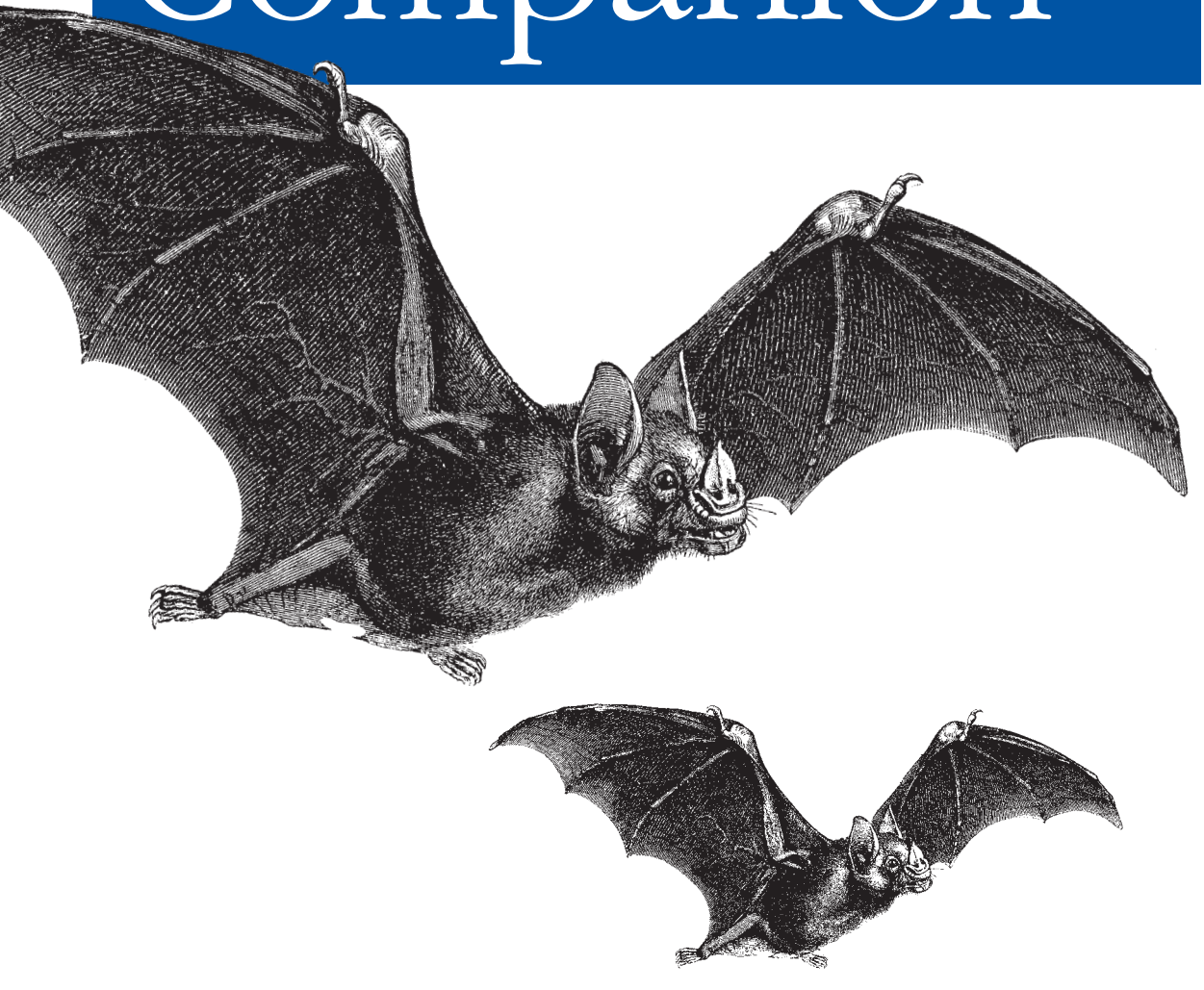
The sendmail Administrator Reference

sendmail 8.13 Companion



Bryan Costales
with Gregory Neil Shapiro and Claus Aßmann
Edited by George Jansen

O'REILLY®

CHAPTER 3

Tune sendmail with Compile-Time Macros

For most users, the default *sendmail* that is produced by running *Build* is perfectly suitable. For others, however, support for certain desirable features—such as hesiod, LDAP, or NIS—will have to be added. The open source distribution of *sendmail* has many such support items that you can include or exclude from your compiled binary using compile-time macros.

3.1 What's New with V8.13

V8.13 has introduced six new compile-time macros:

- The new `SOCKETMAP` compile-time macro enables use of the new `socket` database-map type (§3.1.1[V8.13]).
- The new `SM_CONF_LDAP_INITIALIZE` compile-time macro (§3.1.2[V8.13]) if set, declares that the `ldap_initialize`(3) routine exists in your LDAP library.
- The new `NEEDINTERRNO` compile-time macro, if set, says that `errno` is not declared in your system's *errno.h* file.
- The new `SM_CONF_POLL` compile-time macro causes `poll`(2) to be used instead of `select`(2) in the Milter library.
- The new `HASCLOSEFROM` compile-time macro may be defined if your system has the `closefrom`(3) C-library function.
- The new `HASFDWALK` compile-time macro may be defined if your system has the `fdwalk`(3) C-library function.

3.1.1 The SOCKETMAP Compile-Time Macro

The `SOCKETMAP` compile-time macro enables use of the new `socket` database-map type (§23.1.5[V8.13]). Define `SOCKETMAP` inside your *Build m4* file with a line like this:

```
APPENDDEF(`confMAPDEF´, `-DSOCKETMAP´)
```

If you use a vendor supplied *sendmail* program, you may check to see whether it includes SOCKETMAP support by running a command like the following:

```
% /usr/sbin/sendmail -bt -d0.4 < /dev/null | grep SOCKETMAP
```

If a line of text is printed containing SOCKETMAP, you indeed have support for it. If not, you will either need to contact your vendor or download and build open source *sendmail*.

3.1.2 The SM_CONF_LDAP_INITIALIZE Compile-Time Macro

When *sendmail* is built with LDAPMAP defined (§3.4.19[3ed]), LDAP database-maps are available for use. If the LDAP library contains an ldap_initialize() routine, and if this SM_CONF_LDAP_INITIALIZE macro is defined, ldap_initialize() is called if your LDAP server supports direct use of URIs.

Note that LDAP URIs can still be used even if SM_CONF_LDAP_INITIALIZE is not set, but the scheme:// in (scheme://host:port/...) is ignored. Therefore, if SM_CONF_LDAP_INITIALIZE is not available, the scheme ldap:// is always used, but the schemes ldaps:// and ldapi://, if used, may result in an error.

For most LDAP libraries, SM_CONF_LDAP_INITIALIZE will be set properly for you.* But in the event it is improperly set, you may define it with the following and then rebuild *sendmail*:

```
APPENDDEF(`conf_libsm_ENVDEF´, `-DSM_CONF_LDAP_INITIALIZE´)
```

3.2 A Useful Table

In Table 3-1, we list all the compile-time macros that are available as of V8.13 *sendmail*. See Table 3-2[3ed] in §3.2[3ed] for a full description of each, including how each is used to port, tune, or debug *sendmail*.

Table 3-1. Define macros for compiling sendmail

Compile-time macro	sendmail text reference	Description
ARBPTR_T	§3.4.68[3ed]	How to cast an arbitrary pointer
AUTO_NIS_ALIASES	§3.4.1[3ed]	Add fallback alias techniques
BROKEN_RES_SEARCH	§3.4.17[3ed]	Broken resolver fix (e.g., Ultrix)
BSD4_3	§3.4.2[3ed]	BSD 4.3–style signal handling
BSD4_4	§3.4.3[3ed]	Compile for BSD 4.4 Unix

* It is automatically defined if LDAP_OPT_URI is defined by the LDAP include files, which is how OpenLDAP implements ldap_initialize().

Table 3-1. Define macros for compiling sendmail (continued)

Compile-time macro	sendmail text reference	Description
DATA_PROGRESS_TIMEOUT	§3.4.4[3ed]	Timeout inbound DATA phase
DNSMAP	§3.4.5[3ed]	Enable use of dns databases
DSN	§3.4.6[3ed]	Support DSN
EGD	§3.4.7[3ed]	Enable use of EGD
ERRLIST_PREDEFINED	§3.4.8[3ed]	Correct `sys_errlist` types
FAST_PID_RECYCLE	§3.4.9[3ed]	Quick reuse of pids
FFR...	§3.4.10[3ed]	Try using future features
FORK	§3.4.11[3ed]	The type of `fork`(5) to use
GIDSET_T	§3.4.68[3ed]	Second argument to `getgroups`(2)
HAS...	§3.4.12[3ed]	Has specific system call support
HESIOD	§3.4.13[3ed]	Support hesiod database-maps
HES_GETMAILHOST	§3.4.14[3ed]	Use hesiod `hes_getmailhost`(3)
IDENTPROTO	§3.4.15[3ed]	See `Timeout.ident` (§24.9.109.13)
IP_SRCROUTE	§3.4.16[3ed]	Add IP source routing to `$_`
...IS_BROKEN	§3.4.17[3ed]	Things that can be broken
LA_TYPE	§3.4.18[3ed]	Define load-average support
LDAPMAP	§3.4.19[3ed]	Enable use of LDAP databases
LOG	§3.4.20[3ed]	Perform logging
MAP_NSD	§3.4.28[3ed]	Support Irix nsd maps
MAP_REGEX	§3.4.29[3ed]	Support regular expression maps
MATCHGECOS	§3.4.21[3ed]	Support fuzzy name matching
MAX...	§3.4.22[3ed]	Redefine maximums
MEMCHUNKSIZE	§3.4.23[3ed]	Specify memory malloc size
MILTER	§3.4.24[3ed]	Enable the `X` config command
MIME7TO8	§3.4.25[3ed]	Support MIME 7- to 8-bit
MIME8TO7	§3.4.26[3ed]	Support MIME 8- to 7-bit
NAMED_BIND	§3.4.27[3ed]	Support DNS
NDBM	§3.4.30[3ed]	Support Unix `ndbm`(3) maps
NEED...	§3.4.31[3ed]	Something amiss with your OS?
NET...	§3.4.32[3ed]	Select network type
NETINFO	§3.4.33[3ed]	Support NeXT `netinfo`(3) maps
NEWDB	§3.4.34[3ed]	Support Berkeley `db`(3) maps
NIS	§3.4.35[3ed]	Support NIS maps
NISPLUS	§3.4.36[3ed]	Support NISPLUS maps
NOFTRUNCATE	§3.4.37[3ed]	Lack `ftruncate`(2) support

Table 3-1. Define macros for compiling sendmail (continued)

Compile-time macro	sendmail text reference	Description
NO_GROUP_SET	§3.4.38[3ed]	Prevent multigroup file access
NOTUNIX	§3.4.39[3ed]	Exclude "From" line support
_PATH...	§3.4.40[3ed]	Hardcode paths inside *sendmail*
PH_MAP	§3.4.41[3ed]	Support for PH maps
PICKY_HELO_CHECK	§3.4.42[3ed]	Become picky about HELO
PIPELINING	§3.4.43[3ed]	Enable PIPELINING extension
PSBUFSIZ	§3.4.44[3ed]	Size of prescan( ) buffer
QUEUE	§3.4.45[3ed]	Enable queueing (prior to V8.12)
QUEUESEGSIZE	§3.4.46[3ed]	Amount to grow queue work list
REQUIRES_DIR_FSYNC	§3.4.47[3ed]	fsync(2) for directory updates
SAFENFSPATHCONF	§3.4.17[3ed]	pathconf(2) is broken
SASL	§3.4.48[3ed]	Support AUTH (V8.10 and above)
SCANF	§3.4.49[3ed]	Support scanf(3) with F command
SECUREWARE	§3.4.50[3ed]	Support SecureWare C2 security
SFS_TYPE	§3.4.51[3ed]	How to determine free disk space
SHARE_V1	§3.4.52[3ed]	Support for the fair share scheduler
SIOCGIFCONF_IS_BROKEN	§3.4.17[3ed]	SIOCGIFCONF ioctl(2) is broken
SIOCGIFNUM_IS_BROKEN	§3.4.17[3ed]	SIOCGIFNUM ioctl(2) is broken
SLEEP_T	§3.4.68[3ed]	Type of return value for sleep(2)
SM_...	§3.4.53[3ed]	*sendmail* porting settings (V8.12 and above)
SM_HEAP_CHECK	§3.4.54[3ed]	Memory-leak detection (V8.12 and above)
SM_CONF_SHM	§3.4.55[3ed]	Use shared memory (V8.12 and above)
SM_CONF_LDAP_INITIALIZE	§3.1.2[V8.13]	The ldap_initialize(3) routine is available in the LDAP library (V8.13 and above)
SMTP	§3.4.56[3ed]	Enable SMTP (prior to V8.12)
SMTPDEBUG	§3.4.57[3ed]	Enable remote debugging
SMTPLINELIM	§3.4.58[3ed]	Default for obsolete F=L flag
SOCKADDR_LEN_T	§3.4.68[3ed]	accept(2)'s 3rd argument type
SOCKOPT_LEN_T	§3.4.68[3ed]	getsockopt(2)'s 5th arg type
SPT_TYPE	§3.4.59[3ed]	Process title support
STARTTLS	§3.4.60[3ed]	Enable TLS (V8.11 and above)
SUID_ROOT_FILES_OK	§3.4.61[3ed]	Allow root delivery to files
SYSLOG_BUFSIZE	§3.4.62[3ed]	Limit syslog(3) buffer size
SYSTEM5	§3.4.63[3ed]	Support SysV-derived machines
SYS5SIGNALS	§3.4.63[3ed]	Use SysV-style signals
TCPWRAPPERS	§3.4.64[3ed]	Use *libwrap.a* (V8.8 and above)

Table 3-1. Define macros for compiling sendmail (continued)

Compile-time macro	sendmail text reference	Description
TLS_NO_RSA	§3.4.65[3ed]	Turn off RSA (V8.12 and above)
TOBUFSIZE	§3.4.66[3ed]	Set buffer for recipient list
TTYNAME	§3.4.67[3ed]	Set $y to tty name (obsolete)
...T	§3.4.68[3ed]	The types returned by functions
UDB_DEFAULT_SPEC	§3.4.69[3ed]	Default User Database location
USE_DOUBLE_FORK	§3.4.70[3ed]	Fork twice (V8.12 and above)
USE_ENVIRON	§3.4.71[3ed]	Use environ (V8.12 and above)
USING_NETSCAPE_LDAP	§3.4.72[3ed]	Netscape LDAP (V8.10 and above)
USERDB	§3.4.73[3ed]	Support the User Database
USESETEUID	§3.4.74[3ed]	Support seteuid(2) changes
WILDCARD_SHELL	§3.4.75[3ed]	Redefine wild card shell
XDEBUG	§3.4.76[3ed]	Support sanity checks