
CONVEX

Internet Services V10.0

Release Notice



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CONVEX Computer Corporation
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Introduction

This Release Notice describes the V10.0 Release of CONVEX Internet Services and the networking-related changes made to the ConvexOS V10.0 kernel.

This document supplements the permanent documentation with information that was developed too late for inclusion. Always refer to this release notice before reporting problems; your questions may be answered here. This Release Notice also lists fixes and workarounds that may save you time if you encounter a known problem.

This product, CONVEX Internet Services was previously known as CONVEX Networking Utilities.

Prerequisites

The V10.0 release of CONVEX Internet Services requires V10.0 of ConvexOS and V10.0 of the ConvexOS Utilities.

Associated Documentation

The following documents are supplied with CONVEX Internet Services V10.0:

- *CONVEX Internet Services User's Guide*, First Edition
- *CONVEX Internet Services System Manager's Guide*, First Edition
- *CONVEX Interprocess Communication (IPC) Programming Guide*, Second Edition
- *CONVEX Internet Services Master Index*, Second Edition

Enhancements

HYPERchannel

The Maximum Transmission Unit (MTU) of the HYPERchannel network interface driver has been increased from 32 Kbytes to approximately 64 Kbytes. The larger MTU results in higher speed bulk data transfers over the HYPERchannel network interface. The MTU is set on a per-route basis using the `hyroute(1c)` command.

Internet Services Module Names

This section describes the modules in Internet services

Module Name	Short Description
cncpts	Networking Concepts manual
domain	Internet Domain Name System
ether	Ethernet drivers
ftp	File Transfer Protocol
hyper	HYPERchannel network interface drivers
index	Internet Services Master Index
install	Installation software and document
lib	Library Routines
man	Internet Services man pages
netmgmt	Management and Configuration
pgm	IPC Programmer's Guide
rcp	Remote copy, rcp(1c)
rdiff	Remote file differences, rdiff(1c)
rdist	Remote file distribution, rdist(1)
rdump	Remote dump and restore
rex	Remote execution routines and commands
rlogin	Remote login, rlogin and rlogind
route	Dynamic routing, routed, gateways
rsh	Remote shell, rsh(1c), rshd(1c)
rwho	Remote who, finger and uptime
slip	Serial Line Internet Protocol
smg	Internet Services System Managers Guide
socket	Socket programmatic interface
talk	Remote talk, talk(1), talkd(8)
tcpip	Transmission Control/Internet Protocol
telnet	Telnet virtual terminal programs
tftp	Trivial File Transfer Protocol
timed	Time server programs
uipc	Unix domain protocols
user	Internet Services User's Guide
whois	User name directory service

Fixed Software problems

This section describes problem fixes that have been made since the last release of CONVEX Internet Services.

domain

PR-17019

named should be built with the debug code compiled into the binary.

Resolution: named(8) is now shipped with debug enabled.

PR-18896

The standard distribution /etc/rc.local.V9.1 does not include provisions for starting up nameservice.

Resolution: The commands necessary to start up named have been added to the distributed rc.local file.

PR-21041

In V8.1, a fix was made to nslookup to bypass the checking of /etc/use_nameserver, allowing configuration debugging. (See Release Notice - Convex Networking Utilities V8.1, page 1-3, paragraph 1.5, Utilities Bug Fixes). V9.1 has regressed, thus nslookup returns, *** Can't initialize resolver.

Resolution: This problem has been fixed.

PR-21927

Starting named with -d # should provide debug output in /usr/tmp/named.run, but it does not create the file, nor print any data to the file or to the console.

Resolution: The -d debug flag now functions correctly.

ftp

PR-20062 PR-20116 PR-22196 PR-22582

The ftp command sometimes dumps core during a get operation.

Resolution: The problem was that an internal ftp buffer was overflowing under certain conditions and corrupting memory. The problem has been corrected.

hyper

PR-16405

If the cables to a VME hyperchannel controller are disconnected but the hyperchannel controller is still in the ioconfig file, the system will refuse to boot. The error occurs after vmunix has been loaded and the devices are each checked. A VIOP autoconf error is reported. Plugging the cables back in eliminates the problem.

Resolution: This has been fixed. If the cables are not connected or if the power is off on the adapter, the interface will not ifconfig but the system will run.

PR-16894

If the hyperchannel hub is powered off while the system is running, the system will eventually hang. The system can not be rebooted until the ioconfig file entry for it has been removed.

Resolution: This has been fixed. If the power is off, the interface will not ifconfig but the system will run.

PR-20005

During probe and attach, the VME Hyperchannel driver prints the incorrect VME-bus slot number of the controller.

Resolution: The correct slot is now displayed, as long as the cables are connected properly.

PR-20905

If a system is booted with the HYPERchannel cables disconnected or the adapter turned off, then the cables are connected and HYPERchannel is config'd up, the system may crash.

Resolution: Booting a system with the HYPERchannel cables disconnected or the adapter turned off will no longer cause a panic.

man

PR-16450

The man pages for the Internet Services do not have their .TH lines set appropriately.

Resolution: The .TH lines in the internet services man pages have been corrected.

PR-10199

The -n option to rsh is not described in the DESCRIPTION section. It is only described in the BUGS section of the man page.

Resolution: Added description of '-n' option to rsh man page.

PR-17545

The BUGS section of trpt(8C) makes reference to the "race buffer" which should be "trace buffer".

Resolution: Corrected "race buffer" to read "trace buffer".

PR-01184 PR-17793

The ruptime command prints the number of users logged in addition to other information. However, the number printed appears to have a maximum limit of 40. If a system has more than 40 users logged in, the ruptime command prints 40+ instead of the actual number. The manual page for ruptime does not show any limitation/restriction on the number of users output.

Resolution: The man page has been changed to document this protocol restriction.

PR-18539

The -u option to the ftp command, which is for the optional product UltraNet, is listed in the synopsis section of the ftp man page but is never mentioned anywhere else.

Resolution: A description of the "-u" option has been added to the man page.

PR-18969

The man page for `gethostbyname(3n)` should mention that YP is used as an address resolution method. The man page as written leads one to believe that address resolution is always done first by the nameserver, and if not successful by the nameserver, then through `/etc/hosts`.

Resolution: A description of the role of YP in address resolution has been added to the man page.

PR-19156

The `routed(8c)` man page contains the typo 'then' instead of 'than': (EGP) to gather routing information rather than using a

Resolution: Corrected 'then' to read 'than' on the man page.

PR-18742

In the SYNOPSIS section of the `resolver(3)` man page, `dn_expand()` declares the argument, `exp_dn`, as a char. It should be char *.

Resolution: Updated man page to correctly identify `dn_expand()` argument, `exp_dn`, as a char *.

PR-18742

In the synopsis for `xdrrec_eof` in the man page `xdr.3n`, it has the following: `xdrrec_eof(xdrs) XDR *xdrs; int empty;` The "int empty;" should not be there. It should be: `xdrrec_eof(xdrs) XDR *xdrs;`

Resolution: The man page has been updated to remove the reference to "int empty".

PR-19635

The man page for `rshd(8C)` claims that it accepts a `-d` option in its SYNOPSIS section. But the `-d` option is not described in the document. However, two other options, `-l` and `-n`, are described in the man page, but are not given in the SYNOPSIS.

Resolution: The man page has been corrected.

PR-20691

The man page for `named` fails to give the complete path name for the command in the synopsis.

Resolution: The man page synopsis now displays the full path name for `named`.

PR-20798

The `slattach` man page command line and examples do not match.

Resolution: The `slattach` examples now reflect the correct usage of the command.

PR-22745

The man page for `whois` says: SYNOPSIS "whois name" The usage message says: "usage: whois [-h host] name"

Resolution: An description of the "-h" option has been added to the man page.

PR-22856

The 1c man pages in the ConvexOS Man pages for Users, First Edition are missing.

Resolution: The 1c man pages will appear in the ConvexOS Man pages, 2nd edition, released with ConvexOS 10.0

PR-10199

The `-n` option to `rsh` is not described in the DESCRIPTION section of the man page. It is only described in the BUGS section.

Resolution: A description of the option "`-n`" has been added to the `rsh` man page.

netmgmt

PR-18683

CONVEX currently ships a very long `/etc/hosts` file that is used during an initial installation. An `/etc/hosts` file with a `localhost` entry and a few examples with comments would be more useful.

Resolution: The out of date information has been removed and some hints for updating the host file have been added.

PR-20739 PR-21117

The `/etc/inetd.conf` file is shipped with an entry that is no longer supported. The "`crashdump`" entry (for remote crashdumps) should be removed. `crashdump dgram udp wait root /usr/etc/in.crashreceive crashreceive` If not removed, one will occasionally see error messages on the console:
`inetd[517]: crashdump/udp: bind: address already in use`

Resolution: The entries in `/etc/inetd.conf`, and `/etc/services` for `crashdump` have been deleted.

rcp

PR-20531 PR-20863

`/usr/ucb/rcp`, when used with the `-r` option, creates directories with no permissions (`d-----`). It then fails to copy files into those directories.

Resolution: The problem has been fixed. It was caused by a mismatch in types.

rdump

PR-15808

`rdump` incorrectly parses a fully qualified hostname.

Resolution: The "`f`" key had an undocumented feature that allowed the remote daemon to run as another user. This allowed the use of `rdump` without setting up a `.rhosts` file. The syntax was `user.host:file`. This interfered with domain style names. The syntax has been changed to `user@host:file`.

rdist

PR-21665

`rdist(1)` contains a security hole, allowing users to gain unauthorized privileges.

Resolution: This has been fixed.

route

PR-21251

When two network boards are configured in the system and the routed is running, routed will delete a local ethernet interface and then the deamon dies. It is believed that routed is obtaining information from the network that tells it to remove and delete the route for the local ethernet interface.

Resolution: routed has been modified to do a more extensive search for of the interface table. A failed partial lookup caused a bad pointer de-reference to crash routed.

slip

PR-18963 PR-20107

A system crashed with a Longjmp Botch panic generated by SLIP.

Resolution: The cause of the panic has been fixed.

PR-20415

Killing an slattach process can sometimes cause the system to crash with an invalid write to page zero.

Resolution: When the slattach process is killed, slip now does a more orderly shut-down and prevents this problem from happening.

smg

PR-16350

The jumpers on the VMEbus HyperChannel Board are not described properly on page 6-2 of the CONVEX Internet Services System Manager's Guide, 1st Ed. The document currently states "The interrupt level (int) is selected by jumpers W41-58 and W55-68." It should read "The interrupt level (int) is selected by jumpers W41-54 and W55-68."

Resolution: The book has been corrected.

socket

PR-19484

When creating a Unix domain socket, BSD Unix employs the user's current umask; specifically, BSD Unix will create a UNIX domain socket with permissions (0777 & ~u.u_cmask). In contrast, ConvexOS always creates Unix domain sockets with permissions 0777. The creator's umask is ignored.

Resolution: The uipc code has been modified to use the umask in setting the permissions of the created file.

talk

PR-13815 PR-15097 PR-18063 PR-18668 PR-18679

When responding to a talk request from a Sun 3/50 running SunOS4.0.3, CONVEX talk fails with: [Unable to connect with initiator : Address family not supported by protocol family (47)] Initiating talk from a CONVEX machine to a Sun3 works correctly.

Resolution: The problem has been fixed.

tcplp

PR-20488

Setting a socket's send and receive buffer sizes to 64 Kbytes results in connections that hang.

Resolution: The window size update in the receive flow has been modified to handle 64 Kbytes.

verify

PR-15951

The verify databases for net, nfs, and system were consistently incorrect after the installation of V9.0 on different machines.

Resolution: The verify databases and install procedures have been corrected.

whois

PR-17580

If whois cannot find NICHOST with a gethostbyname(3) call, it would be nice if it tried the call again with the `_RES_BYPASS` flag set so that hosts which have access to, but do not normally use, the name service can continue to use the tool.

Resolution: The real need was to be able to access whois on a host that is not in the host table. The whois command has been changed so that an internet address can be given as the argument to `-h`.

PR-17533

The default `#define'd` NICHOST is wrong for whois. The default should be `NS.NIC.DDN.MIL`. Also, the `-h` option does not allow an IP address to be used since whois only calls `gethostbyname()`. If the `gethostbyname()` call fails it should try `gethostbyaddr()` before giving up.

Resolution: The default hostname has been corrected and the `"-h"` option now accepts internet addresses.

Known Software Problems

This section describes known problems with CONVEX Internet Services software as of December, 1991. Problems reported after that date may not be reflected in this document. Please refer to this list prior to reporting a problem to ensure that it has not been previously reported. Serious problems include workarounds if any are known.

domain

PR-18241

Using a CONVEX machine as a secondary server for a given domain, the secondary lines in the named.boot file specify to create a backup file for the data collected. While using ConvexOS V8.1, it was noticed that the files were not updated when a change was made to the /etc/hosts file of the primary server. The workaround for this problem was to delete the backup files and send a kill -HUP. Now using ConvexOS V9.0, deleting the backup files and giving the named a kill -HUP does not update the files.

PR-20757

When named reads it's initialization files, it does not report errors. The line: IN A will break name service without returning an error.

ether

PR-19978

If COVUEnet, without TCP/IP, is running on a Multibus Ethernet interface, bringing down the interface with "ifconfig" while COVUEnet is running will cause all subsequent requests to that interface to hang.

PR-21740

If COVUEnet is brought up without the -arp option on an interface not running TCP/IP, the ethernet interface reports duplicate IP addresses for address 00:00:00:00.

ftp

PR-15334 PR-22535

Requested hash marks are not printed during put operations.

PR-19681 PR-20595

Some .netrc macro definitions can cause ftp to dump core.

PR-18235 PR-20453

When ftp forks a shell with "| cmd" in the command line, the transfer fails with: mmap: not DTYPE_VNODE. A transfer without a shell works.

PR-19422

When connecting to an anonymous ftp server on a CONVEX machine from a Sun, the "ls" command will display ordinary files but will not display directories. The "ls *" command will display the directories.

lib

PR-15503

If a user executes a command from a remote machine, access rights are checked using the non-domainname version of the hostname. This means that two versions of each hostname, one with and one without domainname specification need to be included in `.rhosts` or `/etc/hosts.equiv`.

man

PR-15038

The `host.equiv` and `.rhosts` man pages do not provide a clear description of how these files work. The man page needs to clearly describe which system the `.rhosts/hosts.equiv` is on and which system the user is logging in from.

PR-23025

The `netstat(1C)` manual entry lists `iostat(1)` in the SEE ALSO section. However, `iostat` no longer exists.

PR-23023

The `netstat(1C)` manual entry documents a `-d` option in the DESCRIPTION section. However, 1) The `-d` option is not shown in the SYNOPSIS section. 2) The `-d` option is not shown in the `netstat` usage message. 3) `netstat` rejects any use of the `-d` option.

netmgt

PR-18274 PR-18941

The `netstat -i` command aborts under certain conditions with a bus error if NIS is running and a netmask of `ffff` is used.

netstat

PR-23026

The usage message for the `netstat` command does not show the `-u` option. The `-u` option is accepted by `netstat` and is documented in the `netstat(1c)` manual entry.

rdist

PR-10646

If `rdist` is executed with a specified rule to perform, and that rule does not exist in the `rdistfile`, then `rdist` does not print out any diagnostics. There is no way to tell if there was nothing to `rdist` or if a mistake was made in a rule. `Rdist` should print a diagnostic that says `"<target>: no such target"`

PR-11681

When using the `-v` option of `rdist` to verify a distfile and your install rule specifies a different directory in which to place the files, the "need to update" message indicates the wrong directory.

PR-14498

The `rdist` utility requires more than one file entry in a source list before it will actually work. A single file will not be copied to the destination host.

PR-17842

If an "except" command has a name list enclosed by parenthesis, `rdist` will terminate with a bus error.

PR-18271

If `rdist` creates intervening directories for a target, it does not copy the correct permissions from the source machine. Instead it relies upon the `umask` as set in the `.cshrc` and gets a `umask` of 0 if this is not set at all. One would expect it should create missing intervening directories with the same permissions on the remote machine as they had on the source machine.

PR-20168

The `rdist` utility changes the times of symbolic links.

PR-21413 PR-22184

The `rdist` utility should check for read/write failures and call `perror()` if an error occurs.

rdump

PR-20848

Though `rdump` will dump a CONVEX file system to a remote (non-CONVEX) tape device without error, a subsequent `rrestore` will sometimes fail with the error: partial block read: xxxxxx should be yyyyyy

rlogin

PR-13584

`rlogind` sometimes drops packets.

route

PR-19675

After adding a host route (point to point) on a system with two interface boards, the network route is not reachable. The system also crashes under certain route configurations involving the host route.

PR-21450

A route of 255.255.255.255 can be added to the route table which causes applications that use broadcasting to fail. The `routed` and the `RIP` code should not allow a broadcast address to be added to the route table.

rsh

PR-18991

If an rsh command is used in the following form "rsh machinename command" the user is prompted for a password. The "machinename" is in the /etc/hosts.equiv and the user executing the command does not have a \$HOME/.rhost file.

rwho

PR-21099

When rwhod is started the following error is generated:
<system name> rwhod[152]: ioctl (get broadaddr)

smg

PR-22710

The /etc/services entries reserved by CONVEX should be listed in the book.

socket

PR-15280

Setting the buffer size of a TCP/IP socket to something other than the default is not currently an inherited property of the socket returned by the accept command (contradicting the man page).

PR-19738

The SIOCSIFFLAGS ioctl no longer works on a socket created with the following system call: socket(PF_INET, SOCK_DGRAM, 0) The ioctl returns EOPNOTSUPP.

PR-19740

Two sockets opened with socket(PF_INET, SOCK_DGRAM, 0) can communicate in one direction, but not in the other.

PR-20817

EAGAIN is returned when EMSGSIZE should be. Also, the documentation on EAGAIN, EMSGSIZE and EWOULDBLOCK is not correct in the socket data transfer man pages (read(2), write(2), send(2), recv(2)).

PR-22197

If a socket is closed and immediately re-opened the connection is refused several times.

tcpip

PR-20564

The inet_addr(3) routine does not return an error if it is passed a value outside the range of 0:255.

PR-20895

Incoming ICMP errors are not being promptly delivered to the application when the TCP protocol is used.

PR-20242 PR-20454

The ip protocol layer can in rare cases deadlock on a semaphore causing an application attempting to send a packet over ip to grab 100% of a CPU and never release it.

telnet

PR-10795

telnetd reported the following error in the system log. It would be nice if it were to give more information for tracking the problem. One piece of information would be the internet address of the dead peer. Jun 21 13:25:36 hermes-local: 25452 telnetd: tloop: peer died: Not a typewriter

PR-17537

If a user types in a `_very_` long string of characters, without hitting a return, the terminal connection "hangs". The user cannot backspace, interrupt, kill, cancel, ^Z, or anything. The most noticeable symptom is that keyboard input echoing ceases. The problem occurs with the login shell, as well as when typing input for other programs. The "hung" connection can be killed --from another terminal. Once the "hung" users login shell is killed off, the port (pty) appears to be "un-stuck".

PR-18961

The telnet command will cause ones current tty settings to be changed to what they are set to on the destination system. If telnet really must do this, then the tty settings should be restored upon exit.

PR-20608

After upgrading to ConvexOS V9.0, the existing NCSA telnet installations on many PCs stopped functioning properly. After upgrading the NCSA software, NCSA telnet only works some of the time with no apparent pattern to when it does or does not work.

PR-19676

With parity set to 8 data bits, 1 stop bit, telnet to localhost (or other target), the login messages and prompts appear garbled due to parity error. Keyboard input is garbled as well. The telnet session is handled appropriately except for the unreadable tty I/O.

PR-20568

When telneting from a CONVEX machine to other Unix systems (e.g., Ultrix 4.1, Evans&Sutherland worstations,.) using a VT220, VT320, VT420 type terminal with 8-bit characters doesn't work. Characters of the extended character-set are displayed instead of standard ASCII. It appears the workstations send a parity bit.

PR-21870

The telnetrc file does not seem to provide the functionality as explained in the telnet man page. It appears that the options are set before the protocol is performed between the daemon and client but they are never used.

uipc

PR-17984

A system hang will occur if a file descriptor for a unix domain socket is sent to another process as an access right over a unix domain connection, and the receiving process closes it's socket prior to reading the access right.

Known Software Restrictions

This section describes known restrictions in CONVEX Internet Services software as of December, 1991. Problems reported after that date may not be reflected in this document. Please refer to this list prior to reporting a problem to ensure that it has not been previously reported.

rcp

PR-22955

All commands should return a useful status code and this behavior should be documented. This is not the case for rcp. rcp returns good status even when it fails completely.

Resolution: rcp uses rsh which doesn't return a status from the remote process. This makes it impossible to return an accurate status from rcp. It would be necessary to change the protocol that rsh uses to allow it to return a status. This would pose interoperability problems.

telnet

PR-18146

The following steps will cause a users password to be displayed in a telnet session: Login from a Sun (SunOS V4.1.1) to a CONVEX (ConvexOS V9.0), and when the login prompt appears press ^], and enter "mode line". When prompted for a password, the password will echo.

Resolution: "mode line" never worked very well. The linemode option was created to fix this. The same sequence of commands between machines that both support the linemode option does not display this problem.

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