Sitka School District

Technology Assessment Observations and Recommendations

Note: This document is confidential in nature due to personal identifying information, as well as noted security concerns. Although the document is still marked confidential, the sensitive information has been redacted.

SOUND STRATEGY TECHNOLOGY GROUP, LLC

June 3, 2013
Authored by: Thuan D. Nguyen
Sitka School District

Technology Assessment Observations and Recommendations

Overview

The Superintendent and Business Manager of the Sitka School District ("District") engaged consultant Thuan Nguyen ("Consultant") in November of 2009 for professional technology support services. The District was experiencing rolling network outages at Sitka High School due to a lack of IP addresses and sought to remedy the situation.

At that time, the District was struggling with an aging and neglected computer, network, and server technology infrastructure. Students and staff were frustrated by the lack of consistent access and the unreliability of technology resources. The Internet connection speed was inadequate, and resources were slow to work and often unreliable. Students had gone to the School Board to express frustration and requested more access, specifically around wireless connectivity.

In early 2010, the Consultant conducted a full technology assessment ("first assessment") of the District and provided recommendations for the short and long term. The results of the first assessment are memorialized in a written report dated April 27, 2010.

In October of 2012, the District’s Assistant Superintendent requested that the Consultant conduct a second assessment of the District’s current technology infrastructure and its readiness to meet future demands. The intent of the second assessment is to provide the District with an updated snapshot and a new roadmap for the future.

The second assessment was conducted over the course of approximately 22 weeks, from December 2012 to May 2013, utilizing a variety of methods described more fully below. The assessment process consisted of a combination of in-person interviews, document and configuration review, and general personal observations.

It should be noted that since November of 2009, the Consultant, at the District’s request, has worked on a number of projects that are within the scope of this review and assessment. These projects include the following: developing and implementing a new IP address scheme, designing and implementing a wireless network, recommending computer hardware standards, designing and implementing a new layer 2 and 3 network infrastructure, designing and implementing a new Active Directory and file share infrastructure, designing and implementing network services for the Blatchley Middle School remodel, developing the IT director’s job description, and assisting in the interview and selection of the new IT director. As a result, the second assessment entails review of recommendations made, and work performed, by the Consultant since completion of the first assessment. The Consultant alerted the District to these circumstances prior to the District’s engagement of the Consultant to conduct the second assessment.
Second Assessment

The Consultant attempted to re-interview all of the personnel interviewed in connection with the first assessment. The Consultant conducted personal interviews of the following District personnel in connection with the second assessment:

- Assistant Superintendent – Mary Wegner
- Manager of Business – David Arp
- Director of Information Technology – Ian Crane
- Assessment and Reporting Manager – Ann Dagnillo
- Purchasing Accountant – Sheila Stenberg
- Sitka High School Principal – PJ Ford Slack
- Sitka High School Vice Principal – Charlie Robison
- Sitka High School Teachers: Mikolas Bekeris, Beau Hedrick, Jody Smothers-Marcello, Scott McArthur
- SEACC Principal – Sarah Ferrency
- Pacific School Teachers: Hillary Seeland, Eric Matthes
- Blatchley Middle School Principal – Joe Robidou
- Blatchley Middle School Teachers: Brenda Papoi, Kari Sagel, Tom Henshaw
- Keet Gooshi Heen Principal – Casey Demmert
- Keet Gooshi Heen Elementary Teachers: Cindy Duncan, Jeremy Peterson, Carolyn Mork
- Baranof Elementary Principal – Michelle Beach
- Baranof Elementary Teachers: Connie McCarty, Jacquie Hedrick, Gretchen Matiatos, Karen Williams
The Consultant reviewed documents and configuration files covering a wide array of areas from all groups and utilized these materials as a starting point for personal observation and automated tool use. Materials reviewed include network device configuration files, network diagrams, inventory data, purchase orders, project documents, and board presentations.

The Consultant employed a selected group of automated tools to validate the information received in document form and test for system weaknesses in specific areas. Use of these tools was purposefully limited so as to avoid impacting student and staff use of the District’s WAN bandwidth as these tools would have otherwise been very taxing on the available bandwidth. With respect to information validation, the automated tools targeted primarily network device configurations and system utilization. Some of the devices in the District were not capable of remote monitoring and/or were not configured for remote monitoring. In all cases, the device was noted, but no configuration changes were made.

General observation of areas such as customer experience, departmental interactions, and device operations was ongoing throughout the above-described process.
The current technology staff consists of the Information Technology Director ("IT Director"), who is responsible for the District’s computers, servers, and network, and a part-time staff member, paid by stipend, at each school. Notably, the part-time staff members report to the building principals and not to the IT Director (as other technology staff members do).

The Assistant Superintendent is responsible for instructional technology, the District’s tech plan, and staff development. The District also has an assessment and reporting manager responsible for the student information system and state reporting. This position reports to the Assistant Superintendent and previously held the technology trainer position during the first assessment.

In addition, over the course of this assessment, the District added another FTE to the Information Technology Department ("IT Department") on a one year contract to assist with technology support.

It should also be noted that several key technology staff members changed after the delivery of the first assessment. Ms. Mary Wegner was appointed to the position of Assistant Superintendent. Mr. Ian Crane was appointed to the position of IT Director. The reporting structure for the IT Department also changed from having the IT Director report to the Assistant Superintendent to having the IT Director report to the Business Manager. This reporting structure was in place from 2010 until the beginning of 2013 before the District returned supervision of the IT Director to the Assistant Superintendent.

Historical Organizational Structure (2010 – January 2013)
Current Organizational Structure:

Sitka School District

March 5, 2013

Steve Bradshaw
Superintendent

Laurie Seehafer
Superintendent's Secretary

Marvwegner
Assistant Superintendent

Sitka, Alaska

Organization Chart

District-wide Directors

Vacant

Kassandra Marquard
Assistant Superintendent

Community Schools Director

Scott McGlennen

Nancy Douglas
Cultural Director

Ian G rave
Information Technology Director

Laurie Seehafer
Vice-President

Marvwegner
Assistant Superintendent

Mandy Evans
Special Education Director

Becky Charlton
Federal Grants Secretary

School Principals

Blatchley
Vacant

Assistant

Principal

Century

Casey Scanland

Gee-Gooch

Karen

Elementary

Principal

Ben White

Sitka

Middle School

Principal

Pit Point

Rick Krum

Pacific

High School

Principal

Special Education:

Records Secretary

School Psychologist

Business Office:

Accounts Payable/Receivable

Grants and Food Accountant

HR Department/Payroll

IT Department:

IT Support Technician

Maintenance Department:

Boiler Operator

Carpenter

Contract/Temporary Employees

Electrician

Van Driver

Community Schools:

• 21st Century Coordinator

• AmeriCorps Coordinator

• Contract/Temporary Employees:
  o 21st Century Tutors
  o AmeriCorps Volunteers
  o Lifeguards
  o Sports Officials

• Pool Coordinator

• Secretary

• Sports Coordinator

• Tobacco Program Coordinator

• Ventures Coordinator

Schools:

• Certificated Personnel: Activity Director (Sitka High), Classroom Teachers, Counselors, English Language Learners, Homeschool Teacher, Ill Brainers, Special Education Teachers, and Specialists (Behavior, OT, PT, Reading, and Speech/Language Pathologists)

• Classified Personnel: Nurse, Para-Professionals, Secretaries, Receptionists, and Speech/Language Pathologist Assistants

Sitka School District Technology Assessment 2013
The overall network infrastructure design, configuration, and technical implementation is very good. This is an area of significant improvement from the state of the network at the time of the first assessment three years ago.

The consistency in wiring standards at all sites was excellent. This level of consistency is rare at a school district. The cable plant was neat and orderly and the equipment used was consistent throughout the various school sites. It is very apparent that this has been a major area of financial and staff focus for the last few years for the District.

The network does suffer from a lack of ongoing routine maintenance. This is most visible on networking appliances, devices, and systems with outdated software or missing patches.

Security Concerns
Although this report notes security concerns, it is important to bear in mind that this was not a security audit, and as a result, this report does not canvas all potential security weaknesses.

Outdated Network Equipment Passwords
A significant number of critical system passwords are unchanged from the time of the first assessment. This is a liability and a risk for the District, particularly since the District has had staffing changes in the IT Department. These passwords were created by, and/or are known to, the previous director and support staff who are no longer employed by the District.

It is standard industry practice to change all major system passwords at least annually and when a high-access technology employee leaves the organization's employ. This protects the former employee and the organization from any potential liability.

This issue should be remedied immediately. Because the District does not have a configuration management system in place to perform bulk changes, this modification will need to be done manually. Given the size of the network, it should take the IT Director no more than three days to manually remedy the situation.

Unencrypted Services
Based upon a review of the list of the District's publicly-available IP addresses, it appears that several services are available over the Internet without requiring hypertext transfer protocol secure (“HTTPS”) encryption. This is not considered best practice as it allows student, staff, and system management data to traverse the Internet unencrypted.
The following District products were observed available and unprotected over the Internet:

- CommuniGate System (209.112.189.132)
- Oracle Application Server (209.112.189.142)
- Employee Leave System (209.112.189.139)

Some District services are currently utilizing HTTPS encryption with misconfigured certificates. This was observed on the Pinnacle System. On the user end, websites with such certificates are presented by web browsers as unsafe and untrusted despite the security certificate. Users are presented with a warning that the site is untrusted and a recommendation that they not proceed.
This practice can create bad habits in users who understand the website to be a trusted source (because it is affiliated with the District) and therefore ignore the recommendation not to proceed. When users are presented an identical warning for non-District sites that do pose actual security concerns, users are desensitized to the warning and apt to readily dismiss it, thereby placing the District and users at risk. To remedy this issue, the District should consider purchasing security certificates from a trusted authority for all user-facing web services and ensure that they are configured correctly. This change would require a minimal financial investment.

Antivirus and Windows Updates

No changes were observed in this area since the first assessment. The District should implement the recommendations set forth in the first assessment:

Computers (desktops and laptops) do not consistently have antivirus installed and are not getting definition updates. In addition, the District does not have a process in place to ensure that computers are getting Microsoft security updates. These two items together create a significant risk to the integrity of the computers, network, and data of the District.

This issue should be remedied immediately. Given the magnitude of this problem, it may take several months to remedy the situation. It is recommended that the District start with critical computers first. Critical computers are defined as equipment with regular access to sensitive and/or private information, such as staff or student personal data.

Internet Protocol ("IP") Network

The District is currently using the private address block 192.168.x.x for its internal address space per RFC 1918. Utilizing the higher end of this range would ordinarily not be problematic, but the District currently has several servers in the lower range (192.168.0.x – 192.168.5.x). This presents a problem if the District ever chooses to have these services available to remote users through a virtual private network ("VPN"). The vast majority of home routers, wireless access points, gateways, etc. are standardized on the lower range of 192.168.x.x. Thus, users with devices configured in this manner would be unable to utilize the District's VPN service.
This problem was noted in the first assessment, and the District has made great progress on transitioning away from this address space. That said, a number of key servers have yet to be converted. It is recommended that the District invest the time to complete this project by updating these last few systems with the new IP address scheme and retire the old IP scheme.

Wireless Network Authentication

The wireless network currently has encryption enabled and is utilizing Wi‐Fi Protected Access (“WPA”) and Wi‐Fi Protected Access II (“WPA2”), but the authentication method is utilizing a pre‐shared key (“PSK”). This method of authentication is designed for residential and small business use. The inherent flaw in using a PSK is that the system is only able to use one password that is made available to all devices that are connected to the organization’s wireless network. This makes the password a shared secret, and as a result, the network is open to anyone that knows the password. For the District, that averages between 400 ‐ 500 users each day.

It is recommended that the District transition its wireless network authentication to 802.1x to ensure that every user or device has to individually authenticate using its own individual credentials. It should be noted that the District has identified this risk and is actively working to remedy the situation before the start of the next school year.
The overall server design, configuration, and technical implementation are, on average, good. That said, this rating is truly an average of very low performing legacy systems that have not been upgraded in the last three years, on the one hand, and substantially improved centralization and standardization of new systems on the other.

Server Operating System Security

The biggest threat to the District's server environment is the lack of antivirus and system software patching on the servers. Servers do not consistently have antivirus installed. Servers that do have antivirus software installed are not getting regular definition updates. In addition, the District does not have a process in place to ensure that servers are getting security updates or hardware firmware updates. These two items together create a significant risk to the integrity of the District's computers, network, and data.

For example, the District's main file server containing all student and staff network file shares have not had any security patches applied in at least six months and do not have antivirus software installed. In this situation, a single infected file on this system could easily make its way to all computers in the District and take down the network.

This issue should be remedied immediately. Given the magnitude of this problem, it may take several months to completely remedy the situation. It is recommended that the District start by making sure that all servers have antivirus software installed. Once this is complete, the District should start systematically testing and then installing security patches on all servers.
Legacy Servers

The District worked on a project in early 2012 to consolidate and centralize the majority of its school-based servers. These included systems such as file servers, domain controllers, and DHCP servers. Although the new servers are online and operational, the District has yet to power down and decommission all of the legacy systems. In the interim, these systems are unnecessarily consuming energy and space and pose a potential security risk. It is recommended that the District complete this project and decommission the remaining systems.
The overall desktop and laptop configuration and infrastructure are good. The District has made great strides over the last three years to standardize to a select number of manufacturers and models. This is very evident from a review of the available devices in the District.

**Desktop and Laptop Inventory**

In reviewing the desktop and laptop environment, it is evident that the computer environment still suffers from a lack of strategic execution of the District’s newly-adopted standard. This is primarily attributable to lacking a specific replacement plan for all equipment purchased. Although the District has committed to a replacement cycle and a student-to-computer ratio, the District has not yet fully systematized the process.

Inventory data for the District is still inconsistent. Without this data, it will not be possible for Sitka to deliver on the promise of a replacement cycle or student access ratio.

Progress was observed in this area since the first assessment. The District should implement the full recommendations set forth in the first assessment:

*It is recommended that the District immediately adopt and implement a process to identify all computer assets in the District. The information collected in this process should contain at least the following information:*

- **Category:** Student Computer, Teacher Computer, or Staff Computer
- **Equipment Type:** Desktop, Laptop or Mobile Device
- **Model Number**
- **Serial Number**
- **District Asset Number***
- **Funding Source***

*Future purchase tracking information.

There are a number of software products available that would allow the District to automate this process. Absolute software is one of the leaders in the market. Their software is persistent at the bios level, so the computer will always report into the inventory system as long as it has an internet connection. These tools can save a tremendous amount of staff time while ensuring that the District has access to the critical inventory data it needs to be successful.

Obtaining this data is a critical step in the planning and maintaining of a stable and reliable instructional computer environment for students and staff.
Desksops and Laptops Hardware Support Status

Comparing inventory data that the District provided with Dell’s support information, 42% of the Dell devices in the District are no longer under warranty. This is a large percentage to be without warranty coverage for a technology-focused school district. This can generate a ballooning repair budget and cause significant reliability issues as there are no guarantees that these devices can be repaired if they become broken or damaged. The District should ensure that all District computers are under warranty.

Inventory data also showed that approximately 32 computers purchased from 2001 – 2004 are still in service. These machines are inconsistent with the District’s replacement cycle standard and should be decommissioned.

Dell Procurement Over Time of Current Inventory
No changes were observed in this area since the first assessment. The District should implement the recommendations set forth in the first assessment:

*It is recommended that the District investigate other remote access solutions such as Secure Socket Layer ("SSL") VPN or Microsoft’s DirectAccess and identify the necessary access for both students and staff to instructional resources while they are away from the District. Students and staff both spend less than 20% of the year in the building and the rest of the time somewhere else. If users are deprived of adequate computing resources for use outside of the District, this is a significant loss in potential instructional time. In addition, as more mobile hotspots become available, without a clear VPN plan, a big security risk is generated if the District allows users to connect to these hotspots and does not offer a method for users to transfer District data in a safe and protected manner.*
A number of changes were observed in this area since the first assessment in 2010, but overall this is still a major area of concern, and the District should continue to work towards implementing the recommendations set forth in the first assessment, which are excerpted below with updated examples based on information obtained during the course of the second assessment.

**Support or Issue Tracking**

The IT Department currently does have a process in place to track support requests. This is an improvement since the first assessment, but the process could be further refined for accuracy and consistency.

It is recommended that the District start to develop standard reports from this system to quickly gather information for decision making. Sharing this information as consistent reports may identify areas of need, such as professional development, and can also help develop strategies on how to best support the environment over time.

Managing issues and support requests is a major function of any effective technology team. Without clear and consistent reporting, it is impossible to truly gauge technology staff workload and support levels.

**Backup and Restoration**

The District currently does not have a documented backup and restoration policy or procedure. The District currently relies on a series of hardware data cloning mechanisms for data backup. Progress was observed in this area since the first assessment. The District should continue to work towards implementing the recommendations set forth in the first assessment.

The District lacks a consistent test schedule for backup restoration, and the District does not transfer its backups to tape. This leaves the backup at risk of a hardware failure. The best practice is to back up to dedicated hardware for quick access and then transfer to tape for protection against hardware failure.

The District also does not have an email archive system in place. Public entities such as school districts must be able to produce electronically stored information from staff members, such as email and other forms of digital communication. A nightly backup of the email system is not sufficient, because an email could have been sent/received and deleted the same day and therefore never backed up.

It is recommended that the District purchase dedicated hardware to support the backup and archive process. This is especially critical for systems that have compliance requirements, such as the student information system, financial system, and email system.
Budget Planning
Since the first assessment, the District has adopted a centralized budgeting model for technology procurement. This process involved creating two centralized technology budgets for the District. The first budget focused on infrastructure needs and the second targeted instructional needs. The data shows that the District is getting better at projecting future costs and planning for total cost of ownership with new projects. This is most evident in the fact that technology expenditures are beginning to equalize from year to year.

This will continue to be an area of refinement as the District makes more tools available and grows its device inventory for students and staff. This is a huge area of improvement for the District.

Project Management
Some changes were observed in this area since the first assessment. The District should continue to work towards implementing the recommendations set forth in the first assessment.

The District currently does not have any project management philosophies or processes in place. At any given time, the IT Department is not aware of the number of projects it is committed to completing. This makes it extremely difficult for the District to clearly identify the scope of a project or schedule and plan work. For example, during the interview process, teaching staff raised concerns with the recent installation of interactive white boards and the lack of collaboration between the IT Department and the Maintenance Department. The lack of coordinated planning created frustration for teaching staff and, in some cases, led to improper installation of the interactive white boards.

It is recommended that the IT Department adopt a project methodology and process to ensure that technology projects are adequately piloted, scoped, tracked, completed, and evaluated.

Staff Augmentation
As the District continues to add devices for student and staff use, it will be critical for the District to explore new and different ways of delivering service. After the first assessment, the District adopted an imaging system to more easily deploy and refresh computers. Armed with this new image, the District should now consider working with Dell or a third party provider to ship new computers to the District ready for use out of the box by preloading the District’s image at the factory. This would save a tremendous amount of technical staff time, allowing technical support staff to work on issues that outside vendors cannot address. This service ranges from free to $15 per computer, depending which reseller the District selects.
Acceptable Use Policy (‘AUP’)

The District’s current AUP is up to date as it relates to general compliance.

It is recommended that the District further strengthen these policies and procedures by considering the addition of provisions to cover confidentiality of data and the use of personal mobile devices. Sample language is provided below:

Confidentiality of Data

Student data is confidential, and District staff must maintain the confidentiality of student data in accordance with the Family Educational Rights and Privacy Act (FERPA).

Personal Device Warning

By connecting a mobile device to the Sitka School District email system, you acknowledge and agree that the Sitka School District Information Technology Department reserves the right to enforce any security measures deemed necessary to mitigate data leakage and protect students.

This includes but is not limited to:

1. Remotely delete the contents of your mobile device. This may include district and personal contacts, pictures, etc.
2. Enforce the use of a password / pin to access the mobile device.
3. Remotely delete the contents of your cell phone in the event a password is incorrectly entered more than 10 times.
4. Restrict the use of applications deemed a security risk.

In addition, you must understand that documents or records – including electronic communications of a public agency - are public records under state law. Using any personal device or computer for school district business can result in a requirement that you submit your personal device for examination or search if a public records request is received concerning information that may be stored on your personal device. Such information may also be subject to disclosure.
The District should be very proud of the transformation it has made with the IT Department and staff member feelings towards technology support. Three years ago, a common sentiment was, “If there is a problem, you can forget about ever using it again, because you never know when it will be fixed.” As part of the second assessment, many of the same teachers were re-interviewed. Without exception, the interviewees’ feelings and experiences had changed for the better.

The majority of those interviewed expressed wanting to see more technology in their classrooms and schools. This sentiment was occasionally expressed as frustration at not having enough access to technology. This is markedly different from the feelings of staff three years ago. At that time, many were wondering if interactive white boards were a good idea and whether students really needed access to technology to be successful.

In the course of the second assessment, the Consultant conducted a survey of all students (addressed in more detail below) regarding technology. Of those who responded, 68.83% of staff members strongly agree or agree with the statement, “I know when, where, how, and from whom to get assistance to integrate technology into my lessons.” Similarly, 71.62% of staff respondents strongly agree or agree with the statement, “In general, student computers/laptops are free from technical problems that impact learning.”

As these highlighted survey results illustrate, staff are feeling that their technology needs are better supported and taken care of today than ever before. Below are a few samples from the open comment of the survey:

“It really has been good to have functioning hardware and software the last ~3 years. There are some things we could improve on, such as printing setups, but overall we are much much better off than where we were 4 years ago. Thank you so much!”

“Technology is integrated into almost everything I do and I find that students are becoming more and more use[d] to utilizing their tools . . . . The use of computers and laptops helps students deepen their understanding of the learning material and allows them to construct their own meaning.”

This type of large organizational shift would not have happened without the leadership of the Board, Superintendent, and staff.

As the District continues to incorporate technology throughout the organization and the dependence on these resources deepens, it will be critical that the District put in place a formalized succession plan. The District’s geographical limitations make it more difficult to attract new talent. It would be in the best interests of the District to identify and prepare the next IT Director now and use this time to immerse him or her into this budding culture.
As with the first assessment, it is recommended that the District develop clear goals and objectives for technology staff. Such goals must directly align with District goals. This will give the technology team an opportunity to strategically position infrastructure systems and prepare support structures to assist with the accomplishment of District goals.

It is also recommended that the District consider returning to the previous reporting structure of having the IT Director report to the Business Manager. It is not uncommon for school districts to have the IT Department be a part of a business or operational division. This structure was previously recommended and implemented, and, by all accounts, it worked well for the District. The Consultant is concerned that under the current organizational structure, the District’s Assistant Superintendent will not have time on a daily basis to assist and mentor the IT Director with ongoing planning or daily operations. The District should adopt the organizational structure proposed in the first assessment:
STUDENT AND STAFF SURVEY

In addition to interviewing select staff, the Consultant also surveyed all students and staff regarding their use, need, experience/observations, and access to technology resources. The student survey received 657 responses and the staff survey received 82 responses. This is a very high response rate, and the survey results should therefore be considered representative.

Overall, the feedback from students and staff was very positive and demonstrates that the District has effectively transformed the culture from being negative about, and suspicious of, technology to being more open and willing to embrace technology. For example, 92.1% of staff respondents agree or strongly agree that computers and laptops enhance classroom activities. Similarly, 88.8% of student respondents agreed or strongly agreed with the statement, “I would like to see more access to computers at my school.”

Survey results also show that the District has improved the reliability and accountability of the technological environment, which has made students and staff more receptive to technology use. For example, 71.7% of staff and 75.9% of students agree or strongly agree that in general, student computers and laptops are free from technical problems that impact learning.

The District should conduct a similar survey annually, keeping the prompts as consistent from year to year as possible, so as to develop metrics and track progress from the standpoint of end user perceptions.

Survey Questions

Staff members were asked 14 questions and were also provided an opportunity to add general comments. The questions for staff were as follows:

1. School Name:
2. Role / Position / Grade Level Taught:
3. I have a way to grow in the use of technology, according to my needs.
4. I can access timely, effective training in the use of technology according to my needs.
5. I have found that the laptop allows me to differentiate instruction with students with greater ease.
6. I have found that when I use technology as part of the learning process students are more engaged in the content.
7. The computers/laptops provide students the opportunity to take their learning to a higher level.
8. I know when, where, how and from whom to get assistance to integrate technology into my lessons.
9. I have observed students coaching other students on ways to use, troubleshoot and/or enhance the use of the laptops.
10. The computers/laptops enhance classroom activities.
11. In general, student computers/laptops are free from technical problems that impact learning.
12. It is easy to integrate computer activities into my lessons.
13. In which areas do you feel students need more preparation?
14. In which areas would you like additional professional development opportunities?
15. General Comments:

Students were asked 10 questions and were also provided an opportunity to add general comments. The questions for students were as follows:

1. School Name:
2. Grade Level:
3. Home Access – Please choose yes, no, or I don’t know
   a. I have a Computer at home
   b. I have access to the Internet at home
   c. I have access to a Computer and Internet whenever I want at home
   d. I have access to Wireless Internet at home
   e. I have access to a Tablet (iPad, Xoom, etc) at home
   f. I have access to a Smart Phone (cell phone with Internet access) at home
4. I have become better at using computers since my school received computers/laptops.
5. I can get help on how to use the computer if I need it.
6. Other students help me learn how to do things on the computer/laptop.
7. Using a computer/laptop gives me more choices in how I do my work.
8. I would like to see more access to computers at my school.
9. In general, my computer/laptop at school is free from technical problems that impact learning.
10. General Comments:

Survey Results

Below are the summarized results of both surveys, starting with staff responses. Only data and responses that could not be easily tabulated (role/grade level of respondents and general comments) are omitted from this summary.
**Staff Survey Results**

**School Representation**

<table>
<thead>
<tr>
<th>School Name</th>
<th>Response Percent</th>
<th>Response Count</th>
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</thead>
<tbody>
<tr>
<td>Baranof</td>
<td>25.6%</td>
<td>21</td>
</tr>
<tr>
<td>Keet Gooshi Heen</td>
<td>24.4%</td>
<td>20</td>
</tr>
<tr>
<td>Blatchley</td>
<td>15.9%</td>
<td>13</td>
</tr>
<tr>
<td>Sitka High</td>
<td>24.4%</td>
<td>20</td>
</tr>
<tr>
<td>Pacific High</td>
<td>7.3%</td>
<td>6</td>
</tr>
<tr>
<td>REACH</td>
<td>1.2%</td>
<td>1</td>
</tr>
<tr>
<td>Community Schools</td>
<td>7.3%</td>
<td>6</td>
</tr>
</tbody>
</table>

- **Answered question:** 82
- **Skipped question:** 0
I have a way to grow in the use of technology, according to my needs.

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>26.3%</td>
<td>21</td>
</tr>
<tr>
<td>Agree</td>
<td>60.0%</td>
<td>48</td>
</tr>
<tr>
<td>Disagree</td>
<td>10.0%</td>
<td>8</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>3.8%</td>
<td>3</td>
</tr>
</tbody>
</table>

Answered question: 80
Skipped question: 2
I can access timely, effective training in the use of technology according to my needs.

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>7.3%</td>
<td>6</td>
</tr>
<tr>
<td>Agree</td>
<td>58.5%</td>
<td>48</td>
</tr>
<tr>
<td>Disagree</td>
<td>25.6%</td>
<td>21</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>8.5%</td>
<td>7</td>
</tr>
</tbody>
</table>

Answered question 82, skipped question 0.
I have found that the laptop allows me to differentiate instruction with students with greater ease.

**Sitka School District Technology Survey (Staff)**

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>24.7%</td>
<td>18</td>
</tr>
<tr>
<td>Agree</td>
<td>42.5%</td>
<td>31</td>
</tr>
<tr>
<td>Disagree</td>
<td>23.3%</td>
<td>17</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>9.6%</td>
<td>7</td>
</tr>
</tbody>
</table>

answered question 73
skipped question 9
I have found that when I use technology as part of the learning process students are more engaged in the content.

**Sitka School District - Technology Assessment 2013**

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>43.2%</td>
<td>32</td>
</tr>
<tr>
<td>Agree</td>
<td>45.9%</td>
<td>34</td>
</tr>
<tr>
<td>Disagree</td>
<td>8.1%</td>
<td>6</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>2.7%</td>
<td>2</td>
</tr>
</tbody>
</table>

**Answered Question:** 74
**Skipped Question:** 8
The computers/laptops provide students the opportunity to take their learning to a higher level.

Sitka School District - Technology Survey (Staff)

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>26.7%</td>
<td>20</td>
</tr>
<tr>
<td>Agree</td>
<td>56.0%</td>
<td>42</td>
</tr>
<tr>
<td>Disagree</td>
<td>16.0%</td>
<td>12</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>1.3%</td>
<td>1</td>
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</tbody>
</table>

Answered question: 75
Skipped question: 7

Sitka School District Technology Assessment 2013
I know when, where, how and from whom to get assistance to integrate technology into my lessons.

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>26.0%</td>
<td>20</td>
</tr>
<tr>
<td>Agree</td>
<td>42.9%</td>
<td>33</td>
</tr>
<tr>
<td>Disagree</td>
<td>22.1%</td>
<td>17</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>9.1%</td>
<td>7</td>
</tr>
</tbody>
</table>

answered question: 77
skipped question: 5
I have observed students coaching other students on ways to use, troubleshoot and/or enhance the use of the laptops.

Sitka School District - Technology Survey (Staff)

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>21.3%</td>
<td>16</td>
</tr>
<tr>
<td>Agree</td>
<td>52.0%</td>
<td>39</td>
</tr>
<tr>
<td>Disagree</td>
<td>16.0%</td>
<td>12</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>10.7%</td>
<td>8</td>
</tr>
</tbody>
</table>

Answered Question: 75
Skipped Question: 7
The computers/laptops enhance classroom activities.

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>38.2%</td>
<td>29</td>
</tr>
<tr>
<td>Agree</td>
<td>53.9%</td>
<td>41</td>
</tr>
<tr>
<td>Disagree</td>
<td>5.3%</td>
<td>4</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>2.6%</td>
<td>2</td>
</tr>
</tbody>
</table>

Answered question 76, skipped question 6
In general, student computers/laptops are free from technical problems that impact learning.

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>12.2%</td>
<td>9</td>
</tr>
<tr>
<td>Agree</td>
<td>59.5%</td>
<td>44</td>
</tr>
<tr>
<td>Disagree</td>
<td>21.6%</td>
<td>16</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>6.8%</td>
<td>5</td>
</tr>
</tbody>
</table>

Answered question 74
Skipped question 8
It is easy to integrate computer activities into my lessons.

Sitka School District - Technology Survey (Staff)

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>20.0%</td>
<td>15</td>
</tr>
<tr>
<td>Agree</td>
<td>52.0%</td>
<td>39</td>
</tr>
<tr>
<td>Disagree</td>
<td>18.7%</td>
<td>14</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>9.3%</td>
<td>7</td>
</tr>
</tbody>
</table>

Answered question: 75
Skipped question: 7

Sitka School District Technology Assessment 2013
In which areas do you feel students need more preparation?

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital citizenship</td>
<td>55.2%</td>
<td>37</td>
</tr>
<tr>
<td>Technology tools for learning</td>
<td>46.3%</td>
<td>31</td>
</tr>
<tr>
<td>Troubleshooting and technical skills</td>
<td>46.3%</td>
<td>31</td>
</tr>
<tr>
<td>Internet skills</td>
<td>38.8%</td>
<td>26</td>
</tr>
<tr>
<td>None, students are well prepared</td>
<td>4.5</td>
<td>3</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>67</strong></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

Sitka School District - Technology Survey (Staff)
In which areas would you like additional professional development opportunities?

### Sitka School District - Technology Survey (Staff)

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital citizenship</td>
<td>12.9%</td>
<td>9</td>
</tr>
<tr>
<td>Technology tools for learning</td>
<td>62.9%</td>
<td>44</td>
</tr>
<tr>
<td>Troubleshooting and technical skills</td>
<td>50.0%</td>
<td>35</td>
</tr>
<tr>
<td>Internet skills</td>
<td>4.3%</td>
<td>3</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>900.0%</td>
<td>9</td>
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</table>

Answered question: 70

Skipped question: 12

Sitka School District Technology Assessment 2013
**STUDENT SURVEY RESULTS**

**School Representation**

![Baranof](4) 145 21 276 16 2

**Sitka School District - Technology Survey (Students)**

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent (of respondents from all schools)</th>
<th>Response Count</th>
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</thead>
<tbody>
<tr>
<td>Baranof</td>
<td>0.6%</td>
<td>4</td>
</tr>
<tr>
<td>Keet Gooshi Heen</td>
<td>22.1%</td>
<td>145</td>
</tr>
<tr>
<td>Blatchley</td>
<td>33.3%</td>
<td>219</td>
</tr>
<tr>
<td>Sitka High</td>
<td>42.0%</td>
<td>276</td>
</tr>
<tr>
<td>Pacific High</td>
<td>2.4%</td>
<td>16</td>
</tr>
<tr>
<td>REACH</td>
<td>0.3%</td>
<td>2</td>
</tr>
</tbody>
</table>

answered question: 657
skipped question: 0

---

Sitka School District Technology Assessment 2013
Home Access – Please choose yes, no, or I don’t know

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Yes</th>
<th>No</th>
<th>I don’t know</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have a Computer at home</td>
<td>604</td>
<td>40</td>
<td>7</td>
<td>651</td>
</tr>
<tr>
<td>I have access to the Internet at home</td>
<td>577</td>
<td>48</td>
<td>22</td>
<td>647</td>
</tr>
<tr>
<td>I have access to a Computer and Internet whenever I</td>
<td>468</td>
<td>145</td>
<td>32</td>
<td>645</td>
</tr>
<tr>
<td>want at home</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have access to Wireless Internet at home</td>
<td>521</td>
<td>78</td>
<td>47</td>
<td>646</td>
</tr>
<tr>
<td>I have access to a Tablet (iPad, Nexus, Galaxy Tab,</td>
<td>387</td>
<td>231</td>
<td>27</td>
<td>645</td>
</tr>
<tr>
<td>etc.) at home</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have access to a Smart Phone (cell phone with</td>
<td>452</td>
<td>163</td>
<td>30</td>
<td>645</td>
</tr>
<tr>
<td>Internet access) at home</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Answered question: 656
Skipped question: 1

Sitka School District Technology Survey (Students)
I have become better at using computers since my school received computers/laptops.

Sitka School District Technology Survey (Students)

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>22.4%</td>
<td>146</td>
</tr>
<tr>
<td>Agree</td>
<td>59.1%</td>
<td>385</td>
</tr>
<tr>
<td>Disagree</td>
<td>14.3%</td>
<td>93</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>4.1%</td>
<td>27</td>
</tr>
</tbody>
</table>

answered question: 651
skipped question: 6

Sitka School District Technology Assessment 2013
I can get help on how to use the computer if I need it.

Answer Options

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>24.1%</td>
<td>156</td>
</tr>
<tr>
<td>Agree</td>
<td>65.8%</td>
<td>425</td>
</tr>
<tr>
<td>Disagree</td>
<td>6.5%</td>
<td>42</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>3.6%</td>
<td>23</td>
</tr>
</tbody>
</table>

answered question 646
skipped question 11

Sitka School District Technology Survey (Students)

Sitka School District Technology Assessment 2013
Other students help me learn how to do things on the computer/laptop.

Sitka School District - Technology Survey (Students)

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>15.2%</td>
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</tr>
<tr>
<td>Agree</td>
<td>60.6%</td>
<td>390</td>
</tr>
<tr>
<td>Disagree</td>
<td>17.4%</td>
<td>112</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>6.8%</td>
<td>44</td>
</tr>
</tbody>
</table>

644 answered question
13 skipped question
Using a computer/laptop gives me more choices in how I do my work.

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>35.9%</td>
<td>231</td>
</tr>
<tr>
<td>Agree</td>
<td>54.1%</td>
<td>348</td>
</tr>
<tr>
<td>Disagree</td>
<td>7.0%</td>
<td>45</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>3.0%</td>
<td>19</td>
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</table>

- Answered question 643
- Skipped question 14
I would like to see more access to computers at my school.

<table>
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<tr>
<th>Answer Options</th>
<th>Response Percent</th>
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<tr>
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<td>43.7%</td>
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<td>Agree</td>
<td>45.1%</td>
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<td>Disagree</td>
<td>9.5%</td>
<td>61</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>1.7%</td>
<td>11</td>
</tr>
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</table>

643 answered question
14 skipped question
In general, my computer/laptop at school is free from technical problems that impact learning.

**Sitka School District - Technology Survey (Students)**

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>17.0%</td>
<td>109</td>
</tr>
<tr>
<td>Agree</td>
<td>58.9%</td>
<td>378</td>
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<tr>
<td>Disagree</td>
<td>18.7%</td>
<td>120</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>5.5%</td>
<td>35</td>
</tr>
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</table>

**Total answered question:** 642
**Total skipped question:** 15
The Technology Support Index is a national tool used to assist school districts in improving their technology support programs. It was a result of the Technology Support Project commissioned by the Bill & Melinda Gates Foundation.

“According to the Technology Support Index (TSI) your system is considered ‘Satisfactorily Efficient’ requiring limited improvements. The ‘Satisfactory Efficiency’ level of development refers to a system that is doing a very good job of support in many areas. Improvements in a number of areas will enhance the organizational capacity to effectively implement technology.” – International Society for Technology in Education

<table>
<thead>
<tr>
<th>Domain</th>
<th>Rating</th>
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</thead>
<tbody>
<tr>
<td><strong>Equipment Standards</strong></td>
<td>(3) Satisfactory Efficiency</td>
</tr>
<tr>
<td>Focuses upon consistent equipment and software decisions that can directly impact the quality of support provided.</td>
<td></td>
</tr>
<tr>
<td><strong>Staffing and Processes</strong></td>
<td>(2) Moderate Efficiency</td>
</tr>
<tr>
<td>Addresses technical assistance staffing and the support practices used that can impact efficiencies in support.</td>
<td></td>
</tr>
<tr>
<td><strong>Professional Development</strong></td>
<td>(3) Satisfactory Efficiency</td>
</tr>
<tr>
<td>Considers how strong professional development can change the nature organizational support requirement and impact a team's ability to provide support.</td>
<td></td>
</tr>
<tr>
<td><strong>Enterprise Management</strong></td>
<td>(2) Moderate Efficiency</td>
</tr>
<tr>
<td>Identifies strategies that capitalize upon the technology itself to provide strong support.</td>
<td></td>
</tr>
</tbody>
</table>

It should be noted that the District’s overall “Satisfactorily Efficient” rating is premised on the assumption that the District will fully implement and execute the equipment standards established by the District. Of course, whether the District actually does so cannot be confirmed until the District has gone through a full replacement cycle. These processes will not be completed until 2014 (for laptop replacement) and 2015 (for desktop replacement). If the District failed to adhere to its equipment standards (receiving a “moderate efficiency” rating for that category), the District’s overall rating would drop to “Moderately Efficient.” Such a reduced rating would nevertheless be an improvement from the “Low Efficiency” ratings the District received across all categories during the first assessment.
**SHORT-TERM STRATEGIES**

The short-term focus for the Sitka School District and the Information Technology Department must be on formalizing current practices and processes. Now that the District has stabilized its technology infrastructure over the last few years, the next few steps are intended to focus on maintaining that stability while strategically expanding and growing access to meet the District’s long-term goals and needs.

At the request of the District, the following project recommendations are premised on adoption of a one-to-one environment.

**Wireless Network**
- Install additional wireless access points to allow for more end user client devices on the network. The goal should be to provide enough coverage for at least 30 devices per classroom space and 90 devices for open or multi-use locations such as libraries, cafeterias, and gymnasiums.

- Build redundancy into the wireless infrastructure. As students and staff increasingly rely on this system for educational use, it is important that the system not be at risk of a single point of failure. It is recommended that the District add a secondary controller for redundancy and provide overlapping wireless access point coverage.

**Wide Area Network**
- Develop plans to increase WAN network speeds. The District should plan on this being an annual project for the next few years until the District reaches the desired network client count. For example, the currently-available bandwidth will be consumed quickly if the District adds an enterprise system for security cameras. Such devices consume 1.5Mbps – 5Mbps of bandwidth per device, and a traditional secondary school requires more than 30 cameras.
• In the long-term, the District should consider developing its own fiber network infrastructure instead of leasing this service from the local telecom company. This is an area where the District's enclosed geographical area can serve as a major advantage. A capital project like this would have a very quick return on investment. The District could even partner with the local city to share the cost, as the city could leverage the same fiber infrastructure for its own use. This project would allow the District to increase the available WAN bandwidth overnight by 100-fold using today's network standards.

Increase Internet Bandwidth
• The District's current bandwidth is 35Mbps. Daily usage towards the end of the year has the link close to saturation. It is recommended that the District increase the available bandwidth to at least 50Mbps.

Pilot Student Email
• Electronic communication with students is going to be an important facet of the classroom experience as more devices are introduced into the classroom environment. This service is a technical hurdle that also has policy implications. It is recommended that the District implement a pilot project in the short term to assist with identifying best practices for District-wide implementation.
Develop a Process for Distribution and Collection of Student Devices

- The District must develop a systemic process, to be used across all schools, for issuing laptop computers to students. This process must include a training component to ensure that students and their family members are familiar with the District’s internet safety protocol and that students understand how to operate the device (e.g., turning the device on, basic troubleshooting, accessing wireless internet, safely powering down the device, using the track pad, charging the device). This process should include technology-embedded, curriculum-based instruction so that students can become familiar with the device in the context of working on a substantive lesson. For example, the District might decide to roll out laptops during math class. At the start of the class, students would report to the distribution center to pick up their laptops and then return to their classrooms to work through a math lesson designed to not only deliver curriculum but also help the students work through basic operation of the device.

- Similarly, the District must develop an end-of-year process for collecting the devices. This process should include a checklist to ensure that the devices are returned to the District with all of the components and accessories issued to the students. During this intake process, the District should identify any damage to be charged to the student and any necessary repairs, including those covered by warranty, so that the District can efficiently refurbish the machines during the summer before redistributing the devices in the fall. These logistical aspects must be thought through as they can be the hallmark of a program’s success or failure.

Implement a Learning Management System

- As more devices are made available for student use in the classroom, it will become increasingly important for classroom teachers to have access to a system that they can use to electronically organize their lesson plans and electronically deliver lesson materials to students.

- This system should provide features such as quick electronic assessments, surveys, impromptu discussion forums, assignment submission, auto-grading of certain assignment types, and electronic grade books.

Implement a Classroom Management Tool

- A computer classroom management tool is a must-have to assist teachers with managing classrooms where every student has access to a device. This class of software will allow teachers to remotely control all devices in the classroom to ensure that students remain on task.
Continue Communication Campaign for Staff and the Community
- The District’s efforts in this area over the last few years have worked to change the minds and attitudes of staff towards technology tools and resources. It is important that the District continue to treat this effort as part of its ongoing annual process.

Implement an Automated Asset Tracking System
- As more devices are made available, inventory tracking will become difficult. It is recommended that the District implement an automated inventory system for computers. This will eliminate most of the manual labor that is currently required while ensuring that the District has access to accurate inventory data for planning and reporting purposes.
- This will also be a critical component in ensuring accountability and protecting the District against theft-related problems as the District works to dramatically increase the number of available electronic devices.

Mobile Device Management Platform (“MDM”)
- Over the last few years, a new class of devices (Smart Phones and Tablets such as iPads, Android, Windows RT) have emerged. These devices require a different set of software to manage and maintain. This management platform, referred to as “MDM,” is a valuable tool to have as part of any organization’s toolset. Without this tool, an organization could spend significant staff time on configuring basic settings (wireless, email, etc.) on each device individually.

Implement Remote Filtering on Mobile Devices (Laptops and Tablets)
- The District currently protects students from inappropriate Internet content by filtering its Internet connection. The District will now need to work to extend that same content filtering to mobile devices when students and staff take their devices home.

Document all Recurring Expenses
- Budget planning documents over the last two years have shown a steady progression in increased detail and projection accuracy. The District should continue its focus in this area by documenting and defining all services and prioritizing all recurring expenses.
- Utilize documentation to annually audit recurring expenses to ensure that services are necessary to facilitate District goals. This will help to ensure that future projections are accurate and that the services are still needed. The District has been in a state of rapid change, and its needs and resources will continue to change annually.

Establish a Sustainable Laptop and Desktop Replacement Schedule
- Develop a plan to replace a predefined percentage of computing devices per year based on established lifecycles.
• The replacement cycle should be evenly distributed to all sites to ensure that no schools are left with only old equipment while others have only new equipment. Every site should have an equal amount of old and new computing devices. The District must resist the urge to only install new equipment in a new building. While this approach has its benefits in the short term, it will leave students and staff with access to only old computers in a few years. It also requires significant resources to replace an entire school’s technology all at once. It is more economical and efficient, and less disruptive, to replace only a portion of a site’s devices at one time.

• Adopt and execute a five-year refresh cycle for desktops and a four-year refresh cycle for laptops. The District has committed to this refresh cycle, but the implementation is not yet at 100%.

• Adopt a two-year battery refresh cycle for laptop batteries. The battery replacement cycle will grow longer as this technology improves. While several manufacturers are beginning to offer three-year warranties on their batteries, the vast majority are still between 90 days and one year. These standards will ensure a stable, reliable, and sustainable computing environment. This recommendation was included in the first assessment and is more important now than ever because devices in a one-to-one environment are used more frequently and therefore are charged daily.

District Reporting on Computer Access
• Develop annual reports to show compliance with approved computer access ratio standards at every site. Each report should reference and build upon the previous report to ensure consistency and accountability.

• Present an annual compliance report (and historical data, as available) to the Superintendent. This will help ensure accountability for standards established by the tech plan and equity for all schools and students.

Evaluate Systems for Transition to Cloud-Based Services
• No changes were observed in this area since the first assessment. The District should implement the recommendations set forth in the first assessment:
  
  o Start with student email and then potentially staff email. Although student email is not a service currently in place, several staff members requested the service during the interview process. Pilot student email by evaluating free solutions such as Google or Microsoft.

The following process changes are recommended and should be part of the implementation plan for the projects and proposals above:

Sitka School District Technology Assessment 2013
- Track Projects
- Track Daily Operations
As previously noted, the District, as a whole, has been working to shift its culture and operational standards as they relate to technology and the IT Department. The District’s strategic initiatives should be designed to ensure that these shifts are not short term changes but instead become embedded and sustained in the new culture. As a result, the five major areas of focus for technology, and the strategic proposals of the first assessment, should be carried forward.

The District’s roadmap for the next few years should continue to include the following five priorities:

- Scalable
- Standards Based
- Equitable
- Supportable
- Systemic

The District should systematically incorporate the work outlined in the 2013-2016 tech plan and the School Board’s goals into the IT Department’s goals and objectives. For example:

- Current Tech Plan Goal and Objective: Access – By the end of the 2015-2016 school year, SSD will decrease from 4:1 the student to computer ratio with an emphasis on students who qualify as low income.
  - Sample Information Technology Goal and Objective - Architect, deliver, and maintain a reliable and stable technology infrastructure appropriate to support the core instructional mission of the District.
  - Sample Objective 1 – The IT Department will develop scenarios using inventory and student enrollment data to lower the student-to-computer access ratio by the end of 2013/14.
• Sample Objective 2 – The IT Department will expand the core technology infrastructure during the 2014-15 school year to ensure that the infrastructure is ready to support more student devices.

This level of specificity will allow the IT Department to appropriately plan for the future while also providing a meaningful connection between employees’ daily work and the District’s strategic vision and mission.

Building-Based Instructional Technology Support
• The District should focus, train, and set clear expectations for technology support staff in schools. The District currently has one person assigned to each site, identified as an “Instructional Technology Support.” The expectations and skillsets vary among these staff members. The District should develop a plan for this group to establish consistency in expectations across the District.

Service Level Agreements with Schools
• No changes were observed in this area since the first assessment. The District should implement the recommendations set forth in the first assessment:
  o This will help establish operating standards and parameters for technical staff. This creates metrics that can be used to measure the effectiveness of the support team and creates a level of accountability and prevents issues from falling through the cracks. Finally, it creates a level of expectation for students and staff. Customers will know how long it should take for an issue to be resolved. The agreement should be a living document and should be updated as technology and services change.

Technology Support for Students
• Develop a mechanism for students to obtain technical support and track the request without needing a teacher’s intervention. This will further enhance the sense of ownership between students and their devices.

Technology-Related Student Discipline
• Develop a discipline hierarchy for technology-related offenses. This is an important step to maintaining internal consistency among teachers and school administrators. As more devices are added, more discipline-related issues will arise. If they are not proactively addressed early on and with consistency, they can easily spiral out of control.

Curriculum Repository
• As the District embeds the use of a Learning Management System (“LMS”) in the classroom over the next few years, developing a curriculum repository system will become mandatory. These systems are designed to store standards-aligned curriculum that the District has approved as best practice. This will make it easier for staff to adopt the use of technology resources in the
classroom by providing them with templates and content that others have created for their use. It will also leverage the value of an LMS by providing teachers an easy mechanism to share vetted lessons and consolidate planning materials.

New Curriculum Adoption

- The District should consider updating its curriculum adoption procedure to include specific efforts to seek out digital resources to further enhance any new textbook adoption. These resources can take the form of eBooks and supplemental materials on a website with videos and interactive exercises to further engage students and enhance non-digital learning materials. This process is slow going, but with every new adoption cycle, District-issued student devices will become increasingly valuable to students and staff.

Online Collaboration Tools

- Digital collaboration and presence have quickly expanded to include the use of social media, instant messaging, and video conferencing. The District needs to plan to have this toolset available to further blend and integrate the other available resources. This service will be just as important to have in a school district as staff email is today.

Home Internet Access

- The District will need to develop a multifaceted strategy to ensure that all students have access to the Internet while they are not in school. The District is fortunate to have a student population that has a high rate of Internet access at home; 89% of the students who responded to the Consultant’s survey have Internet at home, which is much higher than the national average. That said, 11% of the District’s students do not have Internet access at home. For these students, any mobile devices the District might provide will be significantly limited in capability and value because such students are unable to access all of their electronic resources after leaving school. This strategy should involve the community, Internet service providers, and anyone willing to help with the endeavor to ensure that 100% of students have home Internet access.

Making Technology Resources Available for Younger Students

- There is a growing body of research regarding the role of technology in pre-kindergarten education, and there are resources available for these students aimed at making sure that they are prepared and at grade level for their first day of school. The District should plan on expanding its current partnerships in this area and focusing more technology resources into this group as a strategy for closing the achievement gap.

Implement a Sustainable Student Intern Program

- The District has made some progress in this area since the first assessment and should continue implementing the recommendations set forth in the first assessment. It cannot be stressed enough how important this initiative is to the District’s short- and long-term
support strategy. This program should include elementary, middle, and high school level students. Start by simply asking how students can help with the District’s basic support needs. For example, can students update the website? Can students help with installing new computers? Can students help reset passwords? Student tech teams can act as a stabilizing force against high staff turnover rate. There is no better way to provide a 21st Century Skills experience for students than to have the students themselves be a part of the delivery mechanism. It is critical to the success of the program that the person overseeing the program has an instructional background and a passion for students and technology. In the long term, this program will assist with the following:

- Staff Training
- User Support
- Technology Equipment Repair, Maintenance, and Implementation
- Technology Staff Recruitment/Succession Planning

Start small, but do not underestimate your students. They have a way of rising to the occasion.
CONCLUSION

It is clear that the District has devoted significant effort and attention to meeting the Board’s goal of high student achievement through innovative instruction. As a result, the District has made great strides towards executing many of the recommendations noted in the first assessment.

For example, the District has made significant progress towards its goal of increasing student access and improving the reliability and accountability of the District’s resources and environment. There has also been a marked shift in the District’s culture, with stakeholders now readily embracing technology and becoming more reliant on it for everyday use. This is a significant change that is not easy to achieve but will no doubt be an important component to the District’s future success in executing its technology goals. This report itself is an illustration of the District’s commitment to continuous improvement. It is both uncommon, and a marker of success, for an organization to actively seek out critical feedback.

Much of the progress the District has realized since the first assessment is attributable to an influx of resources and, more importantly, talented and focused team members. The District’s future success will depend on the District’s ability to sustain the energy creating, and created by, that progress.

Going forward, the District should expect the stakes to increase; as the District improves its service to students and staff, students and staff will become more reliant on District resources and will increase their demands and expectations of District services. The District’s supportive board and superintendent, engaged administrative team and staff, and willingness to strategically evaluate and identify areas for refinement will continue to be assets in facing these increased demands.

Respectfully Submitted,

Thuan D. Nguyen, Consultant
Sound Strategy Technology Group, LLC