

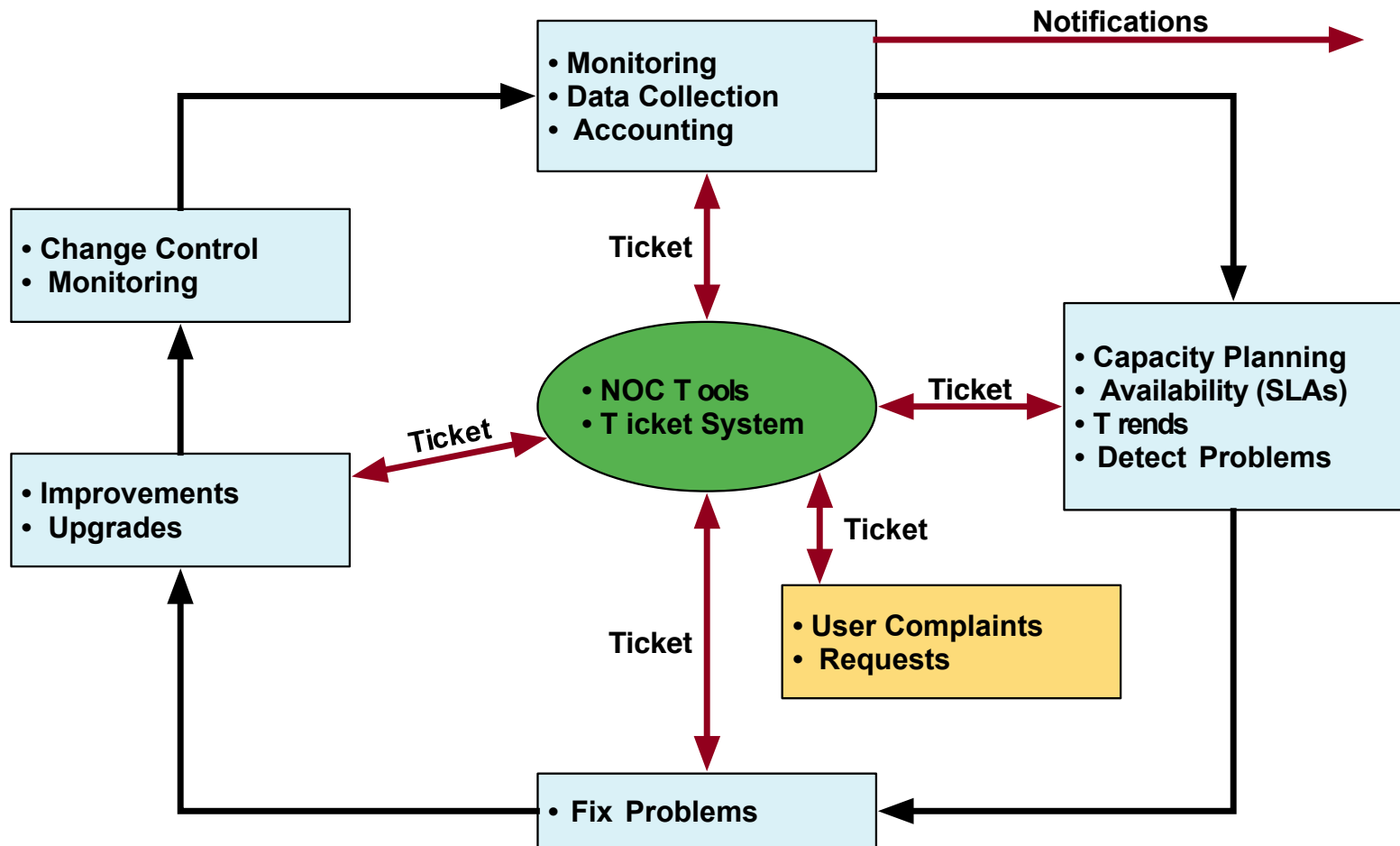
# Ticketing Systems with RT

Network Startup Resource Center  
[www.nsrc.org](http://www.nsrc.org)



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# Why Ticketing Systems?



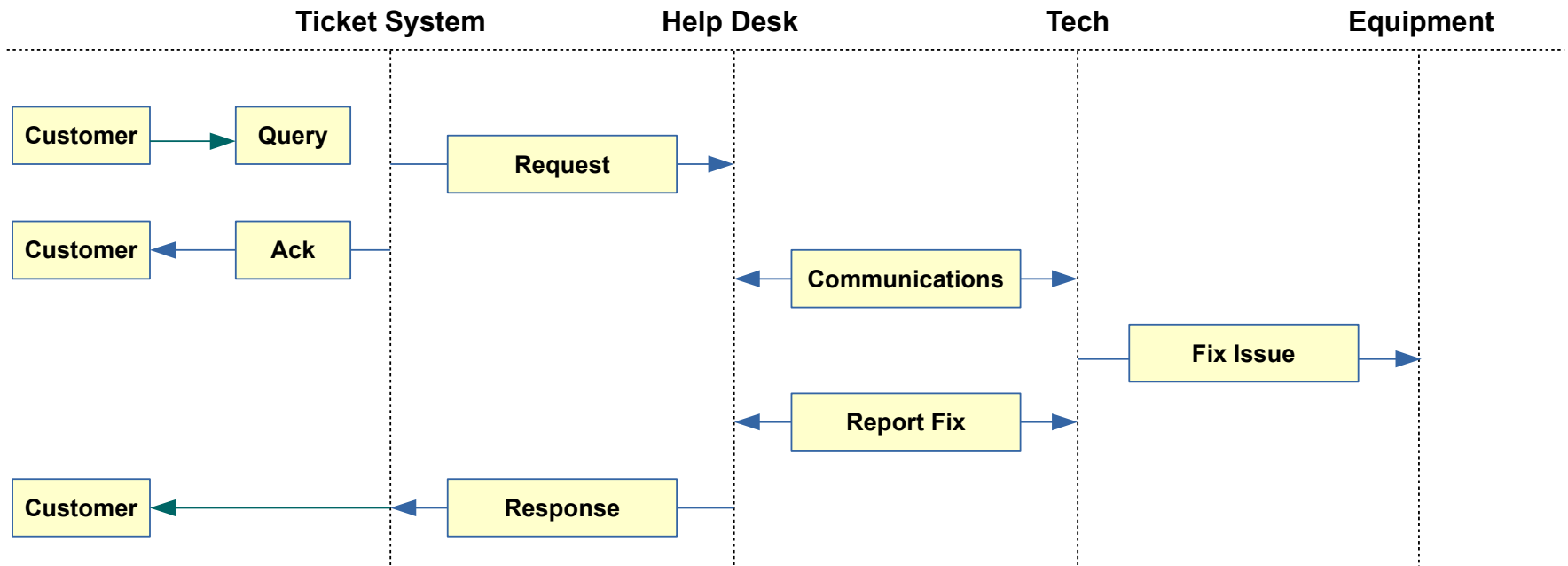
# Ticketing Systems

- **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 (Contd.)

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

# 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



- A hybrid including wiki & project management features
- Web-only ticket system works well but not robust as RT
- 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:** <http://otrs.org/>
- **OsTicket:** <http://osticket.com/>
- **Simple Ticket:** <http://www.simpleticket.net/>
- **Trouble Ticket Express:**  
<http://www.troubleticketexpress.com/>



# RT: Request Tracker

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



# What Does It Look Like?

Home ▾ Tickets ▾ Tools ▾ Logged in as root ▾ RT for netmgmt >> << BEST PRACTICAL™

**RT at a glance** New ticket in General ▾ Search... Edit

^ 10 highest priority tickets I own Edit

^ My reminders

^ 10 newest unowned tickets Edit

#	Subject	Queue	Status	Created	
3	Missing cat	net	new	4 hours ago	Take
2	Missing cat	net	new	5 hours ago	Take

^ Quick search Edit

Queue	new	open	stalled
General	-	-	-
net	2	-	-

^ Bookmarked Tickets Edit

^ Dashboards Edit

^ Quick ticket creation

Subject:

Queue: General ▾ Owner: Me ▾

Requestors:

Content:

Create

^ Refresh

Don't refresh this page. ▾ Go!

# 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
- Initiate 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.

# Critical Issues & Tickets

Home Tickets Tools Logged in as jesse RT for example.com BEST PRACTICAL

RT at a glance New ticket in General Search...

10 highest priority tickets I own

#	Subject	Priority	Queue	Status
1	Office has run out of coffee!	0	Office	(pending 1 other tic
2	Order more coffee	0	Office	(pending 2 other tic

10 newest unowned tickets

#	Subject	Queue	Status	Created
3	Obtain Series-C funding	General	new	52 sec ago

Bookmarked Tickets

#	Subject	Priority	Queue
4	Evaluate responses to RFP for coffee roasts	0	General

Quick ticket creation

Subject:

Queue:  Owner:

Requestors: sales@bestpractical.com

Content:

Home Tickets Tools Logged in as jesse RT for example.com BEST PRACTICAL

Create a new ticket New ticket in General Search...

Basics Details

Create a new ticket

Requestors: sales@bestpractical.com

Cc:

(Sends a carbon-copy of this update to a comma-delimited list of email addresses. These people will receive future updates.)

Admin Cc:

(Sends a carbon-copy of this update to a comma-delimited list of administrative email addresses. These people will receive future updates.)

Subject: Office has run out of coffee!

Describe the issue below:

The worst has happened.

There is no coffee to be found anywhere in the office.

Productivity is at an all-time low!

Attach:  Browse... Add More Files

Create

Basics

Queue: Office

Status: new

Owner: Nobody in particular

(no value)  
Epiphany  
Filterfresh  
Linux  
Mac OS X

Operating System  
Select one value

# RT: Advantages

- Open source and free
- Heavily used and tested
- Very active development
- Flexible
- Web interface or control via email
- Backend database (MySQL, Postgresql, Oracle, SQLite)



# RT: Disadvantages

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

# Problem Classification: Queues

- **Services:** DNS, IP addresses, Radius, LDAP
- **Security:** Attacks, scans, abuse, etc.
- **Systems:** Email accounts, passwords, etc
- **Networking:** Network Services Group
- **Help Desk:** Those who deal with end-users

# 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](mailto: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 groups and groups to each queue

- Different between AdminCC and CC
- Don't forget to create email *aliases* for each queue

# rt-mailgate

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.

# Scripts (actions)

## Create automatic actions for queues

- There is a group of scripts that apply to all queues.
  - Possible to customize per queue or globally
  - “*scripts*” are “snippets of Perl code”
  - Chapter 6 of the O’Reilly “*RT Essentials*” book
  - Details on how to use Scripts:  
<http://requesttracker.wikia.com/wiki/Scrip>



# Extensions

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

# References

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