



**PROJECT ATHENA
SYSTEM RELEASE NOTES**

Athena System Release 8.1

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Contents

1	Introduction	2
2	Operating System Changes	2
2.1	Supported Architectures	2
2.2	SUN Solaris 2.5.1	2
2.3	SGI Irix 5.3	3
3	Other Changes	3
3.1	Version numbers	3
3.2	Vendor xmkmf	3
3.3	Bitmaps	3
3.4	AFS	3
3.5	Emacs	3
3.6	Kerberos 5	3
3.7	MH	4
3.8	Sysinfo	4
3.9	Tcsh	4
3.10	T _E X	4
3.11	Wcl	4
3.12	X3270	4
3.13	Debugging	4
3.14	Version control	4
3.15	Organization	4
3.16	Build scripts	5
3.17	String and memory functions	5

3.18 Preferred build system	5
3.19 BSD utilities	5
3.20 Hesiod	5
3.21 Update system	6
3.22 Miscellaneous	7

1 Introduction

This document describes the software changes in Athena System Release 8.1. It contains an overview of the important changes, and detail on changes in the release as a whole.

2 Operating System Changes

2.1 Supported Architectures

Release 8.1 supports the following architectures:

SUN Solaris 2.5.1
SGI Irix 5.3

2.2 SUN Solaris 2.5.1

- A newer version of the Solaris operating system, Solaris 2.5.1, is included in Athena release 8.0.
- The following patches were applied to the stock distribution of Solaris 2.5.1:
 - We dunno yet.
- The version of gcc in `/usr/gcc/bin` is now gcc 2.7.2.1 (previously it was a Cygnus release based on gcc 2.6), and all of the release for Solaris has been compiled with it.
- The Kerberos 4 used under Solaris is now based on Cygnus's CNS package, just as it was under Irix in the 8.0 release.
- The file `/bin/csh` is now the actual C shell shipped with Solaris, not a pointer to `/bin/athena/tcsh`. The 8.1 update script fixes `/bin/csh` references in `/etc/passwd` and `/etc/passwd.local` to refer to `/bin/athena/tcsh` instead.
- The version of patch we build on Solaris has been upgraded to version 2.1.
- The version of RCS which we build on Solaris has been upgraded to version 5.7. One notable improvement in version 5.7 is that checkin times are now recorded in UTC rather than local time, which is compatible with other versions of RCS as well as people running RCS in other time zones.
- The following binaries differ from the stock Solaris binaries.
 - login
- Traditionally, we have made symlinks for the X libraries in `/usr/lib`, pointing to `/usr/openwin/lib`. We now also make symlinks for the Motif libraries, pointing to `/usr/dt/lib`.

2.3 SGI Irix 5.3

Release 8.1 makes no major changes to the SGI port of Athena. There are a couple of small items:

- We no longer provide a version of traceroute, since SGI provides its own version in /usr/etc.
- The sysinfo program is now available.

3 Other Changes

Major user-visible changes are listed first, followed by major changes of a more internal nature, and then miscellaneous changes.

3.1 Version numbers

Athena version numbers are now dotted triplets, e.g. 8.1.0 or 8.1.12. Paths which include all or part of the Athena version number now take the form "*pathname-version*", e.g. "srvd-8.1" or "dash.menu-8.1".

3.2 Vendor xmkmf

There is no longer a /usr/athena/bin/xmkmf binary; users running xmkmf will get the vendor version. Users can run "add -f x11r5" or something similar to use the version of X11 compiled in a particular locker.

3.3 Bitmaps

Athena bitmaps have moved from /usr/athena/lib/X11/bitmaps to the more standard location /usr/athena/include/X11/bitmaps.

3.4 AFS

We now install AFS include files and libraries in the system packs in the directory /usr/afsws.

3.5 Emacs

Emacs has been upgraded to version 19.34b, which has no major differences from the version in release 8.0. The command "emacs18" has gone away, and the command "emacs19" is now a script which runs emacs after displaying a message telling users that they should now just run "emacs".

3.6 Kerberos 5

The minimal Kerberos 5 support included in release 8.1 is based on Kerberos 5 release 1.0. The basic include files and libraries required to compile Kerberos 5 applications are installed in /usr/athena/include and /usr/athena/lib.

3.7 MH

The MH mail-reading software has been upgraded to version 6.8.3 from version 6.8.0. It is still compiled with MIME support, but with the support turned off by default.

3.8 Sysinfo

sysinfo has been upgraded to version 3.2.2.

3.9 Tcsh

/bin/athena/tcsh now has Hesiod support enabled, so that “~lockername” will work in a pathname in most cases.

3.10 T_EX

Some parts of tex have been upgraded. We are now using web2c version 6.1, dvips 558, xdvi 20, and essentially the same collection of fonts and macro files as we had before. Users should not notice any changes.

3.11 Wcl

Wcl, the widget library used by xlogin, has been upgraded to version 2.7, and its headers and libraries are now installed in /usr/athena.

3.12 X3270

the program x3270, which can be used to connect to the mitvma mainframe, has been upgraded to version 3.1.1.3, which has major user interface enhancements.

3.13 Debugging

Most Athena binaries are now built with debugging turned on and optimization turned off, and are installed without stripping. This makes the binaries slightly larger and slower (though probably not noticeably), and makes debugging easier.

3.14 Version control

The source tree uses CVS instead of RCS now. As one consequence, all uses of symlinks in the source tree have been removed, since CVS does not support symlinks.

3.15 Organization

The source tree has been reorganized. The major changes are that third/supported and third/unsupported have been collapsed into a single hierarchy named “third”, and that a new hierarchy named “packs” has appeared,

subsuming material which is only relevant to our environment (configuration files, dotfiles, supporting scripts for doing the build, etc.). A new top-level hierarchy “doc” has also been created, containing internal source tree documentation.

3.16 Build scripts

wisk.sh has been replaced by new build scripts named build.sh and do.sh, which are simpler and which allow developers to build single packages the way they will be built for the release. Packages which used to contain .build scripts now contain Makefile.athena files which implement individual steps of the build.

3.17 String and memory functions

All internally maintained programs now use the ANSI string and memory functions (strchr, strrchr, memcpy, memmove, memset, memcmp). The file /usr/athena/include/strings.h is no longer necessary and has been removed.

3.18 Preferred build system

Some Athena packages have been converted to a new build system based on Gnu Autoconf, and coding standards based on the Gnu Coding Standards. Most packages still use the old imake-based build system.

3.19 BSD utilities

The utilities jot, lam, look, rs, talk, talkd, and whois (some of which are only build on Solaris, and some only on Irix) are now based on the NetBSD versions. There should be no significant user-visible differences.

3.20 Hesiod

The Hesiod library has been revamped. The changes (not counting the build system) are:

- Queries are now done in class IN instead of class HS. If there is no answer found in class IN, the library will fall back to class HS.
- The hesiod.conf file is no longer case-sensitive, and supports a line giving the class search order if “IN first, then HS” is not preferred.
- The library does much better length-checking; neither the programmer or a bad DNS response should be able to force it to overflow a buffer.
- The maximum Hesiod response length is no longer coupled to the DNS datagram transport size limit.
- Memory leaks were fixed in hes_getpwnam(), hes_getmail(), and hes_getservbyname().
- There are a new set of thread-safe library interfaces beginning with the prefix “hesiod_”, which are preferred over the old API routines beginning with “hes_”. These new interfaces are consistent with the interfaces in BIND version 8.1.
- Man pages now exist for all of the new library interfaces, and for hesiod.conf.

- A set of regression tests have been added.

3.21 Update system

The update system has been overhauled for improved ease of maintenance. The changes are:

- The update script in `/usr/athena/lib` has been renamed from `do_update` to `do-update`. (`/srvd/auto_update` and `/srvd/update_ws` still have the same names.)
- AIX and Ultrix support has been eliminated.
- Code related to AFS configuration has been eliminated, since that work has been handled at boot time for a long time.
- Instances of `#{ROOT}` have been removed; they were a relic of an unfinished attempt to combine the install system and update system into a single script.
- Code to hard-link files to `/.deleted` has been removed; it isn't necessary if we don't use the `-q` flag to reboot.
- Code to temporarily remove the X server while tracking changes has been removed, since we are no longer that tight on space.
- For simplicity, the update script always echoes complete lines of text, since BSD and System V disagree on how to echo partial lines of text.
- The Solaris root crontab file is now handled consistently with other configuration files.
- A file `/usr/athena/lib/update/configfiles` has been introduced; it contains a list of configuration files for the current platform (files which are only updated when we make changes to them, and backed up so that machine maintainers can recover local changes which may have been lost). There are still some extra-special files like the Solaris `/etc/name_to_major` and `/etc/driver_aliases` which we handle separately.
- Comments have been added documenting what variables a version script can set.
- Version scripts can now give a list of files to delete after the version scripts are run.
- The update script does not always track the OS volume on Solaris; it is conditional on a version script setting the `TRACKOS` variable.
- Running `/install/install/update` on the SGI is now conditional on a version script setting the `NEWUNIX` variable instead of the `NEWOS` variable, since it updates the kernel.
- The machine type in `/etc/athena/version` is no longer uppercased; it now agrees with the output of `machtype`.
- There is now a phase of the update which runs after a reboot. Right now, the only thing during this phase is `mkserv`. A workstation will reboot twice during an update; for manual updates, the first reboot is automatic but the administrator is given a shell to look at the system before the second reboot.

3.22 Miscellaneous

- The root name servers in the named configuration have been updated, and named can reverse-resolve 127.0.0.1 correctly.
- All of the scripts which run programs out of lockers now follow a standard format. The Moira programs, which were previously symlinks into AFS, are now scripts which attach the moira locker.
- The get_message and lert programs try to determine the username using `getenv("USER")` before falling back to other methods.
- krb.conf entries have been added for pgp.com, Wellesley, unlv, and ihtfp.
- attach now supports preference fields for filsys entries, so multiple filsys entries for the same locker can be ordered by preference.
- The hesinfo man page has been updated to reflect that there is no sloc data for the service "kerberos".
- The MH mark command checks for the nonexistence of a "cur" variable in .mh_sequences instead of dumping core.
- Our version of "install" (Solaris only) no longer uses `system()` to run the strip command, so it no longer has any shell quoting problems. It also correctly removes the target file on all error conditions, instead of missing a few.
- The gms server looks for the global motd in `/var/gms/message` instead of `/site/message`.
- The rep command no longer uses `system()`, so it no longer has shell quoting problems.
- The discuss server now does locking correctly under Solaris.
- Files generated by `compile_et` now export the error table as a symbol "et_NAME_error_table", for compatibility with a future version of the `com_err` library.
- The `sendmail.cf` no longer specifies a timezone on Irix; previously it was specifying it in an invalid fashion and causing the date header to be generated in GMT.
- The Athena "finger" command now formats its output correctly.
- `xlogin` prunes the font path of nonexistent directories, making sure the font path is set even if a particular directory doesn't exist.
- `xlogin` uses the `XUSERFILESEARCHPATH` environment variable instead of the deprecated `XAPPLRESDIR` environment variable, making it work in the (unusual) case where `XUSERFILESEARCHPATH` is already set.