Coordinator Name Doug Austin

Planning Team Heather Murch, Bretta Slagle, Scott Stegh, Randy Barnes

Program Description

Summary Description of Program
The Technology Services department plans, develops, implements and supports a wide variety of technology solutions throughout SSD in order to support student learning. The department provides network connectivity in the SSD schools and central office and filters internet traffic for appropriate content as mandated by federal CIPA* guidelines. The department also maintains server infrastructure to support SSD databases, e-mail, and data storage requirements. One of the most important databases the department supports is the Exceed database for special education which stores student level IEP data and facilitates compliance with state and federal guidelines. Technology services provides technical support to users throughout SSD using a tiered model of problem solving.

Purpose or Mandate
The purpose of the Technology Services department is to support and facilitate all of the SSD efforts to promote student learning and operate effectively. Since technology has become an integral part of instruction, data management, decision making and communication, Technology Services touches all SSD functions in some way. Ideally, Technology Services provides transparent services to the end user to enable the users to perform their tasks as efficiently as possible.

Which specific CSIP/MSIP goals does this Program support?
CSIP Objective 3.1 Utilize technology applications and resources to facilitate student learning and instructional delivery.
CSIP Objective 3.2 Utilize technology applications and resources to facilitate efficient and effective operations.

Who are the Customers/Stakeholders?
☒ Students ☐ Parents ☒ Staff ☒ Administrators
☐ Board of Education ☐ Taxpayers ☐ Other _____

What are the Customer/Stakeholder requirements?
- Reliable network access
- Safe and flexible internet filtering
- Functioning databases
- Efficient technology support and problem solving.

What is this program expected to accomplish?
The Technology Services department is expected to design and establish a technology infrastructure that provides reliable network access to required data and to the internet. The department is also expected to collaborate with key stakeholders to design and implement data collection, storage and reporting to support

district instructional and operational functions. Finally, the department is expected to resolve technical problems in a timely manner.

Briefly describe how this Program works

The Technology Services department provides services that can be grouped into three main categories:
1. Develop and maintain the infrastructure of networks and servers to provide access to data for instructional and operational functions of SSD. This service includes managing access to the internet, protection from antivirus and hacking attacks, as well providing e-mail services.
2. Develop, improve and maintain databases such as Exceed and Lawson to collect, store and report instructional and operational data. Integration of data from multiple sources is included in this service.
3. Develop and maintain a systematic process for technical support.

Internally the department gathers data on district needs and resources in order to develop a prioritized list of projects that maximizes impact on SSD processes in a cost efficient manner.

What resources (type and quantity) are required to execute this plan?

Personnel resources for the department include the chief technology officer, two directors, two administrators, three managers, and twenty seven tech support staff, engineers, facilitators data base analysts and mail room staff. Other resources include the server, network and desktop hardware, software and third party services necessary to support their purpose.

Action Plan Summary

Previous Cycle Goals and Outcomes

2012-2013 Overall Goals	2012-2013 Outcomes
Goal 1: Provide and maintain appropriate instructional technology resources and technical support services.	1.1 100% of SSD computers will be tracked with the Asset Tracking System 1.2 100% of service calls will be completed within 3 days for computers under warranty.
Goal 2: Implement governance strategies to improve operational effectiveness and efficiency across all programs.	2.1 Disaster Recovery Plan will be reviewed at least once a year. 2.2 100% of mission critical support systems will be monitored 2.3 Hosted technology solutions (Software as Service) will meet service level agreements. 2.4 Automated requisition approval system will be 100% implemented.
Goal 3: Promote, facilitate, and enhance parent, student, and community engagement in SSD programs.	3.1 Design process to identify needed accessibility features on SSD website. 3.2 Design system to implement needed accessibility features on SSD website. 3.3 Design process to identify desired new on-line methods and tools for instruction. 3.4 Design system to implement new on-line methods and tools for instruction.

Goal 4: Maintain an effective and relevant Technology Plan for the district.	4.1 100 % of action steps of the current Technology plan will be complete or on target. 4.2 Goals and objectives of Technology plan will be in alignment with CSIP plan. 4.3 2013-2015 Technology Plan will be submitted to the Board of Education for approval.

Current Cycle (2014-2015) Goals and Outcomes

2014-2015 Overall Goals	Expected Measurable Outcomes
Goal 1: Manage Business of IT PCF* 7.1	1.1 Rollout 2 partner district dashboards, 2 SSD school dashboards and 2 other services dashboards that integrate student data from multiple sources.

Goal 2: Manage Enterprise Information PCF 7.4	2.1 Predict cycle time for Exceed projects with 80% accuracy.

Goal 3: Develop and Maintain IT Solutions (Infrastructure) PCF 7.5	3.1 Resolve requests to open internet sites in a timely manner. 3.2 Filter internet traffic to protect users. 3.3 90% of teachers in SSD schools will agree with the statement, "Reliability and speed of the network are sufficient for instructional use such as web video or progress monitoring." 3.4 90% of teachers in SSD schools will agree with the statement, "Students have access to reliable computers and the Internet at my school for learning purposes." 3.5 90% of teachers in SSD schools will agree with the statement, "Teachers have sufficient computer resources available for instructional use."

Goal 4: Deliver and Support IT Services PCF 7.7	4.1 Reduce the amount of time to resolve technical problems by 10% annually. 4.2 90% of teachers in SSD schools and Partner District schools will agree with the statement, "Tech services staff provides friendly customer service." 4.3 90% of teachers in SSD schools and Partner District schools will agree with the statement, "I am satisfied with the service provided by Technology Services." 4.4 90% of teachers in SSD schools will agree with the statement, "Teachers have ready access to technical support." 4.6 Develop a systematic tiered system for resolving technical problems.

Evaluation Plan Summary

Program Evaluation Authority
Program Evaluation of Technology Services is mandated by Board Policy IM.

Qualitative Measures - Evaluation questions to be used
- What are the major accomplishments or benefits of this program?
- How well did this program fulfill its purpose or mandate?
- What do customers and other stakeholders consider to be the strengths and opportunities for improvement /weaknesses of the program?
- How well-aligned are the program's processes with the goals of the program?
- What is the level of deployment of this program's services?
- How should resources be changed to improve this program?
- How should goals be changed, added, or removed?
- Additional (if any)

Quantitative Measures - Evaluation questions to be used
- What is the status of the program's progress toward achieving its goals?

*Operational Definitions

CIPA The Children's Internet Protection Act requires that K-12 schools and libraries in the United States use Internet filters and implement other measures to protect children from harmful online content as a condition for federal funding. It was signed into law on December 21, 2000, and was found to be constitutional by the United States Supreme Court on June 23, 2003.

PCF The Process Classification Framework^{SM} is the most used process framework in the world. It creates a common language for organizations to communicate and define work processes comprehensively and without redundancies. Organizations are using it to support benchmarking, manage content, and perform other important performance management activities.

SEIMS The Special Education Information Management & Support is a Division of Technology Services. SEIMS manages and supports the special education database, EXCEED.

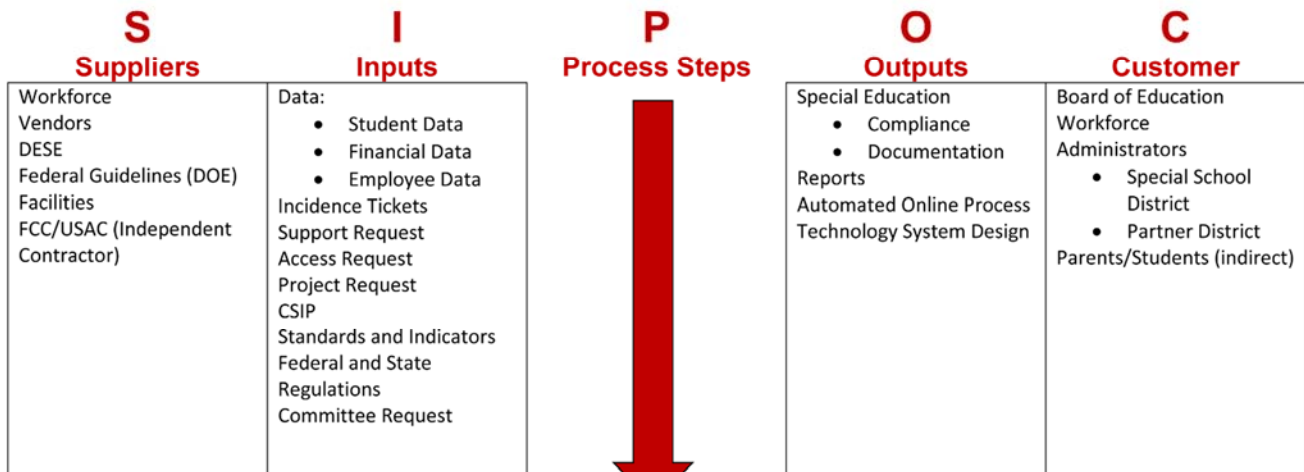| **Coordinator Name**	Doug Austin	**Planning Team**	Heather Murch, Bretta Slagle, Scott Stegh, Randy Barnes

Evaluation Summary

Purpose or Mandate

The purpose of the Technology Services department is to support and facilitate all of the SSD efforts to promote student learning and operate effectively. Since technology has become an integral part of instruction, data management, decision making and communication, technology services touches all SSD functions in some way. Ideally, technology services provides transparent services to the end user to enable the users to perform their tasks as efficiently as possible.

7.0 Manage Information Technology
Owner: Technology

S **Suppliers**	**I** **Inputs**	**P** **Process Steps**	**O** **Outputs**	**C** **Customer**
Workforce Vendors DESE Federal Guidelines (DOE) Facilities FCC/USAC (Independent Contractor)	Data: • Student Data • Financial Data • Employee Data Incidence Tickets Support Request Access Request Project Request CSIP Standards and Indicators Federal and State Regulations Committee Request		Special Education • Compliance • Documentation Reports Automated Online Process Technology System Design	Board of Education Workforce Administrators • Special School District • Partner District Parents/Students (indirect)

High Level Process Steps

Steps	7.1 Manage the Business of Information Technology	7.2 Develop and Manage IT Customer Relationships	7.3 Develop and Implement Security, Privacy, and Data Protection Controls	7.4 Manage Enterprise Information	7.5 Develop and Maintain Information Technology Solutions	7.6 Deploy Information Technology Solutions	7.7 Deliver and Support Information Technology Services	7.8 Manage Collaboration with all External Partners
	Start							End

Board Approved: 6/9/2015

Program Description

The Technology Services department plans, develops, implements and supports a wide variety of technology solutions throughout SSD in order to support student learning. The department provides network connectivity in the SSD schools and central office and filters internet traffic for appropriate content as mandated by federal CIPA* guidelines. The department also maintains server infrastructure to support SSD databases, e-mail, and data storage requirements. One of the most important databases the department supports is the Exceed database for special education which stores student level IEP data and facilitates compliance with state and federal guidelines. Technology services provides technical support to users throughout SSD using a tiered model of problem solving.

Logic Model – Technology Services

Inputs (Resources)	Outputs		Outcomes – Impact		
	Activities	*Participation*	*Short-term*	*Medium*	*Long-term*
Manage Business of IT PCF 7.1	Develop information plan to collect data and provide information for decision making	Database administrator	Basic data dictionary	Efficient rollout to partner districts	Enterprise reporting system for student data
	Implement systematic approach to prioritize and implement IT Projects	Director of Information Systems	Prioritized list of next steps	System of projects optimized by impact and required resources	Robust IT infrastructure and systems
Manage Enterprise Information PCF 7.4	Maintain Exceed	Database administrator and SEIMS* staff	Fix bugs, adapt to compliance standards	Satisfied clients	Reliable and compliant system
	Rollout new features in Exceed	Database administrator and SEIMS* staff	Prioritized list of features	Systematic list of features optimized by impact and resources	Effective database for special education
	Communicate changes to users (Exceed)	SEIMS administrator	Teachers able to use system	Satisfied customers	Community trust
Develop and Maintain IT Solutions (Infrastructure) **PCF 7.5**	Develop/Maintain network	Network engineers	Reliable existing network	Increased network availability	Resilient network available where needed
Deliver and Support IT Services PCF 7.7	Deploy/Maintain systematic approach to tech support	Support desk and tech support	Solve tech problems	Satisfied customers	Community trust and usage of the tech support process

Board Approved: 6/9/2015

What were the major accomplishments or benefits of this program?
One of the major accomplishments of Technology Services was to manage the continuation of Exceed database services when the vendor decided not to continue support. Technology Services was able to continue database functions to keep SSD in compliance with state and federal guidelines. In addition to building a more robust infrastructure of networks and servers, Technology Services developed a tiered system of technical support that greatly reduced the amount of time needed to resolve technical problems for end users. The adoption of the Process Classification Framework (PCF)* to categorize and manage processes within the department brings it into alignment with SSD continuous improvement processes.

How well did this program fulfill its purpose or mandate?
☐ Inadequate   ☐ Approaching Satisfactory   ☒ Satisfactory   ☐ Excellent

What factors made essential contributions (+/-) to this rating?
Collaboration with 22 partner district technology services departments for support and data sharing is still in early stages.

Evaluation Results

What is the status of the program's progress toward achieving its goals?

Goal 1: Manage Business of IT PCF* 7.1

Measurable Objective 1:	Rollout 2 partner district dashboards, 2 SSD school dashboards and 2 other services dashboards that integrate student data from multiple sources.

Results: Met or on track.
1. Four (4) Student Performance Dashboards have been rolled out
    i.   Webster Groves Roll-out date: Aug 5, 2014
    ii.   Bayless Roll-out date: June 1, 2015
    iii. Ackerman Expected Roll-Out date: Aug 11, 2015
    iv.   LItzsinger Expected Roll-0ut date: June 1, 2015
2. Information currently being collected from the Dashboards:
    a. Student Data
    b. Assessment Data
    c. Attendance
    d. Grades
    e. Disciplinary Incidents
        i.   OSS/ISS count
        ii.   Incident descriptions
    f. One (1) Student Behavioral Dashboard has been rolled out ABA
    g. One (1) Related Services Dashboard on target for roll out Assistive Technology – Device Management. Expected roll-out date: June 1, 2015.

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Goal 2: Manage Enterprise Information PCF 7.4

Measurable Objective 1:	Predict cycle time for Exceed projects with 80% accuracy.

Results: Not Met. The Key West upgrade estimate did not meet the 80% target.

Project	Time Estimate	Actual Total	Accuracy
Key West	32.25 hours	149.6 hours	-363%

The original prediction did not include research and testing, which was included in the actual total calculation. By including research and testing in the predictions, the model will become more accurate.

Goal 3: Develop and Maintain IT Solutions (Infrastructure) PCF 7.5

Measurable Objective 1:	Resolve requests to open internet sites in a timely manner.

Results: Met. The average amount of time necessary to resolve a request to open internet sites was 5.82 hours. Requests which ultimately were rejected took longer to research and took 8.78 hours.

Status	Requests	Avg hours to Resolve
Opened	55	0.83
Rejected	93	8.78
Total	148	5.82

Measurable Objective 2:	Filter internet traffic to protect users.

Results: Met. 13,479,753 messages and connections were monitored between December 2014 and May 2015. 6,159,701 Spam messages were blocked. While the numbers do not represent targets, since they are dependent on the attacks made, they do give a measure of the scope of the filtering that is occurring.

Type	12/3/2014	12/31/2014	1/28/2015	2/25/2015	3/26/2015	4/23/2015	Total
Blocked connections	648,648	670,741	789,160	815,241	764,842	1,064,615	4,753,247
Spam medium	458,332	396,288	844,954	810,428	742,894	511,823	3,764,719
Spam high	332,654	325,040	538,033	350,240	450,048	398,967	2,394,982
Legitimate	171,465	250,032	281,131	264,486	285,541	315,537	1,568,192
Bulk messages	132,041	139,598	144,455	148,642	153,183	156,073	873,992
Other	4,406	18,464	33,530	10,845	28,043	29,333	124,621
Total	1,747,546	1,800,163	2,631,263	2,399,882	2,424,551	2,476,348	13,479,753

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Measurable Objective 3:	90% of teachers in SSD schools will agree with the statement, "Reliability and speed of the network are sufficient for instructional use such as web video or progress monitoring."

Results: Not Met. 59% of teachers in SSD schools agreed with the statement "Reliability and speed of the network are sufficient for instructional use such as web video or progress monitoring."

Response	N	Percent
Strongly Agree	38	16%
Agree	103	43%
Neutral	40	17%
Disagree	47	20%
Strongly Disagree	13	5%

Measurable Objective 4:	90% of teachers in SSD schools will agree with the statement, "Students have access to reliable computers and the Internet at my school for learning purposes."

Results: Not Met. 86% of teachers in SSD schools agree with the statement, "Students have access to reliable computers and the Internet at my school for learning purposes."

Response	N	Percent
Strongly Agree	131	39%
Agree	158	47%
Disagree	34	10%
Strongly Disagree	13	4%

Measurable Objective 5:	90% of teachers in SSD schools will agree with the statement, "Teachers have sufficient computer resources available for instructional use."

Results: Not Met. 71% of teachers in SSD schools agree with the statement, "Teachers have sufficient computer resources available for instructional use."

Response	N	Percent
Strongly Agree	66	27%
Agree	105	44%
Neutral	18	7%
Disagree	41	17%
Strongly Disagree	11	5%

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Goal 4: Deliver and Support IT Services PCF 7.7

Measurable Objective 1:	Reduce the amount of time to resolve technical problems by 10% annually

Results: Met. From May of 2014 to February of 2015 the amount of time to resolve technical problems fell by 70%.

	May-14	Jul-14	Feb-15
Number of Work Orders	438	1104	1337
Days to close a ticket	11.5	9	3.4

Measurable Objective 2:	90% of teachers in SSD schools and Partner District schools will agree with the statement, "Tech services staff provides friendly customer service."

Results: Met. 98% of teachers in Partner District schools and 97% of teachers in SSD schools agree with the statement, "Tech services staff provides friendly customer service."

Response	Partner District Schools		SSD Schools	
	N	Percent	N	Percent
Strongly Agree	484	40%	170	49%
Agree	702	58%	166	48%
Disagree/ Strongly Disagree	24	2%	10	3%

Measurable Objective 3:	90% of teachers in SSD schools and Partner District schools will agree with the statement, "I am satisfied with the service provided by Technology Services."

Results: Met in SSD Schools and Not Met in Partner District schools. 93% of teachers in SSD schools and 86% of teachers in Partner District schools agree with the statement, "I am satisfied with the service provided by Technology Services."

| Response	Partner District Schools		SSD Schools	
	N	Percent	N	Percent
Strongly Agree	374	31%	139	41%
Agree	663	55%	176	52%
Disagree/ Strongly Disagree	60	6%	24	7%
Don't Know	109	9%	0	0%

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Measurable Objective 4:	90% of teachers in SSD schools will agree with the statement, "Teachers have ready access to technical support."

Results: Not Met. 76% of teachers in SSD schools agree with the statement, "Teachers have ready access to technical support."

Response	N	Percent
Strongly Agree	65	27%
Agree	117	49%
Neutral	34	14%
Disagree	20	8%
Strongly Disagree	5	2%

Measurable Objective 5:	Develop a systematic tiered system for resolving technical problems.

Results: Met.
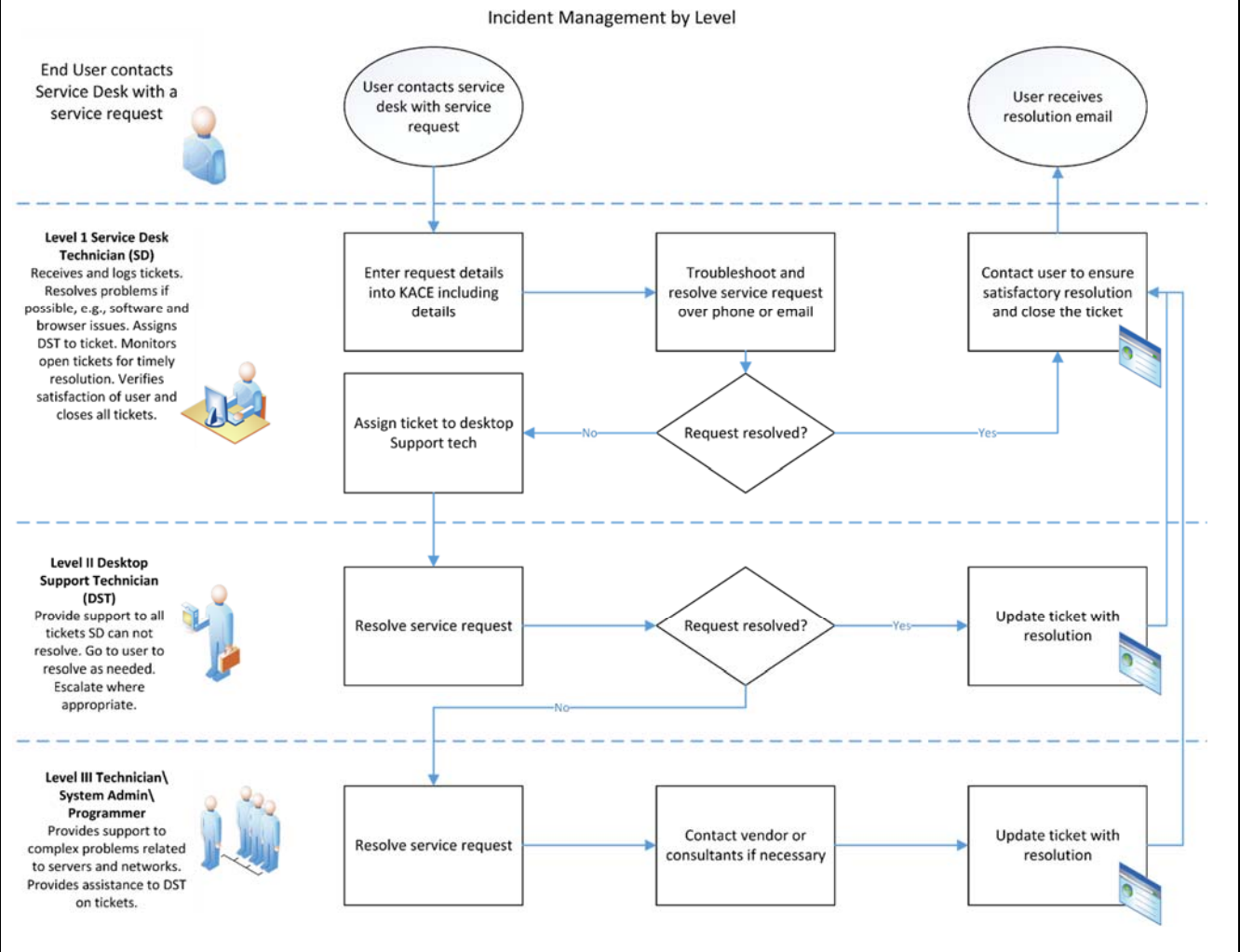
Incident Management by Level

Board Approved: 6/9/2015

What do customers and other stakeholders consider to be the strengths and opportunities for improvement /weaknesses of the program?

Strengths
- *Rollout of student data dashboards is on schedule.*
- *Review and opening of internet sites is less than 8 hours.*
- *Teachers are satisfied with Technology Services and say they provide friendly customer service.*
- *Technical support services has a systematic approach that has led to a steep decline in the amount of time necessary to solve technical problems.*

Opportunities/Weaknesses
- *Prediction of cycle times for rollout of Exceed projects is inaccurate.*
- *Internet filtering system filters an extremely large number of attacks.*
- *Teachers in SSD schools indicate a need for a variety of technical resources.*

How well aligned are the program's processes with the goals of the program?

The program's processes are well aligned with the goals of the program.

Deployment Level of Program Services:

Services are well deployed, although deployment may vary in some areas or schools.

Should resources be changed to improve this program?   ☐ *Yes* ☒ *No*

Should goals be changed, added or removed?   ☐ *Yes* ☒ *No*

Evaluation Implications

General Recommendation Resulting from this Evaluation
Select from the following possible recommendations resulting from the evaluation:
☐ Continue the program as is. It is meeting or exceeding all expected outcomes.
☒ Continue the program as is with specific action plans for improvement.
☐ Expand the program, replicating effective components.
☐ Streamline, refine, or consolidate elements of the program.
☐ Redesign the program.
☐ Reevaluate the purpose and/or goals of the program.
☐ Discontinue ineffective or nonessential program components.
☐ Discontinue the program.
☐ Other (Specify.)

Action Plans

Review of Action Plan progress since last report.

Action Plan 1

Opportunity for Improvement
Asset tracking is not systematic.
Action Plan
Work with purchasing, Warehouse staff, and partner districts to ensure that all SSD PCs are registered systematically with the asset tracking system.
Progress on Action Plan
We designed an online fixed asset form that we are piloting this summer. We will compare PCs registered with assets purchased and deployed. Eventually we will have an online data system for the entire life cycle of the PC from purchase to disposal.

Action Plan 2

Opportunity for Improvement
Disaster recovery plan is not reviewed with comparison to previous years.
Action Plan
Design system to allow tracking and comparison with previous years for Disaster Recovery Plan.
Progress on Action Plan
This step is identified in one of our process improvement strategies, but we have not yet started on the implementation of this process. It will be addressed in the coming year.

Action Plan 3

Opportunity for Improvement
Service level agreements with third party vendors such as SIS are not systematically reviewed.
Action Plan Design monitoring system to monitor compliance with Service Level Agreements.
Progress on Action Plan
This step is identified in one of our process improvement strategies, but we have not yet started on the implementation of this process. It will be addressed in the coming year.

What specific actions are needed?

Short-term (within the next school year)

Implement the JIRA system project tracing software package for estimating timeline for upgrades to Exceed. This system will incorporate time for planning, research and testing.

Add MORENET* spam filtering service to our system to filter internet traffic before it reaches us.

Implement strategy 3.1.2 and 3.2.3 to provide avenues for teachers to suggest improvements to technology

Enhance the survey process to capture more detail on teacher concerns about technology. Use that information to address identified topics.

Explore ways to publish information on current technology projects and the rational for pursuing them to improve transparency of Technology Services to SSD staff.

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Medium-term (1-2 years)

Standardize on using JIRA system for all software development.

Standardize Technology Services project reporting practices and publish reports to SSD staff.

Work with Communications department to improve communications between Technology Services and SSD.
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Long-term (3 years and more)

Expand use of ITIL's tiered model of service support from tech support to all elements of Technology Services.

*Operational Definitions

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ITIL formerly known as the **Information Technology Infrastructure Library,** is a set of practices for IT service management (ITSM) that focuses on aligning IT services with the needs of business. ITIL describes processes, procedures, tasks, and checklists which are not organization-specific, but can be applied by an organization for establishing integration with the organization's strategy, delivering value, and maintaining a minimum level of competency. It allows the organization to establish a baseline from which it can plan, implement, and measure. It is used to demonstrate compliance and to measure improvement.

MOREnet Missouri Research and Education Network provides internet services, training and supports to education and library systems in Missouri.

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SEIMS The Special Education Information Management & Support is a Division of Technology Services. SEIMS manages and supports the special education database, EXCEED.

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