

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, (*manual.pdf*).

Installing as version update

Licence files used for Mascot 2.4 and earlier will not work with Mascot 2.5. 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

- Some third party applications require helper scripts to be installed on the Mascot web server. If Mascot security is enabled, you should be aware that such scripts may create security holes.
- Microsoft Internet Explorer 8 and later versions do not allow text to be pasted into a file upload control. This may break the integration between some older, third party software and the Mascot search form. If the software vendor does not have a fix, you may need to downgrade to Internet Explorer 7.

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.

Mascot is tested during development with Debian 6 “Squeeze” and Debian 7 “Wheezy”.

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 (11:0000000d). Please contact Matrix Science for support. [M00419]

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

Changes since Version 2.4.00

ID	Component	Description
4719	Server	Put back ppm as tolerance unit for fragments
5768	Daemon	New Daemon installer.
5895	Server	Need introductory page / tutorial
6224	Server	Search form should accept URL of data file as URL argument
6264	Daemon	Sort out all Unicode issues in Daemon
6393	Server	Add NA/AA to the stats file
6404	Server	Several scripts still using mod_file and substitutions
6538	Server	Increase max length of database name
6564	Server	Display normalisation factors used in quantitation in export
6607	Server	Web browser form should get progress info and link to report asynchronously
6676	Daemon	Vista UAC/virtualisation issues need addressing
6750	Server	Want a separate file for 'own' modifications
6774	Server	If fail to open searches.log for writing, retry
6825	Server	ms-monitor.exe performance; also using a surprising amount of CPU when it should be relatively idle
6832	Server	Changing priority doesn't change it on the cluster nodes
6930	Parser	ET match with 'same' score as non ET match is not discarded.
10290	Parser	Add classes to facilitate communication with a remote Mascot server via HTTP
10709	Server	Suppress No taxonomy indexes warning unless applied to all databases
10720	Parser	if charge is 9+ or more, "pep_exp_z" value is -100
10768	Daemon	Request to add support for AB SCIEX MS Data Converter
10777	Server	Configurable CSV and XML export should have no-duplicate peptides option
10877	Server	On the cluster node, compressed files need to be in a sequence directory structure as on master
10893	Server	Add summary table of modifications found in search
10912	Server	Improved behaviour for chimeric spectra

10938	Server	Non-memory mapped database cycles between "Trying to unmap files" and "In use"
11037	Server	Allow FASTA file upload in Database Manager
11038	Server	login.pl does not return a correct response for web authentication in the presence of domain qualified user names
11056	Server	Performance issue in cluster mode
11071	Server	Autorefresh selected pages in Database Manager
11077	Server	Add overview table of update schedules in Database Manager
11079	Server	Database Manager: autodetect proxy settings on Windows
11098	Server	Support IE 10, IE 11, latest Firefox and latest Chrome
11114	Server	Predefined database definitions need descriptions
11119	Server	Report count of queries with matches above threshold
11158	Server	Dead end in DB Manager if the downloaded file is not a FASTA file
11161	Server	Allow use of HTTP proxy server for FTP in Database Manager
11172	Server	Enable support for file:// URLs in Database Manager
11175	Parser	Make access to XML files more thread safe
11181	Server	Report Builder: filter on number of unique significant sequences
11208	Server	Search crashes with no error message for a mod with 20 sites in 1 group
11213	Server	Pitiful little file crashes percolator.exe
11217	Server	Database Manager shouldn't write mascot.dat in place
11223	Server	Percentage progress should be based on number of bytes transferred
11226	Server	Checkbox to disable family grouping
11227	Server	Add pI and coverage as columns
11232	Server	FTP wildcards are shown in DB Manager but are not editable
11234	Parser	Move quantitation subroutines to Parser
11235	Parser	New method ms_mascotresults::getProteinEmPAI()
11236	Parser	Improve ms_shapiro_wilk documentation
11241	Server	Enhance spectrum graphics with Spectrum Viewer
11254	Parser	Add new method for number of instances of a given modification
11263	Server	Big Mascot search from Daemon with security enabled gives Error M00454
11268	Server	Report p-values for quantitation ratios, not just whether significantly different from 1

11276	Server	Verify that peptide charges > 9+ and < 9- work
11277	Server	Highlighting in fragment table incorrect for some sequence tags
11279	Server	Export percolator p-value and q-value
11280	Server	Add mzTab export format
11299	Server	Allow multiple choice when matching predefined definitions to custom definitions
11302	Server	Delete a database from database manager and confusion occurs.
11330	Server	Review mascot init script for Linux
11331	Server	Use Parser to calculate emPAI
11334	Server	Need to flush upper I/O layers before releasing file lock
11355	Server	httpd.conf Access control keywords change in Apache 2.4
11358	Parser	Combining resfiles: check that quantitation methods match
11361	Daemon	Get error when task database in MS SQL Server and open external processes dialog
11362	Server	Protein View fills logs with 'Use of uninitialized value' error
11367	Server	Result file compression / decompression must preserve mtime
11372	Server	No way to change database type (NA/AA) in DB Manager
11373	Server	Unformatted sequence string for NA database doesn't work
11374	Daemon	Daemon could warn when you edit a parameter set with invalid mod
11381	Server	Update example ET search
11386	Server	Search crashes using new Pepsin
11392	Parser	Need to be able to return std::string & parameters in Java
11393	Server	Display more information in Peptide View for MS/MS spectra with no fragments
11399	Parser	Simplify and reduce requirements for specify location of the unimod and quantitation schema files when using ms_mascotresfile
11400	Server	Target FDR code failing to reach target
11403	Server	Setting search priority on Linux fails to do anything
11404	Server	Protein Family Summary has slowed down since 2.3
11407	Server	Report Builder column editing buttons are confusing
11409	Parser	Temporary cdb file created even when MSPEPSUM_DISCARD_RELOADABLE not specified
11411	Parser	Save qmatch and qploghole in the cdb file to improve performance
11413	Server	Invalid taxonomy name class (type material) in file ../taxonomy/names.dmp

11416	Server	Should be able to ask for target FDR in export script
11420	Server	Cluster mode crashes if number of variable mods greater than 9
11422	Parser	Under Windows, file sizes stored in cdb files are limited to 32 bits
11424	Server	Allow normalising to selected sequences or accessions in Mascot reports
11425	Parser	Faster function to get ions score for any query and rank
11427	Server	Add "silent" progress mode so that IIS doesn't kill disconnected search
11434	Server	Put systems in place to generate HTML files for shipper from wordpress
11435	Server	Ensure we can ship a new Percolator executable
11437	Server	mzML file takes 3 hours to 'unpack' and 1 minute to search
11438	Parser	getObservedCharge() needs an optional parameter for specifying the summary or decoy summary section
11442	Server	IT_MODS at query level cause segfault
11443	Server	Setting MaxQueries to 100 million causes all searches to use a lot of memory
11444	Daemon	Rewrite Daemon as .NET application
11448	Server	Javascript needs updating
11449	Server	Add login info to HTML header
11454	Parser	Add a function to return the address and port of the default proxy server (Windows only)
11456	Parser	Mascot security loophole when using command-line session
11458	Server	Duplicate matches when quant method has exclusive mods and constrain search is true
11460	Server	mscreatepip.exe crashes with IPTL test dataset
11461	Server	Tidy up one-letter code
11463	Server	nph-mascot.exe should accept URL of data file as URL argument
11467	Parser	Add a new MSPEPSUM flag to specify using homology threshold for ignore ions score below
11470	Server	Export original and modified NA sequence in ET searches
11471	Server	Dendrogram tiny in Chrome 26
11473	Server	Peptide view (and protein view) don't obey the ResfileCache directive
11477	Server	Get a slew of uninitialized value errors when exporting reporter quant
11478	Server	Cannot view report builder tab in decoy report
11483	Parser	Add new flag for number of unique distinct sequences

11485	Server	Problems when FASTA URL contains ampersands in Perl 5.10.1 and older
11486	Parser	Support Perl 5.16 and Perl 5.18
11488	Server	Search engine doesn't allow more than 16 components in label free
11494	Server	Database Manager should continue a download disconnected by proxy server
11495	Parser	ms_mascotresults::findPeptides() returns peptides with status DUPE_DuplicateSameQuery
11496	Parser	Add isDataCached() for querying about cache file contents
11497	Server	Peptide view missing information for query with no match
11498	Server	Division by zero error in DB Manager if remote FASTA file is zero length
11499	Parser	Cache numbers of hits above threshold for non-decoy searches
11500	Server	Database Manager: more robustness against corrupt configuration files
11505	Server	It's very hard to add a SwissProt type database without a reference file
11510	Server	DBManager fails to keep filename pattern while synchronising
11513	Parser	Need to cache the protein coverage values
11517	Server	Creating new user and choosing multiple groups can have unpredictable results
11518	Server	Userid spoofing doesn't work from Distiller
11527	Server	Endless loop after session timeout
11531	Server	Dendrograms have gone out of alignment in Chrome 28
11538	Parser	Provide access to and use the new query_mods string where available
11539	Parser	Update run_search.exe to work with new query-level mods strings
11540	Server	Report script support for new query-level mods string
11545	Parser	Cron and ExecAfterSearch in mascot.dat cannot cope with spaces in paths
11547	Parser	ms_peptidesummary::getProtein() fails to return null when dbIdx is incorrect
11566	Server	Return job details in XML format from ms-status.exe
11582	Parser	Session handle leak when checking for proxy settings under Windows
11583	Server	Update browscap.ini
11584	Daemon	Daemon complains about Mascot version when real problem is lack of licence
11622	Parser	Rules on residue masses in mod_file make no sense

11631	Parser	Sign the msparser.jar file using a CA trusted certificate
11634	Parser	Report standard error as well as standard deviation
11644	Parser	Switch from Xerces 2.3 to Xerces 3.1.1
11646	Server	Memory locking restricted to 32 bits, so 4Gb file limit. Severe memory leak for files > 4Gb
11680	Server	Additional argument to keep connection alive by leaking bytes
11685	Parser	New values for options section of mascot.dat
11686	Parser	Global and per-group modification visibility for ms_umod_configfile
11687	Server	Update Perl scripts to enforce per-group modification visibility
11696	Server	Option to create brief results for Daemon
11699	Parser	Add support for file:// and ftp:// to ms_http_helper class
11700	Server	Don't show target FDR buttons when Percolator is used
11705	Parser	Improved behaviour for chimeric spectra
11708	Parser	ms_peptide::getAnyMatch() is broken in 2.4.4
11709	Server	Database Manager does not check for SECTASK_ACCESSDBSETUP
11711	Server	Add TargetFDR and Unigene sections to output for Daemon auto-export
11712	Server	Error tolerant search is displaying possible modifications that are outside tolerance when #13C=1 or 2
11713	Server	Could show the quantitation component for all precursor methods
11714	Parser	Improved functionality for proxy use with ms_connection_settings
11715	Parser	updateForInstaller() changes for Mascot 2.5
11716	Server	Need proxy settings editor in db_gui.pl
11717	Parser	If peptide ratios are manually excluded from a protein ratio then values from duplicate same query are used
11718	Parser	Add functions to retrieve tree of distinct peptides
11723	Server	Pop-up for possible error tolerant mod assignments should not show excluded mods
11726	Server	Changes in reporter ion quantitation normalisation settings not carried through to protein_view
11736	Server	Configuration Editor. Linux build. Cannot add new modification.
11740	Server	Allow long database names
11744	Server	Acquire task ID automatically in batch mode
11746	Server	Merged results with no hits gives "No result file name supplied"
11755	Server	Support Perl 5.16 (Windows and Linux) and Perl 5.18 (Linux)

11756	Server	Faulty HTML encoding when redirecting
11760	Server	HTTP Error 404.3 when trying to download .opt files
11761	Server	Guest cannot edit users or groups in security_admin.pl
11765	Server	(fatal) HEAD request succeeded for ftp://ftp.ncbi.nih.gov/blast/db/FASTA/nr.gz, but GET did not; cannot continue
11768	Server	Searching for peptide with variable mod fails if it's a non-significant match unique to a subset
11770	Server	Increase the maximum URL length and query string length for IIS
11772	Server	Database Manager should retry after FTP timeout when using HTTP proxy for FTP
11774	Server	Show MS data URL instead of MS data file in reports
11779	Server	pip format changed in Percolator 2.06
11785	Server	New argument to ms-geterror.exe for displaying detailed help of an error
11792	Server	mi_pop_handler.pl not handling missing insight_percolated.log silently
11794	Server	A single Mascot search for two databases is counted as 2 searches on the database status page and erroneously prevents new searches run if max limit is reached.
11795	Server	When setting up NCBI nr, "Can't find the session file requested"
11797	Parser	ms_datfile::updateForInstaller shouldn't update parse rules if Database Manager is being used
11800	Server	If ms-monitor fails to run test search there is no error in errorlog on Linux
11804	Server	Update httdig configuration with new exclude_urls