

ANNEX

COMMUNICATIONS SERVER

R6.1

Release Notes

Read before installing and using Release R6.1.

The information in these notes is not included in the Annex documentation set.



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Release Notes

General

These release notes apply to Annex Operational Code Release 6.1. The software release number is displayed in the first line of the CLI **stats** command output. The Annex distribution tapes also are labeled with the release number.

The installation procedure has changed from R6.0. Read the *Annex Communications Server Release R6.1 Installation Notes* before installing the software. If you currently have Annex software installed on the host on which you will install this distribution, save the current version to a safe location before installing R6.1, as a precaution.

New Features and Enhancements

Following are the new features and enhancements since R6.0:

- Support for the new Micro Annex hardware platform.
- Telnet-to-LAT gateway.
- Data-b support for LAT
- CLI **admin** command set which may be used instead of the host-based **na** command set.
- TFTP as an alternate loading protocol (new ROMs will be necessary to support TFTP booting and dumping). This feature is not supported on Annex-II/IIe.
- Rotaries file parsing in the operational image: the source file for rotaries is loaded and parsed instead of the output from the **mk_rotaries** program.
- The remote SLIP endpoint address can be changed dynamically.
- The Annex's host table can be loaded initially through a new entry in the **gateways** file.
- There is a new **na** serial line port parameter, **telnet_crlf**. When enabled, newline translates to <CR><LF>; when disabled, newline translates to <CR><NULL>; the default is disabled.

Support for the New Micro Annex Hardware Platform

The Micro Annex is the newest addition to the Annex product line. It has either 8 or 16 ports. The unit is much smaller and less expensive than a comparable Annex 3. It is designed to be a low cost low port count communications server. The Ethernet interface can be 10Base5, 10Base2, or 10BaseT. Ports 7, 8, 15, and 16 have full modem control; the other ports have only two control lines per port. The serial ports use RJ45 connectors.

Telnet-to-LAT Gateway

The Telnet-to-LAT gateway feature allows the system administrator to associate a unique Internet (IP) address with a specific LAT service. This feature allows a user to **telnet** to that unique Internet address thereby connecting a user to the associated LAT service.

Before configuring this feature, configure your Annex as described in *Configuring LAT Services* in the *Network Administrator's Guide* and be sure that LAT is operating properly. LAT is operating properly on your Annex if you see your LAT network services appear when you execute the **services** CLI command and you can connect to them using the **connect** CLI command.

To set up the Telnet-to-LAT gateway, the system administrator must add a new entry to the **gateways** file. This new entry has the following syntax:

```
annex < ip addr >
        translate telnet < ip addr > to lat < service > [ < host > [ < port > ] ]
end
```

The < ip addr > on the annex-selector line refers to the specific Annex offering the *gated* LAT service. The < ip addr > on the translate line is the Internet address that *translates* to a LAT service. Both < ip addr > fields are in the standard decimal dot notation.

The < service > field is the desired LAT service name to which **telnet** connects; the < node > field is the node that advertises the LAT service; and the < port > field is the port name on the LAT node providing the LAT service. The < node >, and < port > fields are optional. The < service > name, < node >, and < port > can be a maximum of 16 characters. Any errors in the syntax are reported in the syslog file.

Note: There *must* be an annex-selector line for each set of translate line(s) and the < ip addr > on the translate line *must be unique* on the network and may appear *only once* in the **gateways** files. Violation of this rule *will* cause your network to go down or operate erratically (violation is analogous to defining multiple IP hosts with the same IP address).

Each time a translation entry in the **gateways** file changes, the Annex specified in the annex-selector line must be rebooted. In the following example, the Annex with IP address 192.9.200.245 must be rebooted.

```
annex 192.9.200.245
    translate telnet 192.9.200.100 to lat modems node-a
    translate telnet 192.9.200.101 to lat modems
    translate telnet 192.9.200.102 to lat accting
end
```

The above translations are defined only for the Annex with IP address 192.9.200.245. In the first translation, the IP address 192.9.200.100 connects to the LAT service **modems** on the host *node-a*. In the second translation, the IP address 192.9.200.101 connects to the LAT service **modems** on the host reporting the largest rating for **modems**. In the third translation, the IP address 192.9.200.102 connects to a LAT service called **accting** on the host reporting the largest rating for **accting**.

Data-b Support for LAT

The Annex LAT implementation now reports and responds to slot-b LAT messages.

When a connection is established with a LAT host, the Annex sends that host a report of the port parameters via a report slot-b message. If the Annex receives a set slot-b message from a connected LAT host, it responds by configuring the port as commanded by the set slot-b message.

Parameters changed via slot-b messages are: parity, baud rate, bits per character, and inband flow control.

Status via slot-b messages supports the break signal at the local port. To get the Annex to forward this status to the host, disable the local break interpretation.

CLI admin Command Set

The CLI **admin** command is designed to replace the host-resident **na** command, especially in stand-alone environments. The new CLI **admin** command set provides a subset of the host-resident **na** command set.

To access the **admin** command set, the user must become superuser on a CLI connection. Entering the **admin** command on a superuser CLI connection puts the user in the administration mode. The CLI prompt is replaced with the **admin:** prompt. The attention key or quit at the **admin:** prompt terminates the **admin** session and returns the user to the CLI prompt.

The CLI **admin** command set is listed below:

- broadcast – sends a broadcast message to a port or ports.
- help or ? – displays the **admin** help screen.
- port – enters default port set.
- quit – terminates the **admin** session.
- reset – resets a port or subsystem.
- show – displays the current value of an EEPROM parameter.
- set – modifies the value of an EEPROM parameter.

These CLI **admin** commands function similarly to their **na** counterparts with the following exceptions.

- The CLI **admin** commands function on the local Annex only (there is no **annex** command).
- The **help** command only provides a help summary for the CLI **admin** command set (as shown above) and does not provide help for any parameter. The only additional information is the *usage* response for any CLI **admin** command (except for **help**, **quit**, and **reset**) issued without arguments. The **help** << < command_name > >> also indicates the command's usage syntax.
- Any command issued without complete arguments responds with an error or usage message; the commands will not prompt for missing arguments. The only exception to this rule is the **reset** command which asks if the user wishes to reset the default port set if the command is issued without arguments.
- The **reset** command does *not* reset the connection from which the **reset** command is issued. To reset your own port or connection, return to the CLI and issue the **hangup** command.
- If the **reset** command is issued without arguments, it asks if the user wishes to reset the default port set. Only one character is expected as input (< return >, y, or Y causes the default port set to be reset, and any other response terminates the command).
- The **set** command does not respond indicating which subsystem needs to be reset. The user must reset the appropriate port and/or subsystems if new parameters are to take effect immediately.

Note: Some parameters do not take effect until the Annex reboots.

- The display format of the **show** command is different. The **show** command shows the annex, port, or printer parameter values for the local Annex. The parameter information is displayed in two columns. After outputting up to 24 lines of information, if there is more information to be displayed, the **show** command displays a **more:** prompt. At this prompt, pressing **q** for quit returns to the **admin:** prompt, the attention character terminates the administration session, and any other key continues the display.

- The **port** command no longer accepts the annex designator field as part of the port set value.
- The superuser may issue an **admin** command from the CLI by prefacing the command with **admin** (i.e., entering **admin show annex** at the CLI prompt shows the Annex parameters and then returns to the CLI).

Following is the set of host-resident **na** commands that are *not* supported in the CLI **admin** command set:

- **annex** - The CLI **admin** command set supports only the local Annex.
- **read, write** - There is no file system on the local Annex to support this feature.
- **echo** - This feature is useless since we do not support the **read** command.
- **copy** - This command degrades in usefulness since there is no **trans-annex** copy.
- **boot, dumpboot** - These commands already exist as separate CLI superuser commands.
- **passwd** - Administrative security is no longer handled by **erpcd**; security is now controlled via the superuser (**su**) command.

The **na** command set has not been altered by these modifications and the operational code will continue to respond to host-based **na** requests.

TFTP Loading Protocol (Operational Code)

TFTP is used as an alternate loading protocol for ERPC. The Annex operational code opens and reads the operational image (for AOOCK strings), **gateways, rotaries, macros,** and message-of-the-day files. The Annex accesses each file one at a time in turn.

The Annex initially tries to open a file via ERPC. If ERPC fails or times out, the Annex tries to open a file via TFTP. If the TFTP request fails or times out, the Annex retries opening the file via ERPC. This cycle continues until the Annex succeeds in opening the file or until the Annex reaches a maximum try count (currently 8 cycles). If the **load_broadcast** Annex parameter is enabled and the Annex cannot open a file from the **pref_load_host**, the Annex broadcasts the open request (this is true for both the ERPC and TFTP protocols). Once a file is successfully opened, the Annex continues to read the file via the protocol with which it was opened.

The protocol used to transfer any file is independent of the protocol used to transfer any other file. This means (for environments that support both ERPC and TFTP) that the Annex may use TFTP to transfer one file and use ERPC to transfer another file.

Two new Annex **na** (or CLI **admin**) parameters have been added to facilitate TFTP transfers:

- **tftp_dump_name** - the name of the image to dump if the Annex fails, and ERPC is not available.
- **tftp_load_dir** - this directory name (string) is prepended to the file names requested via TFTP.

The **tftp_dump_name** is the name of the file to use for dumping the core image via TFTP if the Annex operational image and the ERPC protocol mechanism fail. The **tftp_dump_name** includes the entire path of the dump file including parent directories. This file must exist with read/write permissions to permit the Annex to open via TFTP (depends on the host's TFTP implementation).

The **tftp_load_dir** is the string prepended to the image name, **gateways**, **rotaries**, **macros**, and message-of-the-day file names for TFTP transfers. The appropriate value of this string is determined by the system serving the TFTP requests. This string is *not* prepended to the **tftp_dump_name**.

This feature is not supported on Annex-II/IIe. New ROMs will be necessary to support TFTP booting and dumping.

Host Table Initial Loading

A new line entry is permitted in the **gateways** file. This entry is a hostname entry used to associated an Internet Address with a hostname. This entry is similar to the `/etc/hosts` file entry except aliasing is not supported.

When the Annex boots, it adds these hostname entries to the host table. These host table entries will *live* in the host table forever, or until a nameserver overrides the entry's information, or until the administrator resets the Annex nameserver via **na** or CLI **admin** functions.

A hostname entry is an entry with an Internet Address (in decimal dot notation) followed by white space (blanks and/or tabs) followed by a hostname (the hostname may not contain blanks, tabs, or newlines). Some examples of hostname entries are:

```
192.9.200.1 cbrown
192.9.200.2 snoopy
192.9.200.3 linus
192.9.200.4 lucy
192.9.200.5 sally
192.9.200.6 schroeder
```

Hostname entries may be conditional with the use of the *annex* and *end* statements. The address on the *annex* statement *must* be an Internet Address.

Rotaries File Parser

The rotaries file parser has been ported to the Annex's operational image. The operational image reads the rotaries file, rather than the **rotaries.o** file from the host.

The difference between the **mk_rotaries** utility and the parser is that the parser does not exit when it encounters an error; instead it syslogs the error and discards the line.

A potential concern is the use of host names instead of Internet Addresses in the rotaries file. The name servers will resolve many of the names found in the rotaries file, but the administrator should load into the host table those host names that the name server cannot resolve (see *Host Table Initial Loading* in this document for more information). The operational code loads the host table (from the **gateways** file) before parsing the rotaries file.

Bug Fixes

Following is a list of bug fixes and other problem solutions since R6.0. These are grouped into those that relate to the Annex boot image and those that relate to the host tools source code distribution.

Boot Code Fixes and Changes

- No longer remove leading white space in menus.
- Fixed SLIP route duplication/deletion problem.
- Fixed dial-up SLIP on the Annex 3.
- Abort currently running macros if the macros are reset from **na**.
- Fixed **telnet** to port 7000 hang problem; it was hanging when sent less than 100 bytes of data.
- If no timeserver is contacted, the CLI **stats** command displays *unknown* for the date and the CLI **who** command displays "----".
- It now takes one less <CR> to autobaud at 2400 baud.
- Fixed the problem in the Ethernet driver that caused the Annex to crash during a broadcast storm.

Host Code Fixes and Changes

- Fixed memory free bug when using the default port set in **na** on some machines.
- Modified **install-annex** to accommodate Mips, Prime, NCR, SGI, Unisys, CTIX, and Sequent machines in menu.
- **na** no longer shows the obsolete parameter **leap_protocol_on**.
- The unimplemented values for the **na** per-port parameter **type** have been removed.
- Prefixed function names in **sendrecv.c** with *xylo_* to avoid conflict with host function names.
- Assure password is entered in **na** when running on Sequent.

Known Bugs

Time Server Problems:

- If the Annex cannot access a time server, the string *unknown* is shown in the date/time area of the CLI stats display. The date/time as a prompt string prints an incorrect date rather than using *unknown* as the stats command does.
- The manual states that if a time server reports a time more than ten minutes different from that stored by the Annex, the Annex will adjust its time by, at most, ten minutes per update. This is incorrect if the time server is on the **preferred_load_host**; in this case, the Annex adjusts to the time reported by the time server regardless of the interval.

Compressed SLIP Option Set Problem

- If either **slip_allow_compression** or **slip_do_compression** is selected for a serial line, a smaller transmission unit size is used. This smaller size prevents booting, as the Annex ROMs cannot rebuild fragmented packets.

Workaround: Boot the Annex and then set up the compressed SLIP parameters.

Local Admin Command Problems

- Local Admin to broadcast to a slave port does not send a terminating carriage return, and adds characters to the end of the message.

Workaround: Adhere to the character limits specified in the *Network Administrator's Guide*, or restrict the strings used to under 100 characters.

- When a grossly long string is used to fill the **user_name**, **Port_location**, and **sys_location** parameters (i.e., 110 characters), the Annex dumps.

Workaround: Adhere to the character limits specified in the *Network Administrator's Guide*, or restrict the strings used to under 100 characters.

- Addressing a non-existent port (i.e., port 70) for setting the port range or default port set causes the Annex to dump.
- The message displayed when an incorrect value is entered for a port setting or printer setting is incorrect. It displays the wrong parameter in the error message.
- No error message is provided when the user enters an incorrect value to the **broadcast_dir** parameter. The value is set to the default value (which is *network*). This is true for the **reset_idle_time** parameter as well.
- When an error is encountered with the **set group_val** parameter, the error parser treats the rest of the command as new parameter settings. This causes extra error messages. For example, with **set ann group_code 254 enable**, *group_code* is correctly reported as an error but 254 is reported as a parameter error.
- There is a setting problem with the Annex parameter **syslog_mask**:

```
set annex syslog_mask n --> parameter set to notice
set annex syslog_mask no --> parameter set to notice
set annex syslog_mask non --> parameter value invalid
set annex syslog_mask none --> parameter set to none
```

CLI Commands

- When a new password is entered and confirmed with a different value, the password should be left as it was initially. It is, instead, set back to the default (internet address).
- When the *procs* command is used with an illegal option (i.e., *procs -x*) the error message generated is incorrect:

```
Error message: proc [-r] [-ppid] [-ddev]
should be: proc [-r] [-ppid] [-ddev]
```

- When attached to a port with a menu, the *help* command displays all commands and macro aliases, even if the commands aren't allowed in the macro

SNMP Problem

- The values of *inCC* and *outCC* are incorrectly reported; *inCC* is always 3932230556 and *outCC* is always 0.

Macros

- The **pause** macro command times out.
- A second level menu will not operate correctly unless the **init_cli** is deleted from the first level menu.
- If you enter super-user and then exit, the menu does not display entries for *hosts* or *help*, but these commands operate correctly when entered.
- On page B-90 of the *Network Administrator's Guide* (Rev. D), it should state that **init_psvr** can be used only with *alias*.

Host Table Problems

- When the host table size is set to *one*, the table size is unlimited. It should be *one* entry.
- If the host table size is smaller than the number of hosts in the gateways file, the host table size is ignored until a reset name server command is sent to the Annex.

Dedicated Connection Signal Problem

- If a port is configured as a dedicated rlogin connection and modem control signals are enables, the port will enter a **connect_attempt...timeout** loop.

Nameserver Problem

- If the nameserver's database has a recursive CNAME entry for the Annex's IP address, the Annex dumps.

If the Annex's IP address were 192.9.200.144, the following would cause the Annex to dump:

```
(in rev file) -
144           IN      PTR    freetest.xylogics.com

(in zone file)
freetest     IN      CNAME   freetest.xylogics.com
freetest     IN      A        192.9.299.144
```

Telnet Problem

- Noise on a *dedicated telnet* line causes memory loss.