

These release notes apply to the following:

- ❑ The Remote Annex Operational Code Version R13.3
- ❑ The Annex Host Tools Version R13.3
- ❑ Remote Annex Server Tools for Windows NT R2.4
- ❑ Quick2Config Annex R2.3
- ❑ Annex Manager R2.3

An on-line version of these Release Notes, software.txt, can be found in the setup directory after the installation has been completed. The release notes for the Remote Annex Server Tools can be found by selecting the Readme notepad icon in the Bay Networks Program Group.

Included in these Release Notes are the following topics:

- ❑ New Features
- ❑ Special Considerations
- ❑ Supported Platforms
- ❑ Known Problems/Limitations
- ❑ Remote Annex Release R4.1 Corrections

## New Features

The following section describes the new features supported in this software release:

- ❑ Bay Networks 5393
- ❑ 33.6 Modem Support

- ❑ DHCP
- ❑ DVS/UDAS
- ❑ HongKong Switch Type
- ❑ RADIUS Authorization for Unix
- ❑ Remote Annex Server Tools for Windows NT® R2.4
- ❑ Quick2Config Annex R2.3
- ❑ Annex Manager R2.3
- ❑ MultiLink PPP support for RA6300 /5393
- ❑ Internal CSU/DSU for RA6300/5393
- ❑ CHAP Rechallenge Interval
- ❑ Compression Control Protocol
- ❑ Maximum Logon Time Security Profile Setting
- ❑ New Configuration Parameters

## Bay Networks 5393

The 5393 is a member of the existing 539x family of Remote Access products built for the Bay Networks 5000 hub. The 5393 provides a single ISDN PRI line interface. The PRI line connects to a PRI line module within the 5393. The 5393 is an adaptation of the RA6300. Two versions of the 5393 are available; one is a single slot Digital only and the other is a dual slot sync/async with support for up to 32 modems for European E1 models and up to 24 modems for US models.

## 33.6 Modem Support

Included in this release are two new versions of Microcom Modem firmware. The first version (2.3.3), the default version, provides modem support up to a speed of 28.8Kbps. The second version (2.4.5), the optional version, provides support for modem speeds up to 33.6Kbps. Due to the difficulty of consistently connecting at 33.6Kbps over many phone lines and potential compatibility problems with some modem products, 2.3.3 is recommended as the default version. To install either version, see the Special Considerations section of these release notes regarding Installation of New Modem Code.

If you are using a 5391, T1CSMIM, or RA6100, see the Special Considerations section of the Release Notes regarding AFD for these products.

## DHCP

Dynamic Host Configuration Protocol (DHCP) provides centralized management for the configuration of IP hosts anywhere in the network. DHCP service operates as a client to server protocol to allow dynamic assignment of IP addresses and configuration parameters.

## DVS

DVS (Dial Virtual Private Network Services) is a system solution which enables a service provider to offer dial access services to corporate telecommuters, mobile professionals and users in remote branch offices. Corporate customers can subscribe to this service for remote dial access to the Internet or to Virtual Private Networks (VPN) over telephone lines.

## Hong Kong Switch Type

This feature allows RA6100/5391 products to be configured for use in Hong Kong.

## Radius Authorization for UNIX

Remote Authentication Dial-In User Services (RADIUS) is an IETF developed protocol that defines a communication standard between a Network Access Server (NAS) and a host-based user authentication server. Release R13.1 of Annex Software included support for RADIUS user authentication and accounting. Included in this release, R13.3, is support for RADIUS user authorization.

## Remote Annex Server Tools for Windows NT R2.4

Remote Annex Server Tools for Windows NT R2.4 allows you to boot, configure, and manage Remote Annexes on a Windows NT network. Remote Annex Server Tools for Windows NT R2.4 provides support for Secure ID Version 2.2 and for Remote Authentication Dial-In User Services (RADIUS) authentication and accounting.

## Quick2Config Annex R2.3

Quick2Config Annex is a graphical user interface for Microsoft Windows that allows a network administrator to configure, manage and monitor Remote Annexes. Quick2Config Annex provides compatibility with Optivity Campus, EZ LAN and EZ Internetwork from Bay Networks.

## Annex Manager R2.3

Annex Manager is an SNMP-based management application that uses the X/Motif graphical environment. Annex Manager is specifically designed to manage Annex Remote Access Servers, and is not intended as a general purpose network manager. While Annex Manager can detect SNMP devices that are not Annexes, you cannot use it to configure any non-Annex network device.

## MultiLink PPP Support for RA6300/5393

Release R13.3 supports MultiLink PPP for the RA6300/5393. MultiLink PPP (MP) is a protocol standard which provides a method to aggregate several BRI channels into a single network connection between two network devices, thus allowing the end user to achieve greater bandwidth.

## Internal CSU/DSU for RA6300/5393

An internal CSU/DSU is now provided for the RA6300/5393. This internal CSU/DSU provides greater monitoring capabilities and improved error notification and incorporates the following features:

- ❑ Support of unsolicited and solicited alarm information
- ❑ Line Performance Monitoring Statistics
- ❑ Network and Payload Loopback
- ❑ PRI Manager Support

## CHAP Rechallenge Interval

Challenge Handshake Authentication Protocol (CHAP) is used to periodically verify the identity of the peer using a 3-way handshake. This is done upon the establishment of the initial link and may be repeated at random intervals once the link has been established. This previously hardcoded value has been replaced with a CHAP rechallenge interval parameter.

## Compression Control Protocol

Compression Control Protocol (CCP) is a method of negotiating user data compression on PPP links. Release R4.2 provides support for the following CCP algorithms:

- ❑ Predictor-1
- ❑ BSD
- ❑ STAC-Mode-3 and STAC-Mode-4

## Maximum Logon Time Security Profile Setting

The functionality to specify the maximum time a user can be logged on during a given session had been implemented with the addition of the `max_logon` security profile setting. This timer specifies the maximum number of consecutive minutes that a user can be connected to a port, regardless of activity. Once the time limit has been reached the user will be disconnected. The `max_logon` is specified in the `acp_userinfo` file. In this release, `max_logon` is not valid for SYNC PPP and MP connections.

## New Configuration Parameters

The following new configuration parameters have been added to this release to aid you in setup and operation of your Annex.

### chap\_challenge\_interval

This new Annex security parameter is used to control the time (in seconds) that CHAP will verify the identity of the peer. Valid entries are 1 to 6533, with a default value of 4096.

### address\_origin

The address\_origin parameter replaces the dialup\_addresses parameter. Valid entries for address\_origin are:

- ❑ local - means to get addresses from EEPROM (same as "n" on dialup\_addresses parameter)
- ❑ acp - means to get addresses from ACP (same as "y" on old dialup\_addresses parameter)
- ❑ dhcp - means to get addresses from DHCP server

If address\_origin is set to acp and the local\_address is set, but the remote\_address is not configured, the Annex will not negotiate IPCP, the peer will time out and disconnect.



If using RADIUS Authorization for IP Address assignment, via the RADIUS attribute Framed-IP-Address (8), address\_origin MUST be set to "acp".

## ccp

ccp is a new value for the Annex port parameter ppp\_ncp. ccp allows negotiation of PPP compression protocol.

## mp

mp is a new value for the Annex port parameter ppp\_ncp. ppp\_ncp must be set to mp or all in order to negotiate MP over NCP.

## mp\_mrru

mp\_mrru is an Annex port parameter which sets the upper limit of the MRRU LCP negotiation. All LCP negotiations start with this value. Downward negotiation is allowed. The range of values is from 64 to 1500 with a default of 1500.

## mp\_endpoint\_class

An Annex port parameter which sets the value of the Local Endpoint Discriminator Class to one of the following allowed values: NULL,IP,MAC,PSNDN,DEFAULT (alias for MAC).

## mp\_endpoint\_address

An Annex port parameter, which sets the value of the Local Endpoint Discriminator Address for Endpoint Discriminator Classes that allow user-configured information. This parameter is accessed only when mp\_endpoint\_class is set to PSNDN. The maximum number of digits for this address is 15.

## Special Considerations

The following sections describe special considerations for this release.

### Software Keys

Beginning with Release 4.2, all Remote Annexes will ship with IP, IPX, AppleTalk and TN3270 keys included. LAT is the only optional software protocol available.

### Enabling/Disabling MP

The Annex uses the `ppp_ncp` parameter to enable/disable mp. If `ppp_ncp` is set to 'all' (the default) or the argument list contains mp, then MP is enabled. If `ppp_ncp` is not set to 'all' and the argument list does not contain mp, then MP is disabled.

### Automatic Firmware Download (AFD)

AFD has been modified so that it will not run if there are no download entries for pri (and/or) mic. This will now force the administrator to configure AFD to run for pri (and/or) mic if there is an appropriate entry in the annex config file. All other functionality remains the same including the use of "never" which will now do the same thing as having no entry at all. The following will now be true:

AFD will not run at boot time for any download category not in the config.annex file.

- ❑ Entries in config file (pri and or mic) in file such:
  - download pri - queries pri module for expected rev if different rev or no rev -- download.
  - download mic - queries all modems -- for modems that have a different rev or no rev - download.

- ❑ To force a download of a specific image(s):

download pri <image> - download to pri unconditionally.

download mic <image> - download to all modems unconditionally.

- ❑ While no longer needed, support for the following will remain.

download pri never - No Downloads for PRI (same as default).

download mic never - No downloads for modems (same as default).

## Installing New Modem Code

To install either version 2.3.3 or 2.4.5 of Microcom modem code which is included with this release, you need to add the following to the %gateway section of the config.annex file:

```
download mic filename (where file name is either mod_mic-2_4_5 for 33.6kbps modem support or mod_mic-2_3_3 for 28.8kps modem support.)
```

Then reboot the annex and use the modem -v command as superuser to display the version of modem code. All modems should now display:

```
MNP Class 10 V.34/V.FC Modem Rev 2.4.5/85 or
```

```
MNP Class 10 V.34/V.FC Modem Rev. 2.3.3
```

Remove the download mic filename from the config.annex.

If you experience problems with version 2.4.5 of modem code, it is recommended that you reinstall the default version, 2.3.3. To do this add the following to the %gateway section of the config.annex file:

```
download mic mod_mic-2_3_3
```

Reboot the annex and remove the download mic mod\_mic-2\_3\_3 from the config.annex.

## Automatic Firmware Download (AFD) for RA6100, 5391 or T1CSMIM

If you are using an RA6100, 5391 or T1CSMIM with 4MB of RAM and both IPX and IP are enabled, AFD may fail to upgrade the internal modems. To ensure that the modems have been properly upgraded, from superuser mode, enter `modem -v`. If `unknown` is displayed for the modems, AFD has failed due to a lack of memory. To work around this problem, use `NA` or `admin` and set `'annex disabled_modules ipx'`. Reboot the annex and use `modem -v` to display the version again to verify that `unknown` is not displayed.

Remove `ipx` from the disabled module list and reboot.

## RADIUS

The UNIX host tool support of RADIUS uses shared memory and semaphores to maintain information about RADIUS sessions. Any host that uses RADIUS must have shared memory enabled and sufficient shared memory blocks and handles to allow `erpcd` to function. `Erpcd` uses two initial blocks of shared memory plus up to three blocks per Annex on an as needed basis.

## Supported Platforms

The Distribution media contains binary files for most of the supported platforms. When the script detects that there are binary files for the host operating system, it gives you the option of installing the binary files or loading the source code and compiling the software at a later time. If there are no binary files available, the script loads the source code and uses an available compiler on the host system to build the image. If the script does not identify a compiler on your system, it ends the installation session.

The operating system versions supported by Annex and the binary files that are provided on the distribution media are:

- ❑ Microsoft NT 3.51/Compile files
- ❑ Microsoft NT 4.0/Compile files
- ❑ Sun Microsystems SunOS 4.1.4/Compile files and source code
- ❑ Sun Microsystems SunOS 4.1.3/Binary files
- ❑ Solaris 2.5.1/Compile files
- ❑ Solaris 2.4/Binary files
- ❑ Hewlett-Packard HP-UX 10.10/Compile files
- ❑ Hewlett-Packard HP-UX 9.05/Binary files
- ❑ IBM RS/6000 AIX 4.1.4/Binary files
- ❑ SCO 3.2V 5.0/Binary files and source code
- ❑ SCO 3.2V 4.0/ Binary files and source code
- ❑ BSDI 2.1/Binary files and source code
- ❑ Digital Unix 4.0/Binary files and source code
- ❑ Linux 1.2.13/Binary files and source code
- ❑ Linux 2.0.18/Binary files
- ❑ SGI IRIX, 6.2/Binary files

## Known Problems/Limitations

In order to install the Annex host tools for Linux successfully, a preliminary step is required if you are running a release of Linux that includes the Linux 2.0 kernel (such as Redhat Linux or Slackware 3.1).

- ❑ Under these releases of Linux, a bug in one of the system include files will prevent the Annex software from compiling successfully on your host, and must be repaired before the Annex software is installed.

To repair the file, do the following:

- ❑ Edit the file `/usr/include/time.h`
- ❑ Go to line 121.
- ❑ Change the first instance of the keyword "const" to "`__const`", as it is in all the other uses of the keyword in this file.

- ❑ Line 121 as shipped:

```
extern int nanosleep __P((const struct timespec *__rqtp,
```

Line 121 after repair:

```
extern int nanosleep __P((__const struct timespec
*__rqtp,
```

- ❑ Save the file and exit your editor.

You may now install the Annex software successfully.

- ❑ If you are using a BitSurfer PRO, the BitSurfer Configuration Manager software does not set all the parameters necessary to make async PPP or MP connection. They must be set manually to the following:

`AT&F&C1&D2\Q3%A2=95@M2=P@B0=1%A4=0` (put this in your "setup" string in your dialer). Change "B0=1" to B0=2" for 2-channel MP.

- ❑ The admin PRI reset command should not be used as it may cause your 5393/6300 to dump.
- ❑ The ch\_passwd command will not accept "test" as a password.
- ❑ In order for DHCP to work across the router and use the BOOTP relay agent, you must enable the dhcp\_bcast. The procedure to do this is as follows:

```
admin: set annex dhcp_bcast y
```

If there are multiple DHCP servers available on the network, the annex sometimes does not use pref\_dhcp1\_host or pref\_dhcp2\_host but instead it takes the ip addresses from the server that responds first.

Generic setup:

```
admin: set port address_origin dhcp
```

```
admin: set annex pref_dhcp1_host X.X.X.X
```

```
admin: set annex dhcp_bcast y
```

- ❑ The modems.annex file has been updated to support U.S. Robotics 33.6 modems. If you have a modem from another vendor, you may have to update the modems.annex file.

## Remote Annex Release R4.1 Corrections

### SPR 8553

Fixes problems associated with modems failing during AFD downloads.

### SPR 8581

Modified sesdb\_find\_record function to return the correct return code when a wait for semaphore fails. This fixes a Radius authentication failure.

## SPR 8639

radius\_crunch\_password() now calculates the number of 16-byte blocks for User-Password correctly if the password length is 0.

## SPR 8659

Fixes problem of 5393/6300 sending MP packets out of order when negotiating several protocols.

## SPR 8709

Modem names in the modems.annex file may only be 15 chars. Longer entries will be truncated. Note, that the type\_of\_modem field allows 16-char names for modems.