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## **Release Notes:**

**Helix Server 11.0.2**

**Helix Proxy 11.0.2**

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## 1. Version Information

**Release:** Helix Server 11.0.2 and Helix Proxy 11.0.2

**Version:** 11.0.2.2358

**Build:** servproxyall-010906-6161

**Release Status:** General Availability

**Products:** Helix Server, Helix Proxy

**Files:**

**Windows Server and Proxy Software:**

rs1102-win32.zip

px1102-win32.zip

**Linux Server and Proxy Software:**

rs1102-linux-rhel4.tar.gz

px1102-linux-rhel4.tar.gz

**Solaris 8 and Solaris 9 Software:**

rs1102-solaris-8.tar.gz

px1102-solaris-8.tar.gz

**Documentation:**

HelixServerAdmin.pdf

HelixServerConfig.pdf

HelixProxyAdmin.pdf

HelixProxyConfig.pdf

Note: not all files are distributed with all distributions.

## 2. Hardware/Software Requirements

Supported Platforms:

- Redhat Enterprise Linux 4
- Solaris 8
- Solaris 9
- Windows 2003 Server

Additional information about platform configuration recommendations for operating systems and hardware available at:

<http://www.realnetworks.com/products/mediaservers/specifications.html>

## 3. What's New

There are no new features included in the v11.0.2 product suite.

## 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.service.real.com/help/faq/security>

### 4.2 Operating System Configuration Changes

### 4.3 Memory Allocation

The Helix Server and Proxy consume memory on a per-client basis. The amount of memory consumed will vary, according to the nature of the presentation streamed to each.

You may allocate up to two gigabytes of memory to the Helix Server. Memory is allocated by using the `-m #` command line flag at startup, where `#` is the amount of memory to allocate, in megabytes. For example, starting the server with the command `Bin/rmsrver rmsrver.cfg -m 512` would allocation 512 megabytes of memory to the server process.

### 4.4 File Descriptor Settings

RealNetworks recommends increasing the default file descriptor setting for your Solaris and Linux servers. File descriptors are heavily used by the server, for each file read, each open socket, etc. The recommended number of file descriptors to set is 65536 for each CPU. So on a dual processor machine you would set the value to 131072, and on a quad processor machine you would set it to 262144.

### 4.5 RHEL4

1. Examine system fd limit and ensure it meets or exceeds the recommended minimum:

```
$ cat /proc/sys/fs/file-max
```

If it doesn't, increase it by editing the file `/etc/sysctl.conf` (all file edits will require root access) and adding:

fs.file-max = number\_of\_desired\_file\_descriptors

2. Edit as root /etc/security/limits.conf and add the lines:

```
*          soft          nofile          number_of_desired_file_descriptors
*          hard          nofile          number_of_desired_file_descriptors
```

3. Edit /etc/pam.d/login and add the following line:

```
session required pam_limits.so
```

4. Edit /etc/pam.d/sshd and add the following line:

```
session required pam_limits.so
```

## 4.6 Solaris 8 and Solaris 9

1. examine system fd limit and ensure it exceeds the recommended minimum:

```
$ ulimit -Hn
```

If it doesn't, increase it by editing the file /etc/system (all file edits will require root access) and adding:

```
set rlim_fd_max=number_of_desired_file_descriptors
```

## 4.7 Solaris 8 and Solaris 9 Patch Recommendations

Testing at RealNetworks has shown some instability of Solaris 8 and 9 operating systems related to high levels of UDP usage. Sun has provided and recommends the following patch in order to address this situation.

<http://sunsolve.sun.com/search/document.do?assetkey=1-26-57728-1>

This patch is not necessary unless the operating systems experience kernel panic messages related to the UDP module.

## 4.8 RHEL4 Kernel Configuration Recommendations

Testing at RealNetworks has shown some instability on Red Hat Enterprise Linux 4. This instability is manifested as "kernel panics" related to "out of memory and no killable processes". This is partially because the 11.0.2 release of the Helix Server and Helix Proxy has a larger memory footprint than previous releases. Because of the 1 gigabyte (default) kernel virtual memory limitation on 32-bit systems with less than 4G RAM, we are recommending application of the 4G/4G patch set:

```
linux-2.6.0-4g4g.patch
linux-2.6.8-4g4g-backout.patch
linux-2.6.9-4g4g-hugemem-warning.patch
linux-2.6.9-net-b44-4g4g.patch
linux-2.6.9-4g4g-noncacheable.patch
```

Note: This should only be necessary in cases where there will likely be enough player load on the server that memory usage would exceed 1 gigabyte. If the server is started with a memory flag setting of less than 1 gigabyte (-m 1024), this patch solution will not be required.

To install the Linux kernel patches, do the following steps:

Download the kernel-2.6.9-5.0.5.EL.i686 kernel from <http://rhn.redhat.com>; you can find it by searching for "kernel" under "Packages"

Please refer to your Linux documentation regarding updating your Linux kernel

During the configuration step of your kernel update, make the following changes:

Under "Processor type and features" change the following:

Select "4 GB kernel-space and 4 GB user-space virtual memory support"

Select "Symmetric multi-processing support"

Deselect "Virtual Kernel Preemption"

Under "High Memory Support (65GB)", select "4GB"

Save the configuration, and compile and install the kernel

## 4.9 PSTACK Installation

There are known stability issues on Solaris and Linux systems running Helix Server and Helix Proxy which don't have pstack installed. Pstack is installed and configured on Solaris by default, however if you are running RHEL4, you will need to install and configure pstack for reliable Helix Server and Helix Proxy operation. You find the pstack package by searching for "pstack" under Packages at <http://rhn.redhat.com>. Please refer to your Linux documentation for instructions on installing or updating package files.

## 4.10 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.

## 4.11 Proxy Caching and Fastfile functionality

Fastfile is an undocumented feature which gives a minor performance gain to the Helix Proxy. Due to a issue in the Helix Proxy 11.0, enabling Fastfile will break 3GP file caching. In order to disable Fastfile, you will need to add the line `<Var FastFileEnabled="0" />` to your Helix Proxy configuration file (`rmproxy.cfg`) in the section shown below:

```
<List Name="RealSystem Media Import Filesystem">
  <Var ShortName="pn-mii-mgr"/>
  <Var MountPoint="miicache"/>
  <Var CacheShortName="rn-cache"/>
  <Var FastFileEnabled="0"/>           <!-- Add this line -->
</List>
```

## 4.12 Cross Version Plug-in Compatibility

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

## 4.13 RTPLive Legacy Mode Support

A new 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.

## 5. Fixes Supplied in this Release

Listed Issues Fixed as part of v11.0.2

**155548: Edge servers report live content but clients fail to stream:** In a live only split architecture, the server appears to lose data from a connecting encoder and while it appears to be available and listed in the LiveConnections, when a client attempts to playback the content the RTSP connection is successful but no data comes back from the DESCRIBE so the player never plays the requested content. The above-described condition has been linked to a Crash Avoidance warning. The problem has been resolved and as a result live feeds properly propagate to the edge servers and are playable by the clients.

## 6. Known Issues

Below is a summary of known issues in functional and stability areas of the Helix Server 11.0.2 and Helix Proxy 11.0.2.

### Autorestart/Restart

The Server and Proxy on Solaris will fail to restart cleanly following certain DNS Resolver calls. The Server will get into a hung state, and must be killed using the "kill -9" command. This will affect restart triggered by the admin system, and out of memory restarts, as well as killing the server using a ctrl-c from the shell. RealNetworks recommends running the server from a script, which can kill the server process automatically should this occur.

### Admin System

Clicking on some pages of the Helix Admin System will cause extraneous 404 errors in the server's logs  
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  
The Quicktime sample clip will not play if the link is clicked in the Admin System

### Content Browser

RV10 files are listed as RV9  
Restricting Content Browsing to specific extensions does not function  
Directories in the Content Browser windows are improperly displayed as files

### **Delayed Shutdown**

Disabling "Allow New Client Connections" will not keep new clients from connecting when a Delayed Shutdown of the server is in progress

### **General**

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.

### **Java Monitor**

Bandwidth Usage is not recorded for 3GP Live streams being played

### **Live**

The Standby message does not work with RTP based broadcasts

### **Logging**

Superfluous error message: "couldn't lookup session for channel <0x1>" is getting written to the error log

### **Multicast**

When configuring Scalable Multicast, "VirtualPath" values cannot be numeric only; "2" won't work, but "2a" will

### **Proxy**

Proxy does not support Caching or Splitting for scenarios where Proxy Routing is used  
3GP content will not get cached by the proxy if Fastfile is enabled (see section 4.3 of this document)

### **Rate Adaptation**

When MDP is enabled, and you are using TCP Limirate, the server has a tendency to over send data. The higher the bitrate, the more it will over send. You can compensate for this by increasing the MaxBurst size variable on the server when streaming at higher bitrates until the margin of error is within acceptable limits

### **Reduced Startup Delay**

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

### **SNMP**

The SNMP v1 user name must be set to "public" for traps to function properly

The Trap Interval value has no effect

The Master Agent doesn't return an error message if it is started with an invalid configuration

The Master Agent doesn't return an error message if authentication information is invalid

The Master Agent prints an error when starting without a community string being configured; this error message should be ignored

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 it won't be reached

ServerStart trap is never sent

### **Windows Media Support**

Windows Media 9 live streams won't work if hosted from SLTA

Windows Media Player will sometime give an error when attempting to connect to the server using ASXGen

Windows Media Push Splitting fails if setup to use TCP on an IPv6 network

Windows Media streams fail to connect to the Helix Proxy via an IPv6 network  
Windows Media clips will not play properly if clicked on in the Content Browsing window  
There are various logging errors which occur when playing MMS through the Helix Proxy

**Crash Avoidance Issues (CAs)**

Adding a Scalable Multicast channel through the Admin System will cause a CA  
Requesting a MMS stream through the proxy will cause the proxy to CA

## 7. Checksum

<b>MD5 Checksum</b>	<b>File Name</b>
6ba431d538db16349ceb8f4ea2bce54d	HelixProxyAdmin.pdf
e6f8f8fe09ae57e0b5178771611d677e	HelixProxyConfig.pdf
e06501924924a42b5a76669ba901279f	HelixServerAdmin.pdf
e00722b0e32070afda165975c571ec3a	HelixServerConfig.pdf
0d5b01787f7e558c5dc86be1b5b544f8	px1102-linux-rhel4.tar.gz
620ee522cddeaadc37baa9a80981204	px1102-solaris-8.tar.gz
e10f7402b703c1543ddffc48fd74fbaf	px1102-win32.zip
6d277e5bc309a5e5b512282f6c6407c6	rs1102-linux-rhel4.tar.gz
44850c1775129fbac77501a9b1f16ef7	rs1102-solaris-8.tar.gz
a3e80ef2831d001eb3ac5c815f8198bc	rs1102-win32.zip