

ITS

Customer Toolkit

for

Building

Construction

Projects

For customers of
Information Technology Services
University Health Care
587-6000 ▪ uuhsc.utah.edu/its

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Introduction



The **ITS Customer Toolkit for Building Construction Projects** is designed to provide you with necessary information to build a successful IT infrastructure into your project. You will find current standards, practices and processes, which will help you make key decisions about computer related needs.

Good planning makes for a successful construction project and prevents many pitfalls, whether that project is building a brand new facility or remodeling an existing area. There are some basic steps associated with most successful building and remodeling projects. Some don't apply to every project, but the "basics" remain the same.

Our hope is you will review this with your staff, so you understand the big picture from the beginning. We encourage questions early on and ask that you work with ITS to ensure an exceptional technology work environment. One your department will enjoy for years to come. Your input along the way will be invaluable, so please don't hesitate to ask questions or give feedback.

As the Special Projects Manager for Information Technology Services, **Michele Mills** will be your main point of contact for the duration of your building project. Her role is to help facilitate requests that arise and direct you to appropriate people within ITS, if necessary. Our hope is you will invite Michele to meetings and include her in e-mails when you are discussing IT related needs for your building construction project. To include computer related equipment and network.

Michele.Mills@hsc.utah.edu

587-6056

While ITS does not directly handle wiring, we work with Campus Network and Communication Services (NetCom) to verify what they install meets your department technology needs.

We look forward to working with you throughout your building project and wish you the best in this endeavor.

ITS Administration and Staff

Getting Started

How do you get a network design plan for your project?

As early as possible in the planning process, either enter an Online Trouble Ticket stating the **name of the project**, the **location**, and that a **network design** will be required to support the new location. The ITS Network Operations team will be able to determine what to provide.

Online Trouble Ticket: <http://support.med.utah.edu>

This will ensure you are in the queue. Someone will contact you to schedule a time to meet and discuss your needs.

Who installs the network cabling?

Network and Communication Services (Campus NetCom) installs network Cabling (network & phone wire). Contact NetCom at 581-4000 or submit a TEO to schedule.

How do we get wireless installed?

If you are requesting a new design, wireless access should be included in the design. If you want wireless coverage in an existing location (coverage for “dead spots”), enter an Online Trouble Ticket, listing the room or area to be covered. The request is routed to the network team, who will either define the existing network hardware or install new wireless routers.

How long does it take to install the network?

Network installation time depends on the complexity of the network in the building. Minimum timelines for network installation are as follows:

Cabling by NetCom:

10 days from placement of order to cabling start

1-5 days for cabling, terminating and testing.

Network Switches:

4-6 weeks from placement of order to receipt

3-5 days to configure and test

1-3 days to install

Network Closets

What is in the network closets?

An HP ProCurve 4000M with 40 10/100 ports and an APC UPS - usually a 1400

What are the costs for each item?

About \$600 for a switch, and \$250 for each UPS

Some questions you'll be asked by ITS, during the process;

- What are the redundancy requirements?
- Do you need more than one connection going to the building?
- Do you need generator power for network closets 24/7 ?

General Information

- Campus standard is Cat 6
- There is one centralized network closet per floor
- Secure, environmentally controlled (AC)
- UPS for equipment in network closets last 30 minutes to 1 hour
- Multi floor building--1 network closet per floor; preferred main network closet (main distribution facility) in basement.
- Ports will be made live when equipment is installed by ITS (i.e PC's, Metaframe, printers, scanners). If you need additional ports made live outside the construction project scope (e.g. for a current location), please submit a ticket at <http://support.med.utah.edu/>

Requirements & Misc. Standards

Things to keep in mind when discussing your new space with the person designing your remodel or new building;

- Need adequate conduits for network; not only for phones.
- Business practices dictate what network speed is needed. Questions will be asked about the type of connectivity you need. Ethernet or gig connectivity? Running images or basic office applications? At the desktop 10/100 or gig? Office space, clinical or research facility?
- Standard number of ports in conference room--Minimum of 2 network data ports for computers; 1 for phone.
- Standard number of ports for office or cubicle--Minimum of 2 data; 1 phone
- Network port counts, so ITS knows the amount of equipment needed in the communication closets.
- Is high-speed networking necessary? (gigabit, etc.) What are the requirements?
- Do special considerations need to be made for network traffic segmentation due to security and high bandwidth? What is the workflow and department occupancy?
- Design Standards and Recommendations for Communications Wiring Systems:
http://www.netcom.utah.edu/info/wiring_standards.html



Essential Information About Wireless Networking

Wireless networking, also known as 802.11 or Wi-Fi is an innovative way to offer network connectivity. Wi-Fi services have been deployed in many locations on the HSC campus, and are used extensively for providing network connectivity to a variety of mobile devices.

As departments make plans to deploy wireless services, it is important to understand how a wireless network may (or may not) operate, common issues that may be encountered and the possible results of a wireless deployment.

Wireless Key Concepts

Wi-Fi Standards: Several wireless standards exist. On the HSC campus wireless networks adhere to the following four standards.

802.11b - The original Wi-Fi standard. Operates on the 2.4 GHz band at roughly 10% the speed of a regular wired network under optimal conditions. This is the most common Wi-Fi standard. 11b functionality is built-in to many laptop computers and PDAs.

802.11a - Wi-Fi standard that operates on the 5 GHz band at 50% the speed of a regular wired network under optimal conditions. 11a networks are not as commonly deployed, and generally are slightly more expensive in terms of equipment cost.

802.11g - Update to the 802.11b standard. Operates on the 2.4 GHz band at roughly 50% of the speed of a regular wired network under optimal conditions. 11g is rapidly replacing 11b as the common standard, while remaining compatible with existing 11b devices.

802.11i - Security standard that addresses the security weaknesses of 802.11 networks.

Essential Information About Wireless Networking

Wireless Networking is a shared medium: Wireless networks are designed to behave like wired networks, but there are important differences.

- Wired networks operate on a closed medium. Meaning that data is passed through copper wire or fiber-optic strands in a direct path to its destination. Because the signals exist only in the wire, these networks are difficult to disrupt or eavesdrop. Wired signals are not very susceptible to interference from outside sources, making wired networks very reliable.
- Wireless networks operate on a shared medium, meaning that any data passed through a wireless network is broadcast through the air as radio waves. Broadcasting negates the benefits that wired networks possess. Wireless signals are easy to disrupt and eavesdrop. Many household and office devices operate on the same radio frequencies as Wi-Fi networks, making interference a serious issue as well.

Wired vs. Wireless: Wireless networks should not be viewed as a replacement for wired networks.

- Wi-Fi networks provide a level of mobility and convenience, yet introduce issues of security and reliability that are non-existent on wired networks.
- Wired networks can be relied upon for high, stable connection speeds, wireless networks under optimal conditions operate at half the speed of a regular wired connection. Optimal conditions are difficult to achieve and maintain in a mobile environment; a more realistic speed under normal conditions is roughly 25 - 35 % of wired connection speed.
- Wireless network connections are not appropriate for devices that will remain stationary, are bandwidth intensive, or require a highly stable connection. ITS recommends using a wired port when stationary or high network transfer speeds are required.

Essential Information About Wireless Networking

Wi-Fi Interference Issues

- Wi-Fi networks operate on unlicensed FCC radio bands (i.e. 900 MHz, 2.4 GHz, and 5 GHz).
- Many other household and office devices use these bands, some of which include cordless phones, Bluetooth devices, baby monitors, security cameras, and microwave ovens.
- Those planning Wi-Fi deployments should take note that these devices generally do not coexist well with one another. Cordless phone systems are particularly notorious for not 'playing nice' with Wi-Fi data systems. The best practice is to place phone and data systems on separate radio bands. If 2.4 GHz phones are already in place, consider deploying a Wi-Fi network using the 5 GHz 802.11a standard. If Wi-Fi using the 2.4 GHz 802.11b or 11g standards is installed, investigate 900 MHz or 5 GHz phone systems and avoid deploying 2.4 GHz phones.
- Many departments have seen a significant increase in problems with existing 2.4 GHz Wi-Fi data networks after 2.4 GHz phone systems have been deployed. The bottom line is that Wi-Fi data networks can be crippled by other devices operating in the same radio frequency band, significantly reducing the usefulness and value of the network, and increasing user frustration.

Essential Information About Wireless Networking

Wi-Fi Security Issues

- Due to the shared nature of wireless transmissions, there are important security and privacy issues with wireless networks.
- Keep in mind that ANYONE with a laptop computer or handheld PDA can eavesdrop or disrupt data transmitted over a wireless link without special equipment. The solution to this issue is strong encryption of all data transmitted through the wireless network.
- Older 802.11 networks use an encryption method known as WEP. WEP has serious weaknesses, and can be broken easily; in less than 15 minutes.
- The 802.11i standard eliminates the major weaknesses of WEP encryption and provides privacy and security services more appropriate for a health care organization.
- Currently, ITS is developing plans to implement 802.11i security measures. Protecting patient data and other sensitive information is required by HSC policy and HIPPA. WEP encryption is no longer considered adequate protection.
- Any devices that will be transmitting sensitive information should be wired, or use 802.11i enabled wireless networks.

ITS is committed to developing secure wireless network services. Frequent security testing and evaluation will be performed by the Information Security Office. Departments that deploy wireless networking are expected to work closely with ITS in maintaining a secure environment. Individuals and departments using wireless network services should develop a security mindset and report any suspicious incidents or circumstances to the Information Security Office.

Essential Information About Wireless Networking

The National Institute of Standards and Technology, or NIST, provides the following security guidelines concerning wireless networking.

NIST SP-800-48-ES-2

Agencies should be aware that maintaining a secure wireless network is an ongoing process that requires greater effort than that required for other networks and systems. Moreover, it is important that agencies assess risks more frequently and test and evaluate system security controls when wireless technologies are deployed.

Agencies should not undertake wireless deployment for essential operations until they have examined and can acceptably manage and mitigate the risks to their information, system operations, and continuity of essential operations.

NIST SP-800-48-ES-3

Agencies should be aware of the technical and security implications of wireless and handheld device technologies.

HSC Wireless Plan: ITS is developing an enterprise-class wireless infrastructure to provide secure, reliable wireless services. The infrastructure is designed to offer flexible wireless services for each of the major standards (802.11a/b/g), and provide 802.11i level security. This infrastructure will be included in any new wireless deployments. Existing deployments will also be upgraded as time and funds become available.

Standard Applications (non-clinical)

Software Installed on Standard XP Image

- Microsoft Windows XP Professional Service Pack 1a with all updates
- Network Associates McAfee VirusScan Enterprise Version 8.0i
- Network Associates ePolicy Orchestrator
- Citrix Program Neighborhood
- Novell GroupWise 6.5 SP4
- Altiris
- Carbon Copy
- Softgrid (Office current version & institutional applications)

Standard Applications (non-clinical)

Non-standard Software for Department Purchase

- Contact ITS for input and recommendations on software; requirements for implementation and support. You can either submit a ticket at <http://support.med.utah.edu/> or call the **Support Desk** at **587-6000** and they will submit a ticket for someone to follow up with you.
- Note:** To avoid any problems, the purchase of special, non-standard software you use needs to be investigated before you purchase it, to ensure it is something that can be supported. For a project, ITS needs to receive the request for review one (1) year prior to go live. You can submit a ticket online or call the Support Desk and they will submit a ticket for someone to follow up with you.

How do we get applications delivered?

Applications may be installed locally on PCs, delivered remotely to PCs or used on thin clients (Citrix) via the network.

If installed locally, applications must be installed by the ITS Client Support team or your department approved computer technician. Installation by ITS technicians can be scheduled by submitting an online ticket or calling the Support Desk.

Applications delivered via Citrix desktops can be accessed through the Applications Portal, <http://remote.med.utah.edu>

What applications can we use?

You can use any of the installed applications on Citrix desktops to which you have a login. Most applications, especially clinical applications, do require a login.

Many locally-installed applications are available from the ITS Client Support team. When the client support representative installs the software, s/he will also complete the campus orders required for licensing the software. Software licenses are purchased through the Office of Software Licensing <http://www.osl.utah.edu>

ITS Health System Applications

Application Name & Description	Contact Information	Hardware Requirements	Other Requirements & Licensing	Time Required for Build and Implementation	Training Requirements	Notes
Note - This is a partial list. Call ITS for additional Applications and Information.						
Allegra Billing	Christy Livingston Director 587-6116		Site in Allegra defines general ledger. Need to set up Subcenters.	Interfaces with Omnicell, Mediserve	ITS Training uuhsc.utah.edu/its/training	Facility, Price File. It is crucial to begin work on this very early.
Allegra Registration (ADT - admission, discharge, transfer)	Christy Livingston Director 587-6116	Embossers, bands, card readers - per Sherrie Woodmancy	Possibility of KEA licensing	This is a huge effort 'weeks' with multiple interface implications	ITS Training uuhsc.utah.edu/its/training	Will need to clarify billing, other financials.
Amcom - phone system, information desk.						
Clinic On Track	Brian Nordberg 587-6159	existing	Also StockAmp		ITS Training currently available	On line worklist, verify insurance
Email - GroupWise, HSC Intranet Resources, Internet	ITS Help Desk 587-6000	Nothing additional	Nothing additional	Nothing additional	ITS Training uuhsc.utah.edu/its/training	
Epic	Carrie King 587-6068 Nancy Brazelton (Director) 587-6187					
Equipment - Analysis of needs and order assistance	Michele Mills 587-6056					Michele can also help coordinate Network Design Assessment and Implementation (wired and wireless)
Lawson - master of items Supply System	Janeen Kupitz 587-6145 Ray Rubio (Purchasing) 587-6533					Integrated Supply Chain Project with Lawson in Progress.

ITS Health System Applications

Application Name & Description	Contact Information	Hardware Requirements	Other Requirements & Licensing	Time Required for Build and Implementation	Training Requirements	Notes
Health Information Applications HDM Health Information Coding MedRec - Chart deficiency tracking						
IDX Physican Billing (BAR)	Lori Rosendahl 587-6118	PCs or MetaFrames	IDX licensing costs for any new hire (usually around \$100/ea); varies month-to-month based on SOM formula.	Needs back-end location changes.	Training is done twice monthly; ITS Training uuhsc.utah.edu/its/training	
IDX Scheduling	Cindy Skedros 587-6128 Mindy Sudbury 587-6127	MetaFrame workstations or PCs and printers	License costs as per IDX Bar	Setting up new locations and updating the provider schedules along with the appointment information to the new location codes.	Only new users would need training and they can attend the class through ITS training offered weekly.	
IDX Rad - provides the dicom header information for PACS	LuAnn Brigham 581-4915 Scott Goodell 587-6126	PC or MetaFrame, printers equal to Allegra or other IDX applications, barcodes with terminal server are helpful in high volume areas	Exam based	3-5 days, longer if they will have order entry	variable depending on the plan for how exams are scheduled	
Kronos - time clocks	Suzette Reid 587-6144	Requires Analysis				Special requirements with new construction

ITS Health System Applications

Application Name & Description	Contact Information	Hardware Requirements	Other Requirements & Licensing	Time Required for Build and Implementation	Training Requirements	Notes
Mediserve - Therapy Documentation (PT, OT, Speech, Recreation, Rehab Notes, Respiratory)	Sheila Shrader 587-6147 Anne Jacob(PM) 587-6067	Coordinate with Michele Mills and the Therapy dept. They are using tablet pcs.		Requires analysis	ITS Training uuhsc.utah.edu/its/training	Respiratory is Phase II. Notes created in Mediserve and interfaced into Olympus. Includes a billing component that requires a separate analysis.
Monarch Reports	Randy Black 587-6130					View of Allegra Reports
Help Order Entry	Donald Kruppa 587-6139					Available for Inpatient Only - Univ. Hospital and Huntsman Hospital
Maximo - Engineering Dept. Application						
Olympus - EMR. Results Review, Clinical Notes text entry (direct, and transcribed), PowerForms, PowerNotes, EasyScript, Med Profile, Problem List, Procedure List, Allergies, InBox	Jana Garrity 587-6073 Nancy Brazelton (Director) 587-6187 Patricia Willis (Ambulatory) 587-6075	PCs or MetaFrames, Printers		New Development requires full analysis before timeframes can be given. Interfaced information or data requires separate project approval and planning.	ITS Training uuhsc.utah.edu/its/training	PowerChart, FirstNet (Emergency Room), PharmNet, Retail PharmNet, Enterprise Master Patient Index, Cerner Document Imaging (Scanning)
Olympus PharmNet or Retail Pharmacy	Retail Pharmacy: Outpatient Pharmacy: Mike Kelly 587-6325 PharmNet: Brett Sower 587-6074	Unit based supply cabinets (SureMed/Omnicell), AutoMed equipment		Requires analysis		Requires additional evaluation both from IP and Retail side.

ITS Health System Applications

Application Name & Description	Contact Information	Hardware Requirements	Other Requirements & Licensing	Time Required for Build and Implementation	Training Requirements	Notes
Olympus Clinical Documentation	Ann Lyons 587-6186 Nancy Brazelton 587-6187	PCs or MetaFrames, Printers			ITS Training uuhsc.utah.edu/its/training	Process for prioritizing requests is being developed as of 11-04.
Olympus Document Scanning	Wade Bourland 587-6199 Amy Sletta (PM) 587-6064	Will require additional analysis based on Point of Care versus Batch Scanning.	May be additional licensing costs based on number of users.	Requires analysis	ITS Training uuhsc.utah.edu/its/training	Process for prioritizing requests is being developed as of 11-04.
Omnicell - supply cabinets	Justin Rhodehouse 587-6146	Cabinets - will require analysis of needs				Charges entered thru interface to Allegra
Ormis - Operating Room		2 workstations per OR. Depends on implementation, i.e. pre, intra, post op use.	Requires Analysis	Minimum 3 months	Contact the OR with training needs	
PACS -Digital x-ray images system. Filmless archiving of images. PACS PC	Karen Jennings 585-3233	Depends on requirements. Karen can assist with analysis.				Web access also available
PeopleSoft and General Ledger	Suzette Reid 587-6144					
SPM (replaces SAMS)		Special equipment eval in progress, label printers.	Additional site license.		Decentralized	
Sorian	Anita Willoughby 587-6220					
Talk - voice recognition for radiology reporting- Used only by the Radiologists.	Karen Jennings 585-3233	Integrated in PACS workstation	License fee per workstation	?	5 minutes for initial enrollment with 30 additional minutes for full. The user also needs to continue to train it.	System may be relaced by. This is primarily for radiologists who are reading films and dictating reports.

ITS Health System Applications

Application Name & Description	Contact Information	Hardware Requirements	Other Requirements & Licensing	Time Required for Build and Implementation	Training Requirements	Notes
TeamUp	Donald Kruppa 587-6139					
Future Enhancements						
Voice recognition						Analysis in progress per Health Information Dept.
SuperBill Billing - Physician and Facility						Requires CPOE and interfaces to IDX and Allegra.
Automated or Computerized Phsyician Order Entry (CPOE)						Project not kicked off yet.

Standard Applications (clinical)

Health system apps spreadsheet goes here

Citrix Requests & Standards

Adding Applications to Citrix

Things to consider

- How many users do you estimate will be on each server at a time?**
 - Depending on the server and application, additional servers may need to be ordered to accommodate your requirements.
- Process to request an application be added to Citrix**
 - Submit a ticket at <http://support.med.utah.edu/>
- Testing process**
 - In order to ensure a new application works well on our Citrix servers, keep in mind that any new application will require time for testing.

Interface Requests

The term “interface” as used in this document, refers to automated sharing or sending of information back and forth between systems.

Request Process (Questions)

- Do you need an interface?**
- If so, was funding for an interface included in your building project budget? Is the interface funding approved? What is the funding source?**
- How do you schedule a request with the interface team?**
 - Submit request via email to Kris Lundell at kris.lundell@hsc.utah.edu and Jim Livingston at jim.livingston@hsc.utah.edu
 - You will be asked to fill out a form at;
<http://appdev.med.utah.edu/interfacerequestform/index.jsp>
- What should you expect after submitting the request?**
 - Request will go to the Interface review committee who determines the size of the project, criticality and resource requirements.
 - Interface committee will contact you to communicate status.
 - Progress can either be tracked via Project Server or email. Discuss your preference with the interface team.

Request Requirements

- Minimum lead time is 6 months; 9 months preferred.**
- Approximate time lines for completion**
 - 1 month for a simple interface
 - 3 months minimum for a more complicated interface
- Time frame given is to ensure you get in the queue and we are able to meet your project time line. There is no guarantee we can meet your time line, if we are not given the minimum lead time.**

Desktop Equipment Requests

Equipment Ordered by ITS

Computer equipment for the Hospital, Clinics, and various Health Sciences departments is **ordered, delivered, managed, and installed** upon request by Information Technology Services. Equipment is normally leased, but may be purchased for projects, if that option is deemed more appropriate by administration.

Refer to the standard equipment list website for current specifications and cost; <http://uuhsc.utah.edu/its/apps/hardware.cfm>

How many printers should we order?

You should order as many printers as needed for your facility. Printers are generally centrally located in operational units to be cost effective.

How many PCs and thin clients (Citrix) should we order?

Part of the design of a new facility is to layout the work surfaces. Under your direction, architects will generally specify the locations, number of workstations printers, and monitors, etc. Make sure you involve as many of your staff as you can to ensure your request is sufficient.

What's the difference between a PC and thin clients (Citrix), and what are the advantages of each?

Generally, PCs are provided to staff who require locally installed applications or added hardware like a CD Rom drive. Thin clients are ideal for multi-user or shift locations, as they provide access to all applications, provide security, are extremely cost effective and easier to support.

Can we use Macs?

Macs are fully supported and are effective for many users in the UUHSC environment. They access all ITS applications and offer the additional advantage of being secure from virus attacks.

How long do we have from time of order to install?

You can expect a 4-6 week wait between ordering your computers and final installation. The actual time depends on the scale of the order or project.

Desktop Equipment Requests

Equipment Ordered by ITS

To request equipment, go to the Request Equipment link @

<http://support.med.utah.edu/> and complete the Equipment Requests online form. Your request will be forwarded to your administrator for review and approval. **Please note:** ITS does not approve equipment, your administrator is responsible for all equipment approvals. ITS cannot place an order without admin approval.

Once the request has been approved, you will receive an e-mail message with a web link and request ID that enables you to track the progress of the request. You can **view the status** of your request at any time by selecting "**Track Request**" and entering your specific request ID number. Use the approval date for tracking the order.

It usually takes **4-6 weeks** for equipment to arrive after it is approved and ordered, however we cannot guarantee that timeframe.

Administrators will receive an e-mail alert when equipment has been requested that needs approval. The **Approver Requests** link takes them to the online information, where they can **approve or deny** individual items or orders.

For projects, equipment decisions need to be finalized a **minimum of four (4) months** in advance for ordering & installation planning

- Account number required prior to ordering, even if ITS is not billing you. The account number is used for location inventory purposes.
- Equipment list to ITS minimum of 4 months in advance of move in date.
- Equipment request submitted by moving department via the web a minimum of three (3) months in advance of move in date.

Desktop Equipment Requests

Equipment Prices

The following list shows the **estimated** cost for equipment purchased or leased by ITS. Prices are **subject to change** when an official vendor quote is received. Any additional options or specialized product will add to the final cost. Additional items not shown on the list above may be ordered, if they are part of a larger institutionally approved project. In those cases, state the project name in the comments field when you are placing an order.

A complete list of equipment and current prices are listed on the Equipment Request Website at <http://support.med.utah.edu/>

Important!!

Laser printers that will be used in the clinical environment must meet strict specifications. Ask for a Cerner and Epic printer specifications document prior to ordering any printers or copiers.

Specifications are subject to change at any time, so check with ITS prior to ordering.

PC	\$800	15" Flat Monitor (LCD)	\$300
Thin Client	\$400	17" Flat Monitor (LCD)	\$450
Laptop	\$2,500	19" Flat Monitor (LCD)	\$600
Tablet PC	\$2,000	20" Flat Monitor (LCD)	\$1,500
DeskJet Printer	\$200	30" Flat Monitor (LCD)	\$3,778
Laser Printer (B&W)	\$1,500	17" Standard Monitor (CRT)	\$200
Laser Printer (color)	\$2,300	19" Standard Monitor (CRT)	\$250
Scanner	\$350	21" Standard Monitor (CRT)	\$600
CD ROM	\$75		
CDRW	\$100		
Wireless Cards	\$150		

Desktop Equipment Requests

General Guidelines

Items that Information Technology Services can order:

PCs
Thin Clients
Laptops
Tablet PCs
Monitors
DeskJet Printers
Laser Printers (Color and Black & White)
Scanners
CD ROMs
CDRW's
Lantronix boxes for embossers



Items that your department is responsible for ordering:

Ergonomic items
Speakers
Mouse Pads
PDA's
Zip Drives
Keyboard Covers
Monitor Privacy Screens
Carts
Fax machines
Copy machines
Embossers
Non-Standard Equipment (i.e. Dell, Compaq, and other brand names)
Phones (Campus NetCom,)

Refer to the current Hardware Standards Webpage at:

<http://uuhsc.utah.edu/its/apps/hardware.cfm>

Server Equipment Requests

General Guidelines

Do you need to order servers?

You should **not** order your own servers, unless you are installing them in a lab or other department-supported facility that will not be connected to the main hospital network. If a new application requires servers on the network, the ITS team will work with you and a vendor to order the required servers. The cost of servers needs to be included in your project budget.

As a general rule, servers are ordered in pairs to provide redundancy and assure failover to provide uninterrupted 24/7 delivery of all applications. When network planning is initiated, we analyze the additional user load for Citrix-delivered applications and add servers as necessary.

What operating systems are on the servers?

The ITS data center hosts servers running Microsoft Server 2003, VMS, Linux, AIX, UNIX, and a variety of other operating systems. If you have applications that require a specific Operating System (OS), let ITS know prior to your submitting the equipment request.

Misc. server information;

- HP servers are standard.
- UNIX servers; cost includes support of server and purchase of equipment, if appropriate.
- Xserve—Some of these are used in areas on campus. If this is something you need, give a justification when discussing it with ITS staff or submitting it online.

Server Equipment Requests

Data Storage Space

How do we get data storage space?

The UHSC network has a state-of-the-industry network and uses Storage Area Network (SAN devices for storage). These SANs are large disk arrays that provide fast-access data storage, effectively isolate application processing to the servers. The advantage of this architecture is that storage space can be “grown” to suit the hospital’s needs.

You can **request storage space** for individual users or can request shared space for a group of users through an online Trouble Ticket. When you submit the ticket, the ITS Server team will contact you to verify your request and work to get what you need.

How much storage space can we have?

There are currently no limits on storage space. The ITS Server team can help you analyze your historical storage space growth and determine an accurate allotment to meet your future needs.

Who backs up our data?

New application backup times need to be scheduled.

Your data is backed up as a normal part of ITS operations. To have data restored, call the **Support Desk** at **587-6000** or submit an online Trouble Ticket. The time to complete the restore depends on the amount of data to be restored and the age of the data.

Cerner Certified Peripheral List

Laser and Barcode Printers

Cerner Certified Peripheral List —If you use Cerner or Epic, request the current list prior to placing any equipment orders.

Overview - Intended Use

Devices contained in the list are evaluated by Cerner to work with Cerner solutions under specific conditions. This list is designed to facilitate a dialogue and exchange of information between a client and Cerner associate so that appropriate device selections are made. A certified device contained in this list may not be suitable for all applications or conditions.

Note: We have found that Epic printing is more effective if the same Cerner standards are followed.

Do not select devices based solely on the information in this document and without consultation with a trained ITS employee.

Laser Printers

— All laser printers connected to a Cerner system must have built-in PostScript capability. This capability cannot rely on a Windows driver.

— Laser printer memory requirements vary widely based on a number of variables including the printer model and document complexity. 8Mb of memory is considered the absolute minimum memory for monochrome printing with a preferred minimum of 16Mb - more if you will be utilizing graphics in the documents you produce. You may be able to improve printer performance by simplifying your documents. Removing graphics, grey bars etc. are examples of ways to do this. Print speed may be significantly slower when using the minimum recommended memory. Experimentation using your specific forms and documents is the best way to determine the optimal amount of memory. 64Mb - 128Mb is recommended if you plan to utilize graphics

.

Cerner Certified Peripherals List

Laser & Barcode Printers

Bar-Code Printers

- Daily duty cycles are important selection criteria. Cerner's certified duty cycle for bar-code printers is rated as labels-per-day. When discussing your needs with a Cerner associate you will be asked to provide an approximate daily label count so that it can be factored into the device selection.

- Unless directed by a Cerner associate all bar-code printers require 203 dpi print heads.

- The manufacturer's base model/series names have been provided for reference purposes. Unfortunately most manufacturers use a model number to denote a series of devices with differing capabilities and prices. Example: Cerner has certified selected versions of the Zebra Z4M printer for use under specific operating conditions but not all Zebra Z4m printers will work.
In order to choose the correct version of a particular printer model and the correct options you will need to speak with a **Cerner trained ITS employee**.

- Bar-code printers that ceased production prior to 1997 have been de-certified and are listed here for reference only. We will attempt to support these devices if requested, however, there are no guarantees that they will perform properly.

Allegra & Embosser Requests

Allegra—Requirements to set up a new site

ITS Allegra Contact: Robert Nelson, 587-6129

1. **Name and Address of the facility.**
2. **Name and phone number of a single point of contact for this facility setup.**
3. **Tax Id that you use (and/or Campus Business Unit number).**
4. **Revenue reporting structure that you use.**
 - if new, what GL accounts have been set up for you
5. **What Site of Service will you be using (e.g., 11, 22)**
6. **Provide a floor plan of all patient care areas:**
 - state what services will be provided in each area
(e.g., rehab, MRI, surgery, pharmacy, outpatient clinics, therapies, observation, inpatient)
 - if outpatient, will existing service codes and clinic codes be retired
 - if inpatient services are being provided
 - how many nursing units will there be
 - will any existing inpatient units be closed
 - provide configuration of rooms and beds for each inpatient unit
(e.g., 5 rooms with 2 beds per room)
 - indicate which rooms provide negative air flow, telemetry, etc.
(e.g., room 3 is negative airflow room)
 - indicate level of care (accommodations) is provided for each bed
(e.g., private, semi-private, VIP, border)
 - indicate how many rooms are licensed? Budgeted?

Allegra & Embosser Requests

Allegra—Requirements to set up a new site (cont.)

- are ancillary services provided at this facility (e.g., radiology, lab)
 - indicate where your registration/check-in desks will be
 - indicate location of following devices (if any)
 - card embossers
 - face sheet printers
 - demand bill printers
 - census report printers
- 7. **Describe how you will be doing pre-authorizations.**
 - Pre-registrations? Registration and Check-in? Coding of medical records?
 - State who will be doing each of these functions and how.
- 8. **Contact the manager of the Price File to determine billable items and services and charge codes. The Price File manager will coordinate with the Allegra team.**
- 9. **Allegra team will need a complete list of personnel who will need access to Allegra, and their job description (registrars, charge entry people, financial counselor).**
 - supply Name, employee ID
 - supply Allegra functions needed
 - indicate if this is a new Allegra user (e.g. does not currently use Allegra)
 - if new, will this user login using a generic 1st level login
 - if this is a current Allegra user, supply the 1st level login used, if generic

Allegra & Embosser Requests

Allegra—Requirements to set up a new site (cont.)

10. Are you using Ontrac work lists?

—If Yes, will you need new work lists?

—If No, contact Patient Access Services to assess use of this tool for your site.

Embossers

—**ITS does not provide card embossers.** Please order card embossers directly through Mountainland Business Systems at <http://www.mlbs.com/> or 801-487-8508. You will also need to order a Lantronix box for each Embosser ordered for connection to the network.

—The Embosser setup is complex and must be coordinated between several ITS teams and Mountainland Business Systems. Once you receive the Embossers and Lantronix boxes and are ready for them to be set up, you need to enter a Trouble Ticket at <http://support.med.utah.edu/>. The ticket will be sent to the Client Support Team. Specify within the Trouble Ticket when the Mountainland service representative is scheduled to be onsite for their part of the setup. The embosser setup should be scheduled at least one week prior to the date you need it operational. ITS Client Support will work with Mountainland to get the equipment connected to the network.

NOTE:

—Face sheets and demand bill printing should be done with HP printers, not Sharp printers or any other combination printer, copier, and fax. See appendix for list of Cerner certified printers. Cerner certified printers and printers on our equipment request web page will work with Allegra.

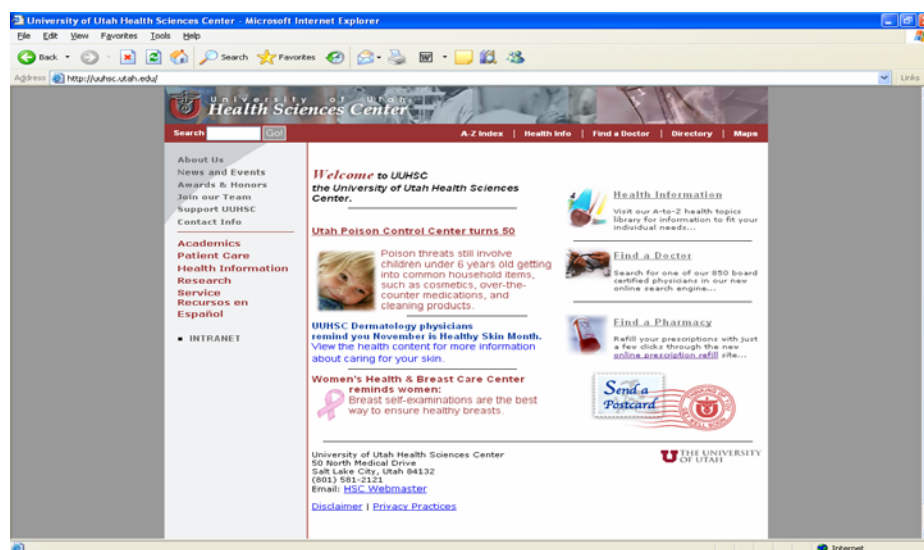
—New Allegra users are required to attend Allegra training, prior to their being issued logins. Existing users may need additional training, if they are using new functions.

Web Resources

During the building construction planning process, the Web Resource Center is able to provide you a variety of resources and services to serve your needs. Those services include:

- Building websites in our HSC designed templates
- Providing development services for your web applications
- Assisting in the ongoing maintenance and technical support of new and existing websites
- Providing web consultation services to assist you in building your website
- Hosting services for existing or newly created websites
- Offering HTML Template training to support department website development and maintenance
- Providing web marketing and communication services for website promotion and go live

For information about WRC resources and services please go to <http://uuhsc.utah.edu.edu/wrc>. If you have a new project request, please contact the Web Team Project Manager, Tamara Taylor at 587-6105.



Getting Started with Telehealth

Overview

The Utah Telehealth Network (UTN) is often seen as just “videoconferencing.” It is, in fact, a wide range of Telehealth services. UTN expands access to health care services and resources within Utah and the Intermountain West through the innovative use of technology. We are a national leader in implementing innovative Telehealth solutions, serving as a Telehealth resource for the Intermountain West. UTN facilitates access to patient care, health-related education and training, health information, and other resources that support the missions and operations of UTN members. It is open to participation by any health care provider or facility.

Getting Started

Please call 1-801-585-2426 to get started. We will help you:

- Establish minimum technical requirements
- Reserve time and resources
- Build relationships with Telehealth users and providers
- Build procedural and clinical protocols

Telehealth Resource Center

UTN recommends setting up a consultation (**1-801-585-2426**) with us before writing grant proposals or beginning a new program. We can streamline your experience with Telehealth. We walk you through team building with ITS, UUHSC, and staffs at remote sites in order to lay the foundation for quality collaborations.

- **Networks** – UTN promotes competition in rural health care. We support the networks that connect 3rd party vendors and consultants.
- **Protocols** - Once of the most important aspects of Telehealth is establishing robust clinical protocols. UTN is available to assist in the procedures.
- **Security** – UTN provides consultation on securing PHI from a distance.
- **New Telehealth Programs** – UTN has a vast depth of knowledge in building new Telehealth programs.
- **Reservations** – The videoconferencing equipment and bridge are available for a fee for non-network members. Please contact **1-801-585-2426** for details.

Contact Information

Information Technology Services (ITS)

Support Desk: 587-6000

uuhsc.utah.edu/its

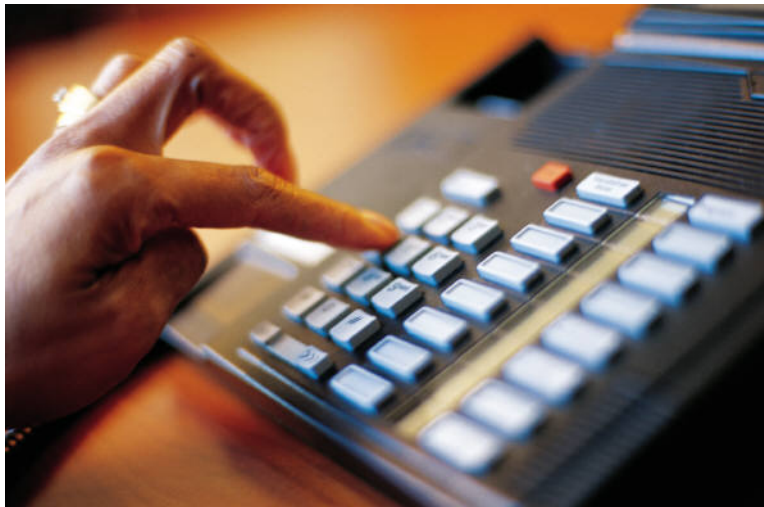
Michele Mills: 587-6056

Michele.mills@hsc.utah.edu

Network & Communication Services (NetCom)

581-4000

<http://www.netcom.utah.edu/helpdesk/index.html>



Note: Make certain you contact Michele Mills/ITS at least one month prior to your construction project completion date. This will ensure that ITS has appropriate resources on standby. An installation date will be negotiated with you and the client support Team who will coordinate the installs.

If you contact Michele Mills/ITS at the inception of your **new** building project. Time lines will be coordinated throughout the project to ensure resources are available.

Frequently Asked Questions

Who pays for the equipment we order?

It depends on the project. Ask your administrator who will be responsible for the cost. This should be part of the cost analysis for the project before it is approved.

Where do I go to submit an equipment request on the Web?

<http://support.med.utah.edu/>

Go through link called "Equipment Requests"

How do I track the equipment requests?

<http://support.med.utah.edu/>

Go through link called "Equipment Requests" and login

Click on link called "Track Requests"

What if I choose to buy non-standard equipment? Will ITS install it?

Normally, departments use standard equipment (pages 12-15), so verify what you need can't be found there first. If you feel different equipment is needed give a justification in your equipment request, so the administrator can evaluate the justification. Michele Mills michele.mills@hsc.utah.edu is also a resource for questions you may have with equipment orders for your building project.

Who do I contact if I am looking to purchase additional software licenses?

Submit a ticket at <http://support.med.utah.edu/> or call 587-6000 to request additional licenses. You will be directed to the appropriate people who can help you.

How do we order Kronos clocks?

Contact **Suzette Reid** @ 587-6144 or email her at suzette.reid@hsc.utah.edu and she will walk you through the process.

Checklist

Building and Remodeling Checklist

This check list will give you an idea of the stages, steps and time-line involved in a building or remodeling project before you start. Remember, these aren't necessarily set in stone and some may or may not pertain to your circumstances. In addition, the steps may be completed out of the order listed,. Keep in touch regularly throughout the process with ITS staff and your architectural Project Manager to ensure they understand your needs.

The Planning Process

This is where you should decide what you want and need in your project.

- Start gathering ideas from staff, other similar institutions/departments, the internet, etc. This will give you a starting point to reference in discussions with architects, ITS and NetCom.
- Make a list of "Must Haves", "Would Be Nice to Have", "Not Necessary" and "Don't Know, Need to Think About It".
- Create a list of all the software applications your department will be using and what type of computer equipment they currently use. Include whether they will get new equipment or keep existing equipment (should have staff names and barcodes).
- Keep a notebook or expanding folder containing your ideas, notes, and photos.
- Continue to add "to do" items as you progress
- Create a project plan and add tasks for all parties as you proceed.

Checklist (cont.)

The Budget

Typically, you won't have a clear idea up-front what your project may cost. This is the time to consult with the architect and/or designers assigned to your project. If you have a good idea what you are looking for and can present them with photos, drawings and ideas, it will give them a place to start with your design. Although all the items you desire aren't yet "set in stone", you will have a starting cost. You'll have a place to build on by adding and removing features.

- Set a budget early and review it along the way. Remember that changes in plans and/or materials can change your budget! Allow for back up funds to accommodate changes that may occur; 10 to 15 percent of your projected budget figure is a good place to start. This can be adjusted up or down later, based on directives given by administrators.
- Refer to the ITS Customer Toolkit to find items you may not have thought of and need to be included in your budget figures. Make certain to include interfaces, PACs, software licenses, network, server and desktop equipment!



Checklist (cont.)

The Design Process

- Get preliminary designs and schematics to help you visualize how the project might look and to help in identifying any early problems.
- Give 1 full size and 2 portable (pdf) sets of drawings to Michele Mills (ITS).
- Give full size set of drawings to phone rep (NetCom)
- Give full size set of drawings to David Kosanke (NetCom)

Note: Any time there are substantial changes to the drawings, get new copies to Michele, Netcom phone rep and Dave. This will keep everyone up-to-date on what is required. **ITS needs drawings with equipment placement as soon as those are available.**

- Continue to refine your budget.



Checklist (cont.)

The Timetable

You should develop a timetable/schedule for the project early on. This can be accomplished in the same manner as your budget. Work with your "construction team" (designer or architect, ITS, NetCom, interior design specialist, general contractor, etc. to document your needs.

—Begin with a **realistic** completion date. Remember that without network equipment installed in closets, you can't move into the building, if you need network access!! Closets need to be completely finished and cleaned before equipment can be installed and connected.

____Consider time for the design phase, ordering equipment, furniture order and install, wiring and fiber installs, installation of network, server, and desktop equipment. Time to acquire additional licenses, and the construction phase.

_____Identify periods of the year when certain construction projects are appropriate or inappropriate. Consider components of the project like pouring of cement in the winter, and problems with doing installations prior to or during holidays.



Building and Remodeling

Checklist (cont.)

Don't forget!

- Take your time, ask questions, get and give information in writing.
- Review your planning list regularly.
- Understand how changes and payment are handled for all parties. Do not assume a cost is automatically covered in the original budget.
- Good plans and clear communication between you, your designer, contractor, ITS and NetCom will help keep change orders to a minimum.
- Make a list of any concerns, questions or issues you may have. Present these to your construction team on a regular basis.



Customer Toolkit Resource

We hope you will find the Information Technology Services Customer Toolkit to be a valuable resource. It is a document that will change as processes and information change. Your feedback is always welcome. If you have input on additional information that you feel would be helpful for future construction projects, we want to hear about it!

This toolkit is meant to provide you with an overview of the process. But should not be used as your only resource. Please do not hesitate to ask questions throughout the construction cycle. It is important that you understand fully what is happening, so everyone on the project is working in sync. You are key to the success of your construction project!

Additional information;

—Service Level Agreements (SLA's) are available upon request.

— SLA's are tailored for each building individually, so you will be asked questions about your expectations and needs. Meetings would be held to specifically address your particular circumstances to ensure all parties are clear on end goals.

Good luck with your project!

Information Technology Services

Some typical “gotchas” to be aware of!

- **Wireless phones vs. Wireless data—ITS and Netcom are working together to find solutions for the future, but right now Netcom is not installing wireless phones in any hospital or clinic department.**
- **It is imperative you discuss any printing, copier or fax needs with us prior to ordering equipment. ITS does not order or support copiers or faxes, but if you plan to print from Cerner or Epic to these copiers/printers, your vendor needs to understand the requirements. If you and/or your vendor do not work with ITS on the orders, it may not be possible for you to print from these applications.**
- **ITS needs to get your data port counts as early as possible in the planning process. We need to assess whether you need network equipment.. Either new or additional equipment may need to be ordered, depending on the number of ports and your department location.**

If ITS is not alerted early in the process, and you require network connectivity, you may not meet your move in dates. We cannot add ports if we do not have adequate network equipment available in the network closets.

- **Netcom handles all the wiring. They need to be notified in addition to your contact with ITS. They will assess your complete wiring needs.**
- **Plan your computer equipment needs as soon as you can. You should submit Your requests on the web @ <http://support.med.utah.edu/>—Don't forget barcode printers, embossers and other low volume requests that tend to be forgotten.**
- **Highly recommended that you do a work flow analysis, so you can verify your equipment and data port needs before placing any wiring or equipment orders.**