



TECHNOLOGY PLAN
2017 - 2022

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To BCC Technology Users and Gurus,

As you well know, technology changes at an incredibly fast rate, and in order for our students to receive an education that translates into a good job or continuation at a 4-year college or university, it is important that our college stay up-to-date with technological advances. In fact, technology affects all departments and classrooms on our campus and satellite locations.

BCC has many different types of technology. In our CTE department we have automated machinery, simulators, automotive equipment, drones and high-tech cameras, 3d printers, welders, solar electrical systems and more. Our labs have a variety of analytic and scientific equipment. We have software and hardware that supports interactive, multi-media presentations and discussions. Smart boards are used in classrooms. High-end recording and sound systems are used in our performing arts theaters and studios. Computer labs, testing and evaluation systems are used every day to support our instructional departments and enhance student learning and performance. We have live, hybrid, and online courses, programs, and student services that are technology driven so that students from around the world can communicate with faculty, tutors, and advisors via the phone, local networks, and the internet.

This Technology Plan is a concerted look at our current technologies and the infrastructure that supports them. It attempts to analyze trends and forecast the needs of our college district for the next five years. Because of the constant changes to technology and the needs of our faculty, administrators, and students, this plan is a dynamic document that is reviewed annually to ensure that we are up-to-date and that this plan is in harmony with our Educational Master Plan and Strategic Priorities.

The technology that supports our mission is crucial to student success. This five-year plan ensures that we prioritize our needs and maximize the educational resources available to students and faculty. It is essential to our continual improvement and institutional effectiveness. BCC is thoroughly committed to improving our infrastructure, making our IT systems perform better, and ensuring we use the latest data handling techniques and best practices.

I want to thank the Technology Committee and our Information Technology (IT) department and all those involved in the development of this plan. Your research and knowledge are essential to this process. Thank you also to everyone who has been involved in our participatory governance process who have diligently reviewed this plan to ensure that it adequately addresses the needs of our District. The success of our students depends upon our commitment to this plan and its regular revisions to meet changing needs. Keep up the good work!

Sincerely,



Dr. Deborah DiThomas

Superintendent/President

BARSTOW COMMUNITY COLLEGE BACKGROUND

Barstow Community College District was established in September of 1959 by the citizens of the upper High Desert region of Southern California. Evening classes began the next year at Barstow High School, followed by day classes in fall of 1962 at Barstow First Methodist Church. The campus was constructed in 1964 at its current location on Barstow Road and the first classes began in February of 1965.

Barstow Community College is an open-admission, public institution, that serves more than 4,800 students in degree and certificate programs in traditional and distance education learning with approximately 150 faculty members. It provides the first two years of college or university study as part of the California State Community College System of Higher Education.

Barstow Community College's main campus is located on Highway 247 - Barstow Road in the City of Barstow, which is located in the Mojave Desert region, of San Bernardino County, California approximately 120 miles from both Los Angeles and Las Vegas. The Barstow Community College covers the area from the Nevada state line, bounded by Kern, Inyo, and San Bernardino counties. Barstow Community College serves the communities of Barstow, Lenwood, Newberry Springs, Daggett, Yermo, Hinkley, Ludlow, and Baker. Barstow Community College operates two satellite campuses, located at the United States Army National Training Center at Ft. Irwin, and the Career Technical Education (CTE) located at State Street in Barstow.

Barstow Community College's student population by race/ethnicity includes: 15.3% African American, 0.8% American Indian/Alaska Native, 2.2% Asian, 1.5% Filipino, 38.4% Hispanic, 1.0% Pacific Islander, 33.2% White, 5.1% Two or more races, and 2.5% Unknown. Barstow Community College's student population by age includes: 20.5% less than 20 years old, 29.6% 20 to 24 years old, 44.5% 25 to 49 years old, and 5.4% 50 or more years old. Many of the students and their families are affiliated with the United States Army National Training Center at Ft. Irwin and are directly impacted both emotionally and economically by military deployments.

MISSION STATEMENT

Barstow Community College is an accredited, open access institution of higher learning committed to providing our students, community, and military population with the educational tools to achieve personal goals and professional growth. To accomplish this, the college offers traditional and distance education courses, programs, and pathways designed to enhance student success, leadership development, and career/workforce opportunities, enabling all in the community to thrive in a changing global society.

Board Approved: April 16, 2014

VISION

Empowering Students to Achieve Their Personal Best Through Excellence in Education

Board Approved: December 14, 2014

EXECUTIVE SUMMARY

OVERVIEW - The Strategic Technology Plan for the Information Technology Department at Barstow Community College (BCC) defines critical needs and technology trends for the next five (5) years. As such, it represents a roadmap of where we (BCC) need to go with the information technology implementation. To draft this plan, the Technology Committee, composed of key personnel involved in the planning, implementation, and support of various technologies, was formed as an advisory group. It is the responsibility of this group to project five (5) years into the future and produce the "Strategic Technology Plan for Barstow Community College".

REASON FOR CHANGE - Technology continues to change at such a rapid rate. The documentation that oversees the technology here at BCC needs to continue to change and evolve at the same rate. That way BCC can continue to provide the level of technical support the students need to be successful in any course they take at BCC.

BASIC ASSUMPTIONS - The Strategic Technology Plan is a five (5) year perspective and identifies ongoing technology trends and needs for the BCC District. The following assumptions are of particular significance:

- The focus is comprehensive, district-wide, and inclusive of multiple instructional sites.
- The plan is a "living document" and will be reviewed and adjusted on an annual basis, as technology and BCC needs evolve.
- The plan is modular in nature and most of the initiatives can be implemented independent of the whole.

TECHNOLOGY THEMES - The items described in this document cover a broad range of technologies. The following bulleted list is a simple summary of the common themes that appear throughout the full report.

- Student success and access to current technology are synonymous.
- The quality of our learning environments depends on technological currency.
- Our administrators, faculty, students and staff expect technology to become smaller, faster, and mobile.
- Our installed technology base has greatly expanded and needs to be maintained.
- Wireless technology has become a mature technology able to support learning everywhere.
- The infrastructure that delivers and supports technology must be constantly improved.
- Connectivity, security and bandwidth are the gating factors to end users experience with IT.

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TECHNOLOGY COMMITTEE

PURPOSE - The Technology Committee mandates the use of technology to increase efficiency of the college support services, to improve teaching and enhance student learning. The Technology Committee makes recommendations for creating and improving technological policies and procedures and replacing and enhancing technology components to effectively prepare and position the District's Information Technology Infrastructure for growth and expansion.

DESCRIPTION - The Technology Committee prepares the campus Technology Strategic Plan and reviews and revises the plan annually as the College's priorities change in response to the needs of the staff and students. They support and assist the college's mission and strategic planning efforts with regard to systems, computers and infrastructure. Issues include scheduled replacement, maintenance, and reallocation of equipment, security, staffing and processes for acquisition. The committee develops guidelines for computer assisted instruction. This includes such areas as online instructing, assessment of instructional computer usage, etc. The Technology Committee transmits this information to the Institutional Effectiveness Committee and the Budget & Finance Committee.

TECHNOLOGY COMMITTEE MEMBERS

2016 - 2017		
Name	Title	Group Represented
Morgan Bohnsack	Director of Information Technology	Committee Chair/IT
Tim Botengen	Dean of Distance Education & Learning Support Services	Academic Administrator
James Lee	CTE Grant Manager	CTE/State Street Location
Joshua Loper	Student	ASG
Felicia Martinez	Database Analyst II	IT
Heather Robbins	Site Office Coordinator	CSEA
Sona Vartanian	Instructor	Academic Senate/Distance Education Coordinator
George Walters	Vice President of Admin Services	Advisor/ Admin Services

TECHNOLOGY SUB COMMITTEE MEMBERS

2016 - 2017		
Name	Title	Group Represented
Morgan Bohnsack	Director of Information Technology	IT
Glenn Barr	PC/Network Specialist	IT
Carl Delzell	PC/Network Specialist	IT
Mike Mayoros	Network Administrator	IT
Felecia Martinez	Database Analyst II	IT

INFORMATION TECHNOLOGY DEPARTMENT

MISSION - The Mission of the Information Technology Department of Barstow Community College is to provide:

- Training.
- Equipment.
- Internet and Communication Services.
- Technical Support as needed to the following:
 - Administrators.
 - Faculty.
 - Staff.
 - Students.

To enhance and support student learning.

VISION - Using technology and technological advances, the Information Technology Department strives to effectively support instructional efficiency, and sustainability.

ROLES OF THE INFORMATION TECHNOLOGY DEPARTMENT - The Information Technology Department is organized into four (4) different functions.

INFORMATION TECHNOLOGY DIRECTOR - The Information Technology Director is responsible for providing leadership and direction for the Barstow Community College's Information Technology Department. The Information Technology Director manages activities related to administrative and academic computing including a comprehensive college-wide Management Information System (MIS), Plans, Organizes, Manages the Daily Operation, Maintenance and Long Term Operations, and Security of the Technology at Barstow Community College. The Director of Information Technology is responsible for the Information Technology in the following areas: Academic, Administrative, Networking, and Telecommunication Systems. The Information Technology Director serves as the Information Technology Advisor, providing technical expertise to the Barstow Community College Leadership.

NETWORK ADMINISTRATOR - The Network Administrator, plans, administers, and maintains all of the technical components of the local area network (LAN) and the wide area network (WAN). The Network Administrator directs, configures, installs, and maintains directory structures, security, and application software. The Network Administrator installs and configures all network users, communication equipment, computers, printers, servers, routers, and hubs. The Network Administrator allocates and monitors memory usage of the network and network technical resources. The Network Administrator, provides technical expertise and direction to the Director of Information Technology at Barstow Community College.

DATABASE ANALYST - The Database Analyst, performs advanced analysis, development, testing, and documentation of the computer systems concentrating on administrative and institutional

information systems build around relational databases. Ensures the integrity of the database structures. Develops interfaces to external systems. The Database Analyst, creates and installs new relational database programs and processes or modifies existing business practices. The Database Analyst, manages files, databases, tables, space, and related allocations. Tracks the rate of table growth and table space size. The Database Analyst, provides technical expertise and direction to the Director of Information Technology at Barstow Community College.

PC/NETWORK SPECIALIST - The PC/Network Specialist, installs, configures, troubleshoots, and services networked microcomputer workstations and related equipment and software used in administrative and instructional lab environments. The PC/Network Specialist, assists in installations, configures, operates, and maintains server hardware and software for local networks. The PC/Network Specialist, serves as a resource for computer purchase upgrades and emerging technologies. The PC/Network Specialist, provides assistance to faculty, staff, and students on using computer and software programs, and on the proper use of peripheral electronic equipment. The PC/Network Specialist, provides technical expertise and direction to the Director of Information Technology at Barstow Community College.

INFORMATION TECHNOLOGY DEPARTMENT CUSTOMERS - The Information Technology Department provides direct and indirect technology support and serves approximately 210 Administrators, Faculty, Staff, and 4,300 Students (based upon the last Scorecard count). The Information Technology Department also provides support to the Barstow Community College Board of Trustees, the Barstow College Foundation, and various Community organizations and events.

Services are provided by the Information Technology Department eleven (11) hours a day, five (5) days a week, with the exception of the summer months when the Information Technology Department goes on a modified schedule. The Information Technology Department does have the ability to be called to any of the three (3) facilities in the event of an emergency.

PRIVATELY OWNED EQUIPMENT - The Information Technology Department is not responsible for any issues or problems that administrators, faculty, staff, or students may have with their own personal computers, or computer related devices. It is the responsibility of the administrators, faculty, staff, and students to properly maintain their own computers, or computer related devices.

INFORMATION TECHNOLOGY DEPARTMENT SERVICES - The Information Technology Department provides the following areas of support:

- Information Technology Helpdesk.
- User and Classroom Support.
- Network Support.
- Instructional and Campus Reporting.
- Development and Maintenance of Multiple Campus Systems.
- Process Automation.

- Communications.
- Connectivity.
- Maintenance of Security Systems.
- Audio and Visual Support at Campus Events and Large Community Oriented Events.
- Other Support as Needed.
- End User Training
 - Microsoft Office Suite
 - Email Management
 - Data Security Practices
 - Audio Visual

The Information Technology Department provides technical support to three (3) facilities:

- The Main Campus: 2700 Barstow Road, Barstow, CA 92311.
- Career, Technical, Education (CTE): 1501 State Street, Barstow, CA 92311.
- Ft. Irwin National Training Center: Building 285, Ft. Irwin, CA 92310.

The Information Technology Department provides a number of services in a variety of modalities, in person and virtually. The Information Technology Department is a service oriented organization and the staff work very hard at encouraging the Administrators, Faculty, Staff, and Students or Barstow Community College to contact the Information Technology Department for service or training depending on the issue via the Helpdesk Ticket System (which is provided by Spiceworks), by Email, or by contacting the Information Technology Department by telephone.

GUIDING PRINCIPLES - The guiding principles listed below are defines and intended to help provide distinguishing characteristics for all BCC technology deployments and implementations:

- We will adhere to existing technology standards to ensure technology will be compliant with all legal regulations and standards and able to be properly supported.
- We will commit to a management approach of continually assessing the quality of technology usage to improve and deliver superior products and services at the lowest possible cost to meet the District's needs.
- We will provide for a secure environment for academic and administrative activities, electronic infrastructure, services, information, and business continuity.
- We will develop and/or implement technology and related services that are convenient, effective, intuitive, and accessible for all users.
- We will demonstrate innovation in our use of technology by researching and implementing new and visionary technologies that will enhance the learning and work environments of the District.
- We will establish and maintain state-of-the-art technological connectivity for the entire District with equitable and accessible standards of support for all. We will demonstrate access in the use of our technology by routinely evaluating our processes for handling divides associated with finance, geographical location, and other barriers to entry.
- We will demonstrate student success in our use of technology when we enable students to access information and services by providing technological tools to achieve their goals.

- We will demonstrate quality in our use of technology when we:
 - Provide professional development for administrators, faculty, staff, and students.
 - Provide input and feedback to enable improvements.
 - Prioritize funding to support technology needs.
- We will demonstrate mutual respect in our use of technology when we:
 - Maintain civility in all of our communications.
 - Include all stakeholders in technology-related training opportunities.
 - Gather ideas and input from different populations at the District.

GUIDELINES AND CRITERIA FOR NEW TECHNOLOGY PROJECTS - A systematic way of allocating resources and making decisions as to which projects get funded or allocated is needed in the course of supporting, improving, and developing technology at Barstow Community College. The guidelines identified below define some of the factors to be considered when introducing and implementing new technology solutions. While the number of criteria that a project addresses is an important view of the overall project, it is not the sole determinant to be used in the prioritization process. The criteria listed below, while not exhaustive, should be evaluated and addressed when assessing the viability of project requests:

- **COMMITMENT TO STAFFING REQUIREMENTS** - Decisions to acquire new equipment (hardware/software) must include an analysis of the total cost of ownership (TCO) including staff support requirements and should not be approved without the accompanying commitment to provide funding for the necessary staff support (additional full-time, additional part-time, available existing staff, or outside contract options).
- **SCOPE OF NEED** - There should be a need identified and documented for the project. The scope of the need should be defined.
- **GUIDING PRINCIPLES** - How does the project support the mission of the District and/or the District's Goal's and/or Student Success?
- **COST/BENEFIT** - The project should be defined to an extent that an estimate of the cost can be calculated in three (3) factors:
 - Time to Complete.
 - Person hours of time.
 - Life cycle cost.

The benefit of the project should be estimated. This could be identified as a savings or the number of students, faculty, and/or staff who will benefit from the project's implementation.

- **LARGER CONTEXT** - What is the impact of doing or not doing this project to the local department level? Is it critical for a program for the department?
- **PLANNING** - Projects should be reflected in the District's integrated planning process. For example, is it addressed in the department's program review, in the department's budget allocation proposal (BAP), or in the District's Strategic Plan?

DATA AND DATABASE ENVIRONMENT

Barstow Community College has several data sources from several database systems that it uses to maintain a number of software applications on campus.

The Student Information System (SIS) has evolved over the years to become a mission critical enterprise system as Barstow Community College continues to meet its strategic goals and student success.

BANNER - Barstow Community College (BCC) implemented the Banner system in 1996. Banner centralizes the District's data into one location. Banner is an administrative software application developed specifically for higher education institutions by Systems and Computer Technology Corporation (SCT), which is now part of the Ellucian Corporation. It consists of six (6) integrated systems; Barstow Community College currently uses four (4) of those systems, including: General, Student, Financial Aid, and the Accounts Receivable module in the Finance System. The systems are highly integrated because of a shared Oracle database. Banner acts as an interface, and provides the features and capabilities needed to enter and extract student, financial aid, and accounts receivable from the database.

Starting with Banner Version 8.x (currently in place at Barstow Community College (BCC)), Ellucian has moved its interfacing mechanisms from the desktop graphical user interface (GUI) 'Client-server' delivery model to a web-based system. Users access the Banner application via web browser, Internet Native Banner (INB), Self-Service-Banner (SSB) to input and/or retrieve data.

The District is currently undergoing a revitalization project with the Banner system to bring the system back into a baseline condition. Which will allow the Banner system to be used more as it was designed to be used. The revitalization project is ongoing, and does not have a date of completion as of the writing of this document.

When the revitalization project is complete and Banner is back to being at a level of baseline. Barstow Community College will begin the process of evaluating and preparing for implementation of the Banner XE version.

ORACLE - Barstow Community College currently has the 11g version of Oracle which works with and manages the Banner Student Information System (SIS) database. Oracle Database is a database management system (DBMS) that controls the storage, organization, and retrieval of data. The Oracle Database is a hierarchical database which organizes its data into a tree structure, which can have a many-to-many or many-to-one relationship.

The Oracle Database is periodically updated based on changes in the functionality of the database. It is updated due to changes that have taken place from Banner, as well as security updates from Oracle. There are no expected major changes to the Oracle database at the time of

the writing of this document. That may change as the revitalization project comes to a close and the District begins the process of evaluating Banner XE.

ARGOS - Barstow Community College has started the process of migrating all of the Campus Data reports from Campus Data into ARGOS. ARGOS is a software application that is web enabled for reporting solutions with a focus on the end users. ARGOS has the ability to create complicated reports as well as ad hoc reports, queries, and dashboards.

Barstow Community College (BCC) plans to be utilizing ARGOS in place of the Campus Data system. As more information is received from the various departments, it will make the migration of critical reports from Campus Data into ARGOS easier. The District plans to decommission the Campus Data application at the earliest possible date.

SARS - Barstow Community College (BCC) implemented SARS in 2015 to work with the students and the counselors. The process was implemented to be able to communicate data between the Barstow Community College (BCC) Student Information System and back into SARS.

Since its implementation there have been a few errors generated. A further analysis is needed to verify which of the two is causing the issue.

At the time of purchase of SARS, Barstow Community College also purchased a number of other products from SARS, such as: SARS Anywhere, SARS Messages, SARS Track, SARS Early Alert. It is the intention of the District to implement those products from SARS and utilize those products with achieving student success campus wide.

OPENCCCAPPLY - As student apply for admissions into higher education institutes, then apply using the OpenCCCApply application. The application is web based, which will allow the student to apply for admission from anywhere in the world. The OpenCCCApply system is a system that was implemented by the California Community Colleges Chancellors Office.

When OpenCCCApply was deployed here at Barstow Community College (BCC), it replaced the aging software application that the District was using from the XAP Corporation. Since its deployment there have been a number of issues with the performance of the application. A reimplementing of the process is needed to ensure that there is a smooth data movement from the OpenCCCApply environment into the student information system.

CLOUD BASED ENVIRONMENT - In 2015 Barstow Community College (BCC) added the Laserfiche, which is the second system being added into cloud. Having more systems based in the cloud allows Barstow Community College to free up resources from physical or virtual servers, and staff from having to maintain locally based systems.

This year, 2016, Barstow Community College (BCC) will be starting the process of implementing the Office 365 from Microsoft Corporation. When this project is completed it will allow the Information Technology Department to decommission its Exchange servers in place of the cloud

based exchange servers. This will also allow expansion of the e-mail mailboxes in a way that has not been possible with the existing environment that Barstow Community College (BCC) currently maintains.

MAGIC (MULTIPLE ACCESS WITH GLOBAL INFORMATION CONTROL) SYSTEM - The Magic System provides integrated systems under one umbrella. Human Resources, Budget Development, Payroll, and Retirement are all major systems, which are contained under the MAGIC umbrella.

PAYROLL SYSTEM - The payroll system provides for the actual payroll data preparation and entry into the system by district personnel and County School Claims personnel. It also provides for the actual production of payroll warrants and associated reports and provides for producing payments to vendors for employee deductions and mandatory costs. It also provides for County Retirement loads for all payroll history files for reporting to STRS and PERS.

ACCOUNTS PAYABLE SYSTEM - The accounts payable system is integrated with the Vendor Maintenance program, the Purchasing system (both COBOL and Financial 2000) and updated to the Financial Control System as well as the General Ledger. The production process consists of three processes: District Input Process, School Claims Audit Process and Warrant Production Process. Through the coordination of these processes, the district is able to process warrants and ultimately get the vendors paid.

FIXED ASSETS SYSTEM - The District is able to track, monitor, and report depreciated capitalized assets throughout the District.

VENDOR MAINTENANCE PROGRAM - The vendor maintenance program is used to enter all vendor information in order to process payments. The accounts payable programs access this master file entry every time a payment is created.

REQUISITION CONTROL PROGRAM - The requisition control program allows a user to requisition goods and services accessing the vendor control system.

PURCHASE ORDER PROGRAM - The purchase order print and release program is available to users and gives them the ability to print purchase orders and/or release purchase orders for payment.

STORES PROGRAM - The stores program assists the District purchasing agent in acquiring, disbursing and controlling stores inventory.

EPICS - EPICs is the program that Human Resources uses to maintain employee information. Information such as addresses, advancements, etc.

INFRASTRUCTURE AND HARDWARE

INFRASTRUCTURE: EXISTING - The Barstow Community College (BCC) consists of a wide area network (WAN) that is made up of three (3) local area networks (LAN). The three (3) LAN's are located at the following:

- Career Technical Education (CTE) - 1501 State Street, Barstow, California 92311.
- Ft. Irwin - Ft. Irwin, California 92310, Building #285.
- Main Campus - 2700 Barstow Road, Barstow, California 92311

The network is designed to ensure expandability to support current and future requirements.

Each of the three (3) sites has an Ethernet LAN configured in a star/mesh topology. A main distribution frame (MDF) connecting to intermediate distribution frames (IDF) by way of a gigabit fiber backbone. Switches in both MDF's and IDF's are a mixture of 10/100 and 10/100/1000 CISCO managed switches.

The main campus is connected to the Corporation for Education Network Initiatives in California (CENIC) WAN via fiber optic lines running at 1 GB speed through its primary connection with Time Warner Cable, and through its secondary connection also at 1 GB speed with Frontier (formerly Verizon).

Each site has a LAN in place. Administrators, faculty, staff, and students use the LAN to achieve success in completing their numerous required tasks. They have the ability to access applications for use in the daily operations of each site. These applications include the usual office tools such as: word processing, county finance and human resources programs and the District student information system (Banner). Faculty and students have access to software and resources needed to enhance the learning process.

Each site has a cable plant consisting of fiber optics, category 5 and category 6 cables. The cable installed reflects accepted IEEE standards. Cable installation has considered the evolution of future network demands. CISCO switches are located at each site and at the main campus. Connection speeds range from 1.432 MB between certain devices on site to 1 GB.

Site/Building	Number of Switches
CTE/Bay 1	2
CTE/Bay 5	2
Ft. Irwin/Building #285	2
Ft. Irwin/Building #287	1
Main Campus/ Administration Building	4
Main Campus/B Building	7
Main Campus/D Building	2
Main Campus/Fitness Center	1
Main Campus/Gymnasium	1
Main Campus/K Building	1
Main Campus/Learning Resource Center	10
Main Campus/Performing Arts Center	4

Main Campus/S Building	2
Main Campus/Student Services Center	6
Main Campus/T Building	4
Main Campus/Warehouse	1
Main Campus/Wellness Center	2
Main Campus/Workforce and Economic Development Building	4
TOTAL:	56

The District currently has a number of access points, three (3) at CTE, twenty-seven (27) at the main campus, and one (1) at Ft. Irwin. Which has provided the administrators, faculty, staff, and students access into the Barstow Community College wireless network.

The District currently uses a CISCO Unity telephone system to provide the District its phone service at all three (3) facilities. The aging system has reached a point where some features that are taken for granted by modern technology are not available in the aging system.

INFRASTRUCTURE: FUTURE CHANGES - The bandwidth demands of the site LANs and the WAN are increasing with the deployment of: instructional videos, web based applications, VoIP systems, security camera systems, online learning programs, student information system, and connection to a centralized District data center. The scalability and reliability of the network is imperative to maintain the daily communication functions, for access to the student information system, access to online student learning resources, and to communicate effectively throughout the District.

The network infrastructure has been continuously upgraded over the last 2 ½ years by replacing aging CISCO 3550 switches with newer CISCO 3850 switches. All IDF's connect via fiber optics to a MDF.

As of the writing of this document only 42.9% of the main campus has been upgraded to gigabit speed. Neither CTE nor Ft. Irwin have been upgraded to gigabit speed. Which can cause issues with the administrators, faculty, staff, and students as they take their courses, or perform their day to day tasks, either on campus or remotely. To complete the task aging switches will need to be replaced at all sites. Internet connection speed will need to be evaluated at both satellite facilities to provide optimum levels of performance.

Communication between administrators, faculty, staff, and students is essential to the success of the District in meeting its instructional goals. Barstow Community College believes that considerable efficiencies could be realized by integrating standardized VoIP systems through the entire District. The implementation of standardized VoIP systems will greatly improve communication, enhance safety.

As the technology continues to change and evolve, more administrators, faculty, staff, and students are embracing the Bring Your Own Device (BYOD) motto. As more of those devices are present at Barstow Community College, it places a greater demand on the wireless infrastructure on the campus. At the present twenty-seven wireless access points is not enough coverage for the number of administrators, faculty, staff, and students on campus. This issue will need to be addressed once the switches have been replaced campus wide.

Adequate electrical power and data cabling is required to accommodate the technologies within this plan at existing buildings across all campuses, and at any newly future constructed sites. Some locations lack network drops may need to be upgraded to allow District equipment to function properly. All new wiring that is installed will need to be a minimum of Category (Cat) six (6) cabling. Any Main Distribution Frame (MDF) and Intermediate Distribution Frame (IDF) locations that do not have sufficient power protection devices need to have Uninterruptible Power Supplies (UPS) that support the devices. Any MDF or IDF locations that do not have proper racks or cabinets for the equipment need to be upgraded with racks, cabinets, or structures that allow placement of the equipment with proper security and ventilation.

With the three (3) facilities sharing and using a VoIP/Analog telephone system. This aging system has reached a point where it is time to decommission the aging system in favor of a new system. The District intends to standardize and expand our VoIP system throughout the District. The District will also continue its process of converting aging telephones throughout the District until all telephones have been replaced.

HARDWARE: COMPUTERS - EXISTING - The main campus houses the District Data Center which currently is the primary location of all main servers and storage devices. There are presently 68 servers in the data center of which 15 are physical servers and 53 are virtual servers. One (1) server is located at CTE, and one (1) server is located at Ft. Irwin. Data is backed up daily and stored at the main campus data center located on a SAN (Storage Array Network).

Workstations, thin clients and servers are manufactured by Dell, and NComputing. All new systems are purchased with a minimum five (5) year warranty. These warranties provide for either on-site or mail-in support.

Site/Building	Computers	NComputers	Totals
CTE/Bay 1	37	0	37
CTE/Bay 2	4	0	4
CTE/Bay 3	1	0	1
CTE/Bay 4	1	0	1
CTE/Bay 5	25	0	25
Ft. Irwin/Building #285	45	0	45
Main Campus/ Administration Building	38	0	38
Main Campus/B Building	11	126	137
Main Campus/D Building	7	10	17
Main Campus/Gymnasium	8	0	8

Main Campus/K Building	12	24		36
Main Campus/Learning Resource Center	152	16		168
Main Campus Performing Arts Center	4	0		4
Main Campus/S Building	18	16		34
Main Campus/Student Services Center	49	21		70
Main Campus/T Building	24	16		40
Main Campus/Warehouse	7	0		7
Main Campus/Workforce and Economic Development	5	0		5
TOTAL	448	229		677

HARDWARE: COMPUTERS - FUTURE CHANGES - The District computing devices are to be replaced as they reach their end-of-five (5) -year life, become costly to repair than to replace, become obsolete, slowdown in performance, or no longer have the resources to support District applications and educational goals. When the device reaches its end of life with the warranty, for each year up to eight (8) years from the date of purchase. The device will be monitored for performance issues. If such an issue should be detected, the device will be scheduled for replacement.

After deploying and monitoring the performance of thin clients throughout the District to decrease costs the District has become aware of some performance issues and network impacts as the demand of server resources and bandwidth usage increases. The District will continue to monitor those thin clients for performance issues, and see if a viable solution can be sought.

HARDWARE: PERIPHERAL DEVICES - EXISTING - As determined by location, and need, each location has a number of peripherals in place. Those devices can range from: televisions, DVD players, VHS players, scanners, LCD projectors, digital cameras, printers (color, black and white, standalone, networked, inkjet, and laser), projection devices, and whiteboards. The District is using more computers, projection devices, handheld computers, interactive digital whiteboards, wireless technologies, and multi-function devices. The District has been working towards providing each classroom with projection and interactive devices as funding becomes available.

Site/Building	Projectors	SmartBoard		Totals
CTE/Bay 1	0	2		2
CTE/Bay 2	0	1		1
CTE/Bay 4	0	1		1
CTE/Bay 5	0	1		1
Ft. Irwin/Building, #285	2	0		2
Main Campus/ Administration Building	1	1		2
Main Campus/B Building	7	0		7
Main Campus/D Building	3	0		3
Main Campus/K Building	1	0		1

Main Campus/Learning Resource Center	3	0		3
Main Campus/Performing Arts Center	2	0		2
Main Campus/S Building	8	0		8
Main Campus/Student Services Center	1	0		1
Main Campus/T Building	3	0		3
Main Campus/Workforce and Economic Development	1	0		1
TOTAL	32	6		38

Site/Building	Large Printers	Printers		Totals
CTE/Bay 1	0	7		7
CTE/Bay 2	0	1		1
CTE/Bay 4	0	1		1
CTE/Bay 5	0	1		1
Ft. Irwin/Building #285	1	6		7
Main Campus/Administration Building	5	22		27
Main Campus/B Building	0	11		11
Main Campus/D Building	0	5		5
Main Campus/Gymnasium	0	5		5
Main Campus/K Building	1	2		3
Main Campus/Learning Resource Center	0	12		12
Main Campus Performing Arts Center	0	2		2
Main Campus/S Building	0	4		4
Main Campus/Student Services Center	3	18		21
Main Campus/T Building	0	7		7
Main Campus/Warehouse	0	5		5
Main Campus/Workforce and Economic Development	1	5		6
TOTAL	11	114		125

HARDWARE: PERIPHERAL DEVICES - FUTURE CHANGES - The District will continue to refine minimum configuration specifications for instructional learning tools and peripherals while extending programs that assess the impact of such devices on student achievement. The District will continue to work on procurement plans for peripheral devices that align with professional development, workstation deployment, and extending network access to support the classrooms and devices.

The District will continue to work on deploying interactive white boards, and projectors to increase student success throughout the District.

APPENDIX A – HARDWARE INVENTORY

Description	Manufacturer	Model	Purchase Date	Warranty End Date	Age (Years)
ACCESSPOINT	CISCO	AIR-CAP3702I-AK-910	10/23/2015	10/23/2020	0.84
BATTERY BACK UPS	SMART-UP	APC SMART-UPS 3000 RACK MOUNT 3U-208V	5/20/2005	5/20/2010	11.28
BATTERY BACK UPS	SMART-UP	APC SMART-UPS 2200RMXL3U	8/6/2008	8/6/2013	8.06
COMPUTER	APPLE	A1398	3/31/2016	3/31/2021	0.41
COMPUTER	APPLE CO	IBOOK1	9/10/2004	9/10/2009	11.97
COMPUTER	DELL	OPGX260	1/1/2002	1/1/2007	14.66
COMPUTER	DELL	OPGX260	1/1/2002	1/1/2007	14.66
COMPUTER	DELL	OPGX260	1/1/2002	1/1/2007	14.66
COMPUTER	DELL	OPGX260	1/1/2002	1/1/2007	14.66
COMPUTER	DELL	OPTIPLEX SX270	10/7/2003	10/7/2008	12.90
COMPUTER	DELL	OPTIPLEX SX270	11/1/2003	11/1/2008	12.83
COMPUTER	DELL	OPTIPLEX GX270	1/30/2004	1/30/2009	12.58
COMPUTER	DELL	OPTIPLEX GX270	1/30/2004	1/30/2009	12.58
COMPUTER	DELL	OPTIPLEX GX270	1/30/2004	1/30/2009	12.58
COMPUTER	DELL	OPTIPLEX GX270	1/30/2004	1/30/2009	12.58
COMPUTER	DELL	OPTIPLEX GX270	1/30/2004	1/30/2009	12.58
COMPUTER	DELL	OPTIPLEX GX270	1/30/2004	1/30/2009	12.58
COMPUTER	DELL	OPTIPLEX GX270	6/30/2004	6/30/2009	12.16
COMPUTER	DELL	OPTIPLEX GX270	6/30/2004	6/30/2009	12.16
COMPUTER	DELL	OPTIPLEX GX270	6/30/2004	6/30/2009	12.16
COMPUTER	DELL	OPTIPLEX GX270	6/30/2004	6/30/2009	12.16
COMPUTER	DELL	OPTIPLEX GX270	6/30/2004	6/30/2009	12.16
COMPUTER	DELL	OPTIPLEX SX270	7/12/2004	7/12/2009	12.13
COMPUTER	DELL	OPTIPLEX SX270	7/12/2004	7/12/2009	12.13
COMPUTER	DELL	OPTIPLEX SX270	7/12/2004	7/12/2009	12.13
COMPUTER	DELL	OPTIPLEX SX270	7/12/2004	7/12/2009	12.13
COMPUTER	DELL	LATITUDE D800	7/12/2004	7/12/2009	12.13
COMPUTER	DELL	LATITUDE D800	7/12/2004	7/12/2009	12.13
COMPUTER	DELL	OPTIPLEX GX270T	7/12/2004	7/12/2009	12.13
COMPUTER	DELL	OPTIPLEX SX280	9/17/2004	9/17/2009	11.95
COMPUTER	DELL	OPTIPLEX SX280	9/17/2004	9/17/2009	11.95
COMPUTER	DELL	OPTIPLEX SX280	9/17/2004	9/17/2009	11.95
COMPUTER	DELL	OPTIPLEX SX280	9/17/2004	9/17/2009	11.95
COMPUTER	DELL	OPTIPLEX SX280	9/17/2004	9/17/2009	11.95

COMPUTER	DELL	OPTIPLEX SX280	9/17/2004	9/17/2009	11.95
COMPUTER	DELL	INSPIRON 8600	10/8/2004	10/8/2009	11.89
COMPUTER	DELL	INSPIRON 8600	10/8/2004	10/8/2009	11.89
COMPUTER	DELL	OPTIPLEX SX280	10/13/2004	10/13/2009	11.88
COMPUTER	DELL	OPTIPLEX SX280	10/18/2004	10/18/2009	11.86
COMPUTER	DELL	OPTIPLEX SX280	10/18/2004	10/18/2009	11.86
COMPUTER	DELL	OPTIPLEX SX280	10/18/2004	10/18/2009	11.86
COMPUTER	DELL	OPTIPLEX SX280	10/18/2004	10/18/2009	11.86
COMPUTER	DELL	OPTIPLEX SX280	10/18/2004	10/18/2009	11.86
COMPUTER	DELL	OPTIPLEX SX280	10/18/2004	10/18/2009	11.86
COMPUTER	DELL	INSPIRON 8600	11/15/2004	11/15/2009	11.79
COMPUTER	DELL	INSPIRON 8600	11/15/2004	11/15/2009	11.79
COMPUTER	DELL	INSPIRON 8600	11/15/2004	11/15/2009	11.79
COMPUTER	DELL	INSPIRON 8600	11/15/2004	11/15/2009	11.79
COMPUTER	DELL	INSPIRON 8600	11/15/2004	11/15/2009	11.79
COMPUTER	DELL	INSPIRON 8600	11/15/2004	11/15/2009	11.79
COMPUTER	DELL	INSPIRON 8600	11/18/2004	11/18/2009	11.78
COMPUTER	DELL	OPTIPLEX GX280	3/7/2005	3/7/2010	11.48
COMPUTER	DELL	GX280 SMT	6/7/2005	6/7/2010	11.23
COMPUTER	DELL	D800 LATITUDE	6/7/2005	6/7/2010	11.23
COMPUTER	DELL	810	10/25/2005	10/25/2010	10.84
COMPUTER	DELL	810	10/25/2005	10/25/2010	10.84
COMPUTER	DELL	GX520	11/3/2005	11/3/2010	10.82
COMPUTER	DELL	GX520	11/16/2005	11/16/2010	10.78
COMPUTER	DELL	GX620	2/21/2006	2/21/2011	10.52
COMPUTER	DELL	OPTIPLEX GX620	3/16/2006	3/16/2011	10.45
COMPUTER	DELL	OPTIPLEX GX620	3/16/2006	3/16/2011	10.45
COMPUTER	DELL	OPTIPLEX GX620	3/16/2006	3/16/2011	10.45
COMPUTER	DELL	OPTIPLEX GX620	4/10/2006	4/10/2011	10.39
COMPUTER	DELL	GX620	6/9/2006	6/9/2011	10.22
COMPUTER	DELL	GX620	6/16/2006	6/16/2011	10.20
COMPUTER	DELL	GX620	6/27/2006	6/27/2011	10.17
COMPUTER	DELL	LATITUDE D820	6/27/2006	6/27/2011	10.17
COMPUTER	Dell	Latitude D810	7/1/2006	7/1/2011	10.16
COMPUTER	DELL	OPTIPLEX 745	2/2/2007	2/2/2012	9.57
COMPUTER	DELL	OPTIPLEX 745	2/2/2007	2/2/2012	9.57
COMPUTER	DELL	OPTIPLEX 745	2/2/2007	2/2/2012	9.57
COMPUTER	DELL	OPTIPLEX 745	3/6/2007	3/6/2012	9.48
COMPUTER	DELL	OPTIPLEX 745	5/16/2007	5/16/2012	9.29
COMPUTER	DELL	OPTIPLEX 745	8/21/2007	8/21/2012	9.02

COMPUTER	DELL	LATITUDE D830	10/3/2007	10/3/2012	8.90
COMPUTER	DELL	OPTIPLEX 745	11/2/2007	11/2/2012	8.82
COMPUTER	DELL	OPTIPLEX 755	12/7/2007	12/7/2012	8.73
COMPUTER	DELL	OPTIPLEX 755	12/7/2007	12/7/2012	8.73
COMPUTER	DELL	OPTIPLEX 755	12/20/2007	12/20/2012	8.69
COMPUTER	DELL	OPTIPLEX 755	12/20/2007	12/20/2012	8.69
COMPUTER	DELL	OPTIPLEX 755	12/20/2007	12/20/2012	8.69
COMPUTER	DELL	OPTIPLEX 755	1/7/2008	1/7/2013	8.64
COMPUTER	DELL	OPTIPLEX 755	1/16/2008	1/16/2013	8.62
COMPUTER	DELL	OPTIPLEX 755	1/16/2008	1/16/2013	8.62
COMPUTER	DELL	OPTIPLEX 755	4/4/2008	4/4/2013	8.40
COMPUTER	DELL	OPTIPLEX 755	5/7/2008	5/7/2013	8.31
COMPUTER	DELL	OPTIPLEX 755	5/14/2008	5/14/2013	8.29
COMPUTER	DELL	OPTI 755 SFF	10/31/2008	10/31/2013	7.82
COMPUTER	DELL	OPTI 755 SFF	10/31/2008	10/31/2013	7.82
COMPUTER	DELL	OPTI 755 USFF	12/9/2008	12/9/2013	7.72
COMPUTER	DELL	OPTI 755 USFF	12/9/2008	12/9/2013	7.72
COMPUTER	DELL	OPTI 755 USFF	12/9/2008	12/9/2013	7.72
COMPUTER	DELL	OPTI 755 USFF	12/9/2008	12/9/2013	7.72
COMPUTER	DELL	OPTI 755 USFF	12/9/2008	12/9/2013	7.72
COMPUTER	DELL	OPTI 755 USFF	12/9/2008	12/9/2013	7.72
COMPUTER	DELL	OPTI 755 USFF	12/9/2008	12/9/2013	7.72
COMPUTER	DELL	OPTI 755 USFF	12/9/2008	12/9/2013	7.72
COMPUTER	DELL	OPTI 755 USFF	12/9/2008	12/9/2013	7.72
COMPUTER	DELL	OPTI 755 USFF	12/9/2008	12/9/2013	7.72
COMPUTER	DELL	OPTI 755 USFF	12/9/2008	12/9/2013	7.72
COMPUTER	DELL	OPTI 755 USFF	12/9/2008	12/9/2013	7.72
COMPUTER	DELL	OPTI 755 USFF	12/9/2008	12/9/2013	7.72
COMPUTER	DELL	LATITUDE E6500	1/6/2009	1/6/2014	7.64
COMPUTER	DELL	OPTI 755 DT	4/7/2009	4/7/2014	7.39
COMPUTER	DELL	OPTI 755 DT	4/7/2009	4/7/2014	7.39
COMPUTER	DELL	OPTI 755 DT	4/7/2009	4/7/2014	7.39
COMPUTER	DELL	OPTI 755 DT	4/7/2009	4/7/2014	7.39
COMPUTER	DELL	OPTIPLEX 760	5/22/2009	5/22/2014	7.27
COMPUTER	DELL	SX270	6/1/2009	6/1/2014	7.24
COMPUTER	DELL	OPTIPLEX 760	6/2/2009	6/2/2014	7.24
COMPUTER	DELL	OPTIPLEX 760	6/2/2009	6/2/2014	7.24
COMPUTER	DELL	OPTIPLEX 760	6/16/2009	6/16/2014	7.20
COMPUTER	DELL	OPTIPLEX 760	6/16/2009	6/16/2014	7.20
COMPUTER	DELL	OPTIPLEX 760	6/16/2009	6/16/2014	7.20
COMPUTER	DELL	OPTIPLEX 760	8/3/2009	8/3/2014	7.07
COMPUTER	DELL	OPTIPLEX 780	4/15/2010	4/15/2015	6.37
COMPUTER	DELL	INSPIRON 1545	12/7/2010	12/7/2015	5.72
COMPUTER	DELL	INSPIRON 1545	12/7/2010	12/7/2015	5.72

COMPUTER	DELL	INSPIRON 1545	12/7/2010	12/7/2015	5.72
COMPUTER	DELL	INSPIRON 1545	12/7/2010	12/7/2015	5.72
COMPUTER	DELL	INSPIRON 1545	12/7/2010	12/7/2015	5.72
COMPUTER	DELL	INSPIRON 1545	12/7/2010	12/7/2015	5.72
COMPUTER	DELL	VOSTRO 3500	1/13/2011	1/13/2016	5.62
COMPUTER	DELL	OPTIPLEX 780	1/13/2011	1/13/2016	5.62
COMPUTER	DELL	LATITUDE E6510	2/22/2011	2/22/2016	5.51
COMPUTER	DELL	LATITUDE E6510	2/22/2011	2/22/2016	5.51
COMPUTER	DELL	OPTIPLEX 780	3/17/2011	3/17/2016	5.45
COMPUTER	DELL	OPTIPLEX 780	3/22/2011	3/22/2016	5.44
COMPUTER	DELL	OPTIPLEX 780	3/22/2011	3/22/2016	5.44
COMPUTER	DELL	OPTIPLEX 780	3/22/2011	3/22/2016	5.44
COMPUTER	DELL	OPTIPLEX 780	3/22/2011	3/22/2016	5.44
COMPUTER	DELL	OPTIPLEX 780	3/22/2011	3/22/2016	5.44
COMPUTER	DELL	OPTIPLEX 780	3/22/2011	3/22/2016	5.44
COMPUTER	DELL	OPTIPLEX 790	4/9/2012	4/9/2017	4.38
COMPUTER	DELL	OPTIPLEX 790	4/9/2012	4/9/2017	4.38
COMPUTER	DELL	OPTIPLEX 790	4/9/2012	4/9/2017	4.38
COMPUTER	DELL	OPTIPLEX 7010N	4/16/2013	4/16/2018	3.36
COMPUTER	DELL	OPTIPLEX 7010N	4/16/2013	4/16/2018	3.36
COMPUTER	DELL	OPTIPLEX 7010N	4/16/2013	4/16/2018	3.36
COMPUTER	DELL	OPTIPLEX 7010N	4/16/2013	4/16/2018	3.36
COMPUTER	DELL	OPTIPLEX 7010	4/23/2013	4/23/2018	3.35
COMPUTER	DELL	LATITUDE E6430	8/5/2013	8/5/2018	3.06
COMPUTER	DELL	LATITUDE E6430	8/5/2013	8/5/2018	3.06
COMPUTER	DELL	OPTIPLEX 7010	6/3/2014	6/3/2019	2.23
COMPUTER	DELL	OPTIPLEX 9020	9/12/2014	9/12/2019	1.96
COMPUTER	DELL	OPTIPLEX 9020	9/12/2014	9/12/2019	1.96
COMPUTER	DELL	OPTIPLEX 9020	9/12/2014	9/12/2019	1.96
COMPUTER	DELL	OPTIPLEX 9020	9/12/2014	9/12/2019	1.96
COMPUTER	DELL	OPTIPLEX 9020	9/12/2014	9/12/2019	1.96
COMPUTER	DELL	OPTIPLEX 9020	9/12/2014	9/12/2019	1.96
COMPUTER	DELL	LATITUDE E6540	12/1/2014	12/1/2019	1.74
COMPUTER	DELL	LATITUDE E6540	1/8/2015	1/8/2020	1.63
COMPUTER	DELL	LATITUDE E6540	1/8/2015	1/8/2020	1.63
COMPUTER	DELL	OPTIPLEX 7020	5/21/2015	5/21/2020	1.27
COMPUTER	DELL	OPTIPLEX 7020	5/21/2015	5/21/2020	1.27
COMPUTER	DELL	OPTIPLEX 7020	5/21/2015	5/21/2020	1.27
COMPUTER	DELL	OPTIPLEX 7020	5/21/2015	5/21/2020	1.27
COMPUTER	DELL	OPTIPLEX 7020	6/11/2015	6/11/2020	1.21
COMPUTER	FUJITSU	M3093DE	1/1/1998	1/1/2003	18.66
COMPUTER	GATEWAY	E3400	1/1/2000	1/1/2005	16.66

COMPUTER	GATEWAY	P4	1/1/2002	1/1/2007	14.66
COMPUTER	GATEWAY	P4	1/1/2002	1/1/2007	14.66
COMPUTER	HEWLETT	VECTRAVL	1/1/2000	1/1/2005	16.66
COMPUTER	NCOMPUTI	L300KO5B1	3/18/2011	3/18/2016	5.45
COMPUTER	NCOMPUTI	L300K	11/21/2011	11/21/2016	4.77
COMPUTER	SONY	VGN-T250P/S	6/20/2005	6/20/2010	11.19
COMPUTER	TOSHIBA	PS428U-ON151	1/1/2000	1/1/2005	16.66
COMPUTER	TOSHIBA	M400-S4031	2/2/2007	2/2/2012	9.57
COMPUTER	TOSHIBA	T8300	5/16/2008	5/16/2013	8.28
COMPUTER	TOSHIBA	T8300	5/16/2008	5/16/2013	8.28
COMPUTER	TOSHIBA	T8300	5/16/2008	5/16/2013	8.28
COMPUTER	TOSHIBA	T8300	6/5/2008	6/5/2013	8.23
FIREWALL	CHECK PO	12200	3/23/2015	3/23/2020	1.43
FIREWALL	CHECK PO	12200	3/23/2015	3/23/2020	1.43
MONITOR	ATDEC	SDFSQ	5/15/2007	5/15/2012	9.29
MONITOR	Dell	E171FPB	7/15/2003	7/15/2008	13.13
MONITOR	Dell	Ultra-sharp	11/1/2003	11/1/2008	12.83
MONITOR	Dell	Ultra-sharp	11/1/2003	11/1/2008	12.83
MONITOR	Dell	Ultra-sharp	11/1/2003	11/1/2008	12.83
MONITOR	Dell	Ultra-sharp	11/1/2003	11/1/2008	12.83
MONITOR	Dell	Ultra-sharp	11/1/2003	11/1/2008	12.83
MONITOR	DELL	E17FPB	11/1/2003	11/1/2008	12.83
MONITOR	DELL	ULTRA-SHARP	11/1/2003	11/1/2008	12.83
MONITOR	Dell	Ultra-sharp	11/1/2003	11/1/2008	12.83
MONITOR	Dell	Ultra-sharp	11/1/2003	11/1/2008	12.83
MONITOR	DELL	E17FPB	11/1/2003	11/1/2008	12.83
MONITOR	Dell	Ultra-sharp	11/1/2003	11/1/2008	12.83
MONITOR	DELL	MONITOR	6/3/2004	6/3/2009	12.24
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13

MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	ULTRA-SHARP	7/12/2004	7/12/2009	12.13
MONITOR	DELL	1901FP	9/27/2004	9/27/2009	11.92
MONITOR	DELL	2001FP	10/8/2004	10/8/2009	11.89
MONITOR	DELL	2001FP	10/8/2004	10/8/2009	11.89
MONITOR	DELL	2001FP	10/13/2004	10/13/2009	11.88
MONITOR	DELL		3/7/2005	3/7/2010	11.48
MONITOR	DELL		3/7/2005	3/7/2010	11.48
MONITOR	DELL	2001FP	4/22/2005	4/22/2010	11.35
MONITOR	DELL	2001FP	6/9/2005	6/9/2010	11.22
MONITOR	DELL	GX620	6/13/2006	6/13/2011	10.21
MONITOR	DELL	E248FP	3/13/2008	3/13/2013	8.46
MONITOR	DELL	ULTRASHARP 30	3/29/2016	3/29/2021	0.41
MONITOR	SONY	SVF14N13CXB	4/2/2014	4/2/2019	2.40
MONITOR	VIEWSONI	VIE-VX2000-1	6/8/2004	6/8/2009	12.22
PRINTER	BROTHER	MFC-8220	10/27/2006	10/27/2011	9.84
PRINTER	DELL	M5210N	6/12/2006	6/12/2011	10.21
PRINTER	EPSON	STYLUS C88	6/29/2006	6/29/2011	10.17
PRINTER	EPSON	M188B	7/31/2006	7/31/2011	10.08
PRINTER	HEWLETT	LJ4PLUS	1/1/1996	1/1/2001	20.67
PRINTER	HEWLETT	LJ4000N	1/1/1998	1/1/2003	18.66
PRINTER	HEWLETT	LJ4000N	1/1/1998	1/1/2003	18.66
PRINTER	HEWLETT	LJ4000N	1/1/1998	1/1/2003	18.66
PRINTER	HEWLETT	LJ5	1/1/1998	1/1/2003	18.66
PRINTER	HEWLETT	LJ5	1/1/1998	1/1/2003	18.66
PRINTER	HEWLETT	LJ5	1/1/1998	1/1/2003	18.66
PRINTER	HEWLETT	LJ5	1/1/1998	1/1/2003	18.66
PRINTER	HEWLETT	LJ4050N	1/1/1999	1/1/2004	17.66
PRINTER	HEWLETT	LJ4600	1/1/2000	1/1/2005	16.66
PRINTER	HEWLETT	LJ4100N	1/1/2001	1/1/2006	15.66
PRINTER	HEWLETT	CLJ4550N	1/1/2001	1/1/2006	15.66
PRINTER	HEWLETT	HP 4350N	6/15/2005	6/15/2010	11.21
PRINTER	HEWLETT	HP 4350N	6/15/2005	6/15/2010	11.21
PRINTER	HEWLETT	Q3723A	6/1/2010	6/1/2015	6.24
PRINTER	HEWLETT	LASERJET CM1415	4/18/2011	4/18/2016	5.36
PRINTER	HEWLETT	Q7546A#ABA	10/3/2011	10/3/2016	4.90
PRINTER	HEWLETT-	4650	10/12/2005	10/12/2010	10.88
PRINTER	HP	4200	3/24/2004	3/24/2009	12.43

PRINTER	HP	LJ4700 DN	1/20/2006	1/20/2011	10.61
PRINTER	HP	4700N	10/27/2006	10/27/2011	9.84
PRINTER	HP	M1319F	6/5/2008	6/5/2013	8.23
PRINTER	HP	4700DN	5/19/2009	5/19/2014	7.28
PRINTER	HP	CM2320FXI	6/11/2009	6/11/2014	7.21
PRINTER	HP	CC376A	10/1/2009	10/1/2014	6.91
PRINTER	HP	P4014DN	11/23/2009	11/23/2014	6.76
PRINTER	PICTURES		4/4/2005	4/4/2010	11.40
PRINTER	SONY	10DVDS250G	6/14/2007	6/14/2012	9.21
SCANNER	FUJI	4340C	5/25/2007	5/25/2012	9.26
SCANNER	FUJITSU	FI-6240Z	4/19/2012	4/19/2017	4.36
SERVER	DELL	PE1650	1/1/2001	1/1/2006	15.66
SERVER	DELL	PE1650	1/1/2001	1/1/2006	15.66
SERVER	DELL	122T	6/24/2003	6/24/2008	13.18
SERVER	DELL	POWEREDGE 1650	7/1/2003	7/1/2008	13.16
SERVER	DELL	POWEREDGE 1650	7/1/2003	7/1/2008	13.16
SERVER	DELL	POWEREDGE 1650	7/1/2003	7/1/2008	13.16
SERVER	DELL	POWEREDGE 2650	9/1/2003	9/1/2008	12.99
SERVER	DELL	POWER EDGE 1750	6/25/2004	6/25/2009	12.18
SERVER	DELL	POWER EDGE 1750	6/25/2004	6/25/2009	12.18
SERVER	DELL	POWEREDGE 750	1/5/2005	1/5/2010	11.65
SERVER	DELL	POWEREDGE 750	1/5/2005	1/5/2010	11.65
SERVER	DELL	POWEREDGE 1425	4/27/2005	4/27/2010	11.34
SERVER	DELL	POWEREDGE 2850	4/27/2005	4/27/2010	11.34
SERVER	DELL	POWEREDGE 2160AS	5/20/2005	5/20/2010	11.28
SERVER	DELL	POWEREDGE 2161RCS	5/20/2005	5/20/2010	11.28
SERVER	DELL	POWEREDGE 1850	2/27/2006	2/27/2011	10.50
SERVER	DELL	POWEREDGE 1850	4/17/2006	4/17/2011	10.37
SERVER	DELL	POWEREDGE R710	3/8/2010	3/8/2015	6.47
SERVER	DELL	POWEREDGE R710	3/8/2010	3/8/2015	6.47
SERVER	DELL	224-6084	3/26/2010	3/26/2015	6.42
SERVER	DELL	POWEREDGE R710	5/25/2011	5/25/2016	5.26
SERVER	DELL	POWEREDGE R710	5/25/2011	5/25/2016	5.26
SERVER	DELL	POWEREDGE R710	10/14/2011	10/14/2016	4.87
SERVER	DELL	POWEREDGE R710	4/9/2012	4/9/2017	4.38
SERVER	DELL	POWEREDGE R730	1/6/2015	1/6/2020	1.64
SERVER	DELL	PS4100E	2/23/2016	2/23/2021	0.51
SERVER	HP	RP5340	6/9/2003	6/9/2008	13.22
SERVER	POVERVAU	TL4000	6/9/2009	6/9/2014	7.22
SERVER	POWER ED	2950	6/9/2009	6/9/2014	7.22
SERVER	POVERVAU	MD1000	6/9/2009	6/9/2014	7.22

SWITCH	CISCO	WSC355024PWRSMI-R	11/1/2008	11/1/2013	7.82
SWITCH	CISCO	WS-X4546-GB-RJ45-RF	8/3/2010	8/3/2015	6.07
SWITCH	CISCO	WS-C3850-48F-S	10/21/2015	10/21/2020	0.85
SWITCH	CISCO	WS-C3850-48F-S	10/22/2015	10/22/2020	0.85
SWITCH	CISCO	CATALYST WS-C3850-48F-S	3/2/2016	3/2/2021	0.48
SWITCH	CISCO	CATALYST WS-C3850-48F-S	3/2/2016	3/2/2021	0.48
SWITCH	CISCO	CATALYST WS-C3850-48F-S	3/2/2016	3/2/2021	0.48
SWITCH	CISCO	CATALYST WS-C3850-48F-S	3/2/2016	3/2/2021	0.48
SWITCH	CISCO	CATALYST WS-C3850-48F-S	3/2/2016	3/2/2021	0.48
SWITCH	CISCO	CATALYST WS-C3850-48F-S	3/2/2016	3/2/2021	0.48
SWITCH	CISCO	CATALYST WS-C3850-48F-S	3/2/2016	3/2/2021	0.48
SWITCH	CISCO	CATALYST WS-C3850-48F-S	3/2/2016	3/2/2021	0.48
SWITCH	CISCO	CATALYST WS-C3850-48F-S	3/2/2016	3/2/2021	0.48
SWITCH	CISCO	CATALYST WS-C3850-48F-S	3/2/2016	3/2/2021	0.48
SWITCH	DELL	POWER CONNECT 6224	3/10/2010	3/10/2015	6.47
SWITCH	DELL	POWER CONNECT 6224	3/10/2010	3/10/2015	6.47
TABLET	AMAZON	GU045RW	8/12/2014	8/12/2019	2.04
TABLET	APPLE	AIR2	8/17/2015	8/17/2020	1.03
TABLET	APPLE	AIR2	8/21/2015	8/21/2020	1.02
TELEPHONE	CISCO	WS-C3550	12/15/2003	12/15/2008	12.71
TELEPHONE	CISCO	WS-C3550	12/15/2003	12/15/2008	12.71
TELEPHONE	CISCO	WS-C3550	12/15/2003	12/15/2008	12.71
TELEPHONE	CISCO	WS-C3550	12/15/2003	12/15/2008	12.71
TELEPHONE	CISCO	WS-C3550	12/15/2003	12/15/2008	12.71
TELEPHONE	CISCO	WS-C3550	12/15/2003	12/15/2008	12.71
TELEPHONE	CISCO	WS-C3550	12/15/2003	12/15/2008	12.71
TELEPHONE	CISCO	WS-C3550	12/15/2003	12/15/2008	12.71

APPENDIX B – SOFTWARE INVENTORY

Application Name	Version
Access	2007
Access	2010
Access	2013
Access	2016
Excel	2007
Excel	2010
Excel	2013
Excel	2016
Groove	2007
InfoPath	2007
InfoPath	2010
InfoPath	2013
Lync	2013
Office Applications	2003
Office Professional Plus	2007
Office Professional Plus	2010
Office Professional Plus	2013
Office Professional Plus	2016
Office Standard	2007
Office Standard	2010
Office Standard	2013
Office Standard	2016
OneNote	2007
OneNote	2010
OneNote	2013
Outlook	2007
Outlook	2010
Outlook	2013
Outlook	2016
PowerPoint	2010
PowerPoint	2013
PowerPoint	2016
Project Professional	2007
Project Professional	2010
Project Professional	2013
Project Professional	2016
Project Standard	2007
Project Standard	2010
Project Standard	2013

Project Standard	2016
Publisher	2007
Publisher	2010
Publisher	2013
Publisher	2016
Skype for Business	2016
SLP Server Enterprise	
SLP Server Standard	
VDA 10 - Windows 10 Enterprise	
VDA 7 - Windows 7 Enterprise	
VDA 8 - Windows 8 Enterprise	
VDA 8.1 - Windows 8.1 Enterprise	
Visio	2010
Visio Professional	2007
Visio Professional	2010
Visio Professional	2013
Visio Professional	2016
Visio Standard	2007
Visio Standard	2010
Visio Standard	2013
Visio Standard	2016
Visual Studio Enterprise	2015
Visual Studio Professional	2015
Windows 10 - Education	
Windows 10 - Enterprise	
Windows 10 - Professional	
Windows 7 - Enterprise	
Windows 7 - Professional	
Windows 8 - Enterprise	
Windows 8.1 - Enterprise	
Windows Cluster Server	
MultiPoint Server Premium	2011
MultiPoint Server Premium	2012
MultiPoint Server Standard	2011
MultiPoint Server Standard	2012
Windows Server	2003
Windows Datacenter	2012
Windows Essentials	2012
Windows Standard	2012
Windows Server Datacenter	2008
Windows Enterprise	2008

Windows Server Standard	2008
Windows Thin PC	
Word	2007
Word	2010
Word	2013
Word	2016

APPENDIX C – SUBMITTING AN IT WORK ORDER

The preferred way to contact the Information Technology Helpdesk is to send an e-mail to helpdesk@barstow.edu.

You will need to provide the following information:

Your name, phone number, the room where the equipment is located, and a description of the problem you are having. You may include what you have tried, to correct the problem, to better help in our troubleshooting.

Sending this e-mail will create a work order, and automatically send you a response with a Ticket number.

You may also access the Information Technology Helpdesk via the internet at <http://helpdesk.barstow.edu>.

Enter your network Username and Password, just like you are logging in to your computer. In the Summary box, enter a brief description of the problem, i.e. “Password not working”; “Printer problem”; “E-mail issue”; etc. In the Description block, enter a detailed description including your name, phone number, the room where the equipment is located, and a description of the problem you are having. You may include what you have tried so far to correct the problem.

When you have finished, click on the “Submit Request” button.

You can also call extension 7000, when in the classroom and/or you need immediate assistance. If you are directed to voicemail, please leave a message and an automated Work order will be created.

APPENDIX D – TECHNOLOGY PLAN CONTACT INFORMATION

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DOCUMENT REVIEW

Date	Version	Author	Description