QTP IT Services Transition

Erik Deumens

October 24 - November 18, 2011
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?