

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 5 before following the installation instructions in Chapter 2 of the Installation and Setup Manual.

Upgrading from an earlier version of Mascot?

Please read the 'last minute additions' on page 2 and the 'platform specific notes' on page 5 before following the upgrade instructions on page 3. Note that the latest version of the Installation and Setup Manual can be found on the CD-ROM (*manual.pdf*).

New: Quantitation

Mascot 2.2 contains all of the infrastructure needed for a wide variety of quantitation experiments.

New: Configuration Editor

Web browser based configuration editor can be used to view and edit *quantitation.xml*, *unimod.xml*, and the other Mascot configurations files.

New: Automatic Error Tolerant Searches

New: Automatic Decoy Database Searches

And lots more

- Mass values are now selected, iteratively, by peak intensity for PMF searches.
- A new search parameter to handle cases where the ^{13}C peak was picked without having to open out the mass tolerance.
- A new utility, TS2Mascot, for importing peak lists from an Applied Biosystems 4000 series databases.
- Mascot Daemon has a reduced memory footprint and can now handle raw files and peak lists larger than 2 GB.

Changes since last release

Details of individual changes since the previous major release of Mascot are listed on page 12 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.
- Some compressed sequence database files are now larger than 2 Gb. Even with the latest release of wget, (1.10.2), there are bugs that interfere with Time-Stamping. Probably best to update very large databases by hand until these issues are resolved.
- If your web browser is Microsoft Internet Explorer 7, you may find it very difficult to distinguish between normal and bold face type in a Mascot result report. This is a side effect of Clear Type. To fix, in Internet Explorer, click the Tools button, and then click Internet Options. Click the Advanced tab, scroll to the Multimedia section, clear the Always use Clear Type for HTML check box, and then click OK. The changes will take effect the next time you start Internet Explorer.

Upgrading Mascot

To upgrade from a previous version of Mascot

1. Ensure that no-one will try to use Mascot during the upgrade procedure. Ideally, halt the web server.
2. Kill the *ms-monitor.exe* process
3. Rename your existing Mascot parent directory to (say) *mascot_old*. Create a new parent directory with the original name, e.g. *mascot*.
4. Follow the instructions in chapter 2 of the Setup and Installation manual to perform a new installation of Mascot into the new parent directory. Follow the procedure through to completion, and verify that the new system is functioning correctly with the supplied SwissProt database.

NOTE: If you were using non-default values for *MaxSequenceLen*, this should be changed in the new copy of *mascot.dat* **before** starting *ms-monitor.exe*

5. Kill the *ms-monitor.exe* process
6. If you have customised any of the Perl scripts, you may wish to merge your changes into the new Perl scripts. Mascot Perl scripts all have the extension *.pl* and are found in the following directories:
 - mascot/bin*
 - mascot/cgi*
 - mascot/x-cgi*
7. If you have customised any of the HTML pages, you may wish to merge your changes into the new HTML pages found in the *mascot/html* directory and subdirectories
8. Move any sequence databases that were under the old sequence directory to the new one.
9. Move all of the data subdirectories and their contents from beneath the old data directory to the new one. **Do not** move the *test* subdirectory or any of the files found in the *data* directory itself apart from *mascot.job*.
10. Move *searches.log* from the old *logs* directory to the new one. This will preserve the log of your existing results. You probably won't want to preserve the old *errorlog.txt* and *monitor.log*.
11. There have been changes to the main configuration file, *mascot.dat*. We recommend that you do a file compare (diff) between your old version of *mascot.dat* and the new one created by the installation. Make a note of any existing settings that you want to preserve.

Changes in the Databases, Parse, WWW or Options sections can be made using a text editor or using the browser based database

maintenance utility. This can be launched from a link on the home page. (If you halted the web server, you'll need to re-start it).

Any changes in the Taxonomy, Cluster or UniGene sections of *mascot.dat* must be made using a text editor.

12. In Mascot 2.1 and earlier, modification definitions were stored in a configuration file called *mod_file*. Mascot now takes its modification definitions direct from an XML representation of the Unimod database. **Note:** Whenever *unimod.xml* is updated, *mod_file*, *masses*, and *substitutions* files are created automatically to support old client applications that require these files. Do not be tempted to edit these files, because any changes will be lost the next time *unimod.xml* is updated. If you have custom modifications, you will need to add them to *unimod.xml* by using the new Configuration Editor
13. Other files that you may have modified are *enzymes*, *taxonomy*, and *fragmentation_rules*.
14. Restart Monitor:

```
cd /usr/local/mascot/bin
./ms-monitor.exe
```
15. The upgrade is now complete. If any compressed sequence files have to be rebuilt, the system may be busy for some time.

To upgrade Mascot Daemon:

Follow the link from the Mascot home page

Platform Specific Notes

Mascot Parser Perl support:

Mascot Parser supports the following Perl compilations:

.so filename	AIX 5.2	AIX 5.3	Linux	SGI IRIX	Solaris 8
mspartner50.so				X	X
mspartner56.so			X	X	X
mspartner56-multi.so					X
mspartner56-thread-multi.so					X
mspartner56-64int.so					X
mspartner58.so	X		X	X	X
mspartner58-multi.so					
mspartner58-thread-multi.so	X		X		X
mspartner58-64int.so					X
mspartner50_64.so					
mspartner56_64.so				X	
mspartner56-multi_64.so					
mspartner56-thread-multi_64.so					
mspartner56-64int_64.so					
mspartner58_64.so			X		X
mspartner58-multi_64.so					
mspartner58-thread-multi_64.so	X		X		
mspartner58-64int_64.so					

Linux

Kernels / Installations Supported

The recommended operating environment is RedHat Linux 8 or later, kernel version 2.4.13 or later, and glibc version 2.2.4 or later.

Mascot will not work with 2.2 kernels. It has not been extensively tested with other flavours of Linux, apart from Debian, which is used on the Matrix Science public web site.

A 2.6 kernel is generally required if the number of physical processors (sockets) on the system is greater than the number of Mascot licenses.

Mascot has been tested with Scientific Linux version 3.05 (Equivalent to RedHat Enterprise 3.0 AS, Update 5) and RedHat Fedora Core 4.

Glibc and C++ Library versions required

Both 32 bit and 64 bit versions of Mascot require glibc-2.3.2-95.33 or later and libstdc++-3.2.3-52 or later.

64 bit Linux

To use the 64 bit binaries, *after* untarring mascot.tar, overlay this with the 64 bit binaries:

```
tar xvf mascot-64.tar
```

Issues with un-patched RHEL Release 3 and RH9

If Mascot is installed on these systems, msparser may crash due to some issues in the threads library being called by the multi-threaded perl. This is a common problem with many other applications and is caused by bugs in the posix threads library.

To check if this may be the cause of the problem, see if the output from:

```
ldd /usr/local/bin/perl
```

gives:

```
libpthread.so.0 => /lib/tls/libpthread.so.0  
(0x4018f000)
```

For quick test at shell prompt, execute the following before executing the script that is failing

```
LD_ASSUME_KERNEL=2.4.1  
export LD_ASSUME_KERNEL
```

The best option is to apply updates to the Linux installation. Another option is to switch back to an earlier threads implementation: In the apache httpd.conf file, add to the mascot/cgi and mascot/x-cgi sections:

```
SetEnv LD_ASSUME_KERNEL 2.4.1
```

and restart the apache server.

Starting and stopping the Monitor service

In the mascot/bin directory, there is a file called mascot. Move this to the /etc/init.d directory with permissions rwxr-xr-x and owner root:root. As root, type:

```
chkconfig --add mascot
```

Files Greater than 2 GB

Fasta files greater than 2GB are fully supported on ext2 and ext3 partitions.

The standard RedHat installation of Perl 5.6 does not support files greater than 2GB, so the database maintenance utility is not able to test large files

Apache Server

If Apache is installed using a RedHat RPM, then the default user is “apache” rather than “nobody”. The “mascot.tar” file has been created using “nobody:nobody” (UID and GID 99) rather than “apache:apache”. Therefore you should `chown -R` all the files to “apache:apache”

Redhat 8.0 includes Apache 2.0.40. This appears to have a bug relating to unbuffered output from CGI scripts, so that progress reports are not delivered to the browser during a search. After pressing submit, the browser continues to display the search form until the results page is ready to load. This bug was fixed in Apache 2.0.44.

Perl

Redhat 8.0 includes Perl 5.8. The CGI package is not part of the default installation, so you will need to download and install the RPM from the Redhat network (<https://rhn.redhat.com/>). Search for perl-CGI.

Red Hat release 9 (Shrike) has an unpatched UTF-8 bug in Perl 5.8.0-88. This causes the following error message from db_update.pl:

```
panic: end_shift at ./bin/db_update.pl line 579.
```

A work around is to add the line

```
use bytes;
```

at the beginning of the script, before or after the multi-line my() declaration

At time of writing, there is no RPM for the Perl GD package. This can be compiled and installed as follows:

- Download and install the gd-devel package from the Redhat network (gd-devel-1.8.4-9.i386.rpm)
- Add the following links

```
# cd /usr/lib
# ln -s libpng.so.3 libpng.so
# ln -s libjpeg.so.62.0.0 libjpeg.so
```

- Download the tar/zip archive for version 1.33 of the GD package - <http://stein.cshl.org/WWW/software/GD/old/GD-1.33.tar.gz>

- Unpack and untar the archive, then cd to the GD-1.33 subdirectory. Edit Makefile.PL replacing lines 6 and 7 with

```
my @INC      = qw(-I/usr/local/include -I/usr/include
                  -I/usr/local/include/gd);
my @LIBPATH = qw(-L/usr/lib/X11 -L/usr/X11R6/lib
                  -L/usr/X11/lib -L/usr/local/lib -L/usr/lib);
```

- Run the perl Makefile.PL configuration script, and say no to JPEG, FreeType, and XPM support
- Run make and make install as root. There is no point in running make test, because all the tests will fail. The Mascot install script includes a test for GD functionality.

ht://Dig

The configure step of ht://Dig installation on Redhat 8.0 (Mascot manual page 17) fails with the error ‘... Try installing libstdc++’

The fix is to prefix the configure command as follows (all on one line):

```
CXXFLAGS=-Wno-deprecated CPPFLAGS=-Wno-deprecated ./configure
--prefix=/usr/local/htdig
```

Processors Licensed / Processors Available

Most 2.4 kernels don't have the functionality to force a thread / process to run on a particular processor, so the number of mascot licences must match the number of processors on a system. For example, with a 2.4 kernel it is not possible to run Mascot on a dual processor system with a single processor Mascot licence. All 2.6 kernels should have the ability to force a thread / process to run on a named processor. To determine if your system supports 'process affinity', download:

http://www.matrixscience.com/downloads/test_processors.tar

Un tar the tarball and run ./test_processors. If one of the lines says:

```
Process Affinity supported           : true
```

then you will be able to have fewer licenses than physical processors.

This version supports dual core processors, so for example, a single processor license on a single dual core cpu will be able to use both cores. If hyper threading is enabled on the cores, then a single physical cpu system will appear to have 4 cpus, and all of these can be used by Mascot. In this case you will need to change the number of threads to 4 using the database maintenance utility.

See the Hyper-threading section in chapter 2 of the installation and setup manual for details of how to configure Mascot on an Intel Xeon system.

Solaris

Solaris versions supported

Mascot is supported on Solaris 8, 9 and 10. Solaris on Intel (or AMD) is not supported.

UltraSPARC II Processors

UltraSPARC II processors are no longer supported. Mascot 2.1 was the last release that support the old 32 bit processors.

Mascot has not been tested with UltraSPARC-IV dual core processors, and will probably consider each physical processor as two processors and give less than optimum performance. Support for these processors will be added on request

Mascot Parser and Perl issues

Most Perl builds are now supported with Mascot 2.2, however if the installation script reports that your version of Perl is not supported, it

should be possible to use Perl 5.005. Perl 5.005 is installed by default with Solaris 8. Change the link (/usr/local/bin/perl) to point to perl 5.005.

For Solaris 8, change the link to point to:

```
/usr/perl5/5.00503/bin/perl
```

For Solaris 9, change the link to point to:

```
/usr/perl5/5.005_03/bin/perl
```

Mascot will work without any changes on Solaris 10, which comes installed with Perl 5.8.

Recommended Patches

The patches listed below (or later versions) are recommended on Solaris systems running Mascot.

Solaris 8	108434-14, 108435-14
Solaris 9	111711-12, 111712-12,
Solaris 10	No patches required!

Use the “showrev -p” command to see what patches are installed. These patches and more information is available at:

<http://sunsolve.sun.com/>

AIX

Unzipping the archives

The archives on the CD are compressed with bzip2, which isn't installed by default with AIX, but can be installed from the “AIX Toolbox for Linux Applications” CD. Unfortunately, at the time of writing it appears that this version has not been built with ‘large file’ support. If you are unable to rebuild the binaries, it should be possible to uncompress the files using:

```
cat /mnt/mascot.tar.bz2 | bzip2 -d -c | tar xvf -  
cat /mnt/msdb.tar.bz2 | bzip2 -d -c | tar xvf -
```

Supported versions

The required operating environment is AIX 5.2 or later.

For AIX 5.3 with Power 5 processors and SMT support, perform the following: After unpacking and installing the “mascot.tar.bz2” file, in the “mascot” directory run the command:

```
cat /mnt/power5_aix53.tar.bz2 | bzip2 -d -c | tar xvf -
```

This will overlay the standard binaries with SMT enabled binaries.

Large File System

When you create the file system, make sure that you enable "Large File System" support, or you will be limited to a file size of 2Gb. You also need to change

```
/etc/security/limits: set fsize to -1
```

or the limit will be 1Gb, and you won't be able to untar the MSDB.TAZ file.

Limits

The number of descriptors is often set quite low by default, and this can cause problems when memory mapped files are used. Also, the data size and RSS should probably be set to unlimited. Suitable values for `/etc/security/limits` are as follows:

```
fsize = -1
core = 2097151
cpu = -1
data = -1
rss = -1
stack = 65536
nofiles = -1
```

IMPORTANT: Note that it is not possible to lock databases into memory under AIX, and the database configurations **must** not specify memory locking. Hence, there is no requirement to run `ms-monitor.exe` as root.

Perl

Perl 5.8.0 (multi-threaded, 32 bit) is installed by default with AIX 5.2L.

Perl 5.6.0 is supplied with AIX 5.1L, but this cannot be used with Mascot 2.0 because of the way that it has been compiled. Perl 5.6 is not supported on AIX. To upgrade to Perl 5.8 on AIX 5.1:

If 'rpm' is not already installed, then download `rpm.rte` From

<http://www-1.ibm.com/servers/aix/products/aixos/linux/altlic.html>

and install using:

```
installp -qacXgd rpm.rte rpm.rte
```

Download perl 5.8 from:

<http://www-1.ibm.com/servers/aix/products/aixos/linux/download.html>

and install using:

```
# rpm -i perl-5.8.0-1.aix4.3.ppc.rpm
```

Check that perl 5.8.0 is installed by typing `perl -v`

At the time of writing, this is a 32 bit build without threads support.

Make sure that the link for perl is correct:

```
/usr/local/bin/perl -> /opt/freeware/bin/perl
```

IRIX

64bit Release

Support for 32 bit IRIX has been dropped, so the default version of Mascot shipped for IRIX 6.5 is now a 64 bit release.

C++ Runtime Libraries

In order for Mascot to function the “c++_eoe” and “compiler_eoe” IRIX software packages must be installed on the system. Version 7.4 or later is required.

Perl

32bit Perl 5.05.003 is supported.

Both 32 bit and 64 bit Perl 5.6.1 are supported. These are most easily downloaded and installed from <http://freeware.sgi.com>.

Perl 5.8.x is currently not supported – the parser libraries will be built for this version if required.

Changes since Version 2.1.04

ID	Title
21	select mass values in a peptide mass fingerprint by intensity
335	Report should display errors in the units chosen in the search form
1244	Support for metabolic labeling, e.g. N15
2045	Exclusive (binary) modifications. E.g. ICAT where all Cys in one peptide are heavy or all light.
2046	Limit number of variable mods on a single peptide
2047	Report emPAI Quantitation
2057	Help text needs to describe expectation value threshold
1504	Add table of links to Peptide View report to display reports for other matches
1752	Warning for 'impossible' tags
1777	db_gui.pl doesn't allow multiple wildcards
1803	Database maintenance utility should check limits: 1. Database name > 19 chars 2. Parse rule > 128 chars 3. Any Path > 256 chars 4. Number of threads > 1024
1822	Integrated (automatic) error tolerant search
1828	Add a note about MaxAccessionLen to the varsplic help page
1911	Add a help pages for quantitation
1975	Automatic decoy database search
2035	Would like a "Spoof as " drop down list in the search form for user names and emails
2038	Would like option to export the protein sequence in export utility
2039	Show the precursor neutral loss peak in Peptide View
2061	MudPIT switch point should be ratio of queries to entries, not a fixed number of queries
2070	IT_MODS should be available in local scope of peak list
2078	Daemon fails if peak list > 2GB
2083	Seq tags cannot extend to full length of sequence
2096	Database maintenance test of ref file fails for Celera CDS databases
2098	Help text for error tolerant search needs improving
2109	Give database name with error M422
2111	Mascot Daemon needs to pass through user parameters in follow on searches
2114	Integra Daemon needs sort by options in dialog box to choose search parameter set
2158	Control characters can appear in Mascot email field
2159	Improve memory footprint of Daemon. Need to make intermediate field into disk file
2160	Limit to 4 cores for licensing.
2161	Database maintenance should recommend num threads based on HT or dual core
2162	Change case of database name, db_gui.pl doesn't realise need new _SEQ
2163	In cluster mode, spurious error message about changed service binary file location for service MascotNodeService at each startup. (Case sensitivity problem)
2164	Want option to export the query title from export_dat.pl

2166	xml output from ms-getseq to speed up retrieval of batches of sequences
2167	xml output for ms-gettaxonomy to speed up retrieval of batches of queries
2169	ms-monitor.exe exits with error M00012 if problem with database file permissions
2170	If "ACCESSION" field is specified and the accession is a secondary accession for an entry in db, then it will never be found
2171	embedded user parameters are not handled properly in cluster mode
2116	Support for ETD/CID mode by allowing allow INSTRUMENT in local scope of spectrum
2121	Modifications syntax needs ResiduesProteinCterm and ResiduesProteinNterm
2125	Select summary – remove redundant protein check boxes.
2127	Specifying y-ions will make repeat search fail
2129	Add modification position to the custom CSV/XML export script
2131	Too easy to overwrite existing definition in database maintenance when trying to add new database
2134	Daemon limited to data files < 2 GB
2141	Remove error message from database maintenance about accession too long
2143	daemon desktop application crashes if try to run task where follow-up task has been deleted
2145	Daemon “repeat at interval” searches not working correctly
2151	Get duplicate key in results file if there are (legitimate) duplicate analyzerType attributes in mzData
2152	Pass through the mzData accession to the results files
2156	Daemon fails to try guest login
2157	Remove Protein Mass (SEG) from the Mascot ms-ms search form
2172	Need to enable multiple mascot executables co-exist in the same environment in cluster mode
2173	Masses close to 16 kDa can cause problems
2175	MGF clarification & documentation on Data Format help page
2176	Misleading error message when using ITOL= in BEGIN IONS
2177	Allow for poor peak detection, picking a C13 peak with accurate mass data (PEP_ISOTOPE_ERROR)
2181	Cluster mode fails to bootstrap if gethostbyname_r fails
2185	To make result file completely self-contained, need to add information for enzyme, taxonomy, quantitation, and modifications
2186	Daemon status tab can display wrong task label
2187	Finer control of parser params for client.pl xmlresults2 output
2188	ShowSubSets should be a number between 0 and 1 which represents the maximum fraction of the peptide matches in the primary hit that can be missing in the sub-set hit. 1 would be equivalent to Show Sub-sets true, 0 would be equivalent to Show Sub-sets false.
2189	If export includes a "masses" section, XML from export utility may not validate against mascot_search_results_1.xsd if there are fixed mods
2190	Problems with conflicts between variable mods and error-tolerant mods
2192	client.pl should return version numbers for individual binaries.
2194	Crash when submitting a fasta file instead of a peak list
2198	ms_getseq post request for NA sequence with showsequence = true and showlen = false fails to translate
2200	add support for quantitation.xml to ms_status.exe for getparams.pl
2201	Support 64 bit Linux on Intel/AMD
2217	Change lcq_dta_shell.pl to have default Min. Scans / Group of 1
2221	Further changes for “BIG” mascot – need mass range limits for internal fragments

2224	master_results.pl needs to use expectation value instead of 1/probability (to avoid underflow)
2225	Store part of event log in Integra version of Task DB so that Integra is guaranteed access to remote Daemon event log
2227	Daemon will mess up Distiller import if scan numbers are not consecutive in data file.
2230	Add second error graph in peptide view for ppm errors
2203	In Daemon, change default setting for "Save Distiller project" to true
2204	Database maintenance utility allows & in database name. Should be illegal
2205	Daemon gives Run-time error '35601' Element not found on start up if there are multiple tasks which have New in the action_request field
2206	If the date directory is created for a task id, then it doesn't have correct rights
2208	Daemon parameters editor tab; instrument combo box not disabled when MS/MS unchecked
2210	MinPepLenInSearch is being incorrectly applied to PMF
2211	Daemon 2.1.04 will not work with Mascot 2.0 (Was OK in 2.1.00)
2212	Help not clear about SCANS and RTINSECONDS (Can only go between BEGIN IONS and END IONS)
2213	File not found error in Daemon if using import filter and task name has trailing space(s)
2214	Add the expectation value to the yellow popup
2215	lcq_dta_shell.pl needs to have security login
2231	getseq.pl should give an error when user doesn't have access to a database
2232	Export script failing to escape double quotes in attributes
2235	ms-getseq and ms-gettaxonomy need detailed error info in xml output
2237	protein masses are large negative numbers for error tolerant search of NA database
2238	Wrong mass values being reported for substitutions found in error tolerant search of NA database
2247	In error tolerant search, need to make it clear in pop-up which matches are ET and which are standard
2248	Status screen reports too many processors!
2249	Add support for minInternalMass, maxInternalMass to peptide_view.pl
2252	XML export should output the number of ions matched - getNumIonsMatched()
2254	Add mzData format as peak list option for Mascot Distiller import filter in Mascot Daemon
2255	gi_taxid_nucl.dmp is too large for Linux. Problem is memory fragmentation.
2256	When multiple fixed mods are specified for same residue or terminus, this should be a fatal error. At the moment, the duplicates are converted to variable
2257	Add z+2 ions for ETD
2259	Items missing from export_dat.pl output: QUANTITATION, query_intensity, query_charge, all peptide matches for a query. At query level: RTINSECONDS, SCANS, TOL, TOLU, IT_MODS, INSTRUMENT
2261	Small ions score discrepancy in error tolerant
2264	Bug 1495 is back. If one mod name is a sub-string of another, it is ignored.
2266	Daemon spelling mistake: monisotopic in mascot daemon (parameters page)
2268	Cannot use the -f option or move the data directory if the input file is mzData file
2273	Mods string will use characters A-W to support more than 9 mods
2276	ms-monitor exits without error with:SubClusterSet 7 14
2279	add support for unimod_2.xml to ms-status.exe for getparams.pl
2280	Note in Daemon help about mascot.dll memory leak

2281	ms-monitor should create mod_file, substitutions, and masses for third party apps
2282	implement multiple NL and pep NL for exclusive modification groups (even though they are otherwise treated as choice of fixed mods)
2284	Overflow problems with variable mods and mass values over 9865 Da
2288	Cannot POST searches > 2 GB
2289	protein mass is incorrect when using quantitation if there are exclusive mods
2293	Allow the delimiter for CSV export to be changed
2297	Cannot search more than 1000 sequence tags without adding an ms spectrum
2298	Remove error M000345 (pl) from the category mailed to sysadmin
2299	Add support to Daemon for TS2MASCOT
2300	peptides with X at different positions are merged in result file. For example, protein1 with a peptide XABCD with the best ion score on WABCD-substitution and protein2 with WACBX with the best score on WACBD-substitution
2301	browscap.ini updated
2302	extract_msn -P parameter (MS^n) not working in Daemon
2304	For ET search, don't try substitutions for a residue that was an X
2307	File extension of "lastquery.asc.mas" causes weird behaviour on Windows when Access is installed
2308	Mascot Daemon should write its own version number to event log
2309	column alignment problem in CSV export
2312	Misleading error message: M00012 Can't open .unsort for "rb" when there is no peak list
2319	Scripts must use Parser to access config information from mascot.dat, unimod.xml, enzymes, taxonomy, fragmentation_rules.
2320	Can get very low qmatch and hence score threshold due to MinPepLenInSearch
2321	Add section to update script to create decoy database automatically
2322	http://unxutils.sourceforge.net/ is dead, change links to http://gnuwin32.sourceforge.net/packages.html
2327	error tolerant pop-ups broken when choose suppress pop-ups
2328	increase limit on number of parse rules from 64 to 256
2331	We need to make the following parameters configurable through security session object: 1) maxnumber of variable mods in a standard search 2) maxnumber of variable mods in ET search (old and new) 3) maxnumber of accession strings for old type ET search
2334	SECTASK_MAXJOBPRIORITY not being used anywhere
2336	Cross-site scripting vulnerability. It is possible to inject rogue scripting code into a submitted search form
2337	Installer will use SwissProt instead of MSDB
2347	maxnumber of accession strings for old type ET search to be read from security
2355	Export should include flag for whether match would be bold in summary report
2357	export_dat.pl not overriding mascot.dat file when RequireBoldRed=1
2362	Daemon needs to support error tolerant & decoy searches
2367	Remove references to trembl_new
2380	Export for PMF mixture gives invalid csv file
2383	Update Unix installation script to use parser
2398	Improve usage instructions for db_update.pl
2399	ms-monitor passes flags no longer used to load_node.pl