



Technology Infrastructure Refresh Project Phase Gate Review # 1

Galt Joint Union High School District

February 14, 2017



Agenda

- **Goal of Phase Gate Review**
- **Project Overview**
 - Vision
 - Business Justification
 - Objective
 - Scope
- **Project Partnership Responsibilities**
- **High Level Requirements**
- **Risks and Response Summary**
- **Communication Matrix**
- **Project Change Control Plan**
- **Schedule**
- **Planned Budget**
- **Annual Support Cost Savings**
- **Estimated Cost for Refresh in Year 6**
- **Phase Gate Closure and Authorization to Proceed**



Goal of Phase Gate Review

- **Present Business Case and Review Plan**
 - Review and obtain agreement on project scope, requirements, responsibilities, cost, schedule and commitment of resources
- **Obtain authorization to proceed with the execution of the project**



Project Overview - Vision

- **Prepare our Students for Success in the 21st Century Networked Economy**
 - **Graduate Students who are Computer literate, Collaborative and Critical Thinking Problem Solvers**
 - **Create an environment which connects students with each other and with the community**
 - **Build an IT Infrastructure that will make connectivity a reality for every teacher and student in every classroom**
 - **Anytime, Anywhere Access**
 - **Supports One to One computing**



Project Overview – Business Justification

Current infrastructure is at end of life, experiencing reliability and performance issues

Upgrade will ensure the district has the IT infrastructure and support needed to make education transformation goals a reality

- 1:1 technology initiative
- Support/expand blended learning
- “Anytime-Anywhere” web-based curricula

Benefits:

- Improve performance, reliability, manageability & security
- Replace failing phone system with Unified communications
- Deploy SOA firewalls, antivirus, anti-malware and anti-spyware
- Enable disaster recovery and business continuity
- Enhance infrastructure management: helpdesk, desktop management & data center services
- Consolidate servers- improve manageability & reduce power, heating & cooling costs
- Expand wireless, mobile & VPN access
- Enhance end user computing experience
- Boost marketability of the district to attract faculty, staff, and students (increase ADA)
- Provide infrastructure required to make District Vision a Reality



Project Overview - Objective

1. Update Core Data Center and District Infrastructure

- Improve system performance, reliability & security
- Reduce complexity to simplify management and reduce TCO
- Increase capacity to support future growth of applications and services
- Enhance End user experience and access

2. Deliverables:

- Network refresh
- Structured Cabling replacement / expansion
- Update and replicate Data Center
- Update and expand Video Surveillance system
- Replace Firewall and Content Filter
- Replace VOIP and Analog phone systems with Unified Collaboration



Project Overview – Scope (page1)

In Scope

- **Enterprise network refresh**: Replace network core, switching, wireless controller, wireless access points and implement a cloud based controller
- **Structured cabling replacement/expansion**: Deploy new network cabinets at GHS, install 10G SMF between network closets at GHS and install 6 x Cat6 drops per classroom at all sites. Includes trenching/boring services and cable runs to Video Surveillance Cameras and IP paging speakers at GHS site
- **Update and replicate Data Centers**: Deploy and configure application servers and new storage arrays. Migrate applications/services to a virtualized, redundant and scalable platform. Deploy management tools to enable sustainability and DR services - primary DC will be at LRHS and backup DC at GHS
- **Update and expand Video Surveillance System**: Install, configure and test 78 new IP cameras and 124 Enterprise licenses for environment. Includes reconfiguring 46 existing cameras to the new Video Surveillance System



Project Overview – Scope (page 2)

In Scope

- **Replace Firewall and Content Filter** – Deploy a single PAN 5020 firewall as an internet edge firewall and VPN gateway for remote access. Includes configuration of Wildfire, Threat & URL filtering polices and Traps end point security (anti-virus)
- **Replace Phone Systems with Unified Communications** – Deploy Microsoft Skype for Business Unified Communications across all campuses. Includes core & edge deployments, conferencing, voice configuration, deployment of 312 handsets, onsite migration and admin training. Features include: IM/Presence, E911, Audio/Video/Web conferencing, Desktop & Application sharing, IP desktop phones and Enterprise Voice PBX



Project Overview – Scope (page 3)

In Scope

Scope Added since Board Overview on Oct 19, 2016

- **Helpdesk Management Tool**: Purchase and deploy KACE Endpoint System Management Appliance (Helpdesk Tool). Provides service desk, inventory/asset management, systems deployment, software distribution, patch management through a single interface.
- **Wireless in Open Areas**: Expanded wireless coverage to provide wireless coverage in all classrooms, offices and outdoor areas on campus. Added 38 indoor WAPs and 10 outdoor WAPs.
- **Onsite “Day 2” Support**: Provide Tier 1 Support Engineer onsite for 4 days per week for a period of 3 months. Troubleshoot and support networking, firewall, servers, storage and provide knowledge transfer.
- **Migration to Office 365**: Migrate all district users (staff/students) to MS Office 365 to provide access to Office applications plus other productivity services over the Internet (cloud services). Reduces maintenance costs, improves security, pay for what you need, work from anywhere, access to full MS suite of tools, single user interface and collaborate with internal/external users.
- **5 Year Support/Maintenance**: Included 5yr support/maint for all deliverables.



Project Overview – Scope (page 3)

Out of Scope

- HVAC & Temp Sensors for closets & data centers
- Content cache
- Physical access control
- Email security (Ironport)
- Data loss prevention (DLP)
- Network access control (NAC)
- Web application firewalls (WAF)
- Audio/Video Equipment
- Copiers/Printers
- Classroom Applications

- **Student/Staff Desktops, Laptops** – *addressed in 1 to 1 initiative*
- **Desktop Licensing** – *addressed in 1 to 1 initiative*



Project Partnership Responsibilities

<u>Project Teams</u>	<u>Responsibilities</u>	<u>Time Frame Commitments</u>
<p><u>Project Steering Committee</u> <i>Elizabeth Kaufman (sponsor), Corey Reihl, Kevin Clemons (Project Director)</i></p>	<p>Ensure successful delivery of the project including maximizing the benefits from the projects. Resolve issues outside the authority or control of the project manager. Report project progress to Board. Resolve project cost, time, risk, resource, quality and scope issues escalated to the Committee. Approve project deliverables and provide direction and guidance to the project.</p>	<p>Feb 21, 2017 to Aug 1, 2017</p>
<p><u>District Key Stakeholders</u> <i>Sean Duncan, John Grandison, Lisa Pettis, Monique Grove, Joe Saramago, Kellie Beck, Art Hand, Board of Trustees</i></p>	<p>Make project decisions on behalf of departments and sites that will use the product or service the project will deliver. Responsible for achieving consensus of their department/site on project issues and outputs, and communicating it to the Project Manager. They attend project meetings as required, review and approve process deliverables, and provide subject matter expertise as required.</p>	<p>Feb 21, 2017 to Aug 1, 2017</p>
<p><u>SIGMAnet/Dell Core Team</u> <i>Adam Eisenberg, Abdul Sultani, Dean MacKay, SIGMAnet PM, Various Engineers</i></p>	<p>Responsible for planning and executing the project. The team develops and executes the plan and manages the team's performance of project tasks. The PM secures acceptance and approval of deliverables from the Project Sponsor and Stakeholders. The PM is responsible for project communications, risk management, escalation of issues and making sure the project is delivered within budget, on schedule, and within scope. Responsibilities also include management of outside vendors contracted to provide additional products or services the project.</p>	<p>Feb 21, 2017 to Aug 1, 2017</p>
<p><u>Technology Core Team</u> <i>Kevin Kiel, Gabe Cruz</i></p>	<p>Technology team members are responsible for executing tasks and producing deliverables as outlined in the Project Plan and directed by the Project Manager.</p>	<p>Feb 21, 2017 to Aug 1, 2017</p>



High Level Requirements (page 1)

Business	Functional	System
<ul style="list-style-type: none"> • Support SBAC testing in every classroom • Facilitate personalized learning spaces with wired and wireless devices • Support a high density of users in large areas • Maximize virtual collaboration to increase staff accessibility but avoid pulling staff away from sites/classrooms for extended periods • Enable group based and individual online learning • Increase parent engagement by leveraging web and video enabled technologies • Boost marketability of district to attract faculty, staff, and students • Simplify infrastructure management task to permit the IT team to focus on business-critical initiatives 	<ul style="list-style-type: none"> • Adhere to technology standards to improve operational sustainability and reduce TCO • Create an infrastructure which requires limited IT staff to efficiently support the network • Provide wireless coverage to users everywhere on each campus 	<p>Network refresh</p> <ul style="list-style-type: none"> • Unified Wired/Wireless network • Cloud based management • Campus wide wireless • 160 APs-one in every classroom • 3 Dell N-4032F MDF switches • 77 Dell N2024P/N2048P IDF switches • UPS for GHS <p>Structured cabling replacement</p> <ul style="list-style-type: none"> • 1G access to each AP • 10G between IDFs • 30" deep IDF cabinets • Cable 124 surveillance cameras and IP paging • 6-Cat6 drops per classroom <p>Update and replicate Data Center</p> <ul style="list-style-type: none"> • Virtualize all apps/services • Implement management tools • Create redundant DC @ GHS • 4 VMware ESX and 2 Microsoft Hyper-V environments per DC • Migrate Data • Compellent SC4020 Hybrid Solution with active replication -124TB LRHS & 84TB GHS • 4 Dell FX630 application servers



High Level Requirements (page 2)

Business	Functional	System
		<p>Update and expand Video Surveillance System</p> <ul style="list-style-type: none">• 30 days of Video retention• Recordings based on location• 124 cameras -add 78 cameras <p>Replace Firewall and Content Filter</p> <ul style="list-style-type: none">• Deploy a single PAN 5020 Firewall• Configure Threat and URL filtering polices.• Configure cloud-based security environment "Wildfire"• Conduct knowledge transfer and admin training <p>Replace Phone Systems with Unified Communications</p> <ul style="list-style-type: none">• Deploy Microsoft Skype for Business Production Unified Communications• Deploy 312 IP handsets for staff/faculty at 3 campuses• Integrate voice and conferencing services.• Includes core & edge deployments, audio conferencing, voice configuration, onsite migration and admin training.• Support enhanced 9-1-1 services



Risks and Response Summary

No.	Title	Statement		Response	Contingency	Current Status
		Condition	Consequence			
1	Scope Management	Scope creep Scope is ill defined or omission in scope definition.	Uncontrolled changes and continuous growth of scope-impact costs and schedule	Mitigate Risk- All changes to baseline scope will be managed via a formal change management process.	Proposed changes and their impacts will be documented and reviewed with Project Sponsor, Steering Committee or Board of Trustees. Cost, schedule and scope will be adjusted accordingly if approved.	GREEN
2	Poor Estimates	Estimates are inaccurate	Budget forecast don't match actuals. Results in cost overruns.	Mitigate Risk- Use bottom-up estimates of individual work packages and "rolled them up" to determine an overall cost estimate for the project.	Determine cause of overruns and develop plan to correct problem. Present problem and proposed corrective action to Steering Committee for authorization to proceed.	GREEN
3	Lack of Training	Training is inadequate	Staff, users unable to maintain/leverage tools	Mitigate Risk- Execution of all major deliverables include knowledge transfer, documentation and training.	Contracting with SIGMAnet to provide extended "day 2" support. Cost included in baseline project budget.	GREEN
4	Data Center Architecture Doesn't Meet Business needs	DC design doesn't support requirements and/or does not meet success criteria.	DC architecture must be modified/changed to meet requirements. Requires change orders with associated impacts to schedule/cost/scope.	Mitigate Risk- Conduct extensive planning and reviews. Gather and documents all requirements prior to execution and apply strict change control.	Document & review non-compliance and define it's impact and corrective action with subject matter experts and stakeholders. Process change order. Allocate \$25K contingency	YELLOW

Risk is an uncertain event or condition that if it occur and has an effect on at least one one of the following: scope, schedule, cost, quality or performance



Risks and Response Summary

5	Network Architecture Doesn't Meet Business needs.	Network design doesn't meet requirements and/or does not meet success criteria.	Network design will need to be modified/changed. Requires change orders with associated impacts to schedule/cost/scope.	Mitigate Risk- Conduct extensive planning and reviews. Gather and documents all requirements prior to execution and apply strict change control.	Document & review non-compliance and define it's impact and corrective action with subject matter experts and stakeholders. Process change order. Allocate \$60K contingency	YELLOW
6	Firewall Doesn't Meet Business needs.	Firewall doesn't meet requirements and/or does not meet performance criteria	Firewall design will need to be modified/changed. Requires change orders with associated impacts to schedule/cost/scope.	Mitigate Risk- Conduct extensive planning and reviews. Gather and documents all requirements prior to execution and apply strict change control.	Document & review non-compliance and define it's impact and corrective action with subject matter experts and stakeholders. Process change order.	GREEN
7	Surveillance system doesn't meet business needs.	Surveillance system doesn't meet does not meet coverage and/or retention requirements	Modify system to meet requirements. Requires change orders with associated impacts to schedule/cost/scope.	Mitigate Risk- Conduct extensive planning and reviews. Gather and documents all requirements prior to execution and apply strict change control.	Document & review non-compliance and define it's impact and corrective action with subject matter experts and stakeholders. Process change order. Allocate \$20K contingency	YELLOW
8	Existing Cabling Conduits Not Serviceable	Existing conduits can't be reused.	Will require running new conduits. Could require trenching / boring. Impact schedule and costs.	Accept Risk - condition of existing conduits is out of control of project team.	Run new conduits as required. Allocate \$150K contingency	RED

Risk is an uncertain event or condition that if it occur and has an effect on at least one one of the following: scope, schedule, cost, quality or performance



Risks and Response Summary

No.	Title	Statement		Response	Contingency	Current Status
		Condition	Consequence			
9	Unified Communications design doesn't meet business needs.	Design doesn't meet requirements and/or perform as advertised	System will need to be modified/changed. Requires change orders with associated impacts to schedule/cost/scope.	Mitigate Risk- Conduct extensive planning and reviews. Gather and documents all requirements prior to execution and apply strict change control.	Document & review non-compliance and define it's impact and corrective action with subject matter experts and stakeholders. Process change order. Allocate \$40K contingency	YELLOW
10	Conflicts with other Facilities Projects	Project activities/schedule delayed due to conflicting external project activities	Could impact costs, schedule, scope depending on conflicts for both Tech & Facilities projects	Mitigate Risk- Include facilities PM in Tech project planning and reviews.	Conflicts will be addressed early and a joint corrective action plan will be developed and executed.	GREEN
11	Vendor Management	Vendor doesn't perform, conflicts with vendor or vendor doesn't show or is delayed. Vendor overruns costs or schedule.	Impacts costs, schedule, scope depending on issue.	Mitigate Risk- Adhere to formal PM process to manage team and ensure project meets defined objectives and success criteria. Reviews will include weekly, monthly and phase gate reviews.	Escalate to vendor senior management and define a corrective action plan to be executed to avoid/minimize impacts to project performance.	GREEN
12	Procurement Delays	Delays in procurement due to legal reviews, RFP responses, approvals and processing	Procurement process can exceed deadlines. This will directly impact schedule and could impact cost.	Mitigate Risk- leverage procurment/contact vehicles, standard hardware and provide detailed designs/specs	Escalate delays to steering committee and vendor leads to review impact and approve corrective action.	GREEN
13	Approvals/Decisions	Delays in financial, stakeholders and team decisions/approvals	Risk that approval deadlines will be exceeded. Financial approvals delays could impact release of funds.	Mitigate Risk- Identify key approvals/decisions point and communicate to team. Set an actual deadline by which a decision must be reached. Communicate to team the cost of delay in terms of impact to the project.	Monitor status of key decisions/approvals and escalate those that may jeopardize the project to team and project sponsor/steering committee.	GREEN



Communication Matrix

ID	Communication Type	Description	Frequency	Attendees & Distribution List	Method of Communication	Owner
1	Weekly Status Reports	Email Summary of Project Status - Accomplishments, Issues, Planned Work and Milestones	Weekly	Steering Committee, SIGMAnet/Dell Team, Tech Team	Email	SIGMAnet PM
2	Weekly Project Team Meeting	Meeting to review accomplishments, action items, milestones and issues that can affect deliverables	Weekly	Project Leads & Team	Face to Face / Skype Meetings	SIGMAnet PM
3	Monthly Project Review	Monthly status review of budget, milestones, issues, risks, action plans, resourcing and leadership assistance/escalations	Monthly	Steering Committee, Team Leads, PM	Face to Face / Skype Meetings	SIGMAnet PM
4	Change Orders	Requests to add or alter the agreed-upon scope, deliverables for a project. Changes to the project baselines for scope, budget, schedule, quality and risk are documented and analyzed in change management process	As-Required	Steering Committee, Team Leads, PM and subject matter experts	Face to Face / Skype Meetings	SIGMAnet PM
5	Phase Gate Reviews	Review accomplishments of phase & objectives, plans for next cycle and make decision on continuation of the project.	Established Gates/Dates	Steering Committee, Team Leads, PM and Board (if req)	Face to Face	SIGMAnet PM



Project Change Control Plan

- **This project will utilize a formal change process:**
 1. **Document proposed change and it's impact (cost/schedule/scope)**
 2. **Obtain Project Sponsor / Steering Committee approval**
 3. **Submit change to SIGMAnet PMO for review/approval and creation of formal change order**



Planned Budget (5yr costs)

Deliverable	Cost	Additions	Contingency	Total Cost
Network Refresh	\$729,161	\$112,983 (1) \$23,931 (2)	\$60,000	\$926,075
Structured Cabling	\$423,622		\$150,000	\$573,622
Update Data Centers	\$443,670		\$25,000	\$468,670
Update Video Surveillance	\$213,421		\$20,000	\$233,421
Replace Firewall & Content Filter	\$308,898			\$308,898
Unified Communications	\$475,037	\$46,601 (3) \$20,087 (4)	\$40,000	\$581,725
KACE Helpdesk Tool	\$98,790			\$98,790
Day 2 Support	\$27,000			\$27,000
Office 365 Migration	\$25,545			\$25,545
			TOTALS:	\$295,000
				\$3,243,746

- (1) Atlas Speakers
- (2) Single Wire
- (3) Audio Codes
- (4) Spectra Link Phones



Annual Support Cost Savings

<u>Company</u>	<u>Service</u>	<u>Annual Cost</u>
SmartDeploy	Computer Imaging	\$1,814
Network Appliance	Storage	\$2,735
VEEM	Virtual Backup	\$3,356
VM Ware	vSphere	\$5,494
CCT	Phone support	\$5,872
Kaspersky	AntiVirus	\$7,756
Palo Alto	Firewall	\$7,850
Lightspeed	Content Filter	\$8,858
Crown Enterprise	Manage Network/Backups	\$74,244
Zoho	Helpdesk	<u>\$6,137</u>
	Annual Reductions with Tech Refresh:	\$124,116

5 year savings → \$620,580



Estimated Cost for Refresh in Year 6 (5yr costs)

Deliverable	Refresh Cost
Network Refresh- Equipment replacement, Singlewire and 5yr support	\$607,431
Structured Cabling	\$0
Refresh Data Centers – Server/storage replacement and 5yr support	\$299,309
Update Video Surveillance	\$0
Firewall Refresh- Replace firewall and 5yr support	\$288,898
Unified Communications – 5yr support +Audio codes	\$243,831
KACE Helpdesk Tool – 5yr support	\$85,000
Day 2 Support	\$0
Office 365 Migration	\$0
TOTAL COST (5yr coverage):	\$1,524,469

Year 6 Technology Refresh Cost: \$304,894 per year

Current Annual Support Costs: \$124,116

Annual Support Costs Increase: \$180,778



Phase Gate Closure

- **Questions**
- **Authorization to proceed**



BACKUP SLIDES



Project Number: XXXX
 PM First/Last
 Customer: First/Last

Project Name Here

Overall Status:

% Complete	Overall	Schedule	Budget	Technical	Staffing	Customer Sat
%						

Baseline Project end date: _____ Current Project end date: _____

Baseline Project Budget: \$_____ Budget EAC: \$_____

Contingency/MGT Reserve Used: \$_____

Comments

- Overall message(s) to Leadership on status.
- Enter any supporting information.
- Provide description for the health status indicator colors above if not well explained in other areas of the quad chart.

Near-Term Milestones:

Key Milestones	Original Plan Date	Latest Plan Date	Complete Date
Project Start Date	xx/xx/xx		
Baseline End Date	xx/xx/xx		

Passports	P0	P1	P2	P3	P4
Required/Approved		2/14		X	X

Project Objective:

Enter project objective.

Key Issues, Risks & Action Plans:

Issue (I) / Risk (R)	Action/Mitigation Plan

#	Last Meeting Actions	Owner	Status
1	What is the item to be completed?	Who manages this issue?	
2			
3			
4			

Leadership Assistance Needed:

List what is needed from leadership for the project to continue succeeding or to return to a healthy status.



Weekly Status Report – Quad Format

Weekly Status Report for Project #xxxx-xxxx																								
This week's Accomplishments		Plan for next week																						
1. Bulleted list of major accomplishments during this report period		1. Bulleted list of planned activities for next report period																						
Issues/Risks		Near term Milestones																						
Issues <ul style="list-style-type: none"> • Document Issues Risks <ul style="list-style-type: none"> • Document Risks 		<table border="1"> <thead> <tr> <th>#</th> <th>Description</th> <th>Due Date</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> <td></td> </tr> <tr> <td>2</td> <td></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> <td></td> </tr> <tr> <td>5</td> <td></td> <td></td> </tr> <tr> <td>6</td> <td></td> <td></td> </tr> </tbody> </table>		#	Description	Due Date	1			2			3			4			5			6		
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