



Advanced Registry Operations Curriculum

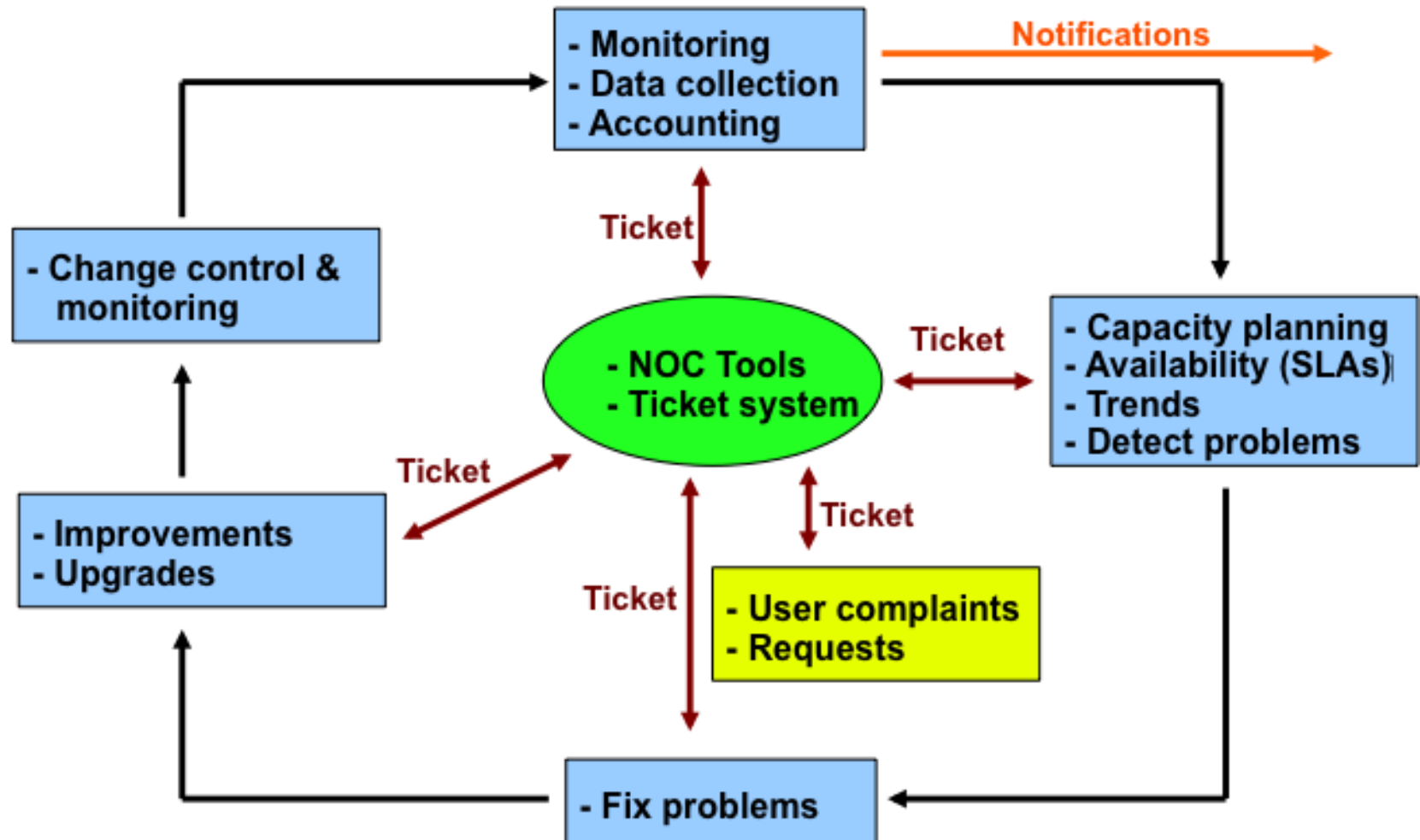
Ticketing Systems with RT



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Why Ticketing Systems?

Remember this?



Ticketing Systems

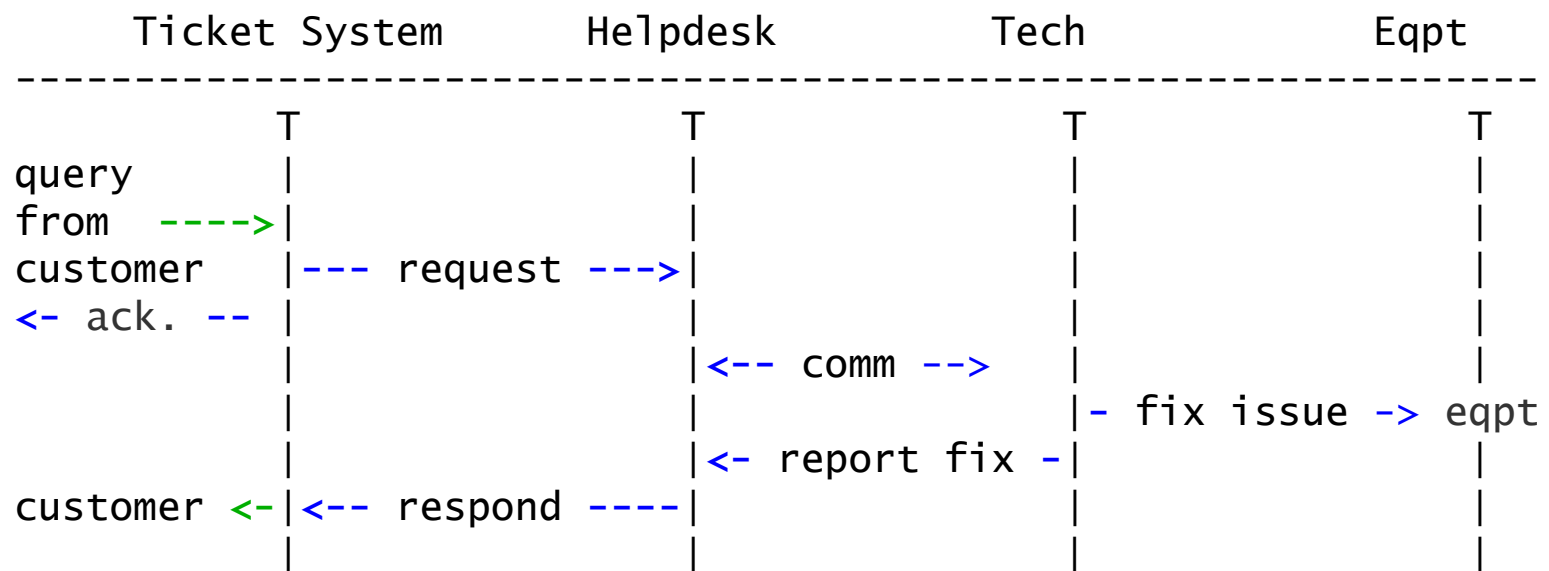
- Why are they important?
 - Track all events, failures and issues
- Focal point for help desk communication
- Use it to track all communications
 - Both internal and external
- Events originating from the outside:
 - customer complaints
- Events originating from the inside:
 - System outages (direct or indirect)
 - Planned maintenance, upgrades, etc.

Ticketing Systems cont.

- Use ticket system to follow each case, including internal communication between technicians
- Each case is assigned a case number
- Each case goes through a similar life cycle:
 - *New*
 - *Open*
 - ...
 - *Resolved*
 - *Closed*

Ticketing Systems cont.

Help Request with Tickets



Request Tracker / Trac

RT

- Heavily used worldwide.
- Can be customized to your location.
- Somewhat difficult to install and configure.
- Handles large-scale operations.



trac

- A hybrid system that includes a wiki and project management features.
- Ticketing system not as robust as rt, but works well for web-only ticket interface.
- Often used for "trac"king group projects.
- Used for this course:

<http://nsrc.org/trac/cctld/>





RT: Request Tracker

<http://bestpractical.com/rt/>

What's it Look Like?

The screenshot shows the RT web interface in Mozilla Firefox. The browser title is "RT at a glance - Mozilla Firefox (Build 2008061004)". The page URL is "RT for example.com". The user is logged in as "root" and can access "Preferences" or "Logout".

The main navigation menu on the left includes: Home, Simple Search, Tickets, Tools, Configuration, Preferences, and Approval.

The main content area is titled "RT at a glance" and features several widgets:

- 10 highest priority tickets I own**: A table showing tickets owned by the user.
- 10 newest unowned tickets**: A table showing the newest tickets not owned by the user.
- Bookmarked Tickets**: A table showing tickets marked as important.
- Quick ticket creation**: A form to create a new ticket.
- Reminders**: A section for setting reminders.
- Quick search**: A table showing search results.
- Dashboards**: A section for viewing performance dashboards.
- Refresh**: A section for refreshing the page.

10 highest priority tickets I own

#	Subject	Priority	Queue	Status
1	Office has run out of coffee	0	General	(pending 1 other ticket)
2	order more coffee	0	General	(pending 1 other ticket)

10 newest unowned tickets

#	Subject	Queue	Status	Created	Take
3	Obtain Series-C funding	General	new	16 min ago	Take

Bookmarked Tickets

#	Subject	Priority	Queue	Status
1	Office has run out of coffee	0	General	(pending 1 other ticket)

Quick ticket creation

Subject:

Queue: Owner:

Content:

Quick search

Queue	new	open	stalled
General	3	0	0

Dashboards

Name	Subscription
SLA Performance	daily at 06:00

Refresh

Don't refresh this page.

Topics

- What is a ticket management system
 - Necessities and advantages
 - Common functionalities
- Practice with RT (Request Tracker)
 - Global configuration
 - Create users
 - Create queues
 - Assign actions to the queues
 - Create message filters

Ticket Management Systems

- Why do we use the term “ticket”?
- In order to resolve a problem...
 - Who wants what?
 - Who's going to work on this?
 - When did they ask, when was it done?
 - How much time did it take (billing, hours)?
 - What's left to do?
 - Everything is summarized and presented in a simple and intuitive manner.

Applications

- User support
- Security problem management
- Issue Tracking / Incident Management

Essential Functionality

- Several interfaces
 - Web, CLI, e-mail, etc.
- Multiuser
 - At different levels: admin, general user, guest
- Authentication and authorization
- Event history
- Handles dependencies
- Notifications

Components

- Register an event (i.e., ticket creation)
- Assign an owner
- Assign interested parties
- Maintain change history
- Inform interested parties of each change
- Initiative activities based on status or priority

Typical Support Scenario

- Lots of email traffic requesting help, request for services, etc.
- Archived as text without classification
- Very difficult to find current status or problem history.
- Sometimes problems were forgotten or never resolved.

RT: Advantages

- Open source and free
- Heavily used and tested
- Very active development
- Flexible
- Web interface or control via email

RT: Disadvantages

- A bit tricky to install the first time...
- It's powerful, so you'll need to spend some time learning how it works.
 - Most distributions have packages that make installation a bit easier:
 - Red Hat, Fedora, SuSE, Debian, Ubuntu, FreeBSD, etc.

Problem Classification: Queues

RT allows you to create queues so that problems are classified by type:

- **Services:** DNS, IP addresses, Radius, LDAP
- **Connectivity:** Communications infrastructure problems
- **Security:** Attacks, scans, abuse, etc.
- **Systems:** Email accounts, passwords, etc
- General help

Web Server Configuration

Two Options

- Virtualhost
<http://rt.host.fqdn>
- Subdirectory
<http://host.fqdn/rt/>

Root user ('*root*')

- Change the default password on first login ('*password*')
- Assign the complete email for the *root* account
root@host.fqdn
- Assign all user rights:
Global -> User Rights

User Creation

- Create a userid for each member of your team.
- Assign privileges to each user.

Create Groups

Create groups of users:

- Administering privileges by group is more efficient than doing so for each user.

Create Queues

Create queues for problem categories

- For example
 - security
 - accounts
 - connectivity
- Assign users to each queue
 - Different between AdminCC and CC
- Don't forget to create email *aliases* for each queue

rt-mailgate

A critical component of RT. The rt-mailgate facility lets us:

- Define virtual users on your RT server that correspond to ticket queues in RT.
- Allow third-party software (Nagios, Cacti, Smokeping, etc.) to automatically generate tickets in specified queues via email.
- Provide a simple interface through which end-users can communicate with your support organization via RT.

Scripts (actions)

For each queue create automatic actions

- There is a group of scripts that apply to all queues.
 - Possible to customize per queue or globally
 - “*scrips*” are “snippets of Perl code”

Extensions

You can extend the functionality of RT. For example:

- Send daily emails to remind users of tickets that have not been “taken”
- Send daily emails to each user reminding them of their pending tickets.
- Periodically increment ticket priority
- You can execute commands via email

<http://wiki.bestpractical.com/index.cgi?Extensions>

References

- *Best Practical* Web site
<http://bestpractical.com/rt>
- *RT Essentials*. Dave Rolsky et al. O'Reilly Media, Inc.