Windows Enterprise
OU Administrator Procedures
Creating a Departmental Domain DFS Root
Windows Server 2000/2003

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Support of a Distributed File System domain DFS root is provided for departments. DFS allows your user community to access shared files by only knowing the domain name and your department. The actual servers (and share names) need not be known by the users since they are "linked to" using meaningful folder names (selected by you). In fact, the shares linked to by DFS names can be moved without the users knowing about the change in location.

Automated "replication" of departmental domain DFS root file-stores is currently NOT recommended. This process has shown to be very problematic for large file-shares and has caused FRS (File Replication System) problems at the domain level. Since the FRS system also handles Active Directory replication, problems at the domain level are unacceptable.

Replica data stores ARE supported, however (even though automatic replication of the data is not). The use of "DFS Link Replicas" with MANUAL replication is the recommended procedure. Departmental admins can use "robocopy" (available in the Windows Server Resource Kit) to replicate mirror copies of file stores after setting up the DFS Link Replica (see the appropriate section in this document).

Setting Up a Departmental Domain DFS Root

1) Make sure a static network address is correctly and completely configured for your server. In particular make sure the WINS settings are set correctly for the Enterprise WINS servers and that "Enabled NetBIOS over TCP/IP" is set. See "Step 2.2" of the following document:
   http://www.it.iastate.edu/pub/kng278/kng278.pdf

2) Prepare your departmental DFS staging area as follows:
   - As "Administrator" on a departmental Windows 2000/2003 Server, create a new folder named for the formal "short abbreviation" for your department (this will be the same as your OU name, "AIT" for example). This folder is the "DFS Staging Area" used by the domain DFS root system. LEAVE THIS FOLDER EMPTY – DFS will manage all contents when you create DFS "links" later. DO NOT manage any items in this

folder – all contents are managed by the DFS system at the enterprise level.

- Share this folder (with the share name being the "short departmental abbreviation – same as the folder name). Set up the "Share permissions" as "Everyone: Full Control". For "file security", uncheck the "Allow inheritable permissions …" checkbox (select "Copy" in the pop-up that follows), give "Administrators" "Full control", and allow "Everyone" only "List folder contents" and "Read" permissions.
- Using "Administrative Tools/Computer Management", add "IASTATE/Enterprise Admins" to the server "Administrators" group.
- Do NOT use DFS to create a "standalone DFS root" on this server. "DFS Links" will be used to share files off the domain root.
- Make sure the DFS service is started on your server.

3) Send email to its-ad-admins@iastate.edu indicating the desire for a departmental domain DFS root. Include your OU name and the DNS hostname of the server where the "DFS Staging Area" folder for your department has been created.

4) When informed the departmental domain DFS root is ready, create a new DFS link to your shared data as follows:
- Set up a shared folder on any server (or workstation) with data you wish to share. The name of the folder (or the system it resides on) is not displayed to your DFS users (the actual "DFS folder name" your users see will be created by a "link" to it in a later step). Make sure the share permissions are correctly set on this folder! Classic Windows share and file permissions control access to this share (and determine who can see and modify the data).
- On your Windows 2000/2003 Server, launch "Administrative Tools/Distributed File System".
- Right-click "Distributed File System" in the left pane and select "Display an Existing DFS root …" (or "Show Root …").
- Select the "iastate.edu" domain and drill down to your departmental "Domain DFS Root". Select it and click "OK".
- "\\iastate.edu\<your-OU>" will appear in the left pane. Right-click it and select "New DFS Link …".
- Supply the "link name" (what your users will see as the folder name within "\\iastate.edu\<your-OU>") and the path to your shared folder. You may include multiple links to multiple folders (they do not need to reside on the same system).

5) Test your DFS share by going to a client system that is a member of the "iastate.edu" domain, using "Start->Run", and supplying "\\iastate.edu\<your-OU>" in the "Open:" field. You should see the "link names" you supplied in the previous steps as folders. Opening these folders should allow access to the shared files. Check out read/write privs for access to your files.

6) Add/remove files from the shared folders that are "linked to". Do NOT alter the contents of the "DFS Staging Area" on your server (created in Step 1).

Setting up DFS Link Replicas

You can have a single departmental domain DFS root server serve your data from multiple file-stores (share points). A "Link Replica" is set up to point to each copy of the folder (which should be on different systems) so load can be distributed. In addition, one (or more) of the servers holding the shared folders (each containing a mirror copy of the data) can be down without your users knowing.

To set up a link replica right-click on a DFS Link and select "New Replica …". Supply the path to a mirror copy of this data. Select "Manual" replication and use a product like "robocopy" (available in the Windows Server Resource Kit) to synchronize the two data storage shares.

Removing a Departmental Domain DFS Root

To remove your DFS links (and domain DFS root, if you wish):
- On your Windows 2000/2003 Server, launch "Administrative Tools/Distributed File System".
- Right-click "Distributed File System" in the left pane and select "Display an Existing DFS root …" (or "Show Root …").
- Select the "iastate.edu" domain and drill down to your departmental "Domain DFS Root". Select it and click "OK".
- "\\iastate.edu\<your-OU>" will appear in the left pane. Right-click the item you wish to remove in either pane (either a "root replica" or a "DFS link") and either "Remove Replica" or "Remove DFS Link". Removing the final domain DFS root replica server will remove your departmental domain DFS root at the domain level.