QTP IT Services Transition

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History

- J. C. Slater Lab has provided all computing and IT services since 1982.

- Computing and IT services have matured

- Use of IT services is now business critical

- Research computing needs have grown
  - more demanding
  - more complex

- Network -> CNS two years ago in July 2009

QTP IT Services

- Network service
- Email service
  - Must be reliable, always available
  - Must deal with security issues and spam
- Business data storage service
  - Must be backed up regularly
  - Highly volatile data, many small files
  - Must be available to desktop and traveling laptop

QTP IT Services (2)

- Web service
  - Must be highly available
  - Must deal with security issues
- Printer service
  - Must be available to desktops and laptops
  - Offer full features of the printer to the user
  - Must deal with security issues

QTP IT services (3)

- Research computing services
  - Has special requirements of high electrical power and cooling needs
  - Needs large network bandwidth
  - Must store and process large amounts of data
  - Must offer development and production capability

IT Services have evolved

- The growth in complexity
  - leads to the need to change
  - the way IT services are provided
  - to an institute or center like QTP
- One IT staff person is no longer sufficient
- Center budget is no longer sufficient
  - Email hardware alone requires $100,000 to provide the necessary quality of service, but
  - Hardware that supports 100 users, can equally support 10,000 at little or no extra cost

Business IT: Network connection

- MAC address registration -> CLASnet
  - Needed for new wired desktops and laptops
    - All existing machines have been registered
  - Make request at http://www.clasnet.ufl.edu/service
    - Instead of current form
      http://www.qtp.ufl.edu/slaterlab/general/macregister.html
- UF wireless network
  - Preferred for visitors
  - Arrange guest GatorLink ID through Judy Parker

Business IT: email

- Email -> Enterprise Services (ES) servers
  - UF Microsoft Exchange server has 15,000 email users
  - qtpusername@qtp.ufl.edu addresses will keep working
  - You can use Thunderbird, or any other IMAP client
    - Only change the server configuration
  - You can use other service like Google, if desired
    - Forward all email in your PeopleSoft preferences

Business IT: email (2)

- Old QTP mail folders will be moved for you
  - Gatormail boxes must be moved by you
- UF Exchange rules
  - No mailbox quotas
  - Message in Inbox, "Sent Items" are deleted after 1 year
    - QTP Inbox moves to "Inbox from QTP" to avoid problems
  - "Deleted Items" is cleaned after 30 days

Business IT: web

- Web services -> CLASnet servers
  - URL http://www.qtp.ufl.edu/~qtpusername will work and get to the new web page location:
    - QTP home page, Sanibel home page
    - Group home pages, personal home pages
  - You copy files to a share to make them visible
    - \\ad.ufl.edu\clas\web\users\gatorusername
    - Instead of \\crunch.qtp.ufl.edu\qtpusername\WWW
  - PHP services limited now; full capability coming

Business IT: home

- Home space – CLASnet servers
  - A new path for your home space
    \\ad.ufl.edu\clas\home\g\gatorusername
    - g: First initial of GatorLink username "gatorusername"
    - Instead of \\crunch.qtp.ufl.edu\qtpusername
    - Connect from Windows, MacOS, or Linux just like you connect now using SAMBA services
    - The credentials to connect to them becomes the GatorLink instead of the QTP credentials

Business IT: home (2)

- No quotas
  - But do not try store large research data sets!
- No scp or sftp access to this space
- Case sensitive file names
  - The NTFS file system is **case sensitive**
  - Windows applications are only **case preserving**
    - You can create a file with upper and lowercase letters and this will be preserved
    - You cannot create a second file in the same directory that has a name that uses the same characters and only differs in case
      - Most such name clashes are accidental
    - You need to remove clashes before files are copied to the new home

Business IT: printers

- Printer services -> CLASnet
  - We keep using the same printers in NPB 2308
  - The path to connect to them changes
  - The credentials to connect to them become the GatorLink username and password

Research Computing: storage

- Research data -> HPC Center storage
  - /scr/arwen_* and /scr/crunch_*
  - Backup procedure
    - Now: backed up by hand irregularly, once per year
    - New: CNS NSAM tape robot will do backup monthly
  - Access via Samba
    - \\samba.hpc.ufl.edu\ with HPC credentials
    - Same as now at \\crunch.qtp.ufl.edu\ with QTP credentials

Research Computing: storage (2)

- Storage transition map
  - /scr/arwen_2+3 -> /nsam/qtp/roitberg
  - /scr/wukong_2 -> /nsam/qtp/merz
  - /scr/crunch_4 -> /nsam/qtp/cheng
  - /scr/crunch_5 -> /nsam/qtp/bartlett
  - /scr/crunch_6/name -> /nsam/qtp/sponsor/name
    - Sponsor = faculty sponsor name
    - Name = user name

Research Computing: cores

- Research -> HPC Center clusters
  - Development, testing, production
    - Most QTP users already work on the HPC Center resources
  - Buy a share of the cluster
  - Professionals maintain it, and
  - Provide advanced support
- UF Research Computing = J. C. Slater Lab Supersized!

New services coming

- Research Computing is developing new services
  - Group Wiki's
  - Source code repository
  - bug tracking and ticket system
  - Web access to large research data sets
    - Both public and with restriction to authorized people

Whence crunch/linx64 services?

- A survey was taken summer 2011
  - no people were using software on crunch/linx64
    - Since a few years already
    - Except a very small minority of users

Application transition map

- Small Matlab, Mathematica computations
  - -> desktop
  - large ones -> HPC test nodes
- Development, testing, debugging, running
  - -> HPC test nodes
- Routine visualization
  - -> desktop
  - Large one -> HPC test nodes
- LATeX document processing, graph making
  - -> desktop

QTP Auxiliary

- ## After the transition is complete
  - You will no longer receive monthly bills
    - For disk storage
    - For printer pages
- ## QTP auxiliary funds will be used until depleted
  - To buy printer paper and toner cartridges
  - To pay for the CNS NSAM backup service of long term storage at the HPC Center

Checklist

- Start: Monday October 24, 2011
- Transition complete: Friday November 18, 2011
- Look at the QTP IT Transition web page http://www.qtp.ufl.edu/computing.shtml
  - Check that your name is on the list
  - Arrange a date to move your account and data with Judy Parker
- Servers turned off: November 23, 2011

Questions?