



# **Technology @ PMU**

*(Final)*

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Version 0.2

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**Documentation Control**

Modification

Changes in this documentation are identified by a vertical orange bar indicator located on the left or right margin.

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15-Nov,2008	0.1	Dr. Issa Al-Ansari, PMU Rector
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## 1 Introduction

During the last two years, PMU Information Technology Department (ITD) has developed to cater for the university evolution and its emerging needs. The department is in three main sections supporting the entire community. Students, faculty and employees have dedicated services center to facilitate the use of the applied technologies and applications. This section talks about some aspects of the departments services.

## 2 PMU IT Vision

The PMU is synonymous with and identified as the leading IT-based institution in the international region. The ultimate goal of this technology vision is to make it possible for the PMU to create a learning-centered environment.

The infusion of technology into the university environment will enable students to obtain the information they need, when and where they need it, so they can effectively pursue their goals of academic excellence and professional competencies.

This vision is supported by underlying values and principles:

- Information technology serves the mission of the university.
- To the extent possible, IT will preserve Saudi values.
- IT will serve to help protect intellectual property.
- IT will be convenient, high-quality, and user-friendly.
- IT will not consume an inappropriate portion of the PMU's budget.

Though central to distinguishing the university from other institutions in the Kingdom, technology at PMU will never be an end unto itself. Technology will be a tool that assists students in building their professional competencies, abilities in critical thinking, skills in problem solving, and dedication to leadership and teamwork.

### **3 PMU IT Mission**

In order to achieve its vision of a technology-enabled, learning-centered environment, the PMU will develop a set of core technology competencies and areas of expertise:

- Infuse information and educational technologies into all curricula and learning programs.
- Ensure that the university administration will utilize an integrated management information system.
- Incorporate IT into the facility design.
- Focus IT services on employing contemporary technologies that keep up with the world's changing technology environment.

Using technology, the PMU will be able to tailor instruction and focus the development of competencies to each student's needs and abilities. It will be able to provide skills and knowledge that foster independent learning during the university years and build an ethic of learning that continues throughout the lives of PMU graduates. Technology will enable faculty to enhance their own abilities, create richer learning experiences by bringing more resources into the classroom, and give students a more interactive learning experience. It will help instruct students in personal skills and capabilities as well as academic content. Finally, technology will assist the university in creating an assessment process that not only measures what students already have achieved, but helps direct them to the capabilities they need to develop in the future.

### **4 PMU IT Goals**

The PMU will direct its efforts toward a number of targeted goals, each of which will bring the university closer to achieving its mission and realizing its vision.

- Respect and advance Saudi cultural values in a changing learning environment.
- Provide students with the superior technology infrastructure that will equip them with the technology skills to function in the current and emerging working environments.
- Provide faculty with the superior technology infrastructure that enables them to excel in the delivery of effective instruction.
- Provide administrators with a cost effective, flexible, reliable, and secure IT environment that meets the business needs of the university.
- Provide technology tools to facilitate effective student support services.
- Provide an IT governance structure that includes university faculty, students, and staff as well as industry in a collaborative environment.



Regardless of whether they are directed toward administrators, faculty, students, or the university community as a whole, each of these goals contains elements that will assist students in developing characteristic PMU competencies.

The university's technology-infused environment will naturally develop information literacy and familiarity with technology itself. It will also help students achieve skills in critical thinking and reasoning, a global awareness, and abilities in teamwork and leadership. These competencies are "whole person" skills that will make it possible for the individual student and the university to make valuable contributions to the business community and life in the Kingdom.

## 5 PMU IT Strategy

The following goals are a summary of the TIEC recommended report in regard to the IT Strategy. In addition to the below ones, cost-effectiveness, serviceability, reliability and adhering to local and international technology utilization standards, like copy writes, will be core to the planning process for the department.

Respect and advance Saudi cultural values in a changing learning environment by gender separation while applying collaborative technologies and by content filtering.

Provide **students** with a superior technology infrastructure that will equip them with the technology skills to function in current and emerging work environments by **enabling mobility and online services while maintaining data availability, integrity and security.**

Provide faculty with the superior technology infrastructure that enables them to excel in the delivery of effective instruction by meeting goal number 2 for the faculty and by equipping the classrooms and labs with the suitable technology to facilitate the learning experience.

Provide **administrators** with a cost effective, flexible, reliable, and secure IT environment that meets the business needs of the university by **fulfilling the above goals.**

Provide technology tools to facilitate effective student support services by using collaborative services and by applying more online services and by establishing technical support center for each gender.

Provide an **IT governance structure** that includes university faculty, students, and staff, as well as industry in a collaborative environment by **documenting best practice policies and encourage participative planning.**

The ultimate goal of Prince Mohammad Bin Fahd University is to enable a learning-centered environment that is both effective and rewarding.

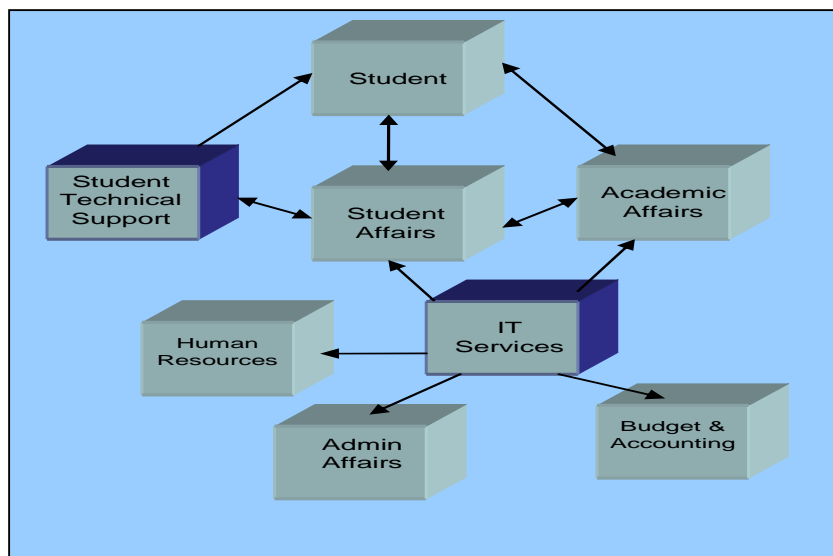
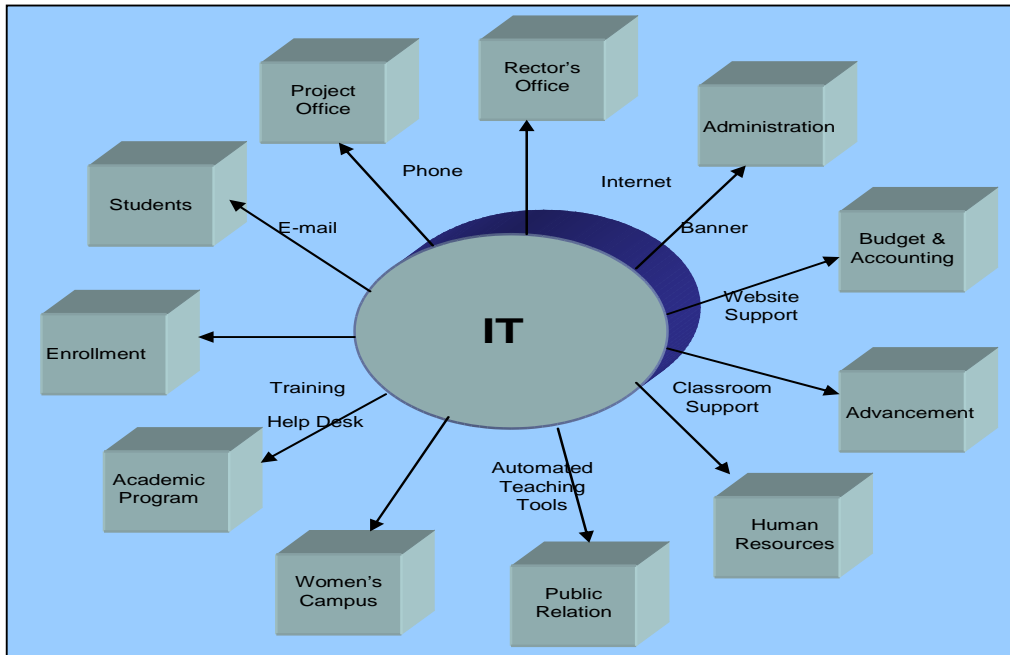
In order to accommodate this noteworthy goal, the vision of the university's Information Technology Department is to provide state-of-the-art methodologies and technologies that support the diverse needs of our students, faculty and staff.



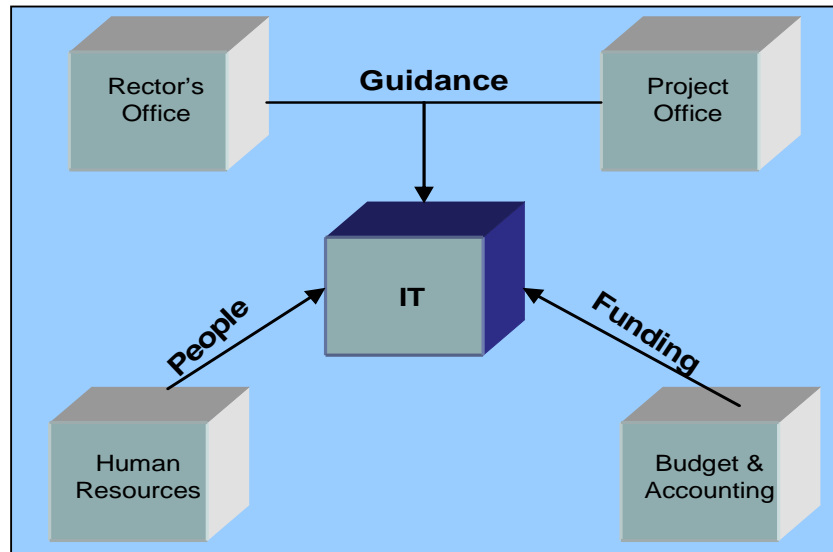
The Information Technology Department provides support in the following key areas:

1. **Student Technology:** A variety of technological tools are in the process of being provided to students including e-mail, internet, wireless access, and availability of computer lounges within both the male and female campuses.
2. **Classroom Technology:** Automated learning aids are available in each of PMU's many classrooms and include video conferencing, Interactive Boards, and automated teaching systems supported by advanced learning applications.
3. **Library Information System:** Upon completion of our Learning Resource Center (LRC), an integrated library automation system will be available to students in order to access an extensive library collection.
4. **Management Information System:** Our MIS system enables faculty and staff to provide quality support to students in the areas of registration, finance, human resources, course management and general student information. This world leading application called Banner from SunGard, is being implemented to be an easy web-based self service. In addition, the course management system is being administered by the world leading Blackboard application which is being used as an educational instrument to have the interaction of the students and the instructors. It is accessible over the LAN and from any internet access point.
5. **Information Technology Infrastructure:** A dedicated team of IT specialists provide network and communications support, hardware maintenance, web design, and help desk services. Information Technology Department formed a Technical Support Center in both campuses (Male and Female) to serve more our end-users especially students.

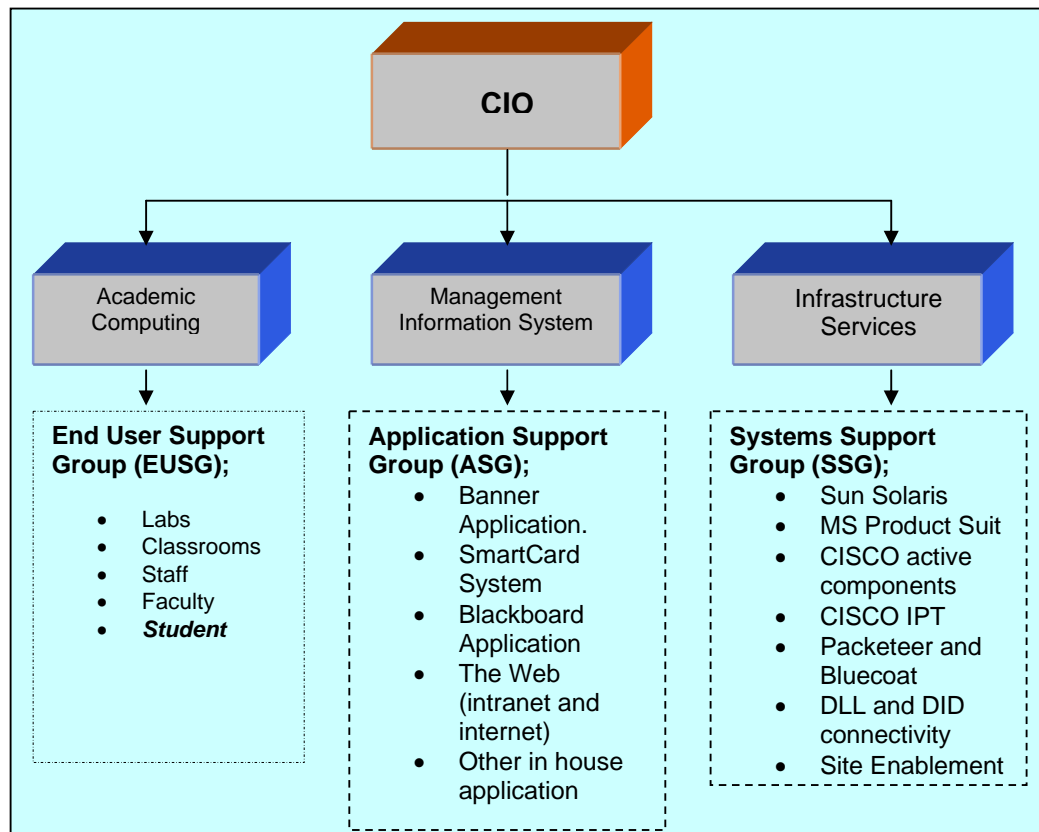
**Support Provided**



Guidance / Support Received



The suggested organization chart for this Service Oriented Organization is as follows;



In summary, the report covers the achievement that the department has scored till now.

1. In the infrastructure, we are completing male campus, administration, cafeteria, sport center and the auditorium infrastructure.
2. Upgrading the internet bandwidth to 12MB
3. Completing the MIS project for Banner Students and the Banner Portal part.
4. Implementing the Library Management System based on RFID technology for books tracking. This includes the subscription to a number of online databases and academic references.
5. Redesigning the web page to its 3<sup>rd</sup> version.
6. Completed the smart classrooms setup in both campuses.
7. Completed the datacenter upgrade for the main systems.
8. Starting the infrastructure design for the village project
9. Completed 6 English labs, 2 Math Labs and in the process of finishing the Design Labs and the Science labs
10. Preparing the IT requirements for the new academic year which includes the IT tools for the new faculty, renewing the used software and appellations and all of the only subscriptions.



## 6 IT Department Sections

The Information Technology department consists of three main sections. In addition to the CIO office, there is an IT Auditor who reports directly to Dr. Issa Al-Ansari, PMU Rector.

### 6.1 Management Information System

The MIS section under the IT department is composed of professional staffs experienced in IT fields. This team is responsible for managing all software applications being used by Prince Mohammad Bin Fahd University, to deliver essential services to the students, faculty, staff and the public.

The MIS team provides training and assistance to PMU personnel in the use of the application systems, continuously creates documentation, responds to a wide variety of ad-hoc query reports, data extractions for the Admissions, Registrar, and Budget and Accounting offices. In addition, the MIS Team develops and maintains in-house application software and application tools exclusively for the Senior Administrators of this University.

Up to Oct, 2008, the total training sessions for Banner are 18 with a total of 103 faculty and staff attended. Many sessions for the applications used at PMU like Time Attendance Applications with the total of 53 participants, are scheduled for awareness. Other sessions for Blackboard, smart classrooms technology and in house developed application have also been held in respect to the services users.

Banner project in Prince Mohammad Bin Fahd University (PMU) started in October 2006 with the help of professional consultants from International Turnkey System (ITS) a leading provider of cutting-edge integrated information technology solutions. The implementation process comprises of major stages, business process analysis, workshop, implementation, and go live.

The Banner Project for Prince Mohammad Bin Fahd University (PMU) consists of the following primary systems;

- Banner Student Information System
- Banner Finance
- Banner Human Resources
- Banner Financial Aid

The following are the Banner modules implemented in Prince Mohammad Bin Fahd University;

- General Person Module (*Completed and Live*)
- Course Catalog Module (*Completed and Live*)
- Class Schedule Module (*Completed and Live*)
- General Student Module (*Completed and Live*)
- Registration Module (*Completed and Live*)
- Fees Assessment Module (*Completed and Live*)
- Faculty Management Module (*Completed and Live*)
- Job Submission/Population Selection/Letter Generation (*Completed and In-use*)
- Admission Module (*Completed and Live*)
- Academic History Module (*Completed and Live*)
- Self Service Registration Module (*Completed and Live*)
- Account Receivable Module (*Completed and Live*)
- Self Service Admission Module (*Completed and Live*)
- Faculty Self Service Module (*Completed and Live*)
- Recruitment Module (*Completed and Live*)
- CAPP (*Completed*)
- Housing Module (*Completed*)
- Financial Aid Module (*Completed*)

We go live for the Banner Student Self Service in the year 2007; wherein students can register for a course on-line, print their class schedule, and view Academic Transcript in-campus and off-campus for as long as they have internet connection.

Previously, PMU Admission Office used the .xml format in receiving admission applications at PMU official Website which is then integrated into MSAccess Database to filter and print the applications. Admission Department enters the applicant's information manually in Banner to create admission application. Last June 2008, PMU launches the Banner Self Service Admission wherein prospective students can submit their application on-line through Banner, and after three months of going live, PMU received almost two thousand of applications.

To reduce the load of Registration Office in entering the student Final Grades and printing of class schedule, in the same year we go live for Faculty Self Service that allows Faculty and Advisors to review their class load schedule, review the class roster for the classes they are teaching and the ability to enter final grades.

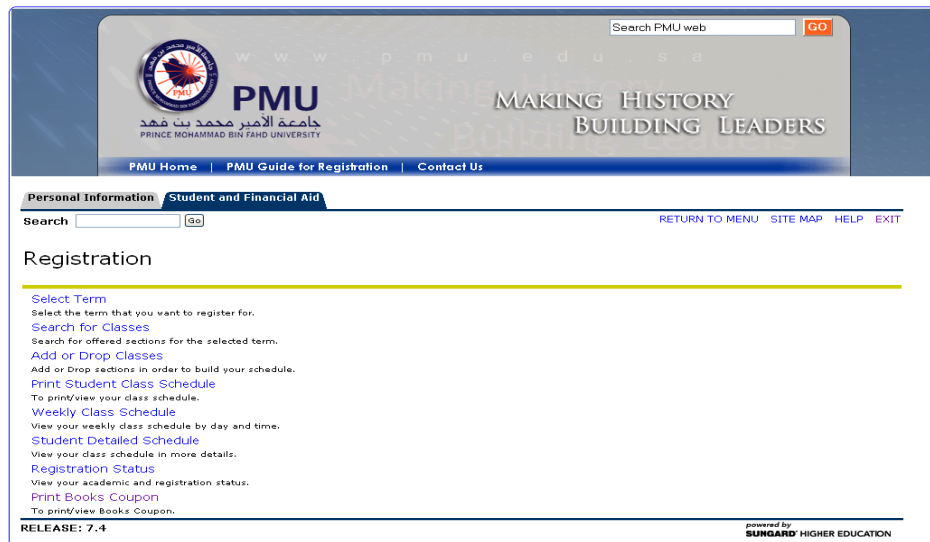
Prince Mohammad Bin Fahd University (PMU) was upgraded from Banner 7.2 into Banner 7.4.1 so as to ensure the system stability, and to improve and extend its functionality. Banner 7.4.1 is integrated to Luminis Platform IV (Portal) using the single sign-on. PMU is the first university that implements Luminis Platform IV in the kingdom.



Due to our ITD/MIS Team teamwork, synergy, and harmony we achieved the major projects and goals despite some difficulties.

Currently the MIS team is working hand on hand on the following web based application, for the interest of all stakeholders of this University.

1. **Banner** is the main application systems and used by all stakeholders of Prince Mohammad Bin Fahd University (PMU). It serves dual purpose for both academic and administrative functionalities. The former is for prospective students which allow them to register and submit their admission application on the internet. As for an enrolled PMU students, they can search and register for classes. The latter is for the faculty to manage course information, rosters, grading, and for student advising.

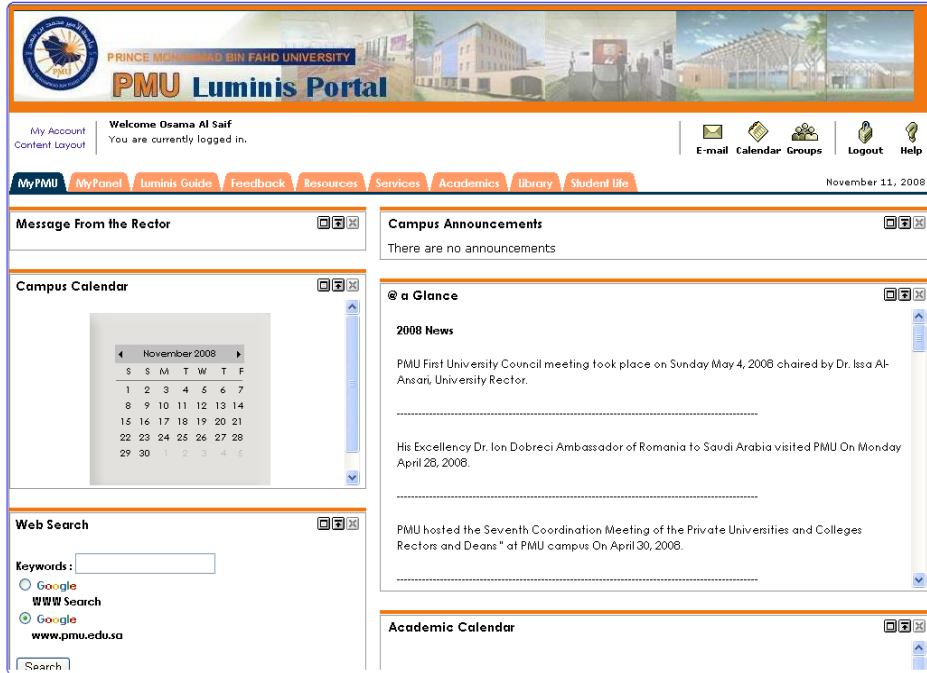


2. **HealthCare System** is a client/server application used by the Clinic of this department to facilitate easily their patient registration, Follow-ups, Prescriptions and maintains Treatment History etc.



# PMU Department of INFORMATION TECHNOLOGY

3. MyPMU portal will be launch in October 2008, a Luminis Platform that gives all users of PMU a personalized, 24x7 direct access to information and services from any place. It will integrate them with Banner, through a single sign-on.

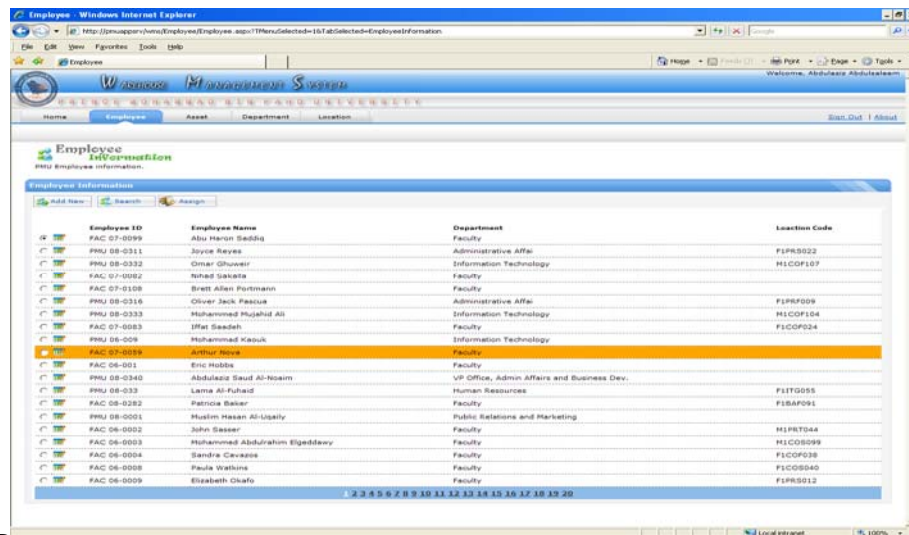


The screenshot displays the PMU Luminis Portal interface. At the top, there is a banner for Prince Mohammed Bin Fahd University with the text "PMU Luminis Portal". Below the banner, a user is logged in as Osama Al Saif. The navigation menu includes links for MyPMU, MyPanel, Luminis Guide, Feedback, Resources, Services, Academics, Library, and Student Life. The main content area is divided into several sections: "Message From the Rector", "Campus Announcements" (showing no announcements), "Campus Calendar" (displaying a calendar for November 2008), "@ a Glance" (featuring 2008 news items), "Web Search" (with a search box and links to Google and WWW Search), and "Academic Calendar".

4. **Blackboard** is a course management tool used by all instructors of PMU, who want to deliver part or all of their course materials and instruction online. It is very accessible via any Web browser and the Blackboard course sites provide them many useful administrative and interactive communication features, like for the file sharing, online assessments, discussion boards, and collaborative group work for their students.



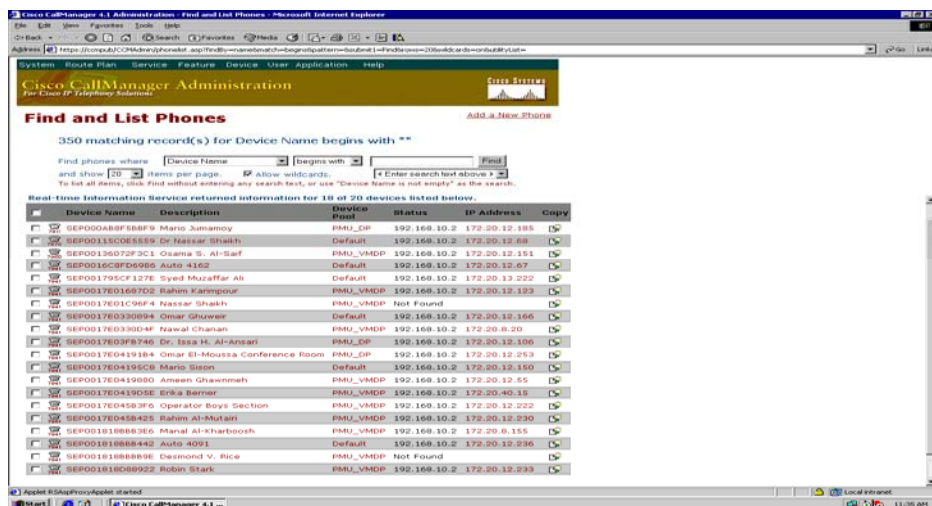
5. **WMS Warehouse Management System** was designed and developed by the MIS Team for the Administrative Department for tracking PMU assets. This is a solution for meeting their task demands. This will help them to track hundreds of IT assets, office assets and fixed assets throughout their multiple locations within the University.



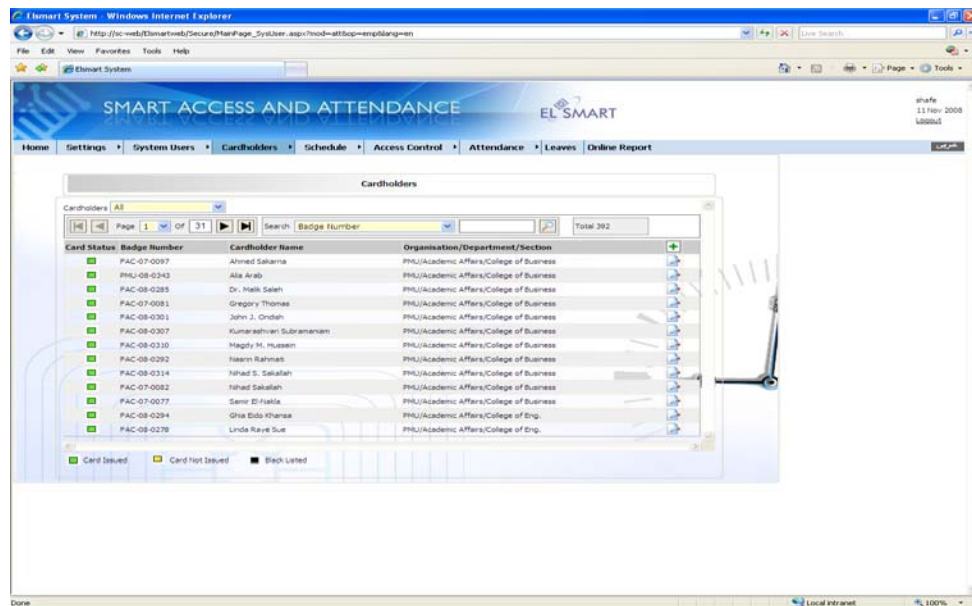
6. **ERT:** Executive Reporting Tool is a high level reporting tool designed for senior administrators of this University, to provide them statistical and summarized student's information



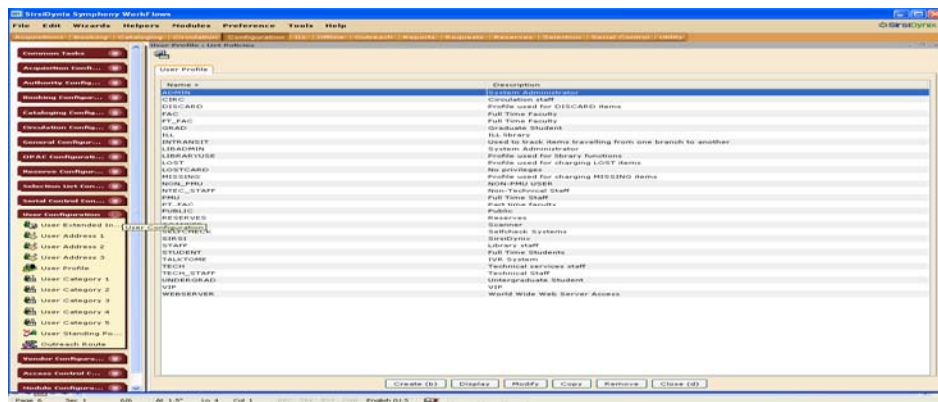
7. **HDS: Help Desk System** is a client/server application that will integrate with WMS (Warehouse Management System). End user request regarding IT services will be handled by the system. The system has the functionality to track the status of the request and, it has the functionality to send an e-mail to the end user.
8. **IP Billing** is an application that monitors and reports on all calls billing within the permitted personnel that can use the national and cell call services. This application helps in cost control and better manages the department budgets.



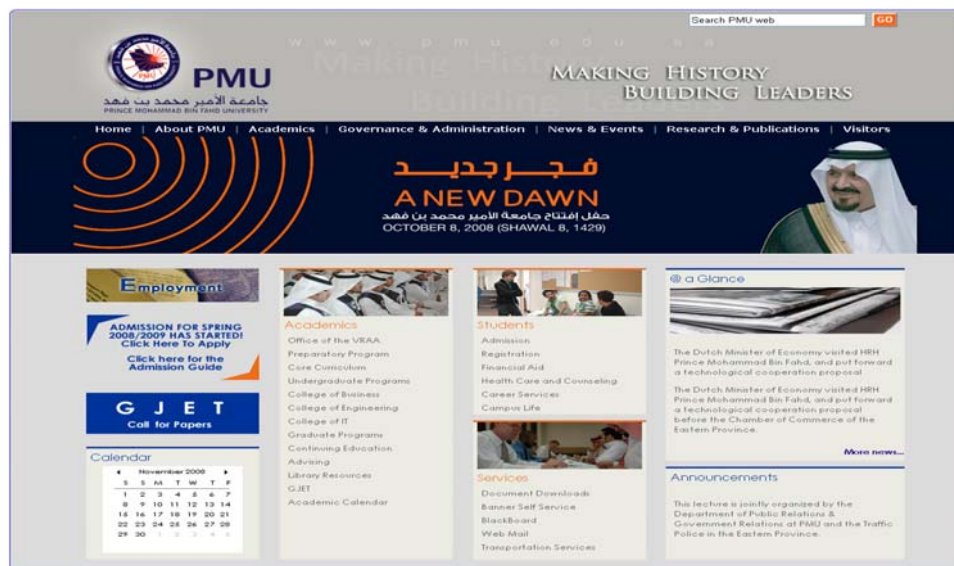
- TAA: Time Attendance Application** and the Smart Access application have many uses. It provides a complete User interface for defining Attendance Rules, Organizational structure, User privileges, shifts, work schedules, employee information, Titles, holidays and leaves, etc. Also, the software provides quick information on employees, their attendance and location. It is used by accounting department to facilitate transaction affecting overtime, absent rules, and grace period for Late/early punches. It also gives a Powerful Report generation selectable based on Individuals, Departments or the different organizational levels for specified period available. With this, Regional/division/Department heads can login to generate the various reports based on the privileges through the Intranet using a web browser such as Internet Explorer.



10. **Library Management System:** The Library Management System by SirsiDyNix was first implemented in PMU. This exclusive system allows all the library functions of this University to be implemented in one INTEGRATED technical system. Thus includes in the system are comprehensive integrated library system (ILS) functionality, in performing their duties both basic and advanced capabilities for Circulation, Cataloging, Serials, Acquisitions, Outreach, Materials Booking, Reserves, Accountability, and more. Each module is developed separately and all seamlessly fit into the overall integrated SirsiDyNix Symphony system.



11. **PMU official web site:** PMU site has been developed and maintained by internal resources based on PMU administrative and academic requirements. PMU achieved global recognition due to the enhancement, customizing the look and feel on the overall functionalities.



In addition to the above, a number of future projects are already in perspective for the next academic year. This includes the enterprise resource planning application for human resource and financial departments.

## **6.2 IT Infrastructure Services**

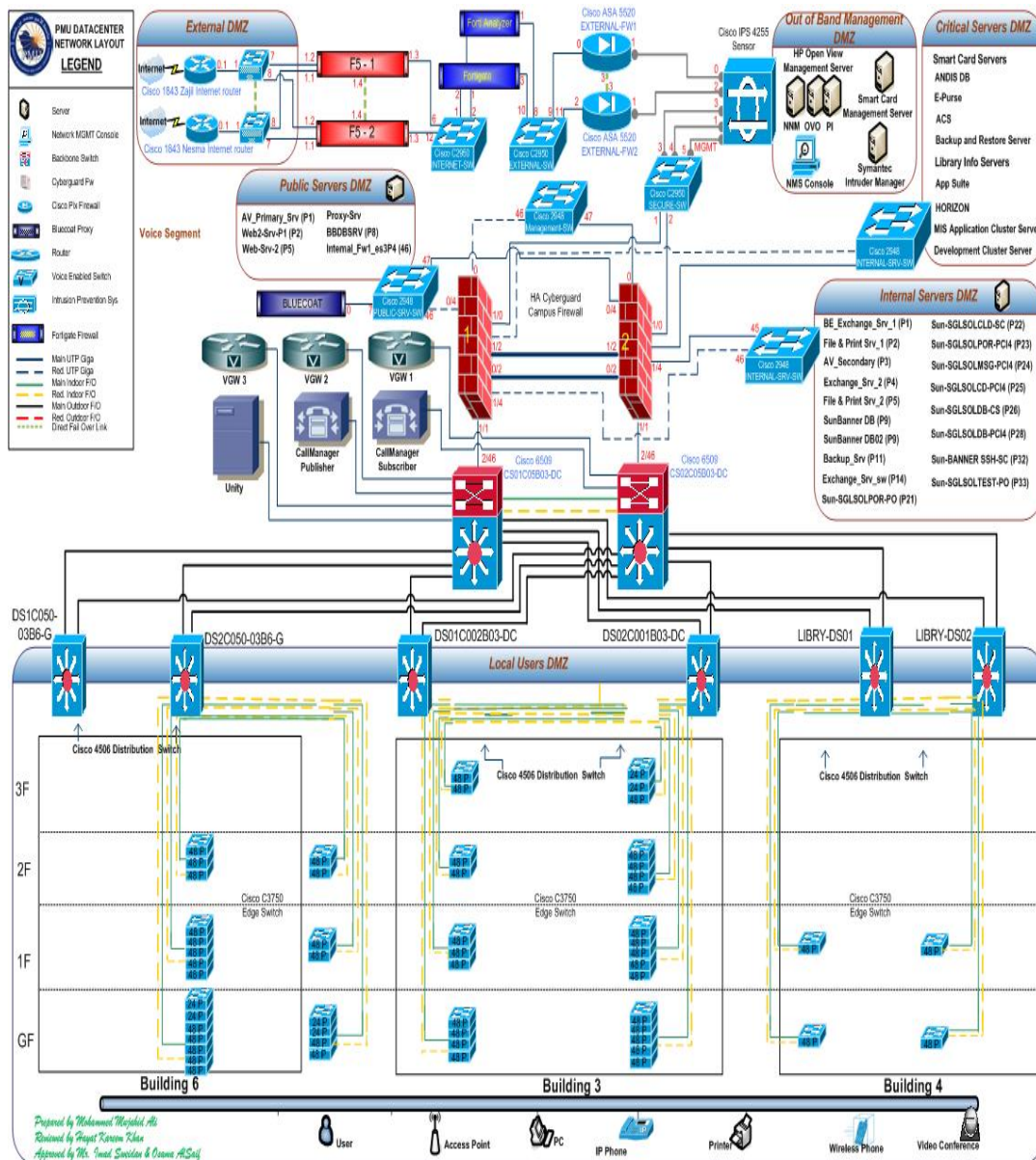
“With omnipresent computing and the power of the internet entering in new era”, the IT infrastructure is preparing to be flexible, highly reliable and scalable on the catalyst of high technology world. The challenge is to provide high-speed connectivity and high performance computing of the University, while meeting the day-to-day requirements of users and protecting network resources from intrusion. Provides tools for effective communication and ensuring the availability of critical data is secure, as a part of effective computing environment.

Infrastructure Services is highly committed to provide best of the services to meet the pace of ever-changing state-of-the-art computing technology.

In order to better manage its IT infrastructure, ITD invested in Microsoft Server 2003 Servers , Microsoft Services helping PMU to get the most out of those Requirements to resolve critical issues along the way, PMU ITD believes that through better system design and more efficient system administration, it can continue to support the university’s burgeoning technology requirements in a long-term.

When it comes to IT management challenges Prince Mohammed Bin Fahd University’s Information Technology Services ensure the security and reliability of a sprawling infrastructure while providing academic and teaching staff with enough flexibility to use different desktop applications and configurations.

PMU datacenter schematic diagram





**The services and products that have been applied and are in use in PMU include;**



THE WORLD RUNS BETTER WITH F5.

PMU has F5 Link Controllers which is an amazing piece of hardware that provides high-availability load balancing, fast and extremely intelligent layer 7 switching, granular interactive control, DoS protection, resource pooling and a number of other features to help protect an enterprise's Internet presence.

F5's Link Controllers allows PMU multiple wan links to extend the benefits of traffic management to all of their IP-based applications. This is called Application Traffic Management. Pioneered and perfected by F5, Application Traffic Management allows organizations to ensure quality of service and manageability, apply PMU's business policies and rules to content delivery, support increasing traffic volumes, deliver their applications securely, operational efficiency and cost control, and remain flexible to future application and infrastructure changes to protect investments.



PMU is using Packet Shaper's which have a unique system architecture designed to serve PMU's Internet bandwidth as an intelligent overlay to your diverse application environment and IP network infrastructure combining best-of-breed technologies for optimizing WAN application performance in a single appliance it works as a transparent overlay to IT infrastructure Gain intelligence on network and application behavior through passive traffic flow monitoring or deploy in-line and Packet Shaper invisibly delivers QoS, compression and acceleration to create a high-quality user experience across the WAN and Internet.



Cyber Guard is deployed in PMU as Internal firewall, it is a complete internal security appliance for PMU, office network-in-a-box plus security appliance for PMU Local area network with wide area networking tools. a typical single-purpose security appliance that adds one more additional device to PMU network, cyber guard is networking device for PMU PCs to be networked with one another, connect securely to the Internet, connect to the WAN, and service all remote access VPN needs. Cyber guard handles it all internal traffic by converging all firewalling, networking, security, and remote access requirements into just one



high-speed & highly reliable , Securing critical servers, staff offices and PMU labs has never been easier thanks to the rugged and richly featured of firewall/VPN appliances for PMU.

## Blue Coat

The Blue Coat ProxySG 810 secures PMU Web communications and accelerates University's applications across the campus. The ProxySG 810 Series represents the next generation in high-end appliance platforms ,Located at the Internet gateway, provides effective control of PMU's Internet traffic, including protection from spy ware, malicious mobile code, inappropriate web usage, and potential legal liability – while actually improving web performance. The Blue Coat SG810 is for inspecting, controlling, and logging Web application traffic entering or leaving the network.

## FORTINET.

The FortiGate-1000A Security System is a high performance solution that delivers gigabit throughput with exceptional reliability for PMU network. The FortiGate- 1000AFA2 optionally provides 2 ports featuring Forti Accel TM technology enhancing small packet performance. All FortiGate-1000A products deploy easily in existing networks and can be used in PMU for antivirus and content filtering and deployed as a complete anti spamming protection solution. High Availability (HA) operation and redundant hot-swappable power supplies ensure non-stop operation in mission-critical applications.



Cisco has made inroads into **PMU** network equipment s outside routing, including Ethernet switching, remote access, security, and IP telephony.

**Firewalls:** Securing PMU network and information from unauthorized access, while maximizing network resiliency and maintaining business continuity. Cisco ASA 5500 provides advanced application-aware firewall services with identity-based access control, denial of service (DoS) attack protection,

**Intrusion Prevention System:** Defending PMU critical network assets from attack with advanced, full-featured intrusion prevention (IPS) services. Cisco ASA 5500 Series incorporates powerful, high-performance zero-day protection against threats including

application and operating system Vulnerabilities, directed attacks , worms, and other forms of malware.

Cisco Secure Access Control Server: PMU’s network is integrated with Access Control to Enforce Network Access Policy control platform that helps you comply with growing regulatory and University’s requirements. By integrating with other access control systems, it helps improve productivity and it supports multiple scenarios simultaneously, Cisco Secure ACS centrally manages access to PMU’s network resources for a growing variety of access types, devices, and user groups. These key features address the current complexities of network access control system.

**Voice and Unified Communications:** PMU has Cisco IP telephony which is a way to extend consistent communications services to all PMU employees in their workspaces, whether they are in campus or roaming in university. IP telephony transmits voice communications over the network using open-standards-based Internet Protocol, Cisco IP telephony solutions are an integral part of Cisco Unified Communications, which unify voice, video, data, and mobile applications in PMU networks enabling users to easily communicate in any workspace using any media, device, or operating system. Using the network as the platform, Cisco IP telephony solutions help PMU’s requirements by greater security, resilience, and scalability in addition to the inherent benefits of using a converged network for transport and interconnection.

**Wireless Network:** PMU is connected through high speed Cisco Aironet wireless access points providing intranet and internet services across the whole campus



“Like many institutions of higher education, we have a complex IT environment with limited IT controls. At the same time, we’ve seen a steady increase in Microsoft®-based infrastructure at the university, including business-critical applications such as e-mail, SQL Database, PMU challenge is to maintain high availability for this growing infrastructure with a relatively small pool of staff.”

PMU have **Windows2003 servers** because for its scalability and in order to promote open source projects. Windows servers make it easier to deploy, manage, and use. The result a highly productive infrastructure that helps makes Universities network and a strategic asset for PMU

Windows Server 2003 provides enhanced security, increased reliability, and a simplified administration to help end-users.

It is used a multipurpose operating system capable of handling University's diverse set of server roles as a centralized or distributed fashion. Some of these server roles include

- Directory services
- Domain Name System
- Dynamic Host Configuration Protocol
- Windows Internet Naming Service
- File and print server
- Web server and Web application services
- Terminal server
- Remote access

**Microsoft Exchange Server:** Microsoft Exchange is the primary e-mail system for PMU campus faculty, staff. In addition to e-mail, Exchange can provide calendars and scheduling, contacts, notes, task lists and access to public folders. It interfaces with the global address list for all PMU employees, using either e-mail software installed on your computer or a Web browser (Outlook web access).

E-mail on Exchange can be accessed via client software installed on your PC or other computing device. The most commonly used PC client software is Microsoft Outlook.

A Web-based version of Outlook is also available that can be used to access Exchange e-mail when you are away from your primary computer. Outlook Web Access requires only an installed Web browser like Internet Explorer or Firefox.

PMU is going to start new e-mail services for its students on Luminis Platform (Portal)  
<http://mypmu.pmu.edu.sa>

**Microsoft SQL Server:** PMU has Microsoft SQL Server as a database platform for its online services and In-house developed applications; ITD is planning to enhance and use it as business intelligence platform for data integration, analysis, and reporting solutions.

**Microsoft System Center Configuration Manager:** System Center Configuration Manager 2007 is the solution to comprehensively assess, deploy, and update servers, clients, and devices across the campus, Optimized for Windows and extensible beyond, used for gaining enhanced insight into, and control over systems Infrastructure.

Windows Server Active Directory and the Windows architecture, System Center Configuration Manager 2007 enhances your insight into, and control over, PMU IT

infrastructure. With Configuration Manager 2007, ITD can ensure that IT systems comply with desired configuration states to improve systems' availability, security, and performance network-wide. System Center Configuration Manager 2007 includes:

**Windows File & Print Servers:** File and Print Services in Windows Server 2003 enable PMU IT professionals to create advanced and cost-effective information networks that help maintain data availability and security ease deployment and management, and integrate well with existing infrastructure. PMU File & Print servers are integrated with storage services in clustering mode and it is easier to manage, more reliable, and more available than ever before. More efficient backup and restore operations and increase productivity.



**Enterprise Storage Group :**

In order to fulfill the growing need of storage of data and to provide fast and reliable access to university's community, Storage Area Network has been designed and implemented at datacenter. Enterprise Backup to ensure that no critical data is lost by user's interaction or in case of disaster, ITD has acquired robotic tape libraries and enterprise backup software. Critical applications and data have been identified and policies and operation are in place to take care of the data reliability. The daily backup is already exceeding 1TB daily and growing.



PMU has Trend Micro Incorporated, a global leader in Internet content security, focuses on securing the exchange of digital information for PMU. Trend Micro is used in PMU for advancing integrated threat management technology to protect operational continuity, personal information, and property from malware, spam, data leaks and the newest Web threats.

Trend Micro data leak prevention security combines endpoint-based enforcement with highly accurate fingerprinting and content matching technology. It protects sensitive information privacy to meet PMU's stringent regulatory compliance standards.

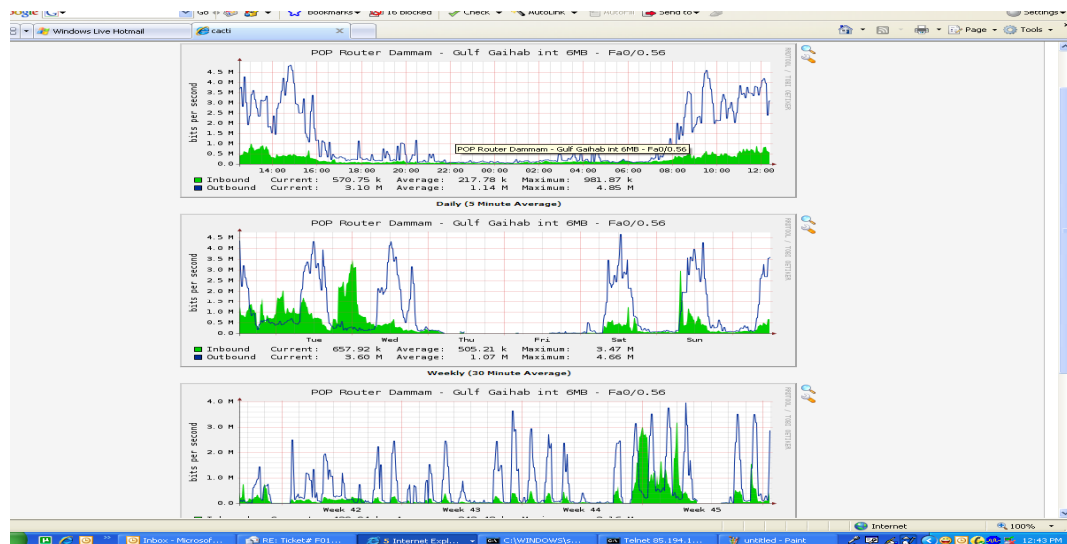
**DATA CENTER OPERATIONS:** The mission of the Data Center Operations is to provide the highest possible quality of central computing support for the user community and to ensure that University Technology Services' central computing systems are operational 24 hours per day, 365 days per year. The computing systems are operational.

**Data Center & Communications:** PMU Data Communications has a continuing mission to design, develop and deliver the most powerful, robust, high-performance data networks to support the students, faculty and staff, of PMU. The IT Department aim to provide an outstanding professional technical support in a timely and courteous manner to all PMU clients.

**Cabling Infrastructure:** The existing Data Center’s network configuration has power cables run under the raised flooring. This mixing of cable restricts the airflow from the cooling systems, causing interference with the data stream and makes maintenance a real nightmare. Additionally, it exposes the cabling to an increased risk of damage from water leaks.

Overhead data cable management has been installed throughout the Data Center and all data cabling is now contained in the overhead cable runways. The only cabling contained under the raised flooring now are power cables and a small amount of data cabling for the smoke and water sensors.

**New Equipment Rack Enclosures:** Existing equipment racks have been a mix of configurations. Power distribution within the racks was a mix of input and output voltage and amperage. The non-standard configurations gave a very haphazard appearance to the server racks. New equipment rack enclosures of standard configuration have been installed throughout the Data Center. Power requirements both outside and inside the enclosures have been standardized and are designed to efficiently distribute power throughout the Data Center. These changes have greatly improved the aesthetics of the Data Center.



## 6.3 Academic Computing

Academic computing is the main interface with the PMU community. All end users request comes to the IT helpdesk and then directed to the concerned party. The labs and classrooms are maintained with a 8am to 6pm professional covering both campuses. The Technical Support Center was established to services the walking in students at each campus along with the end users, staff and faculty, for fast fixes. ITD workshop is also maintained for internal first leel support for the PMU hardware.

Classroom and labs:

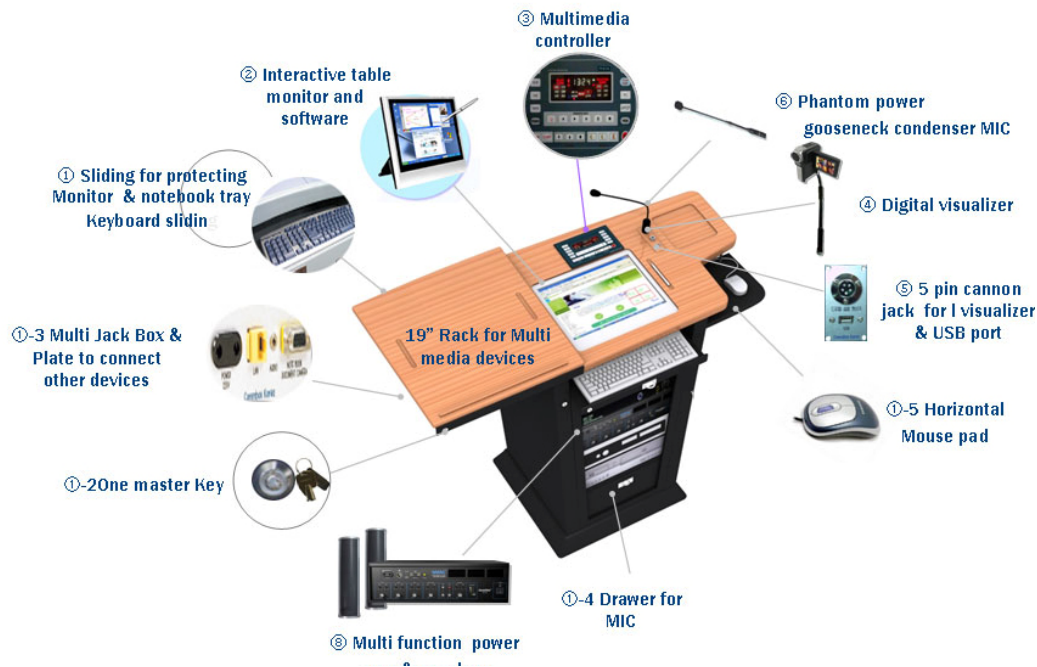
The PMU has three kinds of classrooms and all of them have prepared and equipped by high technology and going along with latest, newest and most modern of the technology.

All classes and campus in PMU fully covered by wireless connection it powered by Cisco Systems

### 6.3.1 Traditional classrooms

This type is classic classroom and it has equipped by SMART Board interactive whiteboard technology. The SMART Board interactive whiteboard technology is the newest technology in education field in worldwide; SMART Board interactive technology whiteboard why PMU has chosen it? Because it helps energize presentations and motivate learners, **smart board features:**

- **Touch to control your computer:**  
Write, erase, and perform mouse functions with your finger, a pen, or an eraser – you need no proprietary tools.
- **Pick up a pen and write:**  
Pick up a pen or the eraser, and the pen tray automatically detects which tool you have selected. Buttons activate the On-Screen Keyboard, right-click and help function.
- **Save your ideas:**  
Capture your work to SMART Notebook software as a screen shot that you can edit, or save your notes directly into several software applications, including Windows versions of Microsoft PowerPoint, Word, and Excel, or AutoCAD software.



### 6.3.2 Special smart classroom without video conference

This smart classroom gives the teacher the ability to control all the equipments in the classroom from one place. It gives hem ability to view from pc or laptop. It give him ability to play video or play sound. It give him direct access to USB interface to connect Flash memory or and USB device.

It give him software that can by it simplified many technique that he need "write notes, rich color, and very easy to use".

This classroom it has high efficient for students in audio and video learning and capable to use E-learning technology, this classroom not computerized, the students they use theirs computer during the class and instructor as well.

This classroom using high tech of technology in educational environment, the class it is uses the

Smart classroom with video conference

This classroom it no difference between previous type but this classroom it's distinguished by E-learning techniques, video conferences and e-video conferences.

Videoconferencing System

A videoconferencing system is integrated with the existing audio, video & control systems, the videoconferencing system.

## 7 Policy Statement

The Information Technology resources and services of Prince Mohammed Bin Fahd University are provided for the advancement of the University's educational, research, and service objectives. They are offered primarily to facilitate the University's academic and business purposes. Any access or use of IT resources and services that interferes, interrupts, or conflicts with these purposes is not acceptable.

It provides notice of the University's expectations and guidelines to all who use and manage IT resources and services (including but not limited to computing, networking, communications and telecommunications systems, infrastructure, hardware, software, data, databases, personnel, procedures, and physical facilities).

### 7.1 Applicability

IT Policies are applicable to all students and employees (faculty, administrators, and staff) and any others who are extended the privilege of using IT resources and services for the purpose of achieving the educational objectives of PMU and its students. All such persons accessing and using IT resources and services are subject to the applicable provisions of the University Statutes, University Code of Conduct, and Handbook for Administrators, Student Handbooks, and all other policies and procedures established by administrative offices of PMU.

#### **USER RESPONSIBILITIES AND STATEMENT OF PROHIBITED USES:**

Only authorized members of the PMU community are extended the privilege to access and use IT resources and services. Access and use is limited to the purposes that are consistent with the instructional, research, and administrative goals of PMU and the user's relationship to those goals. Access or use that is not consistent with these goals may be prohibited and may result in sanctions imposed by the appropriate University authorities. Users are advised that they may also be subject to international, federal, state and local laws holding them personally responsible for their own actions in connection with IT access and use.

### 7.2 Responsibilities

In consideration of the privilege of accessing and using IT resources and services, all persons are expected to comply fully with the standards and responsibilities of acceptable use as outlined in:



- All applicable provisions of the University Code of Conduct, employee handbooks and agreements, student handbooks and other policies and procedures established by the undergraduate, graduate of PMU.
- IT Policies and Procedures, including the Statement of Prohibited Uses
- All local, state, federal, and international laws, including but not limited to, copyright and intellectual property
- All software license agreements acquired by the University and its authorized units
- All applicable University policies and procedures, including but not limited to academic dishonesty, scientific misconduct, non-discrimination, copyright, intellectual property, and internet usage.
- The legal and educational standards of software use as published in PMU Code

**Other responsibilities include:**

- Self-policing of passwords and access codes.
- Changing passwords and access codes on an as-needed basis.
- Respecting authorial integrity and the intellectual property rights of others.
- Preventing and reporting viruses that infect computer systems.
- Properly backing up appropriate systems, software and data.

### **7.3 Statement of Prohibited Uses**

- IT resources and services cannot be accessed or used in the following manner:
- Initiating or participating in unauthorized or personal mass mailings to news groups, mailing lists, or individuals (including but not limited to chain letters, spam, floods and bombs).
- Giving others by password or other means unauthorized access to any user or network account.
- Using or attempting to use an unauthorized user or network account.
- Disguising or attempting to disguise the identity of the account or machine being used. This includes but is not limited to spoofing IP addresses, impersonating any other person or entity, or misrepresenting affiliation with any other person or entity.
- Using the University network to gain or attempt to gain unauthorized access to remote networks, including remote computer systems.
- Conduct constituting wasteful use of IT resources or which unfairly monopolizes them to the exclusion of others.
- Interference or degradation of controls and system security.
- Engaging in computer crimes or other prohibited acts.

Knowingly or negligently running or installing or giving to another user, a program which damages, exposes to unauthorized access, or places excessive load on any computer system, network, or other IT resource. These programs include, but are not limited to, computer viruses, Trojan Horses, and worms.



Using any IT resource or communication services, including e-mail or other means to intimidate, insult, embarrass and harass others; to interfere unreasonably with an individual's work, research or educational performance; or to create a hostile or offensive working or learning environment.

Periodically, the University will conduct information sessions and/or provide in official communications specific examples of inappropriate IT uses. In the interest of creating a well informed user community, the University also encourages questions about proper use. Direct inquiries to Director of IT infrastructure at **849-9293** or to the CIO Office at **849-9292**

## **7.4 Enforcement and Sanctions for Non-Compliance**

In the event of a violation or failure to comply with IT policies, the University may initiate charges and impose appropriate sanctions by following the various processes and procedural safeguards that are applicable to the individual's employment or student status.

Complaints from individuals alleging the inappropriate use of IT resources and services should be referred to the Dean of Academic affairs if the alleged offender is an undergraduate student or a student in the Graduate Education,

In addition to liability and penalties that may be imposed under international, federal, state or local laws, IT users who fail to fulfill their responsibilities and engage in prohibited conduct are subject to sanctions imposed by the University. Sanctions against students are listed in the Student and Residential Life Handbooks. Faculty is subject to disciplinary action, including reprimand, suspension and dismissal as stipulated in the University Statutes.

Administrators and staff are subject to disciplinary action under their respective handbook and collective bargaining agreements. Depending on the nature and severity of the violation, sanctions can range from various levels of warnings to immediate termination of employment or enrollment.

The University will exercise good faith and proper discernment in its enforcement of all IT policies. It will respect the academic freedom to which users are entitled insofar as the legal rights and responsibilities of the individual IT user and PMU require. Failure to take action in any particular instance should not be construed as an alteration of the policy or a waiver of any right or remedy available to the University.

## **7.5 Privacy**

Access to the Information Technology resources and services of PMU is granted primarily for facilitating the work and objectives of University. All students and employees (faculty,



administrators and staff) retain the right of privacy in their personal files and data, electronic mail, and voice-mail as long as they are using IT resources consistent with the purposes, objectives, and mission of University.

For the purpose of satisfying any law, regulation or government request, PMU reserves the right to monitor the use of IT resources and services and disclose any information necessary and appropriate. In the event the University has reasonable suspicion that a user of IT resources has violated any civil or criminal law, the University Code of Conduct, IT Policies or any other University policy, procedure, or regulation, the University reserves the right to access, inspect, monitor, remove, take possession of, or surrender to civil or criminal authorities the offending material, with or without notice and consent of the student or employee.

This limited exception to the general right of privacy in the context of acceptable use of IT resources can be authorized for reasonable cause only by IT dept of University , Moreover, users of IT resources should be aware that the University cannot guarantee security and privacy, as their uses may not always be completely private. For example, issuance of a password or other means of access is to assure appropriate confidentiality of University-related information and files. **It does not guarantee privacy in all cases, especially for personal or unlawful use of IT resources.**

## **7.6 Emergencies**

While the University will not routinely monitor individual usage of its computing resources, in order to restore normal operations and maintenance, in emergency situations, the University may require back up and caching of data and communications; logging of activity; monitoring of general usage; and other activities that are not directed against any individual user or user account, but are undertaken for the proper rendition of service.

## 8 Department Document Production

In association with the department and system building ups, a number of internal documents, guides, system specifications and other manuals have been generated. Prince Mohammad Bin Fahd University (PMU) documentations for Banner, Blackboard and other application systems used at PMU are available to help student, faculty and staff to use the application systems efficiently and effectively.

PMU used standard format for all documentations generated by our professional team to provide a consistent format for reference materials, uniformly of style, format and content documentation (e.g. version control, document control and file control).

Sample snapshot of our documentations.



**How to Log in Banner**

There are several easy steps to log into Banner. This section will take you through step-by-step procedures of logging into the Banner system and properly exiting the system. Banner runs in an Internet Native Banner (INB) environment which means you will access Banner using an internet browser window.


The following instruction guides you on how to log on to Banner.

**Step 1.** On your desktop, click on the Internet Explorer icon to open your web browser.

**Step 2.** On the Address field, type <http://pmuhomertrng>, then press Enter.

**Step 3.** Select TRNG.

**Step 4.** Type **train1** as the username, and **456** for password then click **Connect** button or press Enter.



**Overview**

This user guide is designed to all students of Prince Mohammad Bin Fahd University (PMU) as a first exposure to Blackboard. Its goal is to familiarize you with the Blackboard and demonstrate navigation through systems. The Blackboard Student User Guide teaches you the basics about Blackboard.

**What is Blackboard**

Blackboard is a course management tool for instructors who want to deliver part or all of their course materials and instruction online. It is accessible via any Web browser, Blackboard course sites provide many useful administrative and interactive communication features which allow for file sharing, online assessments, discussion boards and collaborative group work.

**Blackboard Username and Password**

For the New First Time Students in PMU, the default Blackboard Username and Password is your (9 digits) Student ID Number.

**How to Login to Blackboard**

**Step 1.** Click on the Internet Explorer icon to open up your web browser.

**Step 2.** In the Address field, type the PMU Website <http://www.pmu.edu.sa> then press Enter.

The following is the list of the approved and published documents.



### **ITD Policy**

- Information Technology Policy (*Confidential*)

### **Banner User Guides**

- Banner Student Information System
- Banner Basics
- Banner Basics (ppt)
- Introduction to Banner (ppt)
- Admission QuickFlow (*Confidential*)
- Faculty Self Service Guide
- Banner Student Registration Quick Guide
- Web Registration Detailed Guide
- Web Admission Guide
- Banner A/R Guide
- Banner INB FAQ
- Banner SSB FAQ

### **Banner Forms**

- Modify Banner User Access
- Banner Change of Class Objects
- Banner New Class Objects
- Banner Report Request
- Banner Forgot/Lost PIN
- ITD Training Attendance Sheet

### **Banner Documentation**

- Business Workflow Admission (*Confidential*)
- Business Workflow Faculty (*Confidential*)
- Business Workflow Registrar (*Confidential*)
- Business Workflow Web Registration (*Confidential*)
- Business Workflow Accounts Receivable (*Confidential*)
- Business Workflow Housing (*Confidential*)
- Business Workflow Financial Aid (*Confidential*)
- Data Standard Admission
- Data Standard Human Resources
- Documentation Standard
- Model Documentation
- Report Generation Faculty (*Confidential*)
- Report Generation Admissions (*Confidential*)
- Report Generation Registrar (*Confidential*)
- Report Generation Accounts Receivable (*Confidential*)
- Start and End of Term Procedures (*Confidential*)



### **Blackboard User Guide**

- Blackboard Student User Guide

### **Time and Attendance Guides**

- User Guideline for TAA (*Confidential*)
- Dept of the Head Guideline for TAA (*Confidential*)

### **Luminis**

- MyPMU Portal
- MyPMU User Guide for Students (First Draft)
- MyPMU User Guide for Faculty/Staff (First Draft)

## 9 ITD Organizational Chart (latest)

DBA: Database Administrator  
 SE: System Engineer  
 NE: Network Engineer  
 TSE: Technical Support Engineer  
 HAD: Helpdesk Agent  
 WC: Women Campus

Positions filled: 27 (24 M + 3 F)  
 Positions Vacant: 15 (12 M + 3 F)  
 Total: 42 (36 M + 6 F)

CIO Office: 3  
 MIS: 13  
 ITIS: 9  
 AC: 17  
 Total: 42 (34M + 8F)

