

# 2013-2016

District Technology Plan

## 6/12/2013

Bellingham Public Schools

July 1, 2013 to June 30, 2016

## Table of Contents

Introduction.....	4
Iterative Approach .....	5
The Technology Levy and Resource Allocation.....	6
Educational Technology Planning Committee .....	7
Sub-Committee Overview .....	7
Educational Planning Committee Steering Committee.....	8
Infrastructure Sub-Committee.....	9
Infrastructure: Needs Assessment.....	9
Infrastructure: Planning and Deployment .....	10
Infrastructure: Professional Development .....	10
Infrastructure: Technology Plan Review & Update.....	10
Instructional Foundation Sub-Committee Overview .....	11
Instructional Foundation for Students.....	12
Instructional Foundation for Students: Needs Assessment.....	12
Instructional Foundation for Students: Planning and Deployment .....	13
Instructional Foundation for Students: Professional Development and Training .....	13
Instructional Foundation for Students: Plan Review & Update.....	13
Instructional Foundation for Teachers .....	14
Instructional Foundation for Teachers: Needs Assessment .....	14
Instructional Foundation for Teachers: Planning and Deployment .....	14
Instructional Foundation for Teachers: Professional Development.....	14
Instructional Foundation for Teachers: Plan Review & Update .....	15
Instructional Foundation for Library Media Specialists .....	16
Instructional Foundation for Library Media Specialists: Needs Assessment .....	16
Instructional Foundation for Library Media Specialists: Planning and Deployment.....	16
Instructional Foundation for Library Media Specialists: Professional Development .....	17
Instructional Foundation for Library Media Specialists: Plan Review & Update .....	17
Instructional Foundation for Administrators.....	18
Instructional Foundation for Administrators: Needs Assessment.....	18
Instructional Foundation for Administrators: Planning and Deployment.....	18

Instructional Foundation for Administrators: Professional Development .....	18
Instructional Foundation for Administrators: Plan Review & Update.....	19
Instructional Foundation for Support Staff .....	20
Instructional Foundation for Support Staff: Needs Assessment .....	20
Instructional Foundation for Support Staff: Planning and Deployment .....	20
Instructional Foundation for Support Staff: Professional Development.....	20
Instructional Foundation for Support Staff: Plan Review & Update .....	20
Innovation Sub-committee.....	21
Innovation: Needs Assessment .....	21
Innovation: Planning and Deployment .....	22
Innovation: Professional Development.....	26
Innovation: Plan Review and Update.....	27
Technology Plan Summary .....	28
Needs Assessment Summary .....	28
Professional Development Summary .....	28
Review and Update Summary.....	28
Appendix 1: Synopses of Infrastructure Projects.....	29
Appendix 2: Infrastructure Project Costs & Timing .....	35
Appendix 3: Network & Telecommunications Plan (E-rate Priority 1).....	37

## Introduction

The 2012-2016 Bellingham Public Schools Technology Plan is based on and written in support of The Bellingham Promise, clearly acknowledging that technology has a powerful role in this community's commitment to empower every child to discover and develop a passion, contribute to their community, and achieve a fulfilling and productive life; that technology tools and skills are core aspects of the community's commitment that all students will graduate from our schools prepared for success in the global community and ready for the widest range of educational and vocational options to support a diversity of life choices.

The means to that end is through Great Teaching with Strong Support, particularly in providing every teacher, learner, and support staff with the digital tools and skills necessary to ensure high quality instruction occurs in every classroom, every day, resulting in high levels of learning. This plan is supported by purposeful and ongoing professional development of all staff in the effective use of technology to improve and enhance instructional practice. This plan is founded upon a strategy of effective leadership for technology and innovation, and purposeful and ongoing professional development for staff in the effective use of technology to innovate and continuously improve instructional work practices. The technology initiatives in the plan will meet appropriate levels of stakeholder expectations and ensure that the organization maintains effective leadership in the use of educational technology.

This plan will ensure that technology is actively used and evaluated to promote innovation and flexibility to meet the needs of all students.

Deployment and implementation described in this plan will clearly follow the One Schoolhouse Approach by providing an equitable distribution of resources and services to ensure excellence for all.

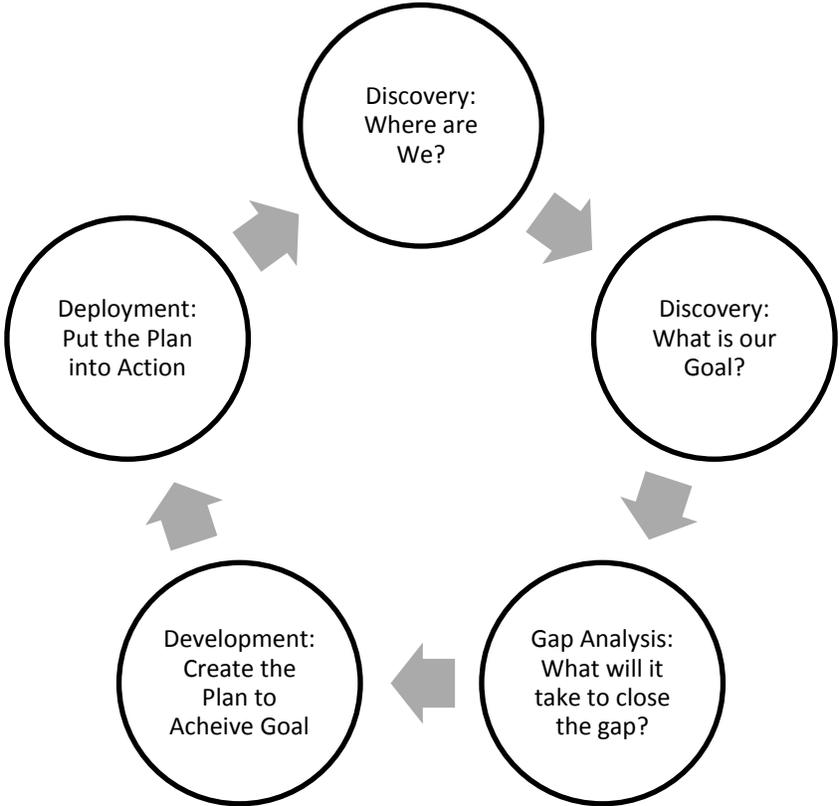
While technology has a role in every aspect of ensuring that all children of the Bellingham Public Schools community will attain high academic achievement and develop essential skills and attributes necessary for continuous growth in learning, this plan will be founded on the development of students and graduates who seek to be

- skilled users of technology and information,
- critical thinkers and problem-solvers,
- effective communicators, and
- honest and ethical digital citizens.

Strong curriculum encompassing these attributes will be implemented through the strategies in this plan and assessed through acknowledged benchmarks such as the Common Core State Standards, Washington State Student Technology Standards, and ISTE NETS for students, teachers, and administrators.

### Iterative Approach

The Committees' work follows an ongoing cycle of Discovery, Gap Analysis, Planning, and Deployment/Implementation. This work cycle ensures that there is an agile workflow that constantly focusses on organizational self-reflection and building upon existing successes.



Because of the continuous nature of this cycle, the plan is never complete, but is under constant revision through the active involvement of stakeholders at all levels. Because of the complexity and distributed nature of the school system, the plan must be broken down into manageable components that can be each analyzed for their requirements and dependencies. These components will then be rolled together into a comprehensive and cohesive plan. This process will take time to establish a solid foundation based on student learning. The iterative nature of this plan will ensure that prioritization of critical components can be addressed before the plan encompasses all district initiatives. Initial committee and subsequent board approval of the plan will address the vision, format, and overall organization of the plan rather than specific recommendations for action.

## The Technology Levy and Resource Allocation

The roles and responsibilities of all stakeholders involved in educational technology and information and technical literacy shall be clearly defined and communicated, including but not limited to considerations of:

- Approval of plans
- Allocation of technology levy funds
- Formulation and execution of professional development and training
- Selection of technology devices, tools, and curriculum platforms
- Identification of learning standards
- Development of process
- Elimination of barriers to implementation
- Implementation of organizational efficiency improvements

Stakeholders include but are not limited to:

- Teachers
- School principals
- Educational Technology Planning Committee members
- Director of Technology and Innovation
- Computer and Network Services Manager
- Computer and Network Services Staff
- School Library Media Specialists
- Superintendent
- Executive Team
- District-level directors and program administrators
- Students
- Families
- Local community
- Other: \_\_\_\_\_

## **Educational Technology Planning Committee**

The Educational Technology Planning Committee is primarily charged with writing and facilitating the implementation of the Technology Plan. The Committee is made up of a diverse team of vested stakeholders

### **Three Co-Chairs**

Deputy Superintendent  
Director of Educational Technology  
School Administrator

### **Members**

Librarians: Elementary, Middle, and High School  
Teachers: Elementary (2), Middle (2), and High School (2)  
Administrators: Elementary, Middle, and High School  
Administrators: Department of Teaching and Learning (2)  
Staff: Department of Educational Technology (2)  
Parent/Guardians: Elementary, Middle, High School, and At Large  
Community Members (4)  
High School Students (3)

### **Ex-Officio members**

Assistant Superintendent for Business and Operations  
Executive Director for Communications and Community Relations  
Computer and Network Services Manager  
Business Manager

## **Sub-Committee Overview**

The work of the Committee as well as the plan itself is broken into three sub-committees/areas: Infrastructure, Instructional Foundation, and Innovation.

### **Infrastructure Sub-committee**

The Infrastructure sub-committee is responsible for the backbone, structure, and operability of all district digital technology resources. The infrastructure of the district is the key backbone that connects the organization and provides the central services vital to day to day operation.

### **Instructional Foundation Sub-committee**

The Instructional Foundation sub-committee is charged with establishing standards for and providing all users with the devices, digital resources, and instruction/training necessary to maximize their effectiveness as learners, teachers, and support staff. To facilitate specific and manageable implementation cycles, the sub-committee addresses five distinct user groups:

1. Students
2. Teachers

3. Library Media Specialists
4. Administrators
5. Support Staff

Each of these user groups may be further sub divided by grade level or role with discovery and implementation tools being developed as indicated by each group's needs.

### **Innovation Sub-committee**

The Innovation Sub-committee's responsibility is three-fold:

1. To ensure that technology resources and policies support and facilitate innovation, continuous improvement, and flexibility among all members of Bellingham Public Schools as described in The Bellingham Promise.
2. To provide opportunities for leading edge innovation and exploration by leaders in instructional technology, and
3. To ensure a process for continuous improvement is implemented and administrated. Innovation differs from improvement in that innovation refers to the notion of doing something different rather than doing the same thing better.

The remainder of this planning document is broken into these three broad areas, each of which is subsequently divided into the four areas of Needs Assessment, Planning and Implementation, Professional Development, and Review and Update.

### **Educational Planning Committee Steering Committee**

The Steering Committee shall plan and facilitate the work of the committee generally as well as coordinate and direct the work of the sub-committees. The steering committee shall be comprised of the three committee co-chairs and two members of each sub-committee, one of whom shall be a sub-committee chair or co-chair.

## Infrastructure Sub-Committee

The Infrastructure sub-committee is responsible for the backbone, structure, and operability of all district digital technology resources. This infrastructure includes:

- phone system;
- technology support;
- maintenance and obsolescence management of computers (5,400+ as of May 2013);
- edge, closet, and core network switches;
- maintenance and replacement of network wiring;
- file storage capacity;
- Wide Area Network;
- wireless capacity and coverage;
- Emergency and back-up power systems;
- Network Management System tools;
- all district Software licensing and compatibility;
- cloud-based solutions for user applications and data storage;
- mobile device environment; and
- Bring Your Own Device management.

The infrastructure of the district is the key backbone that connects the organization and provides the central services vital to day to day operation.

### Infrastructure: Needs Assessment

The Infrastructure Subcommittee, at its meeting on March 12, 2013, categorized 17 projects into three broad categories based on urgency of need: High, Medium and Low. Practical considerations are funding (cash flow impact on purchasing ability), direction (decisions concerning the mix of new equipment to be procured and implemented) and staff capacity (ability to accomplish additional tasks in light of current work load and how these factors will affect project timing.) A brief synopsis of each these projects as well as estimated cost and timing are appended.

#### Projects categorized as High urgency:

- Implement enhanced 911 to room level
- Computer Obsolescence Management (subsequently moved to Instructional Foundation sub-committee)
- Staffing for support (coverage, redundancy, complexity)
- Professional Development (Technical Training for Computer and Network Services Staff)
- Replace and standardize edge switches
- Upgrade wiring in selected buildings

- Replace and standardize closet switches
- Add user file storage capacity
- Build out Wide Area Network to 10Gb connections to all schools

Projects categorized as Medium urgency:

- Enhance wireless capacity and coverage
- Emergency generator for Central Services (dependent on possible cloud-based options)
- Upgrade and standardize UPS systems district wide
- Implement a Network Management System
- Software compatibility of curriculum related windows-based products

Projects categorized as Low urgency:

- Cloud-based solutions for user applications and data storage
- Printing solutions in a mobile device environment
- BYOD management

It is likely that projects from all three categories will be in progress simultaneously. The scope of wiring projects and wireless deployments will be influenced by the level of proliferation and policy decisions of personal mobile devices and related projects based on decisions concerning facilities upgrades. Replacing existing hardware on the other hand is tied to cash flow and ability to manage deployment logistics. The district will contract IT consultancy services to provide further guidance on prioritization and implementation.

### **Infrastructure: Planning and Deployment**

This section describes the Planning and Deployment stages of the implementation cycle.

### **Infrastructure: Professional Development**

This section describes the professional development strategy to train staff on the technology and meet the increasing demand for sophisticated tech support, with individual training plans for key tech support staff.

### **Infrastructure: Technology Plan Review & Update**

Computer and Network Services staff will work with the Infrastructure Sub-committee to establish strategies and timelines to conduct annual reviews of each of the Infrastructure projects as part of the ongoing Implementation Cycle described above and will continuously refine and adjust this plan as indicated by those reviews.

## **Instructional Foundation Sub-Committee Overview**

The Instructional Foundation sub-committee is charged with establishing standards for and providing all users with the devices, digital resources, and instruction/training necessary to maximize their effectiveness as learners, teachers, and support staff. To facilitate specific and manageable implementation cycles, the sub-committee recognizes five distinct user groups:

1. Students
2. Teachers
3. Library Media Specialists
4. Administrators
5. Support Staff

Each of these user groups may be further sub divided by grade level or role each of which is subsequently addressed in the three OSPI Tech Plan Worksheet areas of Needs Assessment, Professional Development, and Review and Update. The sub-committee will develop discovery and implementation tools as needed.

## Instructional Foundation for Students

### Instructional Foundation for Students: Needs Assessment

- **Discovery: Current Situation**

- All classrooms are equipped to “21<sup>st</sup> Century Classroom” standards: multimedia capable workstation, speakers, document camera, and video projector.
- As of April 2013, 63% of student computers are more than 5 years old.
- Approximately 50% of district classrooms are equipped with interactive display capability.
- Approximately \_\_\_\_% of district classrooms are equipped with enhanced audio.
- Few students have access to district owned mobile technology.
- \_\_\_\_\_ % of students have access to personal mobile technology (e.g., smart phones).
- All students have access to the district’s guest wireless network which has broad and stable coverage throughout the district.
- The district has no clearly defined, universally adopted learning standards for information and technical literacy skills and knowledge.
- Instruction, curriculum, and assessment of technical and information literacy are minimal and inconsistent.
- Students’ information and technical literacy skills and knowledge are poor overall and widely varied by classroom and building.
- The integration of technology into student’s classroom experience is minimal and haphazard.
- Support by Library Media Specialists for instructional technology in general, the integration of technology into student’s classroom experience, and for direct instruction in technical and information literacy varies widely across the district. This is especially apparent at the elementary level where staffing levels range from 305 students per 1.0 FTE LMS to 757 per 1.0 FTE LMS.
- The level of engagement by library media specialists in the instructional program also varies greatly across buildings, grade levels and subject areas.

- **Discovery: What should every student have access to, experience, and know and be able to do vis-à-vis educational technology?**
  - Students' technical skill and literacy brought to standard as defined by CCSS, ISTE NETS, and OSPI Washington State Tech Standards.
  - Curriculum adopted which addresses those standards.
  - Assessment system to monitor and document student progress toward achievement of standards.
  - Regular integration of technology into curriculum and instruction shall be robust and complete (see Professional Development, below)
  - All students will have the support of a full time library media specialist and/or a designated technology integration specialist.
  - All student computers caught up to a four year replacement cycle.
  - All classrooms equipped with interactive display capability
  - All classrooms equipped with enhanced audio
  - Regular access to digital resources through a \_\_\_\_\_ computer to child ratio.
    - Specific ratios/deployment models TBD.

### **Instructional Foundation for Students: Planning and Deployment**

This section describes the Planning and Deployment stages of the implementation cycle.

### **Instructional Foundation for Students: Professional Development and Training**

This section describes the professional development and training program needed to bring the instructional technology skills of teaching and administrative staff to the levels necessary to ensure that all students meet standards per above.

### **Instructional Foundation for Students: Plan Review & Update**

The Instructional Foundation Sub-committee will work with district and building instructional leadership to establish strategies and timelines to conduct annual assessments of each user group through an Implementation Cycle as described above and will continuously refine and adjust this plan as indicated by those reviews.

## Instructional Foundation for Teachers

### Instructional Foundation for Teachers: Needs Assessment

- **Discovery: Current Situation**
  - All classrooms are equipped to “21st Century Classroom” standards: multimedia capable workstation, speakers, document camera, and video projector. The workstation, however, is often removed to provide the teacher with mobile resources.
  - As of April 2013, 51% of the 1,344 staff computers were more than 5 years old.
  - Approximately half of district classrooms are equipped with interactive display capability.
  - Only a handful of teachers have access to mobile technology.
  - As of April 2013, \_\_\_% of classrooms were equipped with enhanced audio.
  - Assessment of teachers’ technical skill and literacy levels is non-existent or unreliable to the point of being of little use.
  - Support for technical literacy integration varies greatly by building and classroom, ranging from active engagement to inadequate or non-existent
- **Discovery: Where do we want to be?**
  - Staff computers caught up to a replacement cycle ensuring full, immediate, and robust access to all digital resources.
  - All teaching staff provided with mobile technology of their choice
  - All classrooms equipped with interactive display capability
  - All classrooms equipped with enhanced audio
  - Teachers’ technical skill and literacy brought to a standard as defined by \_\_\_\_\_, to be measured by \_\_\_\_\_ (See Professional Development, below)
  - All teachers will have the support of a full time library media specialist and/or a designated technology integration specialist.
  - Integration of instructional technology shall be robust and complete (see Professional Development, below)

### Instructional Foundation for Teachers: Planning and Deployment

This section describes the Planning and Deployment stages of the implementation cycle.

### Instructional Foundation for Teachers: Professional Development

This section describes the professional development and training program needed to bring the instructional technology skills of teaching staff to the levels necessary to ensure that all students meet standards per above.

### **Instructional Foundation for Teachers: Plan Review & Update**

The Instructional Foundation Sub-committee will work with district and building instructional leadership to establish strategies and timelines to conduct annual assessments of each user group through an Implementation Cycle as described above and will continuously refine and adjust this plan as indicated by those reviews.

## Instructional Foundation for Library Media Specialists

### Instructional Foundation for Library Media Specialists: Needs Assessment

- **Discovery: Current Situation**
  - All libraries are equipped to “21st Century Classroom” standards: multimedia capable workstation, speakers, document camera, and video projector.
  - As of April 2013, nearly all of the 21 LMS’s primary workstations were more than five years old.
  - \_\_\_\_\_ of the 21 school libraries are equipped with interactive display capability.
  - 6 of the 19 school librarians have access to district-owned mobile technology.
  - As of April 2013, \_\_\_\_\_ of the 21 school libraries are equipped with enhanced audio.
  - Librarians’ technical skill and literacy levels have not been systematically assessed.
  - Professional development funding, opportunities, and funding is minimal
  - Librarians’ support of tech integration in classrooms and throughout the curriculum varies greatly.
  - Library staffing levels vary greatly, especially in the elementary schools which range from 305 students per 1.0 FTE librarian to 757 students per 1.0 FTE librarian.
  - .
  - .
- **Discovery: Where do we want to be?**
  - All LMS primary workstations computers caught up to a four year replacement cycle.
  - All teaching staff provided with mobile technology of their choice (includes librarians)
  - All libraries equipped with interactive display capability
  - All libraries equipped with enhanced audio
  - Librarians’ technical skill and literacy brought to a standard as defined by \_\_\_\_\_, to be measured by \_\_\_\_\_ (See Professional Development, below)
  - Librarians’ shall play a key role in the integration of instructional technology throughout across all grade levels and subject areas. (see Professional Development, below)
  - All buildings staffed with full time school librarians.

### Instructional Foundation for Library Media Specialists: Planning and Deployment

This section describes the Planning and Deployment stages of the implementation cycle.

### **Instructional Foundation for Library Media Specialists: Professional Development**

This section describes the professional development and training program needed to bring the instructional technology skills of librarians to the levels necessary to ensure that all students meet standards per above.

### **Instructional Foundation for Library Media Specialists: Plan Review & Update**

The Instructional Foundation Sub-committee will work with district and building instructional leadership to establish strategies and timelines to conduct annual assessments of each user group through an Implementation Cycle as described above and will continuously refine and adjust this plan as indicated by those reviews.

## Instructional Foundation for Administrators

### Instructional Foundation for Administrators: Needs Assessment

- **Discovery: Current Situation**

- As of April 2013, 25 % of the administrator's primary workstations are more than five years old.
- \_\_\_\_\_ % of administrators have access to interactive display capability.
- \_\_\_\_\_ % of administrators have access to mobile technology other than an iPhone.
- 100% of administrators have an iPhone
- Administrators' technical skill and literacy levels have not been systematically assessed.
- Administrators' knowledge of both adult and student technical and information literacy learning standards is minimal to non-existent.
- Administrators' support of technology integration in classrooms and throughout the curriculum is minimal and haphazard.
- Funding, opportunities, and expectations for administrators' professional development in technical and information literacy is minimal to non-existent.
- .
- .

- **Discovery: Where do we want to be?**

- All administrators' primary workstation computers caught up to a four year replacement cycle.
- All administrators provided with mobile technology of their choice (in addition to iPhones)
- All administrators should continue to be provided with iPhones.
- All administrators should have access to interactive display capability
- Administrators' technical skill and literacy brought to a standard as defined by \_\_\_\_\_, to be measured by \_\_\_\_\_ (See Professional Development, below)
- Administrators shall play a key role in the integration of instructional technology throughout across all grade levels and subject areas. (see Professional Development, below)

### Instructional Foundation for Administrators: Planning and Deployment

This section describes the Planning and Deployment stages of the implementation cycle.

### Instructional Foundation for Administrators: Professional Development

This section describes the professional development strategy to train administrators on the technology skills, standards, and instructional practices necessary to ensure that they effectively

incorporate technology and promote and raise expectations for the use of instructional technology as an integral part of the TPEP process.....

### **Instructional Foundation for Administrators: Plan Review & Update**

The Instructional Foundation Sub-committee will work with district and building instructional leadership to establish strategies and timelines to conduct annual assessments of each user group through an Implementation Cycle as described above and will continuously refine and adjust this plan as indicated by those reviews.

## Instructional Foundation for Support Staff

### Instructional Foundation for Support Staff: Needs Assessment

- **Discovery: Current Situation**
  - As of April 2013, \_\_\_ % of the support staff's primary workstations are \_\_\_\_\_ old.
  - Support staff's technical skill and literacy levels have not been systematically assessed.
  - Funding, opportunities, and expectations for support staff training in support of the technical aspects of their work varies greatly.
  - .
- **Discovery: Where do we want to be?**
  - All support staff primary workstation computers caught up to a four year replacement cycle.
  - The need for additional technical/digital resources, such as mobile devices or specialized software, shall be assessed and provided by role and duties.
  - Support staff technical skill brought to a standard as defined by \_\_\_\_\_, to be measured by \_\_\_\_\_ (See Professional Development, below)

### Instructional Foundation for Support Staff: Planning and Deployment

This section describes the Planning and Deployment stages of the implementation cycle.

### Instructional Foundation for Support Staff: Professional Development

This section describes the training strategy to ensure that all support staff have the technology skills and knowledge necessary to fulfill their responsibilities.

### Instructional Foundation for Support Staff: Plan Review & Update

The Instructional Foundation Sub-committee will work with district and building instructional leadership to establish strategies and timelines to conduct annual assessments of each user group through an Implementation Cycle as described above and will continuously refine and adjust this plan as indicated by those reviews.

## Innovation Sub-committee

The Innovation Sub-committee's responsibility is three-fold:

1. To ensure that technology resources and policies support and facilitate innovation, continuous improvement, and flexibility among all members of Bellingham Public Schools as described in The Bellingham Promise, and
2. To provide opportunities for leading edge innovation and exploration by leaders in instructional technology.
3. To ensure a process for continuous improvement is implemented and administrated. Innovation differs from improvement in that innovation refers to the notion of doing something different rather than doing the same thing better.

Innovation is defined in this plan as the exploration and evaluation of new methods or processes for enhancement of student learning. Technology advances are often a driver of innovative ideas but innovation can also be found in the reapplication of existing products or processes.

Innovative practices will be evaluated based on impact to the local learning environment and not solely based on results or recommendations from sources outside the district. Innovative practices from outside of our immediate community, as well as local innovation, will be studied and evaluated based on the applicability to the needs of the local staff and student populations.

In order for innovation to prosper, it must be well understood that not all ideas will be successful. Learning from the failures of unsuccessful projects and assessing the risk of all projects will be a key tenant implemented in this plan.

### Innovation: Needs Assessment

- **Discovery: Current Situation**
  - As of June 2013, the Bellingham Public Schools does not have a systematic, regular process to support the leading-edge, innovative use of instructional technology.
- **Discovery: Where do we want to be?**
  - Establish sustainable policies and processes to support innovation as described above, with clearly identified goals and strategies.

## **Innovation: Planning and Deployment**

### A Recipe to Support District Wide Innovation with an Emphasis on Technology

#### **Goal 1: Identify and remove the barriers to innovation within the district**

Strategy to Meet Goal 1:

1. Gather feedback from parents, educators and the community on the barriers which impedes innovation in the district.
2. Bring together the district leaders (principals, administrators, and senior educators) from all schools to acknowledge the barriers to innovation, determine their root cause, and define a corrective action plan to address their impact.

#### **Goal 2: Identify a budget reserved for projects and a process focused on evaluating innovative practices within the district**

Strategy to Meet Goal 2

1. Establish baseline technology grants and an evaluation process to support an educator in their role as the manager of an educational environment and as an curator of instructional curriculum. This scope includes support for both the technology advancement of the baseline educator (an educator who does not seek to innovate based on technology but rather uses a common set of baseline technology tools available to most if not all educators in support of their teaching and student learning) and student learner.
2. Determine the appropriate funds that are required to sustain this pathfinding process over the four years of the Tech Levy.
3. Determine how to reward the most passionate and competent educators by allocating them time to participate in this program.
4. Identify funds to be earmarked for investment in projects focused on pursuing innovative teaching and learning models that can be migrated into the general classroom practice. Ensure that a clear process exists to evaluate, adopt and integrate innovative practices identified by this process.
5. Implement and adopt key collaboration and communication tools to ensure that the innovation process is transparent and accessible to key stakeholders.

**Goal 3: Define key curriculum context areas (ie. Early education, special needs, including English Language Learners, high school applied sciences, retention, student engagement, global collaboration, learning anywhere ) in which innovative practices can be explored..**

Strategy to Meet Goal 3:

1. Research areas within BSD that could most benefit from innovation (both pedagogical and administrative).
2. Define areas of teaching and learning around which BSD would like to support and potentially propagate innovative practices.
3. Develop best practices and a plan to evaluate, optimize, and implement innovative practices within the defined subject matter areas

**Goal 4: Create an extensible structure in which supported projects can be described for the purpose of review, reporting progress, and propagating new practices.**

Strategy to Meet Goal 4:

1. Review request for proposal language from similar programs near and far.
2. Create a grant proposal form and process with description, expectations, and requirements, including what additional resources are required for this project in both time and dollars.

Innovation Grant Description:

Bellingham Public Schools will make available up to \$820,000 (representing 10% - 20% of any given year's total tech levy funds) to implement innovation. These funds should be considered as seed funding for new ideas and programs. The following grants are available in academic year 2013-2014, and can be span across academic years:

1. 2 at \$50,000
2. 8 at \$30,000
3. 16 at \$15,000
4. 32 at \$7,500

Funds may be used for course development, resources/materials, travel for professional development. All grant recipients will be required to attend periodic professional learning network meetings as proposed in their plan to share, problem-solve, and collaborate. A .1 release time can be factored into your budget. Additionally, a review team, comprised of the

grant recipients and outside experts, will make at least one site visit to learn about the innovative practices.. Measurable goals and objectives must be incorporated into grant proposals and a process will be established to assess progress periodically using a panel including peers to be the judges

Grants will be awarded to individuals from all levels, primary, intermediate, middle school, and high school.

Those proposals that have the best chance of garnering funding are those that exemplify the following:

- Characterize innovation
- Address compelling issues ( Early Childhood Education, Special Needs, including ELL, high school applied sciences, retention, student engagement)
- Align with the Bellingham Promise
- Have potential to affect student learning
- Involve a variety of individuals
- Show research and case studies that demonstrate depth of knowledge and a compelling argument for a successful outcome (ala. pitch to an investor)

#### Proposal Criteria

1. Title Page with primary author (must include a teacher over. 5) and other collaborative partners. This will be removed for blind review.
2. In no more than 2-3 pages, provide the following:
  - a. Title and Description of initiative/program
  - b. Proposal Criteria
    1. Synthesis of similar innovations, or discussion of this absence and the need couched in conceptual framework
    2. Rationale for why your proposal is innovative
    3. Issues that it addresses (i.e. Early Childhood Education, Special Needs, including ELL, high school applied sciences, retention, student engagement)
    4. Explanation for how it advances the Bellingham Promise

5. Specify clear, appropriate, measurable outcomes of student learning
  6. Explanation of infrastructure needs you foresee (ex. installation of a device)
  7. Explanation for how you intend to disseminate your findings (Suggestions include a public blog, wiki, or other publicly accessible source that documents your progress and results. Presentation at a conference, professional development day, ESD meeting, etc.)
- c. On separate pages (no more than one page each), provide the following:
1. Budget (how funding will be used)
  2. Timeline for implementation

Funded projects will be announced by the second week of September and by the second week of December. Grant funds do not have to be spent in their entirety in the annual year they are received.

#### **Goal 4: Design a process for requesting, accepting, vetting, and managing project proposals**

Strategy to Meet Goal 4:

1. Determine the number of projects that can be supported at different levels/types of support
2. Define the rubric and success criteria for reviewing submitted projects.
3. Develop a process for accepting and vetting project submissions
4. Design a process for providing feedback on all proposals, both accepted and rejected.

#### **Goal 5: Support the implementation of projects which meet their success criteria**

Strategy to Meet Goal 5:

1. Develop community between project leads to discuss and resolve shared issues
2. Develop working groups between project leads in common threads to develop an evolving set of findings and recommendations from their supported projects.

#### **Goal 6: Review and Dissemination of findings and successful practices**

Strategy to Meet Goal 6:

1. Have a committee consisting of peers (educators & administrators), students, business leaders, and community members review the outcomes from each of the supported projects
2. Identify findings and successful practices from each project and projects with common threads.
3. Have teachers and administrators meet in teams to discuss findings and make recommendations as to how they can impact district practices
4. Develop communication techniques for ensuring transparency (ie. “fish bowl”) and open feedback

### **Goal 7: Support and adopt successful projects beyond the grant year**

Strategy to Meet Goal 7:

1. Work with curriculum and technology leadership to adapt existing practices to take advantage of learnings from projects.
2. Provide project leads with grant writing support to expand the implementation of their innovative practice where appropriate
3. Support project leads in modeling practices both in their location and in other locations throughout the district.
4. Support project participants in making presentations at regional and national conferences where they will have a chance to hone their knowledge and gain new insight as part of a larger educational community

### **Innovation: Professional Development**

Professional development, both in support of those participating in the grants directly, as well as the dissemination of findings across the district, is embedded throughout the planning and implementation section, as described in “A Recipe to Support District Wide Innovation with an Emphasis on Technology.”

### **Innovation: Plan Review and Update**

Ongoing assessment, review, and communication of each project is embedded throughout the goals and strategies described in “A Recipe...” A systematic process of review and update for the overall plan to support innovation will need to be developed.

## **Technology Plan Summary**

### **Needs Assessment Summary**

To be developed.

### **Professional Development Summary**

To be developed.

### **Review and Update Summary**

To be developed.

## Appendix 1: Synopses of Infrastructure Projects

Infrastructure Projects categorized as **High** urgency:

### Implement enhanced 9-1-1 to room level

Over the last five years, the Bellingham Public Schools has upgraded all of its telephone systems to replace systems that were obsolete and unsupported by the manufacturer. One of the benefits of this project is the ability to implement enhanced 9-1-1 station identification down to the individual room level. Our current capability when initiating a 9-1-1 call identifies only the calling building. In light of the realities of the risks confronting those who occupy schools and public buildings, being able to provide first responders with accurate incident information for any emergency - whether fire, safety, security or medical - is of paramount importance. The technology plan should provide for the **immediate implementation of enhanced 9-1-1** station location identification throughout the district.

### Computer Replacement

There are approximately **2125 computers** that are no longer able to adequately perform the tasks required of them because their performance is too slow to run contemporary software efficiently or in some cases, at all. Many are still equipped with energy inefficient CRT monitors. The technology plan should provide for the **accelerated retirement of these computers/monitors and their replacement** with equipment which is both capable and relevant to the information processing needs of today's students and teachers. Attention should then be focused on a **systemic refresh of computers** over the life of the plan so that all students and staff will have access to equipment and digital resources which enhance rather than inhibit their work.

### Staffing for support (coverage, redundancy, complexity)

At the beginning of the 2011-2012 school year we implemented a support model that provided for 80% of technicians' time to be dedicated to on-site building support and 20% allocated to in-shop activities (technical training, building projects, enterprise level tasks, etc.). Current staffing for this model comprises a lead technician to coordinate/prioritize activities and assign tasks, six full time technicians to provide direct on-site support and two half time technicians to cover personnel absences and respond to emergencies at times when other regularly assigned technicians are not available. While this model has worked well and is generally welcomed by the supported building staffs, it does have some shortcomings due to the current level of staffing. Small elementary schools receive one scheduled support visit per week, either an afternoon or a morning. Large elementary schools receive two visits per week, middle schools three visits and high schools four visits. Each visit is a four hour time block. This schedule provides stability and reliability in fulfilling support expectations, but it also results in a backlog of work which typically exceeds 100 open work orders at any given time. In addition to their building support assignments, technicians have additional areas of specialization which impact their normal schedules. Our enterprise telephone system, wireless system and the process through which computers are reimaged and software updates are delivered are a few examples of these areas. The plan should provide for a **comprehensive review of the current school support model** with a view to **increasing the on-site presence** of technicians across the board and providing adequate staffing to ensure **redundant coverage of critical enterprise support skills sets and tasks**.

### Professional Development (Technical Training)

Information Technology is evolving at a phenomenal rate. Operating systems are changing rapidly at

every level; applications are becoming more robust and complex; equipment is constantly becoming more capable and feature rich; virtualization, mobility and adaptability are not mere buzz words – they are expectations today. At the same time, standards and protocols are changing to take advantage of the new capabilities being built into hardware or to be able to respond to the sheer volume of devices presenting themselves to service providers. There is an absolute need for our technical staff to maintain currency in these emerging and evolving technologies and attain a mastery of them. This is essential to enable the infrastructure to meet the needs of all users, but most especially those engaged in teaching and learning. The plan should provide for the **continuing professional development of technical support staff specific to the hardware and software systems used by the district** as well as provide opportunities for their enrichment through exposure to the work and best practices of contemporaries. Other areas of the plan will address the need for professional development for teachers, librarians, students and the use of mentors/coaches with regard to effectively implementing educational technology in the classroom and beyond.

### **Replace and standardize edge switches**

Our core enterprise Ethernet switch is a Brocade MLX state-of-the-art device which was installed about one year ago. The main switch in our server center which supports all district users is also a Brocade device and integrates tightly with the core switch at 10Gb/s transmission speed. Many of the edge switches which are used to connect the schools and other remote locations to the core switch were purchased five or more years ago at the time our fiber optic network was installed. The plan should provide for **replacement of these edge switches** with a view to standardizing on the Brocade platform to enhance interoperability between these critical devices and bring them up to current networking standards and evolving protocols.

### **Upgrade wiring in selected schools \***

The infrastructure wiring in the schools listed below is over twenty years old and is not adequate to support the data transmission speeds demanded by today's equipment. Some of these buildings (designated by \*) are anticipated to either be replaced or extensively remodeled as facilities are upgraded over the next several years. The timing of these facilities actions will have some bearing on the level of work that is reasonable to do in the near term. However, all of these buildings will need some near term infrastructure work to at least bring wireless access up to an acceptable performance standard. The plan should require that **new wiring be installed only as necessary to provide high speed copper connectivity** to essential fixed equipment locations and to provide for high speed connection of current and future wireless access points to the building's local area network backbone.

Alderwood: The new addition has excellent wiring. The older section of the building needs upgrading.

Columbia: The entire building needs upgrading

Happy Valley \*: Potentially to be torn down and rebuilt – do only what is needed to provide for near term improvement.

Lowell \*: Most of the 1<sup>st</sup> and 2<sup>nd</sup> floor needs some upgrading. Partial upgrading was done during seismic retrofit. Facilities upgrade plan also needs to be taken into consideration when determining the scope of near term improvements.

Roosevelt: The entire building needs upgrading.

Sunnyland: The entire building needs upgrading.

Fairhaven. The entire building needs upgrading.

Carl Cozier: The entire building needs upgrading.

Geneva: The entire building needs upgrading.

Larrabee \*: Being retired as a K-5 school in June 2014. Upgrading to address near term needs only.

Parkview \*: The entire building needs upgrading.

Silver Beach: The entire building needs upgrading.

Kulshan: The entire building needs upgrading.

Options \*: Potentially to be closed. Upgrades should be done to address only near term needs.

Central Services \*: 60% to 70% of the building needs near term wiring upgrades just to sustain current operations.

### **Replace and standardize closet switches**

Currently there is a wide variety of Ethernet switches in the wiring closets, offices and classroom around the district. Two thirds of these switches have reached end-of-life, half of them very recently, however, meaning that support for them will continue for two to three more years. Many are unmanaged, do not support evolving protocols and/or do not provide power over Ethernet for connected devices like wireless access points. Many are limited to 100 Mbps data transmission speeds prohibiting them from taking advantage of the higher connection speeds available on most current devices. The plan should provide for **immediate replacement of devices that are no longer under manufacturers support**. The remaining devices should be replaced over the life of the plan.

### **Add user file storage capacity**

While we should be looking at cloud-based storage solutions, at the same time we will still need to provide sufficient secure network storage capacity to accommodate the vast majority of users' work products. We envision the cloud as a place of collaboration and limited short term file storage at least in the near term (2 to 3 years). Adding storage capacity to our disk farm is a natural occurrence as users continue to add documents, videos, images, etc., to their network storage space. In conjunction with adding storage space, however, we need to address the need for disk de-duplication (elimination of redundant copies of the exact same document or file) and for indexing and retrieving documents in response to document discovery requests. The technology plan should address both the need to **maintain adequate files storage capacity** and the means to ensure that file storage is both **efficient and responsive to legal requirements** for discovery and recovery.

### **Build out Wide Area Network to 10Gb connections to all schools**

The fiber optic links from central services to high schools and middle schools are capable of transferring data at the rate of 10 billion bits per second (10Gb/s). The links to the elementary schools operate at 1Gb/s. That's pretty fast when you consider that the typical wireless connection operates at less than 54 million bits per second (54Mb/s) and a typical wired connection at 100Mb/s. Today we don't have a problem. But, we are on the threshold of a potential avalanche of media based content that will be delivered to the classroom using a variety of protocols, formats and sources. The technology plan should provide for **upgrading the elementary school telecommunication links to 10Gb/s** in the near term and provide for higher transmission speeds to all schools as future requirements demand.

Infrastructure Projects categorized as **Medium** urgency:

### **Enhance wireless capacity and coverage**

There are currently over 1000 wireless access points deployed across the district. While this seems like a large number, there are many areas where medium to large concentrations of wireless devices overwhelm our capacity to provide sufficient reliable connectivity. Utilization of our wireless capacity by user owned devices and i-devices significantly exceeds that of our BSD-owned devices – a trend which is only likely to increase over time. We have the tools in place and staff trained to use them which can identify areas where coverage and capacity need to be enhanced in order to provide reliable and stable wireless access under reasonable as well as peak loads. In addition about one-third of our current access points need to be upgraded (exchanged) to keep pace with the emerging standards affecting wireless data transmission speeds, capacity and coverage. The plan should first **address the replacement of obsolete access points** and then provide for the **systematic expansion and scaling of the wireless infrastructure** to meet the future demands of the exploding mobile device presence in our schools and classrooms.

### **Emergency generator for Central Services**

The data center and main distribution facility in the basement of the central services building is the hub of all network terminations, services and connection to the Internet. It is vulnerable to prolonged power interruptions and fluctuations which can (and have) damaged equipment. Loss of power at central services brings all network activity to a halt including external telephone connectivity. Uninterruptible power supplies are in place to protect equipment from surges or brownouts, but only provide for approximately twenty minutes of run time without commercial power. After twenty minutes, actions must be initiated to shut down all systems in an orderly fashion and once started, this process must run to completion. Once power is restored, it can take several hours to bring all systems back on line and resume normal operations. If power fails during off hours and technical staff are unable to respond in time to accomplish the orderly shutdown, recovery is far more complicated, takes many more hours and exposes systems to the very real risk of data and operating system corruption. Prior studies have shown that it is more economical to power the entire building than to rewire the existing internal circuits to power only the network and telecommunications equipment while purchase a slightly lesser capacity generator. The plan should provide for **near term installation of a standby generator at central services** with sufficient capacity to power the entire building during any power outage until such time as power is restored.

### **Upgrade and standardize UPS systems district wide**

Some district buildings, notably the newer ones, have standby generators in place; more do not. Even those that do have generators are not configured to power an entire building. The rooms where

network equipment is located are usually not provided standby generator power. Even in the best of circumstances, each network equipment rack requires an uninterruptible power supply (UPS) to keep the equipment operating while the standby generator starts and comes on line. The current fleet of UPS systems is old and most have proven to be unreliable even though they appear to function properly when tested. They are also a mix of manufacturers with little or no management capability from remote locations. The plan should provide for the **phased replacement of UPS systems protecting telecommunications equipment district wide**, standardize on a single manufacturer's device when practical and provide for manual and periodic automatic testing reporting and remote access from any location through a web based management console.

#### **Implement a Network Management System**

The BSD enterprise network comprises over 7000 wired and wireless devices, 29 miles of fiber optic cable, and countless miles of copper wiring. The equipment served includes workstations, notebook computers, tablets, switches, servers, sensors, telephone systems and instruments as well as the equipment necessary to secure, operate, monitor and manage the network itself. While there are some management tools in place, they are outdated and limited in their scope and ability to analyze the complex array of current and future systems and equipment. The technology plan should provide for **implementation of a modern and comprehensive set of network management tools** for the effective monitoring of the state of the network so that technical staff can be proactive when diagnostic checks are predictive of degrading network performance.

#### **Software compatibility of curriculum related windows-based products**

There are many curriculum related software applications which are web and/or windows based. Some are server based and are delivered over the network while others are installed on the user's local device. Even some of the web-based applications may have a client component installed on the local PC. While some of these may be available for other than windows operating system devices, some will likely never be converted. A major problem with this type of software is known as "versionitis" – having multiple versions of the same product deployed throughout the district, perhaps even on the same campus. Often, funds are obtained through grants or special programs to support the initial acquisition of software, but there may not be additional funds available from the same source for program maintenance. Soon there is a veritable alphabet soup of versions of a deployed software application. This is bad enough in that keeping track of who has what version and making sure that licensing restrictions per version are enforced is not a simple task. What becomes an even larger problem at times is the fact that an earlier version of the software will not run on the next upgrade to the computer's operating system. That fact then must also be factored in when attempting to install upgrades or repair systems by reimaging them completely. The plan should require a **periodic review of all curriculum related software** that is not entirely web-based, provide for **elimination of programs no longer in use** and require that **all software in use be maintained** at a common version across the district unless there are specific and compelling reasons for an individual installation to vary from that standard.

Infrastructure Projects categorized as **Low** urgency:

#### **Move selected user applications and data storage to cloud-based solutions**

As a best practice, storage of documents and files on networked shared disk drives has always been mandated. Storing data on local disk drives precludes effective back up and almost always incurs

personal data loss if a computer has to have its operating system restored. Making use of cloud-based applications and services such as those offered through Microsoft Office 365 (which the district has rights to use for all staff and students at no cost) and through other providers ensures data survivability as well as data and application availability from anywhere there is an internet connection and from virtually any browser enabled platform or device. There is still a strong case for maintaining local network shared storage as a repository for archiving data of for large files which are impractical to store and retrieve over wireless data connections. Cloud-based solutions also provide for collaboration among communities of like interest by enabling sharing of work products and ideas expressed in the form of commentary. The plan should provide for **exploration and adoption of cloud-based services**, specifically Microsoft Office 365 due to its tight integration with our standard productivity software suite (Microsoft Office Professional) and zero cost factor, but not to the exclusion of other solutions which may serve the needs of specific user populations in more appropriate ways.

### **Printing solutions in a mobile device environment**

As much as we profess our belief in a paperless environment, that dream is far from being realized. Printing is still a fact of life and will be for a while. Printing in a wired world presents its own set of challenges – finding the correct printer, having the right drivers, managing print queues. This is handled through application of policies implemented at login based on who you are and where the computer is located on the network. Mobile devices bring a new array of challenges since it is often not possible to discern who is using a particular device or what printer the user would choose if there were a choice to be had. There are solutions available and we have some in place, but they are far from seamless and do not always produce consistent results. The technology plan should require continued **exploration into the methods available to provide a reasonable solution to mobile device printing** that is as natural for the user as any other operation done on the device being used.

### **BYOD management**

Bring Your Own Device (BYOD) is here. In April of 2011 we began to see the utilization of our guest wireless network reach the same level as on what we refer to as our production wireless network (to which district-owned windows based devices connect). Today, we see about 1/3 more devices connected to the guest network during peak times (9:30 a.m. to 2:30 p.m.) than to the production network. To be sure, some district-owned devices such as iPads and iPhones connect to the guest network since it is more suited to the Apple IOS by not requiring authentication or certificate exchange to reach the internet, but this has always been the case and the number of these devices remains fairly constant. What is increasing is the number of student and staff personal devices that are connecting to the guest network. All market indicators point to this as the beginning of an explosion in the number of small hand-held personal productivity devices. In fact, the data that we have accumulated from our own wireless network shows that the 1/3 increase in guest wireless utilization has occurred since students and staff returned from winter break in January 2013. Christmas 2012 was apparently a happy season for Apple and other manufacturers of such devices. Competition for access to wireless resources will continue to intensify. We will soon have to confront the issues of resource contention, allocation, bandwidth management, and prioritization as more district-owned and personal mobile devices are introduced. The plan should provide for a **comprehensive review of best practices concerning management and ownership of mobile devices** and the experience/lessons learned by those who have both been successful and failed in the attempt.

## Appendix 2: Infrastructure Project Costs & Timing

Implement enhanced 9-1-1 to room level

Est. Cost: \$50,000 - \$60,000

Timeline: Summer 2013

Computer Replacement

Est. Cost: 1500 units at \$750 ea. \$1,125,000

Timeline: Sep 2013 – Aug 2014

Staffing for support (coverage, redundancy, complexity)

Est. Cost: 2 FTE Technicians at \$140,000 per year

Timeline: Sep 2013 – Aug 2017

Professional Development (Technical Training)

Est. Cost: \$75,000 - \$80,000

Timeline: Sep 2013 – Aug 2014

Replace and standardize edge switches

Est. Cost: \$1,000,000 – \$1,200,000 (spread over 4 years)

Timeline: Summer 2013

Upgrade wiring in selected buildings

Est. Cost: \$1200 per run, Avg 50 runs per bldg x 13 bldgs. \$780,000

Timeline: Summer 2013 – Summer 2015

Replace and standardize closet switches

Est. Cost: Included with edge switch cost above

Timeline: Summer 2013 – Summer 2014

Add user file storage capacity

Est. Cost: \$80,000 - \$100,000

Timeline: Late spring 2014

Build out Wide Area Network to 10Gb connections to all schools

Est. Cost: \$50,000 - \$60,000

Timeline: Summer 2013

Enhance wireless capacity and coverage

Est. Cost: 1024 WAP @ 650/WAP (incl Licenses). \$665,600

Timeline: Sep 2013 – Aug 2016  
Emergency generator for Central Services  
Est. Cost: \$100,000  
Timeline: Late spring 2014  
Upgrade and standardize UPS systems district wide  
Est. Cost: \$75,000 - \$90,000  
Timeline: Sep 2013 – Aug 2014  
Implement a Network Management System  
Est. Cost: \$40,000 - \$50,000  
Timeline: Sep 2013 – Aug 2014  
Software compatibility of curriculum related windows-based products  
Est. Cost: Unknown  
Timeline: Sep 2013 - ???  
Cloud-based solutions for user applications and data storage  
Est. Cost: \$0 - Unknown  
Timeline: Sep 2013 - Continuing  
Printing solutions in a mobile device environment  
Est. Cost: \$15,000 - \$20,000  
Timeline: Spring 2014 (based on needs)  
BYOD management  
Est. Cost: \$75,000 - \$90,000  
Timeline: Summer 2014 – Summer 2015

### Appendix 3: Network & Telecommunications Plan (E-rate Priority 1) Bellingham Public Schools

<p><b>Telecommunications Services:</b></p> <ul style="list-style-type: none"> <li>• POTS – Local and long distance telephone service.</li> <li>• Cellular phone services for administrators, operations and emergency communications.</li> </ul> <p><b>Internet Access:</b></p> <ul style="list-style-type: none"> <li>• Provide K20 connectivity as primary Internet connection.</li> <li>• Provide alternate means of connection when possible for District personnel conducting activities at locations where primary Internet access methods are not available.</li> </ul>	
Voice, Data & Video	<i>Optional—Budget &amp; Potential Funding Sources</i>
<p>In addition to the standard telecommunications services identified above, the main focus of activity covered by this plan is to:</p> <ul style="list-style-type: none"> <li>• significantly enhance the district infrastructure architecture</li> <li>• refresh personal productivity devices used by staff, students and teachers</li> <li>• increase access to digital resources used in teaching and learning</li> <li>• provide training and professional development for technology users</li> <li>• increase wireless capacity to accommodate BYOD, 1 to 1 and other initiatives</li> <li>• maintain and upgrade enterprise hardware and software systems and resources</li> <li>• support technology equipment and users at a level which sustains the highest quality teaching and learning</li> <li>• Move toward cloud-based services for e-mail, productivity applications, collaboration and access to content-rich media and data sources</li> <li>• Implement enhanced 9-1-1 and replace obsolete, inadequate standby power systems</li> </ul>	<ul style="list-style-type: none"> <li>• POTS: \$79,238/yr. \$31,695 operations and maintenance, \$47,543 E-Rate</li> <li>• Cellular: \$18,949/yr. \$7,580 operations and maintenance, \$11,369 E-Rate</li> <li>• K-20: \$20,674/yr. operations and maintenance</li> <li>• Other Internet: \$21,560/yr. \$8,624 operations and maintenance; \$12,936 E-Rate</li> </ul> <p>It should be noted that with the current level of NSLP participation, the district only qualifies for E-Rate funding for Priority 1 services (telecommunications and internet access). Other technology needs (equipment, personnel, services, repair parts, maintenance of systems and software, etc.) are variously funded either through a technology levy or the general operations and maintenance fund.</p>
<b>How will these services support your district's learning goals?</b>	<p>These services support the District's Learning Goals by providing multiple means of communication that support teaching and learning, provide parents access to information regarding their children's progress, allow staff and students quick access to pertinent information resources, and provide for a safer environment in which to work, teach and learn.</p>