The XSEDE Ticket System: From Concept to Implementation
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- HPC Operations NICS
- Lead Infrastructure SA
- Lead Nautilus SA
XSEDE Ticket System: FCtI

Collaborators
- Where we came from
- Where we wanted to go and why
- The software selection process
  - Systems Infrastructure
- Puppet Configuration Management
  - Installing and Configuring RT
    - Providing reliability
- Discoveries and Future Work
  - Q and A
Collaborators

- XSEDE Operations
- XSEDE User Engagement
- XSEDE User Interfaces
- XSEDE Operations Center
- SP evaluation and feedback staff
Where we came from

- NCSA Internal System
- Development started in 1999
- Adopted for TeraGrid Project in 2002
- Web-based GUI interface
- E-mail ticket handling
• Where we wanted to go and why

• Increased, custom, notifications
  • Resilience to failure
• Design for multiple service providers
  • Desire for federated ticket interface
• Customization of the software as needed
The software selection process

- Hundreds of software packages to choose from
  - What projects are maintained, stable, mature
  - API, Customization, Infrastructure, Federation

- Finalists: Request Tracker, Remedy, Footprints
  - Selected: Request Tracker (RT)
Systems Infrastructure

- Service Providers: NCSA, NICS, SDSC, TACC
  - NCSA, SDSC provide services RT uses
  - NICS, TACC act as RT service hosts
- RT Service Providers: CentOS 6 Linux infrastructure
  - RT database hosted locally at sites
Puppet Configuration Management

- Configuration management tool for Linux, OS X, and MS Windows
  - Utilized at both NICS and TACC for administration
  - Ability to share systems configuration code between sites
    - Standardized setups for cross-SP administration
    - Allows rapid change in system modes and features
• Installing and Configuring RT

• Many, many, options
  • Not everything well documented (intentionally?)
  • User/Group/Queue configuration pulled from XSEDE
    • Rights settings left with many defaults
  • Scrips and Templates left unmodified/in-place
• RT's Perl API used to import existing non-resolved tickets
Providing Reliability

- NICS/TACC streaming PostgreSQL replication
  - Near-identical codebases at each site
  - One command database failover (manual)
- Administrator triggers DNS change as final switch
Discoveries and Future Work

- Users prefer a 'quieter' ticket system
- Support contract from the vendor saves money
- The default rights in RT did not scale
- Many unplanned custom features and changes
- How to deal with individual request feature changes
- Federation between SPs and XSEDE RT through GOC-TX
Q and A
Slides and Feedback

- Slides are available by mailing michael.campfield@gmail.com
- To receive slides you must first provide at least 3 lines of honest and critical feedback on the presentation, what can be done better, what should be removed, what was unclear, etc.