DSTrace Commands

DSTrace is a set command available on Novell NetWare 4 servers. DSTrace enables the Directory Services debug screen and was used by Novell developers during the development process. It can be used to view Directory Services "in action".

The functionality of DSTrace can be divided into three parts: basic functions, choice of which trace statements to view, and initiation of background processes.

Basic Functions

Controls the general status of the Directory Services Trace screen in NetWare 4. An example would be Set DSTrace = ON

ON   Enables the Directory Services debug screen
OFF   Disables the debug screen
NODEBUG   Turns off all debugging messages, but leaves the screen enabled

Choice of Trace Statements

Debugging messages related to different processes are enabled in the following manner. An example using **Miscellaneous** as the statement choice would look like this.

Type "Set DSTrace = +MISC" at the server console to begin viewing these messages.

Type "Set DSTrace = -MISC" to quit displaying the miscellanous debug messages.

Debugging messages are available individually for the following processes or functions in Directory Services. The processes and DSTrace statements are:

INIT	Enables messages during initialization of the database
FRAG/FRAGGER	Enables fragger debug messages
MISC	Additional messages
RES/RN	Resolve Name requests
STREAMS	Stream Attributes
LIMBER	Verification of server name/address/replica tree connectivity
J/JANITOR	Removal of deleted entries, status of NCP servers, misc record mgmt
BACK/BACKLINK	Verification of backlinks and external references
S/SYNC	Synchronization process
SAP	Enable SAP messages
SCHEMA	Schema Synchronization
COLL/COLLISION	Entry/Attribute collisions
I/INSPECTOR	Verification of entry and entry references on the local server
E/ERR/ERRORS	Displays Errors

PART	Partitioning process
EMU	Bindery Emulator
VC/VCLIENT	Server to Server virtual client
AUTHEN	Enables authentication messages
RECMAN	Hashing/Iteration state handling
TV/TIMEVECTOR	Synchronization timestamp exchange
DSA/DSAGENT	Requests to the server agent
ERRET	Displays errors

Slashes indicate alternate command line statements. Enable trace statements for a process with a "+" and disable with a "-".

Initiation of Background Processes
Each of these preceeded with an asterisk will cause an action in Directory Services. Example would be   Set DSTrace = *b
> B   **Backlink** - Causes the backlink process to run.
> F   **Flatcleaner** - Begins the process which removes deleted entries from the files.
> H   **Heartbeat** - Causes Directory Services to try to exchange timestamps with any server with which it participates in replica operations.
> L   **Limber** - Causes the Directory to verify theserver name, server address and tree connectivity of replicas.
> R   **Reset** - Causes the trace file to be reset.
> S   **Synchronization** - Causes the Directory to check to see if synchronization is necessary on any of the replicas on that server. If so, schedules the synchronization process to run sooner than normal.

Saving to a File
The trace statements may be saved to a disk file.
> Set ttf = ON Begins saving screen messages at the current file pointer.
> Set ttf = OFF   Ends saving screen messages and closes the file.
> Reseting the file to the beginning is done through the *r command mentioned above.

The name of this file is SYS:System\DSTrace.DBG. It will grow to 1M and will then wrap text to the beginning of the file when it reaches the end.

Examples
Set DSTrace = INIT +MISC   Displays messages about initialization and miscellaneous functions.
Set DSTrace = +j   Adds to the current trace messages those about the janitor process.
Set DSTrace = Schema   Displays messages about the schema process. Note that this does not add to the current messages displayed, but replaces the current DSTrace display with only schema messages.
Set DSTrace = *f   Causes the flatcleaner process to run. This does not affect the current set of debugging messages being displayed.
Set DSTrace = -SAP   Removes the trace messages about SAP from the current set of messages being displayed.