IT Power Plant

# Intro

This handout is meant to pull the requirements together for you to be able to easily have information during the town hall. This is not an all-inclusive list of requirements but are the key components that will help to lead our discussion.

### Web Hosting

* Unmanaged System Hosting
  + Unmanaged system hosting would be an arrangement where the vendor would provide system hardware and/or virtualized systems but the system owner would be responsible for installing, configuring, updating and supporting the entire stack.
* Managed System Hosting
  + The hosting provider would be responsible for more of the system component. Different vendors of managed hosting will be different levels of customizability and support.
* Managed System Hosting +WHM/cPanel/Plesk/etc
  + This is very similar to managed system hosting, but would include push button tools for admins to provision new systems, as well as tools for the system owners to install platform software such as varieties of CMS;s, quick site builder tools, sql Databases, etc.
* Fully Managed Platform Hosting
  + This service would provide most of the support for the hardware, operating system, programming, data base, web server, CMS or site building software, caching, performance, load balancing, and scaling, in addition to version control and dev/test architectures.
* Self-Service Complete Site Provisioning
  + This would be for very simple websites or for groups who have very limited technical knowledge. Users would visit a provisioning website to request a site. Then they would receive all the tools to create the site built in the admin interface. The vendor would be responsible for everything except design and content.

### Virtualization

* Enterprise
  + High availability and reliability through tight controls (rigid rules) + resource management (n+1 servers, redundant storage, load balancing)
  + Production environments suited for products and solution that regularly impact at campus or public scale.
  + Possibly two types: low change (no updates/patching during semester) and “normal” change (monthly or quarterly updates/patching)
  + Automatically backed up for DR purposes, in a manner that can restore individual versions of files within a fixed window of time.
  + Geographically redundant 1:1
  + Premium “cost”
  + Use cases: shibboleth, Illinois.edu, IC2g, …
* Production
  + High availability and reliability through resource management
  + Burden of reliability centered on service deployment in combination with resource management (slightly less burden on requirements for transparent redundant hardware. More emphasis on services being able to automatically recover).
  + Redundant deployments. Some facility for geo-redundancy but not necessarily 1:1
  + Automated DR backups
  + Use cases: sympa, general web servers\*, …
* Sandbox
  + Intended to be up all the time, with regular planned maintenance
  + Reliability is at the individual scale. Important, but more focused on the impact to the individual or small group and not multi-college.
  + Largest in scale, this should accommodate thousands of VMs, including a personal VM service tier that accommodates individual faculty and student usage, including small workgroups
  + Use cases: semester classes, individuals, test/dev (informal), prototyping, …
  + Rob notes that there is probably too big of a gap between the sandbox and production class. This needs some thought. Something that is more persistent than a “sandbox” implies but with less formality and rigor than production.
* Unique deployment needs
  + HPC
  + Low level research (below the drivers and hypervisors)
  + Large scale storage deployments
  + Others …

### Storage and Backups

* Public Cloud Storage Services
  + The Public Cloud Storage Services include Box.com, Google Drive, and OneDrive.  All three will be available to everyone at Illinois by the start of the fall semester and will have no storage quotas by 2016.
* Hybrid/Private Cloud Storage Se
  + The Hybrid/Private Cloud Storage Service is envisioned as a local equivalent to the Public Cloud Storage Services available for some use cases where the public solutions cannot be used.  In addition, this service would provide a mapped drive capability (i.e. CIFS and NFS shares).
* Block Storage Service
  + The Block Storage Service would provide storage for other Power Plant service such as Virtualization and Web Hosting.  It would also provide an option for advanced needs in support of research and instruction.
* Consumer Grade Backups Service
  + The Consumer Grade Backups Service would be targeted at laptops, desktops, and very small servers used by individuals.  It is imagined as being similar to services such as Mozy, Carbonite, or Crashplan.
* Enterprise Grade Backups Service
  + The Enterprise Grade Backups Service would support both block and file level backups and be capable of backing up systems with large numbers of files and/or storage.  It would available for use by customers of the Block Storage Service as well as others on campus with large independent storage solutions in need of a backup service.
* Archive Storage
  + Archive Storage is intended for use with intentionally curated data.  It may be built as a separate service are on top of the other five services.
* Sensitive Data Storage and Backups Solutions
  + Sensitive Data Storage and Backups Solutions would be versions for the first five services that have been certified for use with sensitive data.

### Printing

* Customer Experience and Support
  + Faculty, Students, staff, and community members will have the same experience both in physically printing and sending print jobs regardless of where they print.
  + Customers will receive a uniform, professional, University of Illinois Tier 1 IT support experience that is independent of their global location or home organization at multiple campus locations on the Champaign-Urbana campus, via multiple contact methods, 24 hours a day, 365 days per year.
* Printing from Anywhere
  + Customers will be able to print from any device to any printer they have access too.
  + Customers will have access to several business print functions such as scanning, copying, emailing, stapling, and duplexing.
  + This will be provided in a secure manner with the ability to preview jobs before incurring the cost.
* Print Billing / Charging
  + Customers will know the rates for all printing and be able to make informed choices of where to print.
  + A consistent and standardized way of charging and billing will reduce the confusion on where and how to print.
* Printer Maintenance
  + Need for customers to stock expensive consumables will be reduced or eliminated
  + Standardized printer models will reduce maintenance costs and allow for printer swapping to avoid downtime.

### Endpoint Services

* **Establish system and services supporting the full life-cycle of EndPoints for all stakeholders**
* EndPoint Services group would provide multiple solutions insuring a consistent experience and allowing support of varying types of endpoints through their lifecycle
* Services provided will allow for customization and specific local requirements as needed by local IT support
* Shared governance group will be created to guide creation and oversight of standards and activities
* Where possible these systems and services will support the use of BYOD

**Points of Focus**

* Stakeholder Satisfaction (faculty, staff, students, and IT Pros)
* Procurement to Disposal Life Cycle
* Inventory and Asset Tracking
* Hardware Management and Setup
* Maintenance and Security Needs
* Customer Support and Remote Assistance
* Avoidance of Trying to Fit a Single Solution
* Adequate Support Structures in place for quality
* Agility and Adaptability for future needs

### Help Desk

High Level Goals:

* Seamless tier 1 support across campus
* Same quality of support across campus
* Professional support staff
* Integrated request tracking and escalation across campus
* Requests are never orphaned during escalation
* Service requires effective marketing and communications

Top Level Needs:

* Assistance 24x7x365 via:
  + Phone
  + Email
  + Chat
  + Social Media
* Multi language support
* Commodity software support (i.e. Lync, Exchange, LMS, MS Office)
* Cloud application/support (i.e. Box, Google apps)
* Identity Management
* System monitoring with outage escalation and communication
* Network and wireless

Walk in Needs:

* Hours: 7am-10pm including weekends
* Multiple locations at geographically convenient locations
* Password reset
* Basic laptop/mobile device troubleshooting
* Wireless troubleshooting
* Email configuration
* Virus troubleshooting

Request Tracking Needs:

* Single system
* Customer needs access to view request
* Customer has full visibility to request
* Local IT has full visibility to request

End State Stories/Metrics:

* Faculty abroad get help immediately
* Increased confidence that Help Desk will either resolve or escalate properly