

# *Active Directory*

## **Section Eight**

### **Active Directory Settings**

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#### *Introduction*

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#### **GENERAL**

Active Directory is Microsoft's trademarked directory service, an integral part of the Windows 2000 architecture. Like other directory services, such as Novell Directory Services (NDS), Active Directory is a centralized and standardized system that automates network management of user data, security, and distributed resources, and enables interoperation with other directories. Active Directory is designed especially for distributed networking environments.

Active Directory features include:

- Support for the X.500 standard for global directories
- The capability for secure extension of network operations to the Web
- A hierarchical organization that provides a single point of access for system administration (management of user accounts, clients, servers, and applications, for example) to reduce redundancy and errors
- An object-oriented storage organization, which allows easier access to information
- Support for the Lightweight Directory Access Protocol (LDAP) to enable inter-directory operability

Designed to be both backward compatible and forward compatible

#### *Active Directory Outline*

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#### **INTRODUCTION**

The *Active Directory Outline* provides a macro view, combining all of the elements required to develop and implement a campus-wide desktop management strategy using Microsoft® Windows 2000. This project provides single user logons linking

the Active Directory schema<sup>1</sup> with a multi-platform environment (UNIX, LINUX, Apple OS 9 & X, and Novell).

The end goal is to produce a managed desktop for every user while enhancing software distribution and automation of new workstation rollouts. Benefits include:

1. Universal User accounts and passwords across all platforms.
2. Workstations interchangeable and more easily re placable.
3. Resources shared easily.

Network structure more understandable and navigable.

## ELEMENTS

This project will evolve and grow as we prove the functionality and dependability of services provided. This requires that its' foundation is anchored to a hierarchal schema resembling the Cal Poly campus organization. In doing so we will establish guidelines for security and account authority which simplifies organizational responsibility and management. Our network diagram will resemble our organizational chart -- making our network simpler to administrate.

## FOUNDATION

1. Planning and documenting the Active Directory Schema
2. Preparing and testing hardware
3. Installing the Windows 2000 Server as a Domain Controller
4. Applying the Active Directory schema
5. Defining security for organizations and groups
6. Testing security using the Microsoft Security Advisor
7. Setting up subordinate Domains and controllers
8. Bulk import of user accounts
9. Migrating users to organizations and groups
10. Creating remote profile access and user storage
11. Establishing a logical distributed file system (Dfs)
12. Configuring and testing IntelliMirror
13. Migrating Windows 2000 Professional workstations to domain objects
14. Testing security using the Microsoft Security Advisor

## MULTI-OS EXPANSION

1. Customize MS Windows Services for UNIX Installation

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1. Schema - In computer programming, a schema (pronounced SKEE-mah) is the organization or structure for a database. The activity of data modeling leads to a schema. (The plural form is *schemata*. The term is from a Greek word for "form" or "figure." Another word from the same source is "schematic.") The term is used in discussing both relational databases and object-oriented databases. The term sometimes seems to refer to a visualization of a structure and sometimes to a formal text-oriented description.

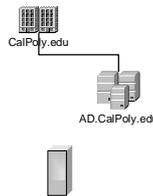
2. User Mapping and services for UNIX NFS Support
3. Password Synchronization of Windows Services for UNIX
4. User Name Mapping
5. Install Services for NetWare 5.0
6. Install Services for Macintosh
7. Install UAM for OS 9.2
8. Install UAM for OS 10.x

## PROJECT SCOPE

Initially, this project will involve the College of Science and Math. As the project progresses it will encompass other colleges and departments as acceptance is made. It is the fundamental premise that this project should build from an individual Active

**FIGURE 1. Our vision of Active Directory**

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Directory tree<sup>1</sup> spanning out to sub-domains consisting of college and departmental resources (computers, printers, groups, users, etc.). The root (or beginning) of the tree acts as the hub for all other domains to span from (i.e. calpoly.edu would be a root, cms.calpoly.edu would be a branch). For our project we will use AD.CalPoly.edu as the root for our project tree (since calpoly.edu is an established domain).

Once *ad.calpoly.edu* and *csm.ad.calpoly.edu* have been successfully established, (with groups and accounts installed and workstations linked to their respective domains) then cross-platform account services would provide the single logon (UNIX, Novell, Macintosh and Windows).

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1. **tree** -- a set of Windows NT domains connected together through transitive, bidirectional trust, sharing a common schema, configuration, and global catalog. The domains must form a contiguous hierarchical namespace such that if a.com is the root of the tree, b.a.com is a child of a.com, c.b.a.com is a child of b.a.com, and so on. See also **schema**, **forest**.