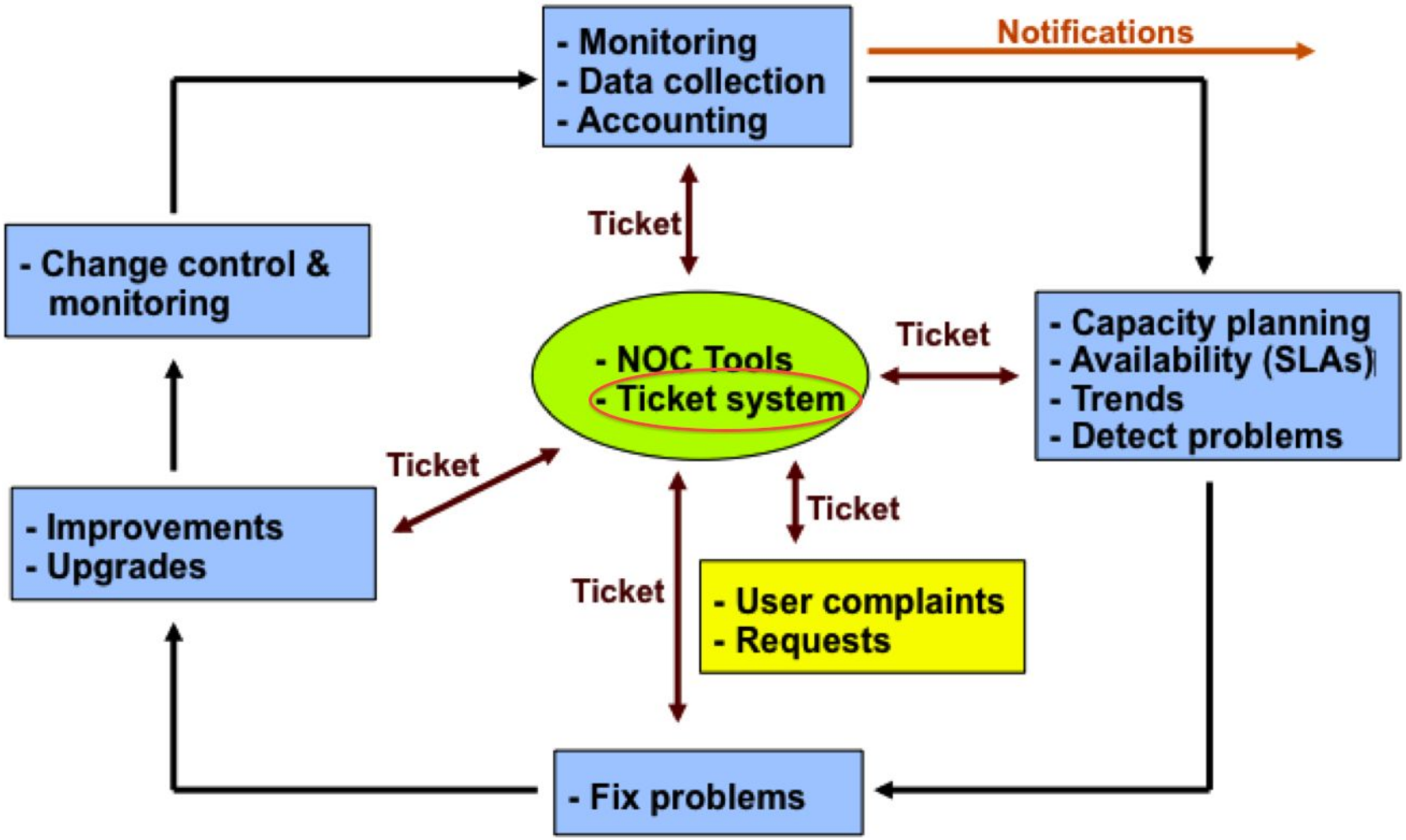
Network Management & Monitoring

Why Ticketing Systems?



Ticketing Systems

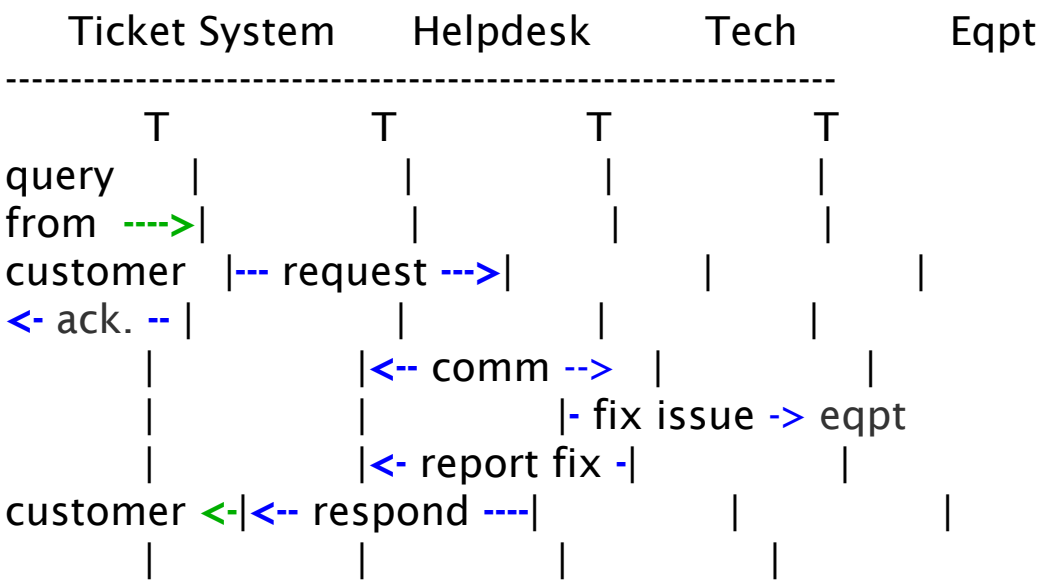
- Why are they important?
  - Track all events, failures and issues
- Focal point for help desk communication
- Use it to track all communications
  - Both internal and external
- Events originating from the outside:
  - customer complaints
- Events originating from the inside:
  - System outages (direct 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://noc.ws.nsrc.org/wiki/

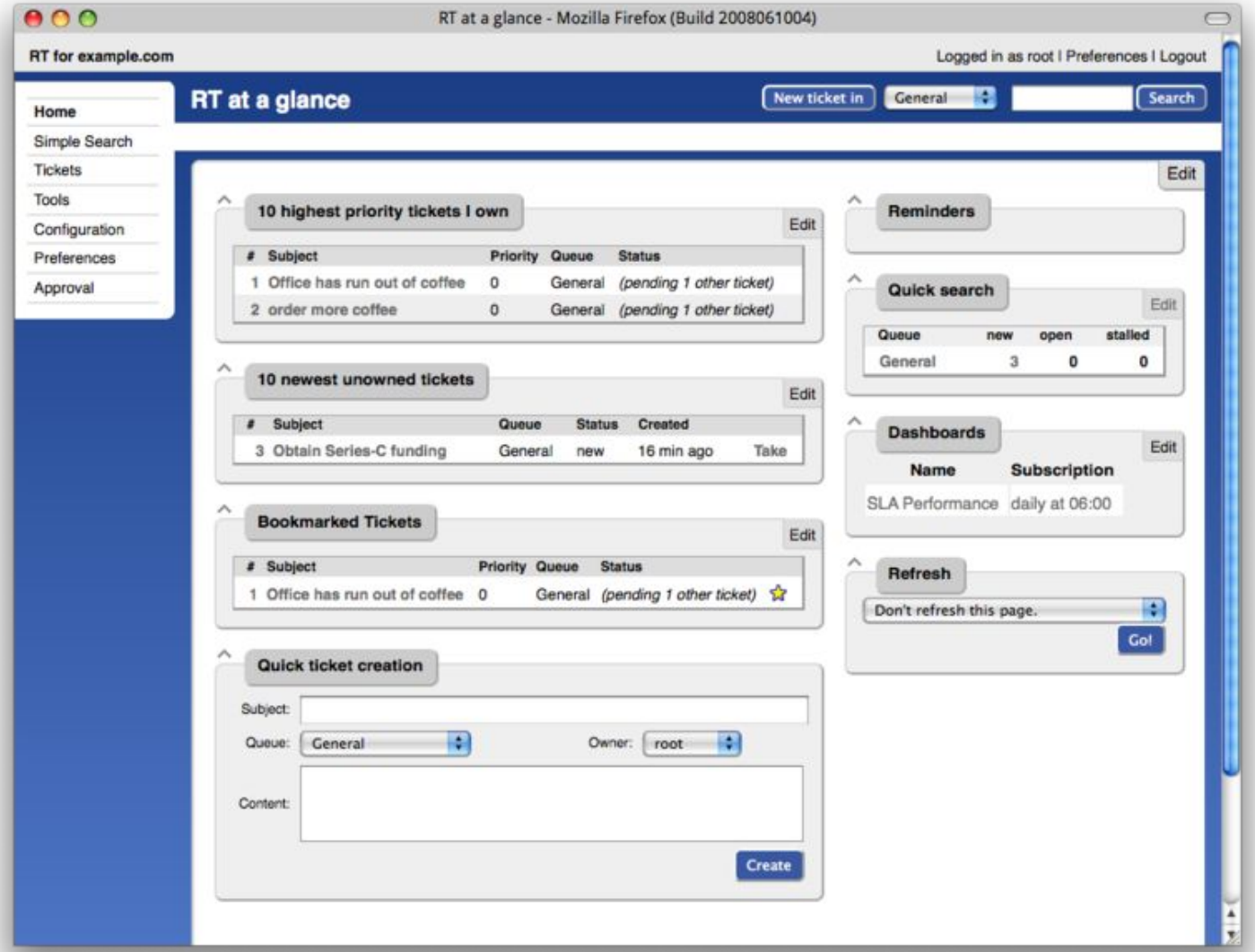
A few others…

- **Bugzilla**
  http://www.bugzilla.org/
- **Cerberus**
  http://www.cerberusweb.com/
- **eTicket**
  http://www.eticketsupport.com/
- **itracker**
  http://www.itracker.org/
- **Jutda Helpdesk**
  http://www.jutdahelpdesk.com/
- **Mystic**
  http://www.hulihanapplications.com/projects/mystic
- **OTRS** (Open source Ticket Request System)
  http://otrs.org/
- **osTicket**
  http://osticket.com/
- **Simple Ticket**
  http://www.simpleticket.net/
- **Trouble Ticket Express**

RT: Request Tracker

http://bestpractical.com/rt/

What's it Look Like?



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 the 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.

Scrips (actions)

For each queue create automatic actions

- There is a group of scrips 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.
- Contributions to RT:
  http://requesttracker.wikia.com/wiki/Contributions