

READ ME FIRST!

Installing Mascot for the first time

If you are installing Mascot for the first time, please read the 'last minute additions' on page 2 and the 'platform specific notes' on page 3 before following the installation instructions in Chapter 2 of the Installation and Setup Manual. A complete, up-to-date copy of the Manual can be found on the Mascot installation DVD or in the setup archive, (*manual.pdf*).

Installing as version update

Licence files used for Mascot 2.5 and earlier will not work with Mascot 2.6. You will need to register online using the supplied product key. If you are moving to new hardware at the same time as making a version update, you'll need to contact Matrix Science support for a new product key.

Changes since last release

Details of individual changes since the previous major release of Mascot are listed on page 5 of these notes.

Last minute additions to documentation

See page 2

Last minute additions to documentation

- If you use third party software to submit Mascot searches, spectral libraries may not be listed until the software is updated to support Mascot 2.6. You will only see Fasta databases.
- If you install your own Perl scripts into the Mascot folders, or 'helper' scripts for third party software, they will fail to work because Mascot now uses a 'private' copy of Perl. At the earliest opportunity, you should change the shebang line of any such Perl scripts to `#!/usr/local/mascot/perl64/bin/perl`

Platform Specific Notes

Linux Kernel / Distribution

Any Linux distribution that includes a 2.6 kernel, glibc 2.3.4 or later, and libstdc++ 3.4.3 or later should be sufficient.

Software RAID

Software RAID systems, such as Lustre, are not supported.

Network File Systems

GlusterFS is not supported.

SELinux

If SELinux is enabled and set up in targeted enforcing mode, you may need to perform extra steps to allow Mascot scripts to run and to allow Mascot HTML pages to be installed outside `/var/www`.

We recommend running the Mascot server behind an institution firewall in which case, the easiest way to fix SELinux problems is to set it to permissive or disabled in the configuration file `/etc/selinux/config`. Change `SELINUX=enabled` to `SELINUX=permissive` or `SELINUX=disabled` and reboot the computer.

If you need to run with SELinux enabled, you may have to modify the Mascot directory security context in order to allow CGI and WWW content outside the standard `/var/www` document root:

Check what the current security context is for `/var/www`:

```
stat -Z -c %C /var/www/html
```

This should print `system_u:object_r:httpd_sys_content_t`. Check what the current security context is for the Mascot directory:

```
stat -Z -c %C /usr/local/mascot
```

If the two contexts are not the same, rectify the problem:

```
chcon -R -u system_u -r object_r -t  
httpd_sys_content_t /usr/local/mascot
```

You may also get the following message in the web server error log during the installation process: *Permission denied: exec of /usr/local/mascot/cgi/install1.pl failed*. To fix this, you need to disable SELinux protection for the httpd daemon. You can do this by editing `/etc/selinux/targeted/booleans` in a text editor and setting `httpd_disable_trans=1`. Save and close the file, and run the following commands as root:

```
/usr/sbin/setsebool -P httpd_disable_trans 1  
/etc/init.d/httpd restart
```

Alternatively, on RHEL 5/CentOS 5, go to Administration; Security Level; Firewall and view the Security Level Configuration dialog box to make the changes.

During the licence registration process, you may also get the following error on the Mascot status page:

The following serious system error has occurred:

Licensing fault (11:000000d). Please contact Matrix Science for support. [M00419]

To fix this, disable SELinux protection for the httpd daemon as described above.

Changes since Version 2.5.0

ID	Component	Description
4487	Daemon	Daemon needs status line
4504	Daemon	Columns in status tab are all string sort
5484	Server	Add options for which columns to display in ms-review.exe
5926	Daemon	Need filters for status tab
6572	Daemon	Daemon could show search %complete and add a kill button?
6780	Server	Should include data file name in the search log
6925	Server	Residue at protein N-term modifications broken
10717	Daemon	Add "Waiting for completing previous task" to [Schedule] in Task Editor
10763	Parser	Replace PLPA library with hwloc
11014	Server	Site analysis could be reported even when only one match
11032	Server	Report mass delta relative to corrected mass for 13C matches
11147	Server	Using a predefined definition for, say, NCBI_NA_template makes no sense
11169	Server	Integrate spectral library search
11178	Daemon	Mascot security passwords recorded in plain text in the webserver search log
11249	Daemon	Too many searches being run at once causes search title to recurse
11261	Daemon	Daemon enters infinite loop when shutdown by the restart manager
11273	Server	ms-getseq POST request fails if there is a space in an accession.
11324	Server	Yellow 'popup' in family summary not wide enough
11379	Server	M00047 The process cannot access the file because it is being used by another process.
11429	Server	The installer could add an exception to the Windows firewall to allow port 80 access
11436	Server	Export script caching speedup for huge files when calling from command line
11466	Server	TargetFDRPercentages is missing from not.mascot.dat
11481	Parser	Target FDR 1% gives 1.32% and failure, even though 0.91% is possible
11534	Parser	Description for decoy protein always says random sequence
11636	Parser	Improve Makefile on Linux
11638	Server	Database Manager User interface changes
11639	Server	Show a URL in addition to command-line parameters when showing export_dat_2.pl arguments
11662	Daemon	Use the -batch command line for nph-mascot to avoid IIS

		cancelling search if Daemon is stopped. Use client.pl?last_error to get error messages without a %s
11667	Parser	Output more progress reports when grouping proteins
11690	Daemon	Could create a result node for every file so as to persist any error message
11697	Parser	Infinite loop in ms_mascotresfile::readLine()
11725	Parser	Support public and internal API help documentation for ms_parser.
11732	Parser	Mascot Server reporting a ratio calculated from two negative numbers
11773	Parser	Where is query 14 in example iTRAQ search
11778	Server	Don't recreate Percolator pip file unless really needed
11782	Server	Search form fails to handle multiple databases in manual error tolerant search
11801	Server	Tidy up format controls for results with quantitation
11816	Server	Error message encoding is incorrect
11823	Server	Confusing command line help describing arguments for ms-createpip.exe
11829	Parser	ProteinsInResultsFile setting 2 test should be greater than or equal
11830	Server	Roll-up of changes to Manual, release notes, and HTML pages for 2.6
11859	Server	Fatal error generating dendogram
11893	Server	RESID links need new URL
11897	Server	Not an ARRAY reference at ../bin/modules/DBManager/Workhorse/DatFileTools.pm
11918	Server	Want Mascot Security users and groups sorted alphabetically in Daemon etc.
11935	Server	Bare bones search form doesn't include data file URL
11939	Server	Config editor rejects legal comp qualifier in quantitation method
11953	Server	Should be possible to upload licence file to Mascot Server
11966	Server	Spectrum Viewer colours should be configurable in mascot.dat
11985	Server	Google / Chrome translate causes search submission to fail
11986	Server	Setting SplitNumberOfQueries to 100 or 10 can crash mascot.
11988	Server	Unimod and masses sections in results files are confusing for BZX and UOJ
11991	Server	CGI executables and scripts fail to reference favicon.ico in HTML head
11992	Server	Export of metabolic quantitation search results incorrect
11994	Server	Highlight matches to Mr(calc) rounded to given number of decimal places
12001	Server	Command line args for export should not include a session ID
12003	Server	The formver=1 search form is broken for PMF
12007	Server	Replace the ions score cut-off edit box with a checkbox
12018	Parser	No reliable way to reject one hit wonders in quantitation
12022	Parser	GCC warnings in Parser, which may or may not be relevant

12026	Parser	When results file has hundreds of thousands of protein hits, caching has gaps between progress messages
12032	Daemon	Cannot submit searches to IIS when NTLM authentication enabled
12036	Parser	Need to be able to search for individual ET mods
12037	Parser	New colour settings in mascot.dat for Spectrum Viewer
12039	Server	custom XML fails to validate
12043	Daemon	Roll-up of feature requests for Daemon 2.6 taken from testing 2.5.1 Twiki pages
12045	Server	When patching 2.5, the mascot\config\unimod\usermod.xml file gets overwritten by the default one
12046	Server	Remove usermod.xml and daemon_2_5_0_setup.exe from the shipper image
12047	Daemon	Roll-up of errors to be fixed in Daemon 2.6 taken from testing 2.5.1 Twiki pages
12053	Parser	Need example for protein family grouping
12059	Server	Distiller memory efficient multi-file project broken if server 2.5.x running in cluster mode and search has more queries than SplitNumberOfQueries
12060	Server	Percolator problems
12062	Server	Database configuration details appear to hang if FASTA file is huge and not really a FASTA file
12065	Server	Export of large result file takes forever
12066	Parser	ms_databases should inherit from ms_customproperty
12068	Server	MS Data File path gets lost on repeat search
12069	Server	Clean up usermod.xml when creating new unimod.xml
12070	Server	Merge changes to elements and mod_bricks from usermod.xml into unimod.xml
12085	Server	In Report builder filtering a report on a modification (acetylation) hangs in a loop
12096	Server	Incorrect message: Parse rule produces duplicate accessions
12099	Server	Reports slow for EST databases with thousands of same set proteins
12101	Parser	Support C# in Mascot Parser (using SWIG)
12104	Server	Ensure new Javascript files are sent to the browser after Mascot update
12106	Parser	Test harness: format the exponent of doubles identically on both Linux and Windows
12108	Server	Elapsed time displayed incorrectly
12109	Daemon	Merge DTA fails if line endings not DOS
12116	Daemon	UNC filename corruption
12121	Parser	Mascot security doesn't allow multiple Fasta files to be specified in multiple groups
12123	Server	offer choice of PSMs or distinct peptide sequences for FDR calculation
12125	Server	Auto decoy not working for NA database
12128	Daemon	Auto export fails for Mascot DAT File and MGF Peak List

12129	Server	Don't autorefresh when uploading FASTA file in Database Manager
12134	Server	mzIdentML export of retention time broken
12136	Server	Shapiro-Wilk never succeeds for a very large sample
12137	Server	Enable AA + NA searches
12141	Server	Protein mass is not nominal
12151	Daemon	Add link to open containing directory for cached files
12154	Server	Split by query cluster mode fails if data per node > 2Gb
12156	Server	Never see combinations of certain mods
12158	Server	Crash in nph-cache_families.pl if search has multiplex peptide match with a variable mod that has no 0 Da neutral loss
12161	Daemon	Export defaults should be taken from mascot.dat
12162	Server	Add a re-compress link
12165	Parser	iTRAQ broken if ITOLU=ppm
12168	Server	Large peptide ratio values are not being formatted correctly in master_results_2.pl
12170	Server	Integrate spectral library searches
12171	Parser	Read library matches from new library_summary and library_matches sections
12172	Parser	Do protein inference with both database and library matches
12173	Parser	Changes to mascot.dat for spectral libraries
12174	Parser	New mascot.dat Options for library search and compression tool configuration
12175	Server	Estimate library match significance from library score distribution
12176	Server	Map library sequences to protein accessions at the end of the search
12177	Server	Parse and convert NIST library search results into Mascot or internal format
12178	Server	Search a spectral library in parallel with the main database search
12179	Server	Compress spectral libraries
12180	Server	Allow creating, editing and deleting spectral library definitions
12181	Server	Allow searching multiple AA and NA databases and spectral libraries
12182	Server	Display a combined database and library search report
12183	Server	Display library and observed spectra for a library match
12184	Server	Display library protein hits correctly
12188	Server	New tool for importing search results into a spectral library
12191	Server	mzML file that causes a crash on public web site
12208	Server	Write a perl script that deletes old cache files and compresses .dat files
12212	Parser	index error in ms_mascotoptions::isDefaultTargetFDRPercentage
12216	Daemon	Completed search details added repeatedly to MySQL TaskDB after connection problem
12220	Server	Default column width for priority for ms-review.exe is 2, but needs to be 4

12222	Parser	Access to new HTTP classes from Perl is not possible and documentation needs improving.
12227	Daemon	Uninstall and reinstall gives message: "ABSciexMSDC not available"
12230	Server	IPC logs displayed in search progress page
12232	Parser	Top scoring peptide matches missing from some queries in merged results
12236	Server	Fixes to mzIdentML 1.1 compliance
12237	Server	Crash on Mascot Server with small error tolerant search in cluster mode and specificities per group
12239	Daemon	Mods are being split on an internal comma within a mod name
12241	Server	GetSeq and GetTaxonomy too slow
12244	Parser	Occasional failure to write session files for IP address and computer name
12260	Daemon	Changes to support MDRO 2.5.1 (or 2.6.0)
12264	Server	Can't locate object method "isMissing" when sorting p-value column in Report Builder
12265	Parser	Parser class ms_http_helper needs to support https
12266	Server	Procedure to create results cache files needs to delete *.flg file
12269	Server	mods duplicated in result file if fixed and variable have overlapping specificities
12272	Server	SVG graphic fails to appear due to parenthesis in mod name
12281	Parser	Java interface improvements
12282	Server	clarify statement on MS MS Results Interpretation help page
12286	Server	Crash on public website with error tolerant search (Probably only Linux)
12288	Server	Display library status in ms-status.exe
12291	Parser	Add a common logging interface to msparser
12293	Server	Handle database definitions of type MSP in matrixlib
12307	Server	Need to look at ET search speed optimisation
12310	Server	GI sequence identifiers are being phased out at NCBI
12311	Server	In batch mode, mascot.dat options for security rights for creating daily directory are ignored
12317	Parser	ET search scores and mod counts look wrong
12318	Parser	Support reading, parsing and indexing of NIST msp files
12321	Server	When did you last see a grey block?
12334	Server	Misc. Installer changes for Server 2.6
12335	Daemon	Changes to support spectral library search
12336	Server	ms-gettaxonomy.exe overflow
12347	Daemon	It is possible to clear the taxonomy combo box in the parameter editor
12349	Parser	Extend Percolator calculations to all ranks
12351	Server	Can't call method "should_do" on unblessed reference at ../bin/modules/DBManager/WWW/Database.pm line 1625.
12354	Parser	ms_ms1quantitation can't handle quantified unassigned peptide matches

12355	Server	Protein View: "cannot find None in mascot.dat" when UniGene=None
12357	Server	Installer needs to disable Timer_MinBytesPerSecond test in IIS
12364	Parser	Error tolerant search reports junk matches and average threshold score of 0
12366	Daemon	Need way to specify output path for generic import filter
12367	Parser	Parser test differences since build server started
12369	Daemon	Button to copy parameter name and path from Parameter Editor to "Parameter set" field in Task Editor tab
12370	Server	Mascot test differences since build server started
12374	Parser	Add peak list data file name in search log
12375	Daemon	Request visual indicator on task editor tab that shows whether auto export or external process options are set.
12380	Server	mascot.dat changes when clicking Choose accession parse rule
12381	Daemon	Daemon could bypass web server for large files when running on the Mascot Server
12384	Server	Database Manager cannot stat FASTA file if it is actually a dead symbolic link
12385	Server	Disallow creating a database whose name differs from an existing one only by case
12388	Daemon	Distiller registration is broken on 64-bit systems
12390	Daemon	Add export and import for TaskDB
12391	Parser	Add ms_mascotresults_params object and new constructors to use it
12395	Parser	Need method to merge ms1 quantitation data in ms_ms1quantitation
12404	Server	Use VS2012 for building Mascot Server (was 2005). Also use Perl Parser modules built with VS2012
12405	Parser	mzIdentML export of fragment matches fails if ITOL is ppm
12408	Parser	Add XML_SCHEMA_DIRECTORY option to ms_mascotresfile getXMLschemaFilePath
12414	Parser	Support Python 3
12415	Server	decoy_type should be printed per database instead of per search
12416	Server	Display mixed AA and NA searches correctly
12419	Server	db_manager.log doesn't roll over correctly when it reaches maximum size
12422	Server	Inconsistent decoy results when searching 2 databases with different number of threads
12427	Server	If ms-monitor.exe can't create mascot.control, it core dumps
12428	Parser	Create Python scripts for the Parser Documentation
12430	Parser	Score distribution does not include ET matches and the values look wrong
12431	Parser	Support Visual Studio 2015
12433	Parser	http_client must work on Linux
12434	Server	When unimod files access is denied, no error is displayed
12438	Parser	Supply Perl, Python and Java modules built using VS2012 rather

		VS2005/VS2008
12444	Server	matrix lib function getFileLength on Windows reports zero length file when it is being written to
12448	Parser	Cache file with missing quantitation if errors due to missing xsd file
12449	Parser	Classes that inherit from ms_errors with a copy constructor don't copy the base ms_errors object
12451	Server	Change http://xxx/mascot/x-cgi/ms-status.exe?Show=REGPRODUCTKEY to be clearer
12456	Parser	Add new bool parameter to the ms_masses ms_umod_configfile constructor
12458	Parser	Inconsistent handling of whitespace in user parameters between cache and non-cache mode
12460	Parser	Set: WARN_NO_PARAMDOC = YES in msparser.doxy
12463	Server	Under Windows, calls to _findfirst, _findnext, _findclose use wrong parameter type
12468	Parser	Add isSamesAs(...) comparison method to ms_umod_modification class and encapsulated dependant classes
12469	Server	Spectral library changes for 3rd party API
12476	Daemon	Enable quant xml export
12477	Server	Existence check for retention times in reports and ms-createtime.exe needs to consider all rtinseconds values
12480	Server	Support Percolator 3.0
12481	Daemon	Should have different user agent strings for GUI and engine
12488	Server	NCBI web site is dropping HTTP in September 2016
12497	Parser	New overloaded method ms_inputquery::getRetentionTimes() for reading all rtinseconds values
12498	Parser	Duplicate should be selected by expectation values
12500	Server	Rename "weighted" protein ratio to "summed intensities"
12501	Server	Ownership and permissions of current directory are not inherited correctly from mascot/sequence
12507	Server	mzIdentML1.1.0.xsd missing from shippers
12508	Parser	mascot.dat setting for ions score cutoff checkbox / edit box
12509	Server	Peptide containing residue with zero mass gets zero ions score
12512	Server	Don't allow double quotes in accessions when choosing parse rules
12516	Server	Corrupt session file causes ms-monitor.exe general protection fault
12518	Server	Database Manager reports too many false positives for synchronisation
12519	Server	Do not print undefined Protocol Reporter values in Quantitation method configuration
12520	Server	Configuration Editor must read data from usermod in priority and J, O and U should always be editable
12521	Server	Don't allow double quotes in accessions when compressing database

12528	Server	Show detailed task log in reverse chronological order
12532	Server	Don't try to autoscroll to the most recently expanded or collapsed page fragment
12536	Server	When changing database type between AA and NA, use the new recompress facility of ms-status.exe instead of trying to delete the .stats file
12540	Server	Add a simple recompression interface to ms-status.exe
12560	Parser	Error saved in a cache file is repeated
12562	Server	Multi-cpu build issues [Don't include in release notes]
12564	Server	Change default Protein Ratio Type from 'weighted' to 'average' in reporter quantitation methods
12566	Server	nph-mascot crashes when using a database which requires newer taxonomy than the installed one
12571	Parser	Need SDK 80 release of Parser for the Mascot Installer. [Don't add to release notes]
12576	Server	Default Windows httpd.conf changes
12577	Server	Changes to Linux 2.6 installer
12578	Parser	Changes to updateForInstaller() for Mascot Server / Parser 2.6
12582	Server	Read config/db_manager/postinstall.conf and add or enable missing databases
12583	Server	Failure to remove updated URL parameters after using the finder toolbar causes, in some cases, a redirect loop
12584	Server	"Bad Request" under IIS when giving an invalid value as _sigthreshold in Protein Family Summary
12588	Server	Disabling a database and changing it's parse rule numbers at the same time causes ms-monitor.exe to barf
12594	Server	Need a new ms-status.exe command for returning the path to the .msp or .fasta file
12596	Server	nph-mascot.exe hangs at the end of pmf search
12597	Server	When synchronising or importint a database definition with a UniGene index, fatal error when trying to warn that the UniGene index doesn't exist
12601	Server	Protein View causes warning "Negative taxID -1 is not valid for ms-gettaxonomy.exe"
12602	Server	Score histogram is empty when the score list is all -1's
12604	Parser	ms_inputquery::fillPeakList() fails to parse a peak list if it contains no colons