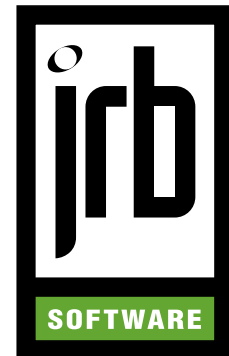




JRBUTILS

UTILITIES FOR MANAGING NETWORK



Release Notes

New Programs

Delattr.

Deletes a selected attribute from one or more NDS objects. *Delattr* refuses to delete some attributes where the removal of these might cause problems. These exclusions include ACLs, "Security Equals", and partition related attributes. This does not mean that it is safe to use *delattr* to delete all attributes which are not excluded. Many attributes are not set in isolation e.g. removing a user from a group requires modification of two user attributes and two group attributes, and anyone using *delattr* needs to be aware of such relationships. Use *delattr* cautiously and entirely at your own risk.

JRBcx.

An alternative to Novell's CX.EXE without the options to browse the tree. Its primary purpose is to provide a 32 bit program for changing the current context in a DOS box, where execution of a 16 bit program can be very slow. However, it also provides better support than CX for multi-tree environments allowing setting of a context in any tree to which the workstation is connected, and displaying of contexts for any or all trees.

Move_dir

Moves individual files, or directories and their contents from one location on a volume to another location on the same volume. *Move_dir* operates by changing the directory entry rather than copying and deleting so effects the change very quickly.

Ndsrghs.

Evaluates the rights of one or more objects to a target object or to an attribute of the target object. The rights can be displayed for all source objects, or filtering may be applied and the rights displayed only when they match a specified criteria. *Ndsrghs* can show how the rights are derived.

Settrust.

Performs many of the functions of Novell's *rights* program. This includes setting or removing and displaying trustee assignments, setting and displaying inherited rights filters, and displaying the rights of the person running *settrust* to selected directories and files. Under NW 4.x onwards it can display the rights of any object to selected directories and files. *Settrust's* advantages over *rights* include the ability to specify and display paths in the LONG name space, the ability to set or remove trustee assignments for multiple objects in a single command, the ability to display rights for another user and the existence of a 32 bit version.

Setvdate.

Changes the creation date for a NetWare volume. This may be useful to overcome a problem with Apple Macintosh machines which distinguish volumes by their creation dates and times. If two NetWare volumes have exact same creation dates and times, a Macintosh client cannot distinguish between them.

Modifications common to multiple programs

- Extended the maximum length of an output line from 512 characters to 2048 characters in the 32 bit versions. The limit for the 16 bit versions remains at 512.
- Modified to allow for '/' characters in NDS object names. Previously, the first occurrence of any such character was treated as a delimiter between a server and object name i.e. a name of bill/sally was interpreted as comprising server name bill and object name sally. A workaround was to prefix it with an actual server name e.g. server3/bill/sally. However, it is now possible to 'escape' the '/' by preceding it with '\', as is required by NDS for '.', '=', etc. For example, bill\sally is treated as object name bill/sally.
- Removed support for versions of NetWare prior to NW 3.11. This has been done for two reasons:
 1. To simplify the code
 2. To provide greater efficiency in some programs such as *netcopy*, *whodidit* and *setowner* where using functions supported by NW 3.11 onwards to scan for files, reduces the number of packets on the network per file processed.
- Rewrote the code for expanding and verifying paths to simplify it, and at the same time to make it more flexible. A path may now be given in any combination of DOS and LONG components. What happens now is that if the expanded path (i.e. i:\vintagecars has been expanded to vol1:photogra\1998\vintagecars) and the expanded path is not valid in either the DOS or LONG name space, then each component is checked in both name spaces and a path in the DOS name space is constructed.
- Fixed a problem introduced in v5.0 where some NDS aware programs failed to run in NDS mode when the current drive was mapped to a NW 3.x server.
- The majority of the 16 bit utilities are now built using the latest development kit from Novell. A 1996 version of the SDK had previously been used for the 16 bit programs because (a) it produced programs up to 100 KB smaller than the current kit, (b) it was probably the most bug free release of the SDK to date, and (c) its few quirks were known. However, some of the functions in the 1996 SDK are now obsolete and moving to the latest SDK for both 16 and 32 bit versions of JRButils has allowed removal of all obsolete functions. The down side of upgrading is that the 16 bit utilities are typically 300-450 KB in size which leaves little free memory for operations such as sorting the output. Another consequence is that the utilities built with the latest SDK will not operate under the MS client for NetWare.

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- Created a new set of programs (Part E) comprising most of those in Part C (i.e. the NDS aware programs) to which GUI output has been added. This is a step towards providing fully GUI versions. Lack of time prevented adding a GUI interface for input, but this will be a priority for next year. The GUI output provides:
 1. Scroll back and forward through the output
 2. Searching the output for text strings
 3. Printing once the output has been collected
 4. Saving the output to a file independent of /I on the command line
 5. Copying of the output to the clipboard
 6. Printing of the current screen
 - The ability to run programs silently in batch mode via /O which suppresses creation of a window. The operating system automatically creates a window for console mode programs (the programs in Part D are console programs) whereas for GUI programs, creation of the window is controlled by the program itself.

Modifications to Individual programs

Chkhome

- Fixed a problem when using /c and *chkhome* compared the contents of an NDS "Home Directory" attribute with a bindery HOME_DIR property. If the path in the HOME_DIR property contained a '/' or '\' after the ':' (e.g. VOL1:\USERS\GORDON) a mismatch of paths was reported.
- Added /r=a to allow output of only the directory names without a corresponding user, or the names of users whose home directory does not exist. This suppression of extra text may be useful if the output is to be processed by another program.
- Modified so that when checking for a user matching a directory, it checks for a user matching both the DOS and LONG directory name.
- Modified so that when checking for a user matching a directory, and no user is found matching the DOS or LONG name, *chkhome* scans the directory for trustees, and checks for user trustees with a similar name to the directory e.g. montgomery for directory montgome. This covers the situation where the user name is longer than 8 characters, but the directory name has been truncated.

Copy_obj

- Fixed a problem where it was failing when the object to be copied was preceded by a file server name.
- Added support for copying user and workstation policy objects.
- *Copy_obj* now copies the associated objects as well as the named object, and updates attributes linking them.

Creatobj

- Fixed a problem with creating home directories when the user name was longer than 8 characters.
- Can now create "Audit:File Object" objects. It assigns 'zero' values to the essential attributes.
- Modified not to give an error message when creating a bindery user under NW 3.x and the USER_DEFAULTS attribute of SUPERVISOR from which it gets the default account restrictions, does not exist.

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- Added `/r` which controls expiration of user passwords, overriding defaults which may otherwise be used. Possible values are:
 - e Enable password expiration and expire the password
 - f Enable password expiration and set the password to expire in n days time (see below)
 - x No password expiration

Values 'e' and 'f' may be followed by a number of days representing the password expiration interval e.g. `/r=f25` sets the password expiration interval to 25 and expires the password in 25 days time.

- Added `/t` to force *creatobj* not to exit if a matching object already exists. This provides the facility to copy a template's attributes to an existing user.
- Fixed a problem when creating volume objects where it was not setting the "Host Resource Name" attribute containing the physical volume name. The physical volume name is assumed to be the portion of the object's name following an '_' e.g. vol1 in yogi_vol1.
- Fixed a problem which must have been present for about 4 years, where it reported that "`/h` can be used only when creating users" when using both `/h` and `/o=user`. It worked correctly without `/o=user` as "User" is the default object class, and for `/o=1`.
- Added `/+` to initiate a synchronization of the replica immediately after the new object has been created. Note that this only initiates the synchronization process, it does not wait for it to complete, so use of `/x` may still be necessary, but most likely for a shorter period.
- Modified to store paths in the "Home Directory" attribute in the LONG name space when it is loaded on the home directory volume.

Deladdr

- Added support for IP connections under NW 5.
- Added support for using an input file containing object names.
- Added support for `/k` to disconnect from servers connected to.

Delobj

- Added `/z` to introduce a delay for a specified number of seconds after deleting each object. This may be useful to slow the rate of object deletions and hence reduce the load on the server when deleting multiple objects.
- Changed `/q` to force *delobj* to query whether or not to delete each object. Previously, `/q` indicated that queue objects were to be deleted but this can be achieved using `/o=queue` in NDS mode and `/o=3` in bindery mode.

Dquota

- Added /n=p to suppress the "Press any key" prompt when the user's free space is less than the warning threshold.
- Modified to display paths in the LONG name space if it is loaded on the target volume.
- Added /n=l to suppress output of LONG paths, and to display them in the DOS name space instead.
- Added /t for use in the GUI version to set a timeout for the window or any message boxes. For example /t=10 would close the window after 10 seconds.

Fsupdate

- Modified to preserve the case on the created directory when using /c if the LONG name space is present on the destination volume.
- Modified to display paths and file names in the LONG name space when it is loaded on the target volume.

Getequiv

- Added /b for use in NDS mode to check for equivalence to file server objects. Any object which is security equivalent to a file server object has bindery mode supervisor equivalence.

Getname

- Fixed a problem occurring when the value for an attribute exceeded the maximum allowed length for a line of output (512 characters). This could result in application errors in the 32 bit version of *getname*.
- Made allowance for attribute values (e.g. for "Description") which contain <CR><LF> pairs. These were causing paging to not work correctly when using /p.
- Added /v to display values only. This has no effect when using a template file and when /a=.*.
- Added the ability to display object IDs using /a=object_id and /a=oid. The former will add leading zeros if needed to ensure the object ID is always displayed as 8 digits, the latter does not. For most object IDs both will produce the same result as they normally have 8 digits e.g. 8A050001 but a few have less e.g. 200001. Note that %object_id and %oid can be used as identifiers in a template file.
- Fixed a problem introduced in v5.0 where an error about 'CN' not being a valid attribute was reported when using an input file with a template file.

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- Modified to display the “Proxy Password: expire time” attribute as a date rather than in seconds. The problem arose because the attribute is defined as having an integer value instead of a time value.
 - Added support for ‘.’ as an object name meaning use the container corresponding to the current context.
 - Added support for decoding the following attributes for workstation objects:
 - WM:INV CPU Information
 - WM:INV Display Configuration
 - WM:INV Logical Drive
 - WM:INV Volume
 - WM:INV Interrupt
 - WM:INV Port
 - WM:INV DMA
 - WM:INV Shared Memory
 - When displaying the contents of “WM:INV Bus Type” attributes for workstation objects, *getname* now displays the actual bus types (e.g. ISA, PCI) instead of their numbers.
 - Now displays the contents of “WM:INV Miscellaneous” attributes for workstation objects correctly. Previously it just displayed an integer value, but each bit in the number represents a device such as COM1, LPT2, modem etc, so it now displays the device names.
 - Can now use %context as an identifier in a template file. The formatting of the context is controlled by /y (as is %login_name).

Getquota

- Fixed a cosmetic problem where it could produce negative values with a comma immediately after ‘-’ (e.g. -,123.456) when the usage exceeded the quota.
- Modify to display paths in the LONG name space if loaded on the target volume.
- Added /n=l to suppress output of paths in the LONG name space, and to display them in the DOS name space instead.
- Fixed a problem where the 32 bit version could cause an application error when processing paths of ~100 characters in length.

Getrest

- Added support for filtering on time restrictions. Operators ‘eq’ and ‘ne’ may be used with a value of ‘none’ to determine which users have time restrictions or which do not.

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- Added support for displaying the following restrictions:
 - Proxy password age limit
 - Proxy password change allowed
 - Proxy password expiration date/time
 - Proxy password grace logins
 - Proxy password force periodic changes
 - Fixed a problem where the program could generate an application error when a station restriction other than 'none' was given on the command line. This problem was introduced in v5.0 when changes were made to remove the use of some obsolete SDK functions and to replace them with currently supported functions.
 - Added support for giving an IP network address on the command line, for filtering on IP station restrictions.

Grpadd

- Can now use an input file containing a list of groups e.g. ***grpadd @g.lis hewey dewey louie***.

Grpdel

- Can now use an input file containing a list of groups e.g. ***grpdel @g.lis bill beth bazza***.

Grplist

- Added /z allowing group members to be listed as *grpadd* or *grpdel* commands. /z can have one of two values:

- a Output *grpadd* commands

- d Output *grpdel* commands

Note that /z is ignored when logical operators are used (e.g. ***grplist group1 & group2***) but can be used when a group name contains wild cards (e.g. ***grplist * /z=a***).

Grpmemb

- Modified to remove the typing from NDS names when using /v.
- Added /w as an alternative to /v to display just the error level. This might be useful when running *grpmemb* from a script which does not provide a means of testing the error level. The output i.e. the error level can then be redirected to a file for testing.
- Added /l and /e for consistency with other programs and for use with /w.

Home2

- Modified so that when using /m, it uses the mail directory on the user's default server.
- Added /x to allow searching for the object. Use /x=r to search from [Root]. This is inconsistent with other programs where /r is used to search from [Root], but /r is already used, and it is likely that in a future release of JRButils this will be implemented in all programs to free /r for other use.
- Added /o to specify the object class when using /x and searching for a queue, print server or template.

Jberrtxt

- Modified to check further variations of an error code for which a description does not exist. Sometimes errors such as 0x8836 are returned by the client as 0xFFFF8836 (-30666). When the high order 16 bits equals 0xFFFF, *jberrtxt* removes them and an attempt is made to find a match for the low order 16 bits. For example, error -30666 equals 0xFFFF8836, which should be 0x8836 and this corresponds to "Invalid function parameter".

Jrbmap

- Added /w to store in the environment, the drive letter being mapped. The default environment variable is DRIVE but this may be changed e.g. /w=nd would use ND. This is intended for use with the 'map next' facility but can be used when mapping any drive letter.
- Modified to display paths in the LONG name space by default when it is loaded on the volume.
- Added /h to force paths to be displayed in the DOS name space.

Jrbpurge

- Can now purge all volumes on a server via /b. Instead of specifying a path, just a server name can be given, but it must be followed by '/' e.g. huhu/, and it may optionally be followed by names of files to be purged e.g. ***jrbpurge huhu/*.tmp,*.swp,*.bak /b /dt*** would purge all files with the extensions tmp, swp and bak from all volumes on server huhu.

Killconn

- Added support for clearing connections based on the connection status. This is implemented via /m which may have any combination of the following values:
 - b clear bindery connections
 - l clear licensed connections

u clear unlicensed connections

Killzero

- Now displays paths in the LONG name space by default if this is loaded on the target volume.
- Added /u to force output of paths in the DOS name space.

Listobj

- Added /h=b to set an error level equal to the number of matching objects. The maximum error level which can be set is 255.
- Modified to display objects utilizing specified non-effective classes or super classes e.g. 'Device'. This requires scanning the "Object Class" attribute of each object, therefore the user of *listobj* requires R access to this attribute.
- Added /^ for use when using an input file. This causes any text appearing after the object name on each line of the file to be appended to the corresponding line of output from *listobj*. If the file contains user names and telephone extensions such as:

```
billw 8012
maryg 8017
karenc 8182
```

and you wanted to store these in NDS, but the users live in different contexts then *listobj* **@file.dat /r/x/xd/u/^/l=file1.dat** would produce:

```
.billw.admin.xyz 8012
.maryg.sales.xyz 8017
.karenc.csc.xyz 8182
```

This file could then be used as input to *setname* to store the extension numbers in the "Telephone Number attribute.

Lscripts

- Added /t to provide an alternative method for renaming mail directories. This method assumes the trustee assignments are present but the directories have not been renamed during a migration or restore. Each directory is renamed to the ID of the user object which is the subject of the first trustee assignment.

Mattach

- Fixed a problem where *mattach* was ignoring a user name given on the command line when attaching to a NW 3.x server while logged into an NDS server.

Makememb

- Fixed a problem introduced in JRButils v5.0 where it was failing to accept wild cards in group names.

Move_obj

- Added /d to specify a delay in seconds before creating an alias when /m is used. It appears that there can be problems creating an alias while replication of the move is still in progress, especially when the object is being moved to a different partition.

Netcopy

- A bug was introduced into the 32 bit version of *netcopy* when *netcopy* was modified to display paths and files in the LONG name space (rather than DOS) if the LONG name space was loaded on the volume. This bug meant that in some circumstances trustee assignments were not copied when the LONG name space was present on the source or target volume. This has been fixed. The 16 bit versions were not affected by this problem.
- Fixed a problem in the 32 bit version where it could corrupt last access dates for files when used with recent versions of the NetWare DLLs (calwin32, netwin32, etc). This problem was discovered in 1997 and worked around, but Novell fixed the problem during 1998, and their fix broke my fix!
- Fixed a cosmetic problem where it could report the wrong directory after setting a directory quota. The quota was set on the correct directory.
- Modified to check first for a matching volume or directory quota before setting a quota. If a matching quota exists, it will report this.
- Fixed a problem where /u was not working when copying files to the root directory of a local drive e.g. c:\.
- Modified to preserve the case on the created directory when using /c if the LONG name space is present on the destination volume.

Nsrename

- Added support for specifying new names in an input file. Previously an input file could be used only for changing the case of files and directories although this was not clear from the documentation. A new name containing spaces may be enclosed in double quotes.
- Now displays paths in the LONG name space by default if this is loaded on the target volume.
- Added /u to force output of paths in the DOS name space.

Openfile

- Added /h=a to set an error level corresponding to the number of open files or the number of users holding a file open. The maximum value for the error level is 255.
- Fixed a problem in the 32 bit version where it did not show all connections holding a file open when using *openfile.nlm*. The problem arose due to different alignment of fields in the structures holding the connection information between 16 and 32 bit versions of the SDK.
- Modified /b which controls the name spaces in which a connection's open files are displayed. /b can now accept one of three possible values:
 - d Display paths in the DOS name space.
 - l Display paths in the LONG name space if loaded, otherwise DOS. This is the default.
 - o Display paths in the name space in which the file has been opened. This was previously the default.
- Changed the NCP extension used to communicate with *openfile.nlm*. The extension name is now JRBS_OPENFILE which has been registered with Novell. This means you cannot mix v5.0 and v6.0 versions of *openfile.exe* and *openfile.nlm*.

Orgroles

- Added support for wild cards in <organizational role>.
- Added /t for use with /v to display only the total occupants.

Pqdeljob

- Added /a to delete by banner name. This may be useful when using ZEN 2.0 for printing setup which apparently causes jobs to be submitted under the workstation object name, and the banner name is set to the user name.

Pqlist

- Added /f=a to display the banner name field which had inadvertently been omitted in previous versions.
- Changed the maximum number of output fields which can be specified via /f from 10 to 20.
- Added /a to filter on banner name. This may be useful when using ZEN 2.0 for printing setup which apparently causes jobs to be submitted under the workstation object name, and the banner name is set to the user name.

Pqmovdir

- Modified so that it will function if (a) the queue's "Host Server" or "Queue Directory" attributes are absent, and (b) the "Queue Directory" attribute points to a non-existent volume. Previously *pqmovdir* would report an error and exit when these conditions were found.
- Modified to allow use of an input file.
- Added /f to indicate that an input file has been specified. /f must be used when the file name is not preceded by '@'.
- Modified to check whether any files exist in the old queue directory before checking for jobs. If no files exist it does not check for jobs since the absence of files equates to 'no jobs'. Using the queue functions to check for jobs creates the queue .SYS and .SRV files if they do not already exist, and as these remain open, the queue directory then cannot be deleted if /d is used.

Pqmovjob

- Added /a to filter on banner name. This may be useful when using ZEN 2.0 for printing setup which apparently causes jobs to be submitted under the workstation object name, and the banner name is set to the user name.

Pqreljob

- Changed the existing /a to /c.
- Added /a to filter on banner name. This may be useful when using ZEN 2.0 for printing setup which apparently causes jobs to be submitted under the workstation object name, and the banner name is set to the user name.

Psadd

- Added /c to create the print server if it does not already exist.

Psusers

- /w can now be used under NW 3.x, and in bindery mode on NDS servers to show the printers associated with a print server.
- Added /w=n to display the printer numbers.

Pwdexp

- Modified so that /f may force a password change prior to the password expiring. Now, /f without a value forces a change once it has expired (as previously) but a value may be given indicating the number of days before expiration at which to force a password change.

Renobj

- Fixed a problem where it was failing to rename the home directory if this was a subdirectory of the volume root. For example it would rename vol1:users\gordon correctly but fail for vol1:gordon.
- Added /t to force truncation of user names to 8 characters when deriving the new directory name for renaming the home directory on volumes with the LONG name space loaded. The user name is automatically truncated when the LONG name space is not present. Note that /t is applicable only in NDS mode.
- Changed /q to force *renobj* to query whether or not to rename each object. Previously, /q indicated that queue objects were to be renamed but this can be achieved using /o=queue in NDS mode and /o=3 in bindery mode.

Salvlist

- Added /u to display the last update date and time for each deleted file instead of the date and time at which the file was deleted.
- Modified to support changing names in the LONG name space when renaming recovered files. The 32 bit version retrieves files using LONG names if the LONG name space is loaded (this is controlled by Novell's SDK).

Schema

- Now displays the object classes' flag settings (i.e. effective, container, etc)

Serv_cmd

- When viewing a server's SET commands, it was failing to display the settings for the "Directory Services" group of commands.

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- Added support for modifying bindery contexts. The BINDERY command takes the following keywords:
 - APPEND Appends a context to the existing contexts
 - DELETE Deletes one or more contexts
 - PREPEND Prepends a context to the existing contexts
 - SET Sets the specified contexts, replacing all previous contexts
 - SHOW Displays the current bindery contexts
 - An update to Novell's SDK has fixed a problem with 'show mod' where all modules might not be displayed when the server has more than 128 loaded.
 - *Serv_cmd* was not displaying some version numbers correctly for the 'show modules' command. The problem occurred for a minor version less than 10 e.g. 5.02 was being displayed as 5.2.
 - *Serv_cmd* was not showing the revision letter if present when using the 'show modules' command.
 - An update to Novell's SDK has fixed the problem with 'show cpu' where it reported "Buffer length specified is too large" for some servers.
 - Added 'show login' to show the login status (enabled or disabled).
 - Added 'show tts' to show the TTS status (enabled or disabled).

Setacl

- Added support for '.' as an object name meaning use the container corresponding to the current context.

Setbal

- Changed the method of updating account balances following advice from Novell.

Setcx

- Fixed a problem where it could incorrectly report the current context is invalid when connected to multiple trees. It still worked correctly though despite this error message.
- Modified the 32 bit version to write the name into the registry's "volatile environment" when using /u under NT.
- Fixed a minor issue so it behaves more sensibly when you specify a tree name which is invalid, but it is a shorter version of a valid tree name e.g. /t=pine when the correct tree name is pinetree.

Sethome2

- The 32 bit version of *sethome2* was giving an application error when deleting bindery HOME_DIR properties and using an input file.
- Added /b=l to force truncation of home directory names to 8 characters even when the LONG name space is present.

Setname

- Can now set values for any boolean attributes e.g. "Detect Intruder" and "Lockout After Detection". Note that when a boolean attribute is set to false, the attribute is deleted (this is consistent with nwadmin's behaviour), and so the attribute will not then show when using 'getname /a=*'.
- Can now set values for any attributes using the interval syntax e.g. "Intruder Attempt Reset Interval" and "Intruder Lockout Reset Interval".
- Can now set values for any attributes using the integer syntax e.g. "Login Intruder Limit" and "Login Grace Limit".
- Can now set values for any attributes using the counter syntax e.g. "Login Grace Remaining" and "Account Balance".
- Can now set values for attributes using the "typed name" syntax e.g. "App:associations". This syntax comprises 3 fields - an object name, a level and an interval. The level and interval can be specified via /h=level,interval e.g. /h=1,0.
- Fixed a command line parsing problem where sometimes when setting a very short value (e.g. 'a') it would incorrectly identify the value on the command line.
- /d was not working from an input file.
- Added support for setting multi-line values for attributes of type 'case ignore string' e.g. Description. Use /s to specify the separator between lines in the text e.g. **setname jenny /a=desc /s=; Roses are red;Violets are blue;bla bla**. Each separator is replaced with a <CR><LF> pair before the text is written to the attribute.

Setowner

- Will now set the ownership of a volume root.
- Now displays paths in the LONG name space by default if this is loaded on the target volume.
- Added /u to force output of paths in the DOS name space.

Setquota

- Added /r to force searching from [Root] when used with /x.

Setrest

- Added support for specifying 'none' as a value for time restrictions rather than using a file.
- Added support for setting the following restrictions:
 - Proxy password age limit
 - Proxy password change allowed
 - Proxy password expiration date/time
 - Proxy password grace logins
 - Proxy password force periodic changes
- Added support for setting IP station restrictions.

Sparse

- Now displays paths in the LONG name space by default if this is loaded on the target volume.
- Added /u to force output of paths in the DOS name space.

Trstlist

- Now displays paths in the LONG name space by default.
- Changed /u so that it now forces paths to be displayed in the DOS name space instead of the LONG name space.
- Changed the function of /r so that instead of indicating that an object is a print server, /r now causes *trstlist* to search for matching objects from [Root] when used with /x. This use of /r makes *trstlist* consistent with most other NDS aware utilities. Use /o=print_server or /o=7 to indicate an object is a print server.

Usergrps

- Added /n=d which like /n=c displays one user name and group per line, but they are separated by a comma.
- Added /n=e which like /n=c displays one user name and group per line, but they are separated by a semi-colon.

Users

- Now displays full names for users logged in via NLMs. It will also display full names for file servers in NDS mode, but not bindery mode where the full name is not available.
- Fixed some anomalies with the display of full names in bindery mode on NDS servers. These seemed to originate from an incorrect bindery object type sometimes being returned by the server.
- Added support for displaying IP addresses.
- Allowed 4 digits for connection numbers. To keep the standard output the same width, one character has been trimmed from the full name.
- Added support for IP addresses in LOCATION.SRT
- Added /b to selectively display connections based on the connection status on NDS servers. Possible values which may be combined are:
 - b Display bindery connections
 - l Display licensed connections
 - u Display unlicensed connections

Note that determining the connection status requires console operator rights on the server.

- Fixed an issue where under some circumstances NDS versions were not filtering correctly on object names (e.g. *users yogi/.*.xxx.yy*).
- Added /h to set an error level equal to the number of matching logged in objects. The maximum value for the error level is 255.
- Modified so that if it runs out of memory when reading LOCATION.SRT, it discards all information from this file and continues. Previously, it retained the information, but this left insufficient memory for the initialization of the NDS code, which could result in the workstation hanging.
- Fixed an issue where if *users* was run from the login directory when not logged in, and it did a bindery login as GUEST, then it would clear the connection when finished making the current drive invalid.
- Added /d to suppress reading of location.srt. This may be useful in the 16 bit versions, particularly the NDS aware version, to leave more memory available for sorting the output.

Vol_info

- Fixed a problem where the 32 bit version failed to authenticate an existing unauthenticated connection to the target server. There was no problem when no prior connection existed to the target server, or when an already authenticated connection existed.
- Added /c to display just the volume names for each server.

Whodidit

- Added /t to display totals only. This is ignored when using a template file.
- Now displays paths in the LONG name space by default if this is loaded on the target volume.
- Added /u to force output of paths in the DOS name space. This has no effect when using a template file.
- Added keyword %server to allow the file server name to be included in output created via a template file.
- Added /o=v to display the DOS name for directories and files. This may be useful given that the default is now to display the path in the LONG name space if present on the volume. Note that %v also may be used in a template file to display the DOS name.