

Administrative and Educational Support Report

Telecommunication Services

Annual Action Plan
Annual Assessment Report

June 2004 – May 2005



Annual Action Plan: June 1, 2004–May 31, 2005

Unit: Telecommunication Services

UTPA Mission: The University of Texas-Pan American (UTPA) serves the higher education needs of a rapidly growing, international, multicultural population in the South Texas Region. The University preserves, transmits and creates knowledge to serve the cultural, civic, and economic advancement of the region and the state. The University provides students advanced instruction in academic programs offered through innovative delivery systems that lead to professional certification, and baccalaureate, master’s and doctoral degrees. Through teaching, research, creative activity and public service, UTPA prepares students for lifelong learning and leadership roles in the state, nation and world community.

Division: Information Technology **Unit Head:** Steve Copold

Unit Mission: Provide the supporting telecommunications infrastructure and services required to ensure that all members of the UTPA community are able to fulfill their portions of the University’s mission in a timely, secure, and cost effective manner.

Unit Goal: Provide a secure network environment for data transmission

Link to UTPA Goal(s): 3. Improve organizational effectiveness

Unit Objective (Action Priority: #1 is highest)	Link to UTPA Objective	Expected Outcome for Unit Objective (AA-Measurable Objective)	Strategy(ies) to Achieve Expected Outcomes	Assessment Criteria, Evaluation Methods for Expected Outcome	New Resources Needed in FY05
Improve network security by upgrading all non-manageable data switches and hubs to models supporting port management options. (1)	7	All non-manageable network distribution devices are replaced with upgraded port manageable versions.	<ul style="list-style-type: none"> Port-scan the entire campus LAN and identify all of the switching and hub devices that do not have manageable data ports. Order and install the upgraded units. 	Management assessment of the lack of isolation in many network segments based on subnet configurations and designated work-groups. (some areas of the campus network, including the Library)	Approximately \$75,000 that will be needed to purchase the replacement equipment.

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				and the College of Business Administration, can not be directly observed and evaluated as our technicians do not have access to, or control over, the switching devices in those areas)	
Provide additional direct support to the Information Security Office. (2)	7	The Information Security staff will have upgraded and/or new equipment to support their efforts and they will also have improved access to control equipment configurations directly related to security issues.	<ul style="list-style-type: none"> • Set up modules on the Lightspeed edge device in order to permit the Security staff to control traffic that may present a threat to UTPA's information infrastructure. • Add PIX firewall modules to two of the Cisco 6509 routers. 	<ul style="list-style-type: none"> • Telecommunication Services management review of the need for better control and faster response times modifying the configuration of the campus network edge devices. • Traffic analysis of intra-campus data. 	Approximately \$60,000 to purchase the primary PIX firewall module and the back-up unit.

Unit Goal:

Increase the amount of undergraduate instruction being delivered using the interactive video system.

Link to UTPA Goal(s):

1. Ensure undergraduate student access and success

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Increase the amount of undergraduate instruction being delivered using the interactive video system by adding additional remote site around the Rio Grande Valley and by providing additional support for the extra load generated on the UTPA campus. (3)	1	Increased number of concurrent enrollment classes delivered to remote sites using the interactive video system.	Add more video circuits and to the existing infrastructure to allow delivery of concurrent enrollment courses into more of the public school facilities.	<ul style="list-style-type: none"> Data from ESS Division regarding concurrent enrollment needs. Video Resources review of capacity of existing system compared to need. 	Funding from the Gear Up grant to pay the monthly circuit charges.

Unit Goal:

Upgrade the UTPA PBX to allow it to accommodate more stations and handle voice over IP (VOIP) traffic

Link to UTPA Goal(s):

3. Improve organizational effectiveness

Unit Objective (Action Priority: #1 is highest)	Link to UTPA Objective	Expected Outcome for Unit Objective (AA-Measurable Objective)	Strategy(ies) to Achieve Expected Outcomes	Assessment Criteria, Evaluation Methods for Expected Outcome	New Resources Needed in FY05
Increase the capacity of the PBX to support additional staff and faculty users as the need arises and put in place the needed infrastructure to enable IP telephony. (4)	7	Raise the switch's maximum station limit to the next level from (2,400) to more than (10,000) and simultaneously install the needed software and hardware upgrades to develop the infrastructure required to support voice over IP stations and traffic.	Upgrade the UTPA PBX from its current configuration as an Avaya G3i to a Dual S-8710 system. Upgrade the Audix voicemail system from the Avaya Definity system to the Avaya Modular Messaging system to maintain compatibility with the upgraded PBX.	Review the PBX, in its current G3i incarnation. It has a physical limit of (2400) end user stations.	Approximately \$204,000 to purchase the PBX and Audix upgrades.

Unit Goal:	Upgrade as many instructional classrooms across the UTPA campus as possible for use with multimedia teaching and presentations
Link to UTPA Goal(s):	<ol style="list-style-type: none"> 1. Ensure undergraduate student access and success 2. Enhance graduate education and research 3. Improve organizational effectiveness

Unit Objective (Action Priority: #1 is highest)	Link to UTPA Objective	Expected Outcome for Unit Objective (AA-Measurable Objective)	Strategy(ies) to Achieve Expected Outcomes	Assessment Criteria, Evaluation Methods for Expected Outcome	New Resources Needed in FY05
Increase the number of classrooms that can be scheduled for graduate and undergraduate instruction which requires the use of multimedia materials. (5)	2, 4, 7	Add a total of 33 more classrooms during FY05 which may be scheduled for instruction which requires the use of multimedia materials.	Issue an RFP and select a contractor to install the upgraded classroom facilities.	A review of existing classrooms that are available to be scheduled for instruction which require the use of multimedia equipment by the faculty member.	Approximately \$450,000.00 to pay for the equipment installation costs.

Unit Goal:	Design and build out a campus-wide wireless LAN providing bumper-to-bumper coverage for all staff, student, and faculty users at UTPA.
Link to UTPA Goal(s):	<ol style="list-style-type: none"> 1. Ensure undergraduate student access and success 2. Enhance graduate education and research 3. Improve organizational effectiveness

Unit Objective (Action Priority: #1 is highest)	Link to UTPA Objective	Expected Outcome for Unit Objective (AA-Measurable Objective)	Strategy(ies) to Achieve Expected Outcomes	Assessment Criteria, Evaluation Methods for Expected Outcome	New Resources Needed in FY05
Provide centrally managed campus-wide wireless LAN service on a bumper-to-bumper basis for all staff, student, and faculty users at UTPA with uniform and simple	2, 4, 7	Major structures and (4) selected outside areas have available wireless network access for all student, staff, and faculty users.	Hire consultants to assist in designing the WLAN. Issue an RFP and select a contractor to install the WLAN.	Professional engineering consultants, Lockwood-Greene Engineering Inc., will be contracted to assist us in designing and procuring a viable solution for the wireless network situation.	Approximately \$368,000 to cover the cost of the consultants, WLAN equipment, and its installation.

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access and easy to use authentication. (6)					



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Unit Objective (Priority: #1 is highest)	Link to UTPA Objective	Expected Outcome	Assessment Criteria, Evaluation Methods	Assessment Results (Use actual data to describe annual performance)	Use of Results (What change was made?)
Improve network security by upgrading all non-manageable data switches and hubs to models supporting port management options. (1)	7	All non-manageable network distribution devices are replaced with upgraded port manageable versions.	Management assessment of the lack of isolation in many network segments based on subnet configurations and designated work-groups. (some areas of the campus network, including the Library	The possibility that unauthorized users could access unencrypted data streams was found to be at an unacceptable level.	Over an 18 month period, from 07/03 to 01/05, technicians programmed and replaced more than 250 data switching devices supporting in excess of 6,000 user ports all which now operate in a vastly higher degree of security and manageability. The ability of unauthorized users to access some

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			and the College of Business Administration, can not be directly observed and evaluated as our technicians do not have access to, or control over, the switching devices in those areas)		unencrypted data streams was greatly reduced in all major areas of the UTPA network that our technicians had access and control to and over the switching devices.
Provide additional direct support to the Information Security Office. (2)	7	The Information Security staff will have upgraded and/or new equipment to support their efforts and they will also have improved access to control equipment configurations directly related to security issues.	<ul style="list-style-type: none"> • Telecommunication Services management review of the need for better control and faster response times modifying the configuration of the campus network edge devices. • Traffic analysis of intra-campus data. 	<ul style="list-style-type: none"> • Security staff needed direct access to the Lightspeed edge device to improve response times to direct security threats requiring the closure of a port or the isolation of a portion of the network. • Traffic analysis of intra-campus data showed the need for firewall deployment had become critical and was falling behind the curve due to a lack of funding and 	<p>A separate area of the Lightspeed's configuration console has been set up, in Spring of 2005, and reserved for direct access and use by the Information Security staff.</p> <p>Telecommunications Services has ordered Cisco PIX firewall blades for two of its Cisco 6509 routing devices which will allow the security technicians to deploy up to 100 individual firewalls, custom tailored to unit needs, remotely and without the need to purchase additional hardware.</p>

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				manpower. <ul style="list-style-type: none"> More individual firewalls were needed and the existing deployment method was both too costly and labor intensive to sustain over a long period of time. 	

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Increase the amount of undergraduate instruction being delivered using the interactive video system by adding additional remote site around the Rio Grande Valley and by providing additional support for the extra load	1	Increased number of concurrent enrollment classes delivered to remote sites using the interactive video system.	Data from ESS Division regarding concurrent enrollment needs. Video Resources review of capacity of existing system compared to need.	Current capabilities were inadequate and the number of hours were capped by the limited number of receiving sites and the ability of existing hardware to handle an increased load on the system.	Additional hardware resources were installed in the video switching center to support an increased load and interactive video classroom facilities were installed at (8) additional remote sites: Raymondville H.S.

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generated on the UTPA campus. (3)				In other words, telecommunication services was delivering instruction at the limits of its existing capacity and in order to increase the output, the video network needed to be expanded and the load capacity of the video system increased.	Donna H.S. Rio Grande City H.S. La Joya H.S. Santa Rosa H.S. Brownsville Pace H.S. Brownsville Porter H.S. Brownsville Hanna H.S. As a result of this effort, the number of concurrent delivery hours more than tripled with the weekly total going from (12) hours to (38) hours while the monthly total went from (48) hours to (152) hours.

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Increase the capacity of the PBX to support additional staff and faculty users as the need arises and put in place the needed infrastructure to enable IP telephony. (4)	7	Raise the switch's maximum station limit to the next level from (2,400) to more than (10,000) and simultaneously install the needed software and hardware upgrades to	Reviewed the PBX, in its current G3i incarnation. It has a physical limit of (2400) end user stations.	A failure to upgrade the PBX and increase its capacity will leave us incapable of serving additional staff and faculty employees in the Fall of 2006.	A purchase order was issued to upgrade the PBX from a G3i to a Dual S8710 switching system which will provide capacity for in excess of (10,000) stations and VOIP

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		develop the infrastructure required to support voice over IP stations and traffic.		<p>The existing telephone infrastructure cannot support Voice over IP (VOIP) traffic. UTPA has multiple remote sites that are in our data network but have no access to the services provided by the campus PBX.</p> <p>A lack of VOIP services available at the remote suite forces telecommunication services to continue purchasing business services from SWB at extremely high rates and UTPA's staff and faculty located at these sites will continue to be denied access to Voice Mail and other PBX related services.</p>	capabilities across the UTPA network infrastructure.

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Increase the number of classrooms that can be scheduled for graduate and undergraduate instruction which requires the use of multimedia materials. (5)	2, 4, 7	Add a total of 33 more classrooms during FY05 which may be scheduled for instruction which requires the use of multimedia materials.	A review of existing classrooms that are available to be scheduled for instruction which require the use of multimedia equipment by the faculty member.	The existing resources are not meeting the demand and often faculty are using facilities which do not meet their actual teaching needs.	33 additional classrooms were upgraded for multimedia instruction during FY05.

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Provide centrally managed campus-wide wireless LAN service on a bumper-to-bumper basis for all staff, student, and faculty	2, 4, 7	Major structures and (4) selected outside areas have available wireless network access for all student, staff, and faculty users.	Professional engineering consultants, Lockwood-Greene Engineering Inc., contracted to assist us in designing and procuring a viable solution for the	With the consultants from Lockwood Greene Inc., we determined that the existing disparate wireless networks on the UTPA campus pose a	A Request for Proposals was issued, bids were returned and evaluated, and an award was made to Trillion Inc of Austin, Texas to install a

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users at UTPA with uniform and simple access and easy to use authentication. (6)			wireless network situation.	serious security risk and their continuing operation pose an on-going threat to not only to the university security, but to the institution's ability to conduct business in a timely and cost-effective manner.	campus-wide wireless LAN built on the Airespace (Cisco) wireless platform during the Spring of FY05.

Additional Resources Needed (if any) that were requested for FY06 during the budget cycle: None