

Intel® Entry Storage System SS4200-E Active Directory Implementation and Troubleshooting



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Active Directory Overview

- **SS4200-E Active Directory is based on the Samba 3 implementation**
 - The SS4200-E will function as a native domain member server
 - Cannot function as an Active Directory domain controller (Samba 3 limitation)
- **Interdomain trusts are not supported**
- **NT domain is not supported**
 - The SS4200-E uses Kerberos, not NT compatible authentication protocols
- **Supports Active Directory organizational units**
 - Organizational units act as a container for objects. Objects can be arranged according to security and administrative requirement in an organization
- **No setup/configuration is required on a working domain controller, or DNS server**



Active Directory Features

- **After Active Directory is enabled, Active Directory credentials can be used to login to the Storage Manager**
 - Only those Active Directory users who have logged in to the Storage Manager or have accessed the storage device from a client will be considered “valid storage Active Directory users”
 - Only these valid storage Active Directory users will be displayed on the users list in the Storage Manager
 - This avoids the unnecessary overhead if only a few users out of thousands of Active Directory users need to access the storage device
 - A hardware reset will return the SS4200-E to the default Workgroup mode



Active Directory Features

- Any Windows user in the same domain can access the storage device with Active Directory credentials
- Private folders will be automatically created for each logged in user (to storage device) or any user who accesses the storage device from a Windows client

Configuring Active Directory Mode

- To switch between Workgroup mode and Active Directory mode:
 - Use Storage Manager to switch between Workgroup mode and Active Directory mode (Settings > Network Services > Windows File Sharing (CIFS))

(See the visual representation in following slides)



Configuring Active Directory Mode

- **Workgroup mode accounts will be disabled in Active Directory mode**
- **Switching between Workgroup mode and Active Directory mode will remove the existing permissions setting of all private folders**
- **After switching, a user with administrative privilege can reassign permissions setting or delete these private folders**
 - This is to enable the content of private folders created under one mode to be accessible under another mode
 - In the case of permanent loss of the domain controller, this feature provides a way to recover/delete Active Directory folders under Workgroup mode



Join an Active Directory Domain

Settings > Network Services > Network Settings page of the Storage Manager

The screenshot displays the Network Settings configuration page. At the top, the Intel logo is visible on the left, and user information (ENG1 | Administrator | Logout | Help) is on the right. A navigation bar includes Home, Dashboard, User Accounts, Shared Folders, and Settings. The main content area is titled 'Network Settings' and contains the following elements:

- Automatically configure all network settings
- DNS Servers: 10.13.173.130 | 10.13.173.200
- WINS Servers: [] | []
- Automatically configure IP Address
- Hardware ID (MAC Address): 00:15:17:31:98:24
- IP Address: 10.13.170.12
- Subnet Mask: 255.255.252.0
- Gateway: 10.13.168.1

A callout box with a black border and white background points to the DNS Servers field. It contains the following text:

Add the domain DNS server IP address(es)

This can be done manually or automatically from a DHCP server by selecting the "Automatically configure all network settings" box

At the bottom of the form, there are two buttons: 'Cancel' and 'Apply'. The 'Apply' button is circled in red.

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Joining an Active Directory Domain

Settings tab > Network Services > Windows File Sharing (CIFS) Settings page of the Storage Manager

Set Security Mode to Active Directory Domain

Windows File Sharing (CIFS) Settings

Security Mode: Workgroup Active Directory Domain

Fully Qualified Domain Controller Name:

Organizational Unit:

Administrator Username:

Administrator Password:

Cancel **Apply**

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Enter the fully qualified name of the domain controller and the credentials of an Active Directory domain administrator account

Organizational unit entry is optional

After successfully joining the Active Directory domain, the SS4200-E should appear on the network domain controller's Active Directory Users and Computers menu as a member server.



Log in to the Storage Manager



ENG1 | [Login](#) | [Help](#)

Log In

Active Directory Domain:

Username:

Password:

After joining the Active Directory domain, the Active Directory credentials can be used to login to the Storage Manager



Log In

Enter a valid username and password and click Log In.

Checking **Remember Username and Password** saves your Username and Password so you do not have to enter it when accessing the device from this computer.

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Storage Manager

User Accounts tab of the Storage Manager

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ENG1 | Administrator | Logout | Help

Home Dashboard **User Accounts** Shared Folders Settings

User Accounts

Action	User Login name	Descriptive Name
  administrator	administrator	
  mike	mike	

User Accounts

This page displays a list of user accounts.

Click  to view the user's information and access rights to each Shared Folder.

Click  to modify the user account's properties, password, or access.

As noted earlier, only the users who have logged in will be shown on the User Accounts list

After a user logs in, a private folder will be automatically created for the logged in user on the storage system

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Storage Manager

Shared Folder tab of the Storage Manager

ENG1 | Administrator | Logout | Help

Home Dashboard User Accounts Shared Folders Settings

Shared Folders

Search

Action	Name	Size	Date Modified
	administrator	56 KB	2/25/2008 8:36 pm
	Backups	229 GB	2/07/2008 6:57 pm
	mike	56 KB	2/25/2008 8:38 pm
	public	48 KB	2/07/2008 6:12 pm

New

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Shared Folders

This page displays a list of Shared Folders.

Click a Shared Folder's name to view its contents.

Click **New** to create a Shared Folder.

Click to view the Shared Folder's access list.

Click to modify the Shared Folder's properties.

Click to delete the Shared Folder.

Click to safely remove external storage.

Click to search for a particular file name or, if Content Indexing is enabled, a keyword.

The user folder "mike" is locked and inaccessible to the Administrator who is logged in currently

Troubleshooting common Active Directory issues

- **No configuration of a working domain DNS server / Active Directory controller is required**

- **Active Directory uses DNS as its domain controller location mechanism. If the storage device is not defined on the DNS server of the Active Directory domain, Active Directory will not recognize the storage system:**

- Verify and correctly set the Storage Manager Network Services under Windows File Sharing (CIFS) Setting

- “ping” and “nslookup” commands can be used to test name resolution

- C:\> ping <storage system name>

- Will respond with associated IP address and ping response

- C:\> nslookup <storage system name>

- Successful response:

Server: <Domain DNS server>

Address: <Domain DNS server IP address>

Non-authoritative answer:

Name: <FQDN for storage system>

Address: <storage system IP address>

If responses are correct, DNS is working correctly



Troubleshooting Common Active Directory Problems

- **If the storage system doesn't use the DNS server of the Active Directory domain**
 - Verify and correctly set the Storage Manager Network Services under Windows File Sharing (CIFS) Settings
- **Time on the storage system and the domain controller are not synchronized**
 - As little as a five minute discrepancy can cause logon requests to be rejected
 - It is strongly recommended to use NTP for storage system to synchronize with domain controller
 - Storage Manager > Settings > Date & Time
 - Set Automatically synchronize with an Internet time server and specify NTP time server
- **Remember to check the Active Directory domain controller's Active Directory Users and Computers menu for the storage system member server**

