

# **KALAMAZOO VALLEY COMMUNITY COLLEGE**

## **EVOLVING TECHNOLOGY PLAN**

### **VOICE      DATA      VIDEO**

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Glossary of Terms, Available by Request 269-488-4244 or [thutchins@kvcc.edu](mailto:thutchins@kvcc.edu)

## Inventory and Recommended Replacement Cycle of Classroom and Laboratory Computers

### Appendix A

Inventory and Recommended New and Replacement Cycle of  
Classroom Video Projectors

Appendix B

## **Purpose**

This document is meant to provide:

- an opportunity for the college community to give input and collaborate with others on how and what technology resources are deployed
- a plan for technology utilization to make a positive contribution to the teaching/learning environment
- an overview of the major voice, data, and video resources currently available at the Arcadia Commons Campus, Groves Campus, Texas Township Campus and in 2016 the Bronson Healthy Living Campus.

Information to assist the institution in the budgeting for replacement of computers and projection systems in classrooms, libraries, and labs can be found in Appendixes A and B.

## **Vision**

Over the next decade, Kalamazoo Valley Community College will be a leader in providing highly-regarded, relevant, and affordable services.

## **Mission**

We are committed to enriching the lives of our students and communities through quality educational programs and services.

To accomplish these ends, we will:

- support student goal achievement through access to learning experiences and assessment
- support a balance between a comprehensive curricular base and innovations in education, personal development, and technology by strategically utilizing resources
- provide curriculum and supportive services relevant to the needs of individuals, enterprise and government
- maintain a learning environment built upon the inclusivity of ideas of all cultures and ethnic backgrounds
- support economic vitality and stability through development of a skilled local workforce
- integrate the components of campus-based instruction, The Groves Campus and the Kalamazoo Valley Museum to support student and community needs

# **Technology Planning for the Institution**

## **Philosophy Statement**

The learning needs of the college community shall drive the use of technology and consequent planning for hardware, software, and delivery methods at Kalamazoo Valley Community College.

## **General Guidelines**

The college should:

- continue to increase information and services available via My Valley for students and employees
- continue to support and promote technologies that are deployed and working, e.g. linking to instructional data files from our web pages
- plan to replace computer hardware every four years as appropriate
- plan to upgrade software as appropriate to support desired learning outcomes
- budget appropriately to provide a communication infrastructure that meets the needs of the institution
- budget appropriately to provide employee training in utilizing and supporting deployed and planned technologies
- budget appropriately for manpower and/or contractual services to support the technology needs of the institution

## **Plan for the Instructional Use of Technology**

### **Academic Services**

#### **Online/Blended Learning**

The current status of our infrastructure and procedures for online and blended learning provide a strong framework for supporting this vision. This framework includes:

- We have adopted Quality Matters online best practices to ensure consistent design of online and blended courses in order to improve course quality.
- We have benchmarks for online course success (defined as 70% or more of the students receiving a 2.0 or greater) and attrition (defined as less than a 20% withdrawal rate).
- We have a required orientation for students registered for online and blended courses.
- We require and provide professional development for instructors new to online and blended teaching.
- We have a strong infrastructure that can accommodate a commitment to online learning.
- We are committed to faculty development and support through the Faculty Success Center.
- There is evidence of strong demand for online and blended courses based on early enrollment trends.

#### **Vision for E-Learning**

Kalamazoo Valley will enhance the student learning experience by providing our faculty and students with the resources they need to thrive in a 21st-century learning environment. Students will have more options for interacting with course content, will participate in online and blended learning models that rival the quality and rigor of traditional classroom models, and have greater exposure to the tools that will make them successful and productive members of our society.

## **E-Learning Goals:**

- Expand current online and blended learning opportunities.
- Provide direction for new online and blended programming.
- Promote our current online and blended general education courses.
- Promote Kalamazoo Valley Community College's Quality Initiative.
- Strengthen student support services to accommodate online learning and improve student success.
- Provide direction for other types of 21<sup>st</sup> Century teaching and learning strategies.
- Comply with state and federal regulations impacting e-learning.

## **Mobile Learning Initiatives**

Mobile technologies have the potential to transform teaching and learning and reshape the way faculty and students interact, teach, learn, and live. These technologies are not a replacement for other tools that we currently use such as desktops and laptops, but rather an addition to our set of available tools. With the recent addition of two iPad carts for classroom use and one iPad cart for training, we are working with innovative faculty to integrate the use of mobile technologies into our classrooms.

For successful integration of mobile learning, we will continue to develop our mobile learning initiatives and involve key stakeholders to address both the benefits and the challenges of mobile teaching/learning to ensure that we can support our faculty and students.

## **Alternative Teaching/Learning Strategies**

We will continue to explore and collaborate with early adopters to pilot alternative teaching/learning approaches that enhance student engagement and success, such as:

- Lecture Capture
- Flipped Classrooms
- Social Media
- Use of digital content including e-books
- Augmented reality
- Integration of other resources such as:
  - MOOCs
  - iTunesU
  - Khan Academy
  - Web 2.0

### Classroom Technologies

Several new technologies have been introduced for classroom use:

- Interactive Projectors will be installed in up to 8 classrooms across all campuses. These projectors allow an instructor, or student, to actively participate with the projected image. They can then capture, replay, print, or save the annotated projected image.
- We are evaluating mobile device software for iPads and Androids. We are testing two applications, Reflection X and Airplay. These applications are being used in several Texas Township classrooms allowing an instructor to wirelessly project the content from their iPad. These applications are being utilized primarily by a chemistry instructor with plans to expand to other classrooms at both the Texas Township and Arcadia Commons Campuses.



## **Major Technology Projects Approved or Needing Consideration**

### **Approved and/or in Progress:**

- redesign and replacement of all KVCC web pages
- wireless laptop /tablet video & audio to classroom video projector
- assisting departments to take full advantage of features in Banner for a more efficient operation
- increasing network security based on the Highbit Security report of July 2015
- implementation of Virtual Servers to reduce the need for additional server hardware and energy reduction
- access to KVCC applications via mobile devices
- Banner 9.x for faculty grading
- updating classroom media carts to digital devices
- Administrative programming projects (**Project Manager Reports**)  
[https://p2.kvcc.edu/ibi\\_apps/bip/portal/KVCC](https://p2.kvcc.edu/ibi_apps/bip/portal/KVCC)

### **Needing Consideration:**

- investigating CRM software to be used for recruitment and retention
- investigate ERP solutions (hosted) to replace Ellucian Banner (3 – 5 years)
- continue replacement of network switches
- online tutoring services
- strive for more efficient use of servers and disk drives in the computer center, Virtual Servers and expansion of Storage Area Network (SAN) with Virtual Disk Drives
- hardware/software to address security issues raised in the IT Security Assessment

## **Examples of Recently Deployed Technologies**

- Ellucian Banner software moved from HP Unix system to Dell Linux system
- LLEAP software upgrade to the Laerdal simulation system
- health care simulations at the Culinary/Allied Health Campus
- Ellucian - DegreeWorks
- implementation of NelNet to increase credit card transaction security
- FLAC (faculty load and compensation) for all PT faculty
- Student Scheduler
- emergency Public Safety call button on classroom media carts
- classroom emergency phones
- upgraded security camera system to a digital system
- upgraded and added emergency phones (parking lots)
- rebranding (conversion) of KVCC web pages
- gas-run generator installed to provide uninterruptable power to the computer center
- upgraded KVCC Foundation software from Donor II to Talisma
- upgrade of Argus software – Museum collection system

## **Anna Whitten Hall Existing Resources and Capabilities**

### **Voice**

- 1 Primary Rate Interface (PRI), provides 24 voice lines to Climax Telephone Service central office in Climax
- 2 Gbyte (redundant) fiber for voice/data and video to TTC
- Unify (Siemens) HiPath 4300 Remote shelf
  - o 68 phones, averaging 1,100 incoming and 1,300 outgoing calls per month
    - 16 classroom emergency phones
    - 5 fax lines
    - 3 pay phones
    - 6 emergency phones
- PhoneMail system
  - Unify (Siemens) Expressions at TTC providing voicemail for all facilities
- Portable radios for Public Safety and Facilities communications
  - 2 Motorola portable radios
  - 11 Kenwood portable radios
  - 5 emergency call units

### **Data (administrative)**

- Enterprise Network connecting most computer resources
  - 1 Windows server
  - 1 Windows virtual host
- 2 Windows computers for registration and class schedules
- Johnson Control System unit for heating, ventilating and A/C connecting all facilities
- Simplex fire alarm system connecting all facilities
- Mainsaver facility-management system on the Enterprise Network
- AdAstra facility-scheduling software system running on the Enterprise Network
- 1 Milestone Windows recording server
- Simplex clock system

### **Data (instruction)**

- wireless network access throughout
- library – 16 research/Internet/Valleycat stations, 1 Valleycat search station
- 34 personal computer workstations and 7 iMacs in the computer lab
- 2 laptop carts
- 1 classroom with 1 instructor and 24 student computers
- 2 laptops for checkout
- See Appendix A for additional instructional computer information

### **Video**

- Inlighten information display system – 2 displays
- all classrooms and conference rooms in AWH are wired with RF cable for video/voice distribution from room 8 (electrical)
- 2 TVs and DVD/VCRs that can be delivered to classrooms and conference rooms
- 12 classrooms with dual media control system
- See Appendix B for video projection information

## **Center for New Media Existing Resources and Capabilities**

### **Voice**

- sharing the Unify (Siemens) HiPath 4300 phone system located at AWH
  - sharing same PRI (24) voice lines as AWH
  - sharing same 2 Gbyte (redundant) fiber for voice/data and video to TTC
  - 21 phone instruments
    - averages 570 incoming and 230 outgoing calls per month
  - 12 classroom emergency phones
  - 9 emergency phones
  - 1 payphone and 1 FAX
- PhoneMail – same as AWH
- Portable radios for Public Safety and Facilities communications
  - 11 radios (serve KVM, AWH, and CNM)
  - 2 emergency call units

### **Data (administrative)**

- Johnson Control System unit for heating, ventilating and A/C connecting all facilities
- Simplex fire alarm system connecting all facilities
- 1 Milestone Windows recording server
- Enterprise Network connecting computers and printers

### **Data (instruction)**

- wireless network access throughout CNM
- 2 Virtual Windows servers
- 1 Virtual Host
- 1 Virtual Apple server
- 19 personal computer workstations and 25 iMacs in the computer lab
- 1 Epson large format color printer
- 2 photo printers
- 1 Xerox production quality color printer
- 4 computer classrooms with 1 instructor and 24 student computers
- 2 laptops for checkout
- 1 computer laptop cart
- 1 Apple iPad cart (30 units)
- See Appendix A for additional instructional computer information

### **Video**

- 9 classrooms with dual media control system
- 1 TV DVD/VCR combination for classroom delivery
- Inlighten information display system – 5 displays
- 6 LCD screens with supporting computers in Arcus Gallery
- See Appendix B for video projection information

## **Groves**

### **Existing Resources and Capabilities**

#### **Voice**

- Unify (Siemens) HiPath 4300 Remote shelf
- 1 Primary Rate Interface (PRI), provides 24 voice lines to Climax Telephone Service
  - 2 Gbyte (redundant) fiber for voice/data and video to TTC
  - messaging on hold activated in 2003
  - 44 office phones
    - averages 460 incoming calls per month
    - averages 660 outgoing calls per month
  - 19 classroom emergency phones
  - 8 emergency phones
- PhoneMail system
- Unify (Siemens) Expressions 2007 at TTC providing voicemail for all facilities
- 1 emergency call unit

#### **Data (administrative)**

- grovescenter.kvcc.edu averaging 1,910 unique visitors per month
- connected to the college's Enterprise Network for e-mail and access to the internet
- Johnson Control system unit for heating, ventilating and A/C connecting all facilities
- Simplex fire alarm system connecting all facilities
- Mainsaver, facility management system on the Enterprise Network
- 1 Milestone Windows recording server
- 1 Windows Server Oracle 11g running Activity Base software – MHTSC
- 1 Virtual Host
  - domain controller
  - file server
  - wireless routing

#### **Data (instruction)**

- 1 Windows server
- 1 computer laptop cart
- See Appendix A for additional instructional computer information

#### **Video**

- 1 ITV distance learning room
- 1 video conferencing room
- 1 amphitheater with ceiling mounted projection system
- 11 class/seminar rooms with ceiling mounted projection systems
- See Appendix B for video projection capabilities

## **Museum**

### **Existing Resources and Capabilities**

#### **Voice**

- sharing the Unify (Siemens) HiPath 4300 phone system located at AWH
  - sharing same PRI (24) voice lines at AWH
  - sharing same 2 Gbyte (redundant) fiber for voice/data and video to TTC
  - 38 office phones
    - averages 480 incoming and 300 outgoing calls per month
  - 6 emergency phones
  - 1 FAX
- PhoneMail – same as AWH
- Portable radios for Public Safety and Facilities communications
  - 2 Motorola radios (serve KVM, AWH, and CNM)
  - 24 Kenwood radios (dedicated to KVM)
  - 1 emergency call unit

#### **Data (administrative)**

- kvm.kvcc.edu averaging 6,914 unique visitors per month
- Johnson Control System unit for heating, ventilating and A/C connecting all facilities
- Simplex fire alarm system connecting all facilities
- Enterprise Network connecting computers and printers
- Versai, ticket sales system that includes a tablet workstation, POS workstation, receipt printer, barcode scanner, keyboard with card swipe capability and ticket printer
- information monitors - 2
- external electronic information sign
- 1 Milestone Windows recording server
- 1 virtual Windows server housing Argus collections database (housed in AWH)

#### **Data & Audio (instruction)**

- Challenger Space Center
  - 19 Apple Mac Mini computers
  - 1 Linux server
- Science Gallery Exhibits
  - Human Body – 2 computers
  - Energy – 1 computer
  - Food Pyramid – 1 computer
  - Technology – 1 computer
  - Physics – 1 computer
- Kalamazoo Direct to You Exhibit (History Gallery)
  - 6 interactive kiosks with touch screens
  - 13 computers and LCDs in clock tower
  - 1 computer sound stage, 1 computer WKVM, 1 computer How May We Help You
  - 1 projector
- Planetarium
  - Digistar 4 laser projection system
- Time Pieces Information System

## **Museum**

## **Existing Resources and Capabilities (Continued)**

- 3 iMac computers with touch screens
- 2 computers used for surveys

### **Video**

- Mary Jane Stryker Theater provides digital video/audio capability
- Mummy

## **Texas Township Campus Existing Resources and Capabilities**

### **Voice**

- Unify (Siemens) 4300 H 80 CXE, software release P30252N4308B0001
  - 3 Primary Rate Interface (PRI), provides 72 voice lines to the Climax Telephone System
- Automated Call Distribution (ACD) using an Office Pro Server
- ComView software collecting phone system data for reporting purposes from all locations
- 620 configured extensions
  - 513 office phones
    - averages 42,000 incoming calls per month
    - averages 9,600 outgoing calls per month
  - 127 classroom emergency phones
  - 22 fax lines
  - 5 special analog lines
  - 8 pay phones
  - 42 emergency phones
- PhoneMail  
Unify (Siemens) Expressions at TTC providing voicemail for all facilities
- 4 emergency call units, 26 computer software emergency call buttons
- Portable radios for Public Safety and Facility Services communications
  - 12 Motorola portable radios
  - 20 Kenwood portable radios
- Cell phones provided or small stipend for use of personal phone to those employees where it is deemed necessary as part of their job function:
  - Administration
  - Athletics
  - Facility Services
  - Information Technologies
  - Nursing
  - Public Safety

## Texas Township Campus Existing Resources and Capabilities (Continued)

### Data (administrative)

- [www.kvcc.edu](http://www.kvcc.edu) averaging 106,721 unique visitors per month
- Enterprise Network (HP Procurve) connecting most computer resources
- Hewlett-Packard Integrity BL 860c i2 servers (1 active, 1 backup)
- ERP software system is Ellucian - Banner 2000 utilizing Oracle database 11g
  - Accounts Receivable
  - Finance
  - Financial Aid
  - General
  - Human Resource/Payroll
  - Position Control
  - Student Services
  - Employee Self Service
  - Faculty Self Service
  - Finance Self Service
  - Web General Self Service
  - Student Self Service
  - Student Scheduler
  - Recruiter
  - DegreeWorks
- 3 virtual servers running Internet Native Ellucian Banner client
- 1 Windows server running Hyperion software
- 6 Windows servers running WebFOCUS
  - 1 development
  - 1 production
  - 1 database
- 12 Milestone Video Windows servers
  - 9 recording servers
  - 1 management server (virtual)
  - 1 mobile access server (virtual)
  - 1 failover server (virtual)
- 9 Windows Active Directory Domain Controller servers
- 1 Windows server running Microsoft updates (WSUS)
- 1 Windows AD/Netware Synchronization program
- 2 Checkpoint external firewall - release 75.45
- 2 Checkpoint internal firewall - release 75.45
- 3 Windows servers running Oracle Web services (Banner Web)
- 6 Windows servers and 10 Linux servers running institution's website
- Zimbra – Employee e-mail and calendar system
- 9 DNS (domain name services) servers
  - 2 public (Linux)
  - 7 private (Windows)



## **Texas Township Campus Existing Resources and Capabilities (Continued)**

- Johnson Control System unit for heating, ventilating, and A/C connecting all facilities
- Johnson Control P2000 Security system on a Windows server connecting all facilities
- Mainsaver facility-management system on the Enterprise Network
- AdAstra web enabled facility scheduling software system running on Enterprise Network
- Total Defense as an enterprise antivirus software
- Bacula Network Backup – Dell TL2000 Tape Library
- 2 RedHat enterprise servers running Moodle and database
- IBM RISC 6000 server running Nebraska Book Company system
- Windows server running Key Server application
- Ubuntu running E-Z Proxy for library databases
- 1 Enterprise Storage Area Network device with 45 terabytes capacity
- 1 VMWare VCenter Server 4.1
- 9 Virtual hosts (VMWare ESX 4.1)
  - 116 administrative servers (70 Windows & 46 Linux)
  - 14 instructional servers
  - 9 development /template servers
  - 25 virtual desktops (VDI)
- Proxy Servers
  - 1 forward (Linux, Apache, Solid, Video cache)
  - 6 reverse (Linux, Apache)

## **Texas Township Campus Existing Resources and Capabilities (Continued)**

### **Data (instruction)**

- 2 VMware View 4.5
  - 1 - Security connection Host
  - 1 - Application Host
- 1G Internet connection via fiber
- Windows student file server
- Windows class data
- Windows Apps server
- Windows server for EMT application
- 1 Linux server running VIP
- Windows server running EagleSoft (dental)
- 1 rapid-prototyping system
- library with 71 stations for research/Internet/Valleycat (24 in library computer classroom):
  - 4 Valleycat search stations
  - 1 with adaptive technology for visually impaired
  - 1 research/Internet/Valleycat station for instructor use in library classroom.
  - 1 laptop computer in circulation
- 80 personal computer workstations and 5 iMacs in the computer lab
- 37 personal computer workstations in the learning center
- 43 personal computer workstations in the student commons
- 9 general classrooms for computer instruction with 1 instructor and 24 student computers
- 4 classroom on wheels carts for mobile instruction on demand (each containing 30 laptop computers)
- See Appendix A for additional instructional computer information

### **Video**

- 8 operational mounted TVs providing world and national news and KVCC special events
- Comcast broadband cable services to TV studio and distributed to Commons Student Lounge, Commons Fitness Center and athletic meeting room
- weather monitoring TV placed in Public Safety
- See Appendix A for classroom instructor stations
- See Appendix B for video projection capabilities

## **Bronson Healthy Living Campus Resources and Capabilities**

### **Voice**

- Unify (Siemens) HiPath 4300 Remote shelf
  - 1 Primary Rate Interface (PRI), provides 24 voice lines to Climax Telephone Service
    - 2 Gbyte (redundant) fiber for voice/data and video to TTC
    - messaging on hold
    - 77 office phones
    - 16 classroom emergency phones
    - 16 emergency phones
  - PhoneMail system
- Unify (Siemens) Expressions 2007 at TTC providing voicemail for all facilities
- 1 emergency call unit

### **Data (administrative)**

- connected to the college's Enterprise Network for e-mail and access to the internet
- Johnson Control system unit for heating, ventilating and A/C connecting all facilities
- Simplex fire alarm system connecting all facilities
- Mainsaver, facility management system on the Enterprise Network
- 1 Milestone Windows recording server
- Inventory system
- POS (Point of Sale) system
- X Virtual Host
  - domain controller
  - file server
  - wireless routing

### **Data (instruction)**

- 1 Windows server
- 4 simulation and control rooms
- 1 living area and ambulance simulation space
- 2 observation rooms
- 2 computer on wheels laptop carts (30 laptops per cart)
- See Appendix A for additional instructional computer information

### **Video**

- 1 demonstration classroom with distance learning capability
- 9 class/seminar rooms with interactive projection systems
- 6 skill labs with interactive projection systems
- See Appendix B for video projection capabilities