System Administration

Documentation

http://courses.cs.ut.ee/2012/syshald/
Outline

• Documentation
  - How it should be done
  - Why it does not work that way?
  - What can we do instead?
Documentation

• The Documentation process aims to gather information about systems while keeping it accurate and current and providing the system administrators and users with easy and fast access to this information.
Documentation (2)

gathering

(re)organizing

information

re-arranging

presenting

Document repository
Documentation (3)

● What to document?
  – information about the system
    • components, structure, dependencies
  – information related to the system
    • user manuals, persons, responsibilities, permissions
  – factual & pragmatic

● document complicated and unpleasant procedures first
Documentation (4)
Documentation (5)

• When to document?
  - ...while the details are still fresh
  - what you'll remember few days later probably does not need to be written down anyway

• include documenting in procedures
  - no need to have “dedicated” documenting process
Why to document?

- easy delegation
- fast solutions to recurring incidents
- easier for new hires
- more efficient help desk
- documentation is a part of the disaster plan
- easier to audit
Why to document?

- Proper documentation saves an order of magnitude more time and resources than it took to create the documentation.
Documentation: scope

- ideally, the whole system is covered
- try to cover critical (sub)systems first
- try to compensate for the inadequate components of the existing documentation first
- too wide scope is impractical, as is too narrow
Documentation: detail

• ideally, the documentation is detailed enough to re-build the system from scratch

• too much detail
  – takes time to create
  – takes time to search through
  – takes time to change

• too little detail
  – reader is expected to fill in the details
  – ...this takes time
Documentation: tools and methods

- collecting and re-structuring existing documentation
  - including the documentation shipped with hardware and software
- writing new documentation items
  - documenting the system administration procedures
  - writing user guides
Documentation: tools and methods

- communication
  - e-mail messages (incl. sent e-mails!)
  - instant messaging
- automated documenting
  - monitoring systems, logs
  - configuration management software
  - system management software
Documentation: formats

• do not underestimate the importance of format
  - searchable?
  - universal?
  - recyclable?
  - usable under limited conditions (text terminals, mobile devices, print-outs)?
Documentation (8)

- Simplifying the process
  - we all know about the importance of documenting – but...

  use existing sources automate!
Documentation (9)

- Existing sources
  - messaging
    - e-mail
    - IM
  - command line history
    - store and re-format
    - good base for automation
  - incident tickets
    - both for history and recurring incidents
Documenting (10)

- Automated documenting
  - a lot of data needed for documentation already exists in the system, we just need to collect, process and represent
Documentation (11)

- Automated documenting
  - Configuration Management Process
  - logs, log analyzers
  - command line history
  - event audit
  - network scanners
  - monitoring software
  - system management software
Documentation (12)

• Automated documenting sources
  – common, widely used sources
    • name service data (DNS zones)
    • DHCP configuration and lease database
    • inventory/asset database
    • workstation event logs
    • workstation software management database
Documentation (13)

- Automated documenting sources
- Additional sources (if available)
  - configuration management database (CMDB)
  - system management software
  - security management software
  - identity management software
  - network management and monitoring software
Documentation (14)

- Knowledge Management
  - Knowledge Management includes
    - internal training
    - meetings
    - team work
    - junior and senior specialists
    - working in pairs

- documenting is a sub-process of Knowledge Management
Activity (10-20 min)

- Write down 2-3 problems in the documenting process (use only one sentence!)
- Find people with similar thoughts, form teams (3-5 members)
- Agree on the single most important problem, describe it in one sentence, then you are expected to explain the problem in 1 minute
- Re-organize (if you find some other teams' key problem more important)
- Offer solutions for this key problem – 1-2 minutes to explain the solution
Questions?