



Standards and Practices

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Title: Computer Naming Standards

Description: Computer Names and use of CNAME values in applications

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Introduction

Employing a standard format for computer names within the network has many benefits, including the ability to create automated processes that can interpret the names. This can assist in building servers, monitoring, and many administrative processes.

The use of physical server names in applications and application configuration files can cause extended outages when servers fail, and result in difficulties when migrating to new server environments. The well-recognized solution to this is the use of CNAME records (name aliases) in DNS. CNAMEs are easy to create and modify, allowing changes of physical systems quickly and easily. For example, if an application communicates to the physical server called **uswinfsqlp02**, migrating the databases to uswinfsqlp03 would require taking the application down, changing the configuration files, and restarting the application. By using CNAMEs, an alias called **a-sqlapp-prod** is created. When the new server is ready, the application is stopped, the CNAME record is changed, and the application started without any application configuration changes.

Note that Windows servers will not respond to CNAMEs unless a registry key is defined, allowing the host to respond to secondary names. Without this setting, the host will only respond to the primary hostname.

The registry key is `HKLM\System\CurrentControlSet\Services\LanmanServer\Parameters`

The value is `DisableStrictNameChecking`

The data and type are `1, REG_DWORD`

Server Name Format

Physical servers (including those on VMWare and similar virtualization environments) will utilize a standard naming convention, as described below. Secondary IP addresses will be assigned for web (and possibly other) application instances using a similar convention.

[Country_Code] [OS_Type] [Server_Class] [Server_Type] [Environment_Code] [Instance] [App_Instance]

- [Country_Code] Identifies the region that the system serves.
- [OS_Type] “W” for Windows, “U” for Unix, “V” for VMware Host, “N” for network device.
- [Server_Class] A component of 3 characters indicating the class of system, usually the application that the server is dedicated to. Most general purpose servers will be in the INFrastructure class.
 - INF - Infrastructure Server
 - EXC - Exchange Server (has subtypes)
 - ISA - ISA firewall (has subtypes)
 - app* - Dedicated application server name
- [Server_Type] Three characters defining the type of server.
 - APP - generic application or multipurpose server
 - SQL - Any type of database server, including SQL or Oracle
 - ADC - Active Directory Domain Controller
 - DNS - Non-AD DNS server
 - HCP - DHCP Server
 - exch* - Exchange role – HUB, CAS, MBX, EDG, or UNI
 - isa* - ISA role: FWP (Firewall/Proxy) CSS, TMG
 - EML - non-Exchange email/SMTP server
 - SEC - Security server
 - MON - Monitoring server
 - SWD - SWDIST server
 - WEB - Web server
 - FTP - FTP server
 - PRN - Dedicated Print server
 - FPS - Combined File and Print server
 - NFS - Network File Server (or *nix NFS server)
- [Environment_Code] A single character defining the environment the system will support - “P” for Production, “Q” for QA, or “D” for Development, “T” for Test.
- [Instance] A two or three-digit, sequential numeric value indicating the instance, starting with “001”. Non-sequential IDs may be used when appropriate, as when defining department-specific resources.
- [App_Instance] **OPTIONAL** - A three digit identifier, used to reference additional IP addresses associated with a server. These names will be identical to the primary name, except for this extension. Since there will usually be a limited number of additional addresses associated with a single server, the format “a##”, where “##” is a double digit in the range 01-99. Each additional app_instance IP should have a unique CNAME record defined to provide a friendly, application name for the resource.

Workstation Name Format

The workstations will employ a similar but simplified naming structure:

[Country_Code] [Hardware_Class] [Workstation_Class] [Instance]

- [Country_Code] Identifies the region that the system serves.
- [Hardware_Class] “P” for PC, “M” for Macintosh, “X” for non-PC Unix/Linux
- [Workstation_Class] The class of workstation – “D” for desktop, “L” for laptop, or “T” for Thin Client. If VDI is implemented, the VDI systems will employ a “V” in the class ID.
- [Instance] A 4-6 digit number that uniquely identifies the asset. Can be the asset-tag ID associated with the computer.

Names should not include any other regional or departmental identification, as this can be managed through AD OU membership more effectively. Embedding this information into the computer name affects the ability to reassign or reallocate assets as needed without diminishing the value of the name or renaming the computer entirely.