Program: MCA & IBCA

Course Code: MCAS9250

Course Name: N/w Mgt. & System Adm.

Semester: Vth & IX

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UNIT - 1

EXPLORING DIRECTORY SERVICES & REMOTE ACCESS

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SYLLABUS

1. Directory Services: Define Directory Service, Definition of Novell Directory, Windows Domain, MS Active Directory, X.500 Directory Access Protocol, Lightweight Directory Access Protocol, Forests, Trees, Roots and Leaves.

2. Active Directory Architecture: Object Types, Object Naming, Canonical Names, LDAP Notation, Globally unique identifiers, User Principle Names, Domain, Trees & Forests.

Cont…

3. Remote Network Access: Need of Remote Network Access, PSTN, ISDN, DSL, CATV.

4. Virtual Private Network: VPN Protocols, Types of VPN, VPN Clients, SSL VPNs

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- Directory Server provides a central repository for storing and managing information. Almost any kind of information can be stored, from identity profiles and access privileges to information about application and network resources, printers, network devices and manufactured parts.

- Everything in your system can be found under this root directory even if they are stored in different virtual or physical devices.

Cont...

- Information stored in Directory Server can be used for the authentication and authorization of users to enable secure access to enterprise and Internet services and applications. Directory Server is extensible, can be integrated with existing systems, and enables the consolidation of employee, customer, supplier, and partner information.

- Directory Server provides the foundation for the new generation of e-business applications and Web services, with a centralized and distributed data repository that can be used in your intranet or over your extranet with your trading partners.

Directory Services

- Directory services is the *collection of software and processes* that store information about enterprise, subscribers or both and make information available to the users.

- **Example**: *Domain Name System* (DNS)

- A Directory service consists of at least one instance of *Directory Server* and at least one *Directory Client Program.*

- Client program can access names, phone numbers, addresses and other data stored in the directory services.

- Directory server stores all user and network information in a single, network-accessible repository.

Directory Services

- Directory services are network services that identify every resources such as *email address*, *peripheral devices and computers on the network* and make these resources accessible to users and applications.

- Most used Directory services are *Lightweight Directory Access Protocol which is used for email addresses* and *Netware Directory Services which is used in Novell Netware Networks*.

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Directory Services Characteristics

Hierarchical naming model

A hierarchical naming model uses the concept of containment to reduce ambiguity between names and simplify administration.

Extended search capability

Directory services provide robust search capabilities, allowing searches on individual attributes of entries.

Distributed information model

A directory service enables directory data to be distributed across multiple servers within a network.

Directory Services Characteristics

Shared network access

While databases are defined in terms of APIs, directories are defined in terms of protocols. Directory access implies network access by definition.

Replicated data

Directories support replication (copies of directory data on more than one server) which make information systems more accessible and more resistant to failure.

Datastore optimized for reads

The storage mechanism in a directory service is generally designed to support a high ratio of reads to writes.

Extensible schema

The schema describes the type of data stored in the directory. Directory services generally support the extension of schema, meaning that new data types can be added to the directory.

NOVELL DIRECTORY (NDS)

- It is known as *Netware Directory Services*.

- Novell directory services is a popular software product for managing access to computer resources and keeping track of the users of a network such as a company's intranet from single point of administration.

- Using NDS, a network administrator can set up and control a database of users and manage them.

- Users of computers at remote locations can be added, updated and managed centrally.

NETWARE AUTHENTICATION (NDS)

- NetWare authentication is performed by using a username and password combination. As well as supplying this information, users also need to tell client software which NDS tree to authenticate to and the location of the user object in the NDS tree.

- After a user has been validated, an assortment of restrictions is verified, including allowed logon times and station restrictions, which prevent users from logging on from certain workstations.

- Information about the user account and what the user can and can't access is stored in the NDS. For this reason, a copy of the NDS must be available in order for the user to be able to log on.

WINDOWS DOMAIN

- A Windows domain is a form of a computer network in which all user accounts, computers, printers and other security principals are registered with a central database located on one or more clusters of central computers known as domain controllers.

- Authentication takes place on domain controllers.

- Each person who uses computers within a domain receives a unique user account that can then be assigned access to resources within the domain.

- The concept of Windows domain is in contrast with that of a [workgroup] in which each computer maintains its own database of security principals.

MS ACTIVE DIRECTORY

- **Active Directory (AD) is a directory service that Microsoft** developed for windows domain networks.

- It is an object-oriented, hierarchical, distributed directory services database system.

- That provide central database about hardware, software and human resources of entire network.

- A server running Active Directory Domain Services (AD DS) is called a domain controller.

- It authenticates and authorizes all users and computers in a Windows domain type network—assigning and enforcing security policies for all computers and installing or updating software.

- o Directory Services and Directory Server
- o Directory Services Characteristics
- o Novell Directory (NDS)
- o Windows Domain
- o MS Active Directory

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Thank You