

Foreword - The goal of this document is to provide Regional Planning Committees and existing school units with a planning guide for the design, planning and implementation of technology systems and support structures within their merging Regional School Units. The team consisted of technology directors from throughout the State of Maine. The group is comprised of diverse individuals with educational and technology leadership experience. It includes representation from current school boards, various sized school administrative departments and districts, individuals who provide technical leadership for merged schools and municipalities, individuals who provide technical leadership to more than one SAD and members that have prior centralization experience.

It is not our intent to present a document that mandates procedural or operational directives but to offer a guide for the areas we believe need to be addressed. These areas are intentionally generic and may not fit in every situation. The Maine Department of Education will provide additional support for RSUs to review their current technology status and help develop operational and financial impact assessments.

Special attention should be given to areas of overlap to ensure they are properly addressed. It has become apparent that when areas such as telephone or security systems are maintained by different departments within the same RSU, they can easily be neglected in planning. Thorough communication between departments will be necessary to create a successful migration.

It is the committees' recommendation that this document be processed with the following priorities:

1. The ultimate goal of all technology departments is to provide support for and enhance education. This should be the highest priority while processing this document.
2. The centralization of technology services will require an extremely high technical skill set and project management experience. It may require extra manpower, outside consultation, or other contracted services to accomplish the task. All units should do a thorough analysis of existing staffing and skills to determine the individual needs for their RSU.

Authors			
Allen J. Curtis	Technology Director	DOE Facilitator	MSAD#49
Tyler Dunphy	Technology Director		Westbrook School Dept.
Sharon Betts	Technology Director		MSAD # 52
Joe Spinazola	Technology Director		Bucksport
Trey Bachner	Technology Director		Falmouth School Dept.
Angel Allen	Technology Director		MSAD#58 & 9
Vincent Vanier	Technology Director	President ACTEM	Madawaska

Respectfully submitted,

Index:

1. Financial Software Considerations	3
2. Transportation Software Considerations	5
3. Food Service Software Considerations	7
4. Special Education Software Considerations	9
5. Communications Considerations	10
6. Educational Technology Development	12
7. Classroom Administrative Systems Considerations	14
8. Network Operations Considerations	16
9. Other Software Considerations	19
10. Technology Department Structure	20

Financial/HR Software overview	Action	Planning	Costs	Planning	In progress	Completed
Financial/HR Software overview	Verify all schools are using the same software package	<ul style="list-style-type: none"> • If not, determine which software package will be used and plan a migration strategy for other schools in RSU • Are all accounts aligned to State Standards • Are all interpretations of account definitions aligned from school system to school system 	<ul style="list-style-type: none"> • Conversion costs of current data • Licensing costs to distribute new software • Training and professional development 			
Financial/HR Software selection criteria	Choose a program/package that can satisfy the needs of an RSU and meet State requirements	<ul style="list-style-type: none"> • Provides necessary HR fields • Provides necessary financials fields • Provides necessary payroll fields • Certification & Fingerprint Information • Ability to input negotiated contracts into systems for automatic yearly step progression increases • Local/Federal Grant (Title Funds) tracker/module • Special and Student Activities module, fund tracking of activity funds/PTO funds etc • Standardized Budget Requests/Requisitions/PO • Flexible Reporting options • Ability to easily distribute clients over large geographic area with limited bandwidth (Terminal Client, Citrix Client, Web Client). It is critical to not have to manually upgrade client every time update comes out due to the geographic distribution of some RSUs • Ability to integrate automated time clocks/time • SIF compliant • Maine Education Data Management System • Easily upgraded • Determine needs for connectivity and security • Ability to modify/add user defined fields 	<ul style="list-style-type: none"> • Same as above 			

<p>Some Financial Systems used in Maine</p>	<p>Look at what commonly used systems are in place throughout the state. Communicate with the DOE to determine if there are any systems recommended or if there are any plans to submit an RFP from the State to standardized on a HR/Budget/Financials package</p>	<ul style="list-style-type: none"> • Munis • ADS • Uni fund • Fund sense • Other 				
---	---	---	--	--	--	--

Transportation	Action	Planning	Costs	Planning	In progress	Completed
Transportation	Verify all schools are using the same software package and determine if the use of a Transportation Software Package is appropriate	<ul style="list-style-type: none"> • If not, determine which software package will be used and plan a migration strategy for other schools in RSU • Merge student and bus route databases • Verify that software is compliant with the community standard transportation policies and operating procedures and ensure if multiple standards exist and if all can be reflected in new software package 	<ul style="list-style-type: none"> • Conversion costs of current data • Licensing costs to distribute new software as well as distribution plan (do secretaries have clients on their computers to check student routes, etc) • Training and professional development 			
Transportation Software selection criteria	Choose a program/package that can satisfy the needs of an RSU and meet State requirements	<ul style="list-style-type: none"> • Clients for individual schools to access route information • Web accessibility for parents/guardians to view route information • Transportation Use Request System for people other than the Transportation Director bus usage • Easily distributed clients to satellite office • GPS Capabilities with real-time reporting to centralized location • Vehicle Maintenance/Inventory Module • Route previews without putting into action • Easily integrated into SIS (SIF compliance) 	<ul style="list-style-type: none"> • Same as above 			

<p>Some Transportations Systems used in Maine</p>	<p>Look at what commonly used systems are in place within the state. Communicate with the DOE to determine if there are any systems recommended or if there are any plans to submit an RFP from the State to standardized on a Transportation package</p>	<ul style="list-style-type: none"> • Versa trans • Transfinder 				
---	---	--	--	--	--	--

Food Service Software Considerations	Action	Planning	Costs	Planning	In progress	Completed
School Lunch Software	Verify all schools are using the same software package. Determine if a Point of Sale system is appropriate for the RSU and if a Point of Sale system is necessary at all levels of the RSU	<ul style="list-style-type: none"> • If not, determine which software package will be used and plan a migration strategy for other schools in RSU • Determine what if any Point Of Sale hardware is compatible with new software system if converting 	<ul style="list-style-type: none"> • Conversion costs of current data • Licensing costs to distribute new software • Installation and/or configuration on old or new hardware • Any required hardware purchases • Training and professional development 			
School Lunch Software selection criteria	Choose a program/package that can satisfy the needs of an RSU and meet State requirements	<ul style="list-style-type: none"> • Centrally managed accounts database • Database should include Free/Reduced tracking which will cross reference with siblings in system to ensure all members in approved family are registered • Automated Free/Reduced application creation when financial information is entered and criteria is met • Web accessibility for parents/guardians to view account information to include student purchases, account balances and to add money to accounts • POS Terminals that are easy to distribute and work over network • Easily integrated into SIS (SIF Compliance) • Nutritional analysis of menus 	<ul style="list-style-type: none"> • Same as above 			

<p>Some Food Service Systems used in Maine</p>	<p>Look at what commonly used systems are in place throughout the state. Communicate with the DOE to determine if there are any systems recommended or if there are any plans to submit an RFP from the State to standardized on a Food Service package and/or determine if Infinite Campus Food Service Module will fit new RSU needs</p>	<ol style="list-style-type: none"> 1. Nutrikids 2. Power Lunch (Power School) 				
--	--	---	--	--	--	--

Special Education Software Considerations	Action	Planning	Costs	Planning	In progress	Completed
Special Education Software overview	Verify all schools are using the same software package	<ul style="list-style-type: none"> • If not, determine which software package will be used and plan a migration strategy for other schools in RSU 	<ul style="list-style-type: none"> • Conversion costs of current data • Licensing costs to distribute new software • Training and professional development 			
Special Education Software selection criteria	Choose a program/package that can satisfy the needs of an RSU and meet State requirements	<ul style="list-style-type: none"> • Software should have a validation function to verify compliance and ensure there is no missing data. • Web based clients • Supports all case manager needs including IEPs, goals and objectives • Notification feature for meetings • Connectivity with Maine State Billing 	<ul style="list-style-type: none"> • Same as above 			
Some Special Education Software used in Maine	Look at what commonly used systems are in place throughout the state. Determine if Infinite Campus Special Education Module.	<ul style="list-style-type: none"> • Case-e • Sped net • SEAS 				

Communications Considerations	Action	Planning	Costs	Planning	In progress	Completed
Communications	Determine Communications Platforms and policies	<ul style="list-style-type: none"> Review communications needs as an RSU. Platforms include e-mail, Instant Messaging, Telecommunications Systems, Cellular Communications and collaboration platforms 	<ul style="list-style-type: none"> Consulting costs as necessary 			
E-mail	Examine e-mail systems across school systems. Determine if and what standardized e-mail platform will be used	<ul style="list-style-type: none"> Ease of implementing and managing server side Ease of deploying and upgrading client side Ease of use for user base Does software meet electronic communications needs for RSU Ability to archive mail to meet Rules of Records Retention 	<ul style="list-style-type: none"> Server Hardware costs / hosted Server Software Costs Electronic Mail Server Side software costs Client Costs Ongoing maintenance fees 			
Telephone Systems	Look at phone systems across all schools that are part of RSU. Investigate connectivity/bridging capabilities for current systems.	<ul style="list-style-type: none"> Need long term telecommunication plan. 3 Digit Dialing (Centrex style) Feature set (DND, Call Forward, Station "follow me", call "follow me") Conference Rooms for people to call Soft phones for computer distribution of phone clients Voicemail Configured for single point secretary and easily distributed call transfers Remotely Manageable VOIP/Digital considerations Consider necessary copper lines for alarm systems, 911,(monitoring, etc) 	<ul style="list-style-type: none"> Phone PBX main processor Phone PBX cards/ports Phones Voicemail system Connectivity between systems Who will maintain/repair this system E-rate reimbursement 			

Cellular Communications	Look at current distribution of cellular phones. Determine what policies and procedures will determine cellular phone distribution and usage requirements	<ul style="list-style-type: none"> • Purpose of cellular/mobile communicates in the RSU • Look at coverage areas surrounding RSU • Determine cellular/mobile device distribution plan for RSU • Look at Smart Devices and determine usage in RSU • Determine feature set per user position (try to refrain from giving device to person, assign device to position) i.e. Text messaging, data, built in cameras etc. • Stay away from multi-year plans in RSU • Determine feature set per user position (try to refrain from giving device to person, assign device to position) i.e. Text messaging, data, built in cameras • Stay away from multi-year plans 	<ul style="list-style-type: none"> • Cost of minutes • Cost of cellular device • Cost of Data Plans • Cost of Smart Device Servers (Good link, Blackberry Enterprise Server etc) • E-rate reimbursement 			
-------------------------	---	--	--	--	--	--

Educational Technology Development	Action	Planning	Costs	Planning	In progress	Completed
Needs Assessment	Perform a needs assessment to determine the current status of the use and integration of technology among district staff.	<ul style="list-style-type: none"> • Inventory of current hardware/software and how it is used (instruction, student learning, productivity) • Current use of technology by teachers and students and their knowledge • Technology skills standards review 	<ul style="list-style-type: none"> • Time • Cost for Professional Development 			
Curriculum/Technology Integration	Align the Technology Integration vision and goals across the RSUs to ensure technology purpose and professional development moves in the same direction	<ul style="list-style-type: none"> • Define Technology Vision and goals for the RSU • Develop and submit a three year technology plan to meet state standards – How will the integration of technology into classrooms enhance and enrich the learning process. • Build a common integration plan with integration built into the planning and implementation of curriculum development including how to enhance and enrich the learning. Process to be implemented and assessed. • Develop a coaching and mentoring strategy for district staff support • Develop minimum RSU Standards for technology in the classroom. Decide what minimum technology is needed. • Develop minimum RSU Standards for grade level and building level technology for integration. • Develop recommended ratios • Determine expected Technology outcomes for K -5, 6-8 and 9-12 students 	<ul style="list-style-type: none"> • Curriculum/Technology Integration 			

		<ul style="list-style-type: none"> • Define measurements and tracking systems (standards) for these educational expectations. • Determine technology for efficient student record keeping and assessment for data based decision making • Determine process for monitoring implementation of the Educational Technology Plan 				
Educational Technology Professional Development for Integration	Develop a professional development strategy to assist all staff in achieving a minimum standard and create a plan to achieve those goals	<ul style="list-style-type: none"> • Determine staff competency levels • Educational technology professional development into RSU level professional development plan • Ensure a Professional Development model that will outline training initiatives using technology to support student learning and is based on needs assessment (new teacher induction, online training, information systems, tutorials, etc.) • Align staff development with state staff development efforts and technology focus. • Ensure that teachers professional development is supported by CEU'S, Credits and/or (incentives) • Develop a professional development plan to support the Technical Team in their knowledge including keeping up with new technology developments. Ensure incentives are in place to support technology team development and growth. • Benchmarks and timeline for Professional Development strategies and activates are clearly outlined. • Develop a process for monitoring the implementation and of the PD plan including teacher participation and integration success rate. 	Educational Technology Professional Development for Integration			

Classroom Administrative Systems	Action	Planning	Costs	Planning	In Progress	Complete
Classroom Administrative Systems	Meet with administrators and teaching staff to determine the vision and expectations for classroom teachers and departments in relation to classroom administration and department administration. Determine where technology can be used to directly support the teacher's administrative tasks.	<ul style="list-style-type: none"> • Lesson Planning will digital lesson planners be used. Will teachers be expected to post assignments to a web site for students? Should those assignments be able to be drawn from the grade book or hand entered or both • Taking Digital Attendance • Digital Grade books is it server based, stand alone and how hard is it to manage and upgrade the application • Digital Progress Reports, how they are produced, distributed and maintained • How report cards are structured and how the digital grade books feed into the final report card - Standards based, assignment based, and grade based etc. • Are any other software applications necessary to develop the necessary grading and reporting mechanisms required by the RSU, State and/or Federal Government • Review Student Information System selection to determine if needs are met through that single system 	<ul style="list-style-type: none"> • Cost of each individual component • Licensing costs to distribute new software • Any costs related to tying system into SIS • Costs for publishing information and ensuring accessibility • Cost for PROFESSIONAL DEVELOP 			

<p>Classroom Administration Software selection criteria</p>	<p>Choose a program/package that can satisfy the needs of an RSU, meet the needs of the classroom teacher and fulfills the expectations of the RSUs board and communities as far as accessibility for information</p>	<ul style="list-style-type: none"> • Accessibility of applications outside of the physical building infrastructure for administrators and staff • Parental accessibility for information (Attendance, Assignments, Grades) • Grading accessibility for teachers from home (Grade books and progress reports) 	<ul style="list-style-type: none"> • Same As Above 			
<p>Some Administrative Systems used in Maine</p>	<p>Look at what commonly used systems are in place throughout the state. Communicate with the DOE to determine if there are any systems recommended or if there are any plans to submit an RFP from the State to standardized on a Classroom Admin Package</p>	<ul style="list-style-type: none"> • Infinite Campus - Ensure that the Infinite Campus suite will provide accessibility and availability for attendance, grade books, progress reports, parent portal etc. • Schoolmaster • Administrative Plus Rediker / Edline • Power School/Power School Custom Portal 				

NETWORK OPERATIONS CONSIDERATIONS	Action	Planning	Costs	Planning	In Progress	Complete
Authentication Infrastructure	Look at current network authentication infrastructure. Look at connectivity security from users and devices (VPNs for mobile users etc)	<ul style="list-style-type: none"> Determine what type of security will be used across network for user and/or device authentication. (Active Directory, Novell, Apple, SMB or a mix) If multiple authentication systems are being used, plan a migration strategy to bring them together or determine how they will be maintained separately. Look at mobile client security across the RSU 	<ul style="list-style-type: none"> Licensing System and personnel 			
Security Infrastructure	Look at current network security infrastructure at each site as well as RSU wide. This includes firewalls both hardware and software, antivirus at network, server, e-mail and device level, antispymware, intrusion prevention, spam blocking at network level and at desktop level, content filtering	<ul style="list-style-type: none"> Determine what is currently in place and how it is managed. Ensure that all network entry points are secured with a firewall and/or VPNs as needed Develop a plan for standardizing network security to provide a layered robust system that can be centrally managed and monitored 	<ul style="list-style-type: none"> Maintaining current licensing Licensing for systems that are not secured Hardware devices Software applications 			
Hardware Infrastructure (Physical Network)	Perform School by school site surveys. Work from classrooms through intermediate data closets into the main data closet.	<ul style="list-style-type: none"> Make note of cable type (plenum/no plenum and CAT5, CAT5e or CAT6) Look at switching from the classrooms through the closets. Inventory managed switches versus non- 	Time Any outsourcing necessary			

	Determine the bandwidth connectivity between buildings within the RSU and determine the bandwidth requirements for recommended system deployments. This will have an impact on whether servers will be able to be centralized, how authentication will be managed and how applications may be distributed	<p>managed switches and whether switches will meet the speed capabilities of the cabling.</p> <ul style="list-style-type: none"> • Inventory main data closet. Determine if switching meets data needs and data transfer speed needs (switch backplanes, switch uplinks) • Review wireless deployments throughout each school. Determine security, keys, age of access points, density of deployments • Inventory and annotate any network segregation such as VLANs. 			
Hardware Infrastructure (Servers)	Look at current server usage and deployments throughout each member of the RSU and consider the most effective, efficient and redundant system to provide necessary file, print and application resources for the RSU.	<ul style="list-style-type: none"> • Consider connectivity between schools and individual school needs for access to file/print and applications • Look at individual server use and ensure that hardware will support requirements for a 3-5 year period • Consider server security and whether shared admin/teacher/student resources will be housed on the same server • Consider backup requirements for server systems • Consider different server hardware types, blade servers, rack mounted servers, tower servers • Consider different server deployment types, Virtual Servers, blade servers (require both hardware and software) 	<ul style="list-style-type: none"> • Potential hardware upgrades • Time needs to migrate applications/files • Connectivity 		

<p>Hardware Infrastructure (Devices)</p>	<p>Inventory RSU for devices. These include laptops, desktops, PDAs, smart devices and any other device outlined in the responsibilities of the Technology Department (Alpha smarts, touch screens, tablets, n-stations, thin clients, interactive white boards etc)</p>	<ul style="list-style-type: none"> • Develop a replacement plan for all hardware • Develop hardware upgrade, replacement plan to present to RSU management • Develop a needs based analysis for deployment of devices across the RSU. • Consideration should be made to amount of administration devices require as well as the lifespan of the devices and the usage (does every admin need a palm) 	<ul style="list-style-type: none"> • Hardware • Time 			
--	--	--	--	--	--	--

Technology Department Structure	Action	Planning	Costs	Planning	In Progress	Complete
Technology Department Structure	<p>Develop an outline for the Technology Department for the RSU to include positions, expectations and job descriptions. Technology departments play a vital role in technology leadership. The departments will need skills in technicians, trainers, curriculum, consultants, planners and policy makers.</p>	<ul style="list-style-type: none"> Define Roles – Some Directors do not do telecommunications, some do not do curriculum, some do not do infrastructure (switch, server, VLAN). Ensure that there is a common consensus on what will be overseen by the Technology Department as a whole Look at a standard format for staffing for example: Technology Director, Network Administrator, Curriculum/Integration/Professional Development Coordinator, Integrators. Database/SIS Support Technician, Telecommunication Technician, Technology Support Technicians, Grant Writing, E-Rate Management Determine ratios for technician to computers. Consider the purchasing process for technology related items. Which purchases require tech dept approval Technology replacement plans to ensure that hardware is current. Helps reduce hardware support overhead 	<ul style="list-style-type: none"> Time Change in current technology staffing levels Compensation Structure Cost for PROFESSIONAL DEVELOPMENT 			

Other Software Considerations	Action	Planning	Costs	Planning	In Progress	Complete
Library Software	Consider Library Automation to determine if a centralized system is appropriate for RSU. Choose a program/package that can satisfy the needs of an RSU	<ul style="list-style-type: none"> • Discussion topics - Inter-RSU library loans • Offsite accessibility for students to view collections • Centralized management of users • Web Based versus Client Based 	<ul style="list-style-type: none"> • Conversion costs of current data • Licensing costs to distribute new software • Training and professional development 			
Employee Time Card/Electronic Time Card Software	Consider if a computerized time management system that includes electronic timecard systems that report to a central system is appropriate or cost effective for RSU.	<ul style="list-style-type: none"> • Determine if investment in hardware/software will save money in faxing, mailing and personnel time managing employee timecards over large distances • Ensure that system will work seamlessly with HR/Payroll system • Look at deployment of hardware across RSU to include networking requirements 	<ul style="list-style-type: none"> • Software • Hardware • "Bridge" for system to communicate with Payroll/HR System 			
Software Licensing Expectations	Conduct full audit of installed software to ensure RSU is legally licensed	<ul style="list-style-type: none"> • Determine if software is necessary for license audit • After inventory, determine what software is necessary to support educational programs • After inventory, determine what software is necessary to support administrative functions • Establish minimum software standards. 	<ul style="list-style-type: none"> • Licensing Audit Software • Time • Software licenses to ensure legality 			