

**Federal Way**  
**Public Schools**  
Every Student, a Reader

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# TECHNOLOGY PLAN

2007-2010

*Information Technology Services*

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## **EXECUTIVE SUMMARY**

This report, which spans our thinking for the next 3 years, sets the framework for initiatives that will allow us to support our school district's focus on literacy and the State and Federal requirements for the new legislation under the Elementary and Secondary Education Act.

As we move towards the completion of our first technology levy, the plan provides a revolving update of projects supported by these increased funds. While we set our sights on future plans, we will at the same time, be strategic about evaluating new initiatives, piloting those that are relevant and implementing when appropriate to the district's focus.

Some of the initiatives that have changed the landscape of technology tools for our district have been: applications that are data-rich and available for staff, students and parents; utilizing presentation equipment that assists with instruction in the classroom; providing communication mechanisms, such as "Moodle" and "blogs", for staff to converse on common subjects; and increasing the opportunities students will have to use computers in the classroom environment so that they may become "technologically literate." These will be addressed with funding support, resource allocation and staff development training.

The best method for creating a comprehensive plan is to involve many thinkers. We have done this by tapping into our staff and community members in the schools. To support the individual School Learning Plans (SIP), the district's technology plan is designed to enhance and escalate the individual plans through joint district initiatives. An "Education" section is embedded within this document to address classroom integration.

Additionally, we must consider all aspects of technology use and its impact in the district. This plan focuses on the "Business" at hand and infuses methods to best assist our support staff. Listed in our "Current" and "Forecast" sections are projects tied to support the district's business needs.

## INTRODUCTION

While planning for the future, we will be tactical about evaluating new initiatives, piloting those that are relevant to our district's strategic goal, and implementing when appropriate. Each year projects may shift into the proper section for the next level of action. Some of the initiatives that change the landscape of technology tools for our district will be: applications that are data-rich and available for staff, students and parents; utilizing presentation equipment to assist with instruction in the classroom; providing communication mechanisms, such as "Moodle" and "blogs", for staff to converse on common subjects; and increasing the opportunities students will have to use computers in the classroom environment so that they may become "technologically literate." These will be addressed with funding support, resource allocation and staff development training. The Information Technology Services (ITS) department will be responsible to update the sections listing actions. Technology Leaders, which are multi-representative from all our sites, act as a conduit for delivering information from and to the schools/sites.

This plan is separated into areas that focus on the present and the future. Embedded in the CURRENT PLAN will be our annual report that lists projects completed and those projects designed for the current year. A section identified as the FORECAST PLAN will guide us beyond our daily routine, and into the future. Further distinction will be made under the sections Education and Business (see below.)

**Education:** Education will include those items associated with student learning. These include, but are not limited to; how students are supported in their classroom environments, how teachers engage students in problem solving, and using computers as a tool for learning. Standards have been developed that will continue to guide us in providing relevant staff development opportunities specific to these needs. The Education section also includes the many resources that students naturally require as part of their learning; accessing the Internet, retrieving information, gathering and storing data, assessing reading and math skills, and demonstrating knowledge – all using computers.

**Business:** Federal Way Public Schools is guided by many regulatory and operational mandates originating from both State and Federal sources. As would be the case with any business operation, we are also challenged to identify the most efficient systems and solutions to accomplish these non-negotiable tasks. In many instances, technology is the tool to support those requirements. Staff members are playing a role in further construction of our technological tools. Upon roll-out of newly developed "in-house" products, we use pivotal staff members to take the foundation of an application to a deeper level that will efficiently support the end-user. An example of this would be our "Informer" application, used to access student data. Staff input has resulted in many deeply embedded levels of data used for analysis. This partnership between the end-user and the ITS department has been invaluable for creating a better product.

The specific functions of the District Technology Plan:

- provide a roadmap, guiding us toward achievement of our objectives
- support the District's budget process by defining the resources required for short and long range technology objectives
- provide an overview of ITS Department accomplishments while also developing a better understanding of the District's technology operation

## CONTRIBUTING GOALS

### National Goals

In December 2000, the United States Secretary of Education released new National Education Technology Goals:<sup>1</sup>

**Goal 1** - All students and teachers will have access to information technology in their classrooms, schools, communities, and homes.

**Goal 2** - All teachers will use technology effectively to help students achieve high academic standards.

**Goal 3** - All students will have technology and information literacy skills.

**Goal 4** - Research and evaluation will improve the next generation of technology applications for teaching and learning.

**Goal 5** - Digital content and networked application will transform teaching and learning.

### "No Child Left Behind"

The "No Child Left Behind" legislation, which is part of the Elementary and Secondary Education Act (ESEA), has specific language about the use of technology in our schools.<sup>2</sup> What is left unclear at this time is language defining the phrase "technologically literate." For the purpose of developing our Plan, we will use the International Society for Technology in Education (ISTE) Standards, which was adopted by Washington State, for students exiting eighth grade as the benchmark for being "technologically literate."

**PRIMARY GOAL** - The primary goal of the ESEA, Enhanced Technology legislation, is to improve student achievement. As stated in the subtitle, this could be accomplished by using enhanced technology.

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<sup>1</sup> E-Learning: Putting World Class Education at the Fingertips of all Children, the National Education Technology Plan, US Department of Education, December 2000, p4.

<sup>2</sup> The Elementary and Secondary Act as Reauthorization by the No Child Left Behind Act of 2001, Part D —'Enhancing Education Through Technology Act of 2001', SEC. 2402. Goals

ADDITIONAL GOALS - The additional goals of this section are:

- (A) To assist every student in crossing the digital divide by ensuring that every student is technologically literate by the time the student finishes the eighth grade, regardless of the student's race, ethnicity, gender, family income, geographic location, or disability.
- (B) To encourage the effective integration of technology resources and systems with teacher training and curriculum development to establish research-based instructional methods that can be widely implemented as best practices by State educational agencies and local educational agencies.

## Washington State Goals

*Washington State Education Technology Plan: A Blueprint for Washington's K-12 Common Schools and Learning Communities, September 2002.*

The State Plan contains 3 areas of focus: Standards and Professional Development, Fiscal Policy and Strategic Funding, and Learning and Teaching Support. This Plan has included extensive work for developing standards or competencies for students, teachers, administrators and infrastructure in our State.

From the State Plan, the vision for Education Technology is defined briefly:

*"Education today requires the knowledge and skills to utilize technology with equitable and universal access to it."*

1. Read with comprehension, write with skill, and communicate effectively and responsibly in a variety of ways and settings;
2. Know and apply the core concepts and principles of mathematics; social, physical, and life sciences; civics and history; geography; arts; and health and fitness;
3. Think analytically, logically, and creatively, and to integrate experience and knowledge to form reasoned judgments and solve problems; and
4. Understand the importance of work and how performance, effort, and decisions directly affect future career and educational opportunities.

## **Definitions of Technology Literacy and Fluency**

*As listed by Washington State Office of the Superintendent, Education Technology*

**Technology literacy** is the ability to responsibly, creatively, and effectively use appropriate technology<sup>(3)</sup> to:

- communicate;
- access, collect, manage, integrate, and evaluate information;
- solve problems and create solutions;
- build and share knowledge; and
- improve and enhance learning in all subject areas and experiences.

**Technology fluency** builds upon technology literacy and is demonstrated when students:

- apply technology<sup>(3)</sup> to real-world experiences;
- adapt to changing technologies;
- modify current and create new technologies; and
- personalize technology to meet personal needs, interests, and learning styles.

## **Definition of Technology Integration**

Educators use technology to create rich environments where student work shows evidence of conceptual understanding beyond recall.

Educators use technology to encourage students to engage in activities that develop understanding and create personal meaning through reflection.

Educators use technology to provide opportunities for students to apply knowledge in real world contexts.

Educators and students incorporate suitable technology to engage in active participation, exploration, and research.

Educators use technology to provide diverse and culturally relevant experiences to help students develop an understanding of our world.

Educators use technology to enhance and differentiate instruction in order to present students with a challenging curriculum designed to help each individual student develop a depth of understanding and critical thinking skills.

Educators use technology for meaningful assessment data that informs their practice and allows students to exhibit higher order thinking and to demonstrate knowledge.

Educators use and facilitate student use of technology to communicate, collaborate, and create communities with educators, parents, students, and additional stakeholders.

The phrase "use technology" should be seen as a continuum of constantly increasing skills that employs the appropriate cognitive demand as defined in Bloom's Taxonomy and includes concepts such as: incorporate, exploit, leverage, employ, etc.

All of the above components are in support of Washington State's Learning Goals and the state Essential Academic Learning Requirements and Grade Level Expectations.

**(3) Definition of Technology** (from [2002 Washington State Educational Technology Plan](#)):

While technology, in its broadest sense, can be defined as "the practical application of knowledge" (from Webster's online dictionary), in this document we define technology to be "the combination of human imagination, inventiveness and electronic tools that transform ideas into reality to meet a need or solve a problem." Educational technology includes hardware (computers, handheld devices, printers, digital cameras), software and content applications (programming classes, productivity software), and media (the Internet and videoconferencing).

## Federal Way School Board Strategic Goals

Guidance from our School Board is pivotal in all our planning. The Focus Areas, Beliefs and Goals/Results have been developed, within the Strategic Goals, by our Board of Education to assist us in making operational, financial and programmatic decisions.

FOCUS AREA	BELIEFS	Performance Expectations
Primary: Student Achievement	Every student deserves the expectation of success and teachers committed to student academic success and responsible behaviors.	<ul style="list-style-type: none"> <li>• One hundred percent of our schools make adequate yearly progress as defined by the reauthorization of the Elementary and Secondary Education Act.</li> <li>• All of our schools' Math and Reading WASL results are above State average, as normalized for the number of free and reduced price lunch students in each school.</li> <li>• At least 80% of the student achievement goals, specified in the Equity and Achievement Plan, are achieved.</li> <li>• At least 50% of juniors and seniors take at least one Advanced Placement class and Advanced Placement examination.</li> <li>• The District implements a yearly process for all eighth grade and high school students' parents/guardians to review and sign their students' 13<sup>th</sup> year plan.</li> </ul>
Supporting: Student Support	Every student deserves a learning environment that is safe, challenging and inspiring. Options will be provided to meet students' diverse needs.	<ul style="list-style-type: none"> <li>• One hundred percent of schools create and implement discipline compacts for all students and parents.</li> <li>• All schools meet the reauthorization of the Elementary and Secondary Education Act standards (NCLB) for unexcused absences.</li> </ul>
Supporting: Home and Community Partnerships	Parents are the primary decision-makers for their children's education. It is vital to the educational success of students that they have parental and community support.	<ul style="list-style-type: none"> <li>• The District will develop the means to engage all parents/guardians in active participation of their child's education.</li> <li>• Vocational Advisory Committees include both employers and employees in the vocational area.</li> <li>• Create and implement a College Admissions Committee to provide guidance and direction on information to students regarding college admissions standards.</li> </ul>
Supporting: Staff Excellence	We believe in a highly skilled and motivated staff whose focus is student achievement.	<ul style="list-style-type: none"> <li>• One hundred percent of our staff meets "Highly Qualified" definition specified by the reauthorization of the Elementary and Secondary Education Act (NCLB).</li> <li>• At least 60% of staff leaving the district participate in exit interviews.</li> </ul>
Supporting: Fiscal Responsibility	We deliver quality in a fiscally responsible manner. We focus investment in classrooms and are good neighbors.	<ul style="list-style-type: none"> <li>• The percent of the budget allocated to "teaching" and "teaching support" is in the top quartiles of all Washington State school districts larger than 3,000.</li> <li>• Maintain the general fund reserve at 3%-5%.</li> <li>• Construction projects are completed within budget and timelines.</li> </ul>

## **Information Technology Services**

Technology is a catalyst for change in the way students and teachers interact in the classroom. Technology is not a curriculum, but a tool used to support students in the acquisition of knowledge and skills necessary to achieve many learning outcomes. What are the areas that Information Technology Services (ITS) supports? Today's answer will certainly not be tomorrow's answer as these services continue to rapidly evolve. We not only support the initial implementation of products and/or programs, but also remain fully invested in the everyday use and helping of staff to ensure that these services achieve their desired result. Most often in the business world, this is achieved by two separate entities. One to accomplish the set up and implementation and another group to train, support and maintain the end product and data integrity.

As an example, we have implemented almost every aspect of our Student Management System (SMS), and continue to monitor the data, while supporting the integrity of that system. Our services have evolved along with the system. While ongoing system support is certainly common as a service from most ITS departments, we are perhaps a bit unique in that we also provide the full support for system development and implementation. Our ITS department is indeed "full service."

Viewing the ITS department's Organizational Chart (Appendix B), we demonstrate a structure for maximum efficiency as well as effectiveness for products supported. We have worked within the perimeters of allocated FTE. It is our desire to expand all aspects of services, which can only be done with additional FTE. Our staff members are organized to best meet the needs of our customers, every staff person as well as the students, in our District and the various State and Federal agencies.

Technology plays an increasingly important role in our society and continues to redefine what it means to be "educated". The use of ever-more-sophisticated computer hardware and software has become an essential part of today's working climate, for even entry-level positions. It is therefore, imperative that graduates from Federal Way Public Schools have a high level of familiarity and competence with technology. Every graduate should be able to access, analyze and create a wide variety of knowledge through the effective and efficient use of technology. Thus, the individual School Learning Plans (SIP) (Appendix D) and our district Technology Plan work hand-in-hand to great a comprehensive guide. The SIP are contributors towards the development of our mission, vision and goals. Conversely, the schools use our technology plan as a guide for their program designs and allocations, based on the availability of technology support and/or funds. "Student Essential Learning Standards" are used as a guide for the schools to align their curriculum plans at each grade level.

### **Mission**

The Information Technology Services provides support to develop a school environment in which all students will have an opportunity to learn, using the essential tools needed to access, analyze and produce information, as a means to support and enrich the curriculum. We will continually support the business of schools by aligning support with ever-changing needs.

## Vision

The roles that define our vision encompass both staff and students. First, allowing students the opportunity to utilize technology as a tool to support the development of optimal literacy. Second, to create a work environment that results in the best use of technology to accomplish necessary tasks.

## ITS Department Goals

The ITS department is charged with implementing and supporting technology along with complimenting relevant District and State goals. Our ITS department proposes the following goals, listed in priority order. Full descriptions are listed in Appendix F.

- **Classroom Integration** - Create a learning environment, complimented with technology by deploying 25 new multimedia packages each year. Each package will contain: a document reader, video projector, VCR/DVD player, speakers and a mobile cart. Staff will use the tools to support their goals as designated in individual School Improvement Plans.
- **Infrastructure** - Increase bandwidth allocation to all sites from approximately 10 Mbps to 500 Mbps or more. Voice and data will be transmitted on the same fiber cable and we will migrate to Voice-over Internet Protocol (VoIP) trunking between phone switches.
- **Shared Systems** - Provide a technology infrastructure adequate to support the instructional programs and administrative departments through shared access over the network. More centralized application access through Active Directory and centralized server applications.
- **Data Analysis** - Using the "Informer" and "Grades Online" portals to retrieve data students, parents/guardians and teachers can use for educational analysis. Teachers will learn to access data from a variety of access points, which will facilitate their ability to customize an instructional design for each student.
- **Data Warehousing** - Create and align our data for ease of use by both the district and the State. Using the Core Student Records System (CSRS), we will house data that will allow access to all third-party applications we infuse into our system. This creates a seamless environment for CSRS to be current and accurate.
- **Data Storage & Security** - Due to the increased use of the Storage Area Network (SAN), capacity will need to be increased, and is in progress. As an additional advantage of the Storage Area Network operation, this data is backed-up to tape and also stored off-site in a secured State approved data protection location.
- **Distance Learning** - Utilizing the K-20 video conferencing connections, we will increase the access point and functionality for staff development and/or classroom utilization.
- **System Monitoring** - The Help Desk Work Request System will support complete status information (from call-opened to call-closed), in a design that allows viewing and data entry by customers and ITS support staff.
- **Remote Access** - Develop a Virtual Private Network (VPN) environment that allows for electronic resource access from outside our network.
- **Security & Integrity** - Completion of a formalized technology disaster plan.

The details of these goals are listed in the CURRENT plan section.

## Technical Management

To maintain exemplary customer service from the ITS department, we recommend both hardware and software standards for our technology environment. ITS maintains and posts vendor quotes for computer purchases, makes peripheral recommendations, and helps to guide staff with standardized software purchases. Given the funding available for technology support in the district, we find this to be the best support model to deliver direct support.

For this reason, we continue movement towards centralizing our server and data storage operations. Centralized network management continues to be supported by the replacement of older routers and hubs with newer “managed” models. As a result of this we will be implementing a fiber optic intranet. Our T-1 based network must be replaced with a network that provides increased, fiber based, performance to better handle the rapidly increasing amounts of voice and data transmission being experienced in our WAN environment. In recent years we have moved from 4,000 network nodes to almost 7,000 network nodes, reflecting an increased demand on our network infrastructure. Our edge switching is now being progressively upgraded to layer 3 for more intelligent and efficient network operations. Our services also need to be expanded to locally provide/support the K-20 based video conferencing services already in use by most districts. Our telecommunications system is rapidly aging and voice over IP services must be considered as an element associated with our network infrastructure improvements.

The need to access student data by school staff has increased, to support planning and help evaluate the effectiveness of decisions with regards to instructional programs. The ITS department supports these data needs by providing data extracts, reports, and 'read-only' access to data. We continue to limit the development of local databases, separate from the centralized district database. The use of local databases limits our ability to synchronize information. Data contained in a data warehouse system allows for flexible access of data.

### Information Technology Standards:

In order to ensure the equitable distribution of resources and a “sensibly supportable” environment, an effective level of technology standards must be developed for the type and quantity of technology made available in the District. This includes:

- Computer workstations for classroom and administrative use;
- Media/information centers;
- Business operations;
- Software and larger technology systems for use in administration and curriculum support.

## STAFF TRAINING

The ITS department continues to provide technology specific skill development by offering a wide range of flexible opportunities. “Just in time” training is often provided through a quick call to our centralized Help Desk operation. We also provide a rather extensive series of formally scheduled courses, made available to staff each month at no cost, with customized trainings to suit instructional outcomes by grade level.

Training that directly supports classroom instruction is provided in a variety of ways. Based on needs assessments, training opportunities are developed and offered for the benefit of all teaching staff using a 'grade-level' training model.

With the recent passing of the Elementary and Secondary Education Act (ESEA) Legislation and *No Child Left Behind* (NCLB), under which the Enhanced Technology guidelines reside, a clear expectation for developing "highly qualified" teachers has been mandated. Various staff development models are being developed to ensure that we will meet this challenge, as required by State and Federal regulations.

Survey tools are our best indicator for applying technology resources. During this school year we surveyed staff, from various disciplines and grade levels, along with all 8<sup>th</sup> grade students to better design a blueprint of needs. The federal and state governments have established mechanism by which to evaluate two different areas: teacher technology integration and technology literate 8<sup>th</sup> grade students.

### Tiers of Technology Integration Indicators

While technology, in its broadest sense, can be defined as "the practical application of knowledge" (from Webster's online dictionary), in this document we define technology to be "*the combination of human imagination, inventiveness and electronic tools that transform ideas into reality to meet a need or solve a problem.*" Educational technology includes hardware (computers, handheld devices, printers, digital cameras), software and content applications (programming classes, productivity software), and media (the Internet and videoconferencing).

#### Teacher Integration (see Appendix D)

The Teacher Integration data was determined through a focused survey of staff using the Office of Superintendent of Public Instruction (OSPI) provided survey tool. The data represents the extrapolated results of one third of Federal Way Math, Science, Language Arts, and Social Studies teachers in grades K– 12. The number of teachers surveyed in a curricular area was determined by the percentage of that area to the total in the individual building. An equal number of teachers from each grade level was surveyed as appropriate to the building.

Survey results were:		
Tier #1 = 86%	Tier #2 = 4%	Tier #3 = 10%

**Action:** As the tier listing will indicate we have more staff in Tier #1 based on the lack of presentation equipment. This technology plan will address that issue, with the annual deployment of multimedia packages previously mentioned.

It is imperative that we consistently focus all training activities toward best supporting students. We are continuously creating new approaches to meet this goal. In order for our students to be successful with technology, our teaching staff must be successful with technology. Implementation of an effective training plan is critical to this effort. Successful accomplishment of the recommendations identified in this Technology Plan will certainly place our staff and students in a position of favorable recognition and accomplishment in our State.

## **INSTRUCTIONAL STANDARDS**

### **Technological Literate 8<sup>th</sup> Grade Students (see Appendix C)**

The 8<sup>th</sup> Grade Student Literacy data was determined by using the OSPI survey tool. All 8<sup>th</sup> graders in the district were given the survey through an Advisory or Social Studies Class. Some students experienced errors as they submitted their survey and were directed to try again. The numbers reflect extrapolated results to account for these network errors.

Survey results were:		
Tier #1 = 29%	Tier #2 = 33%	Tier #3 = 38%

**Action:** Evaluate two options to create an environment for students to communicate within district.

# INSTRUCTIONAL STANDARDS

It remains essential that district students as well as staff satisfy the technology standards established for their grade level, the grade subject matter in which they teach, or the office in which they work.

Student Standards specific to matters of technology were first identified in our District in 1999. While these standards were locally developed and unique to our Federal Way learning community, both State, as well as Federal agencies, have adopted the standards established by the International Society for Technology in Education (ISTE). Currently, we use the following criteria as a guide to help us develop basic technology literacy in our students:

**Essential Learning One:** The student operates the computer and its components.

Identify main hardware components and demonstrate responsibility in equipment use and care.
Save and print to multiple locations.
Use navigation skills.
Use computer organization skills.
Read, interpret, and follow directions or documentation concerning the care and operation of software and hardware.
Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use.

**Essential Learning Two:** The student will use a variety of technology tools to communicate effectively.

Create, publish, and communicate ideas using multimedia tools.
Use telecommunication tools to access information
Work collaboratively with others when using technology

**Essential Learning Three:** The student will use technology to maximize productivity and effectiveness.

Develop keyboarding and other input skills as appropriate
Use a word processor to produce documents that communicate ideas
Use a database to obtain information and maintain records
Use a spreadsheet
Integrate applications
Use developmentally appropriate technology resources to support learning.

**Essential Learning Four:** The student demonstrates understanding of the benefits, limitations, and responsibilities related to technology use.

Demonstrate knowledge and understanding of the influences of technology at home, school, and within the community.
Demonstrate critical thinking skills and ethical responsibility as applied to electronic information.

## **ACCESSIBILITY ACCOMMODATIONS**

Our district remains dedicated to providing information technology access for all staff and students in our environment. Specialized needs by individuals with disabilities, such as software or hardware accommodations, are recognized and provided on an individual, as-needed, basis. For students, these accommodations are most often funded using either IEP or Section 504/Americans with Disabilities Act programs. Staff members needing software or hardware accommodations are most often supported using the latter option.

In our district, we have an extensive range of second languages being spoken. To ensure information technology access by those students for whom English might not be their primary language, we provide translation support services. On-line documents are being increasingly translated into other languages and in some educational environments specialized software operating in a student's native language is being used.

Not all families have information technology access at home. For these students, access is being provided through use of school computers before or after instructional hours, use of computers provided at our district's Community Resource Center, or accessing computers located in our community's public library sites.

## **CURRENT (ANNUAL) PLAN**

(FOR YEARS 2007 –2009 SEE APPENDIX F, which will be added on respective years)

*Each year we will update the plan with status of the projects that were completed and those projects in the forefront. Additionally, we will supply information about the current functionality of our systems and the level of support we offer to staff.*

### **Anticipated Project Completion for the 2006-07**

- “Informer”: Web-based student report data for staff use
- Migration from Windows NT/2000 (removing from the network)
- Develop a plan for conversion of all network computers to Windows 2000/XP
- Virus protection transitioned from McAfee to Sophos
- Centralized grade book with online/remote access expanded
- Upgraded/replaced network hubs with switches at all elementary schools
- Centralized library catalog services, expanded to include textbook inventory

### **Ongoing Support Services**

- Maintain support call tracking specific to Help Desk support
  - Support computers, printers and peripherals: 6500 computers & 550 printers:
    - Setup; Training; Repair; Performance Tuning
  - Software, 45 basic applications both academic and business:
    - Installation; Reinstallation (Imaging)
    - Provide ongoing support for district-standard academic and business software. This will include pilot activities, implementation and evaluation cycle responsibilities.
  - Website technical support and design:
    - Maintenance of district level site and monitoring of school website
  - Training classes (SMS, phones, email), average 6 per week
  - Provide diagnostics and repairs on data and telecomm network devices
  - District phone system support:
    - Handset repairs; Setup/installation phone services; Directory services
  - Research pricing/costs for technology purchases by district customers
  - Provide centralized data backup and recovery operations for critical data
    - Data Center Servers; Remote Sites and Primary School Servers
  - Maintain Firewall services (currently Cisco Pix)
- Monitor all WAN connections and servers for connectivity/uptime, virus protection
- Maintain bandwidth monitoring and packet filtering
  - Maintain and troubleshoot/repair/replace UPS/APC backup power devices
  - Direct staff and student account support and policies creation:
    - User account creation and management
    - Support data recovery emergencies for staff upon request
    - Create “network shares” to meet school application and data storage needs
  - Provide District wide DNS, DHCP, and WINS services
  - Maintain Internet connection/content filtering with customized exceptions by user level
  - Provide email services for 2,100 staff
  - PDA support and research for administrative use

## **EDUCATION**

### ***Instructional Software – Classroom Integration***

Software used in our district is limited in scope because we require evidence of effectiveness through “What Works” or Metiri’s “Technology Solutions That Work.” Our High Schools are using Cognitive Tutor Algebra and Cognitive Tutor Geometry. We have Inspiration and Kidspiration in all of our elementary schools and will extend Inspiration to our middle schools in the next 4 years. All schools will continue to use Word, Excel, and PowerPoint, or the equivalent. All software used in classrooms must be instructionally aligned to the State Essential Academic Learning Goals at the level of the Grade Level Expectations. Regular collection and analysis of student data will ensure students are working with the proper software at the proper level.

### ***Student Data Collection and Reporting – Data Analysis***

Using an electronic grade book we will continue to track student achievement for reporting to parents and analysis by school and district administration. The data will allow identification of students in need of special programs. We will continue to train and support teachers in tracking and analysis of student achievement using the Washington State Grade Level Expectations through our electronic grade book. This data will be available by year through our data warehouse and its interface “Informer” to teachers, parents, and district staff.

### ***Presentation/Media Devices – Classroom Integration***

We currently have seven multimedia packages in the district consisting of Digital Projector, Document Reader, DVD/VCR Player, Speakers, and Digital Camera. The seven teachers, working as trainers in the train the trainer model, currently using these packages have received training to integrate technology into the curriculum. We will identify people in each building to receive the first set of multi-media carts, receive training and support, and become the trainers for the district. Multimedia packages will be purchased and training provided, as funding allows.

## **BUSINESS**

### ***Virtual Private Network (VPN)\*\* - Remote Access***

An increased number of district staff have a need to access district resources remotely, from sites outside of our usual school and office spaces. Such connections require a very secure channel as well as careful and close network management to ensure the safety and integrity of our data and programs. At this time we have piloted our first VPN connection and are monitoring the service for 'lessons learned.' This VPN connection allows a vendor to provide technology and software support directly and yet remotely using a secure connection into our local district technology supporting the district's financial operations. This service will continue to be expanded incrementally starting with select administrative groups.

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*See District-Level Network and Telecommunication Plan*

### ***Increased Bandwidth*** \* - Infrastructure

Recently our network transmission speeds/capacity from ESC (our central network hub) out to the Internet (utilizing the State K-20 network) was improved to fiber performance levels. However, an unfortunate “chokepoint” against this benefit for all non-ESC sites remains with the slower T-1 lines that connect these sites to our centralized network hub at ESC. As funded in the Tech Levy and with Universal Services Administrative Company (commonly known as E-Rate) reimbursements, we are now proceeding with higher performance fiber line capacity, which will provide for increased performance and capacity in data/internet services. Along with our fiber network implementation this brings us into our final stage of joining our phone and network services into the more contemporary model of operations. The continuously changing nature of telephony will continue to provide for vast improvements and efficiencies in the years ahead.

### ***Call Tracking System*** – System Monitoring

Currently, calls to the ITS Help Desk are managed using a commercial software application. We are beginning to plan the design of an “in-house” application, customized to best meet our needs in ITS operations. This new service will also provide web-based access, which will allow users to access the status of their repair requests.

### ***Data Storage*** \* - Data Storage & Security

Data in our district is currently centralized at ESC in a “Storage Area Network” (primarily business operations: students records and financial matters). We are limited, by bandwidth, to the amount of data we can transfer from a school site back to central storage. Once the fiber network is in place, all site data can be easily and quickly backed up to our central Storage Area Network. With this increased use of the Storage Area Network, its size (capacity) will need to be increased which is currently in progress. As an additional advantage of the Storage Area Network operation, this data is backed up to tape and also stored offsite in a secured State approved data protection location.

### ***Core Student Records System*** \* – Data Warehousing

Create and align our data for ease of use by both district and the State. Using the Core Student Records System (CSRS), we will house data that will allow access to all third-party applications we infuse into our system. This creates a seamless environment for CSRS to be current and accurate. Currently, almost 150 fields of student data information are being uploaded to the State on a monthly schedule and in a somewhat automated process. This is also intended to easily facilitate the vast amount of student information needed to support the large number of transfer (in-State) students a district encounters each year, and provide them with a State ID number instead of a District student ID number. As this project continues to evolve through the coming year, instead of our transmitting this large data summary to OSPI once a month, we will be depositing this data in a Data Warehouse. This data will be continuously updated/refreshed throughout the month and OSPI can visit our Data Warehouse and upload more current information when needed.

\*

*See District-Level Network and Telecommunication Plan*

**Active Directory<sup>\*</sup> - Shared Systems**

We are in the progress of updating all of worksites into an 'active directory' structure rather than a local domain operation. This means that staff are working as 'part of a school' but not as 'part of a district', while they are still site identified they can access a computer anywhere in the district, along with the assigned network resources (such as file storage). This new operation is especially supportive of itinerant teaching staff.

**Disaster recovery plan<sup>\*</sup> – Security & Integrity**

The ability to provide mission critical services such as payroll, essential documents or student grades we find that maintaining these services is prudent. To this end we have begun the process for security of critical back up services. We will complete the process to formalize an ITS Disaster Recovery Plan by 2008.

**Video conferencing<sup>\*</sup> - Distance Learning**

Utilizing the K-20 connections we will increase the access points and functionality for staff development and/or classroom utilization

**District-Level Network and Telecommunication Plan**

The annual statewide, online technology assessment that is completed each year helps to meet the plan requirements for this section. The technology levy upgrade cycle for computers will continue through the longevity of the funding. The number of students accessing one computer may increase during the period of this technology plan as schools move out more old/surplus computers from our technology levy funds.

<b>Voice, Data, Video and Other Priority One Capabilities</b>	<b>Purchase / Budget / Potential Funding Source(s)</b>
<p>Currently using 53 T-1's, 1- data/voice per Elementary and 1-data plus 1-voice for secondary.            Move all schools and the central office to high-speed bandwidth with speed capable 15 Mbps through 10,000 Mbps.            Move phone services to VoIP at the backbone level. Currently centralized long distance services with secure access number for end-users. We support 7 PRI (Private Rate ISDN) Lines and 137 POTS lines. Our cellular phone service is with Nextel.</p>	<p>The budget funds come from our Technology Levy. A line item was identified for Fiber upgrade and expended network access.</p>

**How will these services support your district's learning goals?**

The increase bandwidth will allow for centralized applications. Create a data-warehousing environment. Upgrade existing telecomm to Voice over IP at the core.

<b>Hardware/Software/Support</b>	<b>Purchase / Budget / Potential Funding Source(s)</b>
<p>Investigate Virtual Private Network (VPN) - supports security/encrypted remote access into protected data systems.            Automated student account creation for secondary sites.            Formalized ITS disaster recovery plan.            Implement a system to allow for data warehousing.</p>	<p>Both general funds within the technology budget and the utilization of technology levy funds.</p>

<sup>\*</sup> See District-Level Network and Telecommunication Plan

**How will these services support your district's learning goals?**

VPN's will allow staff more access to essential files and information. It is our goal to automate many of the practices for end-user support. This includes such functions as password allocation, changes or updates. Data warehousing is becoming essential for active and archival use of data.

Description of Maintenance/Upgrade Support Strategies	Purchase / Budget / Potential Funding Source(s)
K-20 Video conferencing network equipment needs - Utilizing the K-20 connections we will increase the access points and functionality for staff development and/or classroom utilization. Increase SAN (Storage Area Network). Move to a 64-bit architecture & increase capacity. Server replacement cycle for NT servers and building based servers. <u>Manage increase in bandwidth to school sites.</u>	We will seek grants to support our equipment needs for K-20 video conferencing. The SAN cost is a line item from the technology levy. All computer upgrades, server replacement and expanded bandwidth are part of the technology levy.

**How will these services support your district's learning goals?**

These tool create an environment for students that is ...safe, challenging and inspiring. We eliminate cumbersome technology tools for staff by keeping our devices updated and our staff trained on newer applications.

District Inventory	Technology Standards	Review and Update Strategy
The Schools complete a yearly OSPI survey	<u>Minimum Hardware Standards</u> Approximately 6,500 computers & 550 printers & 145 servers  Macintosh: Desktop - G4/G5 700 MHz or higher, Laptop – 600 MHz or higher PC: Pentium III 700 MHz or higher, or Celeron 850 MHz or higher	
The district completes a survey	<u>Minimum Hardware Standards</u> Macintosh: No district-level support. PC: 1.0 GHz or higher, with 256 Mbps (or more) RAM  <u>Minimum Software Standards</u> <ul style="list-style-type: none"> <li>• Productivity: MS Office versions or Open Source</li> <li>• E-Mail: FirstClass</li> <li>• Browser: Internet Explore or Firefox</li> <li>• Antivirus: Sophos</li> <li>• Web Publishing: Dreamweaver MX</li> </ul>	Current district hardware standards will be compared to State recommended standards and updated as needed to accommodate updated software.

## **FORECAST PLAN**

*The content in this section of the plan should be viewed as, "the here and now." Any good business model supports future analysis, redesigns, and capacity adjustments.*

### **EDUCATION**

#### ***Science Probes***

The use of probes in science class allows students to collect authentic data and analyze it, thereby supporting science and math expectations. ITS staff will work with staff from the Curriculum Department to identify appropriate technology and assist in the implementation of science probes.

### **BUSINESS**

#### ***Update School Sites***

With the potential passage of a building bond, and the construction/renovations resulting from it, our ITS staff will be providing additional support for network design, construction and the opening of new physical plants.

#### ***Downstream Video Instruction***

With the use of increased bandwidth we will pilot "On-Demand" trainings that can be accessed from any networked computer workstation. This will allow the staff easy access to customized trainings. We will increase the number of sites that have the ability to access video equipment for down streaming video. We will introduce at least five additional sites.

#### ***Wireless Network***

We continue our research into the appropriateness and benefits of wireless connectivity for our environment. While the convenience would be high, costs and security concerns remain a problem. New developments in wireless connectivity will likely provide us with a sensible match at some point in time during the coming years.

#### ***Proxy Services***

In our district, as mandated under the Federal Children Internet Protection Act, we provide filtered Internet access using proxy servers. With the implementation of some additional proxy server equipment we will soon be able to implement a dual filtering arrangement with staff and secondary students having slightly broader access than provided to elementary school settings. Note: A district-level committee will provide guidance specific to the less restrictive Internet access to be allowed secondary students and staff in the district.

## EVALUATION

The world of technology changes frequently and so our Technology Plan will require continuous adjustments. Responses to new developments in technology, adjustments in educational funding and operating revenues or expenses, and changing needs in our environment will drive annual revisions of our Technology Plan. Many initiatives identified in the Plan are directly dependent on proper funding and so project timelines will require periodic adjustments in direct response to matters of funding.

Our district's data-rich technology will play a role in seeking out data to determine those projects/initiatives that are filling a need in our district. Also, the needs of our customers and educational environment will change over time and our Technology Plan will need periodic revisions to reflect these changing directions.

In summary, our district's Technology Plan will be reviewed and revised each year in response to the changing technology needs in our educational environment, adjustments in funding, and new developments in technology devices, services, and programs. The specific events that will support such an accomplishment are:

- Posting the Technology Plan on the district website for review and comment by our community
- Direct evaluation of the Technology Plan by the Technology Leaders in the schools
- Needs Assessment completed by various workgroups in the district

## FUNDING

The community supported a technology levy in the year 2006 for the purpose of: upgrading computers/servers, increasing instructional software, implementing higher bandwidth and supporting the resurgence of computer peripherals. The allocation was approximately 10 million dollars for 6 years. This technology puts us in the middle of that funding allocation. The items listed in this technology are funded, for the most part, from the technology levy. An additional item that has offered some funding relief has been the Universal Service Administrative Company, commonly known as E-Rate. This has come in the form of reimbursement for telecommunications.

## **SUSTAINABILITY**

As we continue to initiate, as well as complete, technology projects, it will be important to develop a plan to provide us sustainable funding, so that these implementation efforts are not wasted. Through our schools' Technology Leaders, we will continue to transfer information to remain current, regarding legislative activity and decisions that affect the technology planning and operations in our public schools.

We expect to have implemented a formal plan for sustainable funding before the end of the third funding year. Critical discussions and decisions specific to future technology funding options will certainly center on the Education Program & Operations Levy or a Technology Levy, as primary sources of support. Teams of invested users will begin the work on sustainable funding with a possible issuance of the technology levy.

## Appendix A – Building Technology Leaders

<u>School</u>	<u>Staff Member</u>	<u>School</u>	<u>Staff Member</u>
<b>Elementary</b>			
ADE	Paul Williams	TWL	Jane Neel
BRG	Karen Sanford	VLH	Heather Anderson
BRG	Stephanie Mason	WIL	Eric Richards
BRG	Teresa Bateman	WDM	Chris Flores
CAM	Liz Herriges	WDM	Jennifer Morse
CAM	Susan Wright		
CAM	Tamara Rogers		
ENT	Dan Worcester		
GGB	Cheryl Johnson	<b>Middle School</b>	
GGB	Diane Ellis	ILH	Randy Kemman
GGB	Kim Enz	ILH	Ron Sangalang
LDF	Tonya Darby	KLO	Scott McLaughlin
LGV	Gail Dehnert	LAK	Ellen Taylor
LGV	Shirley Chittenden	SAC	Anne Bell
LGV	Thomas Lutz	SEQ	Chris McCrummen
LKL	Madelyn Grayson	SGH	Joe Thomas
MHL	T.J. Navilio	SGH	John Herberolz
MIR	Chris Andrews	SGH	Marybeth McCrummen
MTW	Debbie Jahns	TTM	Julie Fierro
MTW	Marla Claffey	TTM	Michael Muhammad-Powell
NAU	Kimberly North	TTM	Tyree Yadon
OLV	Jane O'Connor		
OLV	Steve Stewart		
PNL	Gail Wood		
PNL	Kimberly Graham	<b>Senior High</b>	
PNL	Nancy Breuer	DEC	Laurie Beaver
RVW	Julie Gillespie	FW	John Meagher
RVW	Matthew McGee	TBH	Cathy Atkins
SHF	Tom Anderson	TJ	Christian Runsvold
SHF	Bill Ocbina	TJ	Christina Reagle
SHF	Rick Reynolds		
SLV	Brenda Smith		
SLV	Carrie Johnson		
SLV	Peggy Novak	<b>Other Sites</b>	
SLV	Susan Zovko	PA	Diane Holtz
STR	Cherie Blair	TRU	Debbie Snyder
STR	Kimberly Rose		
SUN	Catherine Grant		
SUN	Jennifer Nelson		

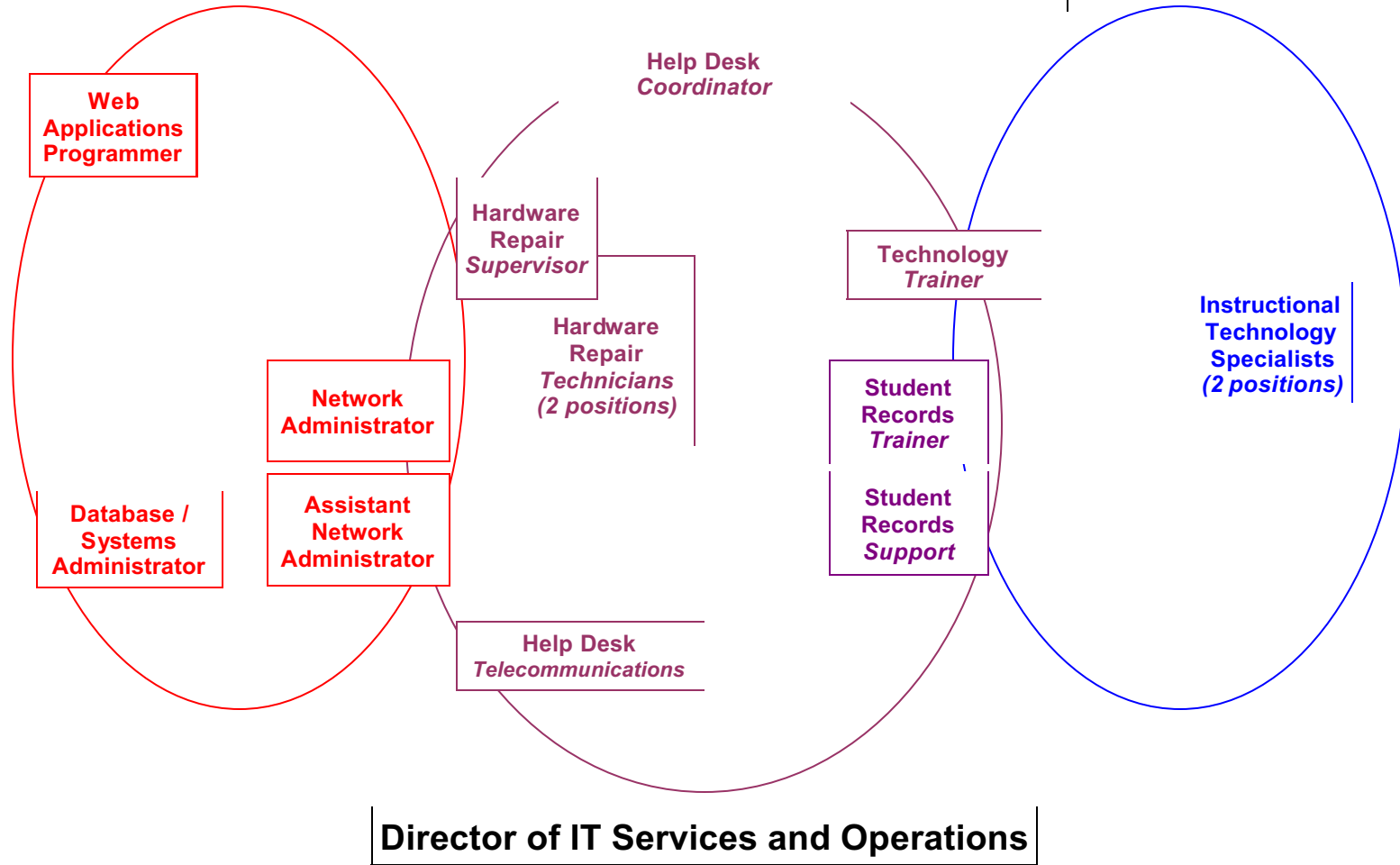
Each school has at least one representative on the technology leader group. Two meetings are held a year to allow members of the group to become familiar with the technology department. At these meeting Technology Leaders will contribute thinking about the best use of technology in the school and classrooms.

# Appendix B - Organization Chart

## FWPS Information Technology Services

Staff and Students

Technology Leaders



## Appendix C– 8<sup>th</sup> grade students – Performance Indicators

<b>National Educational Technology Standards (NETS) for Students</b>	Tier 1: Personal use and communication	Tier 2: Access, collect, manage, integrate, and evaluate information	Tier 3: Solve problems and create solutions
	<b>Students in all tiers will use technology to build and share knowledge and to improve and enhance learning in all subject areas and experiences.</b>		
<b>8<sup>th</sup> Grade Performance Indicators. Students will:</b>	This tier focuses on students using technology to complete school work and for personal use.	This tier involves students using technology for research and/or public presentations.	This tier involves students using technology for authentic problem-solving and creating products.
<b>1. Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use. (NETS 1)</b>	Students know how to connect and use a wide variety of input and output devices and common peripherals and how to access networked resources.	**	Students demonstrate understanding of strategies for identifying, solving, and preventing routine hardware and software problems that occur during everyday technology use.
<b>2. Demonstrate knowledge of current changes in information technologies and the effect those changes have on the workplace and society. (NETS 2)</b>	**	**	Students recognize, discuss, and analyze changes in information technologies and the effect those changes have on the workplace, society, and/or themselves.
<b>3. Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse. (NETS 2)</b>	Students are acquainted with the legal and ethical issues related to use and misuse of information and communication technology.	Students demonstrate understanding of issues related to acceptable and responsible use of information and communication technology such as privacy, security, copyright, file sharing, plagiarism, issues of personal safety.	Students identify and develop scenarios or examples that illustrate ethical behaviors for use of copyrighted media and analyze the consequences of unethical use of information and communication technology.
<b>4. Use content-specific tools, software, and simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools) to support learning and research. (NETS 3 &amp; 5)</b>	Students apply common software features to promote productivity.	Students select and use information and communication technology tools and resources to collect, evaluate and manage information and report results on an assigned hypothesis or research question,	Students define problems or essential questions, then use and/or adapt content-specific technological tools to gather data, visualize information, or conduct investigations.
<b>5. Apply productivity/multimedia tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum. (NETS 3 &amp; 6)</b>	Students use specific tools to support personal productivity and enhance learning in different subjects.	**	Students work individually or in teams to use hardware and software tools to support learning and creativity in all subject areas.

\*\*Performance Indicator does not apply to this tier.

**National Educational Technology Standards (NETS) for Students**

**8<sup>th</sup> Grade Performance Indicators. Students will:**

	Tier 1: Personal use and communication	Tier 2: Access, collect, manage, integrate, and evaluate information	Tier 3: Solve problems and create solutions
	<b>Students in all tiers will use technology to build and share knowledge and to improve and enhance learning in all subject areas and experiences.</b>		
	This tier focuses on students using technology to complete school work and for personal use.	This tier involves students using technology for research and/or public presentations.	This tier involves students using technology for authentic problem-solving and creating products.
<b>6. Design, develop, publish, and present products (e.g., Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom. (NETS 4, 5, &amp; 6)</b>	**	Students create, publish and/or present products for an assigned project.	Students initiate projects, design and develop content, and construct web-based and/or other electronic products.
<b>7. Collaborate with peers, experts, and others using telecommunications and collaborative tools to investigate curriculum-related problems, issues, and information, and to develop solutions or products for audiences inside and outside the classroom. (NETS 4 &amp; 5)</b>	**	Students use telecommunications tools to access or exchange information for an assigned project.	Students work collaboratively using technology to develop and share ideas or information.
<b>8. Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems. (NETS 5 &amp; 6)</b>	Students select from a limited set of technology tools to complete assigned work.	Students select from a variety of teacher-defined technology tools to solve specific problems or present results.	Students identify, evaluate, and select appropriate technology tools to solve problems or create products.
<b>9. Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and of practical applications to learning and problem solving. (NETS 1 &amp; 6)</b>	Students understand basics of file storage, file formats, and networking.	**	Students explore various ways that information and technology resources can be combined, personalized, or re-purposed to develop and promote understanding.
<b>10. Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems. (NETS 2, 5, &amp; 6)</b>	Students apply search strategies to find relevant online information.	Students search, collect, and evaluate the accuracy and relevance of information from electronic resources.	Students evaluate information from a variety of electronic resources for appropriateness, comprehensiveness, and bias.

\*\*Performance Indicator does not apply to this tier.

## Appendix D - Tiers of Technology Integration into the Classroom Indicators

	<b>Tier 1: Teacher Focus on Productivity</b>	<b>Tier 2: Instructional Presentation and Student Productivity</b>	<b>Tier 3: Powerful Student-Centered 21st Century Learning Environment</b>
	This tier focuses on the teacher using technology to get their job done.	This tier involves teacher facilitation of large group learning activities and student productivity use of technology.	This tier promotes students to be actively engaged in using technology in individual and collaborative learning activities.
<b>Observable Indicators</b>	<p>Teachers:</p> <ul style="list-style-type: none"> <li>• Locate standards using electronic tools to align lessons</li> <li>• Find instructional resources on the Internet</li> <li>• Produce, store, and retrieve learning materials electronically</li> <li>• Keep/organize student information, grades more effectively</li> <li>• Communicate information to parents and students via web or e-mail</li> <li>• Communicate quickly with e-mail</li> </ul>	<p>Teachers:</p> <ul style="list-style-type: none"> <li>• Conduct one-computer classroom lessons</li> <li>• Deliver presentations with graphics and sound</li> <li>• Lead students in brainstorming and sharing ideas</li> <li>• Represent information visually</li> <li>• Facilitate group discussions and lessons</li> <li>• Have students write papers and reports on assigned topics using computers or “smart keyboards” such as AlphaSmarts</li> <li>• Create scaffolding for student projects</li> <li>• Facilitate students using technology for assessment</li> <li>• Interactively communicate with parents and students</li> </ul>	<p>Teachers enable students to:</p> <ul style="list-style-type: none"> <li>• Create and use online resources to facilitate inquiry</li> <li>• Engage in inquiry-based projects driven by essential questions</li> <li>• Direct their own use of technology</li> <li>• Research, analyze data and problem-solve in a global context</li> <li>• Engage in individual or collaborative project-based learning</li> <li>• Use modeling and simulations</li> <li>• Write, develop and publish individual and collaborative products</li> <li>• Invent products through programming or production</li> <li>• Create scaffolding for their own projects</li> <li>• Are involved with their parents and teachers in the analysis of student data and meeting standards, or participate in developing their own learning plans</li> <li>• Initiate communication with parents, teachers, community members, or other students</li> </ul>

## Appendix E – School Learning Plans - Technology Plans Summary

### *Elementary*

Teachers will integrate technology into the classroom using multi-media technologies in the classroom. Through use of newly acquired digital projectors and document cameras students will show their work and understanding of concepts. Teachers will expand the ‘Math Teacher to Teacher Strategy’ by having students share rubrics, math exemplars, and their thinking using the document cameras. Teachers will use the document camera for shared reading and displaying student writing. Teachers will model and teach the internet research process.

Improve student reading achievement through reading software. Students will use software such as: Accelerated Reader, Steck-Vaughn, Break-Through to Literacy, Clicker, Fluent Reader, or Scholastic Reading Counts as a motivational tool to increase the number of minutes spent reading. The program will also provide reading level data for tracking students.

Improve student achievement in all curricular areas, but especially reading and writing, through use of Kidspiration and/or Inspiration software. Students will use Kidspiration and/or Inspiration during the writing process. Students will use these tools to practice reading and math skills. Students will use these tools in all curricular areas to organize their thinking around all concepts such as compare/contrast, cause/effect, and organization of curriculum content. Training will be offered at the district and building level.

Teachers will use technology to access and manipulate student data to improve student learning. Teachers will access state, district, and classroom assessment data through the FWPS “Informer”. Data will be updated at each testing window followed by staff development time to analyze the data, make plans and set goals.

## ***Middle School***

Increase student achievement by developing higher level thinking through internet research. Students will use critical thinking skills as they plan Internet searches to find information. Students will determine the information needed to complete the activity, discuss and determine possible searches and web sites to find the material, and then determine the value of the information. Teachers will learn the process by using sample materials provided by the district to all teachers through the district Intranet site or district training.

Students will learn computer skills by producing documents that display their understanding of content. Students will use programs such as: Word, Excel, & PowerPoint. Students will learn Internet search skills and strategies as they gather information for class projects. Student skills will be assessed in 8<sup>th</sup> grade.

Teachers will integrate technology into the classroom using multi-media technologies in the classroom. Through use of newly acquired digital projectors and document cameras students will show their work and understanding of concepts. Students will share rubrics, math exemplars, and writing using the document cameras.

Improve student achievement in all curricular areas, but especially reading and writing, through use of Inspiration software. Students will use Inspiration during the writing process. Students will use these tools in all curricular areas to organize their thinking around all concepts such as compare/contrast, cause/effect, and organization of curriculum content. Training will be offered at the district and building level.

Teachers will use technology to access and manipulate student data to improve student learning. Teachers will access state, district, and classroom assessment data through the FWPS "Informer". Data will be updated at each testing window followed by staff development time to analyze the data, make plans and set goals.

## ***High School***

Students will learn computer skills by producing documents that display their understanding of content. Students will use programs such as: Word, Excel, & PowerPoint.

Improve student math achievement through math software. Federal Way High, Decatur and Truman High Schools will use Cognitive Tutor Software.

Teachers will use technology to access and manipulate student data to improve student learning. Teachers will access state, district, and classroom assessment data through the FWPS "Informer". Data will be updated at each testing window followed by staff development time to analyze the data, make plans and set goals.

Teachers will integrate technology into the classroom using multi-media technologies. Through use of newly acquired digital projectors and document cameras students will show their work and understanding of concepts. Students will share rubrics, math exemplars, and writing using the document cameras.

## Appendix F – Updated Project Listing by Year

2007-08 DISTRICT TECHNOLOGY GOALS						
<p><b>Goal Title: Classroom Integration</b></p> <p><b>SMART Goal Statement:</b> Create a learning environment, complimented with technology by deploying 25 new multimedia packages each year. Each package will contain: a document reader, video projector, VCR/DVD player, speakers and a mobile cart. Staff will use the tools to support their goals as designated in individual School Improvement Plans.</p> <p><b>Strategy:</b> Create a Technology &amp; Literacy Classroom (TLC) cohort that will pilot the use of the multimedia equipment at specific grade levels. Those early adopters will be pivotal for training additional teaching staff.</p> <p><b>Rationale:</b> Research states an increase in technology literacy is seen through the sharing of electronic media.</p>						
Activity/Task	Professional Development	Evaluation (Measurable Change)	People Involved	Starting and Ending Dates	Resources: Description / Type	Cost / Funding Source
Understand and incorporate the use of presentation devices in the classroom for delivery of instruction. Develop the skills in one teacher, by grade level, to serve as a peer technology coach to provide quality professional development and instructional support to other educators in their building	Develop train the trainer mode and expand the training to cross grade levels and discipline.	A dramatic increase in the number of classrooms that use multi-media equipment.	Instructional Technology Specialist; TLC cohort	08/2007-ongoing	Teacher release time for training and coaching;	Title IId & Technology Levy
<p><b>Goal Title: 8<sup>th</sup> Grade Students Technology Skills</b></p> <p><b>SMART Goal Statement:</b> Our students will increase their skills at the Tier 3 level by 10% each school year.</p> <p><b>Strategy:</b> Utilizing the State technology standards we will create an environment for students 6 – 8 to become more proficient at using technology. We will continue implementing a mentor program for teachers' use of technology (see Classroom Integration goal.)</p> <p><b>Rationale:</b> Our district will align with the States expectations that students will become knowledgeable at using technology.</p>						
Activity/Task	Professional Development	Evaluation (Measurable Change)	People Involved	Starting and Ending Dates	Resources: Description / Type	Cost / Funding Source

Students will learn computer skills by producing documents that display their understanding of content. Students will use programs such as: Word, Excel, & PowerPoint. Students will learn Internet search skills and strategies as they gather information for class projects. Student skills will be assessed in 8 <sup>th</sup> grade.	Migrate the use of teacher's technology knowledge and skills for better supporting 8 <sup>th</sup> grade students	State survey	Instructional Technology Specialist; Middle school Technology leaders	08/2007-ongoing	Teacher release time for training and coaching;	Title IId & Technology Levy
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**Goal Title: Infrastructure Enhancement**

**SMART Goal Statement:** Increase bandwidth allocation to all sites from approximately 10 Mbps to 500 Mbps or more. Voice and data will be transmitted on the same fiber cable and we will migrate to Voice-over Internet Protocol (VoIP) trunking between phone switches.

**Strategy:** Install 500 Mbps or more for all schools and the ESC.

**Rationale:** Access to centralized applications and Internet access are commonplace and we must meet those needs by creating a sufficient amount of bandwidth.

Activity/Task	Professional Development	Evaluation (Measurable Change)	People Involved	Starting and Ending Dates	Resources: Description / Type	Cost / Funding Source
Upgrade all schools and the central office to 500Mbps or better	Vendor on-demand training for ITS staff	Completion of project and monitoring of speed and usage to determine the staff access between school sites and the ESC	Network services team	09/2007 – 6/2008	ITS staff time	Technology Levy and E-Rate

**Goal Title: Shared Systems**

**SMART Goal Statement:** Provide a technology infrastructure adequate to support the instructional programs and administrative departments through shared access over the network. More centralized application access through Active Directory and centralized server applications.

**Strategy:** Move all applications used by a district-wide audience to a centralized system. Migrate all network user accounts to district-wide access, utilizing Active Directory.

**Rationale:** Shared systems promote more versatile learning environments. We are able to increase training offers at the Training and Development Center (TDC) based on a more broad access of applications.

Activity/Task	Professional Development	Evaluation (Measurable Change)	People Involved	Starting and Ending Dates	Resources: Description / Type	Cost / Funding Source
Move all sites to Active Directory. Offer training that applies to those skills.	Training through Technology leaders and end-user hand-outs	Call reduction from staff as they access electronic services throughout the district	Network Services team	05/2005 – 6/2008	ITS staff time	Technology General Funds & Technology Levy

**Goal Title: Data Analysis**

**SMART Goal Statement:** Using the “Informer” and “Grades Online” portals to retrieve data students, parents/guardians and teachers can use for educational analysis. Teachers will learn to access data from a variety of access points, which will facilitate their ability to customize an instructional design for each student.

**Strategy:** Create data-rich applications that allow students, parents and staff to obtain relevant data for the purpose of developing instructional strategies.

**Rationale:** Systems for improving instruction can only be development by analyzing data pertinent to student needs. When staff understands the students’ areas of strength and weakness they are better able to develop learning plans specific to the students needs. Parents can also lend support by accessing grade, test data and attendance records. Students are in more control of their learning when they can reference data information.

Activity/Task	Professional Development	Evaluation (Measurable Change)	People Involved	Starting and Ending Dates	Resources: Description / Type	Cost / Funding Source
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Development of products that create reports for many data strands	Training includes administrators and teachers during each district or state in-service date	Increase the level of use within the system	Web App. Developer and AIMS/CAPS	05/2005 – ongoing development	ITS staff time	Technology General Funds
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**Goal Title: Data Warehousing**

**SMART Goal Statement:** Create and align our data for ease of use by both the district and the State. Using the Core Student Records System (CSRS), we will house data that will allow access to all third-party applications we infuse into our system. This creates a seamless environment for CSRS to be current and accurate.

**Strategy:** Create a repository of data to access student data.

**Rationale:** Data must be housed in such a way that all systems can access fields and records.

Activity/Task	Professional Development	Evaluation (Measurable Change)	People Involved	Starting and Ending Dates	Resources: Description / Type	Cost / Funding Source
	ITS staff will learn to create & support a data-warehouse. Staff will learn access points in the system.	A repository will be completed that houses all raw data with easy 3 <sup>rd</sup> party access.	Network Services team	9/2007 – 8/2008	ITS staff time	Technology Levy

**Goal Title: Data Storage & Security**

**SMART Goal Statement:** Due to the increased use of the Storage Area Network (SAN), capacity will need to be increased, and is in progress. As an additional advantage of the Storage Area Network operation, this data is backed-up to tape and also stored off-site in a secured State approved data protection location.

**Strategy:** Create a storage & back-up system to best support container use of the system for both students and staff.

**Rationale:** The increased need for centralized storage of student works has created a demand for a system that deposits and stores information in such a way students can change school sites and still access electronic storage.

Activity/Task	Professional Development	Evaluation (Measurable Change)	People Involved	Starting and Ending Dates	Resources: Description / Type	Cost / Funding Source

Completion of an upgraded SANS with a complete back-up system.	ITS staff to learn how to use SANS	Students and staff will use the system. This will be monitored by expanded growth within the system.	Network Services team	07/2007 – 12/2007	ITS staff time	Technology Levy
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**Goal Title: Distance Learning**  
**SMART Goal Statement:** Utilizing the K-20 video conferencing connections, we will increase the access point and functionality for staff development and/or classroom utilization.

**Strategy: Create environments that support video conferencing.**  
**Rationale: Our limited bandwidth has reduced our ability to create viable video conferencing options for staff and students. The video conferencing equipment needs to reach beyond the ESC to select High School locations.**

Activity/Task	Professional Development	Evaluation (Measurable Change)	People Involved	Starting and Ending Dates	Resources: Description / Type	Cost / Funding Source
Expand the access points for video conferencing and purchase an up-to-date unit.	Instructional Technology Specialist will expand the TLC	Completion of project implementation	Network Services team	10/2007 – 4/2009	Teacher time and IT staff FTE support	Technology Funds – General & Technology Levy

**Goal Title: System Monitoring**  
**SMART Goal Statement:** The Help Desk Work Request System will support complete status information (from call-opened to call-closed), in a design that allows viewing and data entry by customers and ITS support staff.

**Strategy: Purchase or create a “Help Desk” system that allows for select end-users to input and monitor for technical support.**  
**Rationale: Our current “Help Desk” system is a one-way conduit that addresses the needs of the ITS staff. School staff, specifically Technology Leaders, will benefit from a system that allows them to log in repair requests and monitor the status of those request.**


Activity/Task	Professional Development	Evaluation (Measurable Change)	People Involved	Starting and Ending Dates	Resources: Description / Type	Cost / Funding Source
Develop a system that works to create accounts, request field and reports for technical repair of technology equipment/software	Instructional Technology Specialist	Less calls about status of orders. More staff utilizing the system	Technology Leaders and ITS Technical Services	04/2007 – 12/2007	ITS staff time	Technology Funds - General
<p><b>Goal Title: Remote Access</b></p> <p><b>SMART Goal Statement:</b> Develop a Virtual Private Network (VPN) environment that allows for electronic resource access from outside our network.</p> <p><b>Strategy:</b> Phase in the implementation of a Virtual Private Network environment. This will start with vendor specific access and increase to include select administrators with a goal to include staff.</p> <p><b>Rationale:</b> Working with remote locations staff have a need to access electronic resources and applications. To maintain a level of integrity and security we will envelope a VPN for users to reach into our systems.</p>						
Activity/Task	Professional Development	Evaluation (Measurable Change)	People Involved	Starting and Ending Dates	Resources: Description / Type	Cost / Funding Source
Implement a VPN system	ITS staff must learn to create and maintain a private system. Further expansion will be to train staff how to access this system.	Staff access systems from home	Technology Leaders and Network Services team	01/2007 – 7/2008, phase 1 (administrators)	ITS staff time	Technology Levy
<p><b>Goal Title: Security &amp; Integrity</b></p> <p><b>SMART Goal Statement:</b> Completion of a formalized technology disaster plan.</p> <p><b>Strategy:</b> Create a plan for technology disaster recovery and align with district disaster plan.</p> <p><b>Rationale:</b> The history about disasters at any or all levels invites us to plan for those factors.</p>						

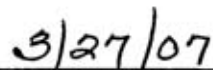
Activity/Task	Professional Development	Evaluation (Measurable Change)	People Involved	Starting and Ending Dates	Resources: Description / Type	Cost / Funding Source
Develop a disaster plan by 2008.	ITS staff must learn the effects and strategies for recovery	The outcome of a Disaster Technology Plan	Network Services team	01/2007 – 7/2008, phase 1 (administrators)	ITS staff time	Technology Funds - General

MEMO TO: Terry Hippenhammer, Puget Sound Educational Service Center  
FROM: Ed Barney, President, Board of Education  
DATE: March 27, 2007  
SUBJECT: 2007 – 2010 Technology Plan

The Federal Way Board of Education approved the issuance of our 2007 – 2010 Technology Plan on March 27, 2007

The Technology Plan aligns with the District Strategic Plan which leads us to supporting all students reaching highest academic goals. Additionally, this plan has the foundational development from the School Improvement Plans. We also infused results from our staff and student surveys to create a comprehensive plan. The Technology Plan will be updated and evaluated for current initiatives each year. This planning tool will guide our direction of resource support and budgetary allocations. Thus this Technology Plan has our strong support and commitment.

  
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President, Board of Education

  
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March 27, 2007