

Utah State Board of Education
Digital Teaching and Learning Grant
Cache County School District



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I. RESULTS ON THE READINESS ASSESSMENT

FUTURE READY ASSESSMENT SUMMARY

As part of the grant application, Cache County School District participated in the Future Ready District Assessment. This assessment provided a framework around which to craft the elements of this grant proposal. The first three pages of this assessment are included in this section. In addition, the full document can be accessed by going to the following link:

<https://drive.google.com/file/d/0B0ZmBaV2354xRXhZRXRDLUF4TUU/view?usp=sharing>

The Future Ready Self Assessment explores seven areas seen as critical in achieving success as school districts transition from a traditional to digital environment to support teaching and learning. Those areas are as follows:

1. Curriculum, Instruction, and Assessment
2. Use of Space and Time
3. Robust Infrastructure
4. Data and Privacy
5. Community Partnership
6. Personalized Professional Learning
7. Budget and Resources

The following three pages summarize the results of the Readiness Survey.



DIGITAL LEARNING READINESS REPORT

CACHE DISTRICT

Date of Report: 09/14/2016

Digital Learning Readiness Score: **6.1** (of 10)

Technology now allows for personalized digital learning for every student in the nation. The Future Ready Schools District Pledge, according to the U.S. Department of Education, is designed to set out a roadmap to achieve that success and to commit districts to move as quickly as possible towards a shared vision of preparing students for success in college, careers and citizenship. This roadmap can only be accomplished through a systemic approach to change, as outlined in the graphic below.



With student learning at the center, a district must align each of the seven (7) key categories, or gears, in order to advance toward successful digital learning:

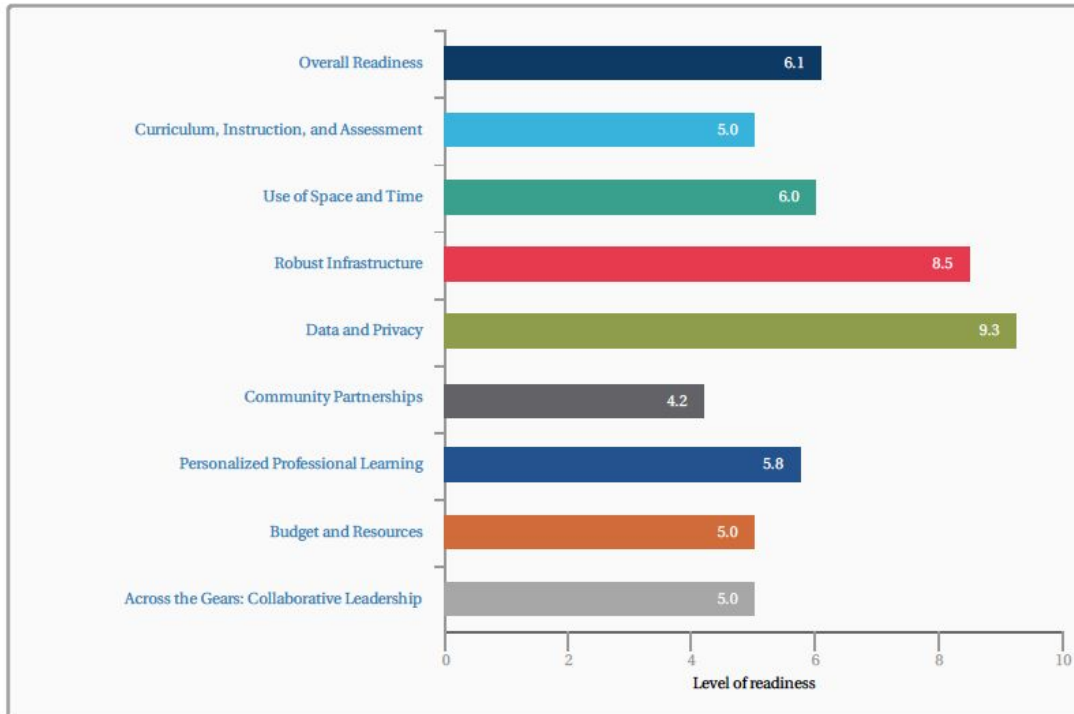
1. Curriculum, Instruction, and Assessment
2. Use of Time
3. Technology, Networks, and Hardware
4. Data and Privacy
5. Community Partnerships
6. Professional Learning
7. Budget and Resources

The outside rings in the figure emphasize the importance of empowered leadership and the cycle of transformation where districts vision, plan, implement and assess continually. Once a district is strategically staged in each gear, district leaders can be confident that they are ready for a highly successful implementation phase that leads to innovation through digital learning.

This confidential report indicates your district's readiness to implement digital learning. The chart below provides a snapshot of your district's progress to date across the seven gears in the Future Ready Schools framework.

Digital Learning Readiness per Gear

This chart provides a snapshot of your district's Readiness Ratings across the seven gears in the Future Ready framework. After your district works on its gaps, your team may want to take the self-assessment again and see trends over time.



Digital Learning

Digital learning is defined as the strengthening, broadening and/or deepening of students' learning through the effective use of technology. It individualizes and personalizes learning to ensure all students reach their full potential to succeed in college and a career.

Digital learning is the strengthening, broadening, and/or deepening of students' learning through the effective use of technology.

Digital learning can be enabled through a range of instructional practices. Much more than "online learning," digital learning encompasses a wide spectrum of tools and practices. It emphasizes high-quality instruction and provides access to challenging content, feedback through formative assessment and opportunities for learning anytime and anywhere.

Staging your district to implement digital learning successfully is a complex process. It will include (1) investigating and researching new designs for learning; (2) envisioning a range of possibilities and formally adopting a new vision; (3) collaboratively developing plans to enable that vision; and (4) staging the implementation for success by enacting policies and capacity building measures. The following provides important information about the foundation your district is establishing in support of digital learning.

Your District's Vision for Digital Learning

District Vision
The Cache County School District believes that education in technology-rich environments are key to prepare students to live and work in a diverse, 21st century, global economy. We understand the need for a curriculum that is both challenging and adaptive. Digital curricula and tools are a critical component in preparing students to be college and career ready. Our goal is to help students learn and develop the knowledge and skills they need to succeed in whatever path they choose to pursue.

Vision for Students	Included in Your District's Vision	
	No	Yes
Personalization of learning		X
Student-centered learning		X
21st Century Skills/deeper learning		X
College and career readiness		X
Digital citizenship		X
Technology skills		X
Anywhere, anytime learning		X

Your District's Uses of Technology for Learning

This table reports the status of your district's uses of educational technology:	Available in Your District	In Your District's Plans	Not Yet a Priority
Online coursework	X		
Intelligent adaptive learning	X		
Digital content in a variety of formats and modes (i.e., visual, auditory, text)	X		
Assessment data (formative and summative)	X		
Social Media	X		
Blended learning	X		
Digital tools for problem solving (visualization, simulation, modeling, charting, etc.)	X		
eCommunication sites for student discussions	X		
eCommunication sites for teacher discussions	X		
Real-world connections for student projects		X	
Tools for students to develop products that demonstrate their learning		X	
Digital student portfolios			X
Online research	X		

Your District's Digital Learning Environment

The following table presents the status of various elements of your district's digital learning environment:

Elements in a Digital Learning Environment	Available in Your District	In Your District's Plans	Not Yet a Priority
Presentation tools	X		
Multimedia production	X		
Social Media			X
Productivity tools	X		
Document management	X		
Learning management system	X		
eCommunication tools - Asynchronous Tools	X		
eCommunication tools - Synchronous Tools	X		
Library of curated digital content	X		
Collaborative workspace			X
Visualization tools			X

Strategic Use of This Report

The purpose of this assessment is to provide your district's "readiness to implement" scores in the context of the seven gears in the Future Ready Schools framework, as well as provide your district with a "way forward" in closing gaps. To do so, the Alliance for Excellent Education, in partnership with the Metiri Group, is providing rubrics for each element of the gears. To find your district's way forward, simply note your district's stage of readiness as reported on the following pages, and map that back to the associated rubric. Target next steps by looking at the table cell that represents the next level to the right. A score at the "staging" level indicates that your district is ready for implementation.

The rubrics have been developed based on the following levels of readiness:

Investigating (0-3)	Envisioning (4-5)	Planning (6-7)	Staging (8-10)
District leaders are becoming more deeply informed about emerging research, trends, best practices, and added value related to digital learning. They are supported in their investigation through conference attendance, webinars, and in-depth discussions at district leadership meetings to ensure deep understanding that informs their vision of digital learning.	District leaders have identified viable new directions for the school district. They have reviewed the possibilities, built scenarios for how those possibilities would look in their district, and working in tandem with key stakeholders, established a common vision of the future.	District leaders have established indicators of success based on the vision, set a baseline, and conducted a gap analysis. They have forged a plan for closing the gaps and identified key strategies for making progress toward those targets. They have projected benchmarks and milestones and created timelines, associated work plans, management plans and budgets.	District leaders have enacted policies, established new structures, identified budgets and assigned roles and responsibilities that collectively stage the district well for achieving the outcomes described in the vision. Where appropriate, they have undertaken pilots to document the efficacy of the elements of the plan. Once the district reaches the staging level, it is ready to begin full implementation.

GAP ANALYSIS

As a result of our gap analysis we focused our proposal on the following areas:

1. Infrastructure - Year 1 of our grant activities will focus on rebuilding the school network infrastructures for our three middle schools. This will include a rebuild of the fiber backbones, replacement of school switches, and an upgrade to the wireless network including the addition of wireless access points (See Section IX).
2. Data and Privacy - In Year 1, we will also focus on the safety and security of our network infrastructure. This will include a policy review and revision on digital citizenship and acceptable use policies. It will also include an upgrade to our Central Network Infrastructure to include an upgraded firewall and the addition of software (GoGuardian) to allow building principals and teachers to monitor student computer use (See Section XI).
3. Years 2 and 3, will focus on Professional Learning, Curriculum, Instruction and Assessment, and Technical Support (See Sections III-VII and Section X).

As part of this assessment, the District team was asked to articulate its vision for digital teaching and learning. This vision is stated as follows:

The Cache County School District believes that education in technology-rich environments are key to prepare students to live and work in a diverse, 21st century, global economy. We understand the need for a curriculum that is both challenging and adaptive. Digital curricula and tools are a critical component in preparing students to be college and career ready. Our goal is to help students learn and develop the knowledge and skills they need to succeed in whatever path they choose to pursue in life.

Following the articulation of this vision, the District Team was asked to evaluate readiness in the seven different areas and to articulate its vision for each area. Those vision statements are included below:

Curriculum, Instruction, and Assessment

We envision a curriculum which utilizes technology to enhance the learning of all students and allows opportunities to expand their understanding of the world around them beyond the walls of the classroom. The curriculum should be accessible, relevant, and provide personalized learning experiences that challenge students to become effective problem solvers. Teachers are not replaced in a digital environment, but instead become the key to assess and evaluate the individual needs of the learner.

Use of Space and Time

We believe learning is an on-going process for students, not limited to the time and space of traditional classrooms. The integration of learning management systems can assist learners with this concept of personalization by providing access to curriculum anytime and anywhere, and by encouraging learning both inside and outside the classroom.

Robust Infrastructure

The network infrastructure is the life-blood system that supports almost every technology. The architecture must be carefully and plan-fully updated, maintained, and designed to be reliable, adaptable, scalable, secure, and manageable. Technical Support must be focused on supporting effective teaching and learning. Professional development should be planned and purposeful. Training should not be a one-time occurrence, but acquired progressively as skill sets are needed.

Data and Privacy

CCSD takes the security of its data and the safety of its staff and students very seriously. Staff and students should be able to access and use the information they need to accomplish their jobs, and to facilitate learning, while at the same time know that they are operating in a safe and secure environment and that their data and information is carefully protected and safeguarded. Measures must also be taken to ensure that this data is protected with a disaster recovery plan.

Community Partnerships

CCSD recently opened a Public Information Office to act as a resource to promote positive communication with the local community. The Public Information Office works to create a positive public image and to promote district and school programs and activities. It develops and manages the district's communication channels including district and school websites, social media, and print materials. Community partnerships are seen as critical to the district's efforts.

Personalized Professional Learning

We believe that professional learning should be relevant to the real world, hands-on, and targeted. Experiences should occur over time with repeated opportunities for learning, with colleagues, and available fact-to-face, blended, and online. We will focus professional learning on how to design and deliver high quality instruction, develop integrated student learning activities, facilitate student engagement, support personalized learning, and provide feedback and assessment using digital tools.

Budgets and Resources

The school district receives funding for technology from several sources including the Federal E-rate program, the State General Fund, School Land Trust, and a local levy.

Funding supports the infrastructure needs of the district. However, alone, it is not enough to support the move to a digital learning environment. Additional ongoing funds must be identified to assist in supporting this transition and to shift funds, typically spent on paper-based curricula to support digital a curricula.

II. INVENTORY OF THE LEA’S CURRENT TECHNOLOGY RESOURCES, INCLUDING SOFTWARE, AND A DESCRIPTION OF HOW THE LEA WILL INTEGRATE THOSE RESOURCES INTO THE LEA’S IMPLEMENTATION OF THE THREE YEAR PROPOSED PROGRAM

UTAH SCHOOL TECHNOLOGY INVENTORY REPORT

In 2015, Cache County School District (CCSD) participated in the Utah School Technology Inventory required by SB222. CCSD will continue to participate in future inventory efforts with UETN as requested. The following table summarizes the results of that inventory:

Cache County School District Inventory <i>(as of January 2016)</i>	
Number of Schools Reported in Inventory	28
Number of Instructional Spaces	875
Number of Students	16,456
Number of Wireless Access Points Installed	417
Average Age of Access Points	2.0 years
Average Number of Access Points per Instructional Space	0.48
Average Number of Students per Access Point	39

A more detailed summary of that report, is found at the end of this section which provides the demographic information on the Cache County School District along with the number of student and teacher devices district wide and the status of the network infrastructure of the district.

Cache County School District is a growing school district. Since the time of this survey, the Cache County School District has grown from a student population of 16,456 students to 17,639. As part of a growing district, we are building two additional high schools, remodeling several elementary schools, and changing grade configurations from K-5 elementaries, 6-7

middle schools, 8-9 centers, and 10-12 high schools to K-6 elementaries, 7-8 middle schools and 9-12 high schools.

TARGET SCHOOL INVENTORY

We have decided as part of this reconfiguration to focus our grant efforts in the district’s three middle schools. The following table summarizes the demographics and technology infrastructure for these three schools.

School	Enrollment	Student Devices	Access Points
Spring Creek	692	572	20
North Cache	1120	528	22
South Cache	1055	733	24

The network infrastructure of these three schools is aging and does require rebuilding. Part of this plan includes updating the infrastructure in the three middle schools through taking advantage of the Federal E-Rate program.

USE OF EXISTING RESOURCES

The School District will utilize existing technologies already in place in each of our middle schools. In our rebuild of the infrastructure, most switching equipment will be replaced, but we will utilize all of our existing access points. These will be augmented by the addition of new devices funded through E-Rate and the grant process. As far as devices, our middle schools have a good start on devices. In fact, Spring Creek Middle School is nearly 1:1 already. However, some of their infrastructure is aging and will need to be retired. The grant will provide

some devices, but our plan is to create a sustainable model where we contribute to the purchasing of devices through utilize existing funds at the student fee, school, and district levels.

COMMITMENT TO ENGAGE IN INVENTORY EFFORTS

The Cache County School District is committed to continue to provide inventory information to UETN on hardware and software. We recognize that these efforts are important on a state level, but also valuable to us as a district. Cache County School District's inventories for fixed assets are conducted as follows. A tag is placed on all equipment over \$500 that comes into the district and added and tracked to school inventories. Audits are conducted each year to ensure that equipment is being effectively tracked. In addition, the Technology Department maintains several pieces of software that allows us to track our devices. First, we utilize the Google Management Console to track all of our Chrome devices. Second, we utilize CISCO Prime to track all of our networks switches and wireless access points. We are committed to continue to track our equipment both for the purposes of this grant and for our own internal processes.

SOFTWARE INVENTORY

In addition to the network infrastructure and devices, these three schools will have access to a robust set of software to include Canvas (LMS), Edviate (Professional Development), CK12 (Curriculum) and ALEKS (Math). We have spent the last three years, implementing Canvas in the district's secondary schools and it will form the backbone of our digital curriculum.

By implementing a full roll out of Canvas combined with increase in broadband availability, CCSD will be able to accomplish better and more accurate reporting that is integrated into the teaching process. Canvas' Learning Outcomes will enable us to identify learning outcomes that

correspond with individual assignments and quizzes. As teachers are grading assignments and quizzes, they will be gathering data about student achievement and mastery. When teachers and administrators want to check student progress they can utilize PowerSchool and the Learning Mastery Gradebook.

Course activity and aggregate and individual activity tracking logs and reports will include:

- User Activity by Date / Time / Course
- Course Activity
- Page Views across Entire District Over Time
- Most Active Courses
- Outcome Results
- Student Competency

Program and course-level aggregate usage analytics and reporting in Canvas include:

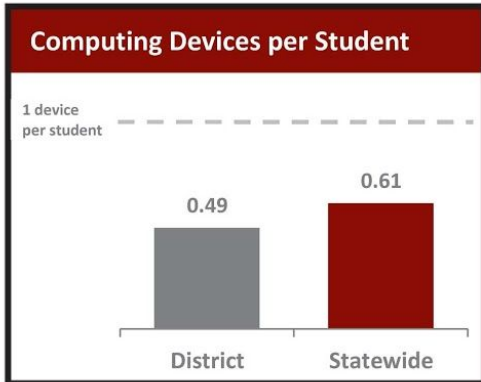
- Count Users by Semester and Role
- Count Users in Active Courses by Semester
- List Courses by Semester (Active And Non-Active)
- List Users by Semester and Role
- List Users in Active Courses by Semester
- Page Views across Entire District Over Time
- Most Active Courses



UTAH

School Technology Inventory

Cache County School District



Computing Devices Used in Schools

Computing Devices	Total for Student Use	Total for Teacher or Administrator Use
Desktops Using Windows OS	3,696	783
Laptops Using Windows OS	93	6
Mac Desktops	106	0
Mac Laptops	0	0
Google Chromebooks	3,480	0
Windows Tablets	30	0
Android Tablets	40	0
iOS Tablets	540	10

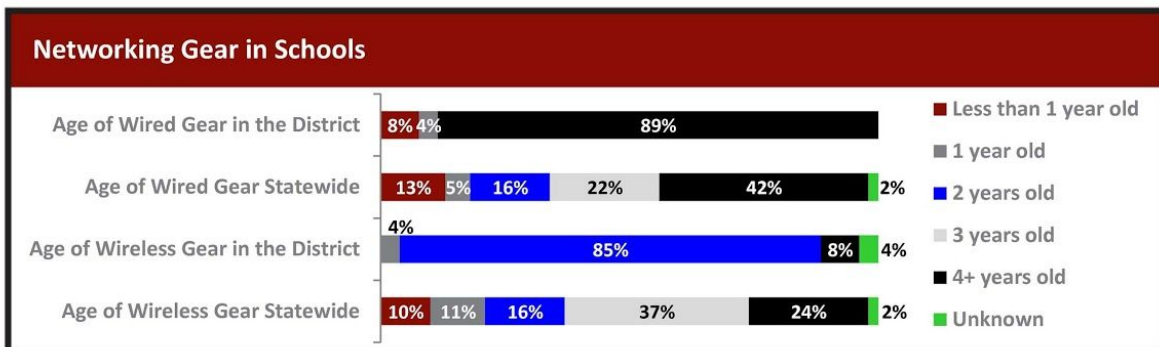
0.48 Wi-Fi Access Points

Per Classroom Compared to

0.58 Statewide

District Facts

Population	67,021
Student Body Size	16,456
Number of Schools	26
Urban/Rural	Urban
Median Household Income	\$61,459
Poverty Rate	8.5%
Free/Reduced Lunch Eligible	29.9%



For more information, visit www.uen.org/digital-learning
 Analyses based on validated data from 100% of Utah K-12 schools that participated in the survey.

III. STATEMENT OF PURPOSE THAT DESCRIBES THE LEARNING OBJECTIVES, GOALS, MEASURABLE OUTCOMES, AND METRICS OF SUCCESS AN LEA WILL ACCOMPLISH BY IMPLEMENTING THE PROGRAM

STATEMENT OF PURPOSE

As described in the overall mission of the Cache County School District (CCSD), the purpose of education is to provide an equitable, challenging, meaningful, and well-rounded educational learning experience in a measurable way so all students can achieve learning, deeper thinking, character skills, and life skills necessary for success in their personal, educational, and professional endeavors.

Consistent with this vision, we believe that technology is a tool for learning that expands our instructional repertoire and is the vehicle that maximizes the capacity of all teachers and learners. It is the vision of Cache County Schools that students be engaged in a stimulating academic environment and a challenging curriculum that is student-centered and focused on college and career-readiness. Within our district's focus on digital teaching and learning, the following core goals have been established and align to the vision and guiding principles of Utah's Master Plan:

- Increase student achievement across core content areas (ELA, math, science) by providing a reliable, sustainable framework to improve learning that instills our students with 21st century skills for college and career-readiness
- Increase student achievement in all subgroups using SAGE assessment results
- Use Learning Management System (LMS)-Canvas to facilitate communication, feedback and reflection for all stakeholders
- Promote individualized, personalized and differentiated instructional practices with the

assistance of our learning management system, Canvas.

- Promote the development of computer literacy, depth-of-knowledge, critical-thinking, and problem-solving skills in all content areas to prepare students for college and career.
- Provide engaging learning experiences for all students regardless of background, language, or differences in abilities
- Extend capacity of learning for all of our students beyond the classroom walls to a learning environment of 24/7 access
- Use data to inform instructional practices to close the achievement gap, particularly among our at-risk populations
- Develop high quality instructional content into Canvas courses for teachers including Open Educational Resources
- Provide continuous technology/digital support for all educators through focused and differentiated professional learning opportunities
- Provide comprehensive understanding of Digital Citizenship to all students

We understand that in order to help students achieve these core goals, we have identified four root causes that may prevent students from being successful, along with viable solutions for each.

Root Cause	Solution
Attendance-- absences due to personal illness, extracurricular activities, suspensions, homebound, etc.	Use Canvas LMS to provide a 24/7 access to classroom curriculum.
Mobility/ Curriculum Alignment-- intradistrict/interdistrict movement of students results in lack of opportunity for learning	District wide standardized and aligned high quality curriculum and pacing including personalized learning opportunities delivered via the Canvas LMS.
Prior Knowledge/ Language (ESL)/ SPED-- academic success and growth hinges, in part,	Use results from diagnostic assessments in intervention and extension programs (e.g.

<p>on students' prior knowledge and skills that are above or below grade level standards and expectations.</p>	<p>ALEKS, NoRedInk, CK-12) to identify knowledge or skill deficits and/or prior mastery of concepts in ELA, math, and science content areas and personalize learning opportunities via the Canvas LMS. Provide targeted professional development including strategies and best practices for differentiating instruction through Utah Multi-Tiered Systems of Support.</p>
<p>Economics--Students from low socio-economic households often are denied access to digital learning to support their learning at home.</p>	<p>Students should not be at a learning disadvantage based on their family's socio-economic status. Through Canvas, students will be able to have access to a quality curriculum with opportunities for remediation and/or enrichment. We understand the complexity of access to WiFi at homes, but realize access before and after school may be a viable option for some students. In addition, marketing options for WiFi access such as "EveryoneOn", will be one of our ongoing priorities to help families cross the digital divide.</p>

CCSD ROAD MAP FOR DIGITAL TEACHING AND LEARNING



Digital Teaching & Learning 2020 Transition to Digital Curriculum



LONG-TERM OUTCOMES

The long-term outcomes for the project focus on student achievement and student college and career readiness. At the end of the three-year grant period, we anticipate student achievement on combined SAGE ELA/Math/Science for the reporting year 2018-19 will increase by a minimum of 5% from the baseline in each cohort (see table below). As a result of our vision and goals, we expect to see improvement in students' critical thinking and problem solving skills as measured by SAGE Depth of Knowledge (DOK) indicators. Additionally, student performance relative to proficiency for DOK 1 and 2 items will be significantly higher than overall performance. Student performance relative to proficiency for DOK 3/4 test items will be statistically similar to overall performance. Depth of Knowledge indicators will be based on the 2015-16 SAGE reporting format.

Option A: SAGE Baseline

	2015-16 BASELINE (Combined ELA/Math/Science)		2018-19 ANTICIPATED 5% Increase (Combined ELA/Math/Science)	
Cohort Group 1	4 th Grade	61.40%	7 th Grade	64.10%
Cohort Group 2	5 th Grade	63.70%	8 th Grade	66.88%
Cohort Group 3	6 th Grade	57.07%	9 th Grade	59.93%
Cohort Group 4	7 th Grade	60.40%	10 th Grade	63.42%

INTERMEDIATE OUTCOMES

The intermediate outcomes are designed to serve as indicators that a school or district is making progress toward the long-term outcomes. Targeted student achievement as measured by an annual increase of 1.67% on SAGE in ELA, Math, and Science for each cohort (see table

below). We expect an increase in student performance relative to proficiency for DOK 3/4 test items each year. Additionally, students' levels of collaboration and preparation for college and career at the 7-8 grade level will be self-reported through student and teacher surveys and student and school community council focus groups.

	2015-16 BASELINE		2016-17 ANTICIPATED 1.67% Increase		2017-17 ANTICIPATED 1.67% Increase		2018-19 ANTICIPATED 1.67% Increase	
Cohort Group 1 16/17 5th Grade Students	4 th Grade		5 th Grade		6 th Grade		7 th Grade	
	ELA	59.40%	ELA	60.40%	ELA	61.38%	ELA	62.37%
	Math	68.40%	Math	69.54%	Math	70.68%	Math	71.83%
	Science	61.00%	Science	62.00%	Science	63.00%	Science	64.00%
Cohort Group 2 16/17 6th Grade Students	5 th Grade		6 th Grade		7 th Grade		8 th Grade	
	ELA	59.40%	ELA	60.39%	ELA	61.38%	ELA	62.37%
	Math	65.90%	Math	67.00%	Math	68.10%	Math	69.20%
	Science	65.70%	Science	66.80%	Science	67.89%	Science	69.00%
Cohort Group 3 16/17 7th Grade Students	6 th Grade		7 th Grade		8 th Grade		9 th Grade	
	ELA	56.40%	ELA	57.34%	ELA	58.28%	ELA	59.22%
	Math	52.40%	Math	53.28%	Math	54.16%	Math	55.04%
	Science	62.40%	Science	63.44%	Science	64.48%	Science	65.52%
Cohort Group 4 16/17 8th Grade Students	7 th Grade		8 th Grade		9 th Grade		10 th Grade	
	ELA	56.90%	ELA	57.85%	ELA	58.79%	ELA	59.75%
	Math	63.20%	Math	64.26%	Math	65.32%	Math	66.38%
	Science	61.10%	Science	62.12%	Science	63.14%	Science	64.16%

DIRECT OUTCOMES

The following direct outcomes serve as indicators of the progress 7-8 grade teachers and students are making toward the intermediate and long-term outcomes. We anticipate student achievement on benchmark assessments in ELA, Math, and Science for each reporting year will increase by a minimum of 0.835% from the baseline in each cohort (see tables below). The 0.835% increase is based on half of the anticipated annual increase of 1.67% on SAGE in ELA, Math, and Science for each cohort as described under intermediate outcomes.

Year 1 16-17	15-16 SAGE BASELINE	MID-YEAR BENCHMARKS ASSESSMENTS-	15-16 BASELINE	MID-YEAR BENCHMARKS ASSESSMENTS-
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			ANTICIPATED .835% Increase				ANTICIPATED .835% Increase	
16-17	6 th Grade		7 th Grade		7 th Grade		8 th Grade	
	ELA	56.4%	ELA	56.87%	ELA	56.9%	ELA	57.38
	Math	52.4%	Math	52.84%	Math	63.2%	Math	63.73
	Science	62.4%	Science	62.92%	Science	61.1%	Science	61.61

Year 2 17-18	15-16 SAGE BASELINE		MID-YEAR BENCHMARKS ASSESSMENTS- ANTICIPATED .835% Increase		15-16 BASELINE		MID-YEAR BENCHMARKS ASSESSMENTS- ANTICIPATED .835% Increase	
	5 th Grade		7 th Grade		6 th Grade		8 th Grade	
	ELA	59.40%	ELA	59.90%	ELA	56.4%	ELA	56.87%
	Math	65.90%	Math	66.45%	Math	52.4%	Math	52.84%
	Science	65.70%	Science	66.25%	Science	62.4%	Science	62.92%

Year 3 18-19	15-16 SAGE BASELINE		MID-YEAR BENCHMARKS ASSESSMENTS- ANTICIPATED .835% Increase		15-16 BASELINE		MID-YEAR BENCHMARKS ASSESSMENTS-ANTI CIPATED .835% Increase	
Current 6th - 7th Grade Students	4 th Grade		7 th Grade		5 th Grade		8 th Grade	
	ELA	59.4%	ELA	59.89%	ELA	59.40%	ELA	59.90%
	Math	68.4%	Math	68.97%	Math	65.90%	Math	66.45%
	Science	61%	Science	61.51%	Science	65.70%	Science	66.25%

To increase SAGE scores our district uses the PLC model to identify and remediate struggling students in addition to identifying students for enrichment and extension opportunities. To track Mastery, we will use Learning Outcomes and PowerTeacher Gradebook. Canvas has all the Utah Core Standards, Common Core, and SEEd Standards for 6-8 grade science. These can be assigned as learning outcomes.

Canvas Learning Outcomes enable the administration and teachers to track student progress by pedagogical goals or desired outcomes. Outcomes are used to:

- Focus student attention on the most important skills and activities in a course
- Align Quizzes and Assignments to different kinds of mastery
- Run reports at the account-level about student artifacts of learning mastery
- Align accreditation or other standards to programs of study, courses, or student assessments

Utah Core Standards for ELA, math, and science have been imported into our instance of Canvas as Outcomes.

Because Canvas is widely used by universities and colleges throughout Utah, prior experience with the LMS will better prepare our students for college and career. Once students have become comfortable with Canvas, it will be easy to transition to UVU, University of Utah, Weber State, or other local schools that use Canvas.

Canvas adheres to accessibility guidelines of Section 508 of the Rehabilitation Act as documented in the Voluntary Product Accessibility Template (VPAT), which is publicly available at <http://www.canvaslms.com/accessibility>.

By using W3C's Web Accessibility Initiative (WAI) Web Content Accessibility Guidelines (WCAG) 2.0 AA, Accessible Rich Internet Applications (ARIA), and Authoring Tool Accessibility Guidelines (ATAG), Instructure ensures that even the most interactive, dynamic widgets in Canvas are easy to use with assistive technology such as JAWS (Job Access With Speech) and NonVisual Desktop Access (NVDA).

The Design Tools by Cidilabs API in Canvas also provides instructional design tools to ensure district created courses and templates are developed in accordance to the accessibility guidelines of Section 508 of the Rehabilitation Act.

IV. IMPLEMENTATION PROCESS STRUCTURED TO YIELD AN LEA'S SCHOOL LEVEL OUTCOMES

	Activity	Timeline (Date)	Roles/ Responsibility for this Event	Communicati on Plan
Y1	Professional Learning:			
	<ul style="list-style-type: none"> • UETN Partnership/ Local Instructional Technology Specialist led workshops- Canvas Workshops Courses include: Canvas for Online Learning (introductory series), Flip Your Class with Canvas • UETN Partnership- Google for Educators, The Innovative Educator: Makerspaces 	<ul style="list-style-type: none"> • 09/29/16--Canvas for Online Learning • 09/29/16--Google for Educators • 11/17/16--Canvas for Online Learning • 11/17/16--Flip Your Classroom • 03/09/17--Canvas for Online Learning • 03/09/17--Google for Educators • 06/05/17--Canvas for Online Learning (2-day) • 06/05/17--The Innovative Educator: MakerSpace (2-day) • 06/05/17--Google for Educators (2-day) • 06/06/17--Canvas for Online Learning (part B) • 06/06/17--The Innovative Educator: Makerspace (part B) • 06/06/17--Google for Educators (part B) 	<ul style="list-style-type: none"> • Curriculum Department (Curt Jenkins) • UETN 	<ul style="list-style-type: none"> • Email Stakeholder Groups • Principal meetings • School Community Council Meetings • OnTrack Registration • District Website • Learner survey
	<ul style="list-style-type: none"> • Edviate-professional learning on new SEEd science standards for middle school. 	<ul style="list-style-type: none"> • Ongoing for 2016-17 School Year 	<ul style="list-style-type: none"> • Curriculum Department (Bonita Richins) 	<ul style="list-style-type: none"> • Edviate • Email • Principal meetings • Faculty Meetings at school level

				<ul style="list-style-type: none"> • District Website
<ul style="list-style-type: none"> • Face-to-face/online highlight and discuss best practices for teaching and learning including 	<ul style="list-style-type: none"> • Ongoing for 2016-17 School Year 	<ul style="list-style-type: none"> • Administrators and teacher leaders at each school 	<ul style="list-style-type: none"> • Edviate • Canvas • Faculty Meetings (face-to-face / online) 	
<ul style="list-style-type: none"> • CCSD Camp Canvas- blended professional learning to target specific instructional design features of the Canvas LMS including Learning Outcomes, Speedgrader, Quizzes, Badges, Collaborations, Discussions, etc. 	<ul style="list-style-type: none"> • Ongoing for 2016-17 School Year 	<ul style="list-style-type: none"> • Curriculum Department (Curt Jenkins, Bonita Richins, Ashley Addis) 	<ul style="list-style-type: none"> • Email • Canvas • Principal meeting • District Website • Learner survey 	
<ul style="list-style-type: none"> • Developing ELA, math, and science digital curriculum using Canvas, including standardization of course design (Design Tools for Canvas). 	<ul style="list-style-type: none"> • Ongoing for 2016-17 School Year 	<ul style="list-style-type: none"> • Curriculum Department and curriculum committees of teachers field testing curriculum 2016-17 (Curt Jenkins, Bonita Richins, Ashley Addis) 	<ul style="list-style-type: none"> • SEEd training • Canvas • PLC meetings • Focus Groups • Stakeholder surveys 	
<ul style="list-style-type: none"> • CCSD Teacher Induction Program for Success (TIPS) 	<ul style="list-style-type: none"> • Ongoing for 2016-17 School Year 	<ul style="list-style-type: none"> • Curriculum Department • Teacher Induction Program for Success 	<ul style="list-style-type: none"> • Edviate • Face-to-face meetings • Email • Learner survey? 	

			(TIPS) Secondary Coordinator (Jacqui McDowell, Bonita Richins, Ashley Addis)	
	<ul style="list-style-type: none"> Digital Citizenship (Common Sense Media), Overdrive, WorldBook, Utah's Online Library 	<ul style="list-style-type: none"> Ongoing for 2016-17 School Year Reapply for district digital citizenship certification in April 2017 Build digital library collection based on Library Media Specialist recommendations, collection analysis, and student and faculty requests. 	<ul style="list-style-type: none"> Curriculum Department Library Media Specialist (Ashley Addis) 	<ul style="list-style-type: none"> Library Media Monthly PLC Common Sense Media Certification District and school websites
	<ul style="list-style-type: none"> USBE Content-Specific Personalized Learning Series 	<ul style="list-style-type: none"> Ongoing for 2016-17 School Year, fall and spring semesters 	<ul style="list-style-type: none"> Curriculum Department (Curt Jenkins, Bonita Richins, Ashley Addis) USBE 	<ul style="list-style-type: none"> Email, principal meetings Department PLC
We will provide implementation data to USBE on an annual Basis				
Y2	<p>Reassess and revise plan for professional learning based on year 1 student achievement (intermediate goals), stakeholder feedback, and overall progress toward digital teaching and learning goals including:</p> <ul style="list-style-type: none"> UETN workshops 	<ul style="list-style-type: none"> Ongoing for 2017-18 school year 	<ul style="list-style-type: none"> Curriculum Department UETN USBE TIPS 	<ul style="list-style-type: none"> Canvas Email Principal meetings PLCs Focus Groups Learner surveys OnTrack Edivate

	<ul style="list-style-type: none"> ● Edivate ● Camp Canvas (all new teachers and 9-12 secondary teachers) ● TIPS (all 1-2 year teachers) ● CCSD Open Educational Resource Digital Curriculum using Canvas LMS (all 7-8 grade teachers) ● Digital Citizenship Curriculum and Certification, Overdrive, WorldBook, Utah's Online Library ● USBE Professional Learning Series 			<ul style="list-style-type: none"> ● District and school websites
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We will provide implementation data to USBE on an annual basis.

Y3	<p>Reassess and revise plan for professional learning based on years 1-2 student achievement (intermediate goals), stakeholder feedback, and overall progress toward digital teaching and learning goals including:</p> <ul style="list-style-type: none"> ● UETN workshops ● Edivate ● Camp Canvas (all new teachers and all elementary teachers, pending legislation) ● TIPS (all 1-2 year teachers) ● CCSD Open Educational 	<ul style="list-style-type: none"> ● Ongoing for 2018-19 school year 	<ul style="list-style-type: none"> ● Curriculum Department ● UETN ● USBE ● TIPS 	<ul style="list-style-type: none"> ● Canvas ● Email ● Principal meetings ● PLCs ● Focus Groups ● Learner surveys ● OnTrack ● Edivate ● District and school websites
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	Resource Digital Curriculum development using Canvas LMS (all secondary teachers) <ul style="list-style-type: none"> ● Digital Citizenship Curriculum and Certification, Overdrive, WorldBook, Utah’s Online Library ● USBE Professional Learning Series 			
We will provide implementation data to USBE on an annual basis.				

LEARNPLATFORM

Cache County School District will use the state-supported LearnPlatform, which will enable us to access all edtech product management from a single location, providing an educator- and administrator-level view of the aggregated tools available and uphold fidelity and student outcome objectives.

Using the LearnPlatform, Cache School District can:

- Select and use tools that are effective for specific populations to narrow the achievement gap
- Specify and refine learning targets aligned with our learning plan and employing tools that meet those requirements
- Implement best practices from other educators and peer districts teaching similar populations

- Share results such that peer educators, district leaders and other stakeholders can see progress to plan in real-time and receive quarterly reports on impact

In addition, Canvas lends itself well to Professional Learning. We will be developing course templates in ELA, math, and science to share with teachers via the commons to further modify and develop with PLC teams.

V. DESCRIPTION OF HIGH QUALITY DIGITAL INSTRUCTIONAL MATERIALS WITH A THREE YEAR PLAN FOR HOW AN LEA WILL ENSURE THAT SCHOOLS USE SOFTWARE PROGRAM WITH FIDELITY

As part of Cache County School District’s Digital Teaching and Learning plan, our LEAs (middle schools) will ensure fidelity with existing software programs as well as addition programs that are purchased to maximize learning. Some of these programs include: Canvas, Edivate, ALEKS, Utah Middle School Math Project (OER content), CK-12 OER, and available Interactive Online Apps incorporated into Canvas (Khan Academy, Virtual Nerd, IXL, and NCTM Illuminations).

Three Year Plan for How the LEA will ensure Schools Use Software Programs with Fidelity		
Year 1	Year 2	Year 3
Receive subscriptions for ALEKS through the STEM AC grant	Update software and digital learning tools as needed	Update software and digital learning tools as needed
Implementation support from provider	Support from provider as needed	Support from provider as needed
Professional Learning Teams convene and plan implementation	Professional Learning Teams review student progress from Year 1 and make adjustments accordingly	Professional Learning Teams review student progress from Year 2 and make adjustments accordingly
Provide teachers professional development: 1 day in person at beginning of year and online webinars during the year along with data team or PLC meetings	Provide teachers professional development as needed along with data team or PLC meetings	Provide teachers professional development as needed along with data team or PLC meetings
Create Train the Trainer model	District staff train new teachers	District staff train new teachers
Provide technical and instructional support for teachers in classrooms	Provide technical and instructional support for teachers in classrooms	Provide technical and instructional support for teachers in classrooms

Administrators and instructional coaches monitor software usage and classroom instruction both digitally and in the classroom	Administrators and instructional coaches monitor software usage and classroom instruction both digitally and in the classroom	Administrators and instructional coaches monitor software usage and classroom instruction both digitally and in the classroom
Assess fidelity of use at the conclusion of each trimester	Assess fidelity of use at the conclusion of each trimester	Assess fidelity of use at the conclusion of each trimester

Software to be used for the proposed program.				
	CANVAS	EDIVATE	ALEKS	CK12
Year 1	<ul style="list-style-type: none"> Use the Canvas LMS to develop a standardized, high quality, and aligned digital curriculum (including use and modification of Open Educational Resources) for middle school ELA, Math, and Science content areas. 	<ul style="list-style-type: none"> Utilize this on-demand professional learning platform that delivers a highly personalized learning experience. Principals will begin school based professional learning. 	<ul style="list-style-type: none"> This web-based, artificially intelligent, educational software will be used to enhance our math curriculum and identify and fill any learning gaps for our students at-risk. 	<ul style="list-style-type: none"> Use collaborative resources to produce high quality content with interactive simulations, real-world applications, and adaptive assessments to be used digitally as well as part of transitional print materials.
Year 2	<ul style="list-style-type: none"> Use the Canvas LMS to develop a standardized, high quality, and aligned digital curriculum (including use and modification of Open 	<ul style="list-style-type: none"> Evaluate and continue to use this software as described for year 1 with modifications as needed. 	<ul style="list-style-type: none"> Evaluate and continue to use this software as described for year 1 with modifications as needed. 	<ul style="list-style-type: none"> Evaluate and continue use of integrated collaborative resources digitally as described for year 1 with modifications as needed.

	<p>Educational Resources) for additional middle school content areas, continue effort based on lessons learned from year 1 student achievement data and stakeholder feedback.</p>			
<p>Year 3</p>	<ul style="list-style-type: none"> • Use the Canvas LMS to develop a standardized, high quality, and aligned digital curriculum (including use and modification of Open Educational Resources) for remaining secondary content areas and elementary (pending legislation)- continued effort based on lessons learned years 1-2 student achievement data and stakeholder feedback. 	<ul style="list-style-type: none"> • Evaluate and continue to use this software as described for year 2 with modifications as needed. 	<ul style="list-style-type: none"> • Evaluate and continue to use this software as described for year 2 with modifications as needed. 	<ul style="list-style-type: none"> • Evaluate and continue use of integrated collaborative resources digitally as described for year 2 with modifications as needed.

LEARNPLATFORM

Digital learning tools (informed by the LearnPlatform product library) will be selected based on research-based, rubric-grounded contextual grades, in addition to the qualitative aggregate feedback from other educators utilizing these tools in their classrooms to drive results for specific student populations and demonstrate increasing achievement metrics. Edtech can be filtered by performance indicators for closing skills gaps across specific learners, guidelines for utilization and dosage requirements, and delivery on intended outcomes, all captured and aggregated for reporting in LearnPlatform. Outcomes and analysis of activities reported via LearnPlatform will be shared across Cache School District and will inform changes in multiple areas:

Area	Potential Impacts
EdTech Tool Adoption and Utilization	Analyzing utilization in and across schools to know how, how much, how often different technologies are used will inform instructional decisions and professional development.
Resource Allocations (\$)	Analysis of utilization and costs will inform investment reallocation, achievement gap analysis and cost effectiveness
Focus of Effort	Analysis of student achievement and instructional practices to inform professional development and instructional decisions
Achievement Gap Analysis	Analysis to identify and address outcome gaps by and across student groups. Can also inform additional interventions and edtech product pilots.

Use of LearnPlatform will assist with establishing and maintaining an auditable edtech product inventory during the course of this five year plan. Housing all edtech products, inclusive of status information, grading, pricing, contract terms, compliance requirements, LEA-defined pre-screened criteria for purchase/adoption, etc. will create a single repository of all product

information that is easily accessible, transparent and reportable. LearnPlatform will provide reporting on utilization and outcomes real-time and over time, during the course of this plan.

CANVAS LMS

ELA, mathematics, and science teachers will receive ongoing training and support in their use of the LMS Canvas. They will develop and revise their courses and provide a robust curriculum combining electronic OER resources, interactive activities, instant feedback assessments, and editable and adaptive personalized learning for the students. Teachers will field test these courses beginning Fall 2016 with teams meeting monthly to assess and revise the courses as needed.

We understand that as we migrate to digital curriculum and content, one-to-one is the optimum method of learning for students. However, moving in this direction may be cost prohibitive in early stages of adoption. Because of this we believe it is important to build transitional curriculum (digital-ready, but available in print) that can be used when digital resources are not available, either at home or at school. We anticipate the need for these transitional materials will be greatly reduced in the near future.

Canvas is designed to allow individual teachers and administrators to customize their course. We are in the process of developing template courses for ELA, math, and science to share with teachers via the Commons. Teachers can then utilize the external applications and content providers or even use Canvas Commons to share and reuse content. Content in Canvas Commons can have integrated learning outcomes. Canvas Commons is a Learning Object Repository. With Commons, teachers can share, store, find, and import entire courses, modules, assignments, discussions, quizzes, pages, and document files. Visibility for

learning objects can be set to user-only, district-wide, consortiums, groups, or public. Commons tagging and categorizing capabilities allow users to organize content by discipline, grade-level, outcomes, and more.

By working with Canvas and Overdrive, we will have the ability to use LTI technology to integrate textbooks from our most used publishers. We will also have access to many open software resources for content through the Canvas Edu App Center. The Canvas Edu App Center provides an extremely easy “single click” installation of over 220 LTI-compliant apps. The Canvas App Center has helped thousands of teachers expand their courses’ capabilities beyond the abilities of a regular Learning Management System.

One of the most effective ways to track student success and engagement will be Canvas Data.

The Canvas Data services can provide the district with an extremely powerful mechanism for optimized accessing and exporting their data for on-demand querying, reporting, and analysis.

Canvas Data is an extracted and transformed version of the district’s Canvas activity and can be accessed using any analytics tool to generate custom data visualization and reports. The Canvas Data service is included in the annual Canvas subscription fees at no additional cost.

EDIVATE

Edivate is another program being used by each school and is also provided by a grant through the STEM Action Center. This program is available for all educators and provides an on-demand professional learning resource which creates a highly personalized learning experience. The grant providing this program is available on an annual basis and is supported by the Utah State Legislature.

ALEKS

Every middle school in our LEA has been the recipient of the grant provided through the STEM Action Center for the Math Digital Programs for the last 2 years. Continuing on this year, teachers and students have access to the program ALEKS (Assessment and LEarning in Knowledge Spaces), which provides a complete web based educational environment for students, and has been highly utilized by students in grades 7-8. Teachers are using this to provide additional resources for students, helping identify and bridge the gaps in their education and to strengthen their mathematical problem solving skills. This grant is available on an annual basis and is supported by the State of Utah Legislature.

ALIGNMENT WITH STUDENT PERFORMANCE

In order to increase student math performance and meet performance targets described in Section III, continued use of ALEKS will be encouraged in the middle schools, grades 7-8. ALEKS assessment and learning technologies were originally developed by a team of cognitive scientists, mathematicians, and software engineers at the University of California, Irvine, with major funding provided by the National Science Foundation. ALEKS is founded on over 20 years of extensive scientific research in a ground-breaking field of mathematical cognitive science known as Knowledge Space Theory. Through adaptive questioning, ALEKS accurately assesses a student's knowledge state and then delivers targeted instruction on the topics a student is most ready to learn.

Knowledge Space Theory provides a theoretical foundation for efficient knowledge assessment in various domains ranging from mathematics and the sciences, to appropriate topics in business and the social sciences. It is not intended for what are commonly referred to as "tests" and does not produce numerical measures of ability. Rather, Knowledge Space Theory

supports the construction of efficient computer assessment procedures which allows for a precise graphical representation of the knowledge state of individuals.

The research behind ALEKS is briefly discussed in non-technical terms in “The Assessment of Knowledge in Theory and in Practice”

(http://www.aleks.com/about/Science_Behind_ALEKS.pdf). View a list of key scientific research publications here: http://www.aleks.com/about_aleks/publications_kst

How data will be used to inform instruction: ALEKS provides teachers with actionable data to inform instruction. Real-time reporting allows educators to monitor student, class, school, and district progress toward Utah Core Standards mastery. Educators can see which topics a student has mastered, not mastered, and is ready to learn in correlation to a specific math standard. A robust Instructor Module provides educators with real-time, instructionally actionable data at the student, class, school, and district levels. Teachers and leaders will be able to watch student progress at a glance. Student progress in a course can be viewed by topics learned, time spent in ALEKS, and percent completion of the course.

Students begin with a formative Initial Assessment to accurately identify what each student knows, doesn't know, and is ready to learn next. The results are succinctly displayed in the ALEKS Pie, which the student can also see. Personalized Learning allows students to work through Ready to Learn Topics, while ALEKS provides immediate feedback, detailed explanations, definitions, and other helpful tools that boast these unique learning features:

- Open-response questions ensure mastery
- Content aligned to the Utah Core Standards
- Fully bilingual in English and Spanish

Continuous Assessment & Learning is supported as a student masters topics. ALEKS periodically provides reassessments to ensure knowledge retention. Formative assessments are

administered to students after every five hours spent in the program. ALEKS prepares students for success by targeting the precise topics they are ready to learn next. Teachers use these topics to plan lessons, group students, or provide opportunities for additional practice.

Digital content provided through the grant by topic enables teachers to customize content from multiple sources and create curriculum tailored to Utah Core Standards. ALEKS courses are standards-based, and are correlated to and integrated with the Utah Core Standards, which are based on the Common Core. ALEKS offers detailed PDF correlations with these standards. This standards-based learning involves:

- Artificial intelligence targets gaps in student knowledge of the Utah Core Standards
- Personalized learning on standards-based content
- Delivers formative and summative assessments to track student progress. Assessment questions are generated from items based on curriculum standards. Assessment results are always framed relative to specified educational standards.
- Open-response environment avoids multiple-choice. All problems require that the student produce authentic mathematical input.
- The entire student system and all of the course contents are available in English and Spanish in assessment and learning mode; students can toggle easily between English and Spanish at any time (administrators can choose to remove the Spanish option).

ALEKS provides solutions for a core curriculum, remediation, special education, Response to Intervention (RtI), supplemental instruction, and gifted education. Our middle schools will use the program for afterschool programs, summer school, bilingual education, virtual learning, rural education, blended learning, college/career readiness, and flipped classrooms..

In ALEKS, the instructor has complete freedom in planning lectures, lessons, and assignments, while ALEKS ensures that students progress toward mastery regardless of their level of

preparation. To the extent that students will be working independently in ALEKS, the content of lab classes is guided by their work in ALEKS. Instructors plan focused small-group instruction from week to week.

The Teacher Module enables educators to easily and conveniently monitor student and class learning progress and to carry out administrative tasks. While in the Teacher Module, teachers can:

- View and print a report of an individual student's progress toward mathematics standards.
- View and print a summary of information for each student including assessment results, progress in the learning mode, and total time spent in ALEKS.
- View and print reports for an entire class, giving an overview of class strengths and weaknesses.
- Edit student registration data.
- Communicate with students through the ALEKS Message Center using ALEKS math input tools.

Students are supervised while using the program and receive one-on-one instruction from teachers when assessments show that a student does not understand certain concepts.

Teachers use the assessments to track student progress, make instructional decisions, and pinpoint exact concepts students find difficult. ALEKS also offers robust class management tools that enable teachers to monitor student progress and direct learning remotely. Focused instruction with ALEKS through the Instructors Module make it possible to prepare students for specific topics they are going to work on. It also reinforces and expands on knowledge students have recently acquired. This involves either guided lectures or focused instruction to small groups of students based on ALEKS data.

ALEKS can be used for special education to provide each student with a personalized learning path, with targeted instruction on the exact topics each student is most ready to learn. This innovative approach minimizes frustration, enables learning momentum, and builds confidence. Additionally, ALEKS offers a dedicated report that provides detailed student data to support the creation and maintenance of Individualized Education Plans (IEPs), including each student's Present Levels of Performance and progress toward IEP goals.

With unlimited online access, ALEKS can effectively be used in a blended learning environment. Through individualized learning and assessment, ALEKS complements face-to-face instruction by enabling students to practice and reinforce topics learned in class. ALEKS also offers online resources to help teachers further integrate technology with classroom activities, including dynamic reporting, customizable quizzes, and personalized worksheets.

ALEKS works in tandem with many core math programs to create powerful personalized learning experiences. By adding it to an existing program, educators can use it while:

- Transitioning students to the next level in a series.
- Implementing a district or state adoption.
- Addressing the needs of diverse groups of learners.
- Preparing students for assessments such as the Student Assessment of Growth and Excellence (SAGE).

Comprehensive set of actions to meet fidelity requirements and a clear, comprehensive and realistic plan for mitigating the challenges: The software provider recommends various best practices for the effective implementation of ALEKS, helping to mitigate curriculum adoption challenges (<https://www.aleks.com/manual/pdf/teaching-k12.pdf>). Models of classroom integration for ALEKS include a supervised math lab, a math lab in a structured course, small-group instruction, self-paced learning, and distance learning. Regardless of which

approach is used, maximum benefit from ALEKS is derived through monitoring the students' use of ALEKS and communicating with them, whether in direct contact, by email, or by messages through the ALEKS system. Students' progress in ALEKS will be recognized, reinforced, and celebrated early on; conversely, students who do not seem to make adequate progress will be contacted promptly.

The middle schools will be using this program to support core instruction, where one hour per week and/or 5 topics completed is the recommendation for fidelity. Each school included has incorporated how ALEKS will be used, and show strong support for the use of ALEKS. Some teachers provide a certain number of points toward the final grade for each week that the student fulfills their required hours. It has been advised to reward each week, so that the student does not fall into the expectation that all of the required hours can be done at the end; consistency will be rewarded, along with total hours. If a student falls short of the specified hours during a particular week, that week is not rewarded, but the "deficit" is not carried forward; the next week begins with a clean slate. The primary concern is regular use of the system; for this reason, a surplus is also not carried forward. Proportional rewards can also be used; each hour spent has a point value, up to the required minimum.

In order to effectively monitor the students' use, the instructors will check the hours on the "Learning Progress Since Latest Assessment" page or the "Time and Topic" report. This page can be printed out every week for record-keeping. In rare cases, students may try to fool ALEKS by logging on to their accounts and doing something else; this can be seen when the number of items gained per hour is far too low. ALEKS will log the student off if there is no activity after a certain amount of time. Instructors can obtain a precise record of a student's actual work in ALEKS by viewing the student's "Time and Topic" report. The students' achievement in ALEKS (as opposed to their use of the system) may also be used as a component in their final grade.

The ALEKS instructor manual has more information about this:

<https://www.aleks.com/manual/pdf/educators-k12.pdf>.

Regarding mitigating student engagement challenges in math, ALEKS works because students are involved in active (not passive) learning (e.g., solving problems instead of watching someone else solve problems). As a result, they are more likely to learn and retain information. In addition, finding out what a student knows and does not know, and then providing targeted instruction to a student's zone of proximal development is one of the keys to effective and efficient learning and instruction.

ALEKS is different from other digital math programs. One of the benefits of using ALEKS is that the artificially-intelligent (AI) engine provides differentiated and individualized instruction.

Therefore, students have a high degree of success with ALEKS despite wide and varying gaps in knowledge. ALEKS presents a personalized learning path that adapts to each student's individual educational needs, accelerating a student's learning momentum, and making learning more efficient, engaging, and effective.

ALEKS has a proven track record of implementation success and increased student achievement in many states. For example, in 2013, Utah passed HB 139 in the Legislature to create the STEM Action Center (<http://stem.utah.gov/>). A 2014 Utah STEM Action Center report analyzed "implementation of best practice math technologies in K-12 classrooms with an emphasis on college and career readiness in math for high school"

(<http://le.utah.gov/interim/2015/pdf/00004492.pdf>). During an October-May 2014 pilot study, it was discovered that ALEKS was one of the digital math programs where students made more progress in a year than what is normally expected during an academic school year. "ALEKS was the only product where a statistically significant difference ($p < .01$) was found where

students using the product outperformed students not using the product” (Utah STEM Action Center Report, September 17, 2014).

During the pilot study, students displayed increased interest in math, and their perceived difficulty of mathematics tasks decreased. Teachers reported favorably regarding the use of ALEKS on surveys, and the state of Utah awarded 48,686 ALEKS licenses to middle schools, more than any other digital math product involved in the study. Comparable results were found in Utah high schools, with 68,352 ALEKS licenses awarded. A pilot for K-6 instructional technologies was not completed in 2014 so that implementation could be expedited in schools. However, a similar instructional technology program for math by the Utah STEM Action Center is in progress for K-6, and 32,083 student licenses have been requested, more than any other math software program considered. The 2014 STEM Action Report found the following alignment with ALEKS when looking at vendors for the pilot study:

- Contains individualized instructional support for skills and understanding of core standards
- Is self-adapting to respond to the needs and progress of the learner
- Provides opportunities for frequent, quick and informal assessments
- Includes an embedded progress monitoring tools and mechanisms for regular feedback to students and teachers

When ALEKS has been used successfully as supplemental instruction, students are encouraged to use the program two to three times per week for eight to twelve weeks. The largest gains in student achievement are found in schools that use ALEKS for two or more sessions per week during a period of eight to twelve weeks. Students are given “warmups” and quizzes at the start of their class to assist with concepts that they are learning in their non-ALEKS math classes. In addition, ALEKS is also used in conjunction with a textbook to

follow district guidelines and to prepare students in mastering state standards. Students use ALEKS within the classroom three days per week for 50 minutes per class period. Other schools require students to use ALEKS for two hours per week for a total of 32 hours per term. Students are required to use ALEKS at home, in addition to using it at school. Lastly, ALEKS QuickTables can be used for 15-minute sessions, three times per week to help students practice and master their basic math facts.

Where ALEKS has been used with fidelity as the main curriculum, students are required to work for 60 minutes, five days per week, in addition to one hour per week of at-home use. If students do not use a textbook, they are required to complete the initial ALEKS tutorial and assessment and then complete the course according to ALEKS' suggestions and guidance.

PLCs at each school will be encouraged to form data review teams. To further ensure that ALEKS is used with fidelity, district benchmarks will be created for 7th and 8th to be administered on a quarterly basis. Data from these benchmarks will be closely examined at each school and at the district level by newly formulated data review teams. At the school level, teachers, leaders, and parents will examine summative results by class, grade, and content area to identify strengths, areas of concerns, and create strategies for addressing concerns. Their report and summative data will be further reviewed by a district team composed of instructional leaders for the pertinent content area and community members to both celebrate progress and follow up on areas of concern.

Cache County School District's subgroup populations identified as high-risk based on SAGE and/or WIDA assessments impact our overall proficiency and growth. Student groups that require improved instructional support include ESL, SPED, and high achieving students. These challenges can be mitigated through personalized learning and enhanced student engagement.

CK-12

CK-12 is a non-profit organization whose stated mission is to reduce the cost of, and increase access to free, high quality, and fully customizable K-12 curriculum. CK-12 organizes its educational content into roughly 5000 concepts. These bite sized units of content and modalities of learning (as well as varied styles of learning) are more important tools for facilitating learning than traditional educational materials like textbooks. These concepts are further organized into learning paths to facilitate personalized learning. Additionally, CK-12 provides simulations, adaptive practice, and PLIX (play, learn, interact, and explore) applications.

NOREDINK

NoRedInk is a digital teaching and learning tool for writing and language instruction, practice, and assessment. NoRedInk instantly differentiates instruction using the adaptive platform, also providing students opportunity to customize content tailored to their personal interests and 24/7 access. The diagnostic assessments and formative assessments provide valuable data for teachers to target instruction and track progress toward mastery of Utah Core Standards in ELA.

VI. DETAILED THREE YEAR PLAN FOR STUDENT ENGAGEMENT IN PERSONALIZED LEARNING INCLUDING A THREE YEAR PLAN FOR DIGITAL CITIZENSHIP CURRICULA AND IMPLEMENTATION

PERSONALIZED LEARNING

According to the *Personalized Learning Playbook* by Anthony Kim, ...”personalized learning allows students to get the instruction they need, when they need it. Personalized Learning means that the students’ needs are known to the teacher. It means that students’ learning styles, skills, and even personal issues affecting their learning ability are known as well.

Through personalized learning, teachers can catch students before they get stuck, plateau, give up, and disengage.”

Consistent with this definition and CCSD’s vision for digital teaching and learning, we purposefully selected the Canvas LMS to build capacity for personalized learning for all students to be retaught, retested or to extend learning. The Canvas LMS amplifies the reach of the teacher by facilitating feedback, communication, collaboration and creation tools. Consistent professional learning opportunities using digital tools to support personalized learning paths based on learning needs specific to measurable student targets will be a priority.

Year 1	<ul style="list-style-type: none"> ● Provide 24-7 access to digital curriculum for ELA, Math, and Science. ● Use digital tools to remediate or extend learning. ● Expand digital content within Canvas (i.e., OER, Overdrive, ALEKS, CK12). ● Monitor progress.
Year 2	<ul style="list-style-type: none"> ● Evaluate, revise and expand scope as needed, including non-tested subjects.
Year 3	<ul style="list-style-type: none"> ● Evaluate, revise and expand scope as needed, including non-tested subjects. curriculum for all secondary courses

DIGITAL CITIZENSHIP

In anticipation of Utah State HB 213 Safe Technology Utilization and Digital Citizenship in Public Schools, Cache County Schools implemented Common Sense Media’s Digital Citizenship Curriculum during the 2015-16 school year with the goal of all Library Media Specialists becoming Digital Citizenship Certified Educators. As part of the Digital Teaching and Learning grant, we will continue using this curriculum to support “appropriate, responsible, and healthy behavior related to technology use, including digital literacy, ethics, etiquette, and security.” As a result, CCSD became the first district in Utah to earn the Digital Citizenship Certified District distinction, an honor that recognizes our efforts in teaching digital citizenship to our students and engaging the entire community in this important discussion.

The Digital Citizenship Curriculum is broken down by grade band and topic. In addition to meeting the instructional requirements as outlined by HB 213, the curriculum also supports the Utah Library Media Standards, the Library Media Educator Effectiveness Standards and the Utah Core Standards in English Language Arts.

Our district expectation is for all Library Media Specialists to lead this initiative at each school by collaborating with building administrators and staff to deliver instruction on digital citizenship, to educate parents, to work with the school community council, and to apply and/or reapply for digital citizenship certified educator certification through Common Sense Education each year.

The following are minimum yearly requirements and timeline for completion:

Year 1	Each Library Media Specialist will: AUGUST: Watch the online curriculum training. AUGUST: Add the link to Common Sense Media to the school’s Destiny Page and/or school website. SEPTEMBER-APRIL: <ul style="list-style-type: none">• Using Digital Citizenship Curriculum, teach 3 hours 45 minutes with one class, or 2 hours 15 minutes with two classes. Keep track of the total number of
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	<p>instructional hours, the number of lessons you teach to a given class, the total number of students, and grade level(s) instructed with the curriculum materials.</p> <ul style="list-style-type: none"> ● Save at least three pieces of documentation. ● Engage and educate parents in three distinct ways. <p>APRIL: Scan and send your three pieces of documentation to the CCSD Library Media Curriculum Specialist, and complete the 2016-17 reporting form to complete the digital citizenship certified educator application.</p> <p>7-8 Grade Students will:</p> <ul style="list-style-type: none"> ● Learn about the 24/7, social nature of digital media. ● Learn that it is important to act responsibly when carrying out relationships over digital media. ● Understand the importance of using a variety of search strategies. ● Master new strategies for effective and efficient online searches. ● Learn how to guard against phishing and identity theft. ● Generate multiple solutions for helping others when cyberbullying occurs. ● Understand copyright rules and identify the key points required for a creative work to fall under fair use. ● Assess how much time they spend with different forms of digital media and in different digital activities. ● Understand that piracy and plagiarism are irresponsible and disrespectful behaviors that have ethical and legal implications. ● Reflect on the benefits and risks of presenting their identities in different ways online. ● Evaluate – from an ethical point of view – the feelings, motivations, contexts, and possible outcomes associated with adopting different roles online. ● Judge whether certain ways people present themselves online are harmless or harmful. ● learn that they have a digital footprint and that information from it can be searched; copied and passed on; seen by a large, invisible audience, and can be persistent. ● recognize that people’s online information can be helpful or harmful to their reputation and image. ● understand how the ease of publishing on the Internet might affect how much they can trust the content of some sites. ● learn criteria that will help them evaluate websites. ● apply the criteria to a site to determine how trustworthy and useful it is. ● compare underlying messages about drama on reality TV with “real world” digital drama among young teens. <p>Additionally, we will encourage use of Utah’s NetSmartz assembly presentation and online materials to educate children on how to recognize potential Internet risks, engage children and adults in a two-way conversation about on- and offline risks, and empower children to help prevent themselves from being exploited, and to report victimization to a trusted adult.</p>
<p>Year 2</p>	<ul style="list-style-type: none"> ● No Change to Digital Citizenship Certification Plans.

	<ul style="list-style-type: none"> Library Media Specialists will recertify each year, and adjustments will be made to the plan as necessary.
Year 3	<ul style="list-style-type: none"> No Change to Digital Citizenship Certification Plans. Library Media Specialists will recertify each year, and adjustments will be made to the plan as necessary.

VII. PROFESSIONAL LEARNING

	English Language Arts	Math	Science
Y1	Field test digital curriculum at one middle school, collaboratively modifying open source materials and building Canvas courses complete with resources, lessons, student learning activities, assessments, etc. to support a blended learning environment.	Identify essential elements of core standards and design common formative quizzes in Canvas. Field test Utah Middle School Math Project (UMSMP) and other OER and online resources incorporated with Canvas at one middle school. Identify and implement additional training needed.	Middle school science teachers will attend intensive face-to-face professional learning on, understanding and implementing Utah’s new SEEd standards. These professional learning workshops are a partnership with USBE leaders. Teachers will work collaboratively to create learning experiences for students to understand the phenomenon experience. These trainings will consist of four face-to-face sessions with state science specialists, hands on activities, and projects and lesson plan development for teachers to use in their classrooms.
<p>To support our overarching goal of increasing student achievement, we have a responsibility to our teachers to provide professional learning opportunities that are relevant to real-world experiences, incorporate the use of hands-on technology targeted to maximize student learning, occur over time with repeated opportunities for remediation, occur with colleagues for built-in site support, and provide technical assistance and support.</p> <p>We will develop curriculum committees of teachers for ELA, math and science content areas to explore Open Educational Resources, the viability of these resources, standards alignment to the Utah Core, digital curriculum development, and standardization of course design (Design Tools for Canvas). This team of teachers will also be tasked with leading professional learning opportunities for colleagues during district PLCs.</p> <p>To support these goals, we have partnered with UETN Professional Learning and will host face-to-face, blended and online workshops to focus on using the Canvas LMS</p>			

to support a blended learning environment. We want our teachers to better understand how to design and deliver high quality instruction, develop integrated student learning activities, facilitate student engagement, and provide feedback and assessment through the Canvas LMS. **Courses** include: Canvas for Online Learning (introductory series), Flip Your Class with Canvas, and CCSD Camp Canvas. Camp Canvas is Cache County School Districts variation of topics covered in Canvas' InstructureCon each year. These course topics will be offered to assist teachers in understanding and utilizing specific pieces of Canvas, with the understanding that Canvas components are not static but continue to evolve to make the LMS more effective for students, parents and teachers. Some topics to be covered this year will include: Learning Outcomes specific to the Utah Core Standards, Speed Grader, Badging to support student engagement and motivation, using Commons, and Annotation tools. During Camp Canvas will also provide opportunities to answer questions, and help update our teachers on changes that have been made during the course of a year. Our hope is that Camp Canvas will continue to be an integral piece of digital teaching and learning. Substitutes will be provided for full and half-day workshops to encourage our 7th and 8th grade teachers to attend. Our goal is for 100% of our seventh and eighth grade teachers to attend and be actively trained in using Canvas by the end of year one.

UETN will provide a total of 12 sessions during the 2016-17 school year, with additional professional learning opportunities developed and provided by CCSD's Curriculum Department. Extensive longitudinal professional learning will culminate at the end of each school year with Camp Canvas where educators will have opportunities to attend a number of on campus and online mini-workshops targeting specific components of Canvas including: Learning Outcomes, Speedgrader, Quizzes, Badges, Collaborations, Discussions, etc.

Enhanced professional learning will be achieved by inviting lead teachers and administrators from our middle schools along with the district team (curriculum, technology, assessment) to attend Canvas InstructureCon 2017 for the purpose of gaining a stronger insight for digital content and digital learning. In addition, the conference will enable educators to network with colleagues across the country, learn about best practices and generate new ideas for designing instruction using the Canvas LMS.

In addition to our attention in using Canvas to support blended learning through digital curriculum development, we will provide learning opportunities using Google for Educators, The Innovative Educator: Makerspaces, Edviate (science standards, administrator support with faculty, CCSD Teacher Induction Program for Success), Digital Citizenship (Common Sense Media), Overdrive, WorldBook, Utah's Online Library, ALEKS, and other digital tools to support quality classroom instruction and teacher reflection.

We will continue to participate in the professional learning and implementation support offered by USBE and UETN. We will promote the USBE Content-Specific Personalized Learning Series to our teachers of various content areas. The

	<p>Professional Learning Series is primarily offered using Canvas (UETN). Because of this, the series will provide valuable professional learning in targeted content areas in addition to experience with the Canvas LMS as a learner.</p> <p>Through a STEM AC grant, the middle school teachers and administration will use Edivate for STEM related effective professional learning opportunities. Edivate is School Improvement Network’s premier online, on-demand professional learning platform that creates a highly personalized learning experience for educators by delivering the resources and support they need to continually improve classroom practice and engage students to drive measurable achievement. The program offers professional learning tools and resources including thousands of award-winning videos showing master teachers demonstrating best practices in the classroom, lesson plans, an online professional learning community of more than a million educators worldwide, and more. It also gives administrators the management tools to create personalized professional learning plans for a single educator or an entire system, with full implementation, training, and ongoing management support. The guidelines for implementing the program with fidelity is a minimum of 20 minutes per month.</p>		
Y2	ELA	Math	Science
	<p>Take lessons learned from year one to revise field tested digital curriculum in Canvas and share via Canvas Commons for the start of year two with all 7-8 grade ELA teachers. Revision of field tested courses will be informed based on student achievement and student and teacher feedback.</p>	<p>Modify common formative quizzes and schedule district-wide system of delivery and reporting.. Implement use of Canvas Courses and OERs at all Middle Schools.</p>	<p>Identify essential elements of core standards and design common formative quizzes in Canvas. Field test OER and online resources incorporated with Canvas. Identify and implement additional training needed.</p>
	<p>Year two will see a continuation of professional learning opportunities for our educators with resources as noted in year one . We will evaluate and revise as needed. Additional goals include:</p> <ul style="list-style-type: none"> ● Camp Canvas goal of 100% for all middle school teachers involved in teaching any component of math, science, and ELA. ● Digital Citizenship certification for our district. ● We will continue to participate in the professional learning and implementation support offered by USBE and UETN. ● Continue use of Edivate for school professional learning, focusing on best teaching practices and STEM education. 		
Y3	ELA	Math	Science
	<p>Continue revision of digital curriculum in Canvas based on student</p>	<p>Modify digital curriculum based on student achievement and student and teacher feedback.</p>	<p>Modify common formative quizzes and schedule district-wide system of delivery and</p>

	achievement and student and teacher feedback.		reporting.. Implement use of Canvas Courses and OERs at all Middle Schools.
	<p>Year three will see a continuation of professional learning opportunities for our educators with resources as noted in years one and two. We will evaluate and revise as needed. Additional goals include:</p> <ul style="list-style-type: none"> ● Expand LMS- Canvas to all middle school teachers in all subject areas ● Expand LMS- Canvas professional learning to all elementary teachers pending Utah legislative finance of this software. ● Digital Citizenship certification for our district. ● We will continue to participate in the professional learning and implementation support offered by USBE and UETN. ● Continue use of Edviate for school professional learning, focusing on best teaching practices and STEM education. 		
	EDIVATE		
Y1	<p>Through the STEM Action Center, our district received Edviate license to provide funding to develop, implement and/or enhance STEM-focused professional development programs, as designated by state and/or local education leaders. Edviate can be used for:</p> <ul style="list-style-type: none"> ● identifying and reflecting on videos of exemplar educators from around the country including a rich library of STEM related instructional videos of educators across the state implementing STEM strategies in creative, meaningful ways. ● access to hundreds of videos of Utah teachers in the classroom teaching STEM lessons. ● self-evaluation, reflection, goal setting, planning, and tracking as a way to support the educator growth and development cycle. ● courses that support sound instructional practice with the ability to share across school, district, and county boundaries. ● a collaborative framework for professional learning communities ● supporting the Utah State Effective Teacher and Leader Standards and fully supports any school or district formative or summative evaluation process. ● Supporting effective educational strategies and provides access to online tools and resources for educator professional learning. 		
Y2	<p>Through a renewal of the STEM AC grant, all content area educators and administrators will have access to the Edviate program, and will be encouraged and trained to incorporate the program into all aspects of professional learning.</p>		
Y3	<p>Through a renewal of the STEM AC grant, all content area educators and administrators will have access to the Edviate program, and will be encouraged and trained to incorporate the program into all aspects of professional learning.</p>		

Utah Multi-Tiered System of Support (UMTSS)

Y1	Middle School Math	Because of the new configurations of 6th grade being moved to the elementary schools, 7th grade will now be the first transitional year. Also, with the 9th grade being placed in the high school, 8th grade will need more focus to prepare for high school.
Y2	Middle School Science (in development)	Implementation of the new Science SEEd standards. Training pending evaluation of previous year.
Y3	Middle School Social Studies	Finishing training of the other core subject areas. Training pending evaluation of previous year.

VIII. THREE YEAR PLAN FOR HOW AN LEA WILL MONITOR STUDENT AND TEACHER USAGE OF THE PROGRAM TECHNOLOGY

We will provide implementation data to USBE on an annual basis. Use the Learn Platform for streamlined inventory management, fidelity monitoring, and product impact measurement. As part of Cache County School District’s Digital Teaching and Learning plan, our middle schools will ensure fidelity with existing software programs as well as additional programs that are purchased to expand our instructional repertoire and serve as the vehicle that maximizes the capacity of all teachers and learners. Some of these programs include: Canvas, Edivate, ALEKS, Utah Middle School Math Project (OER content), CK-12 OER, and available Interactive Online Apps incorporated into Canvas (Khan Academy, Virtual Nerd, IXL, Quizlet, and NCTM Illuminations).

During 2015-2016, Cache School District participated in the UETN edtech inventory process, highlighting 14 products in use.

Number	Products Included in 2015-16 Inventory
14	Microsoft Office, Google Apps for Education, Canvas (LMS), Utah’s Online Library, ALEKS-Math, Scholastic Reading Inventory, SAGE,

	UTIPS, Utah Compose, OverDrive, WorldBook, Follett Destiny, CK-12, NoRedInk
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LEARNPLATFORM

Cache School District, in collaboration with UETN, has begun utilizing the state-supported LearnPlatform to support overall program management of its DTLI efforts, including monitoring utilization and our educators’ experience with these and other technologies to inform continuous improvement. As a Google Apps for Education(GAFE), we will also take advantage of the LearnPlatform Chrome extension to support our teachers and students, and understand which tools are used most frequently. Our goal is to improve both outcomes for students and our investments in digital teaching and learning.

Cache School District’s configuration of the LearnPlatform will streamline the process for all stakeholders to (1) develop continuous improvement plans, (2) use data to inform instructional and operational decisions and (3) integrate and analyze multiple data sources to develop plans and continuously improve.

1. During 2016-17, continuous improvement plans will be finalized. Cache School District will work with the LearnPlatform technical assistance team to quickly configure and align the LEA’s LearnPlatform account to support our LEA’s business processes, communication and monitoring for continuous improvement, including:
 - a. Integrating (LEA)’s previous edtech inventory and engineering study information;
 - b. Configuring the system to match the needs of our administrators, teachers, students and administrators;

- c. Providing access for teachers and administrators to access and monitor their edtech;
 - d. Defining the key edtech activities, interventions and measurements (see below for examples).
2. Cache School District's program management will focus on continuous and ongoing improvement, supported by integrated insights, data and input from and for administrators and teachers. To support our educators' efforts, (LEA) will have a centralized digital teaching and learning profile for each school, with an integrated edtech inventory on its LearnPlatform. In alignment with all state and federal regulations, data integration from products, process automation, and communication tools of the LearnPlatform will be used to further streamline processes, such as:
- a. Allowing educators an easy way to centrally see, share insights, learn and ask questions about digital teaching and learning tools;
 - b. Efficiently piloting new tools, with both qualitative and quantitative results to inform implementation;
 - c. Rapidly analyzing the impact of current and new digital teaching and learning interventions;
 - d. Providing administrators and educators instant dashboards for digital teaching and learning ecosystem;
 - e. Use the Google Apps for Education extension (or other LEA supplied technology) to provide time saving tools for educators and remotely monitor which digital teaching and learning tools are used and how often;

- f. Centrally managing and sharing findings and status for all teachers and administrators to inform their instructional and operational decisions; and,
 - g. Enhancing our LEA's own processes with insights learned from other LEAs.
3. Program technology utilization and achievement measures will be monitored and centralized in LearnPlatform and mapped against additional data sources which include:
- a. Quantified feedback from educators, based on research-based rubric
 - b. Pilot and trial tests which survey specific user types, products, learning applications and/or student variables
 - c. De-identified student co-variate data (demographic, gender and other filters)
 - d. LEA and state-level testing data
 - e. Product utilization data at the user and/or school level
 - f. Product access monitoring (via Chrome extension where applicable)

Administrators and teachers will have secure access, dashboards, and appropriate controls, as well as quarterly reports to inform plan adjustment to advance our digital teaching and learning initiative.

CANVAS LMS

Canvas will be used as a tool to help with professional development. Curriculum specialists, in collaboration with teacher teams will develop master course templates to share via the Commons and we also have plans for blended/online professional learning (Canvas Camp) using the Canvas LMS.

Canvas analytics allows district leaders and administrators to track student and teacher usage, course development, and engagement. The Canvas Data service is included in the annual Canvas subscription fees at no additional cost. The data available in the daily Canvas Data file

downloads is voluminous and comprehensive. The schema document describing the data dictionary of Canvas Data is available at <https://portal.inshosteddata.com/docs>.

The district's data is an extracted and transformed version of the district's Canvas activity including user access and system usage. The Canvas Data environment is only available to administrators via the connected analytics/reporting tools to let the district's administrators secure and control the consumption and dissemination their data.

IX. THREE YEAR PLAN FOR INFRASTRUCTURE ACQUISITION AND PROCESS FOR PROCUREMENT AND DISTRIBUTION OF THE GOODS AND SERVICES AN LEA INTENDS TO USE AS PART OF AN LEA’S IMPLEMENTATION OF THE PROGRAM

INFRASTRUCTURE AND E-RATE

As part of this plan, we propose to update the District’s core network and rebuild each of the middle school’s internal networks to support the devices and curriculum. We are also planning on updating our firewalls in the district’s core network. This rebuild is intended to scale the current network and Internet connection bandwidth to support the access needs at the target sites without performance degradation even during times of maximum use. This includes the availability of wireless access in all instructional spaces and indoor/outdoor common areas. To assist in these efforts, we will utilize the Federal E-Rate program. This will include Category Two internal connections and internal broadband services.

The following table summarizes the E-Rate activity and potential in the Cache County School District.

Cache County School District E-Rate Category Two Summary (as of July 2016)	
E-Rate Discount	50%
2015 Funding Commitment, Category Two (Total Cost)	\$144,188
2016 Funding Request, Category Two (Total Cost)	\$329,282
Number of Students (as provided by USBE to USAC)	16,974
FCC’s Total 5-Year Category Two Budget Allowance	\$2,546,100
Remaining Category Two Budget	\$2,072,630
Local Funds Required to Expend Remaining Category Two Budget	\$1,036,315

Note: E-Rate calculations are based on 2015 and 2016 funding requests, of which most 2016 requests have not been processed by USAC. Additionally, consortia Category 2 filings and filings where a single district used multiple Billed Entity Numbers may not be accounted for fully in this analysis.

The following table summarizes the potential funding available for the purposes of this grant proposal:

Utah DTL Grant Projected With E-Rate	
Estimated Allocation for 2017 Utah Digital Teach and Learning Grant	\$332,411
Estimated Amount of Grant Eligible to Be Applied to Category Two	\$332,411
Total Procurement if Leveraged with E-Rate at 100% Efficiency	\$664,822
Estimated Number of New Access Points (and related infrastructure) That Could Be Procured in 2017	475
Estimated APs per Instructional Space Ratio Following Procurement	1.02
Remaining DTL Grant Funds That Are Not Eligible for E-Rate	\$0

The following table summarizes district and target school enrollment and free and reduced lunch data for the district and target schools.

Entity	Enrollment	Free and Reduced Percentage
District	17,903	30.59%
North Cache	1,120	31.41%
South Cache	1,055	27.35%
Spring Creek	692	26.44%

INFRASTRUCTURE UPDATES

Updates to the core and school networks will take place in year 1 of the grant proposal, allowing us to concentrate on curriculum, instruction, and assessment in years 2-3. We plan to concentrate on our three middle schools.

The following table provides an estimate to upgrade the networks in each of our three middle schools. These upgrades are intended to improve the

School	Estimated Total Cost of Network Upgrade	Potential E-Rate Reimbursement	Local Funds Required	District Contribution	Grant Request
North Cache	\$180,000.00	\$90,000.00	\$90,000.00	\$36,000.00	\$54,000.00
South Cache	\$190,000.00	\$95,000.00	\$95,000.00	\$38,000.00	\$57,000.00
Spring Creek	\$100,000.00	\$50,000.00	\$50,000.00	\$20,000.00	\$30,000.00
	\$470,000.00	\$235,000.00	\$235,000.00	\$94,000.00	\$141,000.00
Core Network	\$226,000.00	\$113,000.00	\$113,000.00	\$56,500.00	\$56,500.00
Totals	\$696,000.00	\$348,000.00	\$348,000.00	\$150,500.00	\$197,500.00

Below is a description of the Central Core network along with a schematic for what the school networks will look like before and after the updates.

NETWORK TOPOGRAPHY

The Network Topography consists of the Central Core Network, the Data Center and the School Networks.

The Central Core Network (CCN) is at the heart of the network and is the critical to the operation of district technology. The first two pieces of the CCN are the connections delivered through Utah State University (USU) (Label A) and the Utah Education & Telehealth Network (UETN) (Label B). UETN also facilitates connections to each school through the UETN Consolidation Network Switch (Label C). The State of Utah funds the Utah Education Network (UETN) to provide these connections. These connection speeds are evaluated and provided by UETN based on need and available funding through the State of Utah and the Federal E-Rate program. All schools and support locations are currently connected with fiber. Fiber will support connections at 100+ gigabytes per second. Connection speeds are limited by the equipment connected to the ends of the fiber. Given the current infrastructure connection speeds to

schools is currently 1 gigabyte per second. To meet future needs, the long term goal is to increase capability to 10 gigabytes per second in each targeted school.

The third piece of the CCN is the external firewall (Label D). The external firewall blocks harmful traffic from coming into the district. The external firewalls were replaced in the fall of 2014 and have a connection capacity of 4 gigabytes per second. For the purposes of this grant, these firewalls will be moved to data Center and new Firewalls will be purchased to support 10GB connections.

The fourth piece of the CCN is the filter (Label E). The filter blocks or restricts access to web sites deemed harmful to children. The district is required to filter Internet access for school-aged children by the federal Children's Internet Protection Act and by State Law. The current filter was replaced in 2014 and is an iBoss system. The filter was also replaced in the fall of 2014 and has a 10 gigabyte per second capacity.

The fifth piece of the CCN are the core switches (Label F). The core switches facilitate network traffic flowing between schools, the Internet, and the District Data Center. The core switches were replaced in 2013 and have a 10 gigabyte per second capacity.

The sixth system is the District Data Center (Label G). Schools get required network services and access to information systems through the District Data Center. Examples of services include print, lunch, media, timeclock, and directory services. Examples of applications include Powerschool, Munis, and several curriculum programs.

The Data Center is protected by an internal firewall. The data center firewall blocks harmful traffic from outside the district network as well as any harmful traffic generated within schools. The inside firewall has a 1.5 gigabyte capacity and will need to be replaced by moving the external firewalls inside and will have a 4GB capacity. The Data Center also has its own data switches. These data switches have a 1GB capacity and will be replaced in 2015-2016.

The server infrastructure in the Data Center consists of physical servers, virtual servers and the switches to connect these resources. The server infrastructure handles all of the software and data needs of the district. The individual servers are a combination of rack servers which house server hardware, and blade servers that house the cpu and memory separate from the power supplies and network connections. There are two virtual server systems: 1) An HP server with HP Lefthand copper SAN; and, 2) A Dell blade system with blade based EqualLogic SAN. This server structure will be replaced in 2015-2016.

In addition to servers behind the firewall, there are four Data Center switches that are designed for fast data access. Because of the high demand for access to PowerSchool, there is a device that load balances traffic to five PowerSchool servers to provide access to this high demand application and provides the SSL encryption to protect our student data.

Because of the criticality of the Central Core Network, all devices are duplicated to prevent a single point of failure. For example, there are two external firewalls, two filters, two core switches, two data center firewalls, and two load balancers. These devices are configured so that if any device fails, traffic is not affected. The Central Core Network is also backed up by a

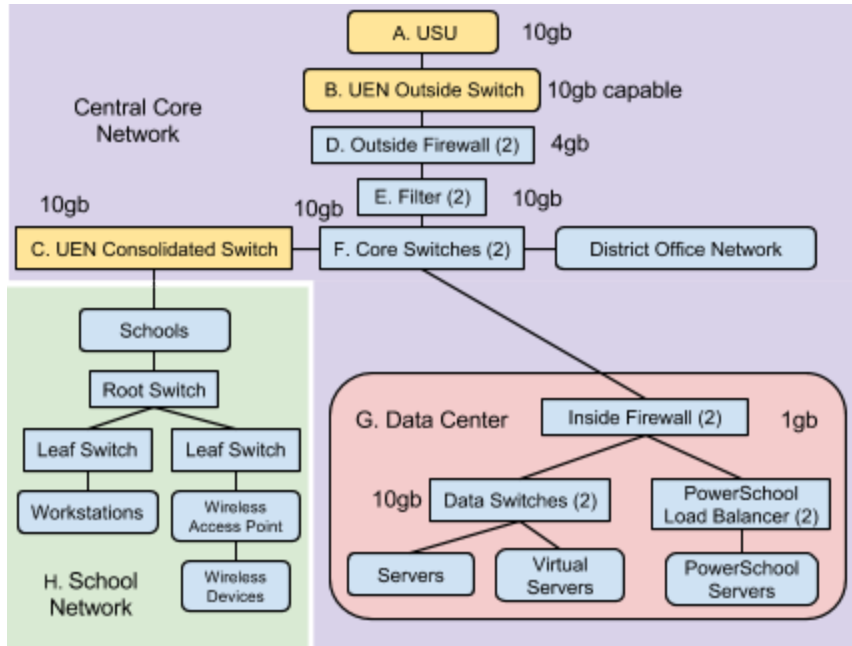
short term battery system and a longer term generator in case of power outages. This system is tested weekly.

SCHOOL NETWORKS

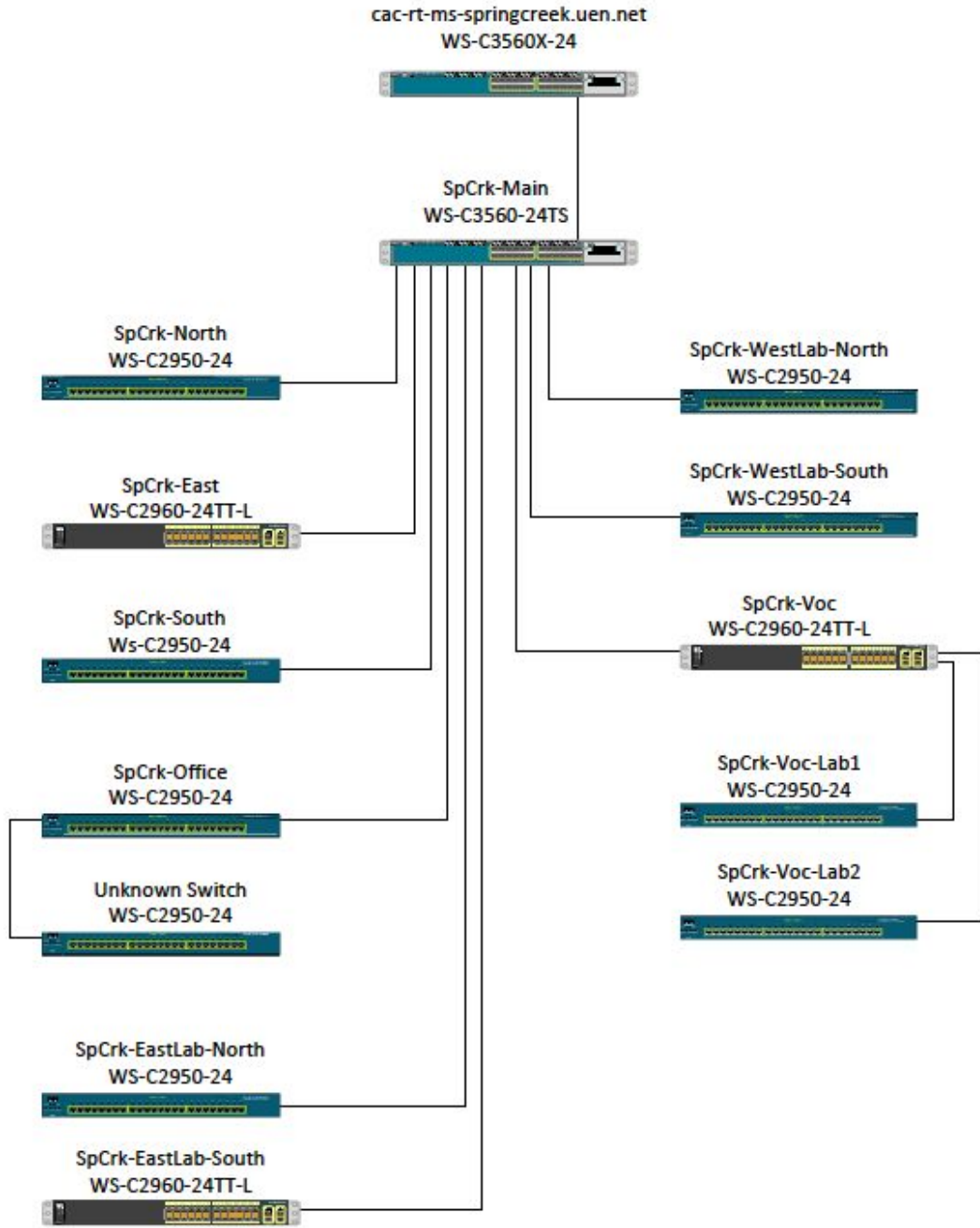
Each school network (Label H) is connected to the Central Core Network. The connections between the Central Core Network and Schools is considered the wide area network (WAN). Each school has a Root Switch (Main) and Leaf Switches (Secondary). The Root switch connects each school to the Central Core Network. The Leaf Switches connect the end-user devices to the network including the Wireless Access Points (WAP).

The critical paths for a school network is the connection between leaf switches and the root switches and between the root switch and the Central Core network. The combined network traffic is limited by these paths. All of the school sites have a capacity of 1 gigabyte per second. The new high schools are being brought onboard with 10 gigabyte per second capability. The short term (plan) goal is to all four high schools and the three middle schools to a 10 gigabyte per second capacity and all elementary schools to a 1 gigabyte per second capacity. The long term goal is to have all schools operating at at 10 gigabyte per second capacity.

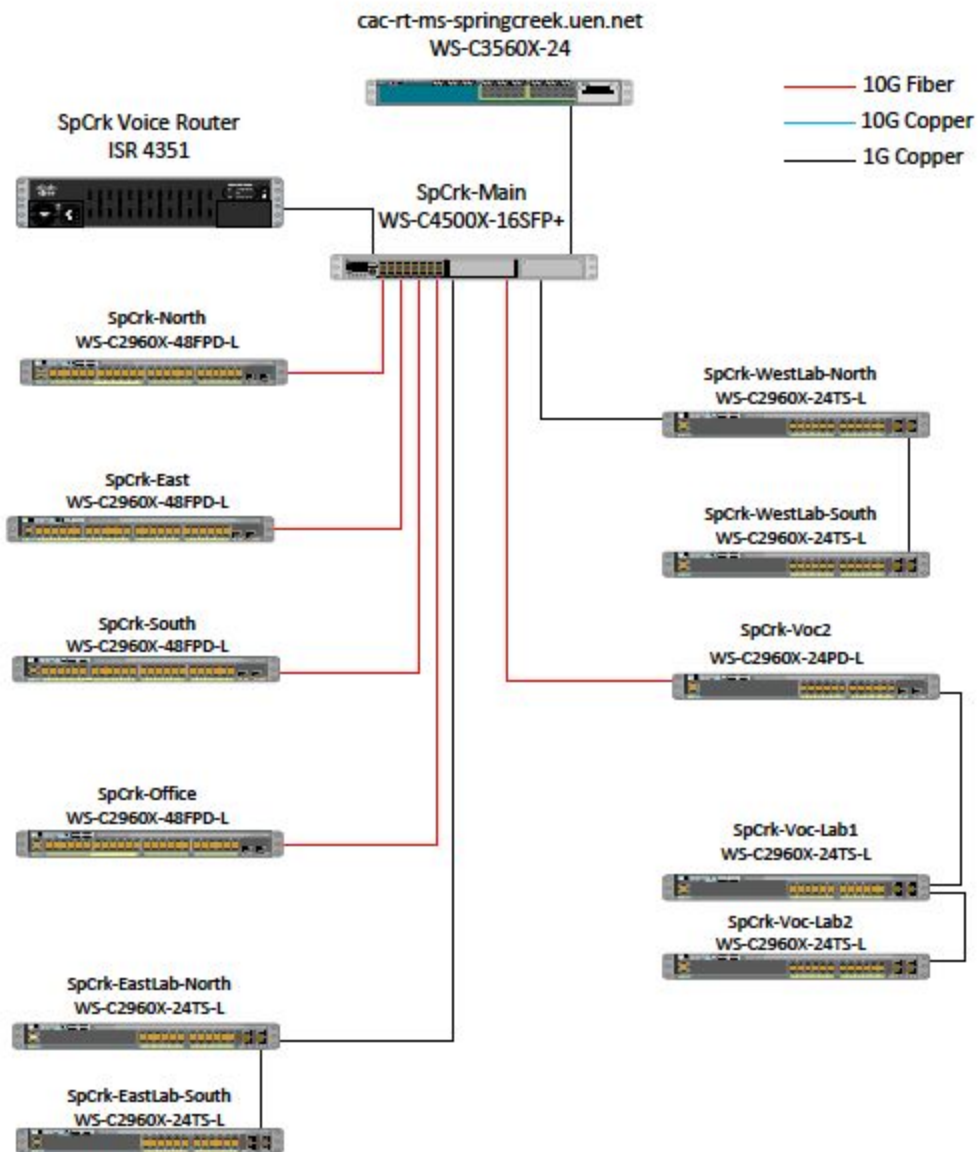
In addition to the hardware that is part of the Network Topography is the software including operating systems, security, and monitoring software, tools, that are used to administer the network. Our current software infrastructure is based on VMWare (Virtual Server software) and Windows Active Directory. We are in the process of updating this architecture to a Windows 2008 and Windows 2012 Server architecture.



Spring Creek (Current)

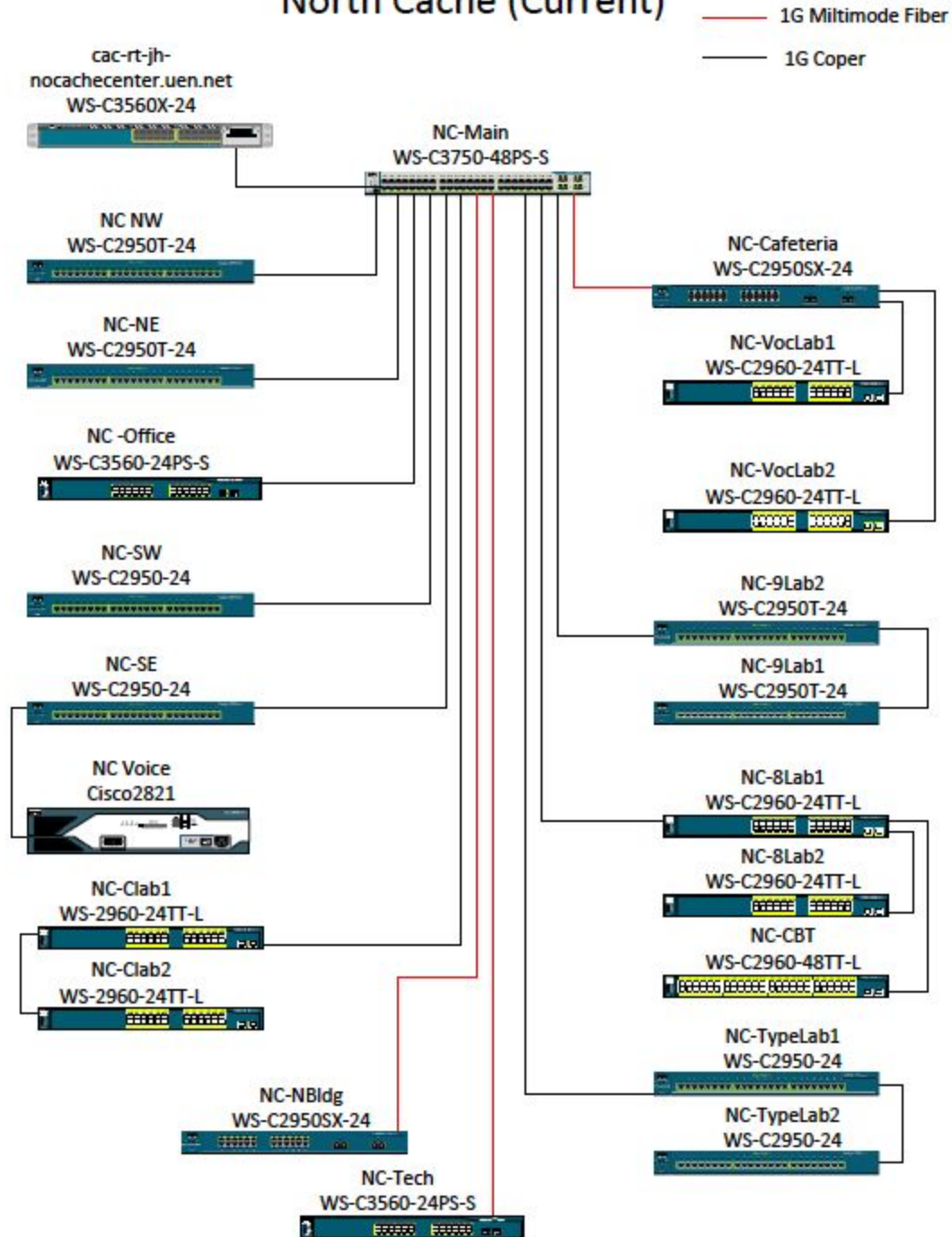


Spring Creek (2017)

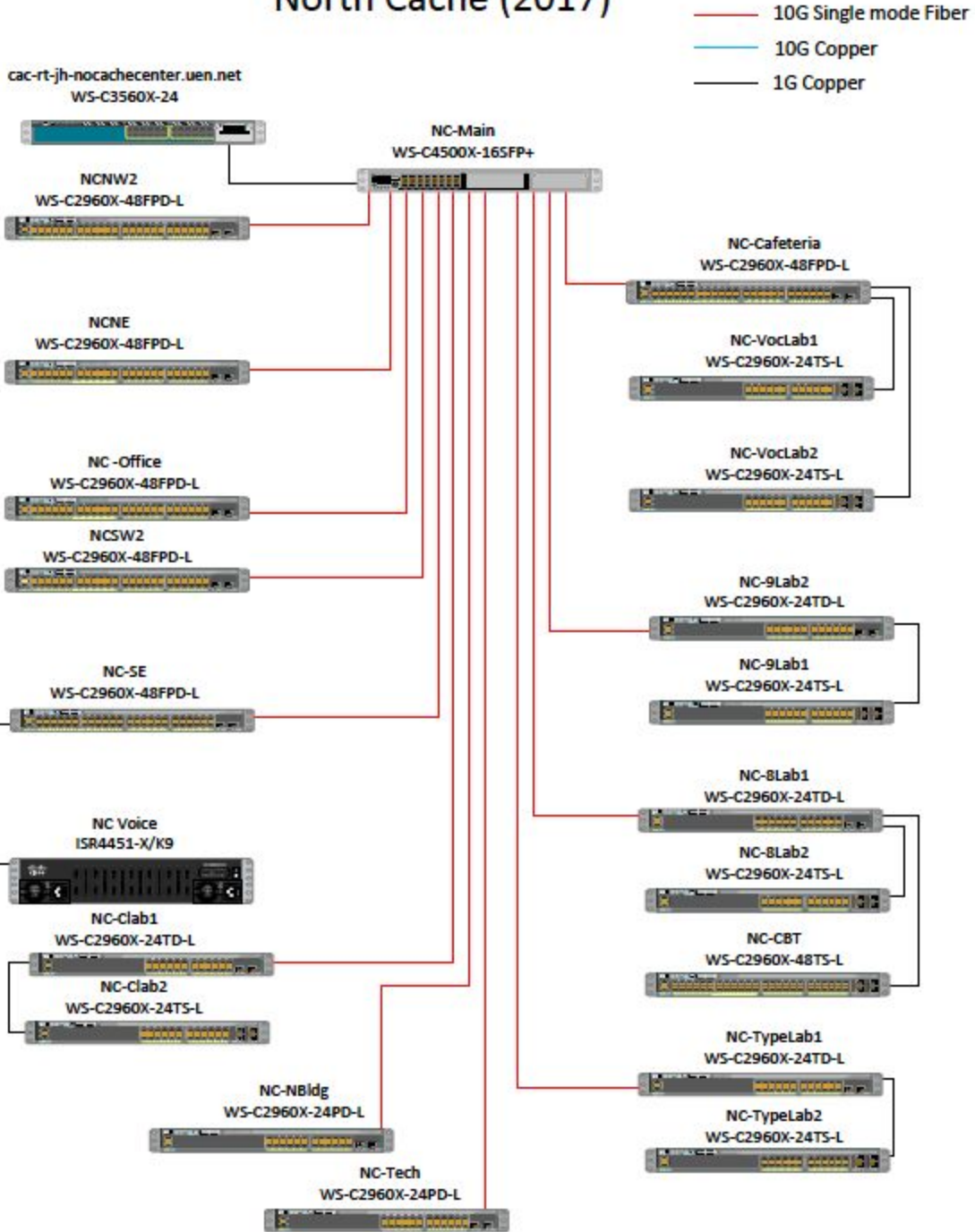


NORTH CACHE MIDDLE SCHOOL

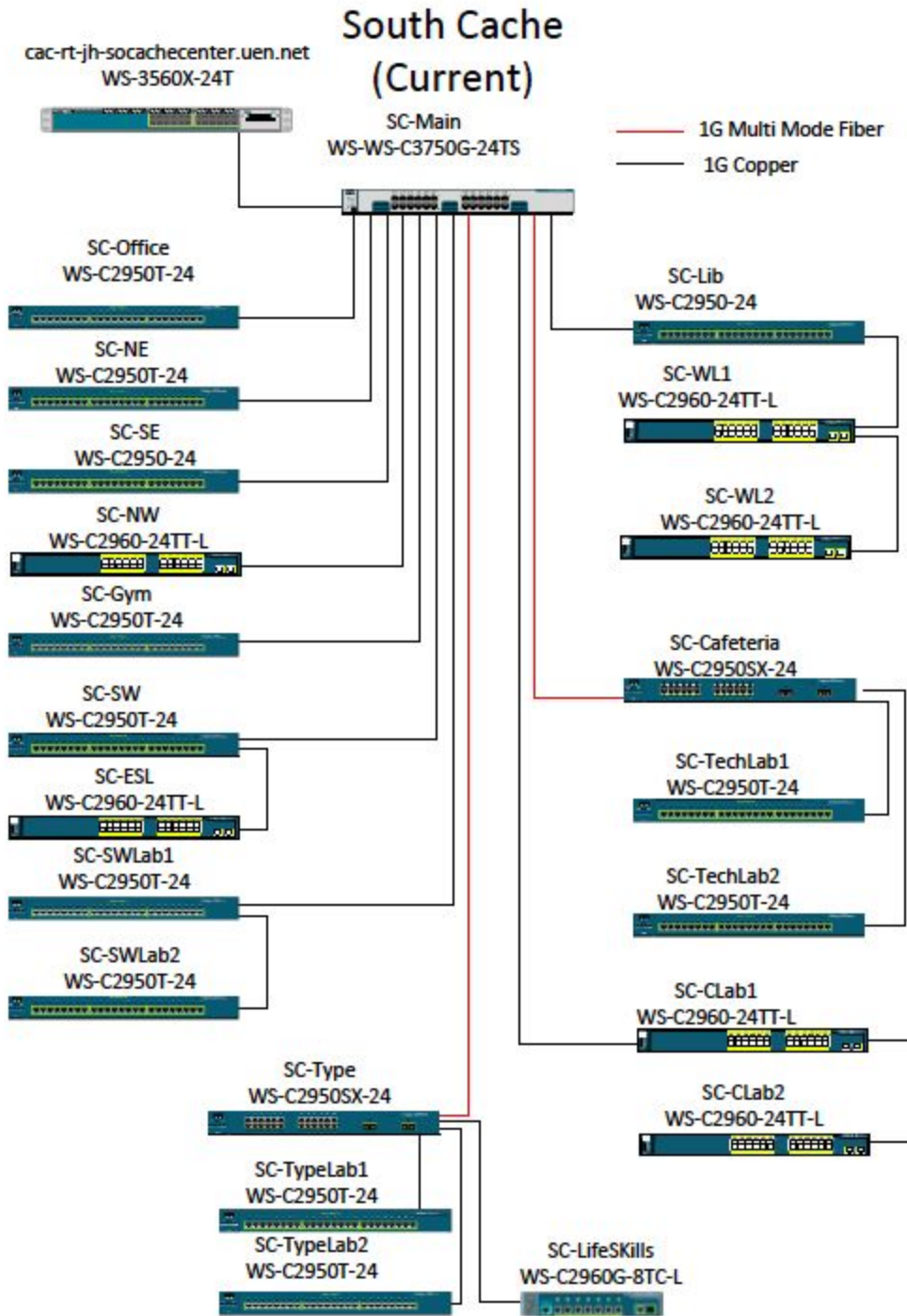
North Cache (Current)



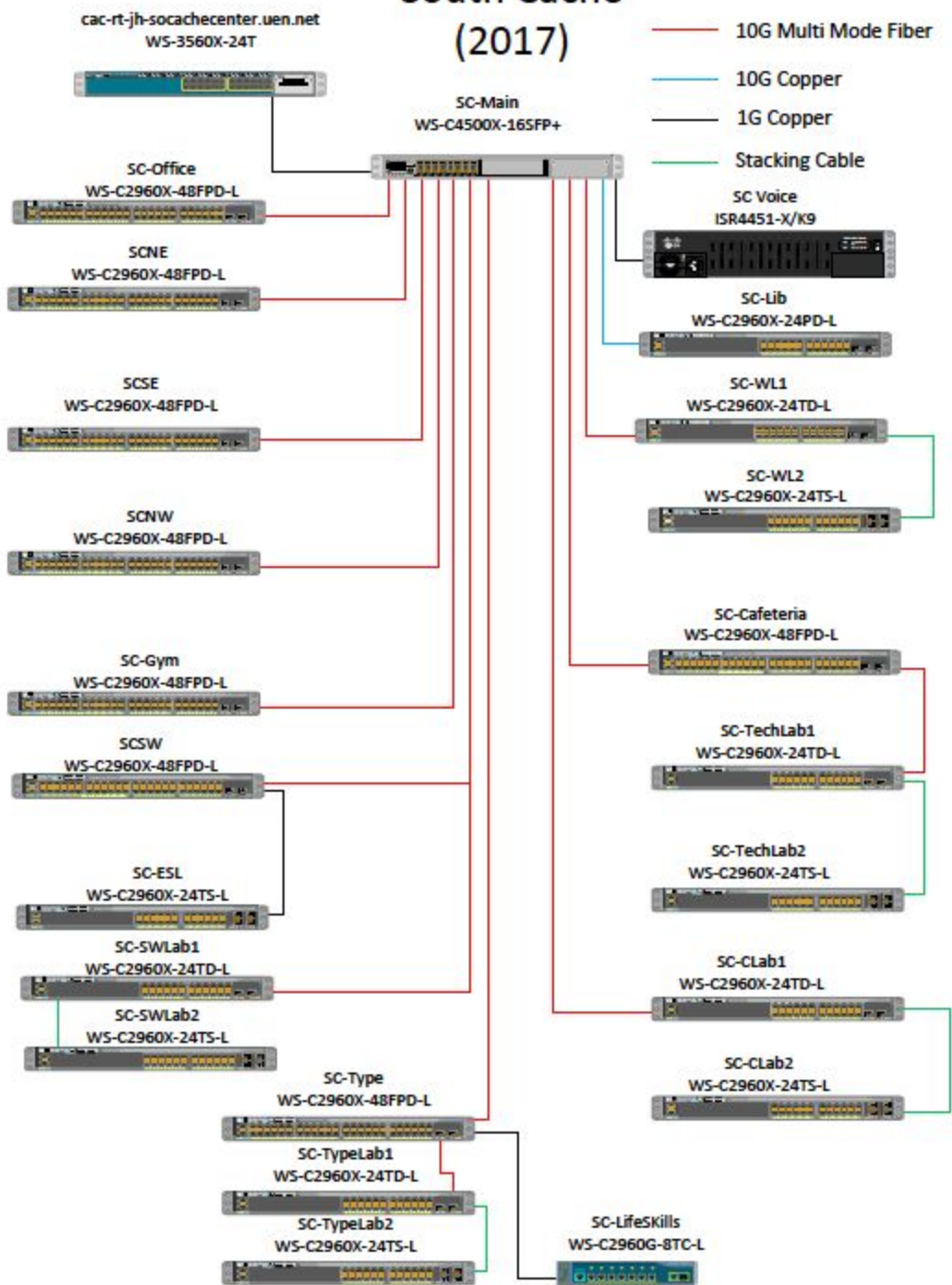
North Cache (2017)



SOUTH CACHE MIDDLE SCHOOL



South Cache (2017)



INVENTORY

Use of LearnPlatform will assist with establishing and maintaining an auditable edtech product inventory during the course of this five year plan. Housing all edtech products, inclusive of status information, grading, pricing, contract terms, compliance requirements, LEA-defined pre-screened criteria for purchase/adoption, etc. will create a single repository of all product information that is easily accessible, transparent and reportable. LearnPlatform will provide reporting on utilization and outcomes real-time and over time, during the course of this plan.

Cache County School District also inventories its fixed assets as follows. A tag is placed on all equipment over \$500 that comes into the district and added and tracked to school inventories. Audits are conducted each year to ensure that equipment is being effectively tracked. In addition, the Technology Department maintains several pieces of software that allows us to track our devices. First, we utilize the Google Management Console to track all of our Chrome devices. Second, we utilize CISCO Prime to track all of our networks switches and wireless access points. We are committed to continue to track our equipment both for the purposes of this grant and for our own internal processes.

X. TECHNICAL SUPPORT FOR IMPLEMENTATION AND MAINTENANCE OF THE PROGRAM

ITIL STANDARDS

Technology Support Services is committed to providing excellent customer service and support. Technical support is based on ITIL Standards. ITIL is a process which ensures the effective and efficient use of IT in enabling the achievement of CCSD goals. ITIL is the most widely accepted approach to IT service management in the world. It provides a cohesive set of best practices, drawn from the public and private sectors. Benefits of following the ITIL framework include:

- reduced costs
- improved services
- improved customer satisfaction
- standards and guidance
- improved productivity

As part of our effort to provide excellent customer service and support is the development of a tiered support model and an associated service level agreement. Tiered support provides the structure for support while the service level agreement outlines service standards and priorities and identifies how users get help.

TIERED SUPPORT

The Tiered support model provides for support at three levels, escalating issues as needed.

These three levels of support are outlined below.

Tier 1: On-Site, Help Desk & Field Support

Tier 1 Support includes on-site, help desk & field support. A Lab Specialist/Instructor is located at each school and offers on-site support for school staff and students. This

group meets monthly and receives support from the Help Desk to better equip them to handle issues. Users can also call the Help Desk directly. The Help Desk is open during the school year Monday through Friday, from 7:00 am to 4:00 pm and is double-staffed. Users may submit a Technology Help Request if they are unable to reach the help desk during business hours or after hours. Most issues can be resolved quickly by Help Desk agents. When an issue cannot be resolved over the phone, a field support specialist is deployed to the school. For the purpose of this grant, we will be adding onsite technical support staff at each middle school at 20 hours a week to help support implementation of this grant. If an issue cannot be resolved by Tier 1 support, it can be escalated to Tier 2.

Tier 2: Specialized Support

Tier 2 Support is provided by experienced technicians in the following areas: Desktop/Classroom support, Bench/Warranty Support, Curriculum Programs, PowerSchool, Classrooms A/V and VoIP/Network. The Help Desk is always staffed with at least one Tier 2 support person. Field Support relies on Tier 2 support as needed. If any incident is not resolved within Tier 2, the issue is escalated to the appropriate Tier 3 support group.

Tier 3: Engineering, Network Admin, Information Systems, & Special Systems

Tier 3 support is provided for the Network Infrastructure, Network Services, Information Systems and Special Systems Services and includes engineers, network administrators, programmers and data support specialists. Outside sources are consulted as needed by Tier 3 Support.

SERVICE LEVEL AGREEMENT

The Service Level Agreement outlines the standards and priorities for service the business and educational enterprise. The number one goal of Technology Support Services is to support effective teaching and learning. To accomplish this, our service needs to be efficient and effective.

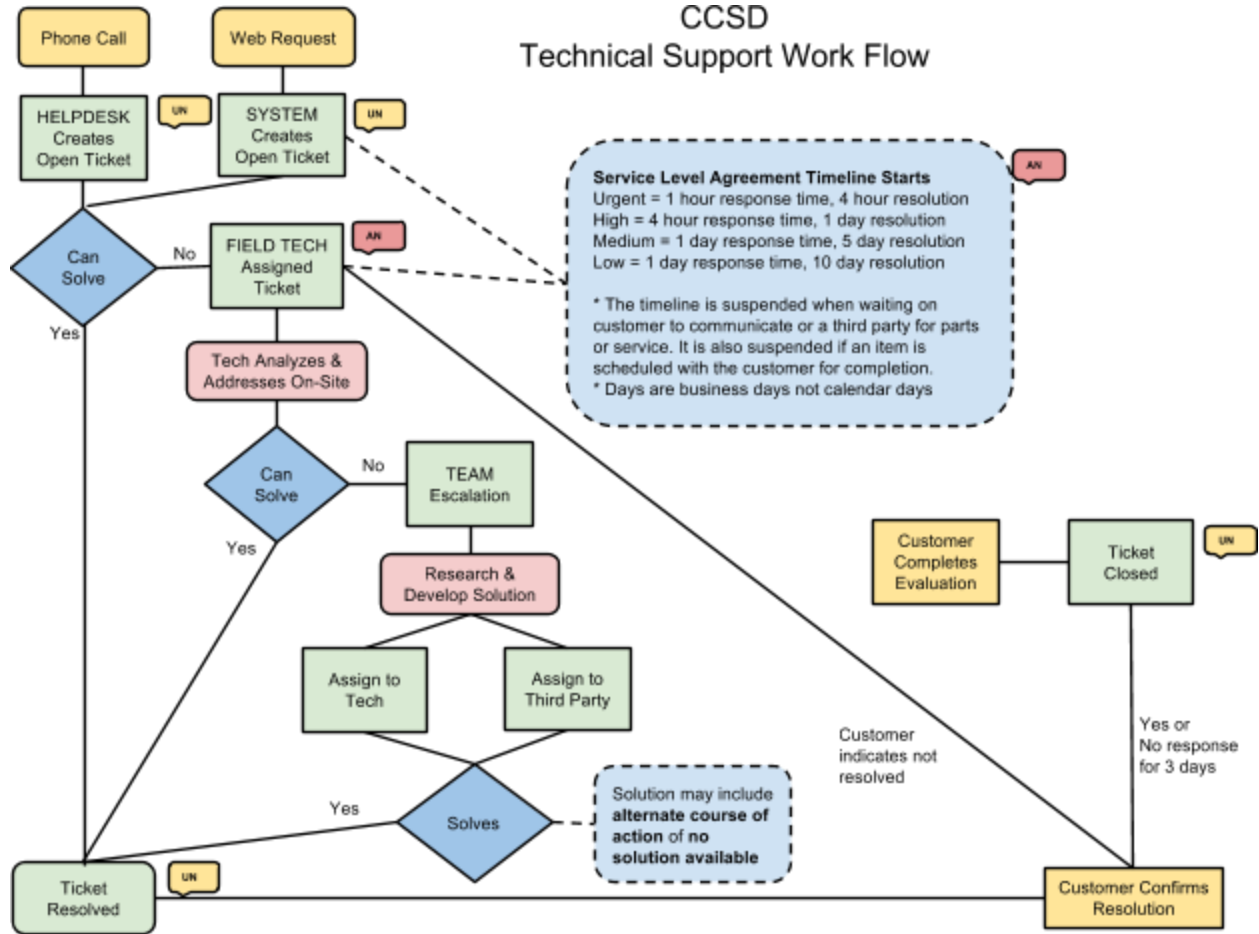
Following are the priorities and associated timelines problem response and resolution:

Priority	Definition	Response Time	Resolution Time
Urgent	Time and Job Sensitive (lunch, finance, payroll)	1 hour	4 hours
High	Job Critical (can't instruct, take roll, enter grades, test, enter information, etc.)	4 hours	1 day
Medium	Job Important (but not critical)	1 day	5 days
Low	A Project (requires multiple steps, more time, planning)	1 day	10 days

TECHNICAL SUPPORT WORKFLOW

To get assistance, users either call the Help Desk or go online. In either case, a Technology Help Request is generated. If not resolved immediately, each Technology Help request is assigned a priority and turned over to a field support agent until it is resolved. The following diagram outlines the workflow for Technical Support.

CCSD Technical Support Work Flow



XI. PROPOSED SECURITY POLICIES, INCLUDING SECURITY AUDITS, STUDENT DATA PRIVACY, AND REMEDIATION OF IDENTIFIED LAPSES

SAFETY AND SECURITY POLICIES

The Cache County School District takes the security of its information and data, and the safety of its staff and students very seriously. Staff and students should be able to access and use the information they need to accomplish their jobs, and to facilitate learning, while at the same time know that they are operating in a safe and secure environment and that their data and information is carefully protected and safeguarded.

SAFETY AND SECURITY TEAM

The district maintains personnel who serve as the primary Safety and Security Team. The Safety and Security Team is made up of the Chief Information Officer, Chief Engineer, Information Systems Manager, Senior System Engineer, Desktop Support Manager, and Network Administrators. This team is responsible to assess security risks and external threats, and recommend actions to the CCSD Safety Committee to minimize those risks, and conduct program reviews to assess the adequacy of internal controls, structures, and business processes to protect staff, students, and information.

INTERNET SAFETY AND SECURITY POLICIES

It is the policy of Cache County School District to: (a) prevent user access over its computer network to, or transmission of, inappropriate material via Internet, electronic mail, or other forms of direct electronic communications; (b) prevent unauthorized access and other unlawful online

activity; (c) prevent unauthorized online disclosure, use, or dissemination of personal identification information of minors; and (d) comply with the Children's Internet Protection Act [Pub. L. No. 106-554 and Utah State Uniform School Code]

Definitions - Key terms are as defined in the Children's Internet Protection Act (CIPA).

- Access to Inappropriate Material - To the extent practical, technology protection measures (or Internet filters shall be used to block or filter Internet, or other forms of electronic communications, access to inappropriate information. Specifically, as required by the Children's Internet Protection Act, blocking shall be applied to visual depictions of material deemed obscene or child pornography, or to any material deemed harmful to minors.
- Subject to staff supervision, technology protection measures may be disabled or, in the case of minors, minimized only for bona fide research or other lawful purposes. To the extent practical, steps shall be taken to promote the safety and security of users of the Cache County School District online computer network when using electronic mail, chat rooms, instant messaging, and other forms of direct electronic communications.
- Specifically, as required by the Children's Internet Protection Act, prevention of inappropriate network usage includes: (a) unauthorized access, including so-called "hacking" and other unlawful activities; and (b) unauthorized disclosure, use, and dissemination of personal identification information regarding minors.

Inappropriate Network Usage Supervision and Monitoring

- The employees in Cache County School District have a responsibility and obligation to take all reasonable measures to protect children and provide a safe online environment.

- Internet safety training is to be provided to minors that address:
 - Appropriate online behavior
 - Cyberbullying awareness and response
 - Social networking sites
 - Chat rooms
- It shall be the responsibility of all members of the Cache County School District staff to supervise and monitor usage of the online computer network and access to the Internet in accordance with this policy and the Children's Internet protection Act.
- Procedures for the disabling or otherwise modifying any technology protection measures shall be the responsibility of the Director of Technology or designated representatives.

CIPA Definition of Terms

TECHNOLOGY PROTECTION MEASURE. The term "technology protection measure" means a specific

technology that blocks or filters Internet access to visual depictions that are:

1. OBSCENE, as that term is defined in section 1460 of title 18, United States Code;
2. CHILD PORNOGRAPHY, as that term is defined in section 2256 of title 18, United States Code; or
3. Harmful to minors.

HARMFUL TO MINORS. - The term "harmful to minors" means any picture, image, graphic image file, or other visual depiction that:

1. Taken as a whole and with respect to minors, appeals to a prurient interest in nudity, sex, or excretion;

2. Depicts, describes, or represents, in a patently offensive way with respect to what is suitable for minors, an actual or simulated sexual act or sexual contact, actual or simulated normal or perverted sexual acts, or a lewd exhibition of the genitals; and
3. Taken as a whole, lacks serious literary, artistic, political, or scientific value as to minors.

SEXUAL ACT; SEXUAL CONTACT. - The terms "sexual act" and "sexual contact" have the meanings given such terms in section 2246 of title 18, United States Code.

STAFF APPROPRIATE USE POLICIES

It is the belief of the Cache County School District Board of Education that the use of technology for the purpose of information acquisition, retrieval, manipulation, distribution and storage is an important part of preparing children to live in the 21st century. The Board further believes that a "technology rich" classroom can significantly enhance both the teaching and learning process. This technology includes digital hardware, software, local and wide area networks and access to the Internet. Due to the complex nature of these systems and the magnitude of information available via the Internet, the Cache County School District Board of Education believes guidelines regarding acceptable and appropriate use are warranted in order to serve the educational needs of students.

It shall be the policy of the Cache County School District's Board of Education that the school system shall have in continuous operation, with respect to any computers belonging to the school having access to the Internet:

1. A qualifying "technology protection measure," as that term is defined in Section 1703(b)(1) of the Children's Internet Protection Act of 2000; and
2. Procedures or guidelines developed by the superintendent, administrators and/or other appropriate personnel which provide for monitoring the online activities of users and the use of the chosen technology protection measure to protect against access through such devices to visual depictions that are (i) obscene, (ii) child pornography, or (iii) harmful to minors, as those terms are defined in Section 1703(b)(1) and (2) of the Children's Internet Protection Act of 2000. Such procedures or guidelines shall be designed to:
 - a. Provide for monitoring the online activities of users to prevent, to the extent practicable, access by minors to inappropriate matter on the Internet and the World Wide Web;
 - b. Promote the safety and security of minors when using electronic mail, chat rooms, and other forms of direct electronic communications;
 - c. Prevent unauthorized access, including so-called "hacking," and other unauthorized activities by minors online;
 - d. Prevent the unauthorized disclosure, use and dissemination of personal identification information regarding minors; and
 - e. Restrict minors' access to materials "harmful to minors," as that term is defined in Section 1703(b)(2) of the Children's Internet Protection Act of 2000.

The district's technology resources are provided for educational purposes that promote and are consistent with the instructional goals of the Cache County School District Educational System. Use of computers and network resources outside the scope of this educational purpose is strictly prohibited. Students and employees accessing network services or any school computer shall comply with the district's appropriate use guidelines.

The district reserves the right to monitor, access, and disclose the contents of any user's files, activities, or communications.

It must also be understood that the Internet is a global, fluid community, which remains largely unregulated. While it is an extremely valuable tool for educational research, there are sections that are not commensurate with community, school, or family standards. It is the belief of the Board that the Internet's advantages far outweigh its disadvantages. The Cache County School District Board of Education will, through its administrative staff, provide an Internet screening system which blocks access to a large percentage of inappropriate sites. It should not be assumed, however, that users are completely prevented from accessing inappropriate materials or from sending or receiving objectionable communications.

Additionally, access to the Internet and computer resources is a privilege, not a right. Therefore, users violating the Cache County School District Board of Education's appropriate and Internet Safety policy shall be subject to revocation of these privileges and potential disciplinary action.

Employee Appropriate Use Policy

Please read the following carefully. Violations of the Appropriate Use Guidelines may cause an employee's access privileges to be revoked, School Board disciplinary action and/or appropriate legal action may be taken, up to and including employment termination. Additional items that employees need to be aware of:

1. Staff must be aware that students have access to the Internet from all of the school systems' computers. Teachers must use good judgment and closely supervise their students' use of the Internet. The School System uses filtering software to help prevent student access to inappropriate web sites. However, it is impossible to block access to all objectionable material. If a student decides to behave in an irresponsible manner, he/she may be able to access sites that contain materials that are inappropriate for children or are not commensurate with community standards of decency. Students should not be permitted to access sites unrelated to their assignment and should not be allowed to access game or other sites that could infect the computer with "Spyware".
2. Any individual who is issued a password is required to keep it private and is not permitted to share it with anyone for any reason.
3. Never allow students to log in with a staff member's user name and password. With that information they could log in under the teacher name and look at private documents including e-mail and grades.
4. Be careful when entering your user name and password or changing your password. Do not allow students to look over your shoulder and have access to this information.
5. Never allow a student to use a computer unless they are logged on under their own name (K-2 students may use a generic "classroom account" created by the school ITS).
6. Enforce the Appropriate Use Guidelines while supervising students. It is the employee's responsibility to notify the administration of any violation of the Internet Safety Policy.
7. Do not allow students to go to computer labs unsupervised.
8. Treat student user names and passwords with confidentiality. Do not post a list of user names and passwords where all students can see them.
9. Users are responsible for the appropriate storage and backup of their data.

10. The system requires employees to change passwords periodically. Some examples of passwords not to use: names of pets, birth date, children's names, street address, school mascots, favorite car, sports team, actor or movie. Make sure any written password information is stored in a secure location. Do not leave passwords lying on your desk or in an unlocked drawer.

12. Email accounts are provided to employees for professional purposes. Email accounts should not be used for personal gain or personal business activities; broadcasting of unsolicited messages is prohibited. Examples of such broadcasts include chain letters, mail bombs, virus hoaxes, Spam mail (spreading email or postings without good purpose), and executable files. These types of email often contain viruses and can cause excessive network traffic or computing load. All employees must request permission from the building administrator before sending any messages to an entire school staff.

13. Employees must abide by the Cache County School District Web Site Posting guidelines when posting any materials to the web.

14. Employees are not permitted to connect or install any computer hardware, components, or software, which are not school system property to or in the district's technology resources without prior approval of the district technology supervisory personnel.

15. Employees and staff, maintaining or posting material to a Web site or blog that threatens a likelihood of substantial disruption in school, including harming or interfering with the rights of other students to participate fully in school or extracurricular activities is a violation of the Appropriate Use Policy.

STUDENT APPROPRIATE USE POLICIES

Please read the following carefully. Violations of the Appropriate Use Guidelines may cause a student's access privileges to be revoked for a period of time up to one school year, other disciplinary action, and/or appropriate legal action to be taken. It is expected that all students sign as having read the district AUP.

Any student who utilizes the computer lab(s) or any digital equipment at the school must be aware of certain policies for use of the equipment and/or facilities. Procedures are in place for the protection of students and equipment. Students will be held accountable for any violation of the following policies (as would be the case for any classroom disciplinary matter). A student and his/her parents will be responsible for damages and will be liable for costs incurred for service or repair.

Students are only allowed to utilize the computers and network to retrieve information and run specific software applications as directed by their teacher. Students are not permitted to explore the configuration of the computer, operating system or network, run programs not on the menu, or attempt to do anything they are not specifically authorized to do.

Students are responsible for ensuring that any diskettes, CDs, memory sticks, USB flash drives, or other forms of storage media that they bring in from outside the school are virus free and do not contain any unauthorized or inappropriate files.

STUDENT SAFETY ISSUES

1. Any on-line communication should always be at the direction and with the supervision of a teacher.
2. Never provide last name, address, telephone number, or school name online.
3. Never respond to, and always report to the teacher or parent, any messages that make you feel uncomfortable or that are from an unknown origin.
4. Never send a photo of yourself or anyone else.
5. Never arrange a face-to-face meeting with someone you met on-line.
6. Never open attachments or files from unknown senders.
7. Always report to a teacher any inappropriate sites that you observe being accessed by another user or that you browse to accidentally.

Examples of prohibited conduct include but are not limited to the following:

1. Accessing, sending, creating or posting materials or communications that are:
 - a. Damaging to another person's reputation,
 - b. Abusive,
 - c. Obscene,
 - d. Sexually oriented,
 - e. Threatening or demeaning to another person,
 - f. Contrary to the school's policy on harassment,
 - g. Harassing, or Bullying
 - h. Illegal

2. Using the network for financial gain or advertising.
3. Posting or plagiarizing work created by another person without his/her consent.
4. Posting anonymous or forging electronic mail messages.
5. Attempting to read, alter, delete, or copy the electronic mail messages of other system users.
6. Giving out personal information such as phone numbers, addresses, driver's license or social security numbers, bankcard or checking account information.
7. Using the school's computer hardware or network for any illegal activity such as copying or downloading copyrighted software, music or images, or violation of copyright laws.
8. Downloading, installing, or using games, music files, public domain, shareware or any other unauthorized program on any school's computer or computer system.
9. Purposely bringing on premises or infecting any school computer or network with a Virus, Trojan, or program designed to damage, alter, destroy or provide access to unauthorized data or information.
10. Gaining access or attempting to access unauthorized or restricted network resources or the data and documents of another person.
11. Using or attempting to use the password or account of another person or utilizing a computer while logged on under another user's account.
12. Using the school's computers or network while access privileges have been suspended.
13. Using the school's computer hardware, network, or Internet link in a manner that is inconsistent with a teacher's directions and generally accepted network etiquette.
14. Altering or attempting to alter the configuration of a computer, network electronics, the operating system, or any of the software.

15. Attempting to vandalize, disconnect or disassemble any network or computer component.
16. Utilizing the computers and network to retrieve information or run software applications not assigned by their teacher or inconsistent with school policy.
17. Providing another student with user account information or passwords.
18. Connecting to or installing any computer hardware, components, or software which is not school system property to or in the district's technology resources without prior approval of the district technology supervisory personnel.
19. Bringing on premises any disk or storage device that contains a software application or utility that could be used to alter the configuration of the operating system or network equipment, scan or probe the network, or provide access to unauthorized areas or data.
20. Downloading or accessing via e-mail or file sharing, any software or programs not specifically authorized by Technology personnel.
21. Bypassing or attempting to circumvent network security, virus protection, network filtering, or policies.
22. Possessing or accessing information on school property related to "Hacking", or altering, or bypassing network security or policies.
23. Participating on message boards without teacher direction.
24. Students may use the school computer system only for legitimate educational purposes, which include class work and independent research that is similar to the subjects studied in school. Students shall not access entertainment sites, such as social networking sites or gaming sites, except for legitimate educational purposes under the supervision of a teacher or other professional.

25. All student use of the District network and Internet system or personal cell phones or other digital devices used by students while on campus is subject to the provisions of the individual school policies. Students may not share or post personal information about or images of any other student, staff member or employee without permission from that student, staff member or employee. If a student is found to have abused a personal cell phone or digital device in a manner that is not in accord with this Appropriate Use Policy, in addition to other disciplinary actions, the administrator may ban the students' use of any and all personal cell phone or digital devices.
26. Students should follow the guidelines for searching that utilize safe search engines and technology.
27. Off Campus Internet Expression -- Students may be disciplined for expression on/off campus networks or websites only if the expression is deemed to cause a substantial disruption in school, or collide or interfere with the rights of other students, staff or employees.
28. Students maintaining or posting material to a Web site or blog that threatens a likelihood of substantial disruption in school, including harming or interfering with the rights of other students to participate fully in school or extracurricular activities is a violation of the Appropriate Use Policy and can subject the student to appropriate penalties and disciplinary action.

SECURITY AUDITS

In 2014, the Cache County School District participated in a technology evaluation with UEN that included a security audit. Recently, the CIO contacted Jim Stewart and Troy Jessop at UEN about conducting a more thorough security audit. As part of this grant application, the

district fully intends to either contract with UEN or another entity to conduct PEN test and security evaluation. In addition, we intend to do a full evaluation of our policies and practices related to network security, Internet safety, and data privacy and protection.

NETWORK SECURITY

In addition to the our Safety and Security Policies, the District works to provide the hardware and software needed to insure the security of its network. For this purpose, the Network Topography consists of the following pieces that help secure the network and its data..

We maintain an external firewall. The external firewall blocks harmful traffic from coming into the district. The external firewalls were replaced in the fall of 2014 and have a connection capacity of 4 gigabytes per second. For the purposes of this grant, these firewalls will be moved to data Center and new external firewalls will be purchased to support 10GB connections.

We also maintain an iBoss filter. The filter blocks or restricts access to web sites deemed harmful to children. The district is required to filter Internet access for school-aged children by the federal Children's Internet Protection Act and by State Law. The current filter was replaced in 2014 and is an iBoss system. The filter was also replaced in the fall of 2014 and has a 10 gigabyte per second capacity.

The Data Center is protected by an internal firewall. The data center firewall blocks harmful traffic from outside the district network as well as any harmful traffic generated within schools. The inside firewall has a 1.5 gigabyte capacity and will need to be replaced by moving the

external firewalls inside and will have a 4GB capacity. The Data Center also has its own data switches. These data switches have a 1GB capacity and will be replaced in 2015-2016.

In addition to the hardware that is part of the our security, is the software including operating systems, security, and monitoring software, tools, that are used to administer the network. Our current software infrastructure is based on VMWare (Virtual Server software) and Windows Active Directory. We are in the process of updating this architecture to a Windows 2008 and Windows 2012 Server architecture.

SECURITY TRAINING

As part of this proposal, all stakeholders will be required to participate in security training. This training will be delivered via Canvas or Edivate and will include the following four topics:

1. Password Security – Passwords should be at least 8 characters long and use a variety of upper and lowercase letters, numbers, and special characters. Default passwords should never be used, and passwords should never be shared or written down in easy to find places..
2. Phishing – Employees should be trained to avoid opening unknown attachments and other common phishing techniques and traps.
3. Social Engineering – Users should be taught to be wary and to never divulge confidential information, password/ID combinations, or other sensitive information.
4. Malware – Employees are to be trained on the danger opening emails from unknown sources, using a USB drive that is infected, or going to websites that may be unsafe.

Each year, district staff also participate in Utah Saint which helps us to stay current on security threats and solutions.

XII: BUDGET

The LEA's overall three year financial plan, including use of additional LEA non-grant funds, to be utilized to adequately fund the LEA plan.

DISCLOSURE OF LEA’S CURRENT TECHNOLOGY EXPENDITURES

Description	17 Allocation	16 Carry Over	17 Budget
Employee Training	\$10,000.00		\$10,000.00
Equipment Repair	\$3,000.00		\$3,000.00
Employee Phones	\$10,000.00		\$10,000.00
Travel, Vehicle Fuel	\$23,864.00		\$23,864.00
Supplies-General	\$10,000.00		\$10,000.00
Supplies-Technology	\$275,000.00	\$100,000.00	\$375,000.00
Software	\$10,000.00		\$10,000.00
Licensing	\$175,000.00		\$175,000.00
Capital Equipment	\$15,000.00		\$15,000.00
Capital Hardware	\$250,000.00	\$100,000.00	\$350,000.00
Total	\$781,864.00	\$200,000.00	\$981,864.00

BUDGET NARRATIVE

Budget for Grant Funding Year 1 – 3

In order to accomplish our goal of digital teaching in learning for our middle school ELA, math and science, we have created a budget with detailed items for each year in the tables below.

For the school year 2016-17 with the new changes for SEEd science standards in grades 7-8 we have already begun preparations for changes to this curriculum. As part of a tri-district effort

we will have five full days of professional learning for all teachers involved in teaching science. As part of this professional learning, teachers will create lessons based on the new standards. These lessons will be integrated into Canvas as part of the digital teaching and learning component. The cost of this professional learning totaled \$19,000 which was part of a collaborative grant. The additional cost of substitutes, supplies and development of curriculum is estimated to be \$28,000 covered by Cache County School District.

For year 1, we anticipate the largest portion of the grant going to cover the cost of infrastructure upgrades (WiFi access points, firewalls, etc.). Additional cost items to be covered by this grant for the first year will be for Chromebook labs for each of our three middle schools, professional learning opportunities for Canvas digital curriculum development and best practices for teaching in a blended learning environment. Cache County School District will provide additional professional learning opportunities that will not be covered by this grant, such as travel expenses to and from InstructureCon for our lead teachers from each school.

YEAR 1		
BUDGET ITEMS	DESCRIPTION	COST
Salaries/Technical Support & Benefits	Digital curriculum content writers and editors for ELA, math and science	\$3,978
Purchased Professional & Technical Services <i>(Curriculum Development)</i>	(PL) Canvas InstructureCon Registration x 12 for Lead Educators (InstructureCon provides an opportunity for educators to network with other schools, districts and software developers to find learning solutions and best practices for using Canvas in the classroom)	\$8,340
	Canvas InstructureCon Lodging x 12 for Lead Educators	\$10,968
Supplies & Materials	GoGuardian Software keeps students safe when they're online, helps teachers engage with their students, and	\$30,000

Management Software	provides schools with better control over how their technology is used.	
	CidiLabs Design Tools for Canvas: This tool is a combination of LTI and the Canvas API. The tool cuts the time it takes to develop a Canvas course, enabling district curriculum specialists and teachers to rapidly build course shells, painlessly build and style the content of each course, and improve the quality, consistency and accessibility of digital curriculum. Design Tools includes the Content Editor Tools, the Multi-tool, and the Upload/Embed Image Tool as part of a single SaaS subscription. First year subscription includes professional learning and technical support provided by the CidiLabs Team.	\$7,855
<u>Property (includes equipment)</u>	School Network Infrastructure for three Middle Schools	\$197,500
	Google Chromebook Labs \$12,300 x 6	\$73,800
TOTAL		\$332,441
<u>10% Increase</u>	If an increase of 10% is allotted for this grant, we anticipate accelerating our timeline to include additional chromebooks to complete ELA/math/Science	
	Chromebooks Lab \$12,300 x 3	\$36,900

For years 2 & 3 we anticipate the largest portion of the grant providing additional Chromebook labs for each of our three middle schools, as well as professional learning opportunities for Canvas digital curriculum development and best practices for teaching in a blended learning environment. We will also be developing content, both transitional and digital content, in areas of ELA, math, and science as well as non-core subjects such as social studies and health.

YEAR 2		
BUDGET ITEMS	DESCRIPTION	COST

Salaries/Technical Support & Benefits	Technical Support Specialist	\$34,391
	Digital curriculum content writers and editors for ELA, math and science	\$9,030
Purchased Professional & Technical Services (Curriculum Development)	(PL) Canvas InstructureCon Registration x 12 for Lead Educators (InstructureCon provides an opportunity for educators to network with other schools, districts and software developers to find learning solutions and best practices for using Canvas in the classroom)	\$8,340
	(PL) Canvas InstructureCon Lodging x 12 for Lead Educators	\$10,968
	(PL) Travel to InstructureCon	\$7,800
	(PL) Targeted Professional Learning that is content specific for ELA, math and science, best practices and strategies	\$8,855
Supplies & Materials Management Software	GoGuardian Software keeps students safe when they're online, helps teachers engage with their students, and provides schools with better control over how their technology is used.	\$30,000
	CidiLabs Design Tools for Canvas: This tool is a combination of LTI and the Canvas API. The tool cuts the time it takes to develop a Canvas course, enabling district curriculum specialists and teachers to rapidly build course shells, painlessly build and style the content of each course, and improve the quality, consistency and accessibility of digital curriculum. Design Tools includes the Content Editor Tools, the Multi-tool, and the Upload/Embed Image Tool as part of a single SaaS subscription. First year subscription includes professional learning and technical support provided by the CidiLabs Team.	\$5,000
Property (includes equipment)	Google Chromebook Labs \$12,300 x 10	\$123,000
TOTAL		\$237,384
<u>10% Increase</u>	If an increase of 10% is allotted for this grant, we anticipate accelerating our timeline to include additional chromebooks to complete ELA/math/Science	
	Chromebooks \$12,300 x 2	\$24,600

YEAR 3		
BUDGET ITEMS	DESCRIPTION	COST
Salaries/Technical Support & Benefits	Technical Support Specialist	\$34,391
	Digital curriculum content writers and editors for ELA, math and science	\$9,030
Purchased Professional & Technical Services <i>(Curriculum Development)</i>	(PL) Canvas InstructureCon Registration x 12 for Lead Educators (InstructureCon provides an opportunity for educators to network with other schools, districts and software developers to find learning solutions and best practices for using Canvas in the classroom)	\$8,340
	(PL) Canvas InstructureCon Lodging x 12 for Lead Educators	\$10,968
	(PL) Travel to InstructureCon	\$7,800
	(PL) Targeted Professional Learning that is content specific for ELA, math and science, best practices and strategies	\$8,855
Supplies & Materials Management Software	GoGuardian Software keeps students safe when they're online, helps teachers engage with their students, and provides schools with better control over how their technology is used.	\$30,000
	CidiLabs Design Tools for Canvas: This tool is a combination of LTI and the Canvas API. The tool cuts the time it takes to develop a Canvas course, enabling district curriculum specialists and teachers to rapidly build course shells, painlessly build and style the content of each course, and improve the quality, consistency and accessibility of digital curriculum. Design Tools includes the Content Editor Tools, the Multi-tool, and the Upload/Embed Image Tool as part of a single SaaS subscription. First year subscription includes professional learning and technical support provided by the CidiLabs Team.	\$5,000
<u>Property (includes equipment)</u>	Google Chromebook Labs \$12,300 x 10	\$123,000

		TOTAL	\$237,384
<u>10% Increase</u>	If an increase of 10% is allotted for this grant, we anticipate accelerating our timeline to include additional chromebooks to complete ELA/math/Science		
	Chromebooks \$12,300 x 2		\$24,600

POSSIBLE INCREASE IN FUNDING (10% INCREASE PLAN)

With a possible increase of funding of 10%, our plan will be to accelerate our project by purchasing more Chromebook labs for each of our participating school. We have included this information in the tables listed above.

PROJECTION FOR FUTURE SUPPORT COSTS

Year 4 and Beyond (annual cost)		
BUDGET ITEMS	DESCRIPTION	COST
Salaries/Technical Support & Benefits	Technical Support Specialist with COLA	\$36,455
	Digital curriculum content writers and editors for ELA, math and science and other subject area5	\$18,060
Purchased Professional & Technical Services <i>(Curriculum Development)</i>	(PL) Canvas InstructureCon Registration x 12 for Lead Educators (InstructureCon provides an opportunity for educators to network with other schools, districts and software developers to find learning solutions and best practices for using Canvas in the classroom)	\$8,340
	(PL) Canvas InstructureCon Lodging x 12 for Lead Educators	\$10,968
	(PL) Travel to InstructureCon	\$7,800
	(PL) Targeted Professional Learning that is content specific for ELA, math and science, best practices and strategies	\$8,855

Supplies & Materials Management Software	GoGuardian Software keeps students safe when they're online, helps teachers engage with their students, and provides schools with better control over how their technology is used.	\$30,000
	CidiLabs Design Tools for Canvas: This tool is a combination of LTI and the Canvas API. The tool cuts the time it takes to develop a Canvas course, enabling district curriculum specialists and teachers to rapidly build course shells, painlessly build and style the content of each course, and improve the quality, consistency and accessibility of digital curriculum. Design Tools includes the Content Editor Tools, the Multi-tool, and the Upload/Embed Image Tool as part of a single SaaS subscription. First year subscription includes professional learning and technical support provided by the CidiLabs Team.	\$8,000
<u>Property (includes equipment)</u>	Google Chromebook Labs \$12,300 x 15	\$184,500
TOTAL		\$312,978
For future years, we will evaluate and revise as needed, with anticipation of building capacity to other schools and grade levels.		

SUSTAINABILITY

Our District has committed an extra \$200,000 per year to help with infrastructure refreshes in each of the schools that include the replacement of switches and wireless access points. In addition, Technology Support Services has set aside \$150,000 per year to assist with the replacement of components of the Central Core Network. This includes items such as core switches, firewalls, filters, routers, etc. Both of these budgets will be supplemented by leveraging Federal E-Rate Category 2 funds and by working closely with UETN to leverage, Category 1 funds.

In addition to increasing technology budgets to help with annual infrastructure needs, we are exploring ways to leverage current textbook budgets and secondary textbook rentals to ensure

digital sustainability at each of our local sites. We anticipate that this will be a shift that makes sense, but we also need more time to explore its complexity especially as we work in phases of implementation of digital teaching and learning. Schools will be asked to utilize their current instructional equipment funds to assist with the replacement of devices as well. We will redirect cost savings from digital teaching and learning to support the maintenance and growth of the program. By making some of these systemic changes there is evidence to support that digital resources have sustainability for the long-term. By leveraging a percentage of textbook rentals from our secondary schools, and by replacing some of our current ELA, math, science, and other subject areas with some high quality open source digital content, monies can be redirected to digital content programs. As mentioned above, this will take some time to transition from aspiration to reality, particularly since we are making adoptions during this grant period of time. However, we anticipate as we provide thoughtful and precise analysis to this process, we will find success.

Utah State Board of Education

250 East 500
South
P.O. Box
144200
Salt Lake City, Utah
84114-4200

Applying Institution or Organization: Cache County School District

Program Title: Digital Teaching and Learning Grant

Program Director:

Name: Curt Jenkins

Title: Director of Curriculum and Assessment

Address: 2063 N 1200 E; North Logan, Utah 84341

Telephone: (435) 752-3925

Fax: (435) 753-2168

E-mail: curt.jenkins@ccsdut.org

Number of Teachers to Be Served Directly (teachers may be counted each year they are involved):

Year One: 48

Year Two: 97

Year Three: 146

TOTAL 291

Certification by Authorized or Institutional Official:

The applicant certifies that to the best of his/her knowledge the information in this application is correct, that the filing of this application is duly authorized by the governing body of this organization, or institution, and that the applicant will comply with the attached statement of assurances.

Typed or Printed Name of Authorized Official:

Steven C. Norton

Superintendent



Signature of Authorized Official

Date: 10/5/16

STATEMENT OF ASSURANCES

Should an award of funds from the Digital Teaching and Learning Program be made to the applicant in support of the activities proposed in this application, the authorized signature on the cover page of this application certifies to the USBE that the authorized official will:

1. Upon request, provide the Utah State Board of Education with access to records and other sources of information that may be necessary to determine compliance with appropriate federal and state laws and regulations.
2. Conduct educational activities funded by this project in compliance with the following federal laws:
 - A. Title VI of the Civil Rights Act of 1964
 - B. Title IX of the Education Amendments of 1972
Section 504 of the Rehabilitation Act of 1973
 - C. Age Discrimination Act of 1975
 - D. Americans with Disabilities Act of 1990
 - E. Improving America's Schools Act of 1994
3. Use grant funds to supplement and not supplant existing funds from all sources.
4. Take into account, during the development of programming, the need for greater access to and participation in the targeted disciplines by students from historically underrepresented and underserved groups.
5. Submit, in accordance with stated guidelines and deadlines, all program and evaluation reports required by the Utah State Board of Education.
6. The applicant will retain records of the program for five years and will allow access to those records for purposes of review and audit.

BUDGET SUMMARY

Applicant:				
<u>Description</u>	<u>Funding Requested – Year One January 1, 2017 – June 30, 2017</u>	<u>Funding Requested – Year Two July 1, 2017 – June 30, 2018</u>	<u>Funding Requested – Year Three July 1, 2018 – June 30, 2019</u>	<u>TOTAL FUNDING REQUEST</u>
A. (100) Salaries Technical Support	<u>\$3,978</u>	<u>\$25,244</u>	<u>\$25,244</u>	
B. (200) Employee Benefits Technical Support		<u>\$18,177</u>	<u>\$18,177</u>	
C. (300) Purchased Professional & Technical Services Curriculum Development	<u>\$8,340</u>	<u>\$17,195</u>	<u>\$17,195</u>	
D. (400) Purchased Property Service				
E. (500) Other Purchased Service				
F. (580) Travel	<u>\$10,968</u>	<u>\$18,768</u>	<u>\$18,768</u>	
G. (600) Supplies & Materials Management Software	<u>\$37,855</u>	<u>\$35,000</u>	<u>\$35,000</u>	
H. (800) Other (Exclude Audit Costs)				
I. TOTAL DIRECT COSTS (Lines A through H)	<u>\$61,141</u>	<u>\$114,384</u>	<u>\$114,384</u>	
J. (800) Other (Audit Costs)				
K. Indirect Cost				
L. Property (includes equipment)	<u>\$271,300</u>	<u>\$123,00</u>	<u>\$123,000</u>	
M. TOTAL (Lines I through L)	<u>\$332,441</u>	<u>\$237,384</u>	<u>\$237.384</u>	

APPENDIX A

LETTERS OF SUPPORT

SPRING CREEK MIDDLE SCHOOL



Blake B. Pickett
Principal

350 West 100 North
Providence, Utah 84332
Phone 435-753-6200
Fax 435-753-1979

August 15, 2016

State Superintendent Dr. Sydnee Dickson and Utah State School Board
250 East 500 South
Salt Lake City, Utah 84114-4200

Dear Dr. Dickson and Utah State School Board,

We are so excited about the Digital Teaching and Learning Qualifying Grant Program. We recognize the need to modify and expand the culture of public education, our classroom instruction, as well as the need to engage parents and students in the learning processes. We live in an ever-changing digital world today and are educating students and preparing them for careers and jobs that aren't even in existence yet. We are thrilled at the prospect of driving our economic development by offering students the assistance and practices they will need to give Utah businesses the valued future workforce that they will need as we attempt to reach the P.A.C.E. Goals by 2020.

We are looking forward to our teachers continued support of the Utah Core and incorporating technology into our schools and classrooms. This will assist us as we strive to provide learning opportunities for students to improve on their higher-order problem solving skills and collaboration for both students as well as teachers. We also understand the need for ongoing infrastructure support and are looking forward to expanding and improving what we already have in place for our school from the resources that will be provided by the Digital Teaching and Learning Qualifying Grant Program.

We greatly appreciate every opportunity that we have to improve our access to reaching achievement in student learning in a variety of methods. The Digital Teaching and Learning Qualifying Grant Program will provide an avenue for us to gain ground in helping to attain our goals for student engagement and learning.

Sincerely,

A handwritten signature in black ink, appearing to read "Blake Pickett". The signature is written in a cursive style with a large initial "B".

Blake Pickett
Spring Creek Middle School Principal

A handwritten signature in black ink, appearing to read "Amanie Crosbie". The signature is written in a cursive style with a large initial "A".

Amanie Crosbie
Spring Creek Middle School Assistant Principal



North Cache 8-9 Center

157 West 600 South • Richmond, Utah 84333
Phone (435) 258-2452

8-31-2016

To Whom It May Concern,

This letter is evidence of support from North Cache Middle School in the Cache County School District in regards to the Technology Powered Learning grant. After a brief overview of the program and reviewing the master plan I feel it a privilege to be part of the program. North Cache pledges to implement the program as designed and safeguard the allocated resources given it. It is exciting to be part of a program that benefits the students of our school and ultimately enhances our local community and the State as a whole.

Sincerely,

Terry Williams
Stephanie Adams

Terry Williams - Principal • Stephanie Adams - Vice Principal

