



Release Notes:

Helix Server 13.0.0

Helix Proxy 13.0.0

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1. Version Information

Release:

- Helix Server 13.0.0
- Helix Proxy 13.0.0

Version: 13.0.0.479

Build: servproxyall-063009-13941

Release Type: General Availability

Products:

- Helix Server
- Helix Proxy

1.1 File names:

Windows Server 2003 Server and Proxy Software:

- rs1300-ga-win32.zip
- px1300-ga-win32.zip

Red Hat Enterprise Linux 4 Server and Proxy Software:

- rs1300-ga-linux-rhel4.tar.gz
- px1300-ga-linux-rhel4.tar.gz

Red Hat Enterprise Linux 5 Server and Proxy Software:

- rs1300-ga-linux-rhel5.tar.gz
- px1300-ga-linux-rhel5.tar.gz

Solaris 10 Server and Proxy Software:

- rs1300-ga-solaris-10.tar.gz
- px1300-ga-solaris-10.tar.gz

Documentation:

- HelixServerAdmin_v13.pdf
- HelixServerConfig_v13.pdf
- HelixProxyAdmin_v13.pdf
- HelixProxyConfig_v13.pdf

Note: not all files are distributed with all distributions.

2. Hardware/Software Requirements

Supported Platforms:

- Windows 2003 Server
- Red Hat Enterprise Linux 4
- Red Hat Enterprise Linux 5
- Solaris 10

Additional information about platform configuration recommendations for operating systems and hardware available at: http://www.realnetworks.com/resources/contentdelivery/server/recommended_platforms.html.

3. New Features in Helix version 13.0.0

3.1 Live Rate Adaptation

Live Rate Adaptation adds the functionality of Enhanced Rate Adaptation for live streams as well. Congestion Control, and Rate Adaptation are both supplied for live streams (some client dependencies may apply), and client behavior can be configured by type using the User Agent Settings.

3.2 Server-side Playlist

The Helix platform now supports playlists on the server, setting up clips which will automatically play sequentially, and without waiting for buffering between clips. This even allows for the mixing of live and on-demand clips.

3.3 Playlist Management

Playlist Management allows the Helix administrator to add, replace, or remove individual playlist files from the server's file system via HTTP commands.

3.4 HTTP Byte Range Header Support

The Helix platform now uses HTTP Byte Range Header as a method of supporting progressive downloads.

4. Documentation Additions

4.1 Security Updates

Please review the recent Security Update and Incident Report. The most recent posting can be reviewed by visiting <http://www.realnetworks.com/support/updates.html>.

4.2 Windows Registry Update

When running the Helix Server and Helix Proxy on Windows, it will be necessary to increase the Default Send Buffer size in the operating system. To do this you will need to add a value to your Windows Registry.

Launch the Registry Editor from the Start→Run... option by typing the regedt32.exe command
Traverse through the tree to the following branch:

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\AFD\Parameters

Add a new DWORD Value to the key called DefaultSendWindow and set that value to 32767 (decimal).

Restart your Windows 2003 Server machine.

This change will prevent poor QOS for clients connecting to live broadcasts over TCP.

4.3 Cross Version Plug-in Compatibility

Plug-ins are not binary-compatible between v9/v10 and v13 on Linux and between v11 and v13 on Solaris due to changes in compiler versions. The plug-ins need to be recompiled with the updated build environment to be useful.

4.4 RTPLive Legacy Mode Support

A configuration variable has been added to fix an issue with live streams using RTP which caused sync, and other QOS issues. The variable is `<Var RTPLiveLegacyMode="1"/>`. When this flag is set to 1, RTP transport forces initial RTPtime and sequence to be 0. After a PAUSE, sequence will be the last sequence number of RTP packet plus 1 and RTPtime will reflect the elapsed time between the PAUSE and PLAY request (i.e. RTPtime is offset only at the initial PLAY request). This is in accordance with 3GPP specifications.

4.5 Reduced Startup Delay Configuration

It is possible to increase the limit on RSD packet buffer queue duration through the following configuration variable:

```
<List Name="LiveReducedStartupDelay">  
  <Var MaxDurationOfRSDPacketBufferQueue="90"/>  
</List>
```

The default value for this is 70 seconds and the units are in seconds. The above section is not present by default in the configuration. It needs to be added manually and the value adjusted accordingly.

4.6 Fast Channel Switching

Ensure that when selecting content which will be switchable that any live streams are available at the Helix Server when the client switches to them. Don't setup FCS with Pull Split streams, as the Helix Server will need to request the stream before it can switch to that content.

4.7 Surestream Aware Splitting

Surestream Aware Splitting functionality no longer sends only the requested bit-rates, but rather sends all bit-rates in a multi-rate file. It is recommended that SSAS only be used with Push splitting, and Pull splitting basically mimics the SSAS functionality.

5. Known Issues and Work-arounds in version 13.0

Below is a summary of known issues in stability and functional areas of the Helix Server 13.0 and Helix Proxy 13.0:

5.1 Admin System

1. Clicking on some pages of the Helix Admin System will cause extraneous 404 errors in the server's logs.
2. Changing the Transmitter Source name in the Admin System requires a server restart for the change to take effect, however the Admin System will not notify the user that this is required
3. Setting a Deny Rule under the Security\Access Control tab will result in a server CA when playback is requested by a client with the matching IP address. A workaround is to use a network device such as a firewall or a router to set a Deny Rule for a given IP address(s).
4. Some IPv6 addresses require the inclusion of square brackets "[,]" to be accepted. If adding an IPv6 address does not work as expected, try adding brackets around the address.

5.2 Alternate Mount Point

1. Alternate Mount Point with the same (duplicate) List Name does not log an error in Error.log. The Alternate Mount Point feature can be configured via the configuration file only. Currently there's no GUI interface for this function.

5.3 Broadcast Redundancy

1. When sending a live feed to the Helix Server, if the filename has multiple periods in it then broadcast redundancy generates multiple alternative files available. This means that one live feed being sent in is duplicated potentially hundreds of times (depending on the number of dots in the original filename).

5.4 Content Distribution

1. If no "/" mount point exists in the rmserver.cfg and Cdist is configured, the Content subscriber sends the wrong URL to the Content publisher when looking for content and therefore returns a "404 - File Not Found." The default mount point must always exist in order for the feature to work as designed.

5.5 Fast Channel Switching

1. Switching between live and either on-demand or SLTA using Enhanced AAC+ or AAC+ content will fail to successfully switch with a non-compatible error.
2. FCS session GUID will occasionally not get released by the Helix Server.
3. While 3GP content can have a reasonable amount of bit-rate variance while still being switchable, RM content needs to be pretty much exactly the same to support switching.
4. 3GPP content served via RDT, and using delayed switches will freeze on some content. Use PreferRTP if you experience this issue.
5. With Live Pause disabled in the RealPlayer, playback using FCS will sometime hang.
6. Issues exist serving multirate content when the client switches to a stream at a rate other than the highest rate.
7. FCS related parameters are not getting logged in the Helix access log for HTTP switch requests.
8. It is recommended that content for use with FCS be created with audio superblocking disabled. This can be done by adding the following line to the mediaProfile section of the encoder's job file :
`<maxPacketInterleavingDuration type="duration">0</maxPacketInterleavingDuration >`

5.6 General Server and Proxy

1. System time changes of more than a few seconds while the server is running, and particularly while the server is under load can cause severe memory leaks and potentially restarts. This sort of system time

change may be triggered by NTP services, daylight savings changes, or simply by manual date/time changes. We recommend disabling these sorts of services on systems running Helix Server and Helix Proxy, and that time adjustments be made during server down times, or times of low load.

2. Time in server's Administrator monitor does not reflect PC System time in certain time zones. The issue is observed where the time offset is not by a full hour. For example, the Newfoundland GMT is -330. The server time is off by 30 minutes.
3. ERA never uses packet aggregation and PPM always does, regardless of the setting of the RDTPacketAggregation variable.
4. The Helix Server will respond with a 501 error code if (and only if) an unknown RTSP verb is the first verb encountered in the RTSP session. This conflicts with the RTSP standard, however it should have no real-world impact.
5. Windows Servers on certain systems will not serve multi-rate content containing spaces in the name.

5.7 General Mobile Clients

1. Certain mobile handsets will not handle a live teardown correctly (accept the RTCP BYE that is sent), and at the end of a live session will simply continue to sit there until manually closed by the user.
2. Playback of 3gp content on MotoRAZR always starts some number of seconds into the clip.

5.8 Installer

1. The silent/non-interactive installer option has been removed.
2. Operating a v12.x Helix Server or Proxy with an earlier version Helix configuration file is not supported, and may have unforeseen consequences.

5.9 IPv6

1. Binding to all IPv6 addresses ("::") will prevent the RHEL4 Helix Server from starting.

5.10 Live

1. The Helix Server will drop the RTP encoder video presentation when multiple SDP files referencing the same presentation are present in the SDP file directory.
2. In a scenario with many live feeds connecting to the server, some may not start successfully or stop and restart again. This can be observed when Directory Scanning is turned off. Enabling Directory Scanning causes all the feeds to work as expected.

5.11 Logging

1. Proxy doesn't roll to new logs properly on SIGHUP – this is by design. The SIGHUP is interpreted by the server as a signal to RECONFIGURE the server. When the server is started it creates the rmerror.log file and only when the first clip is played it creates the rmassess.log file. After these log files are moved/renamed and a SIGHUP is sent to the server, the new files (rmerror.log and rmserver.log) will be created only AFTER the first clip is played. They are *NOT* created till then. So the goal behind having this feature (i.e rotating the logs manually) is still achieved. The SIGUSR2 is interpreted by the server as a signal to RESTART the server and hence it creates the rmerror.log right away.
2. Superfluous error messages are displayed to stdout on Helix Server startup, and are written to the error log:
E: UASPath C:\Program Files\Real\Helix Server\ClientProfiles\ cannot be read from

E: UASPath C:\Program Files\Real\Helix Server\ClientProfiles\ cannot be written to; Admin System updates can only be written to the Helix configuration file

These errors are incorrect, and can be ignored.

3. Occasionally when a client selects the Default UAS, a superfluous error message will appear in the error log stating that the "Client's Buffer is too small for Predata". This log message can be ignored.
4. The ERA/LRA TFRC log shows the Oversend Rate as higher than the value of MaxOversendRate. This is a logging error and can be ignored.

5.12 Media Data Pipeline / Enhanced Rate Adaptation

1. If no "Default" UAS is found, unrecognized User-Agents will receive a 404 error in response to any DESCRIBE request.

5.13 Multicast

1. When configuring Scalable Multicast, "VirtualPath" values cannot be numeric only; "2" won't work, but "2a" will.
2. Multicast Pull Splitting will timeout after 2 minutes. If you are using multicast, push splitting should be configured instead.

5.14 Playlist Management

1. When adding or deleting a playlist using the Playlist Management feature, list the file path and filename without the quotation marks (per the admin guide). Including them will cause the request to fail.
2. The documentation contains the following :
Deleting Playlist: `http://helixserver.example.com:8010/playlist/delete?path="songs.hpl"`

The correct syntax is:

Deleting Playlist: `http://helixserver.example.com:8010/delete?path=playlists/songs.hpl`

5.15 Reduced Startup Delay

1. Setting the variable "CPUThresholdToDisableRSD" to 100 will roll the value back to the default of 65; 99 is the highest value the system will recognize.

5.16 SDPGEN

1. Clients attempting to playback an SDPGEN URL via HTTP Cloaking will receive a "Bad Transport" error.

5.17 Server-side Playlist

1. While 3GP content can have a reasonable amount of bit-rate variance while still being switchable, RM content needs to be pretty much exactly the same
2. Video tag names in playlist files cannot contain spaces; having a space in one will cause the playlist request to return a file not found error
3. The format of the Expires Meta Value line in the playlist is wrong in the documentation. It should be :
<meta name="Expires" content="time">
 - a. Example: <meta name="Expires" content="13-Aug-2009 13:13:00"/>

4. It is recommended that content for use with SSPL be created with audio superblocking disabled. This can be done by adding the following line to the mediaProfile section of the encoder's job file :
`<maxPacketInterleavingDuration type="duration">0</maxPacketInterleavingDuration >`

5.18 SNMP

1. The SNMP v1 user name must be set to "public" for traps to function properly
2. The Trap Interval value has no effect
3. The Master Agent doesn't return an error message if it is started with an invalid configuration
4. The Master Agent doesn't return an error message if authentication information is invalid
5. The Master Agent prints an error when starting without a community string being configured; this error message should be ignored
6. Setting the trap values for CPU or MaxConnections to zero doesn't disable these traps; you must set them to a value which is high enough that is won't be reached
7. ServerStart trap is never sent
8. The CPU usage trap is never sent
9. SNMP will not always return accurate results at higher server loads (>500 connections)

5.19 Splitting

1. There are known issues using Pull splitting with the split feed set to UDP on the Windows server platform. In such a case, TCP should be used instead.

5.20 UDP Ports

1. The documented variable UDPResendPortRange, which is supposed to limit the UDP ports used for resends, is ignored. The resend range will obey the standard UDP port range, or if they are set, the variables MinUDPPort and MaxUDPPort.

5.21 Windows Media Support

1. Windows Media 9 live streams won't work if hosted from SLTA
2. Windows Media Player will sometime give an error when attempting to connect to the server using ASXGen
3. Windows Media Push Splitting fails if setup to use TCP on an IPv6 network
4. Windows Media streams fail to connect to the Helix Proxy via an IPv6 network
5. Windows Media clips will not play properly if clicked on in the Content Browsing window
6. There are various logging errors, which occur when playing MMS through the Helix Proxy
7. Windows Media multi-bitrate (MBR) is not supported
8. Windows Media Player v11 no longer supports MMS. Please refer to the Using Windows Media whitepaper for more information on streaming Windows Media using Helix.

5.22 Crash Avoidance Issues (CAs) and Memory Leaks

1. Requests for .RP content where listed media files are missing will result in a CA.
2. Unused SDP files in the SDP file directory, and having directory scanning enabled will cause the Helix Server to leak memory.
3. Using the "Unblocking Rate Manager" to server .smi or .mp3 files will cause the server to CA when clients request those file types. It is advised that you select another rate manager if you are serving that type of content with MDP or ERA.

4. Restarting the Helix Server with an active RTP Live stream connected will occasionally cause the Server to CA following the restart, and for the live stream to not be available.
5. The Helix Server binary will start up with a Helix Proxy license installed (instead of a Server license), however it will CA during attempted playback.
6. If the streamer count is significantly higher than the processor count (4x or more), the Helix Server will display a memory leak.
7. The Helix Server will CA when attempting to switch to content distributed content with non switchable media.

6. Checksum

MD5 Checksum

File Name

b9020b1956124ba9d739a61712a715b9	pxl300-ga-linux-rhel4.tar.gz
06e57e21797c8725c5a45ac345c0a469	rs1300-ga-linux-rhel4.tar.gz
286f4e700c5ede9867620cba967e36ed	rs1300-ga-linux-rhel5.tar.gz
97e3fa2683b6d6e071395be31ee1a1ca	pxl300-ga-linux-rhel5.tar.gz
9c2ae7b74e351cbb53129cdb149be264	pxl300-ga-solaris-10.tar.gz
95eb95c03ea4a5815e4013d3579a985f	rs1300-ga-solaris-10.tar.gz
9fb61486b977ae998d0fdcd4be537fc8	rs1300-ga-win32.zip
3100d2e86a3e125e2c7daaea7aa79eaf	pxl300-ga-win32.zip