Project Scope Statement

Project Name:	Going Digital
Department:	Information Technology Department/Operations Department
Project Manager:	Colby Clark, Director of Information Technology
Date:	January 17, 2014

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Preface

The Manteca Unified School District is dedicated to be a leader in Public Education. Even with a deep and rich history of nurturing and educating the students, Manteca Unified is ready to take the next brave step toward the future of Public Education. Through the vision and guidance of the Manteca Unified School District Board of Trustee's and Superintendent Jason Messer, the Manteca Unified School District is "Going Digital". The students and community of the Manteca Unified School District will have the best 21st Century education, utilizing modern and culturally relevant instruction. Through a digital interface, the District will improve access for all teachers and students to curriculum and educationally relevant global materials. Through the Going Digital initiative, the district will address pathway, end user devices, student and teacher interface, curriculum, and appropriate staff and student training. This is a bold step to meet modern real world needs. In Manteca Unified, our common core values are to provide the right learning environment for all students to flourish in!

Dr. Clark Burke
Deputy Superintendent

A. Executive Summary

The attached Project Charter provides an executive summary of the Going Digital project. The Project Charter was approved by the Manteca Unified School District Board of Education on December 10, 2013.

B. Project Objectives

1. District Need/Opportunity/Objectives

Currently, each school site has a minimum of one computer lab containing 36 desktop computers. With the introduction of 21st Century Learning initiatives, Common Core State Standards, and the Smarter Balanced Assessment system, the Manteca Unified School District has a need to provide additional technology access for its student population. There is a demand to have the additional technology available to the students by the end of the 2014 calendar year.

The current network infrastructure at the majority of the campuses are using antiquated technology that will not support the wireless and wired network equipment needed to accomplish the goals above. A large majority of the existing network equipment has reached or is reaching the manufacture's end of life/support cycle.

2. Product Description (Solution)

In order to meet the business goals, the project will consist of the following:

a) Upgrading the network infrastructure cabling and electronics at each campus and the District Office to meet and exceed industry standards.

b) Provide complete wireless access throughout all campuses and the District Office.

c) Address all conduit and pathway issues and provide additional space for future growth.

d) Provide the option to increase the District's WAN and internet bandwidth.

e) Provide additional end user devices to our student and teacher population.

Once the project is complete, all students will have an equal opportunity to use technology, regardless of the school they attend within the District. The increased student access to technology will provide teacher's with additional tools to assist with the implementation of Common Core State Standard and better prepare their students for the Smarter Balanced Assessments.

The *Going Digital* project will also provide the District with a network communication infrastructure with an expected lifespan of 7-10 years, as directed by the Board of Education.

The *Going Digital* project will be considered successful by the stakeholders if students and staff are able to connect and use the wireless network from all classrooms throughout the District by December 31, 2013. In addition, the project team must make every attempt not to exceed the original $30,000,000 budget that was approved by the Board of Education on December 10, 2013.

3. Deliverables

The deliverables for the Going Digital project include the following:

a) Core and edge network electronics that will support 10 Gbps speeds at each IDF and MDF.

b) 10 Gbps single mode fiber from the MDF to each IDFs at all campuses.

c) New conduit and pathway that will allow for 40% growth.

d) Network switches with 1 Gbps speeds and POE+ in all IDF and MDFs. All switches will allow for 20% growth (open ports for additional drops).

e) Redundant network equipment in the District Office Data Center that supports 10 Gbps speeds for server connectivity, District Office IDFs, and core equipment connectivity.

f) Redundant core network equipment that supports MPLS and SDN at the District Office Data Center.

g) CAT6 horizontal cable to replace all CAT5/5e cabling. A single CAT6a drop for all wireless access points (WAPs).

h) Redundant wireless controllers

i) One 802.11ac WAP for each classroom, staff lounge, office, and library. Two 802.11ac WAPs for each cafeteria and gym. If a site has a gym and a cafeteria, two 802.11ac WAPs will be placed in the gym and one in the cafeteria. Replace all of the existing WAPs at the District Office complex with 802.11ac WAPs.

   (1) All WAPs will need to have an upgrade wireless module purchased and installed in approximately 3 years. This module will convert the WAPs from 802.11ac (Wave 1) to 802.11ac (Wave 2). The module will provide new features and additional throughput and speeds.

j) Network access control (NAC) unit for the wireless network.

k) Network configuration and monitoring software for the management of the network.

l) New network enclosures and UPS battery backup systems at the IDF and MDFs as needed.

m) New CAT6/6a patch cables for all IDF and MDFs.

n) VoIP phones and licenses as needed.

o) Extensive network infrastructure design documentation and drawings for each campus.

p) Mobile devices supportive of CCSS curriculum.

C. Project Description

1. Scope

In order to meet the project deadline of December 31, 2014, the Going Digital project will be implemented in three separate phases, as described below. Phase 1 and Phase 2 of the project will run simultaneously in order to meet the timelines associated with the project. These portions of the project are considered critical path.

Before the construction portion of Phase 2 can begin, extensive site-walks for all sites must be completed and a lease/lease back contract must be awarded to a contractor. If any underground pathway issues arise during Phase 1, they will be left until the Phase 2 lease/lease back construction contract is awarded. This may impact timelines.

Site analysis and project implementation will occur in the following order: District Office, E-rate sites, sites without wireless access, and sites with existing wireless.

Note: To ensure the District is leveraging potential Funding Year 16 (FY16) E-rate discounts, Phase 1 and 2 must be completed by September 2014 for the following sites: French Camp, George Komure, Golden West, Great Valley, Lathrop Elementary, Manteca Day, Sequoia, and Shasta.

a) Edge and Core Network Infrastructure Electronics (Critical Path): Phase 1

The first phase of the project will consist of upgrading the core and edge network equipment and the installation of the WAPs throughout the District. AMS.NET will be contracted to perform all work in Phase 1 through a publically bid piggyback contract.

(1) Replace all core network equipment with 10 Gbps electronics.
   - Install 1 GB fiber tranceivers to be used temporarily. Use existing multi-mode and single mode fiber at 1 Gbps speeds until the 10 Gbps fiber upgrades occur later in Phase 1 and Phase 2.

(2) Identify and address all copper links, piggyback IDFs, and extended star topology IDFs. Homerun all fiber at each IDF to the MDF throughout the District.

(3) Replace all multi-mode fiber with single mode 10 Gbps fiber.

(4) Replace District Office Data Center equipment (routers, firewalls, switches, etc.)

(5) Replace and install new network switches with 1 Gbps speeds and POE+ in all existing IDF and MDFs.
   - Design, configure, and implement a new LAN and WAN network design that includes MPLS technology and VLANs.
   - Configure and interconnect network equipment based on best practices established by MUSD Network Team.

(6) Work with the vendor and manufacture on removing existing network equipment, enclosures/racks, and cabling as part of a 'buy-back' program.
   - Work with AMS.NET to identify, label, and store E-rate equipment that is ineligible for the 'buy-back' program.

(7) Install a single CAT6a network drop in every classroom, main office, staff lounge, and library. Install two CAT6a network drops in each cafeteria and gym. If a site has a gym and a cafeteria, only one CAT6a drop will be installed in the cafeteria.
   - Vendor will address any above ground pathway issues they encounter.
   - Vendor will notify The Going Digital Project Team of any underground pathway issues they encounter and will be addressed in Phase 2.

(8) Install an 802.11ac WAP to all CAT6a network drops as described in section C (1) (a) (5).
(9) Install new IDF enclosures (as needed).
    - Redress all cable in all IDF/MDFs and replace all CAT6 patch cables.
(10) Install new UPS battery backup systems (as needed).
(11) Install and configure the wireless controller.
(12) Configure and deploy the NAC for wireless access control.
(13) Install and configure the network monitoring and configuration software.

b) Network Cabling Infrastructure and Pathway: Phase 2

The second phase of the project will consist of an extensive site walk of every campus, analysis, and a network infrastructure design proposal and drawings by KMM Services and Vandenbos Electrical. In addition, this phase of the project will include the installation of the remaining 10 Gbps fiber cabling, addressing all pathway issues, and replacing all networking cable with CAT6.

KMM Services, Vandenbos Electric, and AMS.NET will be contracted to perform the work in Phase 2.

(1) Work with KMM Services and Vandenbos Electric to provide the following services:
    - Provide high level project planning and assessment meetings with the District, consultants and contractors as directed by MUSD.
    - Perform site walks at district campuses to record existing data conduit and pathway infrastructure, cabling infrastructure and existing MDF/IDF inventory.
    - Provide the District with design drawings and outline construction specifications to be used to address pathway issues and proposed locations for new IDF locations (used to limit the amount of underground pathway construction work).
(2) Using a lease/lease back contract, Vandenbos Electric will address all of the pathway issues discovered in section C (1) (b) (1) and any underground pathway issues discovered in Phase 1.
(3) Using the new pathway installed (from section C (1) (b) (2)), AMS.NET will perform the following work:
    - Replace all remaining multi-mode fiber with single mode 10 Gbps fiber and homerun back to the MDF.
    - Swap all remaining 1 Gbps GBICs with 10 Gbps cards.
(4) Using the new pathway installed (from section C (1) (b) (2)), Vandenbos Electric will perform the following work:
    - Replace all CAT5/5e network cable with CAT6.
(5) AMS.NET will install and configure new VoIP phones (as needed).

c) Student and Teacher Devices (Critical Path): Phase 3
This critical path will consist of the selection, purchase and deployment of mobile devices for teachers and students and appropriate staff development for teachers.

The superintendent will take charge/responsibility for this critical path. A Superintendents Advisory Committee will be formed to advise the Superintendent relative to this critical path. The committee will include 1 TSA, 1 staff member from IT, 4 teachers, (2 named by MEA) and 3 Administrators (2 site and the coordinator for testing and evaluation).

(1) Select mobile devices for teachers
(2) Select mobile devices for students
(3) Purchase and deploy teacher devices
(4) Purchase and deploy student devices
(5) Identify and provide ongoing staff development for all teachers
(6) Develop and implement a new student acceptable use agreement for technology
(7) Develop and implement purchasing/inventory/replacement procedures for new and damaged equipment
(8) Identify and provide ongoing staff development for IT support staff including TSAs
(9) Identify, purchase and deploy necessary auxiliary digital devices such as connective technology, keyboards, scientific equipment, printers etc.
(10) Identify and recommend to the Board ongoing staffing at the District and Site level to support teachers and students successfully going digital.

2. Completion Criteria

The project will be considered complete after the following:

a) The District signs off on the vendor project deliverables from Phase 1 and Phase 2 of the Going Digital project.
b) All new device training has been completed at each site and for all TSAs.
c) All new student devices and carts have been deployed.
d) All new teacher devices have been deployed.

3. Risk Assessment

The following risks have been identified with this project:

There may be disruption to the classroom and work environment during the Phase 2 site walks. In addition, there may be network disruption during the network and cabling replacement. To mitigate this risk, there will be e-mail communication that goes out to all school sites prior to site walks and network infrastructure replacements and upgrades. In addition, the vendors will be performing the network infrastructure replacements and upgrades during off hours to minimize downtime. Additional contract staffing and/or overtime may be required to accompany the vendors afterhours.

There may be a disruption of wireless network services as the new wireless controller, NAC, and WAPs are installed. To help mitigate this risk, the vendors and the Information Technology Department will determine and deploy a pilot environment prior to going live at each campus.

To address some of the underground pathway issues, boring and trenching may be required. Due to the intrusive nature of these actions, several risks apply such as the contractor puncturing existing pathway and utilities. To mitigate this risk, the contractor will work with the District to look at site plans to determine a safe route for the pathway.

4. Constraints and Dependency Linkages

Prior to the construction portion of Phase 2, all site walks must be performed. Upon the completion of each site walk, the vendor will provide the District with a biddable document that will be used to address all conduit and pathway issues. Based on the findings of the site walks, the budget and timeline may be impacted.

Prior to starting Phase 3 of the Going Digital project, all of Phase 1 will need to be complete and the District will also need to be in contract with the vendor for to start the construction portion of Phase 2. Phase 3 can be fast-tracked by hiring a Desktop Support Supervisor.

Currently, the District contains approximately 6,000 computers (desktop and laptops) and 1,000 tablet devices. There is a potential to add approximately 20,000 additional client devices. Additional supervisory and classified staff will be required to ensure the successful design, deployment, and on-going support of the additional client devices.

5. Impacts

The *Going Digital* project will consume a large majority of staffing resources within the Information Technology Department. Because of this, some projects and work orders may take longer to complete.

All network related projects, such as the addition of new switches and WAPs, will be denied as they will be addressed in Phase 1 and 2 of the *Going Digital* project.

6. Assumptions

In order for the Going Digital project to be successful, the following assumptions will be made:

a) Support and attention will be provided by the Project Sponsor and the Project Steering Committee.
b) The overall budget for the project will remain $30,000,000 as outlined in the Project Charter.
c) Resources will be made to available to adequately staff the project.
d) Resources will be made available to support the new network infrastructure and client devices.

7. Roles and Project Stakeholders

Roles

The following role definitions are being applied to the resources assigned to this project:

Project Sponsor	Provides executive team approval and sponsorship for the project. Has budget ownership for the project and is the major stakeholder and recipient for the project deliverables.
Project Owner	Provides policy definition to the Project team. Makes final decisions and resolves conflicts or issues regarding project expectations across organizational and functional areas. The project sponsor will work directly with the project owner on all policy clarification.
Project Manager	Provides overall management to the project. Accountable for establishing a Project Charter, developing and managing the work plan, securing appropriate resources and delegating the work and insuring successful completion of the project. All project team members report to the project manager. Handles all project administrative duties, interfaces to project sponsors and owners and has overall accountability for the project.
Steering Committee	Provide assistance in resolving issues that arise beyond the project manager's jurisdiction. Monitor project progress and provide necessary tools and support when milestones are in jeopardy.
Key Stakeholder	Key provider of requirements and recipient of project deliverable and associated benefits. Deliverable will directly enhance the stakeholders' business processes and environment.
Team Member	Working project team member who analyzes, designs and ultimately improves or replaces the business processes. This includes collaborating with teams to develop high level process designs and models, understanding best practices for business processes and partnering with team members to identify appropriate opportunities, challenging the old rules of the business and stimulating creating thinking, and identifying organizational impact areas.

Stakeholders

Name	Role
Dr. Clark Burke, Deputy Superintendent	Project Sponsor, Key Stakeholder, Steering Committee Member
Jason Messer, Superintendent	Project Owner
MUSD Board of Education	Project Owner
Colby Clark, Director of Information Technology	Project Manager, Steering Committee Member, Team Member
David Burke, Senior Director of Operations	Steering Committee Member, Team member
Ungel Mamon, Network Support Supervisor	*Team Member*

D. Project Approach

Planned Approach

As described above, the project will be implemented in three separate phases with a completion date of Phase 1 and Phase 3 being December 31, 2014. Depending on the results from the Phase 2 site walks, that phase of the project may take longer to complete. Note: Phase 2 is a non-Critical Path portion of the project.

The District must enter into an agreement with an outside vendor for the successful design and completion of the first two phases of the *Going Digital* project. In addition, several contracted employees and/or overtime for District staff may be required for afterhours support during Phase 1 and 2.

In order to address the staffing constraints within the Information Technology Department during the design and implementation of the Going Digital project, temporary help may be required to address network related work orders.

E. Project Estimates

1. Estimated Schedule

Key Project milestones relative to project start are as follows:

Project Milestones	Target Date
Project Start	01/02/14
Work with vendors on Phase 1 pricing/design	01/06/14
Select consultant for Phase 1/2	01/06/14
Submit Phase 1 contracts to Board	01/28/14
Submit pre-construction contracts to Board for site walks/design/documentation	01/28/14
Begin Phase 1	01/29/14
Begin Phase 2	01/29/14
Begin Phase 3	01/29/14
Purchase/Deploy Phase 3 teacher devices	03/03/14
Submit Phase 2 contracts to Board	05/13/14
Start construction for Phase 2	05/14/14
Start student device discovery for Phase 3	07/01/14
Submit Phase 3 student device contracts to Board	07/24/14
Complete Phase 1 (Critical Path)	**09/30/14**
Complete Phase 3 (Critical Path)	**12/31/14**
Complete Phase 2	TBD
Project Completion	**TBD**

2. Resource Requirements – Team and Support Resources
Not all resources are currently known during this stage of the project. However, based on what is known about the deliverables and the approach of the project, the following resources are requested. Note: These resources are for the implementation of the project. Additional Technology Support Assistant or Desktop Technican staff will be required to maintain the existing level of technology support.

The following personnel resources are required and requested to complete this project:

Personnel Resource Types	Quantity
Consultant (Phase 1 and 2)	2
Contracted or substitute help for network projects and/or afterhours work	1
Desktop Support Supervisor (working supervisor)	1
Desktop Support Technician	1
Total Personnel Resources	5

3. Estimated Cost
The estimated costs do not include additional permanent or temporary District staffing.

Expense	Original Budget	Estimated Cost	Contracted Cost	Spent to Date	Variance
Phase 1	$14,000,000	$13,800,000	N/A	N/A	N/A
Phase 2	$8,000,000	$8,600,000	N/A	N/A	N/A
Phase 3	$8,000,000	$8,300,000	N/A	N/A	N/A
On-going Costs	$0	$0	N/A	N/A	N/A
Soft Costs	$0	$600,000	N/A	N/A	N/A
Other	$0	$0	N/A	N/A	N/A
Total	$30,000,000	$31,300,000	N/A	N/A	N/A

F. Project Controls

Typical project controls are Steering Committee Meetings, Monthly Status Reports, Risk Management assessment and mitigation planning and monitoring, Issue Management, Change Management, and Communication Management.

1. **Steering Committee Meetings**
   Steering Committee Meetings will occur on a monthly basis.

2. **Status Reports**
   Status report e-mails will be sent to the Project Sponsor and Project Team Members on a bi-weekly basis.

3. **Issue Management**
   Issues that occur throughout the project will be communicated through the project status reports.

4. **Change Management**
   The change control procedures to be followed will consist of the following processes:

   A Change Control database will be established by the project manager to track all changes associated with the project.

   All Change Requests will be assessed to determine possible alternatives and costs.

   Change Requests will be reviewed and approved via signature by the Project Sponsor.

   The effects of approved Changes Requests on the scope and schedule of the project will be reflected in updates to the project plan.

G. Authorizations

The Scope Statement will be approved by:

The Project Manager

The Project Sponsor

Project Changes will be approved by:

The Project Sponsor

Project deliverables will be approved/accepted by:

The Project Sponsor

H. Scope Statement Approval Form/Signatures

Scope Statement Approval Form

Project Name: **Going Digital**

Project Manager: **Colby Clark, Director of Information Technology**

The purpose of this document is to provide a vehicle for documenting the initial planning efforts for the project. It is used to reach a satisfactory level of mutual agreement between the project manager and the project sponsors on the objectives and scope of the project before significant resources are committed and expenses incurred.

I have reviewed the information contained in this Scope Statement and agree.

Name	Signature	Date
Dr. Clark Burke		
Colby Clark		

Attachment: Project Charter

BOARD APPROVED

Date: 12/10/13

Manteca Unified School District

Technology Plan "*Going Digital*"

December 10, 2013 – Board of Education Meeting

Project Title:
Going Digital

Project Justification:

Manteca Unified School District does not have the network infrastructure or sufficient end user devices to support 21st Century Learning initiatives, which include Common Core State Standards and digital curriculum. The *Going Digital* project will provide the District with a network infrastructure and end user devices to address these concerns.

Project Scope:

The *Going Digital* project will consist of upgrading the District's network infrastructure to meet current industry standards and provide the networking foundation needed for the future. This will include a robust wired and wireless network at all District campuses. In addition, the project will provide staff and students with devices to help support the use of technology in the classroom.

Project Team:

The *Going Digital* project team will include the Information Technology Department and Operations Department. Dr. Clark Burke, Deputy Superintendent, will act as the project sponsor and key stakeholder.

Project Budget:

Based on the state of our current network infrastructure and existing end user devices, the initial estimated budgetary numbers for this project will be $30,000,000. Below is an estimated cost breakdown schedule for the project:

- Network Infrastructure Equipment: $14,000,000
- Wiring and Core Infrastructure Cabling: $8,000,000
- End User Devices and Equipment: $8,000,000

Project Timeline:
Due to the size and scope of the project, the *Going Digital* project will be implemented in two phases. The first phase will include the initiation, planning, and implementation of the network infrastructure portion of the project. The second phase will consist of the selection and deployment of end user devices. Below is an estimated schedule for the *Going Digital* project:

- Winter 2013: Planning and Purchasing of the Network Infrastructure (Phase 1)
- Spring 2014: Begin Network Implementation (Phase 1)
- Summer 2014: Begin End User Device Planning and Purchase (Phase 2)
- Fall 2014: Complete Network Implementation (Phase 1), Begin End User Device Implementation (Phase 2)
- Winter 2014: Complete End User Device Implementation (Phase 2), Close-out Project

Revision A: December 4, 2013