



# ***Administração de Sistemas***

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***The System Administrator***  
***O Administrador de Sistemas***

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# Conduta do Administrador de Sistemas

- A integridade do AS está acima de suspeita
- O AS não deve de interferir nas liberdades dos utilizadores
- O AS deve dialogar com todos os interlocutores com o máximo respeito e profissionalismo
- O processo de aprendizagem do AS é contínuo
- A ética profissional do AS deve ser exemplar
- O profissionalismo do AS deve estar presente em todas as actividades

# Essential duties of the System Administrator

- Account Provisioning
  - The Administrator has the duties of add, delete, update users accounts
  - The process of adding or removing accounts can be automated, but certain administrative decisions like where to put the home's directory, where the user can log on, etc.
- Adding and removing hardware
  - When new hardware is purchased or moved to other server or machine
  - Attention to the new enterprise computing sphere, like cloud computing or virtualization can be more complicated than ever
  - The Administrator may need to formulate policies that allow hardware to be shared securely and fairly

# Essential duties of the System Administrator(continuation)

- Performing backups
  - Is perhaps the most important thing of the system administrator and perhaps the most often ignored or sloppily done
  - Backups can be automated (through scripts(like shell scripts, perl or Python) or/and other applications)
  - Backups can be automated and delegated to an underling, but is essential that the Administrator make sure that backups are executed correctly and on schedule

# Essential duties of the System Administrator(continuation)

- Installing and upgrading software
  - Before installing new software in a production environment, the Administrator should install and test the new software, often on several operating system, and on several types of hardware
  - Users must be informed of its availability and location, patches and security updates must be staged and tested before being deployed to the entire site/or all users
- Monitoring the system
  - Large installations require vigilant supervision
  - Regularly confirm that the email and web services are working correctly
  - Make sure that local networks are properly connected
  - Verifying and keep on eye on the availability of systems resources such as storage space or disks space

# Essential duties of the System Administrator(continuation)

- Troubleshooting
  - System failures are inevitable. It is the administrator's job to play mechanic by diagnosing problems and calling in experts if needed. Finding the problem is of-ten harder than fixing it.
- Maintaining local documentation
  - System is changed to suit an organization's needs, it begins to differ from the plain system described by the documentation
    - Administrator is responsible for document the changes
  - keeping maintenance records for all hardware, recording the status of backups
  - Documenting local procedures and policies

# Essential duties of the System Administrator(continuation)

- Vigilantly monitoring security
  - The administrator must check periodically if the system has not been violated
  - Low security systems, this chore might involve only a few basic checks for unauthorized users
  - High security systems, it can include an elaborate network of traps and auditing programs
- Fire fighting
  - Helping users with their various problems is rarely included in a system administrators jobs description
    - It claims a significant portion of most administrators workdays
    - Are bombarded with several problems ranging from: “it worked yesterday and now it does not work! What did you change?”; “I spilled coffee on my keyboard! Should I pour water on it to wash it out?”
  - Ticket systems require a lot of time to maintain a good score to answers



# Como Construir uma Infra-estrutura Computacional

- Controlo de Versões
- Gestão de Incidentes
- Gold Server – Centralização de Configurações
- Instalação Automática
- Serviços de Directoria



# Controlo de Versões

## Objectivos

- Registrar a evolução dos processos/programas
- Permitir retroceder para versões anteriores
- Gestão de diferentes sistemas

## Algumas Ferramentas

- CVS, PRCS, Aegis, Arch
- Rational Software, BitKeeper

# Gestão de Incidentes

## Objectivos

- Registar problemas/pedidos dos utilizadores
- Documentar a resolução dos mesmos
- Ferramenta de apoio na resolução de problemas semelhantes
- Útil na resolução de conflitos

## Ferramentas

- BugZilla, JitterBug, Keystone
- Wreq
- osticket

# Gold Server – Centralização de Configurações

- Servidor de configurações de todas as máquinas da infra-estrutura
- As acções são reproduzidas, recuperáveis, portáteis e integráveis
- Migração do “Administrador de Sistemas” para “Engenheiro de infra-estruturas”
- Os clientes fazem push da informação

# Instalação Automática

- Métodos para instalação automática/sem intervenção humana
- O mesmo método instalação/administração independente de servidor ou desktop
- Imagens de instalação, patches, scripts de gestão, ficheiros de configuração sempre obtidos do gold server

# Serviços de Directoria

- Resolução de nomes de máquinas (DNS)
- Mapeamento de UID, GID (ActiveDirectory, LDAP, NIS)
- Localização de recursos
- Informação pertinente(de leitura)
- Fazem parte da infra-estrutura e devem de estar sempre presentes