

Standard Naming Conventions

This document provides an Active Directory naming standard for the Idaho Consolidated Services System



Naming Conventions

Naming standards for the Active Directory were one of the first items developed by the Core Team for the implementation effort. Naming standards comprise one of the most important factors in creating a successful enterprise directory, agencies and field offices can begin making use of the standards even prior to joining the ICS.IDAHO.GOV forest and ease their transition into that environment.

Agency/Office Identification

Agency or office acronyms are used in these standards for a number of naming conventions. Each agency and office will adopt a standard three-character acronym that will be used consistently throughout the Active Directory. The three character abbreviation is used in computer and other Active Directory object naming conventions and can be found in Appendix B.

Table 4: Agency/Office OU Naming

Agency/Department	Three Character Acronym
Health and Welfare	DHW
Department of Administration	ADM

Location Codes (Optional)

A number of the naming standard items in this document call for the inclusion of a unique location code. The production of a common data-set for all State locations was evaluated and found to be infeasible at the time of writing this document. Each agency and office should develop its own database of locations for use in Active Directory naming standards. These databases should include at a minimum the following information:

- Unique location code (used in naming standards) – 3 to 4 characters or more depending on existing agency codes
- Location name
- Agency or office
- Physical address (Country, City, State, Zip)

Character and Naming Limitations

The following practices should be observed in naming objects:

Care should be taken with all names to ensure that no offensive or inappropriate words are used.

Underscore characters (“_”) should not be used in any names that will be registered in DNS as this will produce a non-RFC compliant name.

Naming Standards

The sections below present both mandatory and recommended naming standards. Items that are a mandatory part of the standard are explained in text and presented as such in the appendices. It is understood that not all mandatory standards can be adopted within existing agency and office directory services. However, these standards should be applied as each agency and office migrates toward an eventual common directory service for the State of Idaho.

X.500 Naming Standards

All certificates issued by a certificate authority should be consistently requested and named. Avoid using special characters in the five primary certificate attributes. Organizational unit, state and city values will vary, and some certificates may be issued to devices or users stationed in foreign countries. The value “US” should be used for all certificates issued within the United States. Table 2 lists the values for the State root certificate authority.

Because individual agency or office certificate authorities may exist apart from the State root, each Agency should include “ID” in the organization name. Organizational units for the root certificate authority in each agency or office may be assigned at the discretion of the certificate authority management. Organizational unit assignments to devices or users should follow the organization of the Active Directory itself, when possible.

Table 5 X.500 Naming Definitions

Field	Value
Organization	ID Health and Welfare
Organizational Unit	DHW
Country/Region	US
State/Providence	Idaho
City/Locality	Boise

Active Directory Sites

Active Directory environments may contain a number of “site-aware” applications. These applications will function best with a site naming standard employed throughout the State enterprise. The following standards will be used in naming sites:

- First position (3 characters) – agency or office acronym
- Second position – site location code at agency/office discretion
- Third position – sequence number (if applicable)

Active Directory Site Links

The Active Directory site link objects will be named in a standard logical fashion that incorporates the site names of both “nodes” in the link. Generally, the first site name in the site link name should be the site that is closest to a hub site within the wide area network. If multiple connecting sites exist within an agency, add a two digit sequence number to the end.

Table 6: Active Directory Site Links Example:

Site Closest to Hub Site	Connecting Site	Site Link Name	Location
CIO	DHW	CIO-DHW	Boise
CIO	ITD	CIO-ITD01	Boise
CIO	ITD	CIO-ITD02	Pocatello

Active Directory Server, Workstation, and Database Naming

Active Directory computer objects are defined as any server or workstation stored in the Active Directory (e.g., domain controllers, stand-alone DNS servers, dedicated file and print servers). It is recommended that these naming standards be applied to all servers in each agency and office to provide a consistency across the State.

The following factors are considered:

- Names should be easy to remember and not too long.
- The naming standard should allow for some growth and scalability. Adding a few digits at the end of a server name will allow for growth. For scalability, a portion of the name can identify a specific location if there is more than one location.
- The naming standard should easily identify the server’s function (Mailbox server, Hub Transport server, domain controller, file server, and so on). In an environment with more than a few servers, having some portion of the naming standard that helps to identify the role will quickly reduce frustration for everyone involved.
- As our organization has more than one location, the name should have a code that identifies the server’s physical location.
- Server names are set when you install Windows Server. They are limited to a maximum of 63 characters, but it is suggested that the names should be limited to 15 characters if pre-Windows 2000/XP clients will access them.
- For most names, almost any character is permitted. However, we strongly suggest the use of only the 26 characters of the alphabet (uppercase and lowercase), the numerals 0 through 9 and the hyphen. Don’t use spaces, underscores or any accented letters.

Servers

The servers will adopt the following naming convention, in either upper or lower case:

- First position (3 characters) – agency or office acronym (Required)
- Second position – (3 characters) - site location code at agency/office discretion (Optional)
- Third position (2 characters) – server function for the listed server types only (Optional)

Table 7: Identifying Server Roles

The table following is an example of identifying server roles with two-character codes:

Server Function	Server Code	Placement	
Domain Controller	DC	Production	p
Mailbox	MB	Test	t
Clustered Mailbox	CM	Development	d
Hub Transport	HT		
Unified Messaging	UM		
Client Access	CA		
Edge Transport	ET		
Combined Functions	CF		
Cluster Node	CN		
File Server	FS		
Virtual Host	VH		
Print Server	PS		
Web Server	WB		
Backup Server	BK		
Application Server	AP		
Database Server	DB		
Firewall	FW		
Modem	MD		
Microwave	MW		
Network Services	NS		
Router	RT		
Switch	SW		
Video Conference	VC		
Satellite	ST		
Wireless Access Point	WA		
Cluster	CL		
Certificate Authority	CS		

Additionally, to **designate the physical or virtual properties as well as the test or production status** of a server, a two-character or less code that comes before the unique number is added thus:

For a *virtual test* server, “vt” is pretended to the unique number of the server. A *virtual production* server has a “vp” designation. Not having a ‘v’ means the server is a physical server. The ‘t’ or ‘p’ for test or production server respectively continues to denote that status.

- Fourth position – sequence number (if applicable)

The table below shows some examples of server names and how they would be decoded:

Table 8: Example of Server Names and Decoding

SERVER NAME	EXPLANATION
ICSSCOCN01	Forest root (ICS) at SCO (location) cluster node 01
ICSSCOCN01	Forest root (ICS) at SCO (location) cluster node 02
ADMBOICM01	Dept. of Administration (ADM) in Boise (BOI) clustered Mailbox server 01
ADMPOCHT01	Dept. of Administration (ADM) in Pocatello (POC) Hub Transport 01
TAXBOICA02	Tax Commission (TAX) in Boise (BOI) Client Access 02
ICSSCOMB01	Forest root (ICS) at SCO (location) Mailbox Server (MB) 01
DFMBOIFS01	Division of Financial Management (DFM) in Boise (BOI) Fileserver (FS) 01
DFMBOIFSvp01	Division of Financial Management in Boise, (virtual production Fileserver) 01
TAXCDAWBvt01	Tax Commission in Coeur D’Alene (CDA), (virtual test Web Server) 01
TAXCDAWBt02	Tax Commission in Coeur D’Alene (CDA), (physical test Web Server) 02

Workstations

Workstations will adopt the following naming convention, in either upper or lower case:

- First position (3 characters) – Agency or office acronym.
- Second position – workstation name at the discretion of the Agency or office.

User Objects

User names must be unique within the enterprise to facilitate smooth development of Idaho-wide and cross-agency applications. The Active Directory contains two distinct user ID attributes. The user principal name (UserPrincipalName or UPN) is the primary Active Directory (and above) user ID and contains a “@” symbol followed by a domain name. Some Windows components and other applications are not compatible with the UPN, and the Active Directory contains an alternate user ID called the SAM account name (SAMAccountName), referred to as the “pre-Windows 2000 user name.” Users can have two user ID’s, one being a SAM account and the other a UPN.

The UPN account name should be developed in the following sequence (limited to 20 characters):

1. <first initial><last name>
2. <first initial><middle initial><last name>
3. <first name><last name>
4. <first name><middle initial><last name>
5. <first initial><middle name><last name>
6. <first name><middle name><last name>
7. <first initial><sequential number><last name>

***Note:** No change is required if an agency currently uses one of the above formats and the names are unique within the State. If a name is a duplicate, a unique name should be constructed using the sequence of formats above. If an agency does not currently use one of the above formats, new names should be assigned starting at the top list.*

The SAM account name will be used by various Windows components as well as applications that cannot utilize the user principal name format with its special characters. Cross-Agency, or agency applications that have technical limitations on the special characters present in the user principal name, will greatly benefit from the creation of a unique SAM account name for every user that can serve as a unique user ID with no special characters. The unique requirement for the SAM account name will perhaps be the most difficult naming standard to accomplish, and it is recognized that existing directories will have to change some current names over some period of time. The SAM account name will adopt the following standards:

- The SAM account name must be less than 20 characters with no spaces or special characters.
- The SAM account name must be unique within the Idaho enterprise directory system. This will require enterprise and domain administrators to coordinate user naming to ensure the names are unique. Quest tools provide an automated way of ensuring uniqueness between Active Directory forests or domains within a single forest.
- The SAM account should follow the same naming scheme as the UPN account unless there is a specific business requirement.

Users are also identified in the directory by the following separate attributes:

- First Name (givenName)
- Middle Name (middleName)
- Last Name (sn)
- Initials (initials) – this may be either the middle initial or full initials
- Common Name (cn)
- Display Name (displayName)

These attributes are separate in the directory, and they have no bearing on the user ID. However, these names may be important for various applications and other display and sorting purposes. For instance, most of these attributes will be used in any white pages directory

system that uses the Active Directory as its core database. While full name attributes such as the common name and display name do not need to be unique or specially formatted from an Active Directory functionality standpoint, they should be formatted consistently to provide the best functionality for directory-based applications. Both the initials and middle name attributes should be provided for all users to assist with naming conflicts between agencies and field offices.

Group Objects

There are four different types of groups used in the Active Directory with different characteristics. In a coordinated Active Directory environment within Idaho, some of these groups will become part of an Idaho-wide global catalog or some other form of meta-directory. Groups will be used widely in the directory to organize users and other objects and provide the basis for access control. There are many different reasons for groups and group management methodology that will vary across agencies and organizational units, and it is neither feasible nor necessary to fit an absolute naming standard to these methodologies across the enterprise. However, in a combined directory such as a global catalog, it is necessary to distinguish originating agency and group type when viewing a group name. The following naming standard will be applied to all directory-based groups.

Security Group Naming Convention

A proven group naming convention for Active Directory delegation is one that represents the scope of where it should be applied and the role it represents. For example,

Group-Name: <Three Character Agency Abbreviation>-<Data Admin Role>

In this example, the Department of Administration (ADM)'s User Administrators will be placed in a group called: ADM-UserAdmins, while those of the Tax Commission will be in a group: TAX-UserAdmins

Using the naming convention above, it is clear that the security group called "TAX-UserAdmins" will be used to grant the permissions of the User Administration role for the TAX OU, while the "ADM-UserAdmins" would grant the same permission to manage all users in the ADM OU. The role and scope-specific security groups that are created will not be under the control of the data administrators that could otherwise lead to an elevation of privilege attack. Instead, they will be located in a special local admin OU of each agency's OU that is exempt from applying inherited permissions from parent OUs.

Types of groups:

- Security Groups (*defined above*)
- Universal Groups
- Global Groups
- Domain Local Groups
- Non-Security Group
- Distribution Group

Group Design Considerations

The use of groups within the directory service will be at the discretion of the agency implementation and management teams. However, because of the network design and replication constraints relating to global catalog placement, Universal Groups will not be used in the ICS.IDAHO.GOV forest in the initial deployment. The use of Universal Groups will be reevaluated using the change management process once the State network evolves beyond the current limitations of the network design and bandwidth. Groups should be designed and named based on the naming standards outlined in this document.

Group Policy Objects

All Group Policies are located in the same Group Policy folder at the Domain level, if an agency designator is not placed in front of each Group Policy it will not be possible to know which agency the policy belongs to. Therefore all agencies Group Policies will need the unique 3 character designator and a dash as a prefix to their existing names.

Printer Objects

Printer objects should be named at the discretion of the agency or office. Recommended guidelines are included in Additional Attribute Guidelines below.

Additional Attribute Guidelines

Each Active Directory object contains many different attributes used for a variety of purposes. While not critical to the basic functionality of an Active Directory environment, a number of these attributes should follow standard guidelines across the State of Idaho enterprise to facilitate better interoperability between applications and other network components. The following tables present the most critical objects and recommended guidelines for the most important attributes.

The R/O field indicates required or optional attributes. "Required" indicates that the attribute must be populated and named according to the standard. "Optional" indicates a recommended but not mandatory attribute naming standard.

Table 8: User Object

Attribute	Description	Syntax	R/O	Example
User logon name	The UPN of the user account	<firstinitial><lastname>	R	jdoe@tax.idaho.gov
User logon name (Pre Windows 2000) (SAM AccountName)	The downlevel name of the user account	See text above in the section titled User Objects	R	jdoe
Name (cn)	The name of the user account	<First name><" "><Initial><" "><Last name>	R	Jane T Doe
Company	The Agency or office of the user account	<agency acronym>	R	TAX
Department	The department of the user account	<Department name of the account>	R	Human Resources
Description	The description of the user account	<Account type>	O	Employee Machine Account Contractor

Attribute	Description	Syntax	R/O	Example
First name (givenName)	The first name of the user account	<i><first name of the account></i>	R	Jane
Middle name (middleName)	The middle name of the user account	<i><middle name of the account></i>	O	Tracy
Last name (sn)	The last name of the user account	<i><last name of the account></i>	R	Doe
Initials	The initials of the user account	<i><middle initial></i> or <i><full initials></i>	O	T or JTD
Display name	The display name of the user account	<i><same value as cn></i>	R	John T Doe
E-mail (mail)	The e-mail address of the user account (SMTP)	<i><email address of the account></i>	R	Jane.doe@tax.idaho.gov
Manager	The manager of the user account	<i><Distinguished name of the accounts closest business manager></i>	O	CN=jane t doe,OU=TAX,DC=Idaho,DC=NET
Telephone numbers	Any of the various phone or fax numbers of the account	<i><phone number for the account ></i>	R	208 319-1822

Table 9: Computer Object

Attribute	Description	Syntax	R/O	Example
Name (cn)	The name of the computer	Servers: <agency acronym><location><function><sequence number> User Workstations: <agency acronym>	R	Server: taxnbcdc1 Workstation: taxjdoe
Computer name (Pre Windows 2000)	The downlevel name of the computer account	<Same value as cn>	R	taxnbcdc1
Description	The description of the computer account	<Freetext describing the role of the computer, max 100 characters>	O	Tax primary domain controller
DNS name	The DNS name of the computer account	<cn><business area domain suffix>	R	iiddcadm1.tax.ICS.ID AHO.GOV
Location	The location of the computer	<Site code or location name>	R	Admin office of the CIO
Managed by (Name)	The name of the computer manager	<Distinguished name of computers primary user>	O	CN=jane t doe,OU=TAX,DC=IDAHO,DC=NET

Table 10: Group Object

Attribute	Description	Syntax	R/O	Example
Name (cn)	The name of the group	<agency acronym>-<descriptive text>	R	TAX-Project Managers or TAX-User Admins
E-mail (mail)	The e-mail address of the	<email address of the group>	R	group@tax.idaho.gov

Attribute	Description	Syntax	R/O	Example
	group (SMTP)			
Managed by (Name)	The name of the group manager	<i><Distinguished name of the groups closest business manager></i>	O	CN=jane t doe,OU=TAX,DC=ICS, DC=IDAHO,DC=GOV

Table 11: Printer Object

Attribute	Description	Syntax	R/O	Example
Name (cn)	The name of the printer	<i><agency acronym> <description></i>	R	admHPColorLJ5
Share Name	The name of the printer network share	<i><same value as name></i>	R	admHPColorLJ5
Description	The description of the printer	<i><Freetext describing the printer, max 100 characters></i>	R	General description
Managed by (Name)	The name of the computer manager	<i><Distinguished name of computer's primary user></i>	O	CN=jane t doe,OU=TAX,DC=ICS,DC=IDAHO,DC=GOV
Location	The location of the printer	<i><Freetext describing the printer, max 100 characters></i>	R	lu/level 2/third room

Appendix B: Three character agency name

Document References:

Agency Name	Abbreviation for AD	E-Mail Domain
Accountancy, Board of	SBA	isba.idaho.gov
Administration, Department of	ADM	adm.idaho.gov
Aging, Commission on	AGE	aging.idaho.gov
Agriculture, Department of	AGR	agri.idaho.gov
Apple/Cherry Commission	APP	idahoapples.org
Arts and Humanities Commission	ART	arts.idaho.gov
Attorney General, Office of the	OAG	ag.idaho.gov
Barley Commission	BAR	idahobarley.org
Bean Commission	BEA	bean.state.id.us
Blind/Visually Impaired, Commission for the	BVI	icbvi.idaho.gov
Boise State University	BSU	bsu.idaho.gov
Building Safety, Division of	DBS	dbs.idaho.gov
Career Information Systems	CIS	cis.idaho.gov
Children's Trust Fund, Idaho	CTF	idahochildrenstrustfund.state.id.us
Code Commission	COD	<i>(part of Secretary of State)</i>
College of Southern Idaho	CSI	csi.edu
Commerce, Idaho Department of	COM	commerce.idaho.gov
Controller, Office of State	SCO	sco.idaho.gov
Correction, Department of	DOC	idoc.idaho.gov
Dairy Products Commission	UDI	udidaho.org
Deaf and the Blind, Idaho School for the	SDB	isdb.idaho.gov
Deaf/Hard of Hearing Council for the	DHH	cdhh.idaho.gov
Dentistry, Board of	SBD	isbd.idaho.gov
Drug Policy, Office of	ODP	odp.idaho.gov
Developmentally Disabled, Commission for	CDD	icdd.idaho.gov
Disability Determinations	DDS	dds.idaho.gov
Domestic Violence, Council on	CDV	icdv.idaho.gov
Eastern Idaho Technical College	EIT	eitc.edu
Education, Department of	SDE	sde.idaho.gov
Education Office of the State Board of	SBE	osbe.idaho.gov
Endowment Fund Investment Board	EFI	efib.idaho.gov
Energy Resources, Office of the	OER	oer.idaho.gov
Engineers and Land Surveyors Board of Prof	BPE	ipels.idaho.gov
Environmental Quality, Department of	DEQ	deq.idaho.gov
Finance, Department of	DOF	finance.idaho.gov
Financial Management, Division of	DFM	dfm.idaho.gov
Fish & Game, Department of	DFG	idfg.idaho.gov

Agency Name	Abbreviation for AD	E-Mail Domain
Forest Products Commission	IFP	Idaho.forests.org
Geologists, Board of Professional	BPG	ibpg.idaho.gov
Governor Office	GOV	gov.idaho.gov
Governor's Commission on Service & Volunteerism	SER	serveidaho.org
Health and Welfare, Department of	DHW	dhw.idaho.gov
Hispanic Affairs, Commission on	CHA	cha.idaho.gov
Historical Society, Idaho State	SHS	ishs.idaho.gov
Homeland Security, Bureau of	BHS	bhs.idaho.gov
House of Representatives	HOU	legislature.idaho.gov
Human Resources Division	DHR	dhr.idaho.gov
Human Rights Commission	HRC	ihrc.idaho.gov
Idaho Commission for Libraries	CFL	libraries.idaho.gov
Idaho Rural Partnership	IRP	irp.idaho.gov
Idaho State Police	ISP	isp.idaho.gov
Idaho State University	ISU	isu.edu
Idaho Supreme Court	ISC	isc.idaho.gov
Independent Living Council, State	ILC	silc.idaho.gov
Industrial Commission	IIC	iic.idaho.gov
Insurance, Department of	DOI	doi.idaho.gov
Insurance Fund, State	SIF	idahoSIF.org
Juvenile Corrections, Department of	DJC	djc.idaho.gov
Labor, Idaho Department of	LBR	labor.idaho.gov
Lands, Department of	IDL	idl.idaho.gov
Lava Hot Springs Foundation	LHS	lhs.idaho.gov
Legislative Services Office	LSO	lso.idaho.gov
Lewis-Clark State College	LCS	lcsc.edu
Lieutenant Governor, Office of the	LGO	lgo.idaho.gov
Liquor Dispensary, Idaho State	LIQ	liquor.idaho.gov
Lottery Commission	LOT	lottery.idaho.gov
Medicine, Board of	BOM	bom.state.id.us
Military, Division of	MIL	lmd.idaho.gov
North Idaho College	NIC	nic.edu
Northwest Power & Conservation Council	PCC	nw.council.org
Nursing, Board of	IBN	ibn.idaho.gov
Occupational Licenses, Bureau of	BOL	ibol.idaho.gov
Outfitters and Guides Licensing Board	OGL	oglb.idaho.gov
Parks and Recreation, Department of	DPR	idpr.idaho.gov
Pea and Lentil Commission	PLC	Pea-lentil.com
Performance Evaluations, Office of	OPE	ope.idaho.gov
Pharmacy, Board of	BOP	bop.idaho.gov

Agency Name	Abbreviation for AD	E-Mail Domain
Potato Commission	IPC	potato.idaho.gov
Professional-Technical Education, Division of	PTE	pte.idaho.gov
Public Employee Retirement System of Idaho	PER	persi.idaho.gov
Public Health District 1	HD1	phd1.idaho.gov
Public Health District 2	HD2	phd2.idaho.gov
Public Health District 3	HD3	phd3.idaho.gov
Public Health District 4	HD4	phd4.idaho.gov
Public Health District 5	HD5	phd5.idaho.gov
Public Health District 6	HD6	phd6.idaho.gov
Public Health District 7	HD7	phd7.idaho.gov
Public Television, Idaho	PTV	iptv.idaho.gov
Public Utilities Commission	PUC	puc.idaho.gov
Range and Resource Commission	RRC	idrange.org
Real Estate Commission	REC	irec.idaho.gov
Scaling Practices, Idaho Board of	BSP	ibsp.idaho.gov
Secretary of State, Office of	SOS	sos.idaho.gov
Senate	SEN	legislature.idaho.gov
Soil Conservation Commission	SCC	scc.idaho.gov
Species Conservation, Office of	OSC	osc.idaho.gov
State Appellate Public Defender	APD	sapd.state.id.us
State Bar, Idaho	ISB	isb.state.id.us
Tax Appeals, Board of	BTA	bta.idaho.gov
Tax Commission, Idaho	TAX	tax.idaho.gov
Transportation, Idaho Department of	ITD	itd.idaho.gov
Treasurer, Office of the State	STO	sto.idaho.gov
University of Idaho	UOI	uidaho.edu
Veterans Services	DVS	veterans.idaho.gov
Veterinarian Medicine, Board of	BVM	bovm.state.id.us
Vocational Rehabilitation, Division of	DVR	vr.idaho.gov
Water Resources, Department of	DWR	idwr.idaho.gov
Wheat Commission	IWC	idahowheat.org
Women's Commission, Idaho	WOC	women.idaho.gov