

System Administration 101

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Who is System Administrator?

- A person responsible for maintaining and operating a computer system and/or network
- System administrators are NOT software engineers or developers

Required Qualities/Skills

- A blend of technical skills and responsibility!
- Problem solving (frequently, under various sorts of constraints and stress)
- Understanding behaviour of software
- Strong grasp of computer security
- Knowledge of programming languages for scripting and automation
- Good communication skills

Basic Tasks

- Planning & Preparation
- Installation
- Maintaining
- Monitoring
- Installing/upgrading/removing software
- Backup and archives
- Configuring
- Trouble-shooting
- Maintaining local documentation
- Helping and educating users
- Baselineing
- Problem solving

SysAdmin Duties vs Company Size

- 20 people – everything, alone... (including nose-wiping for users)
- 200 people – everything, but with specialty in something (you get colleagues you can refer to in case you don't want to deal with smth)
- 2000 or more – very specific tasks/duties (get 5 signatures before sneezing near a company server)

Specializations/Related Fields

- Database Administrator (DBA)
- Network Administrator
- Security Administrator
- Web Administrator
- Technical Support
- Computer Operator

Backup

- Bottomline: Skip your breakfast and payroll, not backup!

Maintaining Software

- Software is not perfect, so it needs to be maintained
- Updating to new version/release
- Fixing bugs, if possible*
- Performing housekeeping (log cleanups; db vacuum; service restart, if necessary)

Maintaining Software

- Realize you are not the only user on the system
- Don't install something you cannot maintain (do your research before installing)
- Always remove all unnecessary software: every piece of software you leave is a potential cause of crash or security breach
 - Do not remove things you do not understand :-)
- Never EVER play with production systems!
Always test things on test environment

Why Open Source Software?

- Ability to fix bugs before official release
- Ability to contribute to bug/security fixing
- Relative vendor independence
- No headache with licenses, their installation and management

Problem Solving

- Examples
 - “My Word is dead!”
 - Renaming directory caused 10% drop in performance
 - Restarting computer causes random fluctuations of benchmarks
 - Hardware upgrade makes things slower
 - Moving test system to another building causes a slowdown

Monitoring

- Spend time monitoring, so you don't have to spend time restoring
- Demo :-)

Resources Used

- <http://www.adminspotting.org>
- http://en.wikipedia.org/wiki/System_administrator
- <http://content.hccfl.edu/pollock/AUnix1/SysAdminTasks.htm>
- <http://www.openesque.com/white/sysadmin101.html>