

Windows Server 2008 Training

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Windows Server 2008

Course Contents

Day - 1

- Server Components
- Windows 2008 Server Series Overview
- IP Addressing
- Sub netting
- Workgroup and Domain Environment
- Active Directory (AD), its Objects and forest

Day - 2

- Group Policies
- Object Management Tools
- Active directory Partitions
- AD Monitoring & replication Demonstration-Server 2008
- Promoting Server to DC
- AD Configuration
- Object Creation
- User Management
- Backup

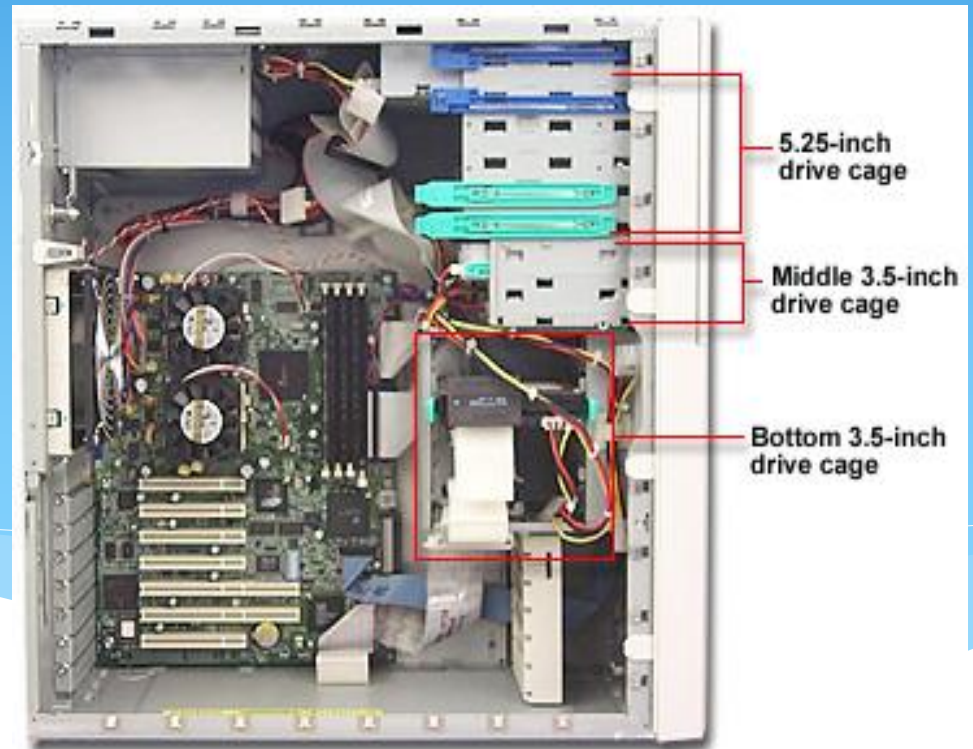
Inside

The server



Server Components

- ❖ Processor
- ❖ Server Motherboard
- ❖ Memory
- ❖ Hard Disk
- ❖ Server Chassis
- ❖ Server OS



Processor

Desktop Processor

Server Processor



CPU SPEED

2.4 Ghz

3.0 Ghz

FSB

800 FSB

1066FSB

CACHE

3 MB L2

4/6/8 MB L2

CORE

2

4/6/8

Server motherboard

- ❖ Multiple Lan Cards (2/4)
- ❖ Memory slots (4/6/8)
- ❖ RAID onboard (optional)

- ❖ Integrated System Management feature
- ❖ Predictive Failure analysis,
- ❖ Remote power on/off,
- ❖ SMS/Mail alerts

Server Boards



Server Memory

- ❖ DDR RAM- Double Data Rate
FB DIMM – Fully Buffered Dual In Line
- ❖ SIMM – 32 Bit DIMM-64 Bit
- ❖ ECC – Error Correction Code



Hard Disk- Interface Types

- ❖ IDE – PATA- Parallel Advanced Technology Attachment
- ❖ SCSI-Small Computer System Interface
- ❖ SAS – Serial Attached SCSI
- ❖ SATA
- ❖ Solid State



Server Chassis

- ❖ Pedestal
- ❖ Rack



Server- Power Supply

- ❖ Standard
- ❖ Redundant
- ❖ Hot Swap



Server Operating System

- ❖ Windows Server OS
- ❖ Linux
- ❖ Apple OS X LION
- ❖ Many More Server OS

Windows Server OS

- Windows NT Server
- Windows Server 2000
- Windows Server 2003
- Windows Server 2008
- Windows Server 2012



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Flavors of Windows Server 2008

- ❖ Windows Server 2008 Web Edition
- ❖ Windows Server 2008 Std. Edition
- ❖ Windows Server 2008 Enterprise
- ❖ Windows Server 2008 Data Centre



Windows Server 2008 Edition Comparison

	Web	Standard	Enterprise	Datacenter
Hyper-V	No	Yes	Yes	Yes
OS Instances Permitted	One instance (Physical or Virtual)	One Physical + One Virtual	One Physical & up to 4 Virtual inst.	Unlimited OS instances
Max. RAM Support	32 Bit - 4GB 64 Bit- 32 GB	32 Bit- 4 GB 64 Bit- 32 GB	32 Bit-64 GB 64 Bit- 2 TB	32 Bit- 64 GB 64 Bit- 2 TB
Max. Processor Support	4	4	8	64
Hot Swap RAM & Processor	No	No	No	Yes
Terminal Server	No	Yes	Yes	Yes

Windows Server 2008

Highlights

- ❖ Hyper – V Support
- ❖ RODC – Read Only Domain Controller
- ❖ DFS – Distributed File System
- ❖ AD FS – Active Directory Federation Service
- ❖ AD RMS – Active Directory Rights Management Service



IP Addressing

- ❖ Internet Protocol Address
- ❖ Unique to each device on the network.
- ❖ 32 Bits in length
- ❖ Composed of 4 octets:
W.X.Y.Z
- ❖ Various Class of IP Address
- ❖ Public & Private IP Address

IP Address

❖ 01000000.00010010.00001000.00000001

❖ Network ID | Host ID

❖ Subnet Mask determines Network & Host Parts.

❖ Historical Class full Addressee

Class	Leading Bits	Range	No of IPs
A	0	0-127	16777216
B	10	128-191	65536
C	110	192-223	256
D	1110	224-239	Multicast
E	11110	240-255	Reserved

IP Address

- An IPV4 Address Dotted notation

172	.	16	.	10	.	1
↓		↓		↓		↓
10101100	.	00010000	.	00001010	.	00000001

- Subnet mask

255	.	255	.	0	.	0
↓		↓		↓		↓
11111111	.	11111111	.	00000000	.	00000000

- Network ID after logical AND operation

10101100	.	00010000	.	00000000	.	00000000
↓		↓		↓		↓
172	.	16	.	0	.	0

Private & Public IP Address

- ❖ Every IPV4 address on the public Internet is unique.
- ❖ Internet Assigned numbers Authority (IANA) allocates address.
- ❖ Public Address
- ❖ Private Address Ranges

Starting Address	Ending Address
10.0.0.0	10.255.255.255
172.16.0.0	172.31.255.255
192.168.0.0	192.168.255.255

- ❖ Loop Back IP Address : 127.0.0.1

Subnet mask

- ❖ An IP address has 2 parts:
 - ❖ The Network identification.
 - ❖ The Host identification.
- ❖ Frequently, the Network & Host portions of the address need to be separately extracted.
- ❖ In most cases, if you know the address class, it's easy to separate the 2 portions.

Subnet mask

- ❖ With the rapid growth of the internet & the ever-increasing demand for new addresses, the standard address class structure has been expanded by borrowing bits from the Host portion to allow for more Networks.
- ❖ Under this addressing scheme, called **Subnetting**, separating the Network & Host requires a special process called **Subnet Masking**.

Subnet mask

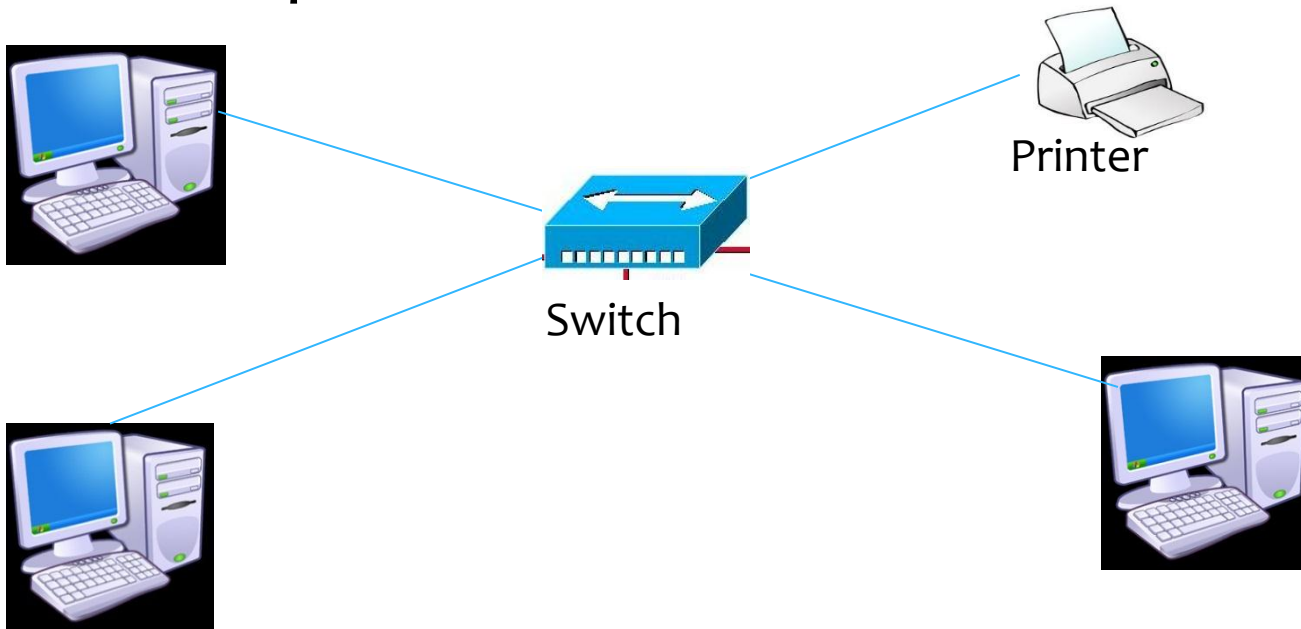
- ❖ The function of a subnet mask is to determine whether an IP address exists on the local network or whether it must be routed outside the local network.
- ❖ It is applied to a message's destination address to extract the network address.
- ❖ If the extracted network address matches the local network ID, the destination is located on the local network.

Workgroup & Domain

- ❖ Windows has two modes of operation
- ❖ Environment dependent
 - ❖ Small Organization – Workgroup
 - ❖ Enterprise Organization – Domain

Workgroup

- ❖ Loosely connected computers
- ❖ Shares common resources
- ❖ No centralized password
- ❖ All computers must be on same network



Domain

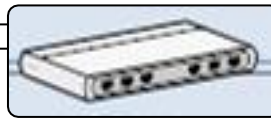
- ❖ Trusted group of computers
- ❖ Provides centralized Management
- ❖ Security
- ❖ Scalability
- ❖ Single Sign On
- ❖ Computers can be on different networks
- ❖ Logical group that shares same AD database

Domain Environment

Domain controller with clients



Domain controller



Router



Domain clients

Computer 1 Computer 2 Computer 3



Domain clients Computer 4



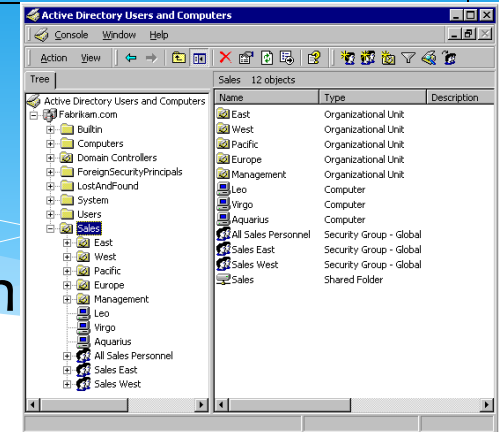
Network printer



printer

Active Directory Components

- ❖ Active Directory Domain Service –
 - AD identity storage
 - Hosted on the domain controller.
 - Provides authentication & authorization
- ❖ Forest –
 - Collection of one or more AD domains
 - First domain installed in forest is called Root Domain
 - Data will not be replicated by AD outside forest boundary
- ❖ Domain –
 - An administrative unit
 - Shared capabilities and characteristics
- ❖ Tree –
 - DNS Namespace of domains in forest creates tree



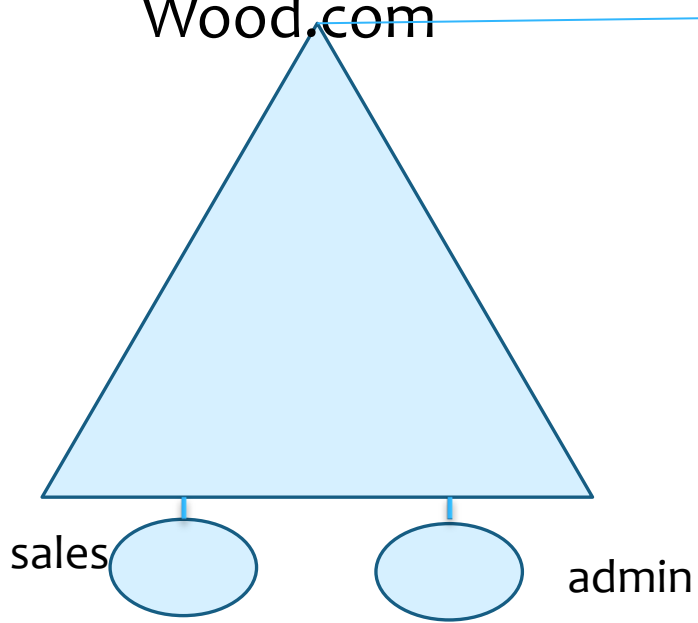
Active Directory Components

- ❖ Functional Level –
Functionality & features of Domain / Forest for Windows version.
- ❖ Organizational Units –
OU is hierarchical database, Container
- ❖ Sites –
Maps physical structure of your network
- ❖ Objects –
User, Computer, Printer etc.
- ❖ AD Database –
Holds objects like user & settings
Multimaster replication database, multiple copies
Writeable

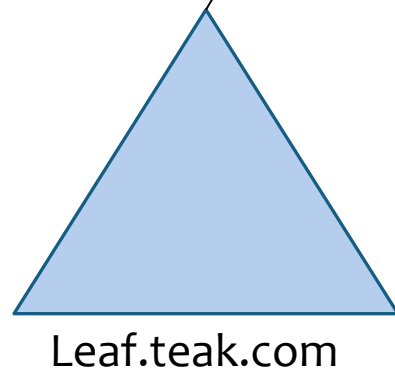
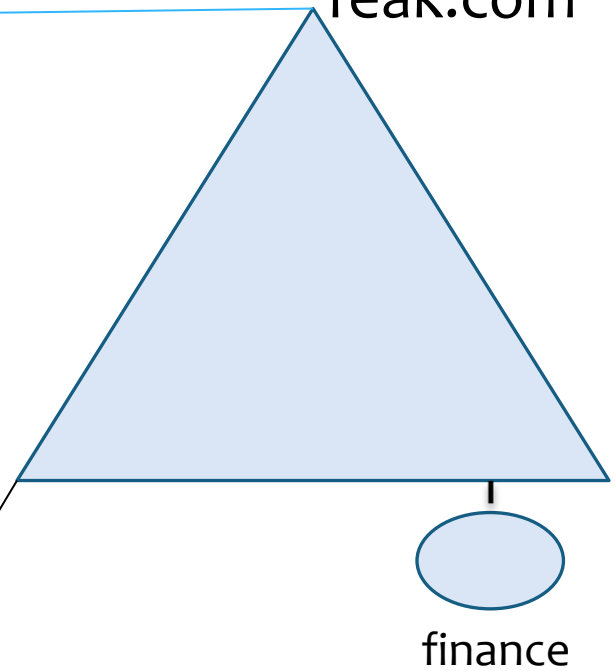
Forest

Wood.com

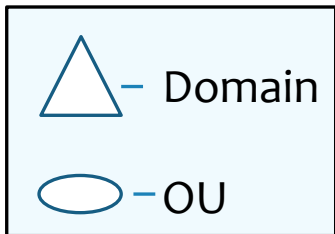
Teak.com

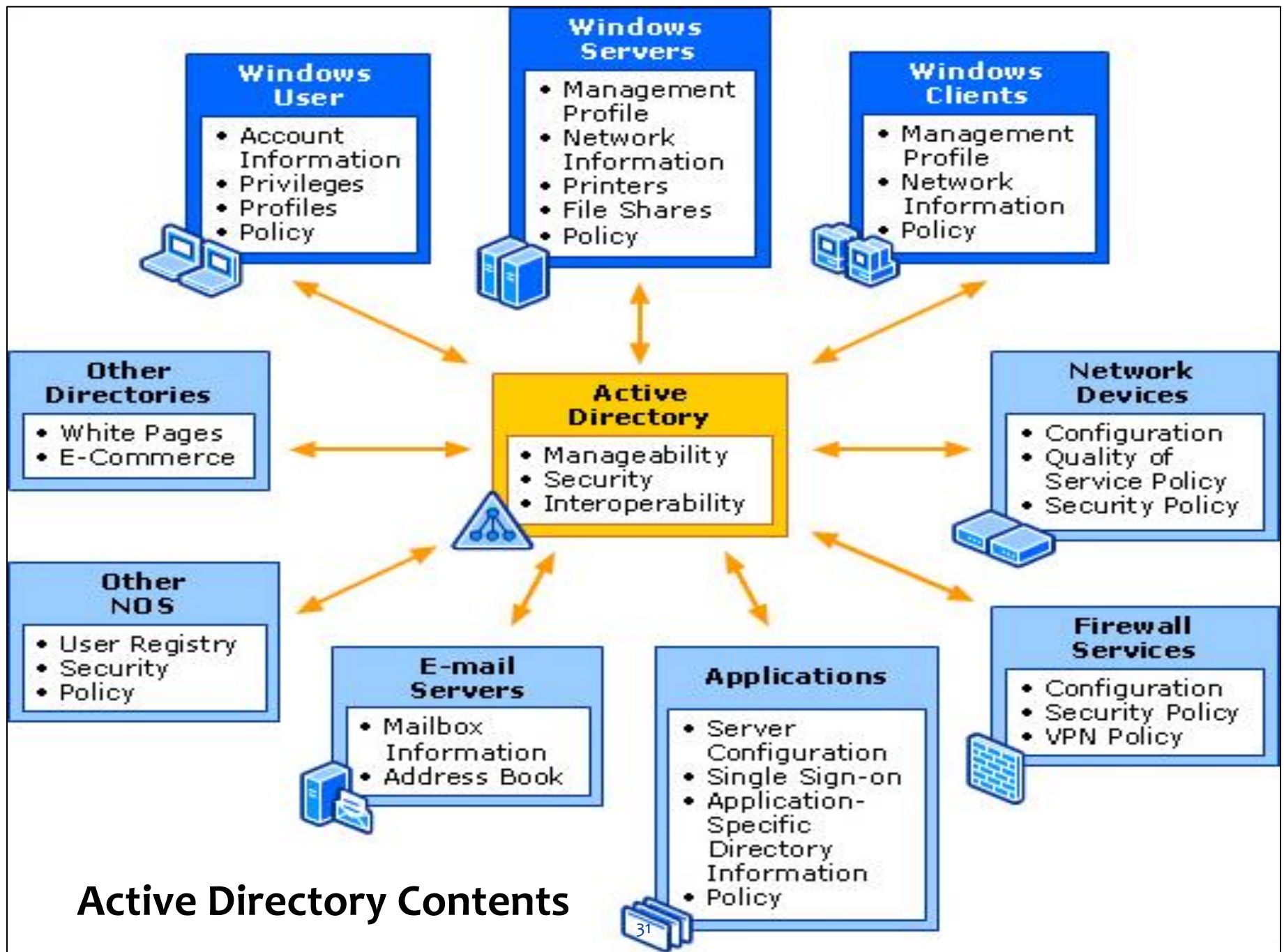


Tree →



Leaf.teak.com





Active Directory Contents

Types of AD DS Objects

User accounts

- Enables a single sign-on for a user
- Provides access to resources

InetOrgPerson

- Similar to a user account
- Used for compatibility with other directory services

Computer accounts

- Enables authentication and auditing of computer access to resources

Organizational Unit

- Used to group similar objects for administration

Group accounts

- Helps simplify administration

Printers

- Used to simplify the process of locating and connecting to printers

Shared folders

- Used to simplify the process of locating and connecting to shared folders

Thanks

❖ Any questions?

Forest

Wood.com

W1



W2



W3



W Server

Teak.com

T1



T2



T3

