
AIS V3.4 PTF03 Function Reference

Introduction and Operational Notes

The following functions are being shipped on the 2212 in AIS V3.4 PTF03, so they are available in that level and in all subsequent maintenance levels of AIS V3.4. This document contains the 2212 publications updates for these new functions. For information about installing this PTF, refer to the "Introduction and General Download Instructions" document available on the 2212 Operational Code web page.

Note: If you install this PTF or any subsequent AIS V3.4 PTF, you need to upgrade your V3.4 Configuration Program to PTF NP01141 or later. The V3.4 Configuration program is available on the 2212 Configuration Program web page.

These functions include:

- Advanced ELS — Automatic Writing of ELS messages to Hard Disk
- Web Server Cache Client-IP Address Header Support (2212 with HPSC Only)
- WAN Reroute Revert Back Enhancement
- ISDN I.430 Enhancements
- APPN MIB Update

Refer to www.networking.ibm.com/support for a copy of this Function Reference as well as the 2212 base publications.

Advanced ELS - Automatic Writing of ELS Messages to Hard Disk

With this PTF, Advanced ELS provides the option of continuously writing formatted ELS messages from the Advanced ELS buffer to the 2212-resident hard disk. This new option is in addition to the current **Write** command which allows ELS messages to be written to the hard disk. Unlike the current **Write** command which simply replicates the messages in the Advanced ELS buffer to a file on the hard disk, this feature, called *Auto-Write* appends the most recent data in the buffer to the log file on the disk. This allows a significantly greater number of messages to be archived on the hard disk than are saved in memory.

In order to maximize the number of ELS messages to be captured and the speed with which they are written, two files, *advcls_1.txt* and *advcls_2.txt*, are used. One file will store up to 25 MB of messages before switching over to the second file. When the second file reaches 25 MB, the oldest file is deleted and created again as a new file. This method provides a minimum of 25 MB of the most recent formatted ELS messages (over 200,000 messages).

ELS Configuration Commands — Talk 6

The **List** and **Set** Talk 6 configuration commands have been enhanced as indicated by the following revision bars.

List

Use the **list** command to list the ELS message buffering configuration.

Syntax:

```
list                status
```

Example:

```
ELS Config Advanced> list status
-----Configuration-----
Logging Status:  OFF      Wrap Mode:  ON  Logging Buffer Size:  8500  Kbytes
Stop-Event:     APPN.2    Stop-String:  netdn for intf 6
Additional Stop-Action:  NONE      Auto-Write to Disk:  ON
```

Set

Use the **set** command to configure various ELS message buffering options.

Syntax:

```
set                auto-write [on or off]
```

...

auto-write [on or off]

Specifies whether formatted ELS messages are continuously written from the Advanced ELS buffer to the 2212-resident hard disk. The default is off.

ELS Monitoring Commands — Talk 5

The following Talk 5 monitoring commands have the following enhancements as indicated by the revision bars.

Flush

Use the **flush** command to set logging off, clear the messages from the buffer, and release the buffer memory for other use by the system.

Note: The **flush** command is disabled if auto-write mode is enabled (ON).

Syntax:

```
flush                buffer
```

List

Use the **list** command to list the ELS message buffering configuration.

Syntax:

```
list                status
```

Example:

```
ELS Advanced> list status
-----Configuration-----
Logging Status:  OFF      Wrap Mode:  ON  Logging Buffer Size:  8500  KB
Stop-Event:     APPN.2    Stop-String:  netdn for intf 6
Additional Stop-Action:  APPN DUMP  Auto-Write to Disk:  ON
-----Run-Time Status-----
Has Stop Condition Occurred ?  YES      Messages currently in buffer:  1222
```

Read-file

Use the **read-file** command to read formatted ELS messages from a file on the hard disk. You can read messages created by the **write-buffer** command (ELSADV.LOG) or messages created by the **auto-write** command (ADVELS_1.TXT and ADVELS_2.TXT).

Read-file is limited to 100 messages when auto-write is enabled, unless logging is disabled and the buffer shows 0 messages when the **list status** command is issued.

Note: If you enter this command and a hard disk is not available, you receive a message indicating the drive is unavailable.

Syntax:

read-file

When the **read-file** command is issued, the following is displayed (assuming auto-write is enabled and ELS messages have been logged):

```
1 'elsadv.log' Formatted Advanced ELS Messages (Manually-Saved)
   Size: 104875 bytes   Date: Tue Mar 30 10:17:18 2000
2 'advels_1.txt' Formatted Advanced ELS Messages (Auto-Saved)
   Size: 8682 bytes   Date: Mon Apr 03 11:17:28 2000
3 'advels_1.txt' Formatted Advanced ELS Messages (Auto-Saved)
   Size: 25896000 bytes   Date: Tue Apr 04 12:36:18 2000
Which file do you wish to read? [1]
```

After you select the file to be read, the option of displaying all or the last *n* messages is presented:

```
Enter "All" or "Last" to read all or last N messages: [LAST]?
Enter N to read last N messages: [10]? 1000
```

In the preceding example, logging is disabled. If you try to read a file while logging is enabled, the all option is not available and the following warning and options are presented:

```
Enter N <= 100 to read last N messages: [10]? 1000
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!Warning: Displaying a large number of messages while                !
!LOGGING to disk is ON may cause the file to be corrupted.          !
!Therefore N is limited to 100 messages while LOGGING is ON         !
!and the buffer is NOT 0.                                           !
!To view more messages set LOGGING OFF and wait until               !
!the buffer empties.                                                !
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Invalid number input! Try again.
```

The following is the format of ELS messages found in advels_1.txt and advels_2.txt files:

```
[10] Mar 16 17:09:30 GW.022 Nt fld slf tst nt 3 int PPP/1
[11] Mar 16 17:09:31 PPP.188:Net state change, net3 (PPP/1) is DOWN
[12] Mar 16 17:09:31 GW.022 Nt fld slf tst nt 4 int PPP/2
```

Set

Use the **set** command to change configured ELS message buffering options.

Syntax:

```
set                                auto-write [on or off]
                                     logging [on or off]
                                     ...
```

wrap [on or off]

auto-write [on or off]

Specifies whether formatted ELS messages are continuously written from the Advanced ELS buffer to the 2212-resident hard disk. When set to ON, ELS messages are read from the buffer, formatted, and appended to the appropriate file (advcls_1.txt or advcls_2.txt). When set to off, the ELS buffer is flushed of any residual messages left in the buffer. The default is off.

logging [on or off]

Specifies whether message buffering will occur. This command will not take affect until you allocate a buffer using the **set buffer-size** command in talk 6 and reload or restart the router. The default is off.

Note: Setting logging to off does not stop auto-writing to disk. Auto-writing continues until all the messages in the buffer are written to disk or auto-write is set to off.

wrap [on or off]

Specifies whether to stop the log when the buffer is full (off) or to log the new messages at the beginning of the buffer (on).

Note: When auto-write is on, setting wrap to off flushes the Advanced buffer of any residual messages. If you had auto-write on when you set wrap off, you need to set auto-write to off after a complete buffer has been written to disk to flush the buffer and reset pointers before you can effectively set logging on again, even though the **list status** command shows an empty buffer (0 messages in buffer).

Default value: off

Tftp

Use the **tftp** command to send the ELS message buffer to a remote host as a formatted file.

Note: The tftp function is disabled when auto-write is enabled.

Syntax:

tftp buffer [formatted] *dest_ip_address dest_filename*
file dest_ip_address dest_filename

buffer [formatted] *dest_ip_address dest_filename*

Specifies that the ELS message buffer is to be sent to the remote host indicated by *dest_ip_address* as file *dest_filename*.

View

Use the **view** command to view all of the messages or a specific number of messages in the message buffer.

Note: The view function is disabled when auto-write is enabled. Use the **read-file** command to display ELS messages that are saved on disk.

The following message is displayed if you issue the **view** command while auto-write is enabled:

You cannot view queued ELS messages while Auto-Write mode is on.
Warning! Turning Auto-Write off will flush all remaining
ELS messages from the buffer queue.

received by Web Server Cache. If an http request already has a Client-IP address header, the Web Server Cache passes the http request to the back-end server unchanged.

To enable this function (disabled is the default), use the Talk 6 **patch** command to change the variable *webc-client-ip* to any non-zero value as follows:

```
Config>patch
Variable to patch ?[] webc-client-ip
New Value [0]? 1
Variable patched successfully
Config>
```

To stop adding Client-IP address headers, use the **patch** command to change the variable back to zero:

```
Config>patch
Variable to patch ?[] webc-client-ip
New Value [1]? 0
Variable patched successfully
Config>
```

Two new ELS messages have been added for this function:

- An http request with a Client-IP address header already present was received by the Web Server Cache and was forwarded to a back-end server.

```
WEBH.021      C-INFO      Client-IP addr hdr present
```

- An http request without a Client-IP address header was received by the Web Server Cache and was forwarded to a back-end server with a Client-IP address header added by Web Server Cache.

```
WEBH.022      C-INFO      Client-IP addr hdr added
```

When the Client-IP address header is added, it is added immediately after the CRLF that ends the request-line portion of the http header.

WAN Reroute Revert Back Enhancement

With this PTF in a WAN reroute configuration, if a primary connection is restored outside the revert back window, both the primary and alternate circuits are allowed to remain up until the revert back window is reached, at which time the alternate connection is ended. This allows IP traffic and new SNA sessions to use the primary circuit immediately when a connection is restored outside the revert back window. SNA sessions that were established over the alternate circuit are not affected until the revert back window is reached.

Using the Talk 6 **patch** command, you can disable WAN Reroute Revert Back Enhancement (enabled is the default). To disable this function, use the **patch** command to change the variable *wrr-delay-pup* to any non-zero value as follows:

```
Config>patch
Variable to patch ?[] wrr-delay-pup
New Value [0]? 1
Variable patched successfully
Config>
```

To re-enable the WAN Reroute Revert Back Enhancement, use the **patch** command to change the variable back to zero:

```
Config>patch
Variable to patch ?[] wrr-delay-pup
New Value [1]? 0
Variable patched successfully
Config>
```

ISDN I.430 Enhancements

The following ISDN I.430 enhancements are included in this PTF:

- The bandwidth of an I.430 dial circuit is now configured by specifying the ISDN channels mapped to the dial circuit (for example, B1 + B2 + D). The bandwidth of the dial circuit was previously configured in Kbps.
- By mapping the B1 and B2 channels to a single dial circuit, a 128 Kbps connection can be supported between two locations. For Germany, because the carriers do not guarantee in-sync delivery of the 2 channels, Multilink PPP can be used to aggregate these channels together.

APPN MIB Update

With this PTF, the existing APPN MIB implementation is updated with the current RFC (RFC2455) for that MIB. This new MIB contains the six new objects that were added with RFC2455. One object was removed from the MIB. The following new objects were added to the APPN MIB:

- appnNodeLsCounterType
- appnNodeBrNn
- appnNnNodeFRBranchAwareness
- appnNnTgFRTg
- appnLocalTgBranchLinkType
- appnDirApparentLuOwnerName

The following object was removed from the APPN MIB:

- appnNodeMibVersion