



# Post Implementation Review of Business Outcomes

## Internet Redundancy IT074003

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Approval of the Project Plan indicates an understanding of the purpose and content described in this document. Approval of the Business Case constitutes approval of the business case analysis results and hereby certifies the overall accuracy, viability, and defensibility of the content and estimates. By signing this document, each individual agrees the proposed business solution has been analyzed effectively as described herein.

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## Section 1. Project Impact on Agency Objectives

### 1.1 Product and/or Service Performance

Business goals and objectives were described in the Project Charter and Project Management Plan. This paragraph describes the actual performance measurement results achieved for each goal and/or objective.

<b>Product and/or Service Performance Objective</b>	<b>Performance Standard</b>	<b>Actual Performance Measurement Results</b>
Internet connections to two separate ACCD sites	100% Completion	Successful completion
Failover between sites and enhanced security with a high level of fault tolerance	100% Completion	Successful completion
Increase current Internet capacity	50 megabit increase to overall capacity for 100 megabit throughput	Successful completion
Provide easy growth path for additional bandwidth for five to eight years	Growth path up to two gigabits is available	Successful completion

### 1.2 Goals and Objectives

Based on actual performance measurement results, this paragraph describes the project's impact on the agency's ability to meet the business goals and objectives described in the Business Case and refined in the Performance Management Plan.

<b>Business Goal/ Objective</b>	<b>Product and/or Service Performance Objective</b>	<b>Project Impact to Business Outcome</b>
Purchase, configure, install gigabyte Ethernet	100% Complete	Successful completion
Purchase, configure, install router, UTM, and security & analysis hardware	100% Complete	Successful completion

<b>Business Goal/ Objective</b>	<b>Product and/or Service Performance Objective</b>	<b>Project Impact to Business Outcome</b>
Purchase, configure, install fiber multiplexing hardware	100% Complete	Successful completion
Migrate from old to new connection	Operational to Product and/or Service Performance statement.	Successful completion
Decommission old linkage	Operational to Product and/or Service Performance statement.	Successful completion
Convert existing RLAN DSL sites (SAC DPS, SAC Law Enforcement, Kolher house) to point-to-point VPN DSL	Operational to Product and/or Service Performance statement.	Successful completion

## Section 2. Quantitative and Qualitative Benefits

### 2.1 Statutory Fulfillment

For each of the factors shown below, the project’s quantitative and/or qualitative results are described. Whenever applicable, the reasons that inhibited achieving the expected benefit are described.

<b>#</b>	<b>Value Factor</b>	<b>Project Impact to Business Outcome</b>
1	The project is implemented to satisfy a direct mandate or regulation (city, state, federal, national, international)	Not Applicable
2	The project is implemented to satisfy a derived mandate or regulation (city, state, federal, national, international)	Not Applicable
3	Implementing the project improves the turnaround time for responses to mandates or regulatory requirements	Not Applicable

#	Value Factor	Project Impact to Business Outcome
4	The project results in ACCD compliance to mandates or regulatory requirements	Not Applicable
5	The project results in ACCD avoidance of enforcement actions (e.g., penalties) based on mandates or regulatory requirements	Not Applicable
6	Implementing the project achieves the desired intent or expected outcomes of the mandates or regulatory requirements	Not Applicable
7	Implementing the project imposes stricter requirements, or different or additional requirements, than those required by the mandates or regulations	Not Applicable

## 2.2 Strategic Alignment

For each of the factors shown below, the project’s quantitative and/or qualitative results are described. Whenever applicable, the reasons that inhibited achieving the expected benefit are described.

#	Value Factor	Project Impact to Business Outcome
1	The project is aligned with, and delivers business outcomes, that support ACCD goals	Yes
2	The project satisfies a strategic agency or state mission critical need, regardless if required by a mandate or regulation	Yes

#	Value Factor	Project Impact to Business Outcome
3	The project results in the ability of the ACCD to better share resources as part of a long-term strategic alignment effort	Yes
4	The project is aligned with the overall mission of ACCD	Yes
5	The project strategically consolidates and streamlines business practices and administrative processes	Yes
6	The project is aligned with the overall vision of ACCD	Yes
7	The project is aligned with the overall priorities of ACCD	Yes

### 2.3 Agency Impact Analysis

For each of the factors shown below, the project’s quantitative and/or qualitative results are described. Whenever applicable, the reasons that inhibited achieving the expected benefit are described.

#	Value Factor	Project Impact to Business Outcome
1	The project results in systems which support the defined architecture/standards for ACCD	Yes – Compliant with Network Assurance document
2	The project results in systems which reduce or eliminate redundant systems	Not applicable
3	The project results in systems which enable reuse of code/components available from other sources	Not applicable

#	Value Factor	Project Impact to Business Outcome
4	The project results in systems which improve consistency between systems within ACCD through standardization	Yes
5	The project results in systems which leverage the technical capability of commercial-off-the-shelf (COTS) software packages	Yes
6	The project results in systems which provide the ability to evolve as new technologies emerge	Yes

### 2.4 Financial Analysis

For each of the factors that represent the project’s quantitative benefits (Quantitative Benefit Analysis Worksheet, Financial Analysis Worksheet) an effort to identify and quantify the benefits realized to date has been provided below. When appropriate we have provided a forecast of the benefits not yet realized and the specific time period encompassed by the forecast.

#	Value Factor	Realized	Forecast
<b>Identify Cumulative Savings</b>			
1	Reduced IT and non-IT FTE costs including fringe benefits	Not Applicable	Not Applicable
2	Reduced IT and non-IT contractors/consultants	Not Applicable	Not Applicable
3	Reduced outsourced labor costs	Not Applicable	Not Applicable
4	Improved workflow/business processes	100% Increase	Not Applicable
5	Reduced error rate	Yes	Not Applicable

#	Value Factor	Realized	Forecast
6	Reduced hardware maintenance/upgrade expense	There will be an increase	There will be an increase
7	Reduced software maintenance/upgrade expense	There will be an increase	There will be an increase
8	Reduced facilities rental/maintenance expense	There will be an increase	There will be an increase
9	Reduced equipment rental/supplies and materials expense	Not applicable	Not applicable
<b>Identify Cost Avoidance</b>			
10	Avoid penalties	Not applicable	Not applicable
11	Avoid loss of funding	Not applicable	Not applicable
12	Improved enforcement actions	Yes	Yes
13	Asset protection	Yes	Yes
<b>Identify Revenue Generation</b>			
14	Additional revenue generated	Not applicable	Not applicable
15	Increased interest earned	Not applicable	Not applicable

#	Value Factor	Realized	Forecast
<b>Identify Constituent Project Benefits</b>			
16	Reduced constituent transaction costs	Not applicable	Not applicable
17	Reduced service delivery cycle time	Yes	Yes
18	Increased service availability/accessibility	Yes	Yes
19	Expansion of services	Yes	Yes
20	Reduced (paper) reporting requirements	Not applicable	Not applicable
21	Improved ability to locate regulatory requirements	Not applicable	Not applicable
22	Improved compliance	Yes	Yes
23	Greater consistency in constituent/state transactions	Not applicable	Not applicable
<b>General Questions Regarding Financial Forecast:</b>			
24	Will the Net Present Value exceed 0? If so, by how much?	Not applicable	Not applicable
25	When is the expected Project Breakeven Point?	Not applicable	Not applicable
26	What is the project's expected Return on Investment?	Not applicable	Not applicable

## **Section 3. Project Outcomes**

### **3.1 Project Quality**

#### **3.1.1 Quality Standards**

What follows will be an attempt to summarize the overall project quality, including the impact on business outcomes, based on an assessment of whether the project satisfied the quality standards defined for the project.

The architectural quality standard was successfully obtained. A commercial-off-the-shelf approach was installed and satisfies the manufactures quality standards.

#### **3.1.2 Methodologies**

What follows will be an attempt to summarize the impact of using the defined project life cycle methodology, project management methodology, systems development methodology, or other methodologies on project outcomes.

The ACCD project management framework was used on this project. This project was underway when the framework was implemented. The team members successfully adjusted to the learning curve. In the team member's opinion there was the belief that this created improved preparation, planning, and execution.

At the beginning of the project, an in-house technology selection approach was undertaken. This approach was considered by the team as time consuming.

### **3.2 Scope**

There were no scope changes that occurred on this project. Therefore there will be no summarization the impact of any changes to the *initial* scope baseline on business outcomes, for either approved and non-approved changes

### 3.3 Cost (Budget)

There were no cost changes that occurred on this project. Therefore there will be no summarization the impact of any changes to the *initial* cost baseline on business outcomes, for either approved and non-approved changes.

### 3.4 Schedule

There were several schedule adjustments. What follows is a summarization of the impact of any changes to the *initial* schedule baseline

- Equipment delivery delays from both AT&T and Alcatel.
- Circuit turn-on delay caused by AT&T
- Engineer availability delay

The schedule was initially to go operational prior to Christmas. This was delay to early February due to the above delays

## Section 4. Lessons Learned

This paragraph identifies lessons learned that should be elevated as process improvement recommendations within Alamo Community Colleges Information Technology Department. The lessons learned in terms of a problem (issue) are provided. An effort to identify the problem and include any documentation references (e.g., Governance Handbook, Business Continuity Plan, Project Delivery Framework tool) that provide additional details is provided where applicable. Recommended improvements to correct a similar problem in the future, including elevation plans for communication and follow-up about the improvement is also provided when applicable.

Problem Statement	Problem Description	References	Recommended Change	Elevated To
Vendor selection and ongoing operations	There were several problems with code on Fortinet – Bugs in the software	Not applicable	<ul style="list-style-type: none"> <li>• More detailed discussions with users that previously purchased the proposed hardware</li> </ul>	Not applicable

<b>Problem Statement</b>	<b>Problem Description</b>	<b>References</b>	<b>Recommended Change</b>	<b>Elevated To</b>
Vendor selection and ongoing operations - Continued			<ul style="list-style-type: none"> <li>• Test as many individual functions as possible</li> <li>• Require a clear escalation process through vendor top level support (developers) prior to a complex integration</li> </ul>	
In a multi-vendor environ	When a vendor is purchasing hardware / services through one or more vendors obtaining support can become challenging.	Not applicable	Identify clear lines of escalation and responsibility "before purchase"	Not applicable

### Section 5. Future Review Plans

There are no plans for performing a future review(s) of business outcomes on this project.

### Section 6. Glossary

The following terms have been used within this document:

<b>Term</b>	<b>Definition</b>
ACCD	Alamo Community College District
AT&T	American Telephone and Telegraph Company

Term	Definition
DPS	Department of Public Safety
DSL	DSL or xDSL, is a family of technologies that provide digital data transmission over the wires of a local telephone network. DSL originally stood for digital subscriber loop, although in recent years, many have adopted digital subscriber line as a more marketing-friendly term for the most popular version of consumer-ready DSL, ADSL
Ethernet	<p>Ethernet is a large, diverse family of frame-based computer networking technologies that operates at many speeds for local area networks (LANs). The name comes from the physical concept of the ether. It defines a number of wiring and signaling standards for the physical layer, through means of network access at the Media Access Control (MAC)/Data Link Layer, and a common addressing format.</p> <p>Ethernet has been standardized as IEEE 802.3. The combination of the twisted pair versions of Ethernet for connecting end systems to the network, along with the fiber optic versions for site backbones, has become the most widespread wired LAN technology. It has been in use from the 1990s to the present, largely replacing competing LAN standards such as coaxial cable Ethernet, token ring, FDDI, and ARCNET. In recent years, Wi-Fi, the wireless LAN standardized by IEEE 802.11, has been used instead of Ethernet for many home and small office networks and in addition to Ethernet in larger installations.</p>

Term	Definition
Gigabit	<p>A gigabit is a unit of information or computer storage, abbreviated Gbit or sometimes Gb.</p> <p>1 gigabit = <math>10^9</math> = 1,000,000,000 bits (which is equal to 125 decimal megabytes or 119.2 mebibytes, as 8 bits equals one byte)</p> <p>The gigabit is closely related to the gibibit, which is unambiguously equal to <math>2^{30}</math> bits = 1,073,741,824 bits.</p> <p>Note that the difference between a billion bits and a gibibit is greater than 7%. This is sufficient to make it economically compelling to represent certain classes of storage devices in (true) gigabits or gigabytes rather than gibibits/gibibytes. RAM and flash chips are usually required to have a capacity that is a power of two, but other devices like hard disk drives need not</p>
Gigabyte	<p>A gigabyte (derived from the SI prefix giga-) is a unit of information or computer storage equal to one billion (short scale) bytes or <math>2^{30}</math> bytes (1024 mebibytes). It is commonly abbreviated GB (not to be confused with Gb, which is used for gigabits).</p> <p>The usage of the word "gigabyte" is ambiguous, depending on the context. When referring to RAM sizes and file sizes, it traditionally has a binary definition, of <math>1024^3</math> bytes (typically assimilated or approximated to <math>1000^3</math>, for convenience). For every other use, it means exactly <math>1000^3</math> bytes. In order to address this confusion, currently all relevant standards bodies promote the use of the term "gibibyte" for the binary definition</p>

Term	Definition
Megabit	A megabit per second (abbreviated as Mbps, Mbit/s, or mbps) is a unit of data transfer rates equal to 1,000,000 bits per second (this equals 1,000 kilobits per second). Because there are 8 bits in a byte, a transfer speed of 8 megabits per second (8 Mbps) is equivalent to 1,000,000 bytes per second (approximately 976 KiB/s).
RLAN	<ul style="list-style-type: none"> <li>• Radio Local Area Network (high data rate two-way wireless data communications network)</li> <li>• Remote Local Area Network</li> <li>• Residents Local Action Network</li> </ul>
SAC	San Antonio College
UTM	<p>Unified threat management (UTM) is a term coined by Charles Kolodgy of International Data Corporation (IDC) in 2004 which is used to describe network firewalls that have many features in one box, including junk e-mail filtering, anti-virus capability, an intrusion detection (or prevention) system, and World Wide Web content filtering, along with the traditional activities of a firewall. These are application-layer firewalls that use proxies to process and forward all incoming traffic, though they can still frequently work in a transparent mode that disguises this fact. However, if this uses too much processor time, the higher-level inspection can be disabled so that the firewall functions like a much simpler network address translation (NAT) gateway</p>

Term	Definition
VPN	A virtual private network (VPN) is a private communications network often used by companies or organizations to communicate confidentially over a public network. VPN traffic can be carried over a public networking infrastructure (e.g. the Internet) on top of standard protocols, or over a service provider's private network with a defined Service Level Agreement (SLA) between the VPN customer and the VPN service provider. A VPN can send data (e.g., voice, data or video, or a combination of these media) across secured and encrypted private channels between two points.

## Section 7. Revision History

Identify changes to the Post-Implementation Review of Business Outcomes.

Version	Date	Name	Description
0.1	Feb 12, 2007	W Mosher	Initial Draft Version
0.2	Mar 06, 2007	W Mosher	ACCD to Alamo Community Colleges
0.3	Jun 26, 2007	W Mosher	Initial Draft Post Implementation Review of Business Outcomes
1.0	Jul 23, 2007	W Mosher	Post Implementation Review of Business Outcomes