the customer’s IT hardware projects, CTL has also provided advanced RMA replacement of any failed components/systems and next day on site product repair, diagnostics and support.

Mount Hood Community College

Contact: Linda Neuman

Phone: 503 491-6998

Email: Linda.Neumann@mhcc.edu

Mt. Hood Community College (MHCC) is a public community college in Gresham, Oregon named after Oregon’s tallest mountain, which is visible from the campus. Opened in 1966, MHCC enrolls nearly 26,000 students each year and offers classes at the 212-acre main campus in Gresham, the MHCC Maywood Park Center, and evening education centers at area public schools. The college's programs include nursing, funeral science, integrated media, automotive technology and transfer opportunities to local universities toward B.A. degrees in humanities and science programs. CTL has worked with MHCC since 2005, providing CTL PCs, CTL monitors and CTL notebook computers. In the last 5 years, MHCC has purchased over 1000 CTL PCs and notebook computers.

Like many education customers, MHCC’s IT department has limited resources. One of the primary ways that CTL has been able to help is by providing image consulting and installation services on the computers that MHCC purchases. CTL has also reduced MHCC’s support costs by leveraging the Intel Stable Image Platform program to ensure that computer models purchased by MHCC have an unchanged configuration for a period of 18 to 24 months.

Goal Academy

Contact: Andrew Cano

Phone: 719-994-4288

Email: a.cano@goalac.org

GOAL Academy is a Public Online Charter School accredited by the Colorado Department of Education and adhering to all State of Colorado Common Core Learning Standards.

Goal Academy uses a prescriptive curriculum, allowing students to work at their pace, either a bit slower or accelerated in a non-traditional online educational



environment. Goal Academy needed a 1:1 computing solution that would allow their students to connect to the internet from home environments that might not have an internet connection.

CTL partnered with T-Mobile to supply Goal Academy over 3000 CTL 2go Classmate E12 ruggedized netbooks equipped with 3G wireless broadband cards. To reduce the chance of loss or theft, CTL uses a special process to paint the Goal Academy logo and contact information onto the back of each unit in a non-removable paint.

If the Bidder has not provided similar services, note this, and describe experience with projects that highlight the Bidder's general capabilities.

CTL Response:

N/A – See description of experience in 4.a. above.

Section II Specifications of Work to be Performed

The following section follows the format referenced in RFP part IV, section A. For clarity and consistency, CTL has listed all questions from RFP Section II, in the number format used in the RFP followed by CTL's response. For readability and to further differentiate CTL's response from the original RFP question, CTL's response is formatted with blue ink.

1. Scope of Work

1.1. Bidder Response to Service Specifications and Requirements

Part II, SCOPE OF SERVICES represents the State of Maine's specifications and requirements for its Learning Technology Wireless Classroom Solution. It also includes the information required to be supplied by the Bidder as part of its response to this proposal. For each requirement in **Part II, SCOPE OF SERVICES**, each Bidder must respond appropriately. Failure of the Bidder to provide completely the required information as specified in each of the bullets below may result in the Bidder's proposal not achieving its maximum scoring potential during the evaluation process.

- The appropriate response to some requirements may simply be for the Bidder to acknowledge and to agree to comply fully with the requirement.
- More typically, the Bidder must specify and describe how its solution meets or exceeds the requirements.
- Each Bidder must also specify, describe and clarify its proposal's characteristics and strengths as well as any weaknesses or limiting factors.

Complete instructions are in **Part IV, PROPOSAL SUBMISSION REQUIREMENTS**.

CTL's Response:

CTL has reviewed and understands the information presented in Section 1.1 of the RFP.

2. Overview

Maine's state learning technology plan enacted by the Legislature in June 2001 must provide for:

- Portable computing devices for every 7-12th grade student and teacher with functional software appropriate to grade level;
- Obtaining basic research information and databases;
- An alternative equivalent value factor option to school administrative units if they meet the standards of the learning technology plan;

- Teacher technology and professional development;
- External and internal networks and technical support;
- Costs for replacement of portable computing devices, servers and other equipment; and
- An evaluation component.

Not all of these items are included in this RFP. Please see **Part II, Section 4, Services Provided by Other Entities** for general information, and **Appendix E, State Profiles**, for descriptions of state-specific services provided by other entities.

A copy of Maine's state learning technology plan may be downloaded at:

<http://maine.gov/mlti/resources/history/mlterpt.pdf>

This plan led to the successful creation of the Maine Learning Technology Initiative (MLTI) that has provided notebook computers to every 7th and 8th grade students in Maine public schools since the 2002-2003 school year. The original MLTI solution was procured via a Request For Proposals (RFP) that led to the deployment of over 36,000 notebook computers, the installation of over 230 wireless 802.11b networks, and hundreds of hours of professional development for teachers, school administrators, and technology support personnel. In 2006, a second RFP was issued that led to the deployment of over 45,000 notebook computers, the installation of new 802.11b/g wireless networks, and hundreds of hours of professional development. Prior to the expiration of the second contract, the State of Maine renegotiated the agreement to allow for the expansion of the program to Maine's high schools. In 2009, MLTI deployed nearly 75,000 notebook computers to its middle schools and over half of Maine's high schools, installed new 802.11 b/g/n wireless networks, and again provided hundreds of hours of professional development.

This RFP seeks the next generation solution for the Maine Learning Technology Initiative. In addition, working collaboratively with NASPO, it seeks to broaden the opportunity for other states to implement similar solutions for schools across the country. With the wide adoption of the Common Core State Standards and the development of the Next Generation Science Standards, the opportunity for States to collaborate and share is vast. The learning targets are the very much the same in many states. However, just as good teaching requires personalization to meet a student's needs, the implementation of a 1:1 program will require some personalization to meet each state's needs. Throughout this RFP, Bidders are asked to respond to functional requirements and other provisions of the RFP. In many places, Bidders are not specifically asked for responses specific to Maine or any state in particular. These are areas that the sourcing team believed to be general and applicable to all. In other places, Bidders will find specific instructions or descriptions specific to Maine or another sourcing team state (Hawaii or

Vermont). This RFP seeks Bidders able to provide both a dependable, robust solution and the flexibility to tailor certain aspects to the individual needs of states.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 2 of the RFP.

2.1. Maine Education Strategic Plan

The MLTI is a critical component of a larger system envisioned by Maine's Education Strategic plan, "Education Evolving: Maine's Plan for Putting Learners First" (<http://www.maine.gov/doe/plan/>). The plan is shaped around five core priority areas that address the various elements of building an education system focused on the needs of all learners:

- Effective, Learner-Centered Instruction
- Great Teachers and Leaders
- Multiple Pathways for Learner Achievement
- Comprehensive School and Community Supports
- Coordinated and Effective State Support

Bidders should consider the Plan as it designs its solution.

CTL Response:

CTL has considered the Maine Education Strategic Plan and the plan’s five core priority areas in the design of our proposed solution.

3. Scope of Procurement: Learning Technology Wireless Classroom Solution

The awarded Bidder(s) must provide a solution that is both functionally complete and cost-effective. The Provider must demonstrate the ability, capacity, and flexibility to collaborate successfully and actively with the participating state, as well as schools and any other state partner that may wish to be involved, through its own participating addendum.

CTL Response:

CTL has proposed a solution that is both functionally complete and cost effective. Our proposal demonstrates our ability, capacity, and flexibility to successfully collaborate with participating states, schools other state partners.

3.1. Maine Scope of Procurement

In order to secure the vision described in Part II, the State of Maine seeks to procure services that would provide personal, portable computing devices with suitable basic applications and functionality for all 7th through 12th grade students and teachers. In addition to these devices, the State of Maine seeks to procure installed or upgraded wireless networks for all participating middle and high schools as necessary, appropriate server capacity, professional development and technical support. The procurement sought will also include a number of optional schedules for equipment or services that local school units or other entities may choose to take advantage of at their own expense.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 3.1 of the RFP.

3.2. Hawaii Scope of Procurement

Digital Materials Using Tablets and Laptops

Hawaii’s “Digital Materials Using Tablets and Laptops” approach means that the state will separately purchase curricular materials with a digital component. To ensure all students are able to access the digital components of the curriculum, the state is currently planning to purchase tablets for elementary and middle grades and laptops for grades 9-12. Digital materials are easily updated at little to no cost and leveraging statewide buying power will also result in lower per-unit costs. The purchase of a digital curricular package will include professional development and technical assistance from the publisher and the contract to purchase tablets will also include corresponding technical assistance to complement the curricular package. Finally, the devices will serve multiple purposes as the end of course exams, bridge HSA (Hawaii State Assessment), and Smarter Balanced assessments will all be computer-based and delivered online.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 3.2 of the RFP.

4. Services Provided By Other Entities

This subsection describes in general terms the services critical to the success of the statewide initiative that are provided in whole or in part by an entity other than the Provider. As described in this section, the Bidder will be responsible to coordinate the design and deployment of the bid solution in order to appropriately complement and leverage these activities or resources. Some of these items are described more fully hereafter in conjunction with the relevant specifications. Note that this list is not exhaustive.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 4 of the RFP.

4.1. Building Preparedness

Each local school unit that opts to participate in this program shall be responsible to ensure minimum building readiness for the installation of the bid solution. The local school unit shall address structural issues, construction/renovation, abatement, and electrical wiring needs, based on specifications supplied by the Provider. The bid solution should be designed to minimize necessary costs of building preparation.

CTL Response:

CTL's proposed solution complies with this requirement. CTL's solution is designed to minimize necessary costs of building preparation. CTL will work with the Department of Education and local school units to ensure building readiness prior to installations and to minimize costs and any potential operational impacts.

4.2. Connectivity and Adequate Bandwidth to Each School Building

Each local school unit that opts to participate in this program shall be responsible to ensure adequate bandwidth and connectivity to the school facility. The bid solution should be designed to minimize the need to upgrade the available bandwidth at each school. Bidders should note minimum bandwidth requirements to best implement the proposed solution in its response in **Section 6.6.8, Cloud Requirements**.

CTL Response:

CTL has designed our solution to minimize the need to upgrade the available bandwidth at each school. CTL has noted the minimum bandwidth requirements to best implement the proposed solution in our response in Section 6.6.8, Cloud Requirements.

4.3. Home Access to the Internet

Educators and students who participate in this program are individually responsible for providing Internet access at home. It is beyond the scope of this RFP to seek home Internet connectivity for individual users while away from the wireless infrastructure described in **Section 7, Network Connectivity and Infrastructure**.

CTL's Response:

CTL has reviewed and understands the information presented in Section 4.3 of the RFP.

4.4. Content, Assessment, and Integration

Many states are "local control" states with regard to curriculum and selection of instructional materials. State content standards describe what children should know and be able to do at each grade span. Many states have adopted the Common Core State Standards for English Language Arts and Mathematics. In addition, it is anticipated that many will adopt the Next Generation Science Standards in the future upon their completion. However, in local control states, local school units and classroom teachers are left with academic freedom to design lessons and select materials. Although the Bidder may include options for services regarding content, assessment

tools, and other materials, any such services should be premised on a system of locally developed and selected curriculum, instruction and assessment.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 4.4 of the RFP. CTL’s services regarding content, assessment tools, and other materials are premised on a system of locally developed and selected curriculum, instruction and assessment.

4.5. Primary Research Databases

Many states have centralized, coordinated access to online and electronic content, databases, and other similar resources. While the Sourcing Team is interested in options for services regarding content, these should not be included in the per seat cost of the solution, but rather offered as optional purchases for each state to consider within the context of its own state.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 4.5 of the RFP.

4.6. Program Evaluation and Assessment

Each participating state will make provisions outside the scope of this Request for Proposal for outside analysis and evaluation of the impact and success of the project. The Provider should be prepared to supply its required reports and documents in a time, manner, and format specified by the participating state that will enable adequate program evaluation.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 4.6 of the RFP.

5. Participation by Schools

It is assumed that participation at the school level within any state that elects to participate in this program will vary significantly based on numerous differences in state policies and funding.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 5 of the RFP.

5.1.1. Maine school participation

All two hundred six (206) Maine middle schools (grades 7-8) are eligible to participate in the program. Since the inception of the program, 100% of Maine middle schools have participated in the program. It is estimated that one hundred twenty (120) Maine high schools (grades 9-12) are eligible to participate in the program. Starting in 2009, 55% of Maine high schools have been participating in the program. The number of classrooms and students within schools varies

widely. Maine has many small, rural schools. A significant proportion – roughly 48% – of the schools that serve 7th and 8th grade students are K-8 elementary schools.

Maine is a strong “local control” state. Although Legislature and the Department of Education provide statewide policy direction, each of Maine’s 230 school units, organized on a municipal or regional basis, has an elected school board with general statutory responsibility for policy and operational oversight of each school.

The State will pay for participating middle schools including student and eligible staff seats as well as wireless networks. The State will also pay for participating high schools including eligible staff seats and wireless networks, but not student seats. Local school districts are responsible for the costs of student seats for students at participating schools in grades other than grade 7 or grade 8. It is expected that many Maine schools serving grades K-6 will also wish to participate in this program. Please see **Section 6.8.1, Pricing Schedule for Additional Educational Groups** for more information about Maine K-6 schools. All devices for participating Maine public schools, regardless of the grade level served, will be purchased by the Department of Education under the resulting Agreement. For students or staff that do not meet the eligibility requirements, the Department will invoice the schools directly for reimbursement to the Department. Therefore, all invoicing and payments for Maine public schools will be done solely with the Department.

While it is expected that all of Maine middle schools and most Maine high schools will participate in the program, schools will do so on an opt-in basis. Every public middle school in the State participated in the first, second, and third MLTI deployment. Additionally, some Maine elementary and private/independent schools elected to participate at local cost. However, some school units may elect not to participate. Other school units may elect for an alternative deployment. It is anticipated that schools that do not opt-in initially would retain the right to opt-in, at a minimum for Year 2 (the 2014-15 school year). Based on the solution proposed by the winning Bidder, the Department will require in May 2013 a formal statement of intent to participate from school units.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 5.1.1 of the RFP.

5.1.1.1. Maine Alternative Deployments

Maine middle schools may also elect to participate in an alternative one-to-one deployment, using different devices or configurations than that provided by the State-funded solution from the Provider. This alternative deployment could utilize an optional cost schedule for upgrades or enhancement offered by the Provider, or the school unit at its discretion could utilize equipment or services from some other vendor. If a school’s alternative deployment satisfies criteria to be established by the Department, the State would provide to that school – for those service

components that are susceptible to disaggregation -- funds equal to the component(s) of the State-funded solution. The local school unit would have sole responsibility for any additional costs, beyond the State-funded solution, associated with the alternative deployment.

CTL's Response:

CTL has reviewed and understands the information presented in Section 5.1.1.1 of the RFP.

5.1.2. Hawaii school participation

All Hawaii Department of Education public schools are expected to participate in this program. The Hawaii Department of Education consists of approximately 260 unique schools with a total enrollment of approximately 175,000 statewide. The procurement of these devices is expected to be phased over a three-year period, with five new complex areas (districts) added each year. Hawaii estimates it will deploy devices to approximately 60,000 students and staff annually until the third year of implementation, when essentially all staff and students statewide have a device. Procurement will be subject to availability of funds. This phased approach was chosen as opposed to a grade level approach because it honors the commitment to a K-12 construct and powerful K-12 articulation. By allowing Complex Area Superintendents and principals to opt in to the phases we are more likely to have those who are willing and able be early implementers and therefore lead the way to a more successful implementation. Selection of Complexes or Complex areas will be made by the office of the State Superintendent, and will be based on technology readiness, leadership readiness and staff readiness. Please refer to **Appendix E, State Profiles - Hawaii** for technical readiness details.

CTL's Response:

CTL has reviewed and understands the information presented in Section 5.1.2 of the RFP.

5.1.3. Vermont school participation

Presently, Vermont does not have statutory guidance for participation in this program. As such, it expects participation from schools serving students across all grade levels, K-12, based upon local decision-making.

CTL's Response:

CTL has reviewed and understands the information presented in Section 5.1.3 of the RFP.

5.2. Opt-in

Participating states will coordinate with the Provider and its local schools to determine participation. Schools will be required to opt-in to the program by agreeing to terms and conditions between the state and the local school system. These terms and conditions will vary from state to state. The Provider is expected to assist participating states with the dissemination of information about the solution in order to ensure that local schools make informed decisions.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 5.2 of the RFP.

5.2.1. Maine Opt-in

It is anticipated that the Maine Department of Education will require a formal opt-in from its schools no later than May of 2013. The timing of the opt-in may vary based upon the Bidder's solution.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 5.2.1 of the RFP.

5.2.2. Hawaii Opt-in

It is anticipated that Hawaii schools will participate on an opt-in basis. Because Hawaii schools will rely on state funds to be able to participate in this program, it is expected that State leadership will ultimately determine schools, complex, or complex area participation in the program.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 5.2.2 of the RFP.

5.2.3. Vermont Opt-in

It is anticipated that Vermont schools will participate on an opt-in basis. Because Vermont schools will rely on local funds to be able to participate in this program, it is expected that not all local schools or districts will elect to participate in the program.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 5.2.3 of the RFP.

5.3. Full Deployment

All participating schools that opt in initially are required to be fully deployed for the start of the 2013-2014 school year. Schools that opt in at a later date would be deployed as soon as practicable.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 5.3 of the RFP.

5.3.1. Maine Deployment

Bidders should note that some schools in the Aroostook County region of Maine begin school in early August. The Department will coordinate with the Provider to prioritize deployment and installations based upon the various Maine school system calendars.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 5.3.1 of the RFP.

5.3.2. Hawaii Deployment

Bidders should note that some schools Hawaii begin earlier in the year than most other states (July 29th). Training would theoretically need to be done in June/early July.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 5.3.2 of the RFP.

5.3.3. Vermont Deployment

Ideally, delivery of devices would take place in May or June of 2013 in anticipation of the Fall semester. Training would be done in June/July to prepare for Fall semester.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 5.3.3 of the RFP.

6. Personal Computing Device & Software Applications

A portable, wireless computing device will be provided for each participating user in participating schools. All devices will be deployed in the first year of the program. Participating users will be defined by each State or local school.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 6 of the RFP.

6.1.1. Maine Participating Users

All students in participating middle schools (7th and 8th grade) will participate in the program. Additionally, all students in participating high schools (9th through 12th grade) will participate in the program. If a school elects to participate for other grade levels, all students in that grade level will participate in the program. Each teacher, librarian, school administrator, and technical coordinator in a participating 7-12 school will participate in this program. Personnel in these schools not covered by the State’s funding may optionally participate if the local school elects to pay the per seat cost for those personnel.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 6.1.1 of the RFP.

6.1.2. Hawaii Participating Users

All grade levels will be eligible to participate in the program. Schools not centrally funded for program by State's may, subject to state approval, optionally participate if the local school elects to pay the per seat cost for those personnel and students.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 6.1.2 of the RFP.

6.1.3. Vermont Participating Users

All grade levels will be eligible to participate in the program. All students may optionally participate if the local school elects to pay the per seat cost for those personnel and students.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 6.1.3 of the RFP.

6.2. Device Quantities

6.2.1. Teachers and Staff

Participating educators and school personnel (which may include teachers, librarians, school administrators, technical coordinators, and more) will be equipped with a portable computing device (hereafter referred to as the “teacher’s” device). The teacher’s device may be the same as the student’s device or may be a more fully capable device. Either way, the teacher’s device must satisfy educational and practical functional goals in the classroom and for lesson preparation.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 6.2.1 of the RFP. CTL will allow schools to choose the CTL 2go Convertible Classmate NL4 as both the student and teacher device or to use a CTL W130 Business Class 13” Notebook as a teacher device. Both devices satisfy educational and practical functional goals in the classroom and for lesson preparation.

The CTL W130 offered includes:

- 13.3” LED backlit screen
- Intel Core i3 2.4GHz Processor
- 4GB of Kingston 4GB DDR3 RAM
- 320GB 2.5” SATA 5400 RPM Hard Drive

- Microsoft Windows 7 Professional
- Intel A/B/G/N Wireless networking
- And all of the software and warranties outlined in the proposal for the NL4

6.2.1.1. Maine Teachers and Staff

Classroom teachers in all content areas, special education teachers, literacy specialists, librarians and itinerant teachers will all receive a computing device. In addition, school administrators including principals, assistant principals, special education directors, technology directors, technology integrators, and others will be equipped with a portable teacher’s device. The Department will work with schools to determine the exact number of eligible staff for each school. In 2009, the Department’s initial count for total eligible staff for grades 7-12 was 11,869.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 6.2.1.1 of the RFP.

6.2.1.2. Hawaii Teachers and Staff

At a minimum, classroom teachers in Math and Language content areas, special education teachers, literacy specialists, librarians and itinerant teachers will all receive a computing device. Hawaii will ensure that all classroom teachers will eventually have a device. The Hawaii Department will work with schools to determine the exact number of eligible staff for each school.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 6.2.1.2 of the RFP.

6.2.1.3. Vermont Teachers and Staff

Because of the local nature of this opportunity, schools will determine the teachers and staff eligible to receive a portable device. The recommendation from the Vermont Department of Education will include a device for each teacher involved in the building based 1:1 program with additional devices available for staff in other content areas that are impacted by the 1:1 computing program.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 6.2.1.3 of the RFP.

6.3. Students

Each student in participating schools will be equipped with at least one portable computing device. The educational requirement is a minimum 1:1 ratio – at least one device per student.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 6.3 of the RFP.

6.3.1. Maine Students

The estimated number of Maine students is summarized in Table A below. This data is based on the spring reported enrollments (April 2012) for Maine public schools. For more detailed information, please see:

<http://www.maine.gov/education/enroll/attending/statespringpub.htm>

The anticipated program commences in August 2013 with the Classes of 2014 through 2019. The actual student enrollment numbers could be higher or lower.

The count could be lower if some eligible schools elect not to participate. As described in **Section 5.1.1.1 Alternate Deployments**, schools may also elect to participate in an alternative 1-to-1 deployment using different devices or configurations than that provided by the State-funded solution described by the Bidder.

| High School Graduating Class Year | Grade in 2013-14 School Year | Estimated Student Count |
|--|-------------------------------------|--------------------------------|
| Class of 2014 | 12 | 14,276 |
| Class of 2015 | 11 | 14,494 |
| Class of 2016 | 10 | 14,366 |
| Class of 2017 | 9 | 14,074 |
| Class of 2018 | 8 | 13,852 |
| Class of 2019 | 7 | 13,698 |
| Class of 2020 | 6 | 13,402 |
| Class of 2021 | 5 | 13,309 |
| Class of 2022 | 4 | 13,569 |
| Class of 2023 | 3 | 13,688 |
| Class of 2024 | 2 | 13,586 |

TABLE A – Maine Student Count Estimates

CTL’s Response:

CTL has reviewed and understands the information presented in Section 6.3.1 of the RFP.

6.3.2. Hawaii Students

The estimated number of Hawaii students is summarized in Table B below. This data is based on the statewide projected enrollment for school year 2013-14.

| Hawaii Enrollment Projections 2013-14 | | | |
|--|------------------------------------|--------------|--------------|
| Category | High School Graduating Year | Grade | Total |
| Regular Education | Class of 2026 | K | 15,349 |
| | Class of 2025 | 1 | 14,303 |
| | Class of 2024 | 2 | 13,778 |
| | Class of 2023 | 3 | 13,336 |
| | Class of 2022 | 4 | 12,766 |
| | Class of 2021 | 5 | 12,502 |
| | Class of 2020 | 6 | 11,527 |
| | Class of 2019 | 7 | 10,874 |
| | Class of 2018 | 8 | 11,040 |
| | Class of 2017 | 9 | 12,194 |
| | Class of 2016 | 10 | 11,275 |
| | Class of 2015 | 11 | 10,549 |

| | | | |
|--------------------------|----------------------|-----------------|----------------|
| | Class of 2014 | 12 | 9,059 |
| | | Subtotal | 158,552 |
| Special Education | | K-6 | 8,092 |
| | | 7-8 | 2,971 |
| | | 9-12 | 6,119 |
| | | Subtotal | 17,182 |
| GRAND TOTAL | | | 175,734 |

TABLE B – Hawaii Student Count Estimates

CTL’s Response:

CTL has reviewed and understands the information presented in Section 6.3.2 of the RFP.

6.3.3. Vermont Students

The estimated number of Vermont students is summarized in Table C below. This data is based on a statewide projected enrollment for school year 2013-14.

| High School Graduating Class Year | Grade in 2013-14 School Year | Estimated Student Count |
|-----------------------------------|------------------------------|-------------------------|
| Class of 2014 | 12 | 6,883 |
| Class of 2015 | 11 | 6,954 |
| Class of 2016 | 10 | 6,448 |
| Class of 2017 | 9 | 6,344 |
| Class of 2018 | 8 | 6,250 |
| Class of 2019 | 7 | 6,258 |
| Class of 2020 | 6 | 6,138 |
| Class of 2021 | 5 | 6,134 |

| | | |
|---------------|---|-------|
| Class of 2022 | 4 | 6,164 |
| Class of 2023 | 3 | 6,221 |
| Class of 2024 | 2 | 6,043 |

TABLE C – Vermont Student Count Estimates

CTL’s Response:

CTL has reviewed and understands the information presented in Section 6.3.3 of the RFP.

6.4. Students with Disabilities

All students will receive a device except students who are determined by an individual education program (IEP) team to be unable to benefit from learning technology equipment. Ideally, all learners should benefit from the Bidder’s solution. The school unit will provide additional adaptations, software, or peripheral equipment from the Provider or another vendor if necessary.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 6.4 of the RFP. CTL’s solution utilizes mobile devices 2go Convertible Classmate PCs which incorporate a number of design features which can benefit all students, including students with disabilities. These features include:

- A ruggedized design with an easy to grip texturized surface
- An integrated retractable carrying handle
- A Chiclet keyboard with physically separated keys, which reduces the chance of hitting the wrong key
- A variety of input mechanisms for navigation:
 - A microphone for use with assistive technology voice commands
 - A touch sensitive screen that can be used in conjunction with the physical keyboard
 - A touch pad pointing device
 - Dedicated physical buttons under the touch pad pointing device for ‘left click’ and ‘right click’ software functions
 - A keyboard with dedicated arrows
- A matte non-glare screen for easier viewing
- Can be used in either traditional laptop mode with a physical keyboard or in touch screen slate mode.

6.5. Device Functional Requirements

Bidders must complete the **Portable Computing Device Specifications Summary** included in **Appendix G – Additional Forms**. If more than one portable computing device is included in the solution, Bidders must complete one Summary Sheet per device.

CTL’s Response:

CTL has completed the Portable Computing Device Specifications Summary included in Appendix G – Additional Forms.

6.5.1. Assessment Compatibility

The solution must meet, and ideally exceed the Hardware Purchasing Guidelines published by the Smarter Balanced Assessment Consortia (SBAC) and the Partnership for Assessment of Readiness for College and Careers (PARCC). These published guidelines may be found at:

<http://www.smarterbalanced.org/smarter-balanced-assessments/technology/>

<http://www.parcconline.org/technology>

CTL Response:

CTL’s solution exceeds the Hardware Purchasing Guidelines published by the Smarter Balanced Assessment Consortia (SBAC) and the Partnership for Assessment of Readiness for College and Careers (PARCC). Specifically, the CTL solution exceeds the SBAC and PARCC Hardware Purchasing Guidelines in each category as noted below:

| SBAC Hardware Purchasing Guidelines | CTL Solution |
|---|---|
| Hardware: 1 GHz processor, 1 GB RAM, 9.5 inch screen size (10 inch class) screen resolution of 1024 x 768 | Intel 1.10 GHz dual core processor, 2GB DDR3 RAM, 10.1 inch screen size, 1366 x 768 screen resolution |
| Operating Systems: Windows 7, Mac 10.7, Linux (Ubuntu 11.10, Fedora 16), Chrome, iOS Android 4.0 | Microsoft Windows 7 Professional |
| Network: Must be able to connect to the Internet | Wired (RJ45 Ethernet Port) and Wireless (802.11 B/G/N WiFi) Internet Connection |
| Form Factors: Desktops, laptops, netbook, virtual desktops and thin client, tablets (iPad, Windows, and Android) and hybrid laptop/tablets that meet the above specifications | Netbook |
| Additional Accessories: | Includes two 3.5 mm audio out port for |

| | |
|---|---|
| <ul style="list-style-type: none"> - Headphones may be required for audio support, and - Physical keyboards (as opposed to virtual) and/or mice may be required for use with tablets. | headphones. Includes full physical keyboard. |
| PARCC Hardware Purchasing Guidelines | CTL Solution |
| Hardware: 1GHz or faster processor, 1 GB RAM or greater memory, 9.5 inch (10 inch class) or larger screen size, 1024 x 768 or better screen resolution | Intel 1.10 GHz dual core processor, 2GB DDR3 RAM, 10.1 inch screen size, 1366 x 768 screen resolution |
| Operating System: Windows 7 | Microsoft Windows 7 Professional |
| Networking: Wired or Wireless Internet Connection | Wired (RJ45 Ethernet Port) and Wireless (802.11 B/G/N WiFi) Internet Connection |
| Device Type: Desktops, laptops, netbooks, thin client, and tablets that meet the hardware, operating system and networking specifications | Netbook |

6.5.1.1. Maine

Many Maine schools use the Northwest Evaluation Association (NWEA) formative assessment tool. It is desirable that the solution is compatible with the NWEA tool.

CTL Response:

CTL’s solution is compatible with the Northwest Evaluation Association (NWEA) formative assessment tool. CTL’s solution exceeds each of the technical requirements listed by NWEA for Test Taker Client Workstations (http://www.nwea.org/sites/www.nwea.org/files/resources/Technical%20Requirements_MAP.pdf)

6.5.1.2. Hawaii

Many Hawaii schools use the Global Scholar Pinnacle Instruction Learning Management System as a formative assessment tool. It is desirable that the solution is compatible with this tool.

CTL Response:

CTL’s solution is compatible with the Global Scholar Pinnacle Instruction Learning Management System.

6.5.2. Device Connectivity

The device will be able to connect to the WiFi network and also be able to also access the school’s pre-existing local network, and the Internet, wirelessly (via WiFi) within the school, home or other area outside the school. The Bidder must describe the device’s native connectivity capacity as well as connectivity options including those that may require additional attachments and whether these attachments are a part of the proposed solution. The Bidder must describe its

wireless network connectivity solution in detail in **Section 7, Network Connectivity and Infrastructure**.

CTL Response:

CTL’s proposed solution complies with this requirement. The CTL 2go Convertible Classmate NL4 Includes integrated 802.11 B/G/N Wireless, a 10/100 RJ5 Ethernet Port for wired network and internet access and Bluetooth to wirelessly connect to peripherals and accessories such as Bluetooth enabled keyboards, mice and printers.

6.5.3. Device Portability

The device will be able to be carried conveniently and easily by students and teachers - either via a provided carrying case or some built-in carrying ability. The portable computing device shall be lightweight. While the Department will not mandate a specific maximum weight, as a guideline the Department would prefer to see a device and all its components that weighs six pounds or less. In general, the lighter the better.

CTL Response:

CTL’s proposed solution complies with this requirement. The CTL 2go Convertible Classmate NL4 was designed specifically for the unique needs of a K-12 environment. Weighing only 3.5 lbs. and including a durable built-in retractable carrying handle, it is lightweight and designed to be carried conveniently and easily by both students and teachers. Measuring only 10.6” x 8.2” x 1.2”, it easily fits in student backpacks, lockers and on crowded work spaces. CTL’s proposed solution also includes a durable, light weight carrying case.



6.5.4. Device Durability

The portable computing device must be highly durable and withstand reasonable and normal daily use by middle and high school students. It is desirable that the device shall be durable enough to withstand occasional mishaps, and resist hazards such as dust, dirt and spills – and still function. It shall also have parts that cannot be easily removed, tampered with, or broken.

In order to provide necessary protection for the device during normal transport, the Bidder may include an appropriate carry case. Ideally the case would allow schools to easily label cases for easy identification (i.e. “All black bags look alike”). Included cases shall be included in the annual per seat cost and shall be fully covered by the Provider’s support and warranty program as described in **Section 9, Warranty, Insurance, Damage and Theft**.

CTL Response:

CTL’s proposed solution complies with this requirement. The CTL 2go Convertible Classmate NL4 was built to be used in demanding K-12 environments and does not have parts that cannot be easily removed, tampered with, or broken. The ruggedized design of the NL4 includes the following elements to withstand occasional mishaps, and resist hazards such as dust, dirt and spills – and still function:



- Designed to withstand a 70cm drop test
- Scratch and water resistant LCD screen
- Spill resistant anti-microbial keyboard
- Peel resistant keyboard keys
- Spill resistant touch pad
- Shock resistant corners
- Shock mounted hard drive
- Motion sensor parks the hard drive head if it detects sudden movement. This reduces the risk of damage to data if the NL4 is dropped if configured using a platter hard drive
- Rugged hard plastic exterior with easy to hold protective texturized surface
- Includes durable built-in carrying handle to make it easier to carry and prevent drops

CTL’s proposed solution includes a carry case with an integrated name-tag that allows for easy identification. These cases are included in the annual per seat cost and are fully covered by the Provider’s support and warranty program as described in Section 9, Warranty, Insurance, Damage and Theft.

6.5.5. Device Power

The portable computing device will have a battery capacity that will allow the device to be used throughout a standard school day without being recharged. The battery will need to have the ability to be recharged by the student at home or elsewhere or through a type of multi-unit recharger at the school, and will need to be able to be recharged overnight or sooner. The device shall also be able to be powered by a standard electrical plug.

The Bidder must specify the recharge time, electrical load, battery life, and other relevant electrical specifications of its solution. Although each local school unit that opts to participate in this program shall be responsible to ensure minimum building readiness for the installation of the bid solution based on specifications supplied by the Provider — including electrical wiring needs — the bid solution should be designed to minimize necessary costs of building preparation in terms of adding electrical receptacles or additional power to classrooms. The proposed solution should respect the limited electrical power capacity within the school and classroom environment.

The Department recognizes that while the type of usage can impact battery life, that in general battery life is often most impacted by the display, motors, and network radios. The Bidder must describe its strategy to ensure sufficient battery life, and how its solution takes into account common battery intensive tasks.

Battery replacements and proper recycling of spent batteries will be done within the per seat cost and in such a way that does not impact teaching and learning. The Bidder must describe its plan for providing replacement batteries and for recycling spent batteries.

CTL Response:

CTL’s proposed solution complies with this requirement. The CTL 2go Convertible Classmate NL4 includes a high capacity 6 Cell 5200mAH Lithium-Ion Battery that delivers up to 8.5 hours of battery life from a single 3.5 hour charge. This allows the NL4 to be used throughout a standard school day without being recharged. The NL4 includes an auto sensing universal AC Adapter/Charger that connects to a standard 120V electrical outlet that can be used to recharge the unit by the student at home or through a multi-unit re-charger at school. By utilizing an auto sensing AC adapter and a standard 120V electrical outlet, the cost of building preparation are reduced as the NL4 can better utilize existing electrical infrastructure.

CTL’s strategy to ensure sufficient battery life spans our entire mobile line, including the NL4. When CTL loads the operating system onto a mobile device, we incorporate a custom set of power settings for the device as a power plan. These settings are built upon Energy Star recommendations and are set by default for the device as a power plan called “CTL Recommended Power Plan”. This power plan balances power savings and performance taking into account battery intensive tasks.

CTL will replace NL4 batteries for in-warranty NL4s as needed during the life of the contract. Battery replacement may be initiated through a request to the CTL helpdesk. Once approved, CTL will ship a replacement battery along with a call-tag for the defective battery. CTL will ensure that spent batteries are recycled in a manner consistent with EPA recycling guidelines; the European Union’s WEEE Directive regarding the recycling or reuse of old equipment and with federal, state and local regulations regarding disposal of electronic equipment by utilizing an R2 certified recycler. E-waste recyclers meeting the R2 certification must demonstrate environmentally responsible e-waste recycling practices through detailed documentation and a regular series of audits.

6.5.6. Keyboard

The portable computing device will have an appropriately sized keyboard *function* that facilitates text input, integrated into the device, into the carrying case, or some other effective method. While an ideal solution would include a standard-size keyboard, it is recognized that a smaller size may be necessary. Nonetheless, the Department seeks a keyboard interface of sufficient size

and ease of use for students and teachers to be able to do their work effectively and efficiently without discomfort.

CTL Response:

CTL’s proposed solution complies with this requirement. The CTL 2go Convertible Classmate NL4 is a unique design that converts from a ruggedized touch screen tablet to a traditional laptop form factor by rotating the screen. When in traditional laptop mode, this physical keyboard is of sufficient size and ease of use for students and teachers to be able to do their work effectively and efficiently without discomfort.



Because the NL4 utilizes a rugged design, the keyboard is spill resistant. This means that the keyboard can be safely wiped down to remove dirt and grime. And, because it’s designed to be used by kids, the keyboard of the NL4 has anti-peeling keys and is treated with an anti-microbial germ resistant coating.

The NL4 utilizes a Chiclet style keyboard for additional ease of use. The Chiclet keyboard on the NL4 has elevated keys that have some space between them in a design that enables the keys to blend into the surrounding area of the keyboard. The NL4s keyboard keys are rectangular in shape with rounded edges as compared to the slanted-edge keys featured in traditional keyboards. One main advantage to this keyboard design is that with the keys having a slightly larger area there is a smaller chance of hitting the wrong key.

6.5.7. Screen

The portable computing device will have a color screen of sufficient size with good resolution. While the Department will not mandate a screen size, the solution should take into account ease of use and functionality (as described below in **Section 6.6, Software and Function** as well as any requirements defined in **Section 6.5.1, Assessment Compatibility**). In general, the higher the resolution the better. The Provider should keep in mind portability, size, and weight.

CTL Response:

CTL’s proposed solution complies with this requirement. The CTL 2go Convertible Classmate NL4 incorporates a water resistant high definition 1366 x 768 resolution anti-glare, LED backlit screen and utilizes



integrated Intel UMA graphics for a stunning display. A unique feature of the NL4 is that its screen rotates to instantly convert from traditional clamshell laptop mode with a physical keyboard to a touch screen tablet. To enable more accurate handwriting recognition, the touch screen is designed to allow a user to rest a palm on the screen while writing or drawing. The screen will ignore the palm and only register the writing or drawing input. The NL4 also includes an integrated stylus that stores inside the unit with a lanyard for more precise writing or drawing input.

6.5.8. Mouse/Pointing Function

The portable computing device will have a mouse/pointing capability that provides pointing functions and is easy to use. It is preferable for pointing functions to be integrated into the device (e.g. trackpad, track point, touch screen, etc.) and not rely on a separate attachment.

CTL Response:

CTL's proposed solution complies with this requirement. The CTL 2go Convertible Classmate NL4 includes both a spill resistant touch screen for direct touch software interaction and navigation and a spill resistant pointing pad with a left and right dedicated buttons for 'right click' and 'left click' software functionality. The pointing pad can be used for precise cursor control and supports tap, double tap and left and right scrolling gestures for ease of use. As mentioned in 6.5.7, the NL4 also includes an integrated stylus that stores inside the unit with a lanyard for more precise writing or drawing input. This can also be used as a navigation and pointing device.

6.5.9. Audio

The portable computing device will have built-in audio capabilities, including speakers for personal use and an audio-out capability that accepts standard 1/8" audio connectors for headphones or speakers. It should also include an integrated microphone and audio-in capacity.

CTL Response:

CTL's proposed solution complies with this requirement. The CTL 2go Convertible Classmate PC NL4 incorporates 2 Channel 1.5 Watt stereo speakers for personal use and two audio-out ports that accept standard 1/8" audio connectors for headphones or speakers. By incorporating two 1/8" audio out connectors, the NL4 allows two students to listen to audio content on the device simultaneously. It also includes an integrated omni-directional microphone and an audio-in port that can accept either an audio-in line or an external microphone.

6.5.10. Camera

The portable computing device will have an integrated, built-in camera capable of capturing/recording images and video.

CTL Response:

CTL's proposed solution complies with this requirement. The CTL 2go Convertible Classmate NL4 includes an innovative integrated 2MP that rotates 180 degrees so that it can either be rotated toward the front of the device to face the user or rotated toward the back of the device to face away from the user. This allows the camera to either capture images or record video of the



user or, when rotated, to whatever the user points the back of the NL4 to. This usage facilitates innovative classroom use such as using the NL4 to record an interview of a lab partner or to take a time lapse video.

6.5.11. Size

The portable computing device will fit on school desks and be easily carried by an adolescent-aged student.

CTL Response:

CTL's proposed solution complies with this requirement. Weighing only 3.5 lbs., measuring just 10.6" x 8.2" x 1.2" and including an integrated retractable carrying handle, the CTL 2go Convertible Classmate NL4 was purpose designed to be highly portable, compact enough for school desks and to be easily carried by students.

6.5.12. Ports

The device should ideally have additional ports/capacity for attachment of external devices. In addition, the device will be capable of connecting to standard video output devices such as digital projectors or monitors. It is desirable that the device will be compatible with common interactive white board systems.

CTL Response:

CTL's proposed solution complies with this requirement. The CTL 2go Convertible Classmate NL4 was designed to accommodate a variety of additional ports for the attachment of the external devices required in an education setting. Integrated ports include:

- 1 x Microphone/Line In
- 2 x Headphone/Speaker out
- 1 x HDMI Port
- 1 x 15 Pin VGA Port
- 1 x RJ45 Ethernet
- 1 x 2-in-1 SMHC/MMC Card Reader

6.5.13. Boot Time/Wake Time

A device that starts and is ready for use quickly is highly desirable. The Bidder must specify the boot and wake time for its device.

CTL Response:

CTL's proposed solution complies with this requirement. A CTL 2go Convertible Classmate typically cold boots in approximately 45 seconds to 65 seconds, resumes from sleep in approximately 5 seconds and resumes from hibernation in approximately 30 seconds.

6.5.14. Upgrades

Upgrades to the portable computing device, if proposed, during the term of the contract will be done within the per seat cost at a time that does not impact teaching and learning.

CTL Response:

CTL's proposed solution complies with this requirement. CTL's complete solution is defined within this response and is included in the per seat cost.

6.5.15. Ergonomics

The system and design will be one which can be used efficiently and comfortably with a minimum amount of fatigue or adverse physical effects. The Bidder must specify what ergonomic standards or guidelines it has adopted in its proposed design.

CTL Response:

CTL's proposed solution complies with this requirement. The CTL 2go Convertible Classmate NL4 was designed to be both comfortably and productively used in an education environment. Following is a list of features and accompanying ergonomic guidelines that the features address:

- Lightweight, with integrated carrying handle makes it easy to carry (OSHA recommends minimizing weight carried)
- Matte non-glare screen is easier on the eyes (OSHA Recommends reducing glare)
- Can be used in either traditional laptop mode with a physical keyboard or in touch screen slate mode. Integrated retractable carrying handle (OSHA recommends switching computing positions frequently)
- VGA and HDMI port for attaching external monitors (OSHA suggests that some users can benefit from viewing content on monitors larger than a laptop. The NL4 HDMI and VGA ports accommodate this)
- USB ports for attaching external keyboards (OSHA suggests that some users can benefit from keyboards larger than those included on a laptop. The NL4 USB ports accommodate this)

6.5.16. Accessibility

It is the intent to purchase hardware and software that provides the highest degree of accessibility to all users, including users who may have an impairment that interferes with the use of the device. The solution will have the capacity to interface with peripherals, software and assistive technologies used by students, teachers and others with visual, hearing, mobility, communication and/or cognitive impairments and will conform to the ISPB-approved Computer Application Program Accessibility Standard which can be found at:

http://www.maine.gov/oit/accessibility/software_policy.html

There must not be a need for complex and expensive adaptation and/or specialized design later to meet the needs of users. The design should communicate necessary information in as many different forms as possible (e.g., verbal, auditory, tactile, pictorial) to accommodate needs. It should be of appropriate size and should be operable in at least one mode for those with limited hand, arm, leg or trunk strength, flexibility and range of motion. Space should be provided for approach, reach, manipulation and use regardless of a user’s body size, posture or mobility.

The Bidder must describe to what extent its proposed solution satisfies this requirement. This should include a description of whether and how the device provides the functionality and/or the capability to interface with peripherals, software and assistive technologies for visual, hearing, mobility, communication and cognitive impairments.

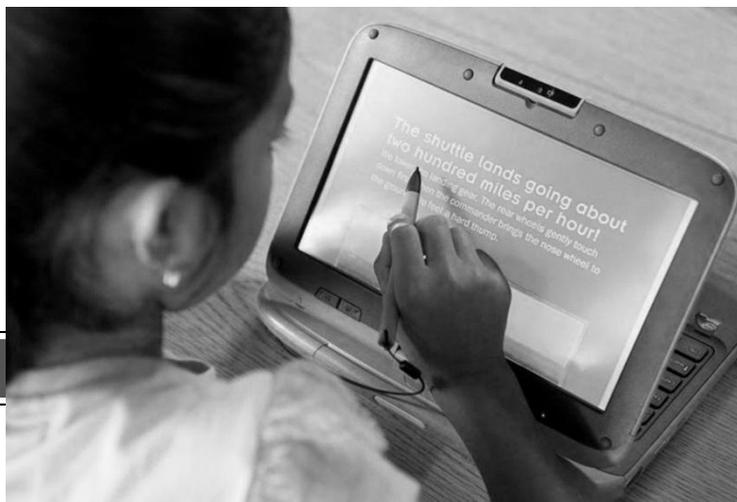
CTL Response:

CTL’s proposed solution complies with this requirement. The CTL 2go Convertible Classmate conforms to the ISPB-approved Computer Application Program Accessibility Standard and has specific design features that make it accessible to all users, including those with a disability.

The NL4 includes 2 USB ports, an HDMI port, a VGA port, 2 headphone/speaker audio out jacks, a microphone/line in jack, integrated stereo speakers and a 2-in-1 SDHC/MMC reader that give it capacity to interface with peripherals, software and assistive technologies used by students, teachers and others with visual, hearing, mobility, communication and/or cognitive impairments. These ports also allow the NL4 to interface with peripherals, software and assistive technologies for visual, hearing, mobility, communication and cognitive impairments.

The NL4 weighs only 3.5 lbs. It is highly portable and includes a texturized surface and an integrated carrying handle to make it easy to carry for all students, including those with physical disabilities that would make it more difficult to carry a conventional laptop.

The NL4 features a unique swiveling screen that transforms it from a laptop to a touch screen tablet. Depending on the disability,



some users with limited range of motion can benefit from a tablet form factor and some can benefit from a clamshell form factor with physical keyboard and arrow keys...however, even in clamshell mode the screen is still touch sensitive, which allows students with motor or range of motion disabilities the option of using either the integrated touch pad pointing device or navigating and interacting with software by touching the screen. The touch screen also features advanced palm-resting technology for full hand support when in writing or drawing mode.

The NL4 also incorporates the following additional accessibility features:

- A Chiclet keyboard with physically separated keys, which reduces the chance of hitting the wrong key
- An integrated stylus for optionally touching and writing on the screen instead of using a finger
- A matte non-glare screen for easier viewing
- A microphone for use with assistive technology voice commands
- Dual audio out/speaker/headphone jacks so that an instructor can easily listen to content on headphones along with the student
- A spill resistant touch pad with a left and right dedicated buttons for ‘right click’ and ‘left click’ software functionality. The pointing pad can be used for precise cursor control and supports tap, double tap and left and right scrolling gestures for ease of use

6.5.17. Disposal

The Provider will ensure that no devices or materials supplied by it are disposed of improperly. The Provider will ensure that associated hazardous constituents are kept out of solid waste and wastewater. Examples of possible hazardous constituents are: printed circuit boards, lithium batteries, and mercury-containing lamps for screen illumination. It is desirable that the device is highly recyclable. The Department recognizes that eventually, the devices will be retired from use and wants to minimize the environmental impact of the equipment deployed as part of the solution.

CTL Response:

CTL’s proposed solution complies with this requirement.

CTL is committed to doing its part to ensure a safe and healthy environment. The CTL 2go Convertible Classmate is highly recyclable. It was designed to be disassembled for recycling with commonly available tools and complies with RoHS requirements for reducing and eliminating hazardous substances from the product bill of materials.

While CTL works hard to ensure that hazardous materials are kept out of solid waste and wastewater by eliminating them from the product bill of materials, we also ensure that products are recycled in an environmentally friendly manner at end of life. CTL has a robust take back

recycling / e-waste recovery program that has been in operation since November 2004. To-date CTL’s e-waste recovery program has recovered over 2,500,000 pounds of e-waste.

CTL customers can easily initiate the take back process by going online to CTL’s take back web page at www.ctlcorp.com/recycle to fill out a Recycling pick-up request form. Upon receiving the pick-up request form, CTL will contact the customer to arrange pickup and handling fees.

CTL ensures that recycling is conducted in a manner consistent with EPA recycling guidelines; the European Union’s WEEE Directive regarding the recycling or reuse of old equipment and with federal, state and local regulations regarding disposal of electronic equipment by utilizing an R2 certified recycler. E-waste recyclers meeting the R2 certification must demonstrate environmentally responsible e-waste recycling practices through detailed documentation and a regular series of audits.

Customers can request a printed or electronic copy of a certificate of destruction for all equipment that CTL takes back.

6.6. Software and Function

6.6.1. Applications

The MLTI has adopted and promoted two models to guide teacher practice and the integration of technology into instruction and learning. These models are *Technological, Pedagogical, Content Knowledge* (TPCK) by Drs. Punya Mischra and Matthew Koehler (<http://www.tpck.org>) and *Substitution, Augmentation, Modification, Redefinition* (SAMR) by Dr. Ruben Puentedura (<http://www.mlti.org/samr> and <http://www.hippasus.com/rrpweblog/>). Bidders must describe the tools and functionalities included in the solution and their anticipated use in light of these models.

The solution must, at a minimum, provide the students and teachers with software to facilitate the following functions to support educational needs:

CTL Response:

CTL’s proposed solution complies with this requirement. CTL’s solution offers a comprehensive set of learning and productivity software. CTL’s solution is flexible to accommodate the unique needs of individual states, allowing various states to choose to have CTL install all of the following software and tools or a customized selection as part of the State’s software image.

A description of the tools and functionalities included in the solution and their anticipated use in light of the TPCK and SAMR models follows:

| TPCK Model | Software Use |
|------------|--------------|
|------------|--------------|

| | | |
|--|---|--|
| <p>Technological Knowledge (TK)</p> | <p>“Knowledge about certain ways of thinking about, and working with technology, tools and resources... working with technology can apply to all technology tools and resources. This includes understanding information technology broadly enough to apply it productively at work and in everyday life, being able to recognize when information technology can assist or impede the achievement of a goal, and being able continually adapt to changes in information technology” (Koehler & Mishra, 2009).</p> <p>Teaching and learning examples:</p> <ul style="list-style-type: none"> • Web based research • Productivity applications • Online collaboration tools • Graphic organizers • Digital publishing | <p>CTL’s software solution includes applications which benefit from instructor Technological Knowledge and support the teaching of Technological Knowledge:</p> <ul style="list-style-type: none"> • Microsoft Office 365 • Note Taker • Internet Explorer • Skype • Microsoft StickySorter • Microsoft SharedView • Microsoft Flashcards |
| <p>Pedagogical Knowledge (PK)</p> | <p>“Teachers’ deep knowledge about the processes and practices or methods of teaching and learning. They encompass, among other things, overall educational purposes, values, and aims. This generic form of knowledge applies to understanding how students learn, general classroom management skills, lesson planning, and student assessment.” (Koehler & Mishra, 2009).</p> <p>Teaching and learning examples:</p> <ul style="list-style-type: none"> • Collaboration, self-direction, information literacy, and reflection • Skills and content knowledge | <p>CTL’s diverse set of software tools allow teachers to leverage their expertise about the processes and methods of learning:</p> <ul style="list-style-type: none"> • SPARKvue by PASCO • Microsoft Office 365 • Textbooks by Kno • Penzu Classroom • Microsoft SharedView • Microsoft Internet Explorer • Intel Visual Ranking Tool • Intel Seeing Reason |

| | | |
|---|---|--|
| | <ul style="list-style-type: none"> • Use technology to draw data • Understand the importance of thinking critically about information in contemporary society. | <p>Tool</p> <ul style="list-style-type: none"> • Intel Showing Evidence Tool • Wisemapping • Microsoft StickySorter |
| <p>Content Knowledge (CK)</p> | <p>“Teachers’ knowledge about the subject matter to be learned or taught. The content to be covered in middle school science or history is different from the content to be covered in an undergraduate course on art appreciation or a graduate seminar on astrophysics... As Shulman (1986) noted, this knowledge would include knowledge of concepts, theories, ideas, organizational frameworks, knowledge of evidence and proof, as well as established practices and approaches toward developing such knowledge” (Koehler & Mishra, 2009).</p> <ul style="list-style-type: none"> • Standards • Understand scientific inquiry and what makes it unique from other approaches • Core content areas | <ul style="list-style-type: none"> • LABCAM • Microsoft Office 365 • SPARKvue by PASCO • Microsoft Mathematics 4.0 • Microsoft SmallBasic • Kodu |
| <p>Pedagogical Content Knowledge (PCK)</p> | <p>“Consistent with and similar to Shulman’s idea of knowledge of pedagogy that is applicable to the teaching of specific content. Central to Shulman’s conceptualization of PCK is the notion of the transformation of the subject matter for teaching. Specifically, according to Shulman (1986), this transformation occurs as the teacher interprets the subject matter, finds multiple ways to represent it, and</p> | <p>The applications available allow the teacher to interpret the subject matter, find multiple ways to represent it, and adapt and tailor instructional materials to alternative conceptions and students’ prior knowledge:</p> <ul style="list-style-type: none"> • Classroom management • Textbooks by Kno |

| | | |
|---|--|---|
| | <p>adapts and tailors the instructional materials to alternative conceptions and students’ prior knowledge. PCK covers the core business of teaching, learning, curriculum, assessment and reporting, such as the conditions that promote learning and the links among curriculum, assessment, and pedagogy” (Koehler & Mishra, 2009).</p> | <ul style="list-style-type: none"> • LABCAM • SPARKvue by PASCO • Media Camera (by Intellisce) • Intel Showing Evidence Tool • Microsoft Mathematics 4.0 • Microsoft Songsmith • Microsoft WorldWide Telescope • GraphCalc • Penzu Classroom |
| <p>Technological Content Knowledge (TCK)</p> | <p>“An understanding of the manner in which technology and content influence and constrain one another. Teachers need to master more than the subject matter they teach; they must also have a deep understanding of the manner in which the subject matter (or the kinds of representations that can be constructed) can be changed by the application of particular technologies. Teachers need to understand which specific technologies are best suited for addressing subject-matter learning in their domains and how the content dictates or perhaps even changes the technology—or vice versa” (Koehler & Mishra, 2009).</p> | <p>CTL’s software allows for creative teaching and curriculum to change the nature of learning the subject matter:</p> <ul style="list-style-type: none"> • LABCAM • SPARKvue by Pasco • Media Camera • Intel Showing Evidence Tool • Microsoft Photosynth • Windows Photo Gallery • Microsoft AutoCollage • Windows Movie Maker • Microsoft Songsmith |
| <p>Technological Pedagogical Knowledge (TPK)</p> | <p>“An understanding of how teaching and learning can change when particular technologies are used in particular ways. This includes knowing the pedagogical affordances</p> | <p>CTL’s available software tools afford educators their knowledge of pedagogical strategies and the ability to apply those strategies for use</p> |

| | | |
|--|---|--|
| | <p>and constraints of a range of technological tools as they relate to disciplinarily and developmentally appropriate pedagogical designs and strategies” (Koehler & Mishra, 2009).</p> <ul style="list-style-type: none"> • Includes knowledge of tools for maintaining class records • Attendance and grading • Knowledge of generic technology-based ideas such as WebQuests, discussion boards and chat rooms. | <p>of technologies:</p> <ul style="list-style-type: none"> • Classroom Management • Intel Education Access Management • Skype • Internet Explorer • Penzu Classroom |
|--|---|--|

| SAMR Model | | Software Use |
|---------------------|--|---|
| Redefinition | <p>Ubiquitous technology allows educators to look across their curriculum to redesign their approaches to help students master the most challenging content in new ways- for example- student gaining global competency and math/science skills by working with large data bases of scientific information with other classrooms around the world.</p> | <p>Redesign approaches to help students master the most challenging content in new ways:</p> <ul style="list-style-type: none"> • LABCAM • SPARKvue by Pasco • Skype • Penzu Classroom • Wisemapping • Microsoft AutoCollage • Microsoft Photosynth • Windows Movie Maker • Microsoft Songsmith • Windows Photo Gallery • Media Camera by Intellisense |

| | | |
|----------------------------|--|--|
| <p>Modification</p> | <p>Technology allows for significant task re-design such new approaches to classroom management, the role of students as 'experts'</p> | <p>Significant task re-design:</p> <ul style="list-style-type: none"> • Penzu Classroom • Classroom Management • Internet Explorer • Microsoft StickySorter • Wisemapping • Microsoft SmallBasic • Kodu |
| <p>Augmentation</p> | <p>Can utilize to augment current work: Online daily calendar to keep track of student requirements and assignments. Teacher works with students to create an electronic newsletter via email, blog etc. vs. printed in backpack more easily reaching parents/guardians.</p> | <p>Augment current work with:</p> <ul style="list-style-type: none"> • Microsoft Office 365 • Note Taker • Penzu Classroom |
| <p>Substitution</p> | <p>Substitute activities based on ubiquitous access to technology- e.g. less printing and going digital; use of online form vs. worksheet etc.</p> | <p>Substitute activities with:</p> <ul style="list-style-type: none"> • Microsoft Office 365 • Textbooks by Kno • Penzu Classroom • Microsoft SharedView • Skype • Internet Explorer |

A summary of individual software titles available as part of CTL’s solution is included below. Each subsection of 6.6.1 references relevant titles from this list.

Classroom Management

Classroom Management has features to support interactivity and collaborative student work, provides teacher tools to organize lessons, administer assessments, control student activity while eliminating distractions, and enhances overall classroom productivity.

- Administer formative assessments with quiz/poll functions
- Administer high-stakes assessments in a safe and secure environment
- Enables focused & engaged classrooms with full administration capabilities like shutting down applications, blanking screens, sharing screens and content

- Distributes and collects homework and other content
- Supports diverse learning styles with small group activities

Microsoft Office 365

Microsoft Office 365 for education helps students manage the demands placed on their time by reducing barriers to sharing school work, curriculum planning, and collaborating with online services that provide collaboration, document, and communication tools. Students get anywhere access to email and calendars, Office Web Apps, video and online meetings, and document-sharing. Includes: Online conferencing with desktop sharing; Cloud-based email, calendar and contacts and Web-based viewing and editing of **Word, Excel, PowerPoint, and OneNote files**

Note Taker

With its high level of handwriting recognition, Note Taker allows simple organization and search of handwritten notes, text and graphics.

Main features:

- Save hand-written notes
- Exceptional hand writing recognition
- Fast search within hand written notes
- Manage and edit notes

Textbooks by Kno

Textbooks by Kno, part of Intel® Education, is a digital reader designed exclusively for education, that provides students with the ability to experience embedded multimedia and 3D models, utilize advanced search functionality, get organized with a course/term textbook manager, add annotations to digital content, and further their knowledge with a built-in glossary.

- **Term and Course Management** - Organize multiple sources of content by term as well as course for efficiency
- **Powerful Navigation Tools** - Intuitive tools to navigate a document or search across multiple sources of material
- **Rich reference Capabilities** - Find or reference information using links or external search capabilities
- **Annotation tools** - Add notes, links, drawings and other references captured in reference journal

For additional fees, schools can work through Kno’s course catalog to purchase digital textbooks and maximize their content distribution through Kno’s cloud services.

LABCAM

Lab Camera (Intel® Education Lab Camera application by Intellisense)

Intel® Education Lab Camera application by Intellisense helps to promote scientific inquiry, helps make abstract concepts tangible for students and is an excellent complement to your STEM

curriculum. Teachers can ignite imaginations and reveal the natural sciences using the Lab Camera application and the device's built-in camera.

This hands-on set of tools for investigating the natural world helps make abstract concepts tangible, because students see them with their own eyes and experience them with their own hands.

The Lab Camera application includes 6 modules:

1. Time-lapse camera allows students and teachers to record nature's slow process and stitch it together into a short video
2. Microscope function carries out the basic functions of traditional microscope
3. Pathfinder creates a 3D map of the natural patterns that occur in nature
4. Universal logger allows students and teachers to digitize analog science equipment
5. Kinematics feature that allows tracking of horizontal and vertical movement
6. Motion cam is makes a recording when it detects movement

Because the solution uses the camera built into the device and other readily available materials, it is a cost-effective way to complement STEM curriculum and engage students.

Value for Schools:

- STEM project-based learning is enhanced, making this an ideal solution to add to your STEM curriculum and engage students in the wonders of the world
- Schools can offer sophisticated grade-leveled STEM tools, reducing the need for expensive lab equipment and enhancing STEM curriculum
- Engages students in a number of science disciplines, such as Biology, Life Science, Chemistry, and Physics
- Supports anytime anywhere learning with science tools built into the laptop utilizing the web cam

Value for Students:

- Fosters deep understanding about scientific principles and phenomena's with modern digital tools
- Develops 21st Century skills with hands-on experiments and analysis
- Anytime anywhere learning with science tools built into the laptop, utilizing the web cam

Value for Teachers:

- Six tools built into one software application so teachers don't have to manage and distribute peripherals during valuable class time or trying to teach with antiquated equipment

- Develops higher-order skills such as investigation, drawing conclusions, collaboration, analysis, problem solving, deductive reasoning
- Makes doing homework fun, helping students stay motivated and engaged

Lab Camera – 6 modules

1. **Time-Lapse Cam:** This module enables students to see quickly what normally happens slowly, over a long period of time. For example, while it takes weeks for an apple to decompose, a time-lapse video shows a student the complete decomposition process compressed into just a few seconds. Other examples: ice melting, cloud formations, the growth of plants. The module allows the selection of specified interval shots and then stitches these images into a coherent stream of video.
2. **Kinematics:** Kinematics is the study of the motion of bodies, and is an essential component of any physical science curricula. The Kinematics module enables students to track objects and graph the horizontal and vertical movement characteristics (displacement, velocity, and acceleration) in real time. After an initial calibration, the measurement units can be set as well; can capture a maximum of three selected objects at the same time, allowing complex kinematic experiments. Students have traditionally learned about kinematics by reading textbooks.
3. **Motion Cam:** Enables students to record events without recording the hours of meaningless footage surrounding the event. For example, students can capture a bee pollinating a flower, or the nighttime feeding habits of a classroom pet. Makes a recording when it detects movement in front of the camera, allowing you to capture rare situations in nature; works like a motion-sensor camera.
4. **Microscope:** Traditional light microscopes are expensive and immobile. However, microscopy is an important part of life sciences curricula. With the Microscope module, students can turn their computer into a microscope.
5. **Pathfinder:** The Pathfinder module enables students to detect patterns of movement and frequency of motion in video. The motion data is visualized in the form of a density map using color saturation to show levels of activity. For example, students observe the behavior of termites as they follow an invisible pheromone trail. While unnoticeable to the naked eye, the pattern becomes obvious after just a few minutes of recording. Other examples: pedestrian and traffic patterns.
6. **Universal Logger:** Many schools don't have the funds to purchase new probes and other classroom technologies. However, data collection and analysis is an important part of math and science curricula, and is an essential 21st Century skill. The Universal Logger module uses object recognition to convert the readout of traditional analog measurement devices to digital data that can be graphed in real time.

SPARKvue by PASCO

SPARKvue, is a data analysis application used to study science and math concepts. It is applicable across subject areas and grade ranges. It teaches inquiry skills - students conduct pre-configured experiments or create their own lines of exploration. Data can be visually inspected and analyzed with statistical tools. Sensors, internal or external, collect data and display it in real-time in a graph, or table.

Sensor-based Data examples:

- Acceleration (G-sensor): Record acceleration while riding a bike
- Sound: Examine sound levels and how they relate to noise pollution
- Camera: Capture images as part of an experiment or Record microscope images and annotate
- Light: Measure relative light intensities in daylight
- Magnetometer: Study the field strength of bar magnets
- Temperature: Measure the temperature of water as ice cubes melt or examine the insulating properties of different types of fabrics to design new clothing

Media Camera (by Intellisense)

Intel[®] Education Media Camera application by Intellisense provides camera-based tools designed to help students to express themselves visually and better communicate information.

It has 2 modules:

1. Recorder: enables students to take pictures or record video, and provides basic media editing tools
2. Presenter: enables students to load media captured in Lab Camera, MediaCam's Recorder or other applications, and use advanced media editing tools like annotation, rotation, resizing tools

Painting and Drawing

Provides an intuitive tool that simulates real-world art materials to enable the creation of sophisticated projects and allows students to foster their creative thinking and artistic skills by using this powerful tool.

New Feature Highlights:

- Studio Artist Tools: Watercolor, Inking Pen, and Flood Fill
- Effect Tools: 'Gloop' Pen, Sticker Spray, Selection Tool, Transformation Tool, Text Tool
- Tool Controls: Palette Knife with Paint Loading
- Sticker Sheets: pre-rendered 'clip art' stickers with controls to move and adjust

Layers and Layer Control

- Multi-layer support provides for flexible control and extra creativity during the painting and drawing process.

Expanded User Interface

- Simple and easy-to-use interface includes multi-touch support for canvas and object manipulation.

ArtRage

ArtRage, part of Intel® Education, enables students to easily create digital artwork on their computer. Students can simulate a range of artistic effects: watercolor, ink pen, flood fill, gloop pen, sticker spray, text tool, and more. Students can use the program to provide illustrations to stories and reports. Because it's so intuitive to use, they can spend more time nurturing their inner Picasso than laboring to learn a complex program.

Intel Education Access Management

The Intel Education Access Management application provides a safer and more secure Internet and application environment for students. It allows IT staff to set appropriate policies for students in a school and at home. Key features include: policy management, web filtering, provisioning. Access management will allow IT staff to ensure student devices meet the requirements of the Child Internet Protection Act (CIPA), therefore meeting eRate compliance.

WebCam Companion

Students can capture HD images or videos from their Classmate PC webcam and share their artwork directly with others. The smart photo/video editing tools are easy to use allowing adjustments and enhancements using intuitive tools such as brightness, contrast, sharpness, flip, resize crop and more.

Main features:

- Photo editing and commenting
- Flexible recording possibilities using the rotatable camera
- User interface optimized for touch screen use
- Noise filtering
- Digital archiving
- Easy recording using the camera button
- Media capture and management
- Anti-shake feature

Intel Visual Ranking Tool

Comparing and Prioritizing Information. Making a list is usually straightforward and requires little thought. But when it comes to ordering and prioritizing items in that list, higher-level skills of analysis and evaluation are put to use. The *Visual Ranking Tool* brings focus to the thinking behind making ordered lists. Students identify and refine criteria as they assign order or ranking to a list. Items in the list may be represented by images. Students must explain their reasoning

and can compare their work with each other in a visual diagram. This tool supports activities where students need to organize ideas, debate differences, and reach consensus.

Intel Seeing Reason Tool

Mindful Mapping of Cause and Effect. Analyzing cause-and-effect relationships is important to understanding complex systems. With the *Seeing Reason Tool* students create visual maps of the factors and relationships in a cause-and-effect investigation. These maps make thinking visible and promote collaboration as students work together to refine their understanding.

Intel Showing Evidence Tool

Analyzing and Evaluating Information. The *Showing Evidence Tool* helps students learn how to construct well-reasoned arguments and prove their case with credible evidence. The tool provides a visual framework to make claims, identify evidence, evaluate the quality of that evidence, explain how the evidence supports or weakens claims, and reach conclusions based on the evidence. This thinking tool supports activities where students debate differences, make and defend decisions, and analyze conflicting information. The tool and related resources are available for free, from any computer that is connected to the Internet. Students may work on their claims and evidence at home or at school, and can be paired with another team to review their ideas.

Microsoft Flashcards

Build memory and recognition skills with a modern twist on the classic learning tool of flashcards. With Microsoft's Flashcards application, teachers and students alike can create, share and study flashcards online. Flashcards provides a unique experience for everyone, enabling students to learn at their own pace so they can build confidence and stay engaged. You can create your own decks, or use an existing deck from the community website. Teachers and parents can access student progress reports, and students can self-test to get instant feedback.

Microsoft Photosynth

Encourage creative learning in your classroom by using interactive 3D technology to tell personal stories and explore places, events, and activities. Microsoft Photosynth lets anyone reconstruct a 3D experience from flat photographs and offers both detailed synths and panorama experiences. With a synth, you take numerous pictures of a single item from different angles to create a 3D reality experience. With a panorama, you create an immersive view of a particular place. You can create and share personal photosynths for class activities or use public photosynths from other contributors to explore far-off places.

Kodu

Teach your students programming by letting them have fun creating and playing their own games. Kodu is a visual programming language made specifically for creating games. It is

designed to be accessible for children and enjoyable for anyone. The programming environment runs on the Xbox 360, allowing rapid design iteration using only a game controller for input.

Windows Photo Gallery

Windows Photo Gallery can make digital storytelling projects and presentations easier and more fun for teachers and students alike. It makes photo management and editing simple and quick, while new features such as panoramic stitching, auto-tagging during importing, and online photo sharing make it the ideal tool for incorporating images into creative class projects.

Skype

Skype is an easy way for teachers to open up their classroom. Using Skype in the classroom, you can meet new people, talk to experts, share ideas and create amazing learning experiences with teachers from around the world.

Microsoft AutoCollage

Inspire your students' creativity and help them better remember information by using AutoCollage to encourage both visual and verbal learning. With AutoCollage, you can engage your students in a fun and creative way by quickly creating a collage of images. Use it to focus on selected subjects, showcase school events, and much more.

Microsoft Mathematics 4.0

Equip students with the tools needed to grasp mathematical concepts by complementing your teaching with Microsoft Mathematics 4.0. This powerful computer algebra system has a friendly user interface and a step-by-step equation solver, helping students understand the path to a correct answer. Its powerful visualization tools also help to capture students' imaginations and keep them engaged, allowing their comprehension to rise exponentially.

Windows Movie Maker

The sights, sounds and action of a movie are a great way grab your students' attention and bring a diverse range of education subjects to life. But who has time to teach and make movie magic? You do - with Windows Movie Maker. In just minutes, you can turn photos and video clips on any subject into interesting movies with special effects, sounds, and captions. Then share them with your class, on the Web, or DVDs so everyone can enjoy.

Microsoft Songsmith

Spark your students' creativity, engage their interest, and improve learning outcomes by creating and sharing music in the classroom with Songsmith. Songsmith automatically generates musical accompaniment for anyone's voice and can help you teach music, math, and many other subjects in innovative new ways. Sometimes helping kids "find their spark" is the hardest part of stimulating learning; Songsmith is a great way to encourage creativity.

Microsoft StickySorter

Teach students how to facilitate brainstorming and organize information visually. StickySorter takes this process to a whole new level by letting you create simple screen notes and organize them into themes, allowing you to track and make sense of all kinds of questions or problems. StickySorter is especially useful for students working collaboratively to identify common themes in their research. And when you have big volumes of data, you can easily import and export the information into other programs to assist you in making sense of it all.

Microsoft SharedView

Share your desktop with multiple students or teachers in real time using Microsoft SharedView. It's a free utility that lets you connect and share your screen with up to 15 other computers in different locations—ideal for in-class collaboration across multiple schools, remote instructions, or collaborative homework projects between students. Get everyone's ideas and input, whether it's long distance learning or collaborative project work.

Microsoft WorldWide Telescope

Keep your students excited and engaged in astronomy, physics, general science, and more by taking detailed 3D tours of the night sky right from your classroom. With Microsoft WorldWide Telescope, you can explore outer space in detail, studying the sky in a way that has never before been possible without powerful ground and space telescopes. Students of all ages will feel empowered to explore and understand the cosmos using WorldWide Telescope's simple and powerful user interface.

Microsoft SmallBasic

Help your students start writing their first programs quickly and easily. With only 15 keywords and an inviting development environment, Small Basic is structured to help them succeed. Students who wish to advance their software development skills can also take advantage of Small Basic's online guides and e-books to help them move ahead.

Microsoft Internet Explorer

Delivers web pages full of vivid graphics, smoother video, and interactive content.

Wisemapping

Considered to be a “Visual Thinking Evolution”, this app offers free web based mind maps you can share anywhere on the web.

GraphCalc

It's as easy to use as a standard graphing calculator and it creates graphs.

Penzu Classroom

Penzu Classroom is designed to be used for education in the class. It was built for teachers to better manage their students and keep track of documents and assignments.

6.6.1.1 Writing (e.g., word processing, journaling, communications, editing and revision, sharing, etc.)

CTL Response:

CTL's proposed solution complies with this requirement. The following titles may be installed on CTL's mobile devices to address the needs outlined in 6.6.1 for 6.6.1.1 Writing.

- Microsoft Office 365
- Note Taker
- Penzu Classroom

6.6.1.2. Reading (e.g., annotating, excerpting, sharing, determining complexity, etc.)

CTL Response:

CTL's proposed solution complies with this requirement. The following titles may be installed on CTL's mobile devices to address the needs outlined in 6.6.1 for 6.6.1.2 Reading.

- Textbooks by Kno
- Microsoft Office 365
- Penzu Classroom
- Microsoft SharedView
- Microsoft Internet Explorer

6.6.1.3. Data analysis and modeling (e.g., spreadsheet, graphing and charting, GIS, predict and explain, etc.)

CTL Response:

CTL's proposed solution complies with this requirement. The following titles may be installed on CTL's mobile devices to address the needs outlined in 6.6.1 for 6.6.1.3 Data analysis and modeling.

- LABCAM
- SPARKvue by PASCO
- Microsoft Mathematics 4.0
- GraphCalc
- Microsoft Office 365

6.6.1.4. Computational thinking (e.g., analyzing and organizing data, data modeling and simulations, programming, etc.)

CTL Response:

CTL's proposed solution complies with this requirement. The following titles may be installed on CTL's mobile devices to address the needs outlined in 6.6.1 for 6.6.1.4 Computational thinking.

- LABCAM
- Intel Visual Ranking Tool
- Intel Seeing Reason Tool
- Intel Showing Evidence Tool
- GraphCalc
- Microsoft Mathematics 4.0
- Wisemapping
- Microsoft StickySorter
- Microsoft SmallBasic
- Kodu
- Microsoft Flashcards

6.6.1.5. Presentations and publishing (e.g., slide shows, web authoring, speaking/narrating text, providing feedback, etc.)

CTL Response:

CTL's proposed solution complies with this requirement. The following titles may be installed on CTL's mobile devices to address the needs outlined in 6.6.1 for 6.6.1.5 Presentations and publishing.

- Microsoft AutoCollage
- Microsoft Photosynth
- Media Camera by Intellisense

6.6.1.6. Multimedia creation (e.g., creation and manipulation of digital images, audio, video, etc.)

CTL Response:

CTL's proposed solution complies with this requirement. The following titles may be installed on CTL's mobile devices to address the needs outlined in 6.6.1 for 6.6.1.6 Multimedia creation.

- ArtRage

- Painting and Drawing
- Microsoft AutoCollage
- Microsoft Photosynth
- Windows Movie Maker
- Microsoft Songsmith
- Windows Photo Gallery
- Media Camera by Intellisense

6.6.1.7. Information management (e.g., database, concept mapping, etc.)

CTL Response:

CTL's proposed solution complies with this requirement. The following titles may be installed on CTL's mobile devices to address the needs outlined in 6.6.1 for 6.6.1.7 Information management.

- Intel Visual Ranking Tool
- Intel Seeing Reason Tool
- Microsoft StickySorter
- Wisemapping

6.6.1.8. Research (e.g., Internet browsing with the ability to access and utilize common multimedia and interactive content like streaming audio/video, java scripting, java applets, HTML5, Flash, etc.).

CTL Response:

CTL's proposed solution complies with this requirement. The following titles may be installed on CTL's mobile devices to address the needs outlined in 6.6.1 for 6.6.1.8 Research.

- LABCAM
- Intel Education Access Management
- Internet Explorer
- Microsoft WorldWide Telescope

6.6.1.9. Communication and collaboration (e.g. sharing data, asynchronous and synchronous text-based communications, video/audio chat, etc.)

CTL Response:

CTL's proposed solution complies with this requirement. The following titles may be installed on CTL's mobile devices to address the needs outlined in 6.6.1 for 6.6.1.9 Communication and collaboration.

- Media Camera by Intellisense
- Microsoft Office 365
- Note Taker
- Skype
- Microsoft SharedView
- Penzu Classroom
- Classroom Management

The Bidder must describe the applications included in its solution including how it envisions those tools supporting the functional needs described in this section.

CTL Response:

CTL’s proposed solution complies with this requirement. This is described at the beginning of section 6.6.1 NEED MORE

6.6.2. Multi-State Standards

6.6.2.1. Common Core State Standards for English Language Arts

Forty-six States have adopted the *Common Core State Standards for English Language Arts*. While the Provider is not required to provide educational content, Bidders must describe the tools and functionalities included in the solution that will support the teaching of and the learning of the outcomes described by the *Common Core State Standards for English Language Arts* including the 4 component sections: reading, writing, speaking and listening, and language. Bidders should pay particular attention how the solution provides tools and functionality to support text complexity, informational text, and text types as described in the CCSS for ELA (<http://www.maine.gov/education/lres/ela/standards.html>).

CTL Response:

CTL’s proposed solution complies with this requirement. The following table describes the tools and functionalities included in the CTL solution that will support the teaching of and the learning outcomes described by the Common Core State Standards for English Language Arts. For the sake of conserving space, software applications are listed with a short informational description. For an expanded description of functionality for each application, please see section 6.6.1.

| Common Core State Standards for English Language Arts – Key Takeaways | Tools and functionalities included in the CTL solution that will support the teaching of and the learning of the outcomes |
|---|--|
| <p>Reading The standards establish a “staircase” of increasing complexity in what students must be able to read so that all students are ready for the demands of college and career-level reading no later than the end of high school.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate |

| | |
|--|---|
| <p>The standards also require the progressive development of reading comprehension so that students advancing through the grades are able to gain more from whatever they read.</p> <p>Through reading a diverse array of classic and contemporary literature as well as challenging informational texts in a range of subjects, students are expected to build knowledge, gain insights, explore possibilities, and broaden their perspective. Because the standards are building blocks for successful classrooms, but recognize that teachers, school districts and states need to decide on appropriate curriculum, they intentionally do not offer a reading list. Instead, they offer numerous sample texts to help teachers prepare for the school year and allow parents and students to know what to expect at the beginning of the year.</p> <p>The standards mandate certain critical types of content for all students, including classic myths and stories from around the world, foundational U.S. documents, seminal works of American literature, and the writings of Shakespeare. The standards appropriately defer the many remaining decisions about what and how to teach to states, districts, and schools.</p> | <p>policies for students in a school and at home)</p> <ul style="list-style-type: none"> • Microsoft Office 365 (Web-based viewing and editing of Word, Excel, PowerPoint, and OneNote files) • Penzu Classroom (Classroom journaling and assignment management) • Textbooks by Kno (Digital reader) • Microsoft Internet Explorer (Leverage the internet’s vast content) |
| <p>Writing The ability to write logical arguments based on substantive claims, sound reasoning, and relevant evidence is a cornerstone of the writing standards, with opinion writing—a basic form of argument—extending down into the earliest grades.</p> <p>Research—both short, focused projects (such as those commonly required in the workplace) and longer term in depth research—is emphasized throughout the standards but most prominently in the writing strand since a written analysis and presentation of findings is so often critical.</p> <p>Annotated samples of student writing</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Microsoft Office 365 (Web-based viewing and editing of Word, Excel, PowerPoint, and OneNote files) • Note Taker (Handwriting recognition note taking, note organization and search) • Penzu Classroom (Classroom journaling and assignment management) • Microsoft Internet Explorer (Access blogs and internet based writing sites) • Microsoft StickySorter (Facilitate brainstorming and organize information |

| | |
|--|---|
| <p>accompany the standards and help establish adequate performance levels in writing arguments, informational/explanatory texts, and narratives in the various grades.</p> | <p>visually for writing projects)</p> <ul style="list-style-type: none"> • Wisemapping (Brainstorm, collaborate and share with this mind mapping tool) |
| <p>Speaking and Listening The standards require that students gain, evaluate, and present increasingly complex information, ideas, and evidence through listening and speaking as well as through media.</p> <p>An important focus of the speaking and listening standards is academic discussion in one-on-one, small-group, and whole-class settings. Formal presentations are one important way such talk occurs, but so is the more informal discussion that takes place as students collaborate to answer questions, build understanding, and solve problems.</p> | <ul style="list-style-type: none"> • Skype (Learn from and share with people from around the world) • Media Camera (Multi-media creation, communication and presentations) • Microsoft Photosynth (Tell personal stories and explore places, events, and activities) • Windows Photo Gallery (Digital storytelling and presentations) • Microsoft AutoCollage (Creatively encourages both visual and verbal learning) • Windows Movie Maker (Learn multi-media and bring education subjects to life by making a movie) |
| <p>Language The standards expect that students will grow their vocabularies through a mix of conversations, direct instruction, and reading. The standards will help students determine word meanings, appreciate the nuances of words, and steadily expand their repertoire of words and phrases.</p> <p>The standards help prepare students for real life experience at college and in 21st century careers. The standards recognize that students must be able to use formal English in their writing and speaking but that they must also be able to make informed, skillful choices among the many ways to express themselves through language.</p> <p>Vocabulary and conventions are treated in their own strand not because skills in these areas should be handled in isolation but because their use extends across reading, writing, speaking, and listening.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Gain exposure to other cultures and leverage the internet’s vast content) • Microsoft Flashcards (Create and study flashcards) • Skype (Learn from and share with people from around the world) • Penzu Classroom (Classroom journaling and assignment management) • Media Camera (Multi-media creation, communication and presentations.) |
| <p>Text complexity, informational text, and text types</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student |

| | |
|--|---|
| | <p>activity)</p> <ul style="list-style-type: none"> • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Microsoft Office 365 (Web-based viewing and editing of Word, Excel, PowerPoint, and OneNote files) • Note Taker (Handwriting recognition note taking, note organization and search) • Textbooks by Kno (Digital reader) |
| <p>Integration with Literacy in History/Social Studies, Science, & Technical Subjects</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • LABCAM (Facilitates learning of abstract concepts, promotes scientific inquiry of the natural sciences) • SPARKvue by PASCO (Data analysis to study science and math concepts) • Penzu Classroom (Classroom journaling and assignment management) • Microsoft Photosynth (Tell personal stories and explore places, events, and activities) • Windows Photo Gallery (Digital storytelling and presentations) |

6.6.2.2. Common Core State Standards for Mathematics

Forty-six States have adopted the *Common Core State Standards for Mathematics*. While the Provider is not required to provide educational content, Bidders must describe the tools and functionalities included in the solution that will support the teaching of and learning of the

outcomes described by the *Common Core State Standards for Mathematics* with a particular emphasis on the eight "Standards for Mathematical Practice" as detailed in *Common Core State Standards for Mathematics* (<http://maine.gov/education/lres/math/standards.html#ccss-math>).

Additionally, the solution must include the capacity to format and display mathematical formulas, equations, and symbols. Entry and editing of mathematical formulas, equations, and symbols should be easy and allow for teachers and students to create documents and media that aid with instruction and learning.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL’s solution includes the capacity to format and display mathematical formulas, equations, and symbols. CTL’s solution allows for easy entry and editing of mathematical formulas, equations, and symbols and for teachers and students to create documents and media that aid with instruction and learning.

The following table describes the tools and functionalities included in the CTL solution that will support the teaching of and the learning outcomes described by the Common Core State Standards for Mathematics. For the sake of conserving space, software applications are listed with a short informational description. For an expanded description of functionality for each application, please see section 6.6.1.

| Common Core State Standards for Mathematics - Outcomes | Tools and functionalities included in the CTL solution that will support the teaching of and the learning of the outcomes |
|---|--|
| <p>CCSS.Math.Practice.MP1 Make sense of problems and persevere in solving them.</p> <p>Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • GraphCalc (Graphing calculator) • Microsoft Mathematics 4.0 (Algebra system with step-by-step equation solver) • Microsoft Office 365 (Web-based viewing and editing of Word, Excel, PowerPoint, and OneNote files) • Microsoft Songsmith (Learn music, math and many other subjects by creating and sharing music) |

| | |
|---|--|
| <p>correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.</p> | |
| <p>CCSS.Math.Practice.MP2 Reason abstractly and quantitatively.</p> <p>Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.</p> | <ul style="list-style-type: none"> ● Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) ● Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) ● Microsoft Internet Explorer (Leverage the internet’s vast content) ● Microsoft Office 365 (Web-based viewing and editing of Word, Excel, PowerPoint, and OneNote files) ● LABCAM (Facilitates learning of abstract concepts, promotes scientific inquiry of the natural sciences) ● SPARKvue by PASCO (Data analysis to study science and math concepts) |
| <p>CCSS.Math.Practice.MP3 Construct viable arguments and critique the reasoning of others.</p> <p>Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the</p> | <ul style="list-style-type: none"> ● Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) ● Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) ● Microsoft Internet Explorer |

| | |
|--|--|
| <p>truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.</p> | <p>(Leverage the internet’s vast content)</p> <ul style="list-style-type: none"> • Microsoft Office 365 (Web-based viewing and editing of Word, Excel, PowerPoint, and OneNote files) • Intel Visual Ranking Tool (Comparing and prioritizing information) • Intel Seeing Reason Tool (Mindful mapping of cause and effect) • Intel Showing Evidence Tool (Analyzing and evaluating information) • Wisemapping (Brainstorm, collaborate and share with this mind mapping tool) • Microsoft StickySorter (Facilitate brainstorming and organize information visually) • Penzu Classroom (Classroom journaling and assignment management) |
| <p>CCSS.Math.Practice.MP4 Model with mathematics.</p> <p>Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Microsoft Office 365 (Web-based viewing and editing of Word, Excel, PowerPoint, and OneNote files) • Wisemapping (Brainstorm, collaborate and share with this mind mapping tool) • Microsoft StickySorter (Facilitate brainstorming and organize information visually) • Intel Showing Evidence Tool (Analyzing and evaluating information) |

| | |
|---|--|
| <p>diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.</p> | |
| <p>CCSS.Math.Practice.MP5 Use appropriate tools strategically.</p> <p>Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Microsoft Office 365 (Web-based viewing and editing of Word, Excel, PowerPoint, and OneNote files) • Microsoft Mathematics 4.0 (Algebra system with step-by-step equation solver) • GraphCalc (Graphing calculator) |
| <p>CCSS.Math.Practice.MP6 Attend to precision.</p> <p>Mathematically proficient students try to communicate precisely to others. They try to</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Microsoft Office 365 (Web-based |

| | |
|--|---|
| <p>use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.</p> | <p>viewing and editing of Word, Excel, PowerPoint, and OneNote files)</p> <ul style="list-style-type: none"> • Microsoft SmallBasic (Learn programming quickly and easily) • Microsoft SharedView (Collaboratively learn with desktop sharing with up to 15 computers) |
| <p>CCSS.Math.Practice.MP7 Look for and make use of structure.</p> <p>Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Microsoft Office 365 (Web-based viewing and editing of Word, Excel, PowerPoint, and OneNote files) • Microsoft Songsmith (Learn music, math and many other subjects by creating and sharing music) • Microsoft SharedView (Collaboratively learn with desktop sharing with up to 15 computers) |
| <p>CCSS.Math.Practice.MP8 Look for and express regularity in repeated reasoning.</p> <p>Mathematically proficient students notice if calculations are repeated, and look both for</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • GraphCalc (Graphing calculator) |

| | |
|--|---|
| <p>general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.</p> | <ul style="list-style-type: none"> • Microsoft Mathematics 4.0 (Algebra system with step-by-step equation solver) • Microsoft Songsmith (Learn music, math and many other subjects by creating and sharing music) |
|--|---|

6.6.2.3. Next Generation Science Standards

Twenty-six states are working together on the development of the *Next Generation Science Standards*. While the Provider is not required to provide educational content, Bidders must describe the tools and functionalities included in the solution that will support teaching and learning described by the vision of science education in "A Framework for K-12 Science Education" inclusive of the Scientific and Engineering Practices, and Cross Cutting Concepts and reflected in the first draft version of the *Next Generation Science Standards* (<http://maine.gov/doe/nextscience/index.html>).

CTL Response:

CTL's proposed solution complies with this requirement. The following table describes the tools and functionalities included in the CTL solution that will support the teaching of and the learning outcomes described by the vision of science education in "A Framework for K-12 Science Education" inclusive of the Scientific and Engineering Practices, and Cross Cutting Concepts and reflected in the first draft version of the *Next Generation Science Standards*. For the sake of conserving space, software applications are listed with a short informational description. For an expanded description of functionality for each application, please see section 6.6.1.

| Teaching and learning for the Next Generation Science Standards. Information from "A Framework for K-12 Science Education" | Tools and functionalities included in the CTL solution that will support the teaching of and the learning for the Next Generation Science Standards |
|---|--|
| DIMENSION 1: SCIENTIFIC AND ENGINEERING | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, |

| | |
|--|---|
| <p>PRACTICES</p> <ol style="list-style-type: none"> 1. Asking questions (for science) and defining problems (for engineering) 2. Developing and using models 3. Planning and carrying out investigations 4. Analyzing and interpreting data 5. Using mathematics and computational thinking 6. Constructing explanations (for science) and designing solutions (for engineering) 7. Engaging in argument from evidence 8. Obtaining, evaluating, and communicating information <p>This dimension focuses on important practices used by scientists and engineers, such as modeling, developing explanations or solutions, and engaging in argumentation. For example, all of the disciplines of science share a commitment to data and evidence as the foundation for developing claims about the world.</p> <p>As they carry out investigations and revise or extend their explanations, scientists examine, review, and evaluate their own knowledge and ideas and critique those of others through a process of argumentation.</p> <p>These practices have too often been underemphasized in K-12 science education. Engaging in the full range of scientific practices helps students understand how scientific knowledge develops and gives them an appreciation of the wide range of approaches that are used to investigate, model and explain the world. Similarly, engaging in the practices of engineering helps students understand the work of engineers and the links between engineering and science.</p> | <p>administer assessments, control student activity)</p> <ul style="list-style-type: none"> • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Microsoft Office 365 (Web-based viewing and editing of Word, Excel, PowerPoint, and OneNote files) • Note Taker (Handwriting recognition note taking, note organization and search) • Textbooks by Kno (Digital eReader) • LABCAM (Facilitates learning of abstract concepts, promotes scientific inquiry of the natural sciences) • SPARKvue by PASCO (Data analysis to study science and math concepts) • Intel Visual Ranking Tool (Comparing and prioritizing information) • Intel Seeing Reason Tool (Mindful mapping of cause and effect) • Intel Showing Evidence Tool (Analyzing and evaluating information) • Wisemapping (Brainstorm, collaborate and share with this mind mapping tool) • Wisemapping (Brainstorm, collaborate and share with this mind mapping tool) • Microsoft StickySorter (Facilitate brainstorming and organize information visually) • GraphCalc (Graphing calculator) • Microsoft Mathematics 4.0 (Algebra system with step-by-step equation solver) |
| <p>DIMENSION 2: CROSSCUTTING CONCEPTS THAT HAVE COMMON APPLICATION ACROSS FIELDS</p> <ol style="list-style-type: none"> 1. Patterns | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management |

| | |
|--|---|
| <p>2. Cause and effect: Mechanism and explanation 3. Scale, proportion, and quantity 4. Systems and system models 5. Energy and matter: Flows, cycles, and conservation 6. Structure and function 7. Stability and change</p> <p>The seven crosscutting concepts are key across science and engineering. They provide students with ways to connect knowledge from the various disciplines into a coherent and scientific view of the world. For example, the concept of “cause and effect: mechanism and explanation” includes the key understandings that events have causes, sometimes simple, sometimes multifaceted; that a major activity of science is investigating and explaining causal relationships and the mechanisms by which they are mediated; and that such mechanisms can then be tested across given contexts and used to predict and explain events in new contexts.</p> <p>Students’ understanding of these crosscutting concepts should be reinforced by their repeated use in instruction across the disciplinary core ideas (see Dimension 3). For example, the concept of “cause and effect” could be discussed in the context of plant growth in a biology class and in the context of investigating the motion of objects in a physics class. Throughout their science and engineering education, students should be taught the crosscutting concepts in ways that illustrate their applicability across all the core ideas.</p> | <p>(allows IT staff to set appropriate policies for students in a school and at home)</p> <ul style="list-style-type: none"> • Microsoft Internet Explorer (Leverage the internet’s vast content) • Textbooks by Kno (Digital eReader) • Microsoft Songsmith (Learn music, math and many other subjects by creating and sharing music) • LABCAM (Facilitates learning of abstract concepts, promotes scientific inquiry of the natural sciences) • SPARKvue by PASCO (Data analysis to study science and math concepts) • Microsoft WorldWide Telescope (Engage students in astronomy, physics and general science) |
| <p>DIMENSION 3: CORE IDEAS IN FOUR DISCIPLINARY AREAS Physical Sciences PS 1: Matter and its interactions PS 2: Motion and stability: Forces and interactions</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at |

| | |
|--|--|
| <p>PS 3: Energy PS 4: Waves and their applications in technologies for information transfer Life Sciences LS 1: From molecules to organisms: Structures and processes LS 2: Ecosystems: Interactions, energy, and dynamics LS 3: Heredity: Inheritance and variation of traits LS 4: Biological Evolution: Unity and diversity Earth and Space Sciences ESS 1: Earth’s place in the universe ESS 2: Earth’s systems ESS 3: Earth and human activity Engineering, Technology, and the Applications of Science ETS 1: Engineering design ETS 2: Links among engineering, technology, science, and society</p> | <p>home)</p> <ul style="list-style-type: none"> • Microsoft Internet Explorer (Leverage the internet’s vast content) • Microsoft WorldWide Telescope (Engage students in astronomy, physics and general science) • Textbooks by Kno (Digital eReader) • LABCAM (Facilitates learning of abstract concepts, promotes scientific inquiry of the natural sciences) • SPARKvue by PASCO (Data analysis to study science and math concepts) • Windows Photo Gallery (Digital storytelling and presentations) • Microsoft SmallBasic (Learn programing quickly and easily) • Kodu (Program and design games) |
|--|--|

6.6.3. State Specific Standards

6.6.3.1. Maine

While the Provider is not required to provide educational content, each Bidder must identify all of its application software and describe how it will support educational use and how it will align tools and resources with Maine’s *Learning Results* including the *Common Core State Standards*. In addition, the Department anticipates that upon completion, the *Next Generation Science Standards* will be adopted. More information about Maine’s adopted academic standards and its involvement with *Next Generation Science Standards* development may be found here:

- <http://maine.gov/doe/teaching/standards.html>

CTL Response:

CTL’s proposed solution complies with this requirement. A complete list and description of all of CTL’s application software is provided in section 6.6.1 Applications. In the interest of space, please refer to that list and those descriptions. For a description of how those applications will support educational use and how it will align tools and resources with Maine’s Learning Results including the Common Core State Standards, please see CTL’s responses to 6.6.2.2, 6.6.2.3, 6.6.3.1.1, 6.6.3.1.2, 6.6.3.1.3, 6.6.3.1.4, 6.6.3.1.5, 6.6.3.1.6, 6.6.3.1.7, 6.6.3.1.8 and 6.6.3.1.9.

6.6.3.1.1. Career and Education Development

Career and education development helps all students gain the knowledge, skills, and behaviors to interact with others, set goals, and make decisions related to career, college, and citizenship. These are the skills and knowledge that underlie the *Common Core State Standards* and all content areas and are also known as “College and Career Readiness”. Bidders should focus on tools and functionalities that assist students to create and update personal profiles and interest inventories, do career research, make college and career decisions, and set goals and solve problems.

CTL Response:

CTL’s proposed solution complies with this requirement. The following table describes the tools and functionalities assist students to create and update personal profiles and interest inventories, do career research, make college and career decisions, and set goals and solve problems as related to the Common Core State Standards “College and Career Readiness” content areas. For the sake of conserving space, software applications are listed with a short informational description. For an expanded description of functionality for each application, please see section 6.6.1.

| Common Core State Standards content areas “College and Career Readiness” – Skills and knowledge | Tools and functionalities included in the CTL solution that will assist students with the topics to the left |
|--|---|
| Career research | <ul style="list-style-type: none"> • Microsoft Internet Explorer (Leverage the internet’s vast content) • Note Taker (Handwriting recognition note taking, note organization and search) • Microsoft Office 365 (Web-based viewing and editing of Word, Excel, PowerPoint, and OneNote files) • |
| Make college and career decisions | <ul style="list-style-type: none"> • Intel Visual Ranking Tool (Comparing and prioritizing information) • Intel Seeing Reason Tool (Mindful mapping of cause and effect) • Intel Showing Evidence Tool (Analyzing and evaluating information) • Microsoft StickySorter (Facilitate brainstorming and organize information visually) • Wisemapping (Brainstorm, collaborate and share with this mind mapping tool) • |

| | |
|------------------------------|---|
| <p>Set goals</p> | <ul style="list-style-type: none"> • Intel Visual Ranking Tool (Comparing and prioritizing information) • Microsoft Office 365 (Web-based viewing and editing of Word, Excel, PowerPoint, and OneNote files) • Note Taker (Handwriting recognition note taking, note organization and search) |
| <p>Solve problems</p> | <ul style="list-style-type: none"> • Microsoft Office 365 (Web-based viewing and editing of Word, Excel, PowerPoint, and OneNote files) • Intel Showing Evidence Tool (Analyzing and evaluating information) |

6.6.3.1.2. Career and Technical Education

The Career and Technical Education (CTE) centers provide over 60 programs of study, many of which require specialized equipment and tools that are beyond the scope of this RFP. For more information about the programs offered in Maine CTE centers, see:

- <http://www.maine.gov/education/it/>

Bidders must describe how its solution will support effective teaching and learning in the CTE centers in Maine in general. If specific functions and tools included in the solution have specific application for a program of study offered in Maine CTE centers, the Bidder should describe those specific uses within the context of that program of study.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL’s software solution helps to foster 21st century skills, such as digital literacy, information synthesis, critical thinking, creativity, and problem solving. It enables teachers to have the freedom to focus on teaching while monitoring student progress and accelerating education outcomes.

The following applications from CTL’s software solution are especially well positioned to support effective teaching and learning in CTE centers:

- **Classroom Management** (Provides teacher tools to organize lessons, administer assessments, control student activity)
- **Intel Education Access Management** (allows IT staff to set appropriate policies for students in a school and at home)

- **Microsoft Office 365** (Web-based viewing and editing of Word, Excel, PowerPoint, and OneNote files)
- **Textbooks by Kno** (Digital eReader)
- **Microsoft Flashcards** (Create and study flashcards)
- **Microsoft Mathematics 4.0** (Algebra system with step-by-step equation solver)
- **Microsoft SharedView** (Collaboratively learn with desktop sharing with up to 15 computers)
- **Penzu Classroom** (Classroom journaling and assignment management)
- **Microsoft Internet Explorer** (Leverage the internet’s vast content)

6.6.3.1.3. *English Language Arts*

Maine has adopted the *Common Core State Standards for English Language Arts (Section 6.6.2.1 Common Core State Standards for English Language Arts)*.

CTL Response:

CTL’s proposed solution complies with this requirement. Please see CTL’s response to 6.6.2.1.

6.6.3.1.4. *Health and Physical Education*

Maine updated the *Learning Results* for Health and Physical Education in 2007. The updates included a focus on leveraging the learning goals embedded in the standards “to enhance health”. While the Provider is not required to provide educational content, Bidders must describe the tools and functionalities included in the solution that will support the teaching of and the learning of the outcomes described by the *Learning Results* for Health and Physical Education.

CTL Response:

CTL’s proposed solution complies with this requirement. The following table describes the tools and functionalities included in CTL’s solution that will support the teaching of and the learning of the outcomes described by the *Learning Results* for Health and Physical Education. For the sake of conserving space, software applications are listed with a short informational description. For an expanded description of functionality for each application, please see section 6.6.1.

| Maine Learning Results for Health and Physical Education | Tools and functionalities included in the CTL solution that will support the teaching of and the learning of the outcomes to the left |
|--|--|
| <p>A. Health Concepts: Students comprehend concepts related to health promotion and disease prevention to enhance health.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate |

| | |
|--|--|
| | <p>policies for students in a school and at home)</p> <ul style="list-style-type: none"> • Microsoft Internet Explorer (Leverage the internet’s vast content) • Textbooks by Kno (Digital eReader) • Intel Seeing Reason Tool (Mindful mapping of cause and effect) • Intel Showing Evidence Tool (Analyzing and evaluating information) |
| <p>B. Health Information, Products and Services: Students demonstrate the ability to access valid health information, services, and products to enhance health.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) |
| <p>C. Health Promotion and Risk Reduction: Students demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Penzu Classroom (Classroom journaling and assignment management...keep an eating or health journal) |
| <p>D. Influences on Health: Students analyze the ability of family, peers, culture, media, technology, and other factors to enhance health.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) |
| <p>E. Communication and Advocacy Skills: Students demonstrate the ability to use interpersonal communication and advocacy</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student |

| | |
|---|---|
| <p>skills to enhance personal, family, and community health.</p> | <p>activity)</p> <ul style="list-style-type: none"> • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Penzu Classroom (Classroom journaling and assignment management – keep a journal of these activities) |
| <p>F. Decision-Making and Goal-Setting Skills: Students demonstrate the ability to make decisions and set goals to enhance health.</p> | <ul style="list-style-type: none"> • Intel Visual Ranking Tool (Comparing and prioritizing information) • Intel Seeing Reason Tool (Mindful mapping of cause and effect) |
| <p>G. Movement/Motor Skills and Knowledge: Students demonstrate the fundamental and specialized movement skills and apply principles of movement for improved performance.</p> | <ul style="list-style-type: none"> • LABCAM (Facilitates learning of abstract concepts, promotes scientific inquiry of the natural sciences – eg: timelapse video making) • Windows Movie Maker (Learn multi-media and bring education subjects to life by making a movie) • Media Camera (Multi-media creation, communication and presentations) |
| <p>H. Physical Fitness Activities and Knowledge: Students demonstrate and apply fitness concepts.</p> | <ul style="list-style-type: none"> • LABCAM (Facilitates learning of abstract concepts, promotes scientific inquiry of the natural sciences – eg: timelapse video making) • Windows Movie Maker (Learn multi-media and bring education subjects to life by making a movie) • Media Camera (Multi-media creation, communication and presentations) |
| <p>I. Personal and Social Skills and Knowledge: Students demonstrate and explain responsible personal behavior and responsible social behavior in physical activity settings.</p> | <ul style="list-style-type: none"> • Microsoft Office 365 (Web-based viewing and editing of Word, Excel, PowerPoint, and OneNote files) • Note Taker (Handwriting recognition note taking, note organization and search) • Penzu Classroom (Classroom |

| | |
|--|---------------------------------------|
| | journaling and assignment management) |
|--|---------------------------------------|

6.6.3.1.5. *Mathematics*

Maine has adopted the *Common Core State Standards for Mathematics* (**Section 6.6.2.2 *Common Core State Standards for Mathematics***).

CTL Response:

CTL’s proposed solution complies with this requirement. Please see CTL’s response to 6.6.2.2.

6.6.3.1.6. *Science and Technology*

Maine is a lead state in the development of the *Next Generation Science Standards*, and it anticipates that these standards will be adopted upon completion (**Section 6.6.2.3 *Next Generation Science Standards***).

CTL Response:

CTL’s proposed solution complies with this requirement. Please see CTL’s response to 6.6.2.3.

6.6.3.1.7. *Social Studies*

Social studies education involves the exploration of the social sciences and humanities, including geography, civics and government, economics, and history in order to develop responsible, informed, and engaged citizens. Effective teaching and learning in social studies rely heavily on the usage of multiple primary and secondary sources and research. While the Provider is not required to provide educational content, Bidders must describe the tools and functionalities included in the solution that will support the teaching of and learning of the outcomes described by Maine’s *Learning Results* for Social Studies with a particular emphasis on fostering civic, global, historical, geographic, and economic literacy and the development of critical thinking and problem-solving skills; investigation, research and reading skills; oral and written communication; presentation skills; and collaboration skills.

CTL Response:

CTL’s proposed solution complies with this requirement. The following table describes the tools and functionalities included in CTL’s solution that will support the teaching of and the learning of the outcomes described by Maine’s *Learning Results* for Social Studies with a particular emphasis on fostering civic, global, historical, geographic, and economic literacy and the development of critical thinking and problem-solving skills; investigation, research and reading skills; oral and written communication; presentation skills; and collaboration skills. For the sake of conserving space, software applications are listed with a short informational description. For an expanded description of functionality for each application, please see section 6.6.1.

| | |
|--|--|
| Maine Learning Results for Social Studies | Tools and functionalities included in the CTL solution that will support the teaching |
|--|--|

| | of and the learning of the outcomes to the left |
|---|---|
| <p>A. Applications of Social Studies Processes, Knowledge, and Skills: Students apply critical thinking, a research process, and discipline-based processes and knowledge from civics/government, economics, geography, and history in authentic contexts.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Note Taker (Handwriting recognition note taking, note organization and search) • Wisemapping (Brainstorm, collaborate and share with this mind mapping tool) • Penzu Classroom (Classroom journaling and assignment management) • Microsoft StickySorter (Facilitate brainstorming and organize information visually) • Intel Visual Ranking Tool (Comparing and prioritizing information) |
| <p>B. Civics and Government: Students draw on concepts from civics and government to understand political systems, power, authority, governance, civic ideals and practices, and the role of citizens in the community, Maine, the United States, and world.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Note Taker (Handwriting recognition note taking, note organization and search) • Wisemapping (Brainstorm, collaborate and share with this mind mapping tool) • Penzu Classroom (Classroom journaling and assignment management) |

| | |
|--|--|
| | <p>management)</p> <ul style="list-style-type: none"> • Microsoft StickySorter (Facilitate brainstorming and organize information visually) |
| <p>C. Economics: Students draw on concepts and processes from economics to understand issues of personal finance and issues of production, distribution, and consumption in the community, Maine, the United States, and world.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Note Taker (Handwriting recognition note taking, note organization and search) • Wisemapping (Brainstorm, collaborate and share with this mind mapping tool) • Penzu Classroom (Classroom journaling and assignment management) • Intel Seeing Reason Tool (Mindful mapping of cause and effect) • Intel Showing Evidence Tool (Analyzing and evaluating information) |
| <p>D. Geography: Students draw on concepts and processes from geography to understand issues involving people, places, and environments in the community, Maine, the United States, and world.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Microsoft Photosynth (Tell personal stories and explore places, events, and activities) • Windows Photo Gallery (Digital storytelling and presentations) • Skype (Learn from and share with |

| | |
|--|--|
| | <p>people from around the world)</p> <ul style="list-style-type: none"> • Microsoft WorldWide Telescope (Engage students in astronomy, physics and general science) |
| <p>E. History: Students draw on concepts and processes from history to develop historical perspective and understand issues of continuity and change in the community, Maine, the United States, and world.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Textbooks by Kno (Digital eReader) • Penzu Classroom (Classroom journaling and assignment management) |

6.6.3.1.8. Visual and Performing Arts

The Visual and Performing Arts encompasses many different forms of artistic expression, and students and teachers need to be able to create, edit/manipulate, capture, and view these different forms of artistic expression. While the Provider is not required to provide educational content, Bidders must describe the tools and functionalities included in the solution that will support teaching and learning including:

- The capacity to capture live performance for assessment (both self-assessment and assessment by others) and as an artifact of the performance itself -- which may be later used for any number of activities -- assessment, sharing, archiving, remixing into new expressions, etc.
- The capacity to create and manipulate audio, video, and visual media as a mode of creativity and expression.
- The capacity to view/hear artistic work for the purposes of analysis, comparison, evaluation, etc.

CTL Response:

1. CTL’s proposed solution complies with this requirement. The following table describes the tools and functionalities included in CTL’s solution that will support the teaching of and the

learning of the outcomes described by Maine’s *Learning Results* for Social Studies with a particular emphasis on fostering civic, global, historical, geographic, and economic literacy and the development of critical thinking and problem-solving skills; investigation, research and reading skills; oral and written communication; presentation skills; and collaboration skills. For the sake of conserving space, software applications are listed with a short informational description. For an expanded description of functionality for each application, please see section 6.6.1.

| Maine Learning Results for Visual and Performing Arts | Tools and functionalities included in the CTL solution that will support the teaching of and the learning of the outcomes to the left |
|--|---|
| <p>A. Disciplinary Literacy - Dance: Students show literacy in the discipline through understanding and demonstrating concepts, skills, terminology, and processes.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Note Taker (Handwriting recognition note taking, note organization and search) • Textbooks by Kno (Digital eReader) • Penzu Classroom (Classroom journaling and assignment management) • Windows Photo Gallery (Digital storytelling and presentations) • Media Camera (Multi-media creation, communication and presentations) |
| <p>A. Disciplinary Literacy – Music: Students show literacy in the discipline by understanding and demonstrating concepts, skills, terminology, and processes.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Microsoft Songsmith (Learn music, math and many other subjects by creating and sharing music) • Penzu Classroom (Classroom journaling and assignment management) • Windows Photo Gallery (Digital storytelling and presentations) |
| <p>Disciplinary Literacy – Theatre: Students show literacy in the art discipline by understanding and demonstrating concepts, skills, terminology, and processes.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) |

| | |
|---|---|
| | <ul style="list-style-type: none"> • Penzu Classroom (Classroom journaling and assignment management) • Microsoft Photosynth (Tell personal stories and explore places, events, and activities) • Windows Photo Gallery (Digital storytelling and presentations) |
| <p>A. Disciplinary Literacy - Visual Arts: Students show literacy in the art discipline by understanding and demonstrating concepts, skills, terminology, and processes.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Media Camera (Multi-media creation, communication and presentations) • Painting and Drawing (Simulates real world art tools) • ArtRage (Digital artwork creation) • Microsoft Photosynth (Tell personal stories and explore places, events, and activities) • Windows Photo Gallery (Digital storytelling and presentations) • Microsoft AutoCollage (Creatively encourages both visual and verbal learning) |
| <p>B. Creation, Performance, and Expression – Dance: Students create, perform, and express ideas through the art discipline.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • LABCAM (Facilitates learning of abstract concepts, promotes scientific inquiry of the natural sciences – timelapse photography) • Windows Movie Maker (Learn multi-media and bring education subjects to life by making a movie – to film performances) |
| <p>B. Creation, Performance, and Expression – Music: Students create, perform, and express through the art discipline.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) |

| | |
|---|---|
| | <ul style="list-style-type: none"> • Note Taker (Handwriting recognition note taking, note organization and search) • Microsoft Songsmith (Learn music, math and many other subjects by creating and sharing music) |
| <p>B. Creation, Performance, and Expression - Theatre: Students create, perform and express through the art discipline.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Note Taker (Handwriting recognition note taking, note organization and search) • Windows Movie Maker (Learn multi-media and bring education subjects to life by making a movie – to film performances) |
| <p>B. Creation, Performance, and Expression - Visual Arts: Students create, express, and communicate through the art discipline.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Media Camera (Multi-media creation, communication and presentations) • Painting and Drawing (Simulates real world art tools) • ArtRage (Digital artwork creation) • Microsoft Photosynth (Tell personal stories and explore places, events, and activities) • Windows Photo Gallery (Digital storytelling and presentations) • Microsoft AutoCollage (Creatively encourages both visual and verbal learning) |
| <p>C. Creative Problem Solving: Students approach artistic problem-solving using multiple solutions and the creative process.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Penzu Classroom (Classroom journaling and assignment management) • Wisemapping (Brainstorm, collaborate) |

| | |
|--|---|
| | <p>and share with this mind mapping tool)</p> <ul style="list-style-type: none"> • Microsoft StickySorter (Facilitate brainstorming and organize information visually) |
| <p>D. Aesthetics and Criticism: Students describe analyze, interpret, and evaluate art (dance, music, theatre, and visual arts).</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Note Taker (Handwriting recognition note taking, note organization and search) • Textbooks by Kno (Digital eReader) • Microsoft SharedView (Collaboratively learn with desktop sharing with up to 15 computers) • Media Camera (Multi-media creation, communication and presentations) |
| <p>E. Visual and Performing Arts Connections: Students understand the relationship among the arts, history and world culture; and they make connections among the arts and to other disciplines, to goal-setting, and to interpersonal interaction.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Penzu Classroom (Classroom journaling and assignment management) • Windows Photo Gallery (Digital storytelling and presentations) • Skype (Learn from and share with people from around the world) |
| <p>Specific software functionality</p> | |
| <p>The capacity to capture live performance for assessment (both self-assessment and</p> | <ul style="list-style-type: none"> • Media Camera (Multi-media creation, communication and presentations) |

| | |
|--|---|
| <p>assessment by others) and as an artifact of the performance itself -- which may be later used for any number of activities -- assessment, sharing, archiving, remixing into new expressions, etc.</p> | <ul style="list-style-type: none"> • Windows Movie Maker (Learn multi-media and bring education subjects to life by making a movie) • Microsoft Songsmith (Learn music, math and many other subjects by creating and sharing music) • *The CTL 2go Convertible Classmate NL4 Hardware solution also includes a 2MP camera that rotates 180 degrees to capture images both facing the student and facing away from the student. |
| <p>The capacity to create and manipulate audio, video, and visual media as a mode of creativity and expression.</p> | <ul style="list-style-type: none"> • Media Camera (Multi-media creation, communication and presentations) • Windows Movie Maker (Learn multi-media and bring education subjects to life by making a movie) • Microsoft Songsmith (Learn music, math and many other subjects by creating and sharing music) • * The CTL 2go Convertible Classmate NL4 Hardware solution also includes an integrated microphone as well as a microphone line in and a 2MP camera that rotates 180 degrees to capture images both facing the student and facing away from the student. |
| <p>The capacity to view/hear artistic work for the purposes of analysis, comparison, evaluation, etc.</p> | <ul style="list-style-type: none"> • *The CTL 2go Convertible Classmate NL4 Hardware solution includes speakers and two headphone/external speaker jacks. |

6.6.3.1.9. World Languages

Maine has a goal to graduate all students proficient in a world language. This includes the capacity to communicate both orally and in writing. While the Provider is not required to provide educational content, Bidders must describe the tools and functionalities included in the solution that will support teaching and learning of a world language. This includes tools and functionalities that support both productive (speaking, writing, showing) and receptive (listening, reading, and viewing) modes of communication. Further, the Bidder must describe how its solution's tools and functionalities support different form of communication:

- Interpersonal (direct communication between individuals)
- Interpretive (individual receives communication by listening, seeing, or reading), and
- Presentational (individual delivers communication orally, written, or some recorded form when the receiver is not expected to provide direct feedback including a one to many style of communication)

In addition, proficiency in a world language requires cultural knowledge as it relates to differences in how communication is produced and received. Bidders must describe how its solution supports the teaching and learning of cultural knowledge.

CTL Response:

CTL’s proposed solution complies with this requirement. The following table describes the tools and functionalities included in CTL’s solution that will support the teaching of and the learning of the outcomes described by Maine’s *Learning Results* for Social Studies with a particular emphasis on fostering civic, global, historical, geographic, and economic literacy and the development of critical thinking and problem-solving skills; investigation, research and reading skills; oral and written communication; presentation skills; and collaboration skills. For the sake of conserving space, software applications are listed with a short informational description. For an expanded description of functionality for each application, please see section 6.6.1.

| Maine Learning Results for World Languages | Tools and functionalities included in the CTL solution that will support the teaching of and the learning of the outcomes to the left |
|---|--|
| <p>A. Communication: Students communicate in the target language.</p> <p>-----</p> <p>Both productive (speaking, writing, showing) and receptive (listening, reading, and viewing) modes of communication.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content – including online language translation tools) • Media Camera (Multi-media creation, communication and presentations) • Penzu Classroom (Classroom journaling and assignment management) |

| | |
|--|---|
| | <ul style="list-style-type: none"> – journaling in a 2nd language) • Skype (Learn from and share with people from around the world) |
| <p>B. Cultures: Students demonstrate an understanding of a culture(s) in which the target language is spoken.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Media Camera (Multi-media creation, communication and presentations) • Penzu Classroom (Classroom journaling and assignment management) • Microsoft Photosynth (Tell personal stories and explore places, events, and activities) • Windows Photo Gallery (Digital storytelling and presentations) |
| <p>C. Connections: Students expand their knowledge by connecting their study of a world language(s) with other content areas.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Media Camera (Multi-media creation, communication and presentations) • Penzu Classroom (Classroom journaling and assignment management) • Microsoft Photosynth (Tell personal stories and explore places, events, and activities) • Windows Photo Gallery (Digital storytelling and presentations) |

| | |
|--|---|
| | |
| <p>D. Communities: Students encounter and use the target language both in and beyond the classroom for personal enjoyment and lifelong learning.</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Skype (Learn from and share with people from around the world) |
| Specific software functionality supporting different forms of communication | |
| <p>Interpersonal (direct communication between individuals)</p> | <ul style="list-style-type: none"> • Skype (Learn from and share with people from around the world) • Microsoft SharedView (Collaboratively learn with desktop sharing with up to 15 computers) |
| <p>Interpretive (individual receives communication by listening, seeing, or reading)</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Skype (Learn from and share with people from around the world) • Microsoft SharedView (Collaboratively learn with desktop sharing with up to 15 computers) |
| <p>Presentational (individual delivers communication orally, written, or some recorded form when the receiver is not expected to provide direct feedback including a one to many style of communication)</p> | <ul style="list-style-type: none"> • Media Camera (Multi-media creation, communication and presentations) • Microsoft Photosynth (Tell personal stories and explore places, events, and activities) Windows Photo Gallery (Digital storytelling and presentations) |

| | |
|---|---|
| | <ul style="list-style-type: none"> • Penzu Classroom (Classroom journaling and assignment management) |
| Specific software functionality supporting the teaching and learning of cultural knowledge | |
| Teaching and learning of cultural knowledge | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet's vast content) • Microsoft Office 365 (Web-based viewing and editing of Word, Excel, PowerPoint, and OneNote files) • Note Taker (Handwriting recognition note taking, note organization and search) • Textbooks by Kno (Digital eReader) • Windows Photo Gallery (Digital storytelling and presentations) • Penzu Classroom (Classroom journaling and assignment management) |

6.6.3.2. Hawaii

While the Provider is not required to provide educational content, each Bidder must identify all of its application software and describe how it will support educational use and how it will align tools and resources with Hawaii's adopted academic standards – the *Common Core State Standards for English Language Arts* and Literacy in History/Social Studies, Science, and Technical Subjects; the *Common Core State Standards for Mathematics*; and HCPS III for CTE, fine arts, physical education, and world languages. Hawaii also anticipates adopting the Next Generation Science Standards, pending their completion in 2013. More information about Hawaii's adopted academic standards may be found here:

- <http://standardstoolkit.k12.hi.us/index.html>

CTL Response:

CTL’s proposed solution complies with this requirement.

- For Common Core State Standards for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects, please see CTL’s response to 6.6.2.1.
- For Common Core State Standards for Mathematics, please see CTL’s response to 6.6.2.2
- For Next Generation Science Standards, please see CTL’s response to 6.6.2.3

The following tables describe the tools and functionalities included in CTL’s solution that will support educational use and the alignment of tools and resources with Hawaii’s HCPS III standards for CTE, fine arts, physical education, and world languages across various representative grade levels. For the sake of conserving space, software applications are listed with a short informational description. For an expanded description of functionality for each application, please see section 6.6.1.

| Hawaii HCPS III – CTE (Grades 9-12) | Tools and functionalities included in the CTL solution that will support the teaching of and the learning of the outcomes to the left |
|--|---|
| <p>Standard 1: TECHNOLOGICAL DESIGN: Design, modify, and apply technology to effectively and efficiently solve problems</p> | <ul style="list-style-type: none"> • Microsoft Office 365 (Web-based viewing and editing of Word, Excel, PowerPoint, and OneNote files) • Penzu Classroom (Classroom journaling and assignment management) |
| <p>Standard 2: CAREER PLANNING: Explore and understand educational and career options in order to develop and implement personal, educational, and career goals</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Note Taker (Handwriting recognition note taking, note organization and search) • Intel Visual Ranking Tool (Comparing and prioritizing information) • Intel Seeing Reason Tool (Mindful mapping of cause and effect) |

| | |
|--|---|
| | <ul style="list-style-type: none"> • Intel Showing Evidence Tool (Analyzing and evaluating information) • Wisemapping (Brainstorm, collaborate and share with this mind mapping tool) • Microsoft StickySorter (Facilitate brainstorming and organize information visually) |
|--|---|

| Hawaii HCPS III – Fine Arts (Grades 6-8) | Tools and functionalities included in the CTL solution that will support the teaching of and the learning of the outcomes to the left |
|---|--|
| <p>Standard 1: VISUAL ARTS: Understand and apply art materials, techniques, and processes in the creation of works of art and understand how the visual arts communicate a variety of ideas, feelings, and experiences</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Note Taker (Handwriting recognition note taking, note organization and search) • Textbooks by Kno (Digital eReader) • Media Camera (Multi-media creation, communication and presentations) • Painting and Drawing (Simulates real world art tools) • ArtRage (Digital artwork creation) • Windows Movie Maker (Learn multi-media and bring education subjects to life by making a movie) • Windows Photo Gallery (Digital storytelling and presentations) |
| <p>Standard 2: MUSIC: Understand and apply elements of music and understand how music communicates ideas, feelings, and experiences across cultures</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate |

| | |
|---|---|
| | <p>policies for students in a school and at home)</p> <ul style="list-style-type: none"> • Microsoft Internet Explorer (Leverage the internet’s vast content) • Note Taker (Handwriting recognition note taking, note organization and search) • Textbooks by Kno (Digital eReader) • Microsoft Songsmith (Learn music, math and many other subjects by creating and sharing music) |
| <p>Standard 3: DRAMA AND THEATRE: Understand and apply the skills of acting, design, and technical theatre and understand the role of drama in various cultures throughout history</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Penzu Classroom (Classroom journaling and assignment management) • Note Taker (Handwriting recognition note taking, note organization and search) • Textbooks by Kno (Digital eReader) • Media Camera (Multi-media creation, communication and presentations – capture performances) |
| <p>Standard 4: DANCE: Understand and apply elements of dance, appreciate how dance communicates meaning, and recognize its role across cultures and throughout history</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Penzu Classroom (Classroom journaling and assignment |

| | |
|--|---|
| | <p>management)</p> <ul style="list-style-type: none"> • Note Taker (Handwriting recognition note taking, note organization and search) • Textbooks by Kno (Digital eReader) • Media Camera (Multi-media creation, communication and presentations – capture performances) |
|--|---|

| Hawaii HCPS III – Physical Education (Grades 9-12) | Tools and functionalities included in the CTL solution that will support the teaching of and the learning of the outcomes to the left |
|--|--|
| <p>Standard 1: MOVEMENT FORMS: Use motor skills and movement patterns to perform a variety of physical activities</p> | <ul style="list-style-type: none"> • Media Camera (Multi-media creation, communication and presentations – record activities) • LABCAM (Facilitates learning of abstract concepts, promotes scientific inquiry of the natural sciences – record activities with timelapse camera) |
| <p>Standard 2: COGNITIVE CONCEPTS: Understand movement concepts, principles, strategies, and tactics as they apply to the learning and performance of physical activities</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Note Taker (Handwriting recognition note taking, note organization and search) • Textbooks by Kno (Digital eReader) |
| <p>Standard 3: ACTIVE LIFESTYLE: Participate regularly in physical activity</p> | <ul style="list-style-type: none"> • Penzu Classroom (Classroom journaling and assignment management – journal about healthy lifestyle activities) |
| <p>Standard 4: PHYSICAL FITNESS: Know ways to achieve and maintain a health: enhancing level of physical fitness</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student |

| | |
|--|---|
| | <p>activity)</p> <ul style="list-style-type: none"> • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Note Taker (Handwriting recognition note taking, note organization and search) • Textbooks by Kno (Digital eReader) |
|--|---|

| Hawaii HCPS III – World Languages (Grades 6-8) | Tools and functionalities included in the CTL solution that will support the teaching of and the learning of the outcomes to the left |
|---|---|
| <p>Standard 1: INTERPERSONAL: Use target language to engage in conversations, provide and obtain information, express feelings and emotions, and exchange opinions</p> | <ul style="list-style-type: none"> • Skype (Learn from and share with people from around the world) • Penzu Classroom (Classroom journaling and assignment management – classroom journaling in a 2nd language) |
| <p>Standard 2: INTERPRETIVE: Understand and interpret written and spoken language on diverse topics from diverse media</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Microsoft Office 365 (Web-based viewing and editing of Word, Excel, PowerPoint, and OneNote files) • Note Taker (Handwriting recognition note taking, note organization and search) • Textbooks by Kno (Digital eReader) |
| <p>Standard 3: PRESENTATIONAL: Present information, concepts, and ideas to an audience of listeners or readers on a variety of topics</p> | <ul style="list-style-type: none"> • Media Camera (Multi-media creation, communication and presentations) |

| | |
|--|---|
| | <ul style="list-style-type: none"> • Microsoft Photosynth (Tell personal stories and explore places, events, and activities) • Windows Photo Gallery (Digital storytelling and presentations) • Skype (Learn from and share with people from around the world) |
| <p>Standard 4: CULTURES: Understand relationships among perspectives, products, and practices of target culture</p> | <ul style="list-style-type: none"> • Classroom Management (Provides teacher tools to organize lessons, administer assessments, control student activity) • Intel Education Access Management (allows IT staff to set appropriate policies for students in a school and at home) • Microsoft Internet Explorer (Leverage the internet’s vast content) • Textbooks by Kno (Digital eReader) |
| <p>Standard 5: COMPARISONS: Understand that different languages use different patterns to communicate and apply this knowledge to the target and native languages</p> | <ul style="list-style-type: none"> • Penzu Classroom (Classroom journaling and assignment management) • Skype (Learn from and share with people from around the world) |

6.6.4. Network and Device Connectivity

The device must be able to connect to network file servers using common networking protocols (e.g., smb, afp, nfs, ftp, etc.). The device must be able to utilize common peripherals for input and output (e.g., networked and stand-alone printers, digital cameras, digital video cameras, scanners, etc).

CTL Response:

CTL’s proposed solution complies with this requirement. The CTL 2go Convertible Classmate PC is able to connect to network file servers using common networking protocols on Windows-based networks. The NL4 is able to utilize common peripherals such as networked and stand-alone printers, speakers, external monitors, LCD projectors, digital cameras, digital video cameras and scanners.

6.6.5. Distance and Online Learning

The portable computing device must be able support common learning management systems (i.e. Moodle, Blackboard, Studywiz, etc.) to facilitate distance and online learning. In addition, the

portable computing device must be compatible with common online content providers (i.e. oercommons.org, cnx.org, khanacademy.org, ck12.org, iTunes U, etc.).

CTL Response:

CTL’s proposed solution complies with this requirement. The CTL 2go Convertible Classmate NL4 fully supports common learning management systems such as Moodle, Blackboard and other Windows based applications. The CTL NL4 is compatible with all online content providers that are accessed through Internet Explorer, Chrome, Firefox or any other Windows based browser.

6.6.6. Student Information Systems

The portable computing device must be compatible with common student information systems in use in schools and states.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 6.6.6 of the RFP.

6.6.6.1. Maine Student Information Systems (SIS)

The Maine Department of Education utilizes Infinite Campus State Edition for management reporting purposes. In addition, Maine schools primarily utilize Infinite Campus and PowerSchool for local management and reporting purposes. Bidder’s solutions must be compatible with Infinite Campus and PowerSchool systems, and Bidder’s will be required to work with the Department to maintain compatibility as both the solution and the SIS systems evolve.

CTL Response:

CTL has reviewed and understands the information presented in Section 6.6.6.1 of the RFP. CTL’s solution is compatible with Infinite Campus and PowerSchool systems. CTL will work with the Department to maintain compatibility as both the solution and the SIS systems evolve.

6.6.7. Stand-alone

The portable computing device must be able to function in a stand-alone mode sufficient to enable the user to perform basic functions (e.g., writing, data analysis, multimedia, information management) without requiring network access. The Bidder must describe the differences, if any, in the function of the device when it is network-connected versus in stand-alone mode. Bidders should consider that many families do not have broadband Internet access at home.

CTL Response:

CTL’s proposed solution complies with this requirement. The CTL 2go Convertible Classmate NL4 is able to function in a stand-alone mode sufficient to enable the user to be productive without network access. When used without network access, email, web access, and the online

Microsoft Office 365 applications of Word, Excel, PowerPoint and OneNote are not available. However, if the device is purchased with optional Microsoft Office Professional Plus software as outlined in section 6.7.1, Word, Excel, PowerPoint and OneNote would all be physically installed on the client as well and would be available in a stand-alone mode.

6.6.8. Cloud Requirements

The Bidder must include a recommended minimum school Internet bandwidth capacity for its solution. Recommended bandwidth should be expressed in megabits per second for each 100 users per school. This recommendation should assume that the entire school is participating in the program, and therefore all students may be leveraging the portable digital device. The Department recognizes that some general activities not specific to the solution can drive significant bandwidth usage, and recognizes that schools will need to install bandwidth necessary to support the density of users associated with a 1:1 program. However, if the Bidder's solution relies on cloud-based tools and functionality, the Department needs to understand what impact, if any, the introduction of the solution will have on school bandwidth needs. Bidders should design a solution that respects the availability of bandwidth in schools.

CTL Response:

CTL's proposed solution complies with this requirement. Assuming that the entire school is participating in the program and that all students may be leveraging their portable device, CTL recommends a minimum school Internet bandwidth capacity of 100 megabits per second for each 100 users per school.

6.6.8.1. Maine School and Library Network

For more information about available bandwidth in Maine schools, please see **Appendix E, State Profiles - Maine**.

CTL's Response:

CTL has reviewed and understands the information presented in Section 6.6.8.1 of the RFP.

6.6.9. Software Updating

The Provider should describe how its solution will provide the capacity to update the portable computing devices. This includes incremental and major updates that may be required after the portable computing devices have been issued to students. Increasingly, schools are issuing the portable computing devices to students, and the students are retaining the device even during long vacations including summer break. The Provider should describe whether or not it will be necessary for schools to collect the portable computing devices to apply major updates efficiently. The portable computing devices will be able to be updated from a central location via a "push" method or "over the air" method rather than each device separately and manually for incremental updates.

Ideally, major updates should not require users to perform a complete back and restore of user data and configurations in order to apply the update. While the Department recognizes that performing a backup before a major update is "best practice", it is desirable that the solution allow for "upgrades" whenever possible as opposed to "reformat and reinstall".

CTL Response:

CTL's proposed solution complies with this requirement. CTL's solution will automatically update the software on the portable computing devices with both incremental and major updates that may be required after the portable computing devices have been issued to students...even during long vacations and summer break. CTL's centrally managed software update system, pushes out software updates via network or the internet. The CTL system does this without requiring users to perform a complete back and restore of user data and configurations in order to apply the update.

System features:

1. Centrally manage and install patches
2. Track and report on patch status by device
3. Test and install new patches on a subset of devices before a broader deployment
4. Automatically add updates

6.6.10. Software Restore

The portable computing device will be able to be restored easily and in a reasonable timeframe. The Provider should take into account the range of sizes of schools and account for reasonable restore processes for both large and small school deployments. The Provider is responsible for providing any associated software, hardware, or networking equipment necessary to restore the device to a base state. In addition, the restore process should allow for easy additions to the base software load as schools may desire the additional software titles or adjustments to basic settings. Ideally, a device should be able to be restored, including local additions, easily so that upon completion of the process, no further manual installations or configuration changes are necessary.

CTL Response:

CTL's proposed solution complies with this requirement. CTL 2go Convertible Classmate NL4s include an integrated restore partition on the hard drive to allow each unit to be quickly and easily restored to the base software load both either remote technicians or by an authorized in-person user.

6.6.11. Operating System and Software

The Provider must include current and upgraded versions of the core operating system software and all other software included as a part of the Provider's solution through the term of the

agreement in order to maintain usability with upgrades and enhancements to surrounding systems and peripherals. The Bidder must provide a device which will not require hardware upgrades in order to reasonably keep up with possible future software upgrades (e.g., initial delivery should include adequate memory, storage, and processing power for typical upgrade cycles given the term of the agreement) or the Provider should include a description of how it plans to upgrade the equipment through the life of the project to maintain adequate functionality and minimize disruption and the availability of the solution.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL will provide current and upgraded versions of the core operating system software and all other software through the term of the agreement. The CTL 2go Convertible Classmate NL4 includes adequate memory, storage and processing power to keep up with possible future software upgrades during the four year term of the agreement.

6.7. Device Options

The Department wishes to enable schools, who so desire, to enhance or complement the basic solution with additional, optional software and hardware at their own local costs. Each Bidder should describe what it can offer, separately priced, to enhance schools’ effective use of the basic solution—strictly as an option for local school units to consider should the Bidder become the awarded Provider. Schools may also opt to acquire such offerings independently if they are able to obtain better pricing from other parties. The Bidder shall include only those products, models and features that it will support if configured and connected to the proposed solution.

The Bidder should specify and describe fully here the features, functions and advantages of such offerings. Provide the price quote on **Appendix B, Cost Proposal Form, Table 4** for each item, including all cost options (please use consistent item numbers in this section and on **Appendix B, Cost Proposal Form, Table 4**). Specify whether the price includes shipping, installation and related charges; if not, specify what additional charges would be added. Ensure that the total cost is represented.

The Bidder is to provide the manufacturer name, model, short description, warranty, unit and volume prices. Also, include any additional cables, connectors and adapters required. If any software upgrades or additional features are required, so state. These devices, cables, connectors and adapters must be available through the Bidder’s corporation for delivery to the individual sites. The value of such offerings will not be considered in the evaluation score of the proposal.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL is offering the CTL LP2151 21” Widescreen LED Monitor, the CTL LP2361 24” Widescreen LED Monitor and the CTL LP2701 27” Widescreen LED Monitor to complement our solution. All of these Monitors can be attached to the CTL 2go Convertible Classmate NL4 as an external 2nd monitor.

Manufacturer Name: CTL

Model Numbers: LP2151, LP2361, LP2701

Short Description: Each of these CTL monitors present a super slim design with a profile about 1/4 the size of traditional LCD monitors. Using an LED backlight these monitors offers up to 40% more energy savings than LCD monitors of the same size. Unlike traditional LCD monitors, LED monitors have no mercury, halogen, or lead. The thin design minimizes waste when it's time to recycle. These CTL LED monitors include extremely high contrast ratios and fast response times to create a sharp, clear, picture with brighter whites and more detailed shadow. They also each include standard VESA mounting brackets so that they can be mounted on walls or 3rd party stands or arms.

Warranty: 3 Year

Price: CTL has provided the unit price in Appendix B, Cost Proposal Form, Table 4. This cost includes shipping, but not installation and is for all volumes purchased.

6.7.1. Optional Software

The vendor may provide students and teachers access to software and applications such as educational content, web-page development software, student information, assessment tools, data management, etc. Specify such offerings here.

CTL Response:

CTL's proposed solution complies with this requirement. CTL offers the following software content as an optional purchase option:

Microsoft Office Professional Plus: Microsoft Office Professional Plus software installed on the client. Includes Microsoft Word, Excel, PowerPoint, OneNote. License allows software to be installed on up to 5 devices per user. Includes online cloud based versions of Word, Excel, PowerPoint and OneNote. **\$30/seat/yr. for students, \$54/seat/yr. for faculty and staff**

Soda PDF Standard: Soda PDF Standard is exceptionally user-friendly and is equipped with all the tools you need to open, edit, create, convert and print PDF documents. **\$29/seat – onetime cost**

Soda PDF Pro: Easy to use and loaded with features, Soda PDF Professional is equipped to handle any PDF task. Create, convert, edit, secure and share PDF documents all with one application. Whether you are a home user, a large corporation or anything in between, Soda PDF Professional can help you save time and money while streamlining your workflow. **\$49/seat – onetime cost**

Spanish Levels 1, 2 and 3: Spanish Levels 1-2 -3 (v.2) Windows/Mac The Complete Language Learning System - Instant Immersion uses natural image association techniques to help you learn

as easily as you learned your first language. With Instant Immersion, you will have more fun, save money and reach your goals faster. Contains 6 Language Learning CD ROMs + 3 Bonus Discs (Interactive DVD, Audio MP3 CD, "Who is Oscar Lake" game.) PC & Mac Compatible. **\$33/seat – onetime cost**

6.7.1.1. Maine Proficiency- and Standards-based Education Models

Maine is a leading state in the implementation of using national standards and industry recognized credentialing exams as assessments. The national and state certified standards currently in use can be found at http://www.maine.gov/education/it/resource_directory.shtml These standards are our CTE’s programs’ benchmarks. Twenty-four Maine school districts have formed the Maine Cohort for Customized Learning (<http://mainecustomizedlearning.org>) which seeks to support the implementation of performance-based learner-centered educational systems. Further, Maine recently enacted LD1422, “An Act to Prepare Maine People for the Future Economy” (http://www.mainelegislature.org/legis/bills/display_ps.asp?LD=1422&snum=125). It calls for the implementation of proficiency-based diplomas beginning in January, 2017.

The Department is interested in solutions that will support the implementation of a performance/proficiency-based, standards-based system of education. This system would allow students and teachers to track, measure and produce reports based on student-centered project completions and instructor-led activities. The system would need to be able to track data at multiple levels (duty, task, indicator), provide progress indicators at different intervals and be cross-walked between Maine’s *Learning Results* including the *Common Core State Standards* and anticipated *Next Generation Science Standards*, and Maine selected CTE national and state certified Standards and Assessments. The system should allow for data integration with assessment systems including the Smarter Balanced Assessment Consortia assessment system, Northwest Education Assessment tool, and others. In addition, ideally the system would provide alignment between student learning needs based on performance data and measures and applicable content and resources that may be available both at cost or for free (i.e. Open Educational Resources).

CTL Response:

CTL’s proposed solution does not contain this optional software component.

6.7.2. Optional Hardware

The vendor may provide students and teachers access to other hardware components, such as alternate portable computing devices, printers, servers, wireless access points, batteries, power cords, projectors, assistive devices, or other optional hardware devices. Specify such offerings here.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL will offer students and teachers the opportunity to purchase other hardware components, such as alternate portable computing

devices, printers, servers, wireless access points, batteries, power cords, projectors and assistive devices from CTL online at discounted prices.

6.8. Pricing Schedules for Additional Educational Groups

The Department of Education wishes to extend the opportunity to purchase, at their own expense, the Bidder's solution, at the same or nearly the same cost to other educational providers such as public and private K12 schools, teacher preparation programs, home-schooled students, or public libraries. This will allow school systems to extend the program beyond the Department supported program. The Bidder should provide a pricing schedule to be utilized if such groups or individuals are authorized by the Department and if they wish to purchase the device, software and support solution provided under the agreement with the Department.

CTL Response:

CTL has reviewed and understands the information presented in Section 6.8 of the RFP and will allow other educational providers such as public and private K12 schools, teacher preparation programs, home-schooled students, or public libraries to purchase the CTL 2go Convertible Classmate PC, including software and support, at the same price as CTL's NL4 MLTI price.

6.8.1. Maine K-6 schools

Maine schools serving grades K-6 are increasingly deploying 1:1 computing programs similar to the MLTI 7-12 program. Historically, the Department has extended the opportunity to purchase the MLTI solution to K-6 schools, at their expense, but through the Department's Agreement (see **Section 5 Participation by Schools**). The Department is interested in continuing this opportunity for Maine's K-6 schools and also recognizes that other States that may participate in this program are seeking to support these grade-levels. Additionally, the Department recognizes that the device, tools and functionality described in **Sections 6.5 and 6.6** may or may not be applicable to younger students. The Department wishes to make available to K-6 schools a solution that mimics the solution as described in this RFP for grades 7-12 in as many places as possible but that may vary to take into account developmental differences and be more age-appropriate.

Ideally, aspects of the solution that are systemic and not specific to the individual student or teacher would be identical or nearly identical such as **Section 7 through Section 12**. Bidders should recognize that many Maine schools are K-8 or even K-12. Therefore, differences in service levels or service protocols may cause confusion. Bidders must describe how its solution would be different for schools serving grades K-6. For example, the solution may leverage the same device but with a different collection of software tools; the solution may leverage a completely different device and therefore different tools; or the solution may be identical in all aspects. Bidders should consider whether multiple variations are necessary to best serve the developmental needs of students ranging from kindergarten to grade 6. Bidders must also list and

acknowledge which aspects of their bid proposal would be identical for the K-6 solution as compared to its proposed 7-12 solution.

CTL Response:

CTL’s proposed solution complies with this requirement. The CTL 2go Convertible Classmate NL4 was designed specifically to address the demanding needs of the K-12 environment. With a ruggedized design, including a retractable carrying handle and a screen that rotates to convert from a touch screen tablet to a traditional laptop form factor with physical keyboard, the NL4 is equally at home in a K-6 environment as it is in a K-7-12 environment. Therefore, all aspects of our solution will be identical for both environments.

6.8.2. Maine Pre-service Teachers and Higher Education

The majority of Maine’s teachers graduate from Maine public and private higher education institutions. In order to help prepare these teachers to teach in a MLTI school, the Department believes that these pre-service teachers should have access to and should learn to leverage the MLTI solution. Integration of the MLTI solution and the changes in classroom practices empowered by the solution into the higher education curricula is critical to the development of new teachers as well as the innovation of classroom practices. Additionally, in-service teachers continue to complete courses at Maine higher education institutions to maintain their teacher certifications, and the Department believes that a deeper integration of the MLTI solution into these institutions will better serve in-service teachers as well. The Department recognizes that there are significant differences in how higher education institutions provide infrastructure and support, and how higher education students typically procure personal computing devices. Bidders must describe its plan to allow higher education institution teacher preparation programs in Maine to participate in the MLTI and provide devices and necessary services to the institution and pre-service teachers. Bidders must identify which aspects, if any, of its solution would not be available to Maine higher education institutions and pre-service teacher candidates. In addition, Bidders must propose how it intends to structure any financial arrangements including potential leases, invoicing, etc.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL will allow higher education institution teacher preparation programs and pre-service teacher candidates in Maine to purchase the mobile device portion of the CTL solution, the CTL 2go Convertible Classmate NL4 along with all of the software and applications and support included in the solution. The wireless network aspect of the CTL solution will not be available to Maine higher education institutions and pre-service teacher candidates. CTL will make these products available through a special section of our ecommerce website for purchase by credit card or PO where applicable. Leasing options will also be available through our partnership with Tiger Leasing (tigerleasing.com).

7. Network Connectivity and Infrastructure

The wireless network infrastructure shall connect from the portable computing devices at one end to the school's Internet gateway at the other end. Between the two ends, the Provider's solution must include switches and/or controllers as needed, the placement of wireless access points, server capacity for applications/files (as appropriate), and any other components necessary to complete the solution. In order to minimize the necessity to perform local electrical upgrades, Power-over-Ethernet is preferred. A Provider will be responsible for the design, installation, configuration, and on-going maintenance and support of the wireless network infrastructure for the term of the Agreement. Bidders must complete the **Wireless Local Area Network (WLAN) Specifications Summary** included in **Appendix G – Additional Forms**.

CTL Response:

CTL has reviewed and understands the information presented in Section 7 of the RFP. CTL's proposed solution complies with this requirement. CTL will provide a secure wireless infrastructure utilizing Cisco hardware with the latest technology for access points, controllers and switches. The specifications for CTL's wireless hardware are included in the Wireless Local Area Network (WLAN) Specifications Summary included in Appendix G – Additional Forms.

7.1. Building Readiness

Each local school unit that opts to participate in this program shall be responsible to ensure minimum building readiness for the installation of the bid solution. The local school unit shall address structural issues, construction/renovation, abatement, and electrical wiring needs, based on specifications supplied by the Provider. The bid solution should be designed to minimize necessary costs of building preparation.

CTL Response:

CTL has reviewed and understands the information presented in Section 7.1 of the RFP. CTL's solution is designed to minimize necessary costs of building preparation. CTL will work with the Department of Education and local school units to ensure building readiness prior to installations and to minimize costs and any potential operational impacts.

7.1.1. Maine - Existing MLTI Wireless Networks

Existing MLTI network devices (wireless access points, switches, controllers), and infrastructure (cabling, patch panels) may be utilized by the Provider's solution at the Provider's choice. If a Provider's solution includes existing MLTI network devices or infrastructure, the Provider must agree to provide full warranty/performance coverage as it would with newly installed devices or infrastructure. The in-school infrastructure shall be accessible wirelessly and remotely. For more information about the existing MLTI wireless infrastructure, please see **Appendix E, State Profiles - Maine**.

CTL Response:

CTL has reviewed and understands the information presented in Section 7.1.1 of the RFP and agrees to provide full warranty/performance coverage for any existing MLTI network devices and infrastructure which we use in our solution as we would with newly installed devices or infrastructure. In-School infrastructure will be accessible wirelessly and remotely.

7.1.2. Hawaii - Existing Wireless Networks

Hawaii has a separate plan for wireless networks and does not anticipate requiring any services for this. Deployment of devices will be decided based on the readiness level of the wireless infrastructure inside of schools. Please see **Appendix E, State Profiles - Hawaii** for more details on Hawaii’s infrastructure readiness.

CTL Response:

CTL has reviewed and understands the information presented in Section 7.1.2 of the RFP.

7.2. Local Network and Access

These network access services will include as a minimum:

7.2.1. Wireless Coverage

The coverage must ensure that all necessary instructional and administrative areas can function wirelessly. Students and teachers will remain connected to the school’s wireless LAN as they move around within the various rooms and areas. The Provider will ensure access to the school’s wireless network from all instructional areas as well as core administrative areas including academic classrooms for all content areas, frequently used study areas, media centers, assembly spaces, library, performance theater, and administrative offices. To the extent necessary, a site survey should be performed to optimize each school’s coverage area. A school may expand the coverage area at its own expense using the Provider’s optional equipment offering or another available vendor.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL will perform site surveys at each school to ensure access to the school’s wireless network from all instructional areas as well as core administrative areas including academic classrooms for all content areas, frequently used study areas, media centers, assembly spaces, library, performance theater, and administrative offices.

CTL’s solution utilizes Cisco Wireless Networking hardware. Given the mobility of students, staff, and visitors, wireless LANs have emerged as one of the most effective and high performance means for these mobile users to access the campus network. The Cisco Unified Wireless Network (Cisco UWN) is a unified solution that addresses the wireless network security, deployment, management, and control aspects of deploying a wireless network. It

combines the best elements of wireless and wired networking to deliver secure, scalable wireless networks with a low total cost of ownership.

The CTL design will take into account that cost and limited network administrative resources are common limiting factors for the schools. The topologies and platforms will be carefully selected to increase productivity while minimizing the overall cost and complexity of operation. In certain instances, tradeoffs are necessary to reach these goals.

7.2.2. Wireless Access

Each participating school will be provided with a wireless connection. The Provider will be responsible for deploying switches and/or controllers, sized for the school’s needs that connects the buildings router and wireless access points. The portable computing devices will access the wireless LAN including network, switch, servers, access points, and associated hardware to provide a robust network environment for the student and teacher devices. This includes access from the school environment via the wireless network and any provided servers and the services it provides, including access to shared applications and files. Any proposed servers the Bidder may propose should include a description of where the servers will be located.

The Provider is responsible for all associated costs and services necessary to incorporate any proposed servers into the Provider's solution. Additional access points, wiring, electrical and equipment (if necessary) will also be provided as a local school option. Each Bidder must describe its solution’s capabilities as well as its limitations (e.g., interference susceptibility, distance, spatial streams and object penetration), including what wireless industry standards (e.g., 802.11g, 802.11n, 802.11ac, etc.) are employed in the solution.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL’s proposed wireless solution will provide a robust 802.11n network environment for student and teacher devices to access the wireless network. CTL solution encompasses deploying Cisco Catalyst 2960 series switches, and Cisco 5508 wireless controllers sized for the schools needs that connect the buildings router and Cisco Aironet 1600 wireless access points.

CTL will study each school via a comprehensive site survey to determine wireless network requirements. All associated costs are incorporated into CTL’s wireless solution. There are a number of variables that must be considered for a successful network deployment. The primary variables that we will take into account are discussed below:

Accessibility

- Enabling students, staff, and guests to be accessible and productive on the network, regardless of whether they are in a traditional classroom setting, collaborating in a study hall, having lunch with colleagues within campus eating areas, or simply enjoying a breath of fresh air outside a campus building

- Enabling easy, secure guest access parents, vendors and other visitors.

Solution Capability and Usability

In addition to extremely high WLAN transmission speeds made possible by the current generation of IEEE 802.11n technology, latency-sensitive applications (such as IP telephony and video conferencing) are supported over the WLAN using appropriately applied quality-of-service (QoS) classification. This gives preferential treatment to real-time traffic, helping to ensure that video and audio information arrives on time.

Limitations

Interference susceptibility: WiFi operates in unlicensed frequencies ranges. This means any device is allowed to operate at these ranges. 802.11 equipment may occasionally suffer interference from microwave ovens, cordless telephones and Bluetooth devices. CTL's solution minimizes Interference by utilizing Cisco Aironet 1600 Series Access Points. These APs incorporate 'Cisco CleanAir technology' to deliver the performance of 802.11n and the reliability required to support mission critical applications, while intelligently avoiding the impacts of interference. CleanAir technology is a system wide feature of the Cisco Unified Wireless Network that streamlines operations and improves wireless performance by providing complete visibility into the wireless spectrum. CleanAir has the unique ability to detect RF interference that other systems can't see, identify the source, locate it on a map, and then make automatic adjustments to optimize wireless coverage.

Distance: While CTL's solution utilizes the 802.11n standard, which has a typical operating distance of up to two to three times the distance of older 802.11 networks, there is still a distance limitation. Distance can be affected by a wide number of factors, however a typical operating distance from device to access point can be up to 175 feet.

Spatial Streams: Cisco Aironet 1600 Access Points transmit 2 data streams at the same time for MIMO signal processing which can effectively double the data rate, however some systems are capable of transmitting 3 simultaneous data streams. While this is a limitation of the system, we feel that the Cisco Aironet 1600 offer the best combination of performance and value for the solution.

Object penetration: While the 802.11n standard provides the best object penetration of 802.11 wireless standards, it is none-the-less subject to signal degradation from objects such as walls, posts or any other structure.

Security

- Segmenting authorized users and blocking unauthorized users

- Extending the services of the network safely to authorized parties
- Enforcing security policy compliance on all devices seeking to access network computing resources. Faculty and other staff enjoy rapid and reliable authentication through IEEE 802.1x and Extensible Authentication Protocol (EAP), with all information sent and received on the WLAN being encrypted.

Manageability

A small team of network administrators must be able to easily deploy, operate, and manage the multiple access points that reside on a campus. A single, easy-to-understand WLAN management framework provides small, medium, and large schools with the same level of WLAN management scalability, reliability, and ease of deployment demanded by traditional enterprise business customers.

Reliability

- Providing adequate capability to recover from a single-layer fault of a WLAN access component or controller wired link
- Ensuring that WLAN accessibility is maintained for students, faculty, staff and visitors in the event of common failures

7.2.3. Wireless Bandwidth

For the wireless solution to be effective, sufficient and necessary bandwidth must be included. The solution must not only include sufficient aggregate bandwidth but must also be capable of being customized for varying needs within a school. Bidders must describe its strategy for providing sufficient bandwidth in a school environment, including how it intends to support the densities represented by classrooms of students, and the roaming nature of students (i.e. students change locations throughout the day). Each Bidder must specify and describe the capability and flexibility of its solution. The Bidder's solution should recognize that devices in addition to those provided through the Bidder's solution (e.g. smart phones, wireless printers, other computing devices) will also connect to the wireless network. Bidders will address how its solution provides adequate throughput (i.e. MIMO, dynamic frequency selection (DFS), dynamic channel allocation (DCA), spatial streams, etc.) to the solution in a mixed (i.e. 802.11b, 802.11g, 802.11n, 802.11a, 802.11ac, etc.) environment. It is expected that the Bidder's solution will represent the majority of wireless clients, but not the only clients.

CTL Response:

CTL's proposed solution complies with this requirement. CTL's solution will deliver sufficient aggregate bandwidth and will be able to be customized for varying needs within a school environment. The CTL solution incorporates the Cisco Unified Wireless Network (Cisco UWN) - a unified solution that addresses the wireless network security, deployment, management, and control aspects of deploying a wireless network. It combines the best elements of wireless and

wired networking to deliver secure, scalable wireless networks with a low total cost of ownership. The CTL solution encompasses deploying Cisco Aironet 1600 wireless access points, Cisco Catalyst 2960 series switches and Cisco 5508 wireless controllers.

Available and Reliable

The Cisco automatic RF management tool is self-configuring, self-healing and self-optimizing, ensuring a highly available wireless LAN solution. Upon failure of an access point, the adjacent access points automatically compensate, increasing their radio power to avoid a coverage hole. To provide a better end-user experience, the Cisco Unified Wireless Network uses an intelligent algorithm that associates new users with the best access point based on a combination of traffic load and signal strength

Feature-Rich and Standards-Based

Cisco Unified Wireless Network solutions offer advanced features, such as automatic RF management and multiple service levels for different user and client types, allowing differentiated QoS and security levels, voice over wireless LAN, and location tracking for Wi-Fi devices.

Flexible

The solution is able to be deployed as a highly integrated network or a simple overlay network depending on the needs of the school site. The network will accommodate a variety of devices, such as smart phones and wireless printers, in addition to CTL mobile devices.

Performance and Throughput

Cisco Aironet 1600 access points provide at least six times the throughput of existing 802.11a/g networks. The 802.11n network of the CTL solution delivers combined data rates of up to 300 Mbps to meet the most rigorous bandwidth requirements. With the Cisco Unified Wireless Network, users can rely on the wireless network to deliver an experience similar to wired networks, providing mobile access to high-bandwidth data, voice, and video applications regardless of their location. The following lists performance and bandwidth throughput features of the CTL Access Point solution:

- 802.11n with 3x3 multiple-input multiple-output (MIMO) technology with two spatial streams, which sustains 300-Mbps rates over a greater range for more capacity and reliability than competing access points
- Radio resource management (RRM): Automated self-healing optimizes the unpredictability of RF to reduce dead spots and help ensure high-availability client connections
- CleanAir Express: Effectively detects RF interference and provides basic spectrum analysis capability while simplifying ongoing operations

- Cisco ClientLink 2.0 technology: Improves downlink performance to all mobile devices including 802.11n while improving battery life on mobile devices such as smartphones and tablets
- Cisco BandSelect technology: Improves 5-GHz client connections in mixed-client environments (such as 802.11b, 802.11g, 802.11n, 802.11a, 802.11ac)
- Cisco VideoStream technology: Uses multicast to improve rich-media applications
- Incorporates 802.11 dynamic frequency selection (DFS) (Bin 5): Automatically selects a frequency channel with low interference for the best bandwidth and performance.

Scalability

The Cisco Unified Wireless Network, can scale to up to 18,000 access points with full Layer 3 mobility across central or remote locations on campus and outdoors. The Cisco Unified Wireless Network is the industry's most flexible, resilient, and scalable architecture delivering secure access to mobility services and applications, and offering the lowest total cost of ownership and investment protection by integrating seamlessly with the existing wired network.

7.2.3.1. Wireless Usage

The Department anticipates that usage of the network will increase throughout the course of the Agreement as teachers and students integrate the solution into daily curricula and tasks. In addition, the nature of the usage may change over time as Internet technologies evolve and/or usage patterns change. While the Department cannot predict those changes, Bidders must describe how its solution will accommodate known network usage patterns including cloud-based services, video streaming including multi-cast sessions, and other bandwidth intensive tasks. If the Bidder's solution requires Bluetooth connectivity (e.g. keyboard connectivity to a tablet-style device), the Bidder must describe what, if any, impact on the wireless network this would have.

CTL Response:

CTL's proposed solution complies with this requirement. Jeremy: The 2x2 wireless antennas allows for multi-in / multi-out (MIMO) throughput. Each antenna supports 150 Mbps maximum. CTL systems are ideally suited for cloud based solutions (dropbox, drive, SkyDrive, etc.), video streaming (YouTube and others), and all other bandwidth type scenarios.

7.2.4. Internet Access

Access to the Internet for schools is to be provided via each school's connection to its ISP. The Provider will ensure its solution works with the school's connection, and the Provider will work with each school's ISP to identify appropriate bandwidth and network infrastructure as needed. Internet content filtering, such as required by C.I.P.A. federal law, will be the ISP's and the local school's responsibility, not the Provider's. The Provider shall, to the extent feasible, consult and advise on the availability of cost effective measures for Internet content filtering.

CTL's Response:

CTL has reviewed and understands the information presented in Section 7.2.4 of the RFP.

7.2.4.1. Maine Internet Access

Most Maine schools are connected to the Internet through the Maine School and Library Network operated by Networkmaine. At the minimum, MSLN provides a 10Mbps connection to the MSLN with maximum connections of 1Gbps in some locations. Bidders must identify Maine school locations it believes will require an increase in available bandwidth and how much of an increase in order to successfully leverage the proposed solution. For more information about the MSLN, please see **Appendix E, State Profiles - Maine**.

CTL Response:

CTL has reviewed and understands the information presented in Section 7.2.4.1 of the RFP. CTL has identified the following Maine school locations that we believe will require an increase in available bandwidth in order to successfully leverage the proposed solution. For each of these schools, CTL has noted a recommended increase in bandwidth.

A 5 to 1 over-subscription process is recommended for the best online experience. For 100 students the can accomplished with a 20 Megabit bandwidth connection. CTL is listing a sampling of schools that do not meet a 10 to 1 over-subscription model and should be considered for a network broadband upgrade.

- 1129 – Action Elementary School (10/211)
- 1737 – Athens Elementary School (10/139)
- 1601 – Belfast Area High School (50/570)
- 1579 – Camden-Rockport Middle School (20/359)
- 1879 – Carrabec Community School (20/257)
- 1732 – Kingfield Elementary School (10/143)
- 1693 – Leavitt Area High School (50/591)

7.2.4.2. Hawaii Internet Access

Most Hawaii schools are connected to the Internet through the Hawaii Department of Education’s primary Internet Service gateway at its main administration building in downtown Honolulu. The Hawaii Department of Education provides a 2 gigabit connection to the Internet, which is distributed to schools via a fiber network throughout the state. Parts of this network are under construction and some schools will be using cable modems to access our internal network until construction is complete. Bidders must identify Hawaii school locations it believes will require an increase in available bandwidth and how much of an increase in order to successfully leverage the proposed solution. For more information about the Hawaii Network, please see **Appendix E, State Profiles - Hawaii**.

CTL Response:

CTL has reviewed and understands the information presented in Section 7.2.4.2 of the RFP. CTL recommends a minimum 10 to 1 over-subscription rate for Hawaii schools. That would require 10 Megabits per 100 students. Once there is a fiber installation to the school, the 5-1 over-subscription rate is easily achievable.

7.2.4.3. Vermont Internet Access

Most Vermont schools are connected to “high speed” broadband access as defined by their providers. This means the access levels can vary greatly in different portions of the state. Included in **Appendix E, State Profiles - Vermont**, is a summary table of connectivity levels across the state.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 7.2.4.3 of the RFP.

7.2.5. Existing School Networks

The solution will provide wireless access for the computing devices to the school’s existing network. While school internal networks vary, the network operating systems tend to cluster into Novell, Windows, Macintosh OS X, Unix and Linux. All schools have Ethernet capability.

CTL Response:

CTL has reviewed and understands the information presented in Section 7.2.5 of the RFP.

7.2.6. Server Functional Partitioning

If servers are provided as part of the solution, these servers should allow accommodation for effective and flexible use in school settings. For example, this could include the provision to logically subdivide the server functions so that a server may be used for working with a single student, groups of students within a classroom, a single classroom, groups of classrooms, a single school, groups of schools, to the entire state. In general, server functions should be able to be isolated to individual or any group of users including across classes of users (e.g. students or teachers, 7th graders or 8th graders, etc.) as well as to be able to be used collaboratively across classrooms, schools, and potentially in a statewide fashion. For more information about the existing MLTI network, please see **Appendix E, State Profiles - Maine**.

CTL Response:

CTL has reviewed and understands the information presented in Section 7.2.6 of the RFP.

7.2.7. Growth

Suitable architecture must be provided to allow for growth in the wireless network infrastructure if there is growth due to additional grades in the school utilizing the infrastructure or growth in the population of the school utilizing the infrastructure.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL’s solution is designed to allow for growth in the wireless network infrastructure.

7.2.8. Print Services

The portable computing devices will be able to utilize a school’s existing networked printers. The Bidder must list supported printing protocols as well as list common unsupported printing protocols, recognizing that schools tend to leverage technologies for longer timeframes than is commonly found in many other industries.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL 2go Convertible Classmate NL4s support network printing through Windows, IPP, USB, Bluetooth and LPR printing protocols.

7.3. Remote Network Access

7.3.1. Portability

The Provider’s portable computing device must enable students and teachers to access the Internet from their homes or other locations. The Provider’s solution must also be accessible from remote locations, using the personal computing device, via other ISPs - for example, for a student to access the Provider’s solution through the family’s ISP account. Bidders must describe what methods are supported by the solution.

CTL Response:

CTL’s proposed solution complies with this requirement. Students and teachers are able to access the internet from their homes and other locations on the CTL 2go Convertible Classmate NL4 utilizing either the integrated RJ45 Ethernet port or the integrated 802.11 B/G/N wireless. The NL4 is able to access the internet via other ISPs as long as there is an accessible wired or wireless internet connection.

7.3.2. Other Devices

It is desirable that the Provider’s solution, if applicable, also be accessible from remote locations using another computer – for example, for a student to access the servers associated to the Provider’s solution through the family’s home computer. Bidders must document which aspects of its solution will be available to students and teachers from a device other than the Provider’s portable computing device and what, if any, special software is necessary.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL proposes utilizing Microsoft Office 365 for education. Microsoft Office 365 for education includes Email, Calendar, Web Conferencing and Office Web Apps including Word, Excel, PowerPoint and OneNote which are all accessible online from remote locations using another computer. No special software is necessary to access these online tools...just a standard internet browser and internet connection.

8. Performance and Quality

8.1. Uptime

The Provider will ensure, at a minimum, that all functions of its classroom solution are reliable and available to the schools during the Period of Prime Usage. This period is 6:00 AM to 10:00 PM, local time (i.e. Maine local time for Maine or Hawaii local time for Hawaii), Monday-Friday, excluding holidays. During this period, the required uptime is as follows:

| PERIOD OF PRIME USAGE | UPTIME PERCENTAGE |
|---|--------------------------|
| 7:00 AM to 3:00 PM, local time, Monday-Friday, excluding state holidays | 99% |
| 6:00 AM to 7:00 AM and 3:00 PM to 10:00 PM Monday-Friday, excluding state holidays | 95% |

No scheduled downtime will be allowed for the instructional technology infrastructure except (1) for scheduled preventative maintenance, or (2) with the approval of the local school coordinator for issues affecting only the local school, or (3) with the approval of the Department Agreement Administrator for system-wide outages. This infrastructure includes the wireless LAN, servers, remote access and any other vendor-installed equipment.

CTL Response:

CTL has reviewed and understands the information presented in Section 8.2 of the RFP. CTL’s proposed solution complies with this requirement. CTL will provide a spare buffer stock equal to 2% of mobile computing units deployed at each location during the first year of deployment. Units from this buffer stock spares inventory can be issued to students or teachers if their mobile device is lost or being repaired. CTL will also assign buffer stock inventory of wireless networking hardware to sites for use in the event that any piece of wireless networking hardware needs to be replaced. Additionally, the CTL solution utilizes enterprise grade CISCO wireless network infrastructure to ensure wireless network reliability and uptime.

8.2. Device Reliability

The solution will provide device reliability and a service level that ensures no student is without a functioning device for more than one (1) school day. This may mean that different support plans need to be in place for different schools.

CTL Response:

CTL's proposed solution complies with this requirement. CTL's solution includes providing a buffer stock of spare mobile computing devices to each location equivalent to 2% of units deployed at each location during the first year of deployment. In the event of an issue with a device, the student or teacher can quickly be assigned a temporary replacement unit out of this buffer stock to ensure that they are not without a functioning device for more than one school day.

8.3. Response Time

The solution must provide services to all students and teachers concurrently on the wireless network with quality response time that does not hinder or impede effective instruction and learning in the classroom. This requirement includes the ability for students to browse the Internet, download files and use streaming or multi-cast video without unreasonable delay.

CTL Response:

CTL has reviewed and understands the information presented in Section 8.3 of the RFP. CTL's proposed solution complies with this requirement. The CTL 802.11 B/G/N solution allows for a throughput of 300Mbit/s with the use of four spatial streams at a channel width of 40 MHz when using the industry standard 802.11 N. Because the CTL 2go Convertible Classmate NL4 portable computing devices utilize multiple antennas, they are able to utilize simultaneous data streams. The CTL solution provides support for multiple-input multiple-output (MIMO) and frame aggregation to the MAC layer. This technology provides the ability for students to browse the Internet, download files and use streaming or multi-cast video without unreasonable delay.

8.4. Business Continuity/Disaster Recovery

The Bidder will describe any program that they provide to cover replacement of the infrastructure in the event of theft or loss through a catastrophic event. A disaster recovery plan will be developed and implemented by the Provider to ensure that the school's infrastructure is restored by the start of next school day at 7 AM.

CTL Response:

CTL has reviewed and understands the information presented in Section 8.4 of the RFP.

CTL's proposed system backup plan provides a multi-user environment, scheduling of automatic backups, and monitoring of the health of the backups from a single admin console. The data is stored in a military-grade encrypted cloud platform allowing for easy data recovery from any location.

Features:

- File scanning – advanced file scanning system enables effortless backup
- Data seeding is possible by sending in drives with data
- Incremental backups – saves bandwidth and ensures future backups are lightning fast.
- Easy Account Management – A single control panel log-in and administration page
- Automatic or Schedules Backups – Can be configured either way on each system
- Custom Configurations – Policies can be set on bandwidth usage.
- Reliable Data Restores – Get files back by either the client, online, or orderable DVD's.
- Browse and search capabilities of the backup sets
- Encryption – Military Grade 448-bit blowfish or 256-bit AES
- Local backup capabilities
- Mobile apps – accessible by android or iOS device.

8.5. Server Failure

If the solution includes servers, then the solution must provide server redundancy or another fallback strategy in the event of server failure. This will provide continued operation of the servers in the event of server hardware or software failure.

CTL Response:

CTL's proposed solution complies with this requirement. Servers supporting CTL's solution include multiple redundancies for critical components so that if one component fails, functionality crosses over to the redundant component. Datacenters housing servers supporting CTL's solution incorporate battery and generator backup, redundant cooling systems, redundant power systems and 24/7 monitoring.

8.6. UPS

The Provider must include necessary Uninterruptible Power Supply (UPS) capacity to those parts of the solution where a power loss could cause data loss or corruption, instability or other long-term negative effects on the solution. The solution should be able to be fully-enabled upon restoration of power without reconfiguration or significant intervention. Therefore necessary included servers and key infrastructure devices such as switches and wireless access points shall have a UPS with capacity to allow for those devices to remain operative in the case of a power outage as necessary. This UPS should allow personnel or automated systems enough time to adequately shut down the server(s) or the infrastructure devices to avoid data loss or corruption.

CTL Response:

CTL's proposed solution complies with this requirement. CTL's solution protects against data loss or corruption by providing Uninterruptible Power Supplies to key network infrastructure devices. This allows for proper shutdown in case of power outages so that they are able to be fully-enabled upon restoration of power without reconfiguration or significant intervention.

8.7. Performance Metrics and Reporting

The Provider must track and record operational Performance and Quality metrics necessary to ensure the successful management of the project. Such performance metrics will be reported monthly, by school as necessary, to the Department’s Agreement Administrator. The reporting will include such items as incidents, device and system failure types, downtime, repair turnaround times, trends, remediation needed, unresolved issues, recommended improvements, other factors necessary to ensure a successful project. Bidders should recommend metrics for consideration by the Department.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL will track and record operational performance and quality metrics monthly by school to the Department’s Agreement Administrator. This reporting will include incidents, device and system failure types, downtime, repair turnaround times, trends, remediation needed, unresolved issues and recommended improvements. CTL recommends additionally tracking RMA’s issued and open RMAs.

9. Functional and Asset Security

9.1. Wireless Security

The solution must protect against eavesdropping and unauthorized access. The solution may include encryption or other techniques to provide this assurance which the local school may turn on or off as local policy indicates. The Bidder must describe how its proposed solution will provide such protections.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL’s solution utilizes the 802.11i standard WPA2 wireless encryption (Wi-Fi Protected Access 2) to protect against eavesdropping and unauthorized access. WPA2 incorporates the Advanced Encryption Standard (AES/CCMP encryption). Local schools may turn wireless encryption on or off as local policy indicates.

9.2. Authorization Control

Security must allow access to authorized users only – to only those resources, files, applications, and services that they are authorized to use. Security will be definable by an administrator both on an individual user basis and by class of user (teachers, students, parents, administrators, etc.). Identification of a user must be unique to each individual.

Operating systems and the application software must have the ability to be restricted or locked down in an appropriate way that prevents inadvertent or deliberate changes in key settings and, thereby, reduces support requirements.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL 2go Convertible Classmate NL4s authenticate authorized users when they login with the correct username and password. This role

based security is defined by an administrator for individual users and classes of users (such as teachers, students, parents, administrators , etc.) and is unique to each individual. Administrators have the ability to restrict / lock down the operating system and applications to restrict changes to key settings.

9.3. Anti-virus Protection

The solution will include reasonable and sufficient anti-virus and malware protection in the device, in any servers and in any other necessary components. Such protection must include timely updates. The Provider will eradicate viruses or related infections that infiltrate the protections provided and will assist schools in returning the devices/system to its normal, stable state. Ideally, the anti-virus protection should not noticeably degrade overall portable computing device performance.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL’s solution anti-virus / anti-malware software installed on each mobile device. During the contract, CTL will include periodic updates to the anti-virus software. CTL will eradicate viruses or related infections that infiltrate the protections provided and will assist schools in returning the devices/system to its normal, stable state.

CTL’s integrated anti-virus, anti-malware solution and includes some of the following features and benefits:

Multiple Layers of Protection - multiple layers of protection quickly and accurately detect and eliminate viruses and spyware quickly and accurately

Browser Protection – Proactively protects a system by checking for and blocking online threats as the browser loads, to stop online threats before they can do damage.

Behavioral Protection & Live 24x7 Threat Monitoring – Stays ahead of, detects and eliminates threats that haven’t been invented yet by watching the system for suspicious activity.

Threat-removal Layer – Targets and eliminates hard-to-remove threats less sophisticated products often miss.

Vulnerability Protection – Stops cybercriminals from using security holes (vulnerabilities) in applications to sneak threats onto the system

Regular Updates – Updates your protection periodically throughout the work day, without disrupting the user

9.4. Backups

In order to protect the solution from data loss or corruption, backup and recovery capabilities are required to permit regular, periodic backup of the storage device(s), logical drives, directories,

administrative and configuration data, application software, and user files and to restore all of the above on demand. Backup protection should include any server-based parts of the solution necessary to restore the solution in the event of data loss or corruption. The ability to perform automatic scheduling of backup functions is desired. This should include automatic backup from the portable computing device to a server or some other facility on a daily basis to prevent data loss. The Bidder must describe the capacity and features of its backup solution, and which data would be recoverable by the user, by a school administrator, or by provider.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL’s backup solution automatically backs up the mobile device hard drive including logical drives, directories, administrative and configuration data, application software, and user files to cloud based server storage on a regularly scheduled daily basis. The mobile device can easily be restored from these backups with minimal assistance from CTL’s technical support. The CTL backup solution includes 40GB of backup capacity. To ensure user privacy and security, the ability to recover data is limited to CTL and school administrators.

9.5. Warranty, Insurance, Damage, and Theft

9.5.1. Warranty

Portable computing devices and included attachments (power supply, carrying case, etc.) will need to be replaced occasionally for a variety of reasons that include defects, normal wear and tear, and accidents. Defective equipment will be replaced or repaired by the Provider at no cost. Consistent with the requirements of this Section of the RFP, the Provider shall warranty against normal wear and tear and ensure the delivery of all services for the term of the agreement. Barring extraordinary circumstances such as are listed in the Force Majeure provision of the *NASPO Standard Terms and Conditions* (see **Appendix D**), the Provider will be responsible to ensure that the devices and other solution equipment are available per the specifications in the Performance and Quality provisions of this RFP. Notwithstanding the cause of any loss, the Provider must provide replacement units in a timely manner and at a reasonable cost for the term of the Agreement.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL warranties against normal wear and tear and ensures delivery of all services for the term of the agreement. Defective equipment will be replaced or repaired by CTL at no cost. CTL will be responsible to ensure that the devices and other solution equipment are available per the specifications in the Performance and Quality provisions of this RFP. Notwithstanding the cause of any loss, CTL will provide replacement units in a timely manner and at a reasonable cost for the term of the Agreement.

9.5.2. Insurance and Damage

The Provider shall assume the risk of loss or damage (e.g., fire, flood, theft, accident, etc.) of the equipment provided, except that each local school unit shall be responsible for any replacement or repair costs due to the negligent or intentional act of the school, a teacher, a student. In the case of individual fault, the local school unit will determine as a matter of local policy whether any or all such local costs should be borne by the individual teacher, student, or parent(s). These local costs shall not be counted as part of the direct or indirect bid price defined in **PART V PROPOSAL EVALUATION AND SELECTION**.

As part of its strategy to meet these provisions of this RFP, the Provider may elect to provide a percentage (specify) of overage or surplus stock of equipment within schools or other depot sites, or insure against all other risks of loss or damage through some other means such as commercial insurance. Regardless of the method proposed by the Bidder, the Bidder will describe how it has integrated its protection plan into its overall support plans. All costs associated with the Provider's proposed protection plan shall be counted as part of its bid price and should be incorporated into the Bidder's annual cost proposal defined in **PART V PROPOSAL EVALUATION AND SELECTION**.

CTL Response:

CTL's proposed solution complies with this requirement. CTL assumes the loss of risk or damage as outlined in section 9.5.2.

Additionally, CTL will provide a buffer surplus stock of spare units to be used when a CTL NL4 is returned for repair. The buffer stock will be 2% of the total number of units deployed at each site and will prevent students and teachers from being without a functioning device for more than 1 business/school day. In the event a student or teacher system needs repaired or is lost or stolen the student or teacher will be issued a spare by the local school representative while their unit is repaired or replaced.

Costs associated with CTL's protection plan are part of our bid price and are incorporated into our annual cost proposal.

9.5.3. No-Fault Protection

The Bidder must provide an optional price schedule for an "enhanced" agreement for no-fault repair and replacement that local school units may purchase at their option and at their own expense from the Provider. The cost of this enhanced, no-fault warranty will not be included in the bid price evaluation as defined in **PART V PROPOSAL EVALUATION AND SELECTION**. Bidders should recognize that this enhanced protection only needs to provide protection against categories of loss or damage that are not covered in **Section 9.5.2. Insurance and Damage**.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL has provided an optional price schedule for an “enhanced” agreement for no-fault repair and replacement that local school units may purchase at their option and at their own expense. The cost of this enhanced, no-fault warranty is not included in the bid price. CTL recognizes that this enhanced protection only needs to provide protection against categories of loss or damage that are not covered in Section 9.5.2. Insurance and Damage.

9.5.4. Theft Deterrent

The portable computing device provided must incorporate security features to deter theft. This should include an unavoidable log-in or greeting, or similar process, that identifies the program and/or owner of the device. These security features must be operative regardless of the physical environment in which the portable computing devices are found. The portable computing devices proposed will be used by students and teachers in the classroom, will be transported by students and teachers between school and home, and used in the home as required. Securing the computer by physical means will not be practical as the only security measure. The Provider is encouraged to include external physical markings or property tags of some type that provide a unique, visual appearance to identify the device as part of this program. The Bidder will provide a detailed description of security features on the proposed devices to deter theft.

Each Bidder must describe here how it proposes to satisfy the requirements of this section. The Bidder’s description must make clear what it will provide and what it would require of the Department and the schools.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL’s 2go Convertible Classmate NL4 incorporates a number of features to deter and prevent theft. These include:

- CTL will utilize a special process to apply a permanent, non-removable painted graphic and text to the back side of the screen. CTL will work with the State’s Department of Education to apply whatever logo and text that the department chooses. For example, the graphic could be a silhouette of the State and could contain text that says “Property of the State” If found call (800) 642-3087.
- A message displayed upon login that identifies the device owner: CTL will include an image on the desktop of each NL4 that identifies the device as part of the State’s 1:1 program and gives information on how to contact the State’s Department of Education if found.
- CTL incorporates anti-theft Kensington lock slots into each of our laptops. These slots allow Kensington style cable locks and alarms to be securely attached to each laptop.



- Intel TPM (Trusted Platform Management) integrated into the hardware on the devices motherboard. Intel TPM allows an authorized network administrator to remotely lock down or ‘brick’ a stolen or missing device.
- A permanent non-removable label that identifies the device as part of the program and that notes that stolen devices will be made in-operable.
- CTL keeps a database of every laptop serial number and provides this information to customers for asset tracking and asset recovery purposes.
- Each NL4 will include Absolute Computrace security software. Computrace keeps track of where computers are, which IP address they are using and a history of who has been using them can keep track of what and what they have been doing with them. Anti-theft security features of Computrace include:
 - Data & Device Security
 - If the device is not secure, then the data it contains is at risk. Absolute Computrace allows IT to remotely engage with the device so that data can be safeguarded or removed:
 - Remotely delete sensitive data on computers at risk
 - Produce an audit log of the deleted files to prove compliance
 - Freeze a device and send a message to the user
 - Remotely retrieve files from a device regardless of user or location
 - Geotechnology
 - The physical location of a device can often predict if it is secure or at risk, so knowing where it is (and where it’s been) can be an important factor within your GRC policy:
 - Track assets on an internet map including current and historical locations
 - Build geofences and receive an alert if a device strays
 - Investigate and determine device status based on its physical location
 - Computer Forensics
 - The ability to understand why and how something happened is critical, especially when proving chain of custody or when criminal activity is suspected. The Absolute Investigations & Recovery team can:
 - Forensically mine a stolen computer regardless of location
 - Use key captures, registry and file scanning, geolocation, and other investigative techniques to understand how and why a device was breached
 - Determine who has the computer, what they’re doing with it, and whether any data was accessed
 - Additional customized services are also available
 - Theft Recovery

- In instances where a criminal act has resulted in the theft of a computer or tablet device, the Absolute Investigations & Recovery team will perform an investigation and provide the results to local police to assist in their criminal investigation. The team has participated in 25,000+ successful recoveries, working closely with police agencies around the world.

9.5.4.1. Maine Theft/Loss data

Maine’s current asset pool contains nearly 75,000 notebook computers, initially deployed to students and teachers in the fall of 2009. As of October 1, 2013, a total of 418 devices have been reported stolen or lost. This represents an average of 0.2% loss per year due to theft or loss.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 9.5.4.1 of the RFP.

9.6. Asset Management

The Provider will include an online asset management system. The asset management system should allow the Department and participating schools to view details about all assets (e.g. the portable digital device, network switches, servers, wireless access points, etc.) supplied by the Provider’s solution including details such as site location, device assignment, device details and status (e.g. assigned to a user, out for repair, etc.). The asset management system should allow querying and reporting capabilities. The asset management system should include necessary security precautions to insure that only authorized personnel access the information contained within the system. In addition, the asset management system should allow for multiple levels of authorized users to allow for, at the minimum, site-, district-, and state-level management. The Bidder must describe all of the data elements that will be included in the online asset management solution, and which data elements would be modifiable for each level of access to provide management functionality while maintaining data security, and which data elements would be dynamic and updated automatically.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL’s solution includes a robust online asset management system which provides extensive reporting and search capabilities and provides authorized users access to detailed information about all assets supplied by CTL. This information includes details such as site location, device assignment and status. CTL’s online asset management system uses role based security to allow authorized users access to information at a site, district and state level.

Data elements that will be included in the online asset management solution include: Device Description, Device Type, Deployment Date, Device SN, Device Asset Number, Device Other

ID, Current User ID, Device MAC address, Device History, Device Notes, Device Status, Device Location.

To provide management functionality while maintaining data security, the following fields will be modifiable for each level of access:

- Authorized Tech Users: can modify Device Other ID, Current User ID, Device Notes, Device Status and Device Location
- Administrator Users: can modify all fields available for modification by Authorized Tech Users and can additionally modify: Device History and Device Description.

The Device Deployment Date, MAC address, Device Serial number, Device Status and Device Location are all updated by CTL automatically.

Dynamic fields include: Device Description, Current User ID, Device History, Device Notes, Device Status and Device Location.

1.6.1 Site and District Management

It is not uncommon for school districts to have more than one participating school. Each site should be able to view assets deployed to the site. In addition, schools should be able to utilize the asset manager to assign portable devices to specific students or teachers. Sites and districts should be able to perform management tasks against one, some, or all of its assigned assets. The most common task performed to some or all assets is the assignment of an asset to an individual by entering an ID or other unique identifier into a field reserved for local inventory management. The solution should include a method for a site to import data either directly from the school's student information system or from a simple data file (i.e. .txt, .csv, etc.) in order to update or overwrite site modifiable fields. Inventories will be made available to each site regarding that site's equipment at installation time as part of the installation and acceptance process.

CTL Response:

CTL's proposed solution complies with this requirement. CTL's online asset management system uses role based security to allow each site to view assets deployed to the site. Within the online asset management system, sites and districts are able to perform management tasks against one, some or all of their assigned assets, including the assignment of portable devices to specific teachers or students by entering an ID into a field reserved for local inventory management. CTL can assist sites with importing a wide range of data to update or overwrite site modifiable fields. CTL will make inventories available to each site regarding that site's equipment at installation time as part of the installation and acceptance process.

9.6.2. Transfers

It is common for students (and even teachers) to transfer from one participating site to another. The asset management solution must provide a method to easily transfer assignments of assets from one site to another. This method must include active acknowledgement of receipt of assets at a receiving site by an authorized user because the Department requires that districts accept certain fiscal responsibilities related to those assets it is assigned, based on the asset management data.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL’s asset management system allows for assignment transfer requests to be quickly and easily sent to CTL’s support department. Upon verification, CTL support department will transfer the assignment of an asset within 1 business day. CTL’s asset management solution easily tracks receipt of assets at receiving sites by authorized users.

9.6.2.1. Maine school transfers

As a matter of practice, when students in grades 7-8 transfer between participating sites, the device follows the student. The same is true for teachers in grades 7-12 since the Department covers the annual seat cost for all 7-8 students and 7-12 teachers. However, for students at participating schools in grades K-6 and 9-12, the local school covers the annual seat cost, and as a matter of practice, when students transfer out of those schools, the school retains the device.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 9.6.2.1 of the RFP.

9.6.3. Replacements

The Department expects that for a variety of reasons, a device may require replacement. Bidders must describe how it will provide replacement devices for the term of the Agreement. Replacement devices must be the same as the original device or functionally equivalent and similar enough so that it does not interfere with the intended educational use nor any of the integrated support methods and protocols established by the Bidder to meet the requirements of this RFP.

The online asset management system must include a method that allows schools to request replacement devices. The solution must include the capacity to maintain records of these transactions and an internal workflow that provides the messaging capacity to resolve questions related to a request in order to complete a replacement request. The method must include the capacity to categorize replacement requests (i.e. stolen, dropped, liquid damaged, etc.). Newly introduced devices must be tracked in the asset management system like any other asset, and the introduction of associated device data is the responsibility of the Bidder.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL’s online asset management solution includes an RMA web form that assists schools in quickly requesting replacement

devices. The RMA web form can collect categories of replacement requests (stolen, dropped, liquid damage, etc.). When an RMA web form is submitted, all of the information is saved to the CTL helpdesk system, a new helpdesk ticket is created and a receipt containing the information is automatically sent to the customer who submitted the form. This ticket and email receipt provide an easy way to resolve questions related to a request in order to complete a replacement request.

Replacement devices issued by CTL will be the same as or functionally equivalent to the original device - enough so that it does not interfere with the intended educational use nor any of the integrated support methods and protocols established by the CTL to meet the requirements of this RFP.

CTL will enter the data associated with newly introduced devices into the asset management system where they will be tracked like any other asset.

9.6.4. Asset History

The online asset management system will provide a comprehensive history for each asset that includes assignment history (i.e. a device may be assigned to more than one student over the course of multiple years or may be transferred from one school to another), device data changes (i.e. in the current program, ethernet addresses (MAC) are changed when logic boards are replaced in devices. This unique address must be updated in the asset management solution), repair history, etc. The asset history for any individual asset must be easily accessible to authorized users.

CTL Response:

CTL's proposed solution complies with this requirement. CTL's online asset management system uses administrator granted role based security to allow authorized users to easily retrieve the asset history for any individual asset. This asset history includes repair history, assignment history (including transfers between schools or students) and any device data changes (including MAC address changes).

9.6.5. School Information

Basic demographic information about each site must be maintained in the asset management solution. This must include contact information for key individuals at each site including but not limited to school administrators and technology administrators. This information must be easily accessible to authorized users.

CTL Response:

CTL's proposed solution complies with this requirement. CTL's asset management system uses role based security to grant authorized users (such as school administrators and technology administrators) access to information about each site. This information will include basic

demographic information about each site as well as contact information for key individuals at each site.

9.6.6. Reporting

The online asset management system must include reporting functionality. Reports should be downloadable, and when appropriate, available in common tabular formats for reuse of the data. At the minimum, the system must include reports of asset inventory by type (user device, network assets, etc.), contact information, asset transfers, and replacement devices. Reports must only include data viewable to the authorization level of the user, and reports must be able to be produced against a site, district, or the entire state inventory.

The intent of providing reporting to both site, districts, and the Department are to facilitate better management of the inventory of assets including trend analysis related to topics like transfers, replacements, or repairs.

The Provider should describe other functionality included in the asset management system that will facilitate successful management of the project at both a Department and site level.

CTL Response:

CTL's proposed solution complies with this requirement. CTL's online asset management system includes the ability to download reports in common tabular formats. Reports include:

- Inventory asset reports (including user device, network assets, etc.)
- Device contact information
- Asset transfer issued
- Replacement devices issued
- Device summary report
- Hard-Disk space available
- Installed software report
- Operating system updates
- Outdated Symantec Antivirus
- Missing Symantec Antivirus
- Device location

The Reports can be run to include inventory at a site level, a district level or a State level.

10. Professional Development, Curriculum Integration, and Consultation

The Department believes that professional development for educators, education leaders, and technology support personnel are vitally important to the success of a 1:1 program as described in this RFP.

The Provider will become a partner to the Department of Education, and all professional development activities will be developed in coordination with the Department. The Provider will develop and deliver professional development materials and opportunities under the direct supervision of the Department of Education. While the Department recognizes that good teaching and learning practices exist with or without technology, it also believes that the presence of personal digital devices in classrooms and outside of classrooms necessarily changes the teaching and learning landscape. As such, the Department seeks a Provider that can support effective and innovative teaching and learning processes that without this foundation could not exist.

The MLTI has adopted and promoted two models to guide teacher practice and the integration of technology into instruction and learning. These models are Technological, Pedagogical, Content Knowledge (TPCK) by Drs. Punya Mischra and Matthew Koehler (<http://www.tpck.org>) and Substitution, Augmentation, Modification, Redefinition (SAMR) by Dr. Ruben Puentedura (<http://www.mlti.org/samr> and <http://www.hippasus.com/rrpweblog/>). These models should act as a guide in the development and implementation of all professional development materials and opportunities.

CTL Response:

CTL has reviewed and understands the information presented in Section 10 of the RFP. CTL’s proposed solution complies with this requirement. CTL will deliver develop and deliver professional development materials and opportunities in coordination with and under the direct supervision of the Department of Education. CTL discusses our proposed professional development program and how the TPCK and SAMR models act as a guide in their development and implementation in section 10.2.

10.1.1. Maine Transition Support

While many of the professionals in Maine schools have many years of experience in MLTI schools, the depth of knowledge and the application of innovative practices vary greatly. Nonetheless, the Department recognizes that the next MLTI solution will require a certain level of basic training regardless of the platform or device. The Bidder must address in its proposal how it plans to transition Maine schools from the existing MLTI solution to its solution. This should include supporting teachers with the migration of files in format that have been created using software included in the current MLTI solution to compatible formats in the Bidder’s solution. See **Appendix E, State Profiles – Maine** for a list of software titles included in the current MLTI solution.

CTL Response:

CTL will provide device and software training to teachers through electronic and in-person technical training seminars held throughout the State as discussed as part of our Educator Professional Development program discussed in section 10.2.1. CTL will also provide this training as content on a dedicated section of our website. CTL will provide step-by-step guides

and helpdesk support to assist teachers with the migration of files in format that have been created using software included in the current MLTI solution to compatible formats in the CTL’s solution.

10.2. Curriculum Integration Professional Development

10.2.1. Educator Professional Development

The integration of technology into teaching and learning processes remain the keystone to any 1:1 program. The Provider will develop and deliver professional development materials and opportunities for educators throughout the term of the Agreement to support the effective integration of the solution into teaching and learning. Bidders must address how it plans to provide professional development opportunities to educators throughout the State. The Department has recognized many challenges over the past decade of implementing Maine’s 1:1 program and providing professional development to educators including:

- Heterogeneous skills and experience using technology among the educators. While the program has been in place for over a decade and the base skills and capacities of teachers may be stronger overall than other large populations in other places, there still exists a wide variability among them.
- The need for greater understanding of how a 1:1 program can facilitate student-centered teaching and learning. The Department recognizes that one barrier to the high-level integration of 1:1 technology is the need for greater understanding of the ways such technology can support a student-centered approach to teaching and learning.
- Many teachers have "tech skills" but lack the teaching and management skills necessary to leverage those skills. The Department recognizes that technology-use skills do not necessarily result in effective technology-empowered teaching and learning. Too often, “technology integration” is done a very basic level, leaving unrealized the potentially transformative power of a 1:1 approach.
- Lack of availability of substitute teachers limits participation. For face-to-face opportunities during the school day, the Department has found that it is difficult to host large sessions with teachers in a single school or a single region because in many areas, there are not enough substitute teachers to provide coverage while the teachers are participating in the professional development opportunity.

The Department has provided synchronous and asynchronous online professional development opportunities including online classes, webinars, and podcasts. While each has been viewed as effective for some, the Department also recognizes that like students, the learning styles and comfort of teachers is varied.

The Provider will provide an appropriate amount of educationally relevant professional development training for teachers and other school personnel as identified by the school to support the most effective use of the Provider's solution. The Bidder must describe its professional development plans to address the challenges identified by this RFP as well as anticipated challenges identified by the Bidder. Professional development plans must include enough detail to be tangible and comprehensible to the evaluation team including proposed numbers of opportunities, proposed location(s), proposed format (in-person workshop, webinar, podcast, etc), recommended length, materials included, proposed topics, proposed instructor to participant ratios, qualifications of instructors, etc.

The Bidder must separately and specifically address its first year program that will make available sufficient teacher professional development prior to the start of school year 2013-2014 to support the introduction of the Provider's solution. Training times and opportunities should be convenient to the participating personnel, and school personnel should have multiple options to sign up for opportunities.

CTL Response:

CTL's proposed solution complies with this requirement. CTL recognizes that the keystone of any 1:1 program is the integration of technology into teaching and learning processes. CTL will offer in-person, online and video conferenced facilitated educator professional development workshops built on core content developed by Intel specifically to support 1:1 e-learning environments and integration of technology into schools.

This educator professional development program aligns with the use of the TPACK and SAMR models to guide teacher practice and the integration of technology into instruction and learning as outlined in the following tables:

| TPCK Principles | Professional Development Examples |
|---|---|
| <p style="text-align: center;">Technological Knowledge</p> | <p>Participants learn by creating their own action plans and lessons. Skills are dependent upon the activities that the educator selects but common Technical Skills include: Web based research; productivity applications; online collaboration tools, graphic organizers, and digital publishing tools</p> |
| <p style="text-align: center;">Pedagogical Knowledge</p> | <p>Integrate instruction on collaboration, self-direction, information literacy, and reflection</p> |

| | |
|--------------------------|---|
| | throughout a project. Understand the purposes of assessment in a 21st Century Classroom, Create more meaningful student assessment that measures both skills and content knowledge, Examine method for using technology to draw data; Understand the importance of thinking critically about information in contemporary society. |
| Content Knowledge | Identify standards, 21st Century skills and learning objectives for project plans; understand scientific inquiry and what makes it unique from other approaches; review exemplary lesson ideas in core content areas |

| SAMR Design Principles | Intel Transforming Learning Examples |
|-------------------------------|---|
| Redefinition | Ubiquitous technology allows educators to look across their curriculum to redesign their approaches to help students master the most challenging content in new ways- for example- student gaining global competency and math/science skills by working with large data bases of scientific information with other classrooms around the world. |
| Modification | Technology allows for significant task re-design such new approaches to classroom management, the role of students as 'experts' |
| Augmentation | Highlights how to augment current work: Online daily calendar to keep track of student requirements, Teacher creates electronic newsletter via email, blog etc. vs. printed in backpack more easily reaching parents/guardians. |
| Substitution | Highlight places where you substitute activities based on ubiquitous access to technology- e.g. less printing and going digital; teacher uses online form vs. worksheet etc. |

In each state that implements a 1:1 program, CTL will provide educator professional development to participating school and district support personnel throughout the term of the agreement as follows:

Proposed Professional Educator Development Workshops, Length, Scheduling and Topics
 (Topics will be the same for in-person facilitated workshops and facilitated online webinar workshops)

Transforming learning with 1:1 - Setting the Stage: Reflecting on Our Current Practice and New Possibilities in a Digital Age

Note: this workshop will be offered to all educators in the state prior to the 2013-14 school year and will be offered on a rotating schedule throughout the course of each year

[1 Day] In this in-person facilitated workshop, participants begin thinking about their current curriculum and ways to integrate new digital tools in their one to one eLearning environment. Participants discover tools that can inspire their students to think more deeply, enable them to become more productive and creative and allow them to connect with the real world.

Modeling and Evaluating Powerful One to One eLearning

Note: this workshop will be offered on a rotating schedule throughout the course of year 1 and each subsequent year

[1 Day] In this in-person facilitated workshop, participants continue to think about their curriculum through the framework of an Instructional Planning Packet. Using Activity Checklists and Rubrics, they will experience a “lesson” as a student rather than as a teacher. They will explore classroom management issues in a one-to-one eLearning environment and present findings to the larger group.

Planning, Troubleshooting, Integration, and Reflection

Note: this workshop will be offered on a rotating schedule throughout the course of year 1 and each subsequent year

[1 Day] In this in-person facilitated workshop, participants consider technical issues related to planning for and troubleshooting within a one to one eLearning environment. To wrap up this module, they will revisit the Instructional Planning packet and continue to work on activities for their curriculum map in terms of technology integration

Student Engagement with One-to-One

Note: this workshop will be offered on a rotating schedule throughout the course of year 1 and each subsequent year

[1 Day] This facilitated workshop will introduce educators to one of the most powerful factors affecting student achievement – student engagement. Participants will explore strategies in one to one learning environments, for transforming their units to better engage students by rethinking their content, student work products and teaching and learning processes. They will learn to identify the characteristics of engaged learners, assess their students’ level of engagement and reflect upon their own teaching practices for engaging students.

- Characteristics of engaged learners and the connection to student achievement
- Strategies for engaging students in their learning
- Transforming units to engage students in one to one classrooms

- Exploration of the range of use of technology tools to support student engagement
- Classroom management issues and solutions for a one-to-one classroom

Thinking Critically with Data

Note: this workshop will be offered on a rotating schedule throughout the course of years 2-4

[1 Day] Thinking Critically with Data is an in-person facilitated workshop that examines critical thinking with a focus on data analysis in our information-rich world. In this course, teachers explore practical skills and strategies to draw on when teaching students to think critically about the information around them. Teachers will understand how to design student projects and assessments that address critical thinking skills when collecting and analyzing data. Additionally, they will see how technology can support students' collection, organization, and presentation of data. The course also offers practical tips for implementing projects that ask students to think critically with data.

Assessment in 21st Century Classrooms

Note: this workshop will be offered on a rotating schedule throughout the course of years 2-4

[1 Day] Assessment in 21st Century Classrooms is an in-person facilitated workshop that offers an in-depth look at assessment that meets the needs of 21st century teaching and learning. In this course, teachers see how assessment strategies can benefit their teaching practices and their students' learning. They learn how to plan, develop, and manage student-centered assessment. They follow three teachers and see how the three teachers are implementing embedded and ongoing assessment methods in their classrooms. The course offers opportunities to apply the assessment concepts with action planning exercises.

Project-Based Approaches

Note: this workshop will be offered on a rotating schedule throughout the course of years 2-4

[1 Day] This in-person facilitated workshop uses specific classroom scenarios to help teachers explore characteristics and benefits of Project- Based Learning (PBL). Throughout the course, teachers consider their own teaching practice as they follow a teacher new to project-based learning who discusses strategies with a mentor teacher. They also consider the ways that technology supports project-based approaches. Planning and project design modules guide teachers through organizing the curriculum, the classroom, technology, and students for successful 21st century projects. The assessment module demonstrates strategies for assessing students' 21st century skills throughout an

open-ended project. The course offers opportunities to apply the PBL concepts with action planning exercises.

Educational Leadership in the 21st Century

Note: this workshop will be offered on a rotating schedule throughout the course of years 2-4

[1 Day] Educational Leadership in the 21st Century is presented as an in-person facilitated workshop to support exploration and discussion of school leadership in our students' technological 21st century world. School leaders review best practices, examine leadership behaviors, and develop strategies to better support their teachers. They follow two administrators who work together to better use technology to support teachers and improve student achievement. Participants discuss ideas and strategies with other leaders in the course and apply them to their own practice. Extension activities provide opportunities to explore more in depth topics of interest.

Collaboration in the Digital Classroom

Note: this workshop will be offered on a rotating schedule throughout the course of years 2-4

[1 Day] Collaboration in the Digital Classroom is an in-person facilitated workshop that offers an in-depth look at collaboration with a focus on online collaborative tools. In this course, teachers see how collaboration helps students develop 21st century thinking skills, deepen content understanding, and prepare them for the global world. Teachers learn how to plan and manage collaboration activities that integrate online collaborative tools increasingly part of our globally connected workplaces. They follow two teachers as they implement collaborative experiences in their classrooms. The course offers opportunities to apply the collaboration concepts with action planning exercises.

Inquiry in the Science Classroom

Note: this workshop will be offered on a rotating schedule throughout the course of years 2-4

[1 Day] Inquiry in the Science Classroom is in-person facilitated workshop for teachers of students in 3rd to 8th grades (ages 9 to 13) that will explain and demonstrate the inquiry process in depth with interactive activities and locally relevant classroom examples. The course will build a foundation for inquiry and provide the rationale and research basis, common misconceptions, and specific strategies for inquiry as part of any science learning, regardless of the science discipline. It will promote best practices for improving scientific inquiry and will help both the teacher with weak science inquiry background but it will also reinforce teachers more experienced with inquiry.

Materials Included

Participants in each workshop will receive a printed and electronic copy of the training materials as well as access to a recorded video of the workshop

Proposed format, length, instructor qualifications, instructor to participant ratios, training times and opportunities and locations:

In-person workshops

In-person facilitated educator professional development workshops will be led by CTL Professional Development Professionals or Educational Specialists or by instructors hired by CTL as sub-contractors specifically for their experience using technology as a transformational educational power, interpersonal communication ability, group presentation ability and relevant classroom and/or workshop instruction experience.

Instructors will hold certifications such as Microsoft Certified Trainer, Microsoft Innovative Educator, Microsoft Teacher Trainer or Intel Master Teacher. Instructors will also complete a training program by CTL Professional Development personnel prior to running a work shop.

- **Instructor to participant ratio:** 20:1
- **Training times and opportunities:** CTL recognizes that training times and opportunities should be convenient to the participating personnel, and school personnel should have multiple options to sign up for opportunities. CTL’s goal is to make our training workshops both geographically accessible and accommodating to our customer’s busy professional and personal lives. Furthermore, we understand that training on a week day may be difficult or impossible. To make it easier for our customers to attend training:
 - We will offer at least one educator professional development workshop in or near the county seat of each county in the state during the school year to ensure that the training is easily accessible
 - We will offer all educator workshops online as discussed below in “Online workshops (webinars)”
 - Where facilities accommodate, we will offer remote attendance via video conference, allowing remote attendees the opportunity to attend the workshop from their web-cam equipped computer.
 - We will record trainings so that those unable to attend will be able to learn the content by watching the videos.
 - We will offer in-person educator professional development workshops every calendar half year within each core based statistical area (CBSA) in the State. These trainings will occur both on weekends and week days and will occur on in-service days when possible and if applicable. As an example, these trainings will be conducted in the five CBSAs in Maine:

Portland-South Portland-Biddeford, ME; Lewiston-Auburn, ME; Bangor, ME; Augusta-Waterville, ME; Rockland ME.

- **Locations:** CTL will offer yearly educator professional development workshops in or near the county seats of all counties during the school year to ensure that the training is easily accessible. In larger counties, we will conduct multiple trainings to accommodate attendance needs. As an example, in Maine, we these cities are:
 - Auburn
 - Houlton
 - Portland
 - Farmington
 - Ellsworth
 - Augusta
 - Rockland
 - Wiscasset
 - Paris
 - Bangor
 - Dover-Foxcroft
 - Bath
 - Skowhegan
 - Belfast
 - Machias
 - Alfred

Online workshops (webinars)

Facilitated online workshops (webinars) will offer the same content, opportunities for questions and discussion, length and instructor qualifications as in-person workshops, but will be offered monthly and on a more diverse schedule that will include week days, weekends and even nights (content covered in multiple sessions).

- **Instructor to participant ratio:** 20:1

Proposed numbers of opportunities

CTL recognizes that educator training is a crucial element of a successful 1:1 program and will conduct additional educator professional development workshops if demand exceeds the initial number of educator workshop seats offered.

Numbers of opportunities will vary by State, but as an example in Maine, we estimate offering approximately 50 in-person educator professional development workshops throughout each year in years 2-4.

Support of the CTL solution prior to the start of the 2013-2014 school year

In order to make available sufficient educator professional development workshop seats available to support CTL’s solution prior to the start of school year 2013-2014, CTL offer trainings in each county seat and multiple trainings in each CBSA such that sufficient in-person workshops are available to accommodate demand. In Maine, for example, we estimate providing 185 educator workshops prior to the start of the 2013-2014 school year.

10.2.2. Leadership Professional Development

Leadership at all levels is critically important to the success of a 1:1 program. The Department wishes to strengthen and build the capacity of its educational leaders including principals, superintendents, curriculum coordinators, technology directors, and other key personnel. Today's educational leaders need to be able to embrace technology as a tool for transforming teaching and learning, and need to lead their schools and school systems in more fully realizing that transformational power. The Department has found, however, that technology is sometimes viewed by education leaders as an extra or an add-on, rather than the transformative tool it has the potential to be. The Department recognizes training leaders to embrace and be advocates for this kind of change is a wide-ranging and open-ended challenge. Bidders must describe how it plans to address the development of this kind of leadership capacity in the schools empowered by the Bidder's solution.

Professional development plans must include enough detail to be tangible and comprehensible to the evaluation team including proposed numbers of opportunities, proposed location(s), proposed format (in-person workshop, webinar, podcast, etc.), recommended length, materials included, proposed topics, proposed instructor to participant ratios, qualifications of instructors, etc.

The Bidder must separately and specifically address its first year program that will make available sufficient leadership professional development prior to the start of school year 2013-2014 to support the introduction of the Provider’s solution. Training times and opportunities should be convenient to the participating personnel, and school personnel should have multiple options to sign up for opportunities.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL recognizes that one of the key challenges of a successful 1:1 program is for education leaders to truly embrace technology as a transformational power. In conjunction with our partners, Intel and Microsoft, CTL is offering a leadership professional development program to strengthen and build the capacity to leverage the use of technology in education to educational leaders including principals, superintendents, curriculum coordinators, technology directors, and other key personnel.

In each state that implements a 1:1 program, CTL will provide leadership professional development to participating school and district support personnel throughout the term of the agreement as follows:

Proposed Professional Educator Development Workshops, Length, Scheduling and Topics
 (Topics will be the same for in-person facilitated workshops and facilitated online webinar workshops)

Using Technology to Support the Common Core State Standards

Note: this workshop will be offered to all educational leaders in the state prior to the 2013-14 school year and will be offered on a rotating schedule throughout the course of each year

[1 Day] At the center of most districts planning for 2013-14 is the integration of common core state standards into their curriculum. While districts may differ on the amount of technology they have access to, there is a widespread desire to utilize that technology to support new curriculum initiatives. In this facilitator led workshop, attendees will acquire strategies and see practical examples of technology integration supporting the standards.

Learning to lead change: The Fullan Workshop Series

Note: this workshop will be offered on a rotating schedule throughout the course of each year

[2 Days] This facilitator led workshop supports a deeper understanding of the key drivers in the change process. The workshop encourages the development of innovative approaches to transformed practice and discussions of use of the TPCCK and SAMR models to guide teacher practice and the integration of technology into instruction and learning.

Preparing for Online Assessments and Choosing the Right Device for Your Environment

Note: this workshop will be offered on a rotating schedule throughout the course of each year

[1 Day] This facilitator led workshop will introduce attendees to the online assessments being created by PARCC and Smarter Balanced, plus the policies, personnel and infrastructure that will be necessary to implement a secure, reliable and successful online testing environment for students.

Moving from Print to Digital Text and Blended Learning

Note: this workshop will be offered on a rotating schedule throughout the course of each year

[1 Day] In this facilitator led workshop, attendees will explore the increasingly complex world of formats and devices dedicated to electronic text and their impact on instructional design and delivery.

BYOD: Bring Your Own Device and Personalized Learning

Note: this workshop will be offered on a rotating schedule throughout the course of each year

[1 Day] Attendees at this workshop will learn strategies to deal with the wave of personal devices that students and teachers possess and how they can be managed, supported and leveraged to create a more active, student-centered learning environment.

Materials Included

Participants in each workshop will receive a printed and electronic copy of the training materials as well as access to a recorded video of the workshop

Proposed format, length, instructor qualifications, instructor to participant ratios, training times and opportunities and locations:

In-person workshops

In-person facilitated leadership professional development workshops will be led by CTL Professional Development Professionals or Educational Specialists or by instructors hired by CTL as sub-contractors specifically for their experience using technology as a transformational educational power, interpersonal communication ability, group presentation ability and relevant classroom and/or workshop instruction experience.

Instructors will hold certifications such as Microsoft Certified Trainer, Microsoft Innovative Educator, Microsoft Teacher Trainer or Intel Master Teacher. Instructors will also complete a training program by CTL Professional Development personnel prior to running a work shop.

- **Instructor to participant ratio:** 20:1
- **Training times and opportunities:** CTL recognizes that training times and opportunities should be convenient to the participating personnel, and school personnel should have multiple options to sign up for opportunities. CTL’s goal is to make our training workshops both geographically accessible and accommodating to our customer’s busy professional and personal lives. Furthermore, we understand that training on a week day may be difficult or impossible. To make it easier for our customers to attend training:
 - We will offer at least one leadership professional development workshop in or near the county seat of each county in the state during the school year to ensure that the training is easily accessible
 - We will offer all leadership workshops online as discussed below in “Online workshops (webinars)”
 - Where facilities accommodate, we will offer remote attendance via video conference, allowing remote attendees the opportunity to attend the workshop from their web-cam equipped computer.

- We will record trainings so that those unable to attend will be able to learn the content by watching the videos.
- We will offer in-person leadership professional development workshops every calendar half year within each core based statistical area (CBSA) in the State. These trainings will occur both on weekends and week days and will occur on in-service days when possible and if applicable. As an example, these trainings will be conducted in the five CBSAs in Maine: Portland-South Portland-Biddeford, ME; Lewiston-Auburn, ME; Bangor, ME; Augusta-Waterville, ME; Rockland ME.
- **Locations:** CTL will offer yearly leadership professional development workshops in or near the county seats of all counties during the school year to ensure that the training is easily accessible. In larger counties, we will conduct multiple trainings to accommodate attendance needs. As an example, in Maine, we these cities are:
 - Auburn
 - Houlton
 - Portland
 - Farmington
 - Ellsworth
 - Augusta
 - Rockland
 - Wiscasset
 - Paris
 - Bangor
 - Dover-Foxcroft
 - Bath
 - Skowhegan
 - Belfast
 - Machias
 - Alfred

Online workshops (webinars)

Facilitated online workshops (webinars) will offer the same content, opportunities for questions and discussion, length and instructor qualifications as in-person workshops, but will be offered monthly and on a more diverse schedule that will include week days, weekends and even nights (content covered in multiple sessions).

- **Instructor to participant ratio: 20:1**

Proposed numbers of opportunities

CTL recognizes that leadership training is a crucial element of a successful 1:1 program and will conduct additional leadership professional development workshops if demand exceeds the initial number of leadership workshop seats offered.

Numbers of opportunities will vary by State, but as an example in Maine, we estimate offering approximately 30 in-person leadership professional development workshops throughout each year.

Support of the CTL solution prior to the start of the 2013-2014 school year

In order to make available sufficient leadership professional development workshop seats available to support CTL’s solution prior to the start of school year 2013-2014, CTL will front-load the schedule of our yearly leadership professional development calendar and offer additional trainings in each county seat and multiple trainings in each CBSA such that sufficient in-person workshops are available to accommodate demand. In Maine, for example, we estimate providing 40 leadership workshops prior to the start of the 2013-2014 school year.

10.2.3. Technical Professional Development

The Provider will provide an appropriate amount of technical professional development to participating school and district technology support personnel. While the number of technology staff vary from school to school, the Provider should assume that each participating school has at least one assigned staff member to provide technology support. The Department assumes that over the course of the Agreement, that the technology provided in the solution and those systems, protocols, and tools necessary to support the solution will change as new versions of software are released or as upgrades or refinements are introduced. As such, the Department expects the Provider to provide technical training throughout the term of the Agreement designed to enable school and district technology support personnel to provide end-user, just-in-time, support, to troubleshoot the solution as necessary to leverage the support the Provider’s solution, and to effectively manage the technical implementation challenges that are inherent in a large-scale implementation. The Bidder will describe the support and maintenance aspects of its solution in **Section 11, Support and Maintenance**.

Professional development plans must include enough detail to be tangible and comprehensible to the evaluation team including proposed numbers of opportunities, proposed location(s), proposed format (in-person workshop, webinar, podcast, etc), recommended length, materials included, proposed topics, proposed instructor to participant ratios, qualifications of instructors, etc.

The Bidder must separately and specifically address its first year program that will make available sufficient technical professional development prior to the start of school year 2013-2014 to support the introduction of the Provider’s solution. Training times and opportunities should be convenient to the participating personnel, and school personnel should have multiple options to sign up for opportunities.

In general, while the Department cannot require attendance of technology support personnel at professional development opportunities, based on historical attendance, the Department expects that virtually all technology support personnel will attend opportunities provided during the normal school year. If opportunities are provided during the traditional school summer break, the Department expects that technology support personnel from smaller and more rural schools are less likely to be available due to more limited employment terms.

CTL Response:

CTL’s proposed solution complies with this requirement. Technical professional development is a critical component of a successful 1:1 program and is an important part of CTL’s proposed solution. In each state that implements a 1:1 program, CTL will provide technical professional development to participating school and district support personnel throughout the term of the agreement as follows:

Proposed format, length, instructor qualifications, instructor to participant ratios, training times and opportunities and locations:

In-person workshops

One day in-person technical professional development workshops will be led by CTL Professional Development Professionals or Educational Specialists or by instructors hired by CTL as sub-contractors specifically for their technical knowledge, interpersonal communication ability, group presentation ability and relevant experience supporting mobile devices on similar networks.

Instructors will hold hardware and network certifications such as CompTia A+ and Network+ and will complete a training program by CTL Technical Support, Engineering and Professional Development personnel prior to running a work shop.

- **Instructor to participant ratio:** 20:1
- **Training times and opportunities:** CTL recognizes that training times and opportunities should be convenient to the participating personnel, and school personnel should have multiple options to sign up for opportunities. CTL’s goal is to make our training workshops both geographically accessible and accommodating to our customer’s busy professional and personal lives. Furthermore, we understand that training on a week day may be difficult or impossible. To make it easier for our customers to attend training:
 - We will offer at least one technical professional development workshop in or near the county seat of each county in the state during the school year to ensure that the training is easily accessible
 - We will offer all technical development training workshops online as discussed below in “Online workshops (webinars)”

- Where facilities accommodate, we will offer remote attendance via video conference, allowing remote attendees the opportunity to attend the workshop from their web-cam equipped computer.
- We will record trainings so that those unable to attend will be able to learn the content by watching the videos.
- We will offer in-person technical professional development workshops every calendar half year within each core based statistical area (CBSA) in the State. These trainings will occur both on weekends and week days and will occur on in-service days when possible and if applicable. As an example, these trainings will be conducted in the five CBSAs in Maine: Portland-South Portland-Biddeford, ME; Lewiston-Auburn, ME; Bangor, ME; Augusta-Waterville, ME; Rockland ME
- **Locations:** CTL will offer yearly technical professional development workshops in or near the county seats of all counties during the school year to ensure that the training is easily accessible. In larger counties, we will conduct multiple trainings to accommodate attendance needs. As an example, in Maine, we these cities are:
 - Auburn
 - Houlton
 - Portland
 - Farmington
 - Ellsworth
 - Augusta
 - Rockland
 - Wiscasset
 - Paris
 - Bangor
 - Dover-Foxcroft
 - Bath
 - Skowhegan
 - Belfast
 - Machias
 - Alfred

Online workshops (webinars)

One day online workshops (webinars) will offer the same content, opportunities for questions and discussion, length and instructor qualifications as in-person workshops, but will be offered monthly and on a more diverse schedule that will include week days, weekends and even nights (content covered in multiple sessions).

Instructor to participant ratio: 20:1

Proposed numbers of opportunities

CTL recognizes that technical training is a crucial element of a successful 1:1 program and will conduct additional technical trainings if demand exceeds the initial number of technical training seats offered.

Numbers of opportunities will vary by State, but as an example in Maine, we estimate offering approximately 30 in-person technical training workshops throughout each year.

Support of the CTL solution prior to the start of the 2013-2014 school year

In order to make available sufficient technical professional development training to support CTL's solution prior to the start of school year 2013-2014, CTL will front-load our yearly technical professional development training calendar and offer additional trainings in each county seat and multiple trainings in each CBSA such that sufficient in-person technical professional development training workshops are available to accommodate demand. In Maine, for example, we estimate providing 40 technical professional development training workshops prior to the start of the 2013-2014 school year.

Proposed Topics (Topics will be the same for in-person facilitated workshops and facilitated online webinar workshops)

- Client Hardware
 - An overview of the CTL 2go Convertible Classmate NL4 hardware
 - Troubleshooting
- Client Software
 - The CTL MLTI Image - Installed Software Applications
 - Newly released software or patches
 - Device and user administration
 - Settings
 - Power management
 - Security
 - Backup, restore, imaging and re-imaging
 - Theft deterrent software administration
 - Use of applications and utilities
 - Troubleshooting
- Network
 - Network Overview
 - Network management
 - Troubleshooting
- Support
 - Using the CTL Helpdesk

- Using CTL RMA
- Using the CTL asset management solution
- CTL online support resources

Training Materials

CTL will provide printed and electronic training material to all participants including:

- CTL 2go Convertible Classmate NL4 hardware guide
- Guide to the CTL MLTI Image
- Guide to CTL MLTI device and user administration
- Site guide to the CTL MLTI network
- An overview of CTL support resources

10.3. Ownership of Content and Curricula

All new professional development materials produced, including content and curricula, and audio/video recordings of live workshops, and provided by the Provider as a result of this RFP and the resulting Agreement, are owned by the Maine Department of Education. The Department will publish all content, curricula, and recordings under a Creative Commons Attribution license or other appropriate open license whenever possible, but reserves the right to do otherwise. The Bidder should acknowledge its understanding of this requirement and indicate its intent to comply.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 10.3 of the RFP. Any professional development materials produced by CTL including content and curricula, and audio/video recordings of live workshops, as a result of this RFP and the resulting Agreement, are owned by the Maine Department of Education. CTL’s solution additionally includes some existing content from our partners Intel and Microsoft which is made available for free of charge use by educators and academic institutions.

11. Support and Maintenance

As part of the cost, the vendor will provide ongoing support to the schools for the duration of the agreement. Since the cost is to cover the full costs of deploying and supporting the solution, each Bidder must factor a full support package into its price. The components of such a full support package must include those components necessary to assure the Performance and Quality specifications are met continuously and that the solution is sufficiently supported at all times. The support package must include, but is not limited to: Help Desk; repair; preventative maintenance; licensing; fixes and updates for software, firmware, microcode; etc. A Bidder, depending upon its bid type, may need to include warranty, spares, and other items.

This support will include Help Desk or Support Center service available via 1-800 type access which includes staffing, tools and processes to meet the schools' support requirements including a system of dispatching, tracking, priority setting, reporting and escalation which ensure timely and satisfactory response and resolution. The Provider may also employ other communication systems for delivery of just-in-time support such as Internet audio chat, text chat, web forums, etc. School users of the Help Desk may be students, teachers, administrators, and technical coordinators. Bidders should note that technical assistance related to Internet connectivity is expected insofar as to help determine if the issue is related to the Bidder's solution or the school/home's Internet Provider. The Department expects the Provider to coordinate with the school ISPs to make support as seamless as possible. The Bidder will describe its Help Desk offering as well as its ongoing technical support provided for its proposed solution.

The Bidder will fully describe the process and plan that will be utilized whenever a break/fix event (both in-warranty and out-of-warranty) occurs within any aspect of the Provider's solution. This will cover the entire process of repairing or replacing a portable computing device or any of the solution infrastructure. The infrastructure will be defined as switches, servers, LAN devices, remote access devices or any other equipment provided by the vendor.

As part of its solution reliability strategy, the vendor may provide spare portable computing devices or other spare equipment, to be housed at the local school and configured to the school's specifications for use, while school-assigned devices/equipment are being repaired or replaced. The local quantity of spare portable computing devices should be based on the Bidder's experience with these devices in other, similar environments.

CTL Response:

CTL's proposed solution complies with this requirement. CTL will provide ongoing support to the schools for the duration of the agreement as part of our solution at no additional cost. CTL offers robust product support that includes licensing, preventative maintenance, software and firmware updates, RMA and user support via Help Desk.

CTL's will provide support to students, teachers, administrators, and technical coordinators in a variety of ways to best meet the needs of the user and that best resolve the incident

- Web based support
 - CTL provides comprehensive web based support tools to allow our customers to find the information that they need as quickly as possible. These web based support tools include: libraries of drivers and software; FAQs and customer specific Asset reports.
- Help Desk Support via Email and Instant Online Web Chat
 - Support related emails and online web chats are personally answered by our USA based in-house call center technicians
- Help Desk Support via Phone

- CTL provides a dedicated toll-free 1-800 24x 7 tech support phone number to our USA based in-house call center.
- Onsite Support

CTL's Help Desk support system creates a support ticket when any request is received from a user via phone, email, web or chat with a CTL support technician. The system allows for tracking, priority setting, reporting and escalation to ensure timely and satisfactory response and resolution. When a ticket is created, an email is automatically sent to the customer listing all details of the incident and with login information so that the customer can login to view and manage the ticket online.

When a Help Desk break/fix ticket is opened, a CTL support technician will assist the customer in trouble shooting the device and will gather relevant information. CTL will resolve the issue in one of the several ways depending on the nature of the incident, the device type, the type of user that we are interacting with (student or technical coordinator) in one following ways:

- If the product is in-warranty
 - RMA replacement parts sent from CTL to the site at CTL's expense. Site returns the defective part to CTL using CTL provided call-tag.
 - Replacement mobile device configured per current specifications, delivered from CTL to the site at CTL's expense. Site returns the defective part to CTL using CTL provided call-tag.
 - CTL may determine that onsite support is the best mechanism to resolve the incident. In this case, CTL will dispatch a qualified technician from our sub-contracting partner OnForce to resolve the issue.
- If the product is out of warranty
 - CTL will discuss repair options and prices appointed school IT administrators and will work with the school to determine the best and most cost effective course of action to quickly repair the product.

To ensure that no student or teacher is without a functioning device for more than 1 business/school day, CTL will provide a buffer surplus stock of spare units to be used when a CTL NL4 is returned for repair. The buffer stock will be 2% of the total number of units deployed at each site. In the event a student or teacher system needs repaired or is lost or stolen the student or teacher will be issued a spare by the local school representative while their unit is repaired or replaced.

CTL will coordinate with the school ISPs to make support as seamless as possible and understands that technical assistance related to Internet connectivity is expected insofar as to help determine if the issue is related to the Bidder's solution or the school/home's Internet Provider.

11.1. Solution Support

Each Bidder must address—at a minimum—the items above, as well as the requirements of **Section 8, Performance and Quality**, in fully describing here its proposed support program to demonstrate that its approach will provide solid, effective support for the users of the solution.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL is dedicated to providing exceptional service and support to our customers. While we’ve described our support program above (see section 11), there are several key components to our support program that we feel will ensure that we meet the requirements of Section 8, Performance and Quality.

One of the key components to our superior service and support is flexibility. We work hard to provide our customers with support choices that best fit their unique and immediate needs.

A second key component of our service and support is that when a customer has an issue and contacts our technical support, they deal directly with and are helped by a highly trained US based CTL employee, not a contracted employee in a call center in another country. Hiring our own technicians to provide support here in the US, making sure that they are highly trained and paying them living wages costs us more than if we hired a call center off-shore, but we feel that this is crucial to providing our customers an exceptional experience.

A third key component of our superior service and support are our partnerships. CTL is a Microsoft Gold Certified Partner and an Intel Technology Provider Partner at the Platinum level. These relationships provide additional technical and engineering resources, ongoing training opportunities and synergies that help CTL consistently exceed customer expectations. Additionally, CTL has chosen OnForce as an on-site partner. The geographic breadth of their service coverage area combined with the breadth and depth of the skill sets of their service professionals has earned them a 98.9% customer satisfaction rating.

11.2 Service and Support Plan

As part of the Project Plan, the awarded Provider will provide a complete Service and Support plan. Each Bidder will acknowledge here its responsibility to do so should it become the Provider.

CTL Response:

CTL’s acknowledges our responsibility to provide a complete Service and Support plan should we become the provider.

12. Project Management and Implementation

The Provider must ensure a successful implementation for each of the participating sites. This includes necessary site surveys, validation testing, installation and configuration of all hardware

and software, training, support program implementation and any other aspects of the solution necessary. The following requirements are associated with this requirement and schedule.

CTL Response:

CTL has reviewed and understands the information presented in Section 12 of the RFP.

12.1. Project Plan and Deliverables

The Provider will develop and implement a project plan that includes, as a minimum, the following deliverables. Failure to submit the required plan in accordance with this timetable may result in termination, liquidated damages, or delayed payment to the Provider. Each Bidder must describe its ability to meet these requirements:

CTL’s Response:

CTL has reviewed and understands the information presented in Section 12.1 of the RFP.

12.1.1. Project Plan

The preliminary Project Plan itself will be delivered for approval not later than 30 calendar days after the Agreement is approved by the State Purchases Review Committee. Development of the plan with the Department’s involvement is required. The Plan must include all aspects of the project and its deliverables, including coordination with the Department and the schools, communications and reporting, timetable, Validation Testing Subplan, Deployment Subplan, Professional Development Subplan, and the Service and Support Subplan. This Project Plan will be revised and improved periodically as needed, subject to approval by the Department.

CTL’s Response:

CTL has reviewed and understands the information presented in Section 12.1.1 of the RFP and will comply with this provision. Upon award, CTL will assemble an internal and partner cross functional team consisting of: CTL Director of Engineering, CTL IT Services Manager, CTL Marketing Manager, CTL Education Team Lead as well as representatives from Intel and Microsoft Education. The team will work the Department on developing the plan to include all aspects of the project and its deliverables, including coordination with the Department and the schools, communications and reporting, timetable, Validation Testing Subplan, Deployment Subplan, Professional Development Subplan, and the Service and Support Subplan.

12.1.2. Validation Testing

This will be system testing, in participating schools, that confirms that the solution meets or exceeds the functional requirements, and the performance and reliability specifications as required under the Agreement between the Provider and the Department resulting from this procurement process. This Validation Test will enable the Provider the opportunity to test its

equipment in school environments and will assure the Department that the solution is acceptable for production deployment. The test will include up to five (5) schools and must be successfully completed by July 19, 2013.

CTL Response:

CTL has reviewed and understands the information presented in Section 12.1.2 of the RFP and will comply with this provision. Upon award, CTL will work with the Department to determine validation testing metrics. Once this is determined, CTL will implement validation testing in up to school environments prior to July 19, 2013 to assure the Department that the solution is acceptable for production deployment.

12.1.3. Educational Conferences

Participation in at least twenty (20) educational conferences or meetings annually in conjunction with the Department, the intent of which is to help inform the educational community of the project plans and to maintain communication and ongoing relationships with the participating schools. These conferences may begin as early as June 2013.

CTL Response:

CTL acknowledges that we will participate in a minimum of 20 educational conferences or meetings annually in conjunction with the Department. CTL has a long history of working with the education community and attends and sponsors many education related conferences, seminars, workshops and industry events each year. We look forward to attending additional conferences in support of this contract.

12.1.4. Implementation

The Provider must successfully install, configure and test all hardware and software for each participating site. In School Year 1 this must be completed by August 23, 2013.

The Provider will install cabling for its solution and its connection to the school’s local network. At the Provider’s discretion, they may utilize existing cabling in the schools. If done, the Provider must agree to warranty those parts of the local infrastructure that they utilize as they would newly installed equipment. The local school will arrange for electrical work based on the Provider’s specifications. Local construction, abatement and other costs are the responsibility of the school. As part of the installation, the Provider will provide an overview to the local technical coordinator of the resulting network and train the person(s) in the basics of system/network operation and support.

Each school installation will include provision of complete, current documentation necessary for effective and successful use of the solution by people such as system administrators, site support personnel, and teachers. This may include manuals, guides, quick reference materials and other

documentation. Electronic versions are required. Each Bidder will describe what documentation they will provide and how they will provide it in order to be effective.

Each installation will include establishment of a site work completion and satisfaction sign-off form. The Provider's equipment and work at each site will not be considered complete nor will it be paid for until satisfaction sign-offs are obtained from both the responsible site person and the Department's Agreement administrator.

CTL Response:

CTL has reviewed and understands the information presented in Section 12.1.4 of the RFP.

- CTL acknowledges that we must successfully install, configure and test all hardware and software for each participating site. In School Year 1 this must be completed by August 23, 2013.
- CTL acknowledges that as part of the installation, CTL will provide an overview to the local technical coordinator of the resulting network and train the person(s) in the basics of system/network operation and support.
- CTL acknowledges that each school installation will include provision of complete, current documentation necessary for effective and successful use of the solution by people such as system administrators, site support personnel, and teachers. CTL will provide documentation in the form of printed quick reference guides and electronic versions of manuals, guides and quick reference guides.
- CTL acknowledges that each installation will include establishment of a site work completion and satisfaction sign-off form and that equipment and work at each site will not be considered complete nor will it be paid for until satisfaction sign-offs are obtained from both the responsible site person and the Department's Agreement administrator.

12.1.4.1. Maine Implementation

Note that certain schools in Maine begin the school year in early August, and therefore those schools should have equipment installed and tested no later than July 26, 2013.

CTL's Response:

CTL has reviewed and understands the information presented in Section 12.1.4.1 of the RFP and will comply with this provision.

12.1.4.2. Hawaii Implementation

Note that nearly all schools in Hawaii begin the school year in late July, and therefore it would be preferable if those schools would have equipment installed and tested no later than June 26, 2013.

CTL's Response:

CTL has reviewed and understands the information presented in Section 12.1.4.2 of the RFP and will comply with this provision.

12.1.4.3. Vermont Implementation

Note that certain schools in Vermont begin the school year in early to mid-August, and therefore those schools should have equipment installed and tested no later than June 26, 2013.

CTL's Response:

CTL has reviewed and understands the information presented in Section 12.1.4.3 of the RFP and will comply with this provision.

12.1.5. Professional Development

Professional development for the solution must be provided for the participating schools' teachers, leadership, and technical support personnel as addressed in **Section 10, Professional Development, Curriculum Integration, and Consultation** of this RFP. Bidder will include a professional development subplan as part of the Project Plan.

CTL Response:

CTL's proposed solution complies with this requirement. Since our founding in Oregon in 1989, one of CTL's primary focuses has been supplying computing hardware to meet the diverse needs of our customers in K-12 and post-secondary education. We learned early on that providing purpose built computer hardware and support for education customers, while important, was only part of the equation in building valued partnerships in the education community. We realized that at least as important as supplying quality computer hardware was engaging with the education community in a meaningful way. CTL's professional development program for educators is a large part of this engagement.

CTL proposes a 4 phase professional development plan upon award of the contract. The narrative of this 4 phase rollout plan is as follows:

Phase 1 – Preparation

Task:

1. Recruit and hire in-State Professional Development Professionals and Education Specialists.
2. Work with the Department of Education to ensure that all aspects of Professional Development training plan provided by CTL are in alignment with the Department's goals and pre-approved by the Department. This includes workshop: topics, scheduling, locations and instructor credentials.

3. Using the schedule outline presented in section 10.2.1, 10.2.2 and 10.2.3, develop a detailed year 1 schedule for all professional development workshops
4. Recruit and hire sub-contractors with the expertise and certifications to successfully lead CTL's Professional development workshops
5. Book facilities for workshops based on the workshop schedule
6. Provide pre-training to all CTL employees and sub-contractors that will be involved in the workshops and instructing the workshops to ensure that they are ready to successfully run the workshops

Phase 2 – Outreach

Task:

1. Identify all educators, administrators and technical personnel at each school eligible for professional development training
2. Outreach to those in task 1 to introduce CTL and communicate the CTL Professional Development workshop schedule, workshop content and workshop goals
3. Open registration for workshops

Phase 3 – Implementation

Task:

1. Hold workshops throughout year 1 according to the schedule from Phase 1, Task 3
2. Gather participant feedback
3. Report on feedback to the Department of Education and work with the Department of Education to modify the workshops as needed to ensure the best possible outcomes

Phase 4 – Continued Workshops

Task:

1. Based on attendance and feedback from year 1 workshops, create detailed workshop schedules for years 2-4
2. Hold workshops throughout years 2-4 according to the schedule in Task 1.
3. Gather participant feedback
4. Report on feedback to the Department of Education and work with the Department of Education to modify the workshops as needed to ensure the best possible outcomes

12.1.6. Support and Service

The Provider will deliver ongoing technical support to the schools (on site and remote) for the period of the contract for the Provider’s solution and its integration into the schools' academic program.

CTL Response:

CTL has reviewed and understands the information presented in Section 12.1.6 of the RFP and will comply with this provision.

12.1.7. Timeline

The Bidder will propose a timeline, consistent with the RFP requirements, that it will commit to for the implementation process, commencing from approval of the Agreement to completion of the first year implementation. The timeline should include all major phases and milestones.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL proposes a 4 phase implementation plan upon award of a contract. The narrative of this 4 phase implementation plan over the first year implementation is as follows:

Phase 1 – Initiation Phase (Duration: 2 Weeks)

Task:

1. **Core Implementation Teams:** Assign staff to work directly on contract implementation teams in the following areas:
 - a. Project Management
 - b. Training and Professional Development
 - c. Technical Engineering
2. **Identify Stakeholders:** Identify and establish communication and relationships with key project stake holders both within the State’s Department of Education and throughout the school system (from District to individual site level)
3. **Cross Functional Implementation Teams:** Establish cross-functional implementation teams with stake holders through our partner companies: Intel; Microsoft; OnForce
4. **Purchasing and Production Teams:** Establish a team made up of key personnel from purchasing and production departments
5. **Issue Report:** Assembled teams work with stake holders listed above issue to detailed report of project including: objectives, implementation requirements and project conditions of satisfaction

Milestone: Completion of Initiation Phase upon completion of Task 5

Phase 2 – Planning Phase (Duration: 5 Weeks)

Task:

1. **Develop Project Plan:** Set out the phases, activities detailed tasks and timeframes needed to deliver the project.
2. **Develop Resource Plan:** Summarize the level of resources needed to complete the project. Specify the exact quantities of labor, equipment and materials needed to complete the project
3. **Develop Quality Plan:** Schedule all of the tasks needed to make sure that the project meets the needs of our customer in two parts; the Quality Assurance Plan lists the independent reviews needed and the Quality Control Plan lists the internal reviews needed to meet our quality targets.
4. **Develop Risk Plan:** Identify risks and actions to prevent them from occurring and reduce their impact should they present.
5. **Develop Acceptance Plan:** Create a schedule of tasks that are required to gain the customers satisfaction (based on conditions of satisfaction).
6. **Develop Communications Plan:** How we intend to communicate the right messages to the right people at the right time. Communication goals, stakeholders and strategies, activities and timeframes are described.
7. **Develop Procurement Plan:** Define the products and services that we will obtain from external suppliers. Includes our processes to appoint those suppliers contractually.
8. **Perform Phase Review**

Milestone: Completion of Planning Phase upon completion of the phase review

Phase 3 – Execution and Coordination (Duration: 10 Months)

Task:

1. **Coordinate:** Orchestrate the activities of the actual project by following the provisions reached at the planning phase. This includes:
 - a. **Product Production**
 - b. **Validation Testing**
 - c. **Integration of Mobile Device Hardware**
 - d. **Integrate Wireless Networks**
 - e. **Transition Support**
 - f. **Participate in Education Conferences**
 - g. **Technical Professional Development**
 - h. **Educator Professional Development**
 - i. **Leadership Professional Development**
 - j. **Support and Maintenance**

2. **Manage:** Supervise the workforce, providing employees and sub-contractors with the necessary resources and inform them of the performance of the project during its execution.
3. **Review:** Reviews the performance of the project at the current position as per the original plan
4. **Adjust:** Make adjustments from the initial planning for issues such as budget, insufficient resources or unforeseen risks
5. **Communicate:** Continually inform relevant stakeholders and team members of the current status of the project
6. **Perform Phase Review**

Milestone: Completion of Execution Phase upon completion of the phase review

Phase 4 – Year 1 Finalization Phase (Duration: 1 Week)

Task:

1. **Year 1 Closure Report:** Confirm that the objectives and the 1st year deliverables have been met
2. **Year 1 Post Implementation Review:** Evaluate the project’s success and identify any lessons learned

Milestone: Completion of Year 1 Finalization Phase upon Year 1 Post Implementation Review

12.1.8. Project Staffing

An in-State experienced, qualified, and effective project team will be identified and provided, subject to approval by the Department's Agreement administrator. The Bidder will provide a description of its project staffing plan for all phases and tasks. Identify each senior staff member and complete for each the form in Appendix G in order to demonstrate your staff’s experience with projects similar to this one. At a minimum, the Provider will maintain an in-State team for the length of the project made up of a Project Manager, Educational Specialist, Professional Development Specialists, and Technical Engineers sufficient to implement and support the program.

CTL Response:

CTL’s proposed solution complies with this requirement. CTL has identified senior staff members in Appendix G and described their relevant experience. CTL will maintain an in-State team for the length of the project consisting of a Project Manager, an Educational Specialist, Professional Development Specialists, and Technical Engineers

The responsibilities of each will include the following:

Project Manager: Overall project responsibility; sub-contractor management; overall coordination; overall communication; contract management; escalation

Education Specialist: Assessment planning; educator professional development; education conference coordination; coordination with the Department of Education

Administrative Coordinator: Tracking assets and shipments, office operations, Professional Development logistics and scheduling

Professional Development Specialist: Professional development logistics and scheduling; educator professional development, leadership professional development and leadership professional development

Technical Engineers: Image creation; technical support; hardware and software issue escalation; hardware and network support; server systems, backup and hosting liaison.

CTL’s project staffing plan for all phases and tasks (for timeline detail, see 12.1.7):

Phase 1 – Initiation Phase (Duration: 2 Weeks)

Task:

1. **Core Implementation Teams:** Task managed by Project Manager. Includes Educational Specialist, Professional Development Specialists and Technical Engineers.
2. **Identify Stakeholders:** Task managed by Education Specialist and Technical Engineers
3. **Cross Functional Implementation Teams:** Task managed by Project Manager
4. **Purchasing and Production Teams:** Task managed by Project Manager
5. **Issue Report:** Task managed by Project Manager

Phase 2 – Planning Phase (Duration: 5 Weeks)

Task:

1. **Develop Project Plan:** Task managed by Project Manager
2. **Develop Resource Plan:** Task managed by Project Manager with support from Professional Development Specialist and Technical Engineer
3. **Develop Quality Plan:** Task jointly managed by Education Specialist and Technical Engineer
4. **Develop Risk Plan:** Task managed by Technical Engineer
5. **Develop Acceptance Plan:** Task managed by Technical Engineer and Education Specialist
6. **Develop Communications Plan:** Task managed by Project Manager
7. **Develop Procurement Plan:** Task Managed by Project Manager
8. **Perform Phase Review:** Task Managed by Project Manager

Phase 3 – Execution and Coordination (Duration: 10 Months)

Task:

7. **Coordinate:** Project Manager oversees:
 - a. **Product Production:** Managed by Project Manager and Technical Engineer
 - b. **Validation Testing:** Managed by Technical Engineer
 - c. **Integration of Mobile Device Hardware:** Managed by Technical Engineer
 - d. **Integrate Wireless Networks:** Managed by Technical Engineer
 - e. **Transition Support:** Managed by Technical Engineer
 - f. **Participate in Education Conferences:** Managed by Education Specialist with assistance from Administrative Coordinator
 - g. **Technical Professional Development:** Managed by Professional Development Specialist with assistance from Administrative Coordinator
 - h. **Educator Professional Development:** Managed by Education Specialist with assistance from Administrative Coordinator
 - i. **Leadership Professional Development:** Managed by Professional Development Specialist
 - j. **Support and Maintenance:** Managed by Technical Engineer
8. **Manage:** Task managed by Project Manager with assistance from Education Specialist; Professional Development Specialist; Technical Engineers
9. **Review:** Task managed by Project Manager with assistance from Education Specialist; Professional Development Specialist; Technical Engineers; Administrative Coordinator
10. **Adjust:** Task managed by Project Manager with assistance from Education Specialist; Professional Development Specialist; Technical Engineers
11. **Communicate:** Task managed by Project Manager with assistance from Education Specialist; Professional Development Specialist; Technical Engineers; Administrative Coordinator
12. **Perform Phase Review:** Task managed by Project Manager

Phase 4 – Year 1 Finalization Phase (Duration: 1 Week)

Task:

1. **Year 1 Closure Report:** Task managed by Project Manager
2. **Year 1 Post Implementation Review:** Task managed by Project Manager

12.1.9. Coordination with Schools

The Provider will work with the Department and each school and its principal or principal designee to determine via any necessary site surveys the local requirements necessary to implement the solution as well as any local change requirements and costs, and will coordinate the installation of its solution with each school’s changes. These local change requirements would include not only the basic solution but also any additions or adaptations that a school elects to implement at its own local cost (e.g., switches, hubs, software, hardware, adaptive devices). The Provider must accommodate school schedules and needs, even if this requires some alteration of the Provider’s customary schedule. Such accommodation must not include any additional, premium or overtime charges.

CTL Response:

CTL has reviewed and understands the information presented in Section 12.1.9 of the RFP and will comply with this provision.

12.1.10. Work Within Schools

Each Bidder will succinctly describe the basic physical characteristics of the proposed equipment including dimensions, weights, electrical, HVAC and any other specifications vital to know. All required cables, wires, mounts and connectors will be specified by the Bidder.

All cabling, wiring, connectors and mounts will be installed in a manner which results in safe and secure facilities. No hazards will be created; any identified hazard will be pointed out to appropriate site or Department personnel. Installations must be performed in a manner which does not harm or diminish local site designs, structural integrity or – to the extent feasible – cosmetics. Installations will meet all prevailing local codes and governing body codes as well as IEEE, TIA/EIA and ISO/IEC standards for cabling and wiring.

- **IEEE** - Institute of Electrical and Electronic Engineers
- **TIA/EIA** - Telecommunications Industry Association/Electronic Industry Association
- **ISO/EIC** - International Organization for Standardization/Equipment Installer’s Code

CTL Response:

CTL has reviewed and understands the information presented in Section 12.1.10 of the RFP and will comply with these requirements. Details of proposed networking equipment can be found in Appendix D (dimensions, weights, electrical, HVAC and any other specifications vital to know)

12.1.11. Change Control

A change control process will be utilized. The Provider must ensure that system and site changes are implemented effectively, reasonably, are documented and scheduled — and must ensure good communication with those affected by the changes, both before and after the change.

CTL Response:

CTL will use a change control process and will ensure that system and site changes are implemented effectively, reasonably, are documented and scheduled. CTL will ensure good communication with those affected by the changes, both before and after the change.

12.1.12. Project Management Reporting

The Provider will submit on the last working day of each month a detailed monthly progress report to the Department’s Project Manager, starting with the first month of the Agreement. Among other things, this report must include a monthly summary of the performance metrics specified earlier. The Provider may be requested to supply additional information as warranted.

CTL Response:

CTL has reviewed and understands the information presented in Section 12.1.9 of the RFP and will comply with these requirements.

12.1.13. Ongoing Improvements

Since the Department is vitally interested in investing in solutions which have long-life and upgradeability to provide continuing and enhanced capabilities over time, including migration to evolving standards, each Bidder must describe its solution’s ability to adapt to or to incorporate improved technology. Fully describe how you would identify progressions in technology and integrate them into products previously installed at customer sites. Examples might be incorporation of an emerging wireless standard or upgrades to the core operating system and application software.

The Department is seeking a solution that adheres to industry standards and open systems architectures as versus proprietary solutions. Each Bidder must identify whether its solution includes proprietary aspects and, if it does, will provide in its proposal a schedule and a plan to the Department for the Provider’s migration to industry standards - or state that it intends to continue pursuing its proprietary approach.

CTL Response:

CTL’s solution adheres to industry standards and open system architecture. The CTL 2go Convertible Classmate NL4 is designed to be easily upgradeable with common tools. For software, CTL will work with Microsoft and Intel to provide the latest updates to the Windows 7 Operating System and included software and utilities throughout the term of the contract. For all of the software that CTL installs, we continuously monitor for patches and upgrades. When a

patch or an upgrade is available, we work with our customer's IT departments to ensure that if the IT department chooses to have an update applied that it is applied in a manner which not disruptive to our customers. Typically, this involves pushing the update through the internet to the end user device after hours.

Section III Cost Proposal

State of Maine Department of Education
in coordination with the
National Association of State Procurement Officials
COST PROPOSAL FORM

RFP # 201210412
MULTI-STATE LEARNING TECHNOLOGY INITIATIVE

Instructions: Bidders must complete the form below in order to have their proposals considered in this procurement process.

Bidder's Organization Name:

CTL_____

Please Note:

- The participating states and entities involved with this procurement process recognize that costs can vary in accordance with the “commitment” and “readiness” of individual participating entities that are interested in implementing this learning technology program. With that in mind, Bidders are asked to submit tiered pricing, as indicated below. The structure that determines a participant’s “tier” is shown on Appendix C.
- Costs for equipping students/teachers with learning technology and associated services must be proposed on a per-seat basis, as shown in Table 1, below.
- It is anticipated that total per-seat participation in this multi-state program will increase throughout the duration of the contracts that result from this RFP. Participating entities seek a discount of the pricing proposed by interested Bidders in Table 1 for every increase of 500,000 seats.
- Costs for setting up a wireless network within a participating school must also be provided on a per-seat basis, but these network costs must be provided separately, on Table 3, below. A state’s aforementioned “tier” is irrelevant to its need for a wireless network to support this program, so only one cost figure is required, which would be applicable for all participating entities (on a per-seat basis).
- Table 4 has been provided for Bidders to list “optional features” that has been specified within the RFP (for example, optional “no fault” insurance coverage or Section 6.7).

COST PROPOSAL FORM

RFP # 201210412

MULTI-STATE LEARNING TECHNOLOGY INITIATIVE

Table 1 – Student/Teacher Learning Technology Solution Costs

| | |
|--|----------------------------------|
| Cost proposed per-seat for Tier 1 participants: | \$294/yr. (per year for 4 years) |
| Cost proposed per-seat for Tier 2 participants: | \$294/yr. (per year for 4 years) |
| Cost proposed per-seat for Tier 3 participants: | \$294/yr. (per year for 4 years) |

Table 2 – Volume Discount Factor

| | |
|--|-----|
| Percentage discount proposed to Table 1 prices for every 500,000 seats of increased participation: | 2 % |
|--|-----|

Table 3 – School Wireless Network Costs

| | |
|--|---------------------------------|
| Cost proposed per-seat for all participants: | \$49/yr. (per year for 4 years) |
|--|---------------------------------|

Table 4 – Optional Features

| | |
|----------------------------------|---------------------------------|
| No Fault Insurance | \$30/yr. (per year for 4 years) |
| Add a CTL LP2151 21” LED Monitor | \$155 (one time, not per year) |
| Add a CTL LP2351 23” LED Monitor | \$195 (one time, not per year) |
| CTL LP2710 27” LED Monitor | \$270 |

Section IV Economic Impact

In each state where CTL implements a 1:1 program, activity by and related to CTL will have a direct and positive impact on state and local economies as well as public revenue. CTL estimates this direct economic contribution to be \$4,416,000 for a 150,000 1:1 seat mobile device and wireless implementation in a state during the course of the project. CTL estimates the multiplier effects of the payroll and downstream spending to provide an additional \$0.50 in-state economic impact for each dollar spent. This multiplier brings to total in-state economic impact to \$6,624,000.

The various components contributing to this economic impact are:

- 6 full-time in-state jobs: \$1,680,000
- Sub-contracting employment for wireless implementation: \$300,000
- Sub-contracting for in-state service and support: \$500,000
- Travel, hotel, transportation, food, misc. goods and services: \$400,000
- Facility leasing: \$192,000
- Professional development facility rentals: \$864,000
- State and local taxes: \$400,000
- Education conferences, seminars, workshops, sponsorships: \$70,000
- State licensing fees: \$10,000

CTL Appendix A - Forms from RFP Appendix G

Staff Experience with Similar Projects

Employee Name Friedrich Gloekler Employee Position Senior Government Account Manager

Firm Name CTL

Name of Client: Oregon Department of Health and Human Services

Type of Entity: Government School Non-profit For-Profit
Private Sector

1. Approximate number of users on the client's system: 8000

2. Approximate dates of engagement: From 10/2004 To Present

3. Describe the purpose and objectives of work.

Ensure that CTL meets and exceeds the customer's needs for products, service and support

4. Describe the nature of work performed.

Act as a single point of contact for the customer. To understand customers' needs and to work with various CTL departments such as support, production, engineering and marketing to ensure that those needs are being met.

5. Describe the employees' role relative to this client's project.

Account Manager

6. Describe the employees' role relative to this RFP.

Account Manager

Current Supervisor's Name: Gary Welk Phone Number: 800.642.3087 x 220

Project Supervisor's Name*: Gary Welk Phone Number: 800.642.3087 x 220

* Name of supervisor(s) while working on the above Client project.

Employee Name Jason Beyerle Employee Position Technical Services Manager

Firm Name CTL

Name of Client: Oregon Department of Health and Human Services

Type of Entity: Government School Non-profit For-Profit
Private Sector

1. Approximate number of users on the client's system: 8000

2. Approximate dates of engagement: From 10/2004 To Present

3. Describe the purpose and objectives of work.

Ensure that CTL meets and exceeds the customer's needs for service and support

4. Describe the nature of work performed.

Manage technical service and support department employees who provide support to individual DHS technicians; Technical escalation resolution; Work with customers on image creation

5. Describe the employees' role relative to this client's project.

Technical Services Manager

6. Describe the employees' role relative to this RFP.

Technical Services Manager

Current Supervisor's Name: Gary Welk Phone Number: 800.642.3087 x 220

Project Supervisor's Name*: Gary Welk Phone Number: 800.642.3087 x 220

* Name of supervisor(s) while working on the above Client project.

Employee Name Paul Ostermann Employee Position Senior Government Account Manager

Firm Name CTL

Name of Client: San Francisco Unified School District

Type of Entity: Government School Non-profit For-Profit
Private Sector

1. Approximate number of users on the client's system: 25,000

2. Approximate dates of engagement: From 1/2010 To 4/2010

3. Describe the purpose and objectives of work.

Ensure that CTL meets and exceeds the customer's needs for products, service and support

4. Describe the nature of work performed.

Act as a single point of contact for the customer. To understand customers' needs and to work with various CTL departments such as support, production, engineering and marketing to ensure that those needs are being met.

5. Describe the employees' role relative to this client's project.

Account Manager

6. Describe the employees' role relative to this RFP.

Account Manager

Current Supervisor's Name: Gary Welk Phone Number: 800.642.3087 x 220

Project Supervisor's Name*: Gary Welk Phone Number: 800.642.3087 x 220

* Name of supervisor(s) while working on the above Client project.

Employee Name John Tucker Employee Position Product Manager

Firm Name CTL

Name of Client: San Francisco Unified School District

Type of Entity: Government School Non-profit For-Profit
Private Sector

1. Approximate number of users on the client's system: 25,000

2. Approximate dates of engagement: From 1/2010 To 4/2010

3. Describe the purpose and objectives of work.

Develop and manage the CTL 2go Classmate product line to ensure that it meets the present and future needs of our customers.

4. Describe the nature of work performed.

Interface between component vendors, ODM vendors, 3rd party partners such as Intel and Microsoft on product functionality, features and specifications and usability. Work with CTL sales and marketing departments to ensure product features, benefits and specifications are correctly communicated to the customer.

5. Describe the employees' role relative to this client's project.

Project Manager

6. Describe the employees' role relative to this RFP.

Project Manager

Current Supervisor's Name: Gary Welk Phone Number: 800.642.3087 x 220

Project Supervisor's Name*: Gary Welk Phone Number: 800.642.3087 x 220

* Name of supervisor(s) while working on the above Client project.

Employee Name Aaron Pearson Employee Position Senior Government Account Manager

Firm Name CTL

Name of Client: Tigard Tualatin School District

Type of Entity: Government School Non-profit For-Profit
Private Sector

1. Approximate number of users on the client's system: 2000

2. Approximate dates of engagement: From 1999 To 01/2013

3. Describe the purpose and objectives of work.

Ensure that CTL meets and exceeds the customer's needs for products, service and support

4. Describe the nature of work performed.

Act as a single point of contact for the customer. To understand customers' needs and to work with various CTL departments such as support, production, engineering and marketing to ensure that those needs are being met.

5. Describe the employees' role relative to this client's project.

Account Manager

6. Describe the employees' role relative to this RFP.

Account Manager

Current Supervisor's Name: Gary Welk Phone Number: 800.642.3087 x 220

Project Supervisor's Name*: Gary Welk Phone Number: 800.642.3087 x 220

* Name of supervisor(s) while working on the above Client project.

Employee Name Matt Person Employee Position Production Manager

Firm Name CTL

Name of Client: Mount Hood Community College

Type of Entity: Government School Non-profit For-Profit
Private Sector

1. Approximate number of users on the client's system: 2000

2. Approximate dates of engagement: From 2005 To 01/2013

3. Describe the purpose and objectives of work.

Ensure that CTL provides the customer products that meet or exceed CTL performance and reliability specifications within the time frame specified on the order.

4. Describe the nature of work performed.

Supervise production of desktop PCs, laptops and netbooks. Ensure proper quality control and that the units are produced on-time

5. Describe the employees' role relative to this client's project.

Production Manager

6. Describe the employees' role relative to this RFP.

Production Manager

Current Supervisor's Name: Stephen Moll Phone Number: 800.642.3087 x 209

Project Supervisor's Name*: Stephen Moll Phone Number: 800.642.3087 x 209

* Name of supervisor(s) while working on the above Client project.

Employee Name Jeremy Burnett Employee Position Director of Engineering

Firm Name CTL

Name of Client: Goal Academy

Type of Entity: Government School Non-profit For-Profit
Private Sector

1. Approximate number of users on the client's system: 3000

2. Approximate dates of engagement: From 08/2012 To 10/2012

3. Describe the purpose and objectives of work.

To enable successful implementation of a 3G wireless mobile device solution for Goal Academy.

4. Describe the nature of work performed.

Interface with wireless provider and wireless hardware vendor to ensure that the solution meets specs and objectives; Work with CTL technical staff to ensure solution is properly tested and validated; Work with CTL production to ensure hardware integration meets production standards.

5. Describe the employees' role relative to this client's project.

Director of Engineering

6. Describe the employees' role relative to this RFP.

Director of Engineering

Current Supervisor's Name: Erik Stromquist Phone Number: 800.642.3087 x 212

Project Supervisor's Name*: Erik Stromquist Phone Number: 800.642.3087 x 212

* Name of supervisor(s) while working on the above Client project.

Portable Computing Device Specifications Summary

Instructions: Complete this worksheet for each type of technology solution proposed. Fill in each blank with the requested information. You may attach additional pages to provide complete information where required. This bid does not require that all these fields be accounted for, but if a Bidder is providing an option that fits one of these categories, these fields must be completed. Please specify which items are optional, if any. If additional items (fields) need to be added to this list of products and services to best reflect your proposed solution, please make note of this and add any necessary data.

Network Connectivity

Wireless Type 802.11 B/G/N Speed up to 300 Mbps
 Wired Type RJ45 Speed 10/100 Mbps
 Modem Type N/A Speed N/A

Portable Device(s)

Manufacturer CTL Processor Speed 1.10 GHz
 Chip Manufacturer Intel Chip Type Celeron

Random Access Memory

Chip Type DDR3 1333MHz Capacity 2GB

| <u>Data</u> | <u>Type</u> | <u>Capacity</u> | <u>Speed</u> |
|-----------------|-----------------|-----------------|-----------------------------|
| Mass Storage | <u>SSD</u> | <u>60GB</u> | 535Mb/s Read, 460Mb/s Write |
| Optical Drive | <u>N/A</u> | <u>N/A</u> | <u>N/A</u> |
| Removable Media | <u>SDHC/MMC</u> | <u>Variable</u> | <u>Variable</u> |

Audio Subsystem

Chipset Manufacturer Realtek Model ALC269-VB6
 Audio in Type(s) 1 x Mic-In/Line-In
 Audio out Type(s) 2 x Headphone/Speaker out

Video Subsystem

Chipset Manufacturer Intel Model GMA3600
 VRAM Capacity 224MB Ext. Output type 15 Pin VGA and HDMI out

Monitor Display

Display Size 10.1" Characteristics LED Backlight, Anti-Glare, Touch
 Resolution 1366 x 768

Input

Keyboard Type Chiclet Size 84 Key
 Pointing Device Type (check all that apply)
 Touch Pad X Acutrack _____
 Roller Ball _____ External Mouse _____
 Other X Explain Touch Screen

Battery

Type 6 Cell Li-ion 5200mAH Duration up to 8.5 hrs.
 Method of Charging 120V Outlet Spare battery(y/n) n

Power Supply/Battery Charger

Integrated (y/n) n Separate (y/n) y

Alternate Power Source

N/A

Dimensions

Weight – Device only 3.5Lbs Size 10.6” x 8.2” x 1.2”

Carry Weight with Power Supply, Power Cord, required accessories and Carrying Case

5.9Lbs

Accessories

Carrying case

Ruggedness

Fully describe features of all components (to include but not be limited to keyboard, laptop case, etc.) designed to withstand extensive use and possible abuse by students.

The CTL 2go Convertible Classmate NL4 was purpose designed and built as a ruggedized mobile device to be used in demanding K-12 environments. It does not have parts that cannot be easily removed, tampered with, or broken. The ruggedized design of the NL4 includes the following elements to withstand extensive use and possible abuse by students:

- Designed to withstand a 70cm drop test
- Scratch and water resistant LCD screen
- Spill resistant anti-microbial keyboard
- Anti-peeling chiclet style keyboard keys
- Spill resistant touch pad
- Shock resistant corners
- Shock mounted hard drive

- Motion sensor parks the hard drive head if it detects sudden movement. This reduces the risk of damage to data if the NL4 is dropped if configured using a platter hard drive
- Rugged hard plastic exterior with easy to hold protective texturized surface
- Includes durable built-in carrying handle to make it easier to carry and prevent drops

Please describe other Portable Device specifications

Powerful Design Benefits From Years of Research

Designed based on research from ethnographic researchers who have carefully examined every aspect of the design. The new 2go® Convertible Classmate NL4 has a unique rotating screen that converts the device instantly from a clamshell design to a touch screen tablet PC. The NL4 has an integrated accelerometer which detects tilt changes in orientation to smoothly switch the device from portrait to landscape mode.

The NL4 also incorporates advanced palm-resting technology for full hand support when writing or drawing in tablet mode, includes a stylus for writing and drawing directly on screen and includes handwriting recognition software for natural content input without typing.

The CTL 2go Convertible Classmate NL4 includes a unique integrated 2MP camera that swivels from front facing to back facing to allow students to more easily capture photos and video. Incorporating two wireless antennas for maximum wireless signal strength, every aspect of the new 2go® NL3 has been carefully designed to maximize your investment.

Wireless Local Area Network (WLAN) Specifications Summary

Manufacturer Cisco

| | | |
|-------------------------------|------------------------------------|-------------------------------|
| Wireless Transmission Rate of | <u> 121 </u> | MB/sec at a range of 50 feet |
| | <u> 98 </u> | MB/sec at a range of 100 feet |
| | <u> 5 </u> | MB/sec at a range of 200 feet |
| Maximum Range of | <u> 175 (CTL max recommended) </u> | feet |

Full disclosure of the capabilities and limitations of the wireless technology proposed must be included such as interference between classrooms, distance and object penetration data, and susceptibility to interference from outside sources.

Limitations

Interference susceptibility: WiFi operates in unlicensed frequencies ranges. This means any device is allowed to operate at these ranges. 802.11 equipment may occasionally suffer interference from microwave ovens, cordless telephones and Bluetooth devices. CTL’s solution minimizes Interference by utilizing Cisco Aironet 1600 Series Access Points. These APs incorporate ‘Cisco CleanAir technology’ to deliver the performance of 802.11n and the reliability required to support mission critical applications, while intelligently avoiding the impacts of interference. CleanAir technology is a system wide feature of the Cisco Unified Wireless Network that streamlines operations and improves wireless performance by providing complete visibility into the wireless spectrum. CleanAir has the unique ability to detect RF interference that other systems can’t see, identify the source, locate it on a map, and then make automatic adjustments to optimize wireless coverage.

Distance: While CTL’s solution utilizes the 802.11n standard, which has a typical operating distance of up to two to three times the distance of older 802.11 networks, there is still a distance limitation. Distance can be affected by a wide number of factors, however a typical operating distance from device to access point can be up to 175 feet. This is the Maximum range that CTL recommends using in design parameters.

Spatial Streams: Cisco Aironet 1600 Access Points transmit 2 data streams at the same time for MIMO signal processing which can effectively double the data rate, however some systems are capable of transmitting 3 simultaneous data streams. While this is a limitation of the system, we feel that the Cisco Aironet 1600 offer the best combination of performance and value for the solution.

Object penetration: While the 802.11n standard provides the best object penetration of 802.11 wireless standards, it is none-the-less subject to signal degradation from objects such as walls, posts or any other structure.

Capabilities

Performance and Throughput

Cisco Aironet 1600 access points provide at least six times the throughput of existing 802.11a/g networks. The 802.11n network of the CTL solution delivers combined data rates of up to 300 Mbps to meet the most rigorous bandwidth requirements. With the Cisco Unified Wireless Network, users can rely on the wireless network to deliver an experience similar to wired networks, providing mobile access to high-bandwidth data, voice, and video applications regardless of their location. The following lists performance and bandwidth throughput features of the CTL Access Point solution:

- 802.11n with 3x3 multiple-input multiple-output (MIMO) technology with two spatial streams, which sustains 300-Mbps rates over a greater range for more capacity and reliability than competing access points
- Radio resource management (RRM): Automated self-healing optimizes the unpredictability of RF to reduce dead spots and help ensure high-availability client connections
- CleanAir Express: Effectively detects RF interference and provides basic spectrum analysis capability while simplifying ongoing operations
- Cisco ClientLink 2.0 technology: Improves downlink performance to all mobile devices including 802.11n while improving battery life on mobile devices such as smartphones and tablets
- Cisco BandSelect technology: Improves 5-GHz client connections in mixed-client environments (such as 802.11b, 802.11g, 802.11n, 802.11a, 802.11ac)
- Cisco VideoStream technology: Uses multicast to improve rich-media applications
- Incorporates 802.11 dynamic frequency selection (DFS) (Bin 5): Automatically selects a frequency channel with low interference for the best bandwidth and performance.

Scalability

The Cisco Unified Wireless Network, can scale to up to 18,000 access points with full Layer 3 mobility across central or remote locations on campus and outdoors. The Cisco Unified Wireless Network is the industry's most flexible, resilient, and scalable architecture delivering secure access to mobility services and applications, and offering the lowest total cost of ownership and investment protection by integrating seamlessly with the existing wired network.

Please describe the average amount of time in hours per month the system will be down for regular scheduled maintenance. Also describe how maintenance will be accomplished so that the

impact on system availability is minimized.

CTL estimates that the system will require 3 hours a month of regularly scheduled maintenance. To minimize impact on system availability, this maintenance will occur during non-school/business hours, either at night between 11PM and 4AM local time or on the weekends

Please describe how backup systems will be utilized so that the impact on system availability is minimized.

CTL will also assign buffer stock inventory of wireless networking hardware to sites for use as backup systems in the event that any piece of wireless networking hardware needs to be replaced.

Please describe other WLAN specifications

The CTL solution encompasses deploying Cisco Aironet 1600 wireless access points, Cisco Catalyst 2960 series switches and Cisco 5508 wireless controllers.

The Cisco Aironet 1600 Access Point specifications include: 3 x 3 multiple-input multiple-output (MIMO) with two spatial streams; Maximal ratio combining (MRC); 20- and 40-MHz channels; PHY data rates up to 300 Mbps; Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Tx/Rx); 802.11 dynamic frequency selection (DFS) (Bin 5); Cyclic shift diversity (CSD) support.

The Cisco Catalyst 2960 switch specifications include: Layer 2 threat defense capabilities; Layer 3 static routing with 16 routes; 2x1GE uplink; Advanced QoS, rate-limiting, Access Control Lists (ACLs), IPv6 management, and multicast services; Full PoE with up to 15.4W per port

The Cisco 5508 wireless controllers specifications include: Supports up to 500 access points for future scalability; supports Application Visibility and Control(AVC), the technology that includes the Network-Based Application Recognition 2 (NBAR-2) engine, Cisco's deep packet inspection (DPI) capability; can classify applications, applies quality of service (QoS) setting to either drop or mark the traffic, and prioritizes business-critical applications in the network; supports Bonjour Services Directory to enable Bonjour Services to be advertised and utilized in a separate Layer 3 network

CTL Appendix B – Additional Documents

Client#: 455480

CTLCORP

ACORD CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
12/27/2012

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

| | | | |
|--|--|--|--|
| PRODUCER USI Northwest 700 NE Multnomah, Suite 1300 Portland, OR 97232 503 224-8390 | | CONTACT NAME: PHONE (A/C, No, Ext): 503 299-4342 FAX (A/C, No): 610 362-8451 E-MAIL ADDRESS: nancy.rogers@usi.biz | |
| INSURED CTL Corp Computer Technology Link dba: 3460 NW Industrial Street Portland, OR 97210 | | INSURER(S) AFFORDING COVERAGE NAIC # INSURER A: Atlantic Specialty Insurance Co 27154 INSURER B: INSURER C: INSURER D: INSURER E: INSURER F: | |

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE | ADDL INSR | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS |
|----------|--|-----------|----------|---------------|-------------------------|-------------------------|--|
| A | GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GENL AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC | | | 711012459 | 04/01/2012 | 04/01/2013 | EACH OCCURRENCE \$1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$500,000 MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COM/OP AGG \$2,000,000 \$ |
| A | AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS | | | 711012459 | 04/01/2012 | 04/01/2013 | COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$ |
| A | <input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$ | | | 711012459 | 04/01/2012 | 04/01/2013 | EACH OCCURRENCE \$4,000,000 AGGREGATE \$4,000,000 \$ |
| | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N N/A (Mandatory In NH) If yes, describe under DESCRIPTION OF OPERATIONS below | | | | | | WC STATUTORY LIMITS OTH-ER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$ |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)
 Operations of the named Insured subject to Policy conditions, Limitations and exclusions.

CERTIFICATE HOLDER CANCELLATION

| | |
|-------|--|
| NASPO | SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. |
| | AUTHORIZED REPRESENTATIVE <i>Brian C. Ottami</i> |