CIT 470: Advanced Network and System Administration

Help Desks

Topics

1. Help Desk Management
2. Help Desk Software
3. Workflow
4. Trend Analysis

Help Desk Life

Types of Help Desks

Physical
- Walk-up counter

Virtual
- Phone help
- E-mail or web-based request system

Unofficial
- Visit sysadmin A in morning, B in afternoon.

Help Desk Size

Expressed as Customer:SA ratio.
- 50:1 for a R&D organization
to
- 100,000:1 for an e-commerce site

Conflicting interests
- Management wants a larger ratio.
- Customers want a smaller ratio.
- If ratio too large, customers do their own SA.

Scope of Coverage

What is supported?
- Hardware, OS, applications, networking.
- How are unsupported platforms handled?

Who is supported?
- Department, location.

Where are the customers?
- Customers on the road, customers at home.

When is the help desk open?
- What do you do about support when it’s not?
Out-of-scope Issues

**Advocate or refer?**
Advocate issue to another service provider.
Refer customer to other service provider.

**Time-limited support.**
Offer to help for short fixed time period.
If can’t fix it within period, then customer is on their own.

Out of Hours Coverage

**Pager rotation**
– Voice mail forwards to pager.
– SAs rotate who carries pager each week.

**On-call responsibilities**
– Is on-call SA responsible for fixing issues?
– Or does on-call SA contact specialists to fix?

Escalation Process

**First line support**
Handles 80-1% of calls.
May have time limit before escalation.
May be working from a script.

**Second line support**
Subject matter experts.
May sit with first line support periodically.
Indicates a problem if too many calls received.

**Manager**

Help Desk Software

**Functionality**
Create, update, and resolve requests.
Sort and search requests.
Generate request metrics.
Knowledge base (customers, PCs, FAQs).

**Often called**
Request tracker
Trouble ticket tracking system
Issue tracking system

Why Help Desk Software?

You have to track help requests.
E-mail doesn’t work

How do you know someone has replied?
How do you know what they said?
How do you know two people haven’t replied?
What happens when you’re out of town?

Ticket (a.k.a. Request)

A report of a customer problem.
Contains important data on problem:
1. Customer who’s having the problem.
2. Problem description.
3. Problem classification.
4. Urgency and importance.
5. Notes added by SAs working on problem.
Queues

- Tickets are organized into queues.
- Queues defined by help desk admin.
  - Type of problem (net, email, web, print, etc.)
  - Location
  - Whatever classification makes sense
- Queue features
  - Only specified SAs have access to a queue.
  - Queues can auto-reply to certain questions.

Help Desk Software

OTRS

Workflow

1. Greeting
2. Problem Identification
   a. Classification
   b. Problem Statement
   c. Reproduction
3. Planning and Execution
   a. Solution Proposals
   b. Solution Selection
   c. Execution
4. Verification

Greeting

Soliciting issues from customers.

Greeters

1. Front line help desk support (phone, in person)
2. E-mail
3. Web
4. Network monitoring system

How do customers find greeters?

- Signage.
- Employee orientation or classes.
- Internal web sites.

Problem Identification

Who classifies problem?

First-line support.

Customer (phone or web interface).

Customer should be told of classification.

Important that customer is involved in process.

Ensures customer knows something is being done about the problem.

Provides opportunity for customer feedback.
**Problem Statement**

Describes the problem in full detail.
Usually responsibility of first-line support.
Often requires more customer interaction.
“Help, I can’t print!”
To which printer?
From which machine?
Using what application?

**Reproducing the Problem**

If you can’t reproduce it, you can’t fix it.
May require access to customer PC.
Can be difficult over phone/email.
Record method used to reproduce problem.

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**Solution Selection**

Solutions vary in effectiveness and cost.
Desk visits more expensive than e-mail.
Temporary solution vs. permanent solution?
Experienced customers may be useful participants in selecting a solution.
Inexperienced customers will get scared.

**Execution**

Execution is often done by SA.
Customer may have to execute solution.
Remote customers and no remote control software.
Dialog with customer has to be adjusted based on customer knowledge level.

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**Verification**

Verify that the problem is solved.
Use the same technique you used to reproduce the problem.
Customer is final verification.
Request should not be closed until customer verifies that the problem is fixed.

**Trend Analysis**

1. Does a customer report the same issue repeatedly?
2. Are there many questions under a particular classification?
3. Are many customers reporting the same issue?
4. Are there any classes of requests that can become self-service?
5. Who are your most frequent customers?
6. What are your most frequent time-consuming requests?
References


