ISE311 Guest Lecture

Introduction to Windows System Administration

Ashwin Nagrani

About Me

- Windows Division Manager at the Computer Science Department
- Windows System Administrator since 10 years
- Windows operation of nearly 30+ servers, 300+ clients, 1500+ users and growing
- MS Computer Science, MCSE, CISSP, CCNA, MBA candidate

Windows System Administration

- Very vast topic
- New technologies introduced with every new release of Windows (currently Windows 7 and Windows 2008 R2)
- Technologies change according to the needs of the consumer and corporations
- Goal is to attain the right balance between security and convenience.

Did you ever wonder…

- What enables you to login with the same username and password on multiple computers?
- How come you get the correct printer assigned automatically when you login?
- What puts a login message, enforces password security or forces you to logoff when idle?

Agenda

- Active Directory, AD Domain, Server Role, DNS
- OU's, Users, Computers and Groups in AD
- Demo
- Questions

Active Directory

- It is the brain of the Windows Server network
- It's a database that keeps track of a huge amount of information and provides a centralized way to manage networked workstations, users and resources
- Items are objects in an active directory database

AD Domain

- A *Domain is a security boundary or an administrative boundary*
- e.g. Computer Science AD domain (ad.cs.sunysb.edu) is separate from SINC site domain (sinc.sunysb.edu) which is separate from HSC domain (hsc.sunysb.edu).
- A domain has at least one Domain controller (which hosts the AD database)

Server role

- Windows Server 2008 is designed around certain roles and features.
- A role is a primary duty that a server performs.
- E.g. Domain Controller, DNS server, File Services, Print Services, Terminal Services, Web Server

DNS

- DNS is the application in TCP/IP-based networks that provides name resolution services.
- Active directory is dependant on DNS to provide both name resolution and locator service
- Clients and servers will not be able to locate each other without a functioning DNS infrastructure
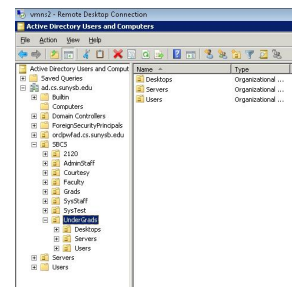
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OUs, Users, Computers and Groups

- An *organizational unit (or OU) is a logical container that you use to* arrange groups of objects for convenient administration and access.
- OUs can contain the following
  ◦ Users, Computers, Groups, Printers, Network File Shares, Nested OUs
- In order to login, both the user and the computer have to be part of AD

Example OU

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Demo

- Show the Windows 2008 domain controller with server roles installed
  ◦ Domain Controller, DNS
- Create OUs
- Create Users and Groups
- Join clients to the domain
- Login as a domain user
- Assign groups to users and computers

By now...

- You should have an idea of what Active Directory, Domain Controller and DNS are
- Be able to create users, groups, OU
- Assign users to appropriate OUs and Groups in AD
- Be able to join a computer to a domain

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Next class

- How can you setup shared folders and configure permissions
- How can you set and enforce policies
- How can you monitor your server
- Demo
- Windows Tips

Thank you

- Slides will be given to Prof. Zadok.
- Further questions can be sent to anagrani@cs.sunysb.edu.
- Contact information also available on Computer Science website at http://www.cs.sunysb.edu.

ISE311 Guest Lecture Part 2

Introduction to Windows System Administration

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Agenda

- Setting up shared folders, Mapping drives and creating permissions
- Group Policy Objects
- Demo
- Windows Tips
- Questions

Setting up shared folders

- Technology to allow sharing files and folders over the network
- NTFS vs Share Level Permissions
- Share Level Permissions
  ◦ Full, Change, Read
  ◦ Use Deny sparingly
  ◦ Can be used for Groups or Individual users
- NTFS Permissions
  ◦ Similar to Share Level Permissions
  ◦ NTFS Permissions can be fine tuned as required

Setting up shared folders

- Resultant access for a user is the least of the Share Level Permissions and NTFS permissions
- Permissions are inherited from parent unless specifically blocked
- Member servers are recommended for security and performance for sharing folders
- Install File services as server role and you can share folders as required

Group Policy Objects

- Used to enforce a set of configuration settings to both the user's computer as well as the user's logon session on that computer
- Policies contain configuration settings that can alter the desktop appearance, provide standard configuration settings for security, provide software installation services, and many other things
- E.g. Desktop background, disable desktop sidebar, deploy Office software to clients

Demo

- Creating shares and configuring permissions
- Configuring Group Policy
- Reviewing monitoring tools
  ◦ Event viewer, Task Manager, Performance monitor
- Configuring the auditing policy

Tip #1: Protect your Data

- Most important asset on your computer (your documents, your HW submissions, your email data, your pics).
- Computers do crash!
- Make sure you always have a backup of your important data
  - USB flash drive or external hard disk, Online backup
  - Windows Live sync (free) to sync folders between multiple computers in real time

Tip #2: Securing your computer

- Upgrade to a modern operating system
  - Every upgrade improves security than the previous version
- Use a firewall
- Keep your system up to date with patches
- Use an anti-malware software
  - Microsoft Security Essentials is a free anti-malware software for XP, Vista and Windows 7

Tip #3: Choosing a good password

March1995	Any month and year combo
Windows+Pizza	Two words plus special character "+"
My 1st pet	Passphrase with a number
I l0ve F00tball	Replace "o" with "0"

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