

The XSEDE Ticket System: From Concept to Implementation

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- HPC Operations NICS
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XSEDE Ticket System: FCtl

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
 - Scripts 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.