



EnlightenDSM Release Notes

Version 3.1

This document contains the features and enhancements, installation notes and known limitations for EnlightenDSM, version 3.1.

Features and Enhancements

- Windows 95 and Windows 98 support have been added to the EnlightenDSM offering. See the Windows section later in this document for a complete description.
- EnlightenDSM now supports HP-UX-11, SCO 5.0.5, and both 32-bit and 64-bit Solaris 7.
- New install choices: standard and custom. The Standard Install installs all EnlightenDSM components to the machine running the installation process, allows additional management agents to be installed to remote machines, and provides a 90 day temporary license. The Custom Install allows fine grain control over the installation of all EnlightenDSM components. The Custom Install must be run when upgrading, installing a permanent license, or installing the EMD, PEP, and GUI to machines other than the local installation host.
- Automount. User home directories can now be specified as automounted directories. The process of adding users and creating home directories can be easily customized.
- LDAP. Specific user information needed while creating new user accounts from EnlightenDSM can now be obtained from the LDAP server. If you are using LDAP services, please refer to chapter 3 of the Reference Manual or the online documentation on this CD for additional information on accessing this new feature.
- Copy User Feature. A new feature allows an existing user account to be copied and then modified. This feature enables the EnlightenDSM user to easily create additional new user accounts that are similar to pre-existing user accounts.
- DNS monitoring and configuration capabilities have been upgraded to support the use of BIND 8.
- The Auditing capability of EnlightenDSM has been enhanced. More user actions are logged and all Audit Log Data is now centrally stored in the EMD. Since the audit information is stored in the EMD, audit information can be selectively displayed. For information on how to enable and use DSM Auditing, please see chapter 6 of the EnlightenDSM Reference Manual or the on-line documentation on this CD. The audit log can be managed in the new Audit Log Maintenance window.
- A new data item, called TotalValue, has been added to the Events component. Its purpose is to enhance your ability to analyze event and logging data produced by AgentMon. TotalValue stores slightly different information for each test but is basically used to store the total measured value for a test.

Test Type	Interpretation of TotalValue
File System	blocks totalValue=Max filesystem size inodes totalValue=Max number of inodes
File	modified totalValue=File size in bytes accessed totalValue=File size in bytes
Swap	totalValue=Max swap space capacity
Cpu load	totalValue=Total number of CPUs
Cpu	idle totalValue=Total number of CPUs user totalValue=Total number of CPUs

	kernel totalValue=Total number of CPUs wait totalValue=Total number of CPUs
File clamping	totalValue=First line in file to match the pattern searched for

For all other tests, totalValue defaults to -1. A new column has been added to the events_tbl and the events_log_tbl. The column is called total_str and can hold up to 100 characters.

Total Value is available in PEP via the rules.txt file. It is referenced through the token 'totalValStr' e.g. event.totalValStr. It is a string variable and must be handled as such. To convert a string to an integer, you may add zero to it. For example the following if statement will allow integer comparisons: if (0 + event.totalValStr > 10).

- EnlightenDSM internal security features have been enhanced, and a more secure model has been implemented for the Delegation of Authority feature.
 1. Delegation of Authority allows the root user to authorize non-root users access to specific areas of EnlightenDSM's administration capabilities. Access the Delegation of Authority feature is through the User Authorization window available under the Configure menu of the EnlightenDSM GUI.
 2. The new secure model adds an additional step in order to allow the delegated user access to EnlightenDSM files and executables. Any user granted access to EnlightenDSM features must also be added to the 'enldsm' group. The enldsm group is created during the install process. The EnlightenDSM GUI can be used to add users to this group.
 3. Only the root user and members of the enldsm group can access the EnlightenDSM directories, log files and executable programs. Members of the enldsm group have limited access to executable scripts and binaries. Members of the enldsm group can run the GUI and view log files. All SUID programs have been removed from the EnlightenDSM 3.1 product. Only the root user can delegate authority.

Note: The enldsm group is created in the local /etc/group file on the machine where the EnlightenDSM GUI is installed. The machine configuration must reference the local group file in order to access this group.
- List of installed files. A new file has been added that lists the files installed during the installation procedure. When installing Agents or GUIs, the file will be stored in \$ENLIGHTEN. When installing EMD, this file is stored in the top-level installation directory. In either case the file will is named manifest.
- Temporary licenses are now packaged on the CD to allow immediate access to all the features of EnlightenDSM. The Temporary license allows the product to run unencumbered for 90 days from the date of installation. Permanent licenses must be obtained from your vendor to continue running EnlightenDSM past the initial 90 day period.
- In addition to the PDF format User Guide and Reference Manual included on the CD in the doc directory, SGI users can now view the EnlightenDSM manuals via the InSight Documentation Viewer. The Insight manuals will be installed automatically when the product is installed on an SGI system. In addition, the manuals may be installed manually using inst. The inst installable documentation packages are located in the doc/sgi directory on the CD.
- The default pool no longer requires a daemon running on the NIS/DNS server to access basic user configuration functionality. By default, the local host information will be used. When an EnlightenDSM agent resides on the name server, EnlightenDSM can automatically detect the naming service used by each particular host. To access users via your naming service from the default pool, remove the "Local Files" overrides from the Naming Service Overrides screen found under the Network button on the main console. Overrides are applied individually to each pool. When defining new pools, the default will be to use the naming service. To continue to use only the local host information with a new pool definition, add "Local Files" to each of the three "Domain Name" fields in the Naming Services Overrides screen. See Chap 5 of the Reference Manual for additional details.

Window95 and Windows 98

This section describes the features, differences and limitations of the new Windows support. The event tests are substantially different on this newly supported OS.

- When viewing printer names, DSM will replace any spaces with underscores in order to make sure the printer name is exactly one word. These underscore characters will be removed correctly on the agent side when the agent receives printer names.

- A new parameter has been added to the params file (default location C:\Program Files\Enlighten\config\params) that identifies the printer driver to be used when adding new printers on a Windows machine. Only printers that use this driver can be added. The parameter is DEFAULTPRINTERDRIVER. The default value for this parameter is HP LaserJet 4Si/4Si MX PS. If you have a different default driver that you would like to use, you should replace this parameter.
- The Who Is Logged in window shows Login Time for each user listed. This data is not available on Windows 95 or 98, so the login time shows up as "??? ?? ??:??".
- The list of supported Events is quite different from the UNIX and NT platforms. Some tests are available on Windows 98, but not Windows 95. The available tests on 95 and 98 are listed below:

Test Group	Test Name	95	98	Description
KERNEL	kernel_threads	•	•	The current number of threads present in the system.
KERNEL	kernel_cpu	•	•	The approximate percentage of time the processor is busy.
KERNEL	kernel_vms	•	•	The current number of virtual machines present in the system.
ICMP	net_clnt_xact/sec	•	•	The number of server message block (SMB) transactions managed by the redirector each second.
ICMP	net_clnt_bytes_read/sec	•	•	The number of bytes read from the redirector each second.
ICMP	net_clnt_bytes_write/sec	•	•	The number of bytes written to the redirector each second.
ICMP	net_clnt_num_nets	•	•	Number of networks currently running.
ICMP	net_clnt_num_sessions	•	•	Number of sessions.
ICMP	net_clnt_num_resources	•	•	Number of resources.
ICMP	net_clnt_num_open_files	•	•	Number of open files on the network.
VM	free_memory	•	•	Amount of physical memory (RAM) not currently in use.
VM	locked_memory	•	•	The amount of allocated memory that is locked.
VM	allocated_swap	•	•	The total amount in bytes of Other memory and Swappable memory. If this value is changing when there is no activity on the computer, it indicates that the disk cache is resizing itself.
VM	non_swap	•	•	The amount of allocated memory not stored in the swap file, for example, code from Win32 dynamic link libraries (DLLs) and executable files, memory mapped files, nonpageable memory, and disk cache pages.
VM	page_faults/sec	•	•	The number of page faults each second.
VM	instance_faults/sec	•	•	The number of instance faults each second.
VM	page_input/sec	•	•	The number of pages swapped into memory each second, including pages loaded from a Win32-based executable file or memory-mapped files. Consequently, this value does not necessarily indicate low memory.
VM	page_output/sec	•	•	The number of pages swapped out of memory and written to disk each second.
VM	page_discards/sec	•	•	The number of pages discarded from memory each second. (The pages are not swapped to the disk, because the information is already on the disk.)
VM	swap_file_size	•	•	The size, in bytes, of the current swap file.

VM	swap_file_in_use	•	•	The number of bytes being used in the current swap file.
VM	defective_swap_file	•	•	The number of bytes in the swap file that are found to be physically defective on the swap medium. Because swap file frames are allocated in 4096-byte blocks, a single damaged sector causes the whole block to be marked as defective.
VM	disk_cache	•	•	The current size, in bytes, of the disk cache.
VM	disk_cache_min	•	•	The smallest size possible for a disk cache. This is a fixed value loaded at system startup.
VM	disk_cache_max	•	•	The largest size possible for a disk cache. This is a fixed value loaded at system startup.
VM	committed_bytes	•	•	The number of bytes allocated from the swap file. Locked pages still count for the purpose of this metric. This includes code from 16-bit applications and DLLs, but not code from Win32 DLLs and executable files.
VM	disk_cache_mid		•	The mid disk cache size. This is a fixed value loaded at system startup.
VM	shared_pages		•	Used to monitor MapCache/WinAlign changes. The swap file size in use at the same time as this setting should be monitored for differences after running the WinAlign tool.
VM	locked_noncache_pages		•	Number of non-cache locked pages.
Cache	disk_cache_pages		•	Current number of disk cache pages.
Cache	disk_min_cache_pages		•	Minimum number of disk cache pages.
Cache	disk_max_cache_pages		•	Maximum number of disk cache pages.
Cache	cache_hits		•	Number of times data found in the cache resulting in I/O requests.
Cache	cache_misses		•	Number of times data not found in the cache resulting in I/O requests.
Cache	lru_cache_recycles		•	Number of times the cache is sequentially searched for a buffer to recycle, beginning with the oldest data. This happens when new data needs to be added to the cache, or when memory manager needs to borrow memory from the cache.
Cache	random_cache_recycles		•	Number of times the cache is randomly searched for a buffer to recycle. This can happen whenever the cache becomes filled with data not used lately.
Cache	failed_cache_recycles		•	Number of times a recycling request (either least recently used [LRU] or random) has failed. This can happen in low memory situations or when all cache buffers are currently in use.
Cache	lru_buffers		•	Number of active buffers in a cache, including any and all compressed buffers.
MBUF	fs_writes/sec	•	•	The number of write operations delivered to the file system each second.
MBUF	fs_reads/sec	•	•	The number of read operations delivered to the file system each second.
MBUF	fs_bytes_write/sec	•	•	The number of bytes written by the file system each second.
MBUF	fs_bytes_read/sec	•	•	The number of bytes read from the file system each second.
MBUF	fs_dirty_data	•	•	The number of bytes waiting to be written to the disk. Dirty data is stored in cache blocks, so the number reported might be larger than the actual number of bytes waiting.

ICMP	net_svr_memory	•	•	The total memory used by the server.
ICMP	net_svr_buffers	•	•	The number of buffers used by the server.
ICMP	net_svr_net_buffers	•	•	Server network buffers.
ICMP	net_svr_threads	•	•	The current number of threads used by the server.
ICMP	net_svr_bytes_read/sec	•	•	The total number of bytes read from a disk.
ICMP	net_svr_bytes_write/sec	•	•	The total number of bytes written to a disk.
ICMP	net_svr_bytes/sec	•	•	The total number of bytes read from and written to a disk.

Note: This information comes from the Microsoft Windows 98 Resource Kit documentation.

Installation Notes

- Complete installation instructions can be found in the EnlightenDSM User Guide. An electronic copy of the User Guide and Reference Manual are included on the CD. Instructions for accessing the complete documentation set for EnlightenDSM are contained in the readme.txt file located on the CD-ROM in the /DOC directory. The user documentation is supplied in Adobe PDF format. If you have Adobe Acrobat installed, the documentation can be viewed directly from the CD. For added convenience, the Adobe Acrobat reader is supplied on the CD under the /DOC directory. The Adobe Acrobat reader is also available (free download) from the Adobe site: www.Adobe.com
- On AIX systems, it is recommended that SNMP daemons be stopped before installation and restarted after installation is complete. Terminating SNMP daemons before installation is only necessary if you wish to install AgentENL. AgentENL is an SMUX compliant SNMP daemon designed as a replacement of the existing SNMP daemon. SMUX is the industry standard multiplexing protocol for SNMP. AgentENL must be installed if you wish to send or receive SNMP traps from EnlightenDSM and other SNMP enabled clients from the same machine.
- Deinstallation program can not completely remove all files if EnlightenDSM is installed on a mount point.

Encryption

Due to export regulations and restrictions, this release of the EnlightenDSM product does not contain encryption. We expect a future release of the product to contain industry standard DES encryption.

Limitations

The known limitations are organized in the order that appears on the EnlightenDSM toolbar:

User
Printer
Network
Security
Disk
Archive
System
Events
Miscellaneous Issues

User Issues

- The Multi-User Add function fails if a directory is entered in the "Filename of Accounts DB" field. No error message is displayed.
- When adding a user to a host, the displayed list of available shells is derived from the GUI host, not from the host to which the user will be added.
- When deleting local user accounts across multiple hosts, the user's home directory is not deleted if it is the same on all hosts. EnlightenDSM assumes they are shared.

- If access permission is denied for a host, then user configuration may retrieve cached configuration data.

Operating System Specific User Issues

- AIX, SunOS - Default user startup scripts are not supported by the OS.
- AIX 4.1 - When adding a local user account, a valid password is not created if an error is encountered.
- AIX 4.1.4 - Locking passwords for a local user account is not supported. b) EnlightenDSM cannot retrieve a NIS client's network user account information without the EnlightenDSM GUI's host entry in the NIS server's `host.allow` file.
- IRIX 6.5.0 - If the process ID is greater than 32768, then the GUI will display a negative process ID value in the Who Is Logged In window. This has been fixed in new versions of the OS.
- Digital UNIX, SunOS, Windows NT - User Message feature is not supported.
- Windows NT - For expired passwords, the GUI does not show the changed password status, but the password would have been expired successfully.
- Windows NT - When adding a user account with an invalid groupname, the account will be created but the new user will not be able to log in. b) the User Message feature is not supported.
- Windows NT - PID values may not be in HEX. On the GUI, some dialogs show the Process ID as a Hex value, while a few dialogs show it as a decimal number.

Disk Issues

- In the Disk File Search window, the file size must be specified as a whole number.
- The `chmod` feature of the Disk File Systems Detail window initially displays a default value (750). This is NOT the current value of the file.
- Attempting to mount a filesystem from a host that is not running `nfsd` will cause the GUI to timeout for an extended time. It may be desirable to restart the GUI if this accidentally occurs.
- Modifying multiple NFS partitions prompts for verification for each partition, even if the all button is selected.
- In the NFS Mounted Directories window, a `umount` operation will only occur on the first selected host, even if multiple hosts are selected. The `umount` feature only operates on a single mount point for each command.

Operating System Specific Disk Issues

- HPUX - When mounting an IRIX filesystem to an HPUX host an error will occur if the `secure` option is specified.
- IRIX 5.3 - Attempting to save a Disk Snapshot without naming the snapshot may cause the window to exit.
- IRIX - When exporting a filesystem, the Read Only for All Hosts option will not work. The exported directory will be writable.
- SCO - When mounting a remote filesystem, the Network Filesystem Configuration window may show the Mount at Boot option set to No, even if it is set to mount at boot.
- Solaris - Errors may occur when unmounting and remounting a filesystem.
- Solaris 2.5 - Attempting to view Disk Processes for 20 or more hosts may cause the GUI to exit.
- Windows - Attempting to mount a nonexistent Windows directory to a UNIX file system may cause the GUI to get stuck, forever attempting to mount the nonexistent directory. Restart the GUI if you find yourself in this situation.
- Window – The Sort By Inode feature is not supported
- Windows - The “//filesystem” format is not supported by the GUI.
- File Ownership on Windows - Some files may be reported as being owned by the “Administrators group”. This happens when the file owner is an administrator-equivalent. NOTE: For a pool of Windows and Unix machines, the files belonging to Administrator and Root may be shown as owned by the Root user.

Archive Issues

- Filenames longer than 120 characters will be truncated when writing to a catalog during backup (filenames include the full path). This does not affect the ability to backup and restore files. The Restore Files feature should be used to search for backed up files.
- Attempting a backup to floppy disk that exceeds the disk volume may result in incomplete backup.
- A scheduled backup does not support multiple tape backups.

Operating System Specific Archive Issues

- SCO 5 - A block size of 1 is required when configuring a floppy device for backup.
- HPUX 11.0 - The archive application cannot access the X server if it is on a different host than the backup device. This works for all other platforms by having the GUI pass the DISPLAY variable to the remote host performing the backup. With HPUX 11.0 the GUI returns an error stating it cannot access the X server host.

System Issues

- EnlightenDSM cannot delete a cron job for a user that has been deleted.

Operating System Specific System Issues

- Digital UNIX - Adding a cron job is not supported.
- Windows 95/98 – When some 95/98 machines are rebooted with EnlightenDSM, power management options seem to interfere with the product operation. This may cause the Agent host (renldc) to hang.
- NOTES: 1. Logout/Shutdown and reboot are forced on the target machine. The user will lose any unsaved changes. 2. For a pool of only 95/98 machines, when the last user is logged out, the GUI may still show the last user. The user has actually been logged out.
- Windows - a) Shutdown/Reboot options of Countdown, Banner mode, Reconfigure, and Single-user mode are not supported. b) at jobs will be listed in cron management but jobs cannot added or deleted. c) Display of `idle`, `system`, `smss`, and `csrss` system processes return "???" for the `username` and `c` fields. d) SetTime with a reference host option may cause the GUI to abort.

Network Issues

- Remote File Distribution does not support soft or hard links.
- File distribution jobs should be removed sequentially, not simultaneously.
- A primary DNS server is displayed in the Domain Name Servers window only if one or more hosts in the current pool are clients of the primary DNS server being displayed.
- Deleting a secondary DNS server does not remove the "IN NS" entry from the primary DNS server's map.
- DNS clients display Host Entry information from the DNS database files, regardless of the name service lookup order specified in a host's `/etc/resolv.conf` file.
- A NIS server is displayed in the NIS and NIS+ Servers window only if one or more hosts in the current pool are clients of the NIS server being displayed.
- The default `/etc` files are used when making NIS maps. Any overrides are ignored.
- Pushing NIS maps for a network with multiple NIS servers will return a false success message for servers where the local host is not in its `hosts.allow` file.
- NIS+ server setup will fail if the server root password contains spaces or if you enter multiple admin members.
- The automatic refresh feature is not implemented on the NIS and NIS+ Servers window.
- Local File overrides will fail in two cases: When the current pool contains only pools, and when a hostname is aliased to a fully qualified domain name.

- Overriding one NIS master to a second NIS master will result in the local `/etc` files of the second master being used for password, group, alias and host information.
- The Host File Import feature interprets a fully qualified host name as a separate entry from the non-qualified equivalent. Duplicate entries may result.
- The Host File Import feature fails to import an entry to all hosts if the entry is a duplicate on any one host in the current pool.

Operating System Specific Network Issues

- AIX – a) Remote File Distribution cannot send files to itself. The initiating host is unable to see its own broadcast packets. b) Remote File Distribution sends files to only the first host on the list.
- SCO 5 – a) Deleting a DNS server fails if it has any clients. b) Hosts are unable to receive Remote File Distributions. c) NIS server setup fails unless the host is in single user mode.
- Windows – a) Remote File Distribution status logs are incomplete for failed jobs. b) Remote File Distribution is unable to execute the Pre/Post Install scripts. c) DNS server database files must be located in the `%SystemRoot%\system32\dns` directory. d) DNS server configuration not supported in this release.

Events Issues

- Unmounting a file system may generate alarms until AgentMon is restarted.
- On a host whose name includes a fully qualified domain name, AgentMon startup event logging will not include the domain name in the hostname field.
- The hostnames in the pool must match the names of the host (`uname -n`).
- Events are not sent for the first and last instance of a process. A low threshold value of zero tests for the absence of a process. Setting the low threshold value higher than the high threshold will disable the low threshold testing.
- For performance reasons, mounted partitions are not included by default in the disk monitoring feature. To enable NFS monitoring, start AgentMon with the `-n` option. To enable the feature when EnlightenDSM starts normally, add the `-n` option to the command that starts AgentMon in the `$/ENLIGHTEN/bin/start_enl_daemons` script.

Status Map Issues

- The Status Map can only display the first 28 hosts in a pool.
- The pool selection may be lost if you try to change pools while the Status Map is launching.
- In the Query Events window, the filter feature does not find names with spaces.
- The Host Overview Telnet feature is not supported on Windows.

Operating System Specific Events Issues

- AIX, SCO 5 - AgentMon's `snmp` configuration may not be compatible with native `snmp` daemons. If AgentMon exits with a `SIGPIPE` error, restart AgentMon with the `-s` option to disable `snmp` functionality. To prevent this when EnlightenDSM starts normally, add the `-s` option to the command line that runs AgentMon in the `$/ENLIGHTEN/bin/start_enl_daemons` script.
- SCO 5 – a) Events are not sent when enabling or disabling a printer. b) File Clamping is not implemented.
- Windows - Process test filenames are case-insensitive and the filename extension (`.exe`) must be included.
- Windows - Custom commands work only if the executables are present in the `.data` directory under the Enlighten installation. Shell commands are not supported for Windows.
- Windows - EventCli. EventsCli process will hang if AgentMon is not currently running.

Miscellaneous Issues

- Edited email form letters are saved in the directory where EnlightenDSM was started.

- Difficulties may be encountered displaying shell windows unless an `xhost +` command has been executed from the console window.

Operating System Specific Miscellaneous Issues

- HPUX – When the color map resource is exhausted, attempting to display a graph may cause the GUI to exit.
- Digital UNIX - TTY column in the TTY Configuration window has extra characters.
- Digital UNIX/Windows - Custom Printer Driver not supported.
- SCO 5 - Attempting to configure a local or network printer may produce errors.
- Solaris - Attempting to configure printers without the required operating system components may produce errors.
- Windows NT - Printer functionality on the GUI depends on the privileges of the current user on the remote host.1