



Release Notes:

Helix Mobile Server 11.1.1

Helix Mobile Gateway 11.1.1

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RealNetworks

2601 Elliott Avenue
Seattle, Washington 98121
Phone: (206) 674.2700
Fax: (206) 674.2699
www.real.com

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1. Version Information

Release: Helix Mobile Server 11.1.1 and Helix Mobile Gateway 11.1.1

Version: 11.1.1.1099

Build: servproxyall-082206-7529

Release Status: General Availability

Products: Helix Mobile Server, Helix Mobile Gateway

Files:

Windows Server and Gateway Software:

mbrs1111-ga-win32.zip

mbgw1111-ga-win32.zip

Linux Server and Gateway Software:

mbrs1111-ga-linux-rhel4.tar.gz

mbgw1111-ga-linux-rhel4.tar.gz

Solaris 8 and Solaris 9 Server and Gateway Software:

mbrs1111-ga-solaris-8.tar.gz

mbgw1111-ga-solaris-8.tar.gz

Documentation:

HelixMobileServerAdmin.pdf

HelixMobileServerConfig.pdf

HelixMobileProxyAdmin.pdf

HelixMobileProxyConfig.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/resources/contentdelivery/server/recommended_platforms.html

3. What's New

There are no new features included in the v11.1.1 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 Mobile 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 Mobile 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/rmserver rmserver.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 11.0.1 release of the Helix Mobile Server and Helix Mobile Gateway 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 Mobile Server and Helix Mobile Gateway 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 Mobile Server and Helix Mobile Gateway 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 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.

4.12 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 v11.1.1

- 151545 SDP files in sub-folder of /rtpenodersdp/ fail to be primed on server
The behavior was initially determined as by design. New implementation now allows for priming of sub folders of the /rtpenodersdp/ directory.
- 154092 Windows Media client connections show multiple "New players" in server's log file
This is by design. Windows Media Players establish and then tear down two RTST connections to the same server on port 554 before attempting MMS connection on port 1755.
- 155842 Startup.log doesn't contain date/time when server was started
Issue has been resolved. The logs now contain startup time and date.
- 159274 Content accessed from Helix or Windows Server using MMS protocol fails to stream via Helix Proxy
Problem has been caused by truncation of MMS response from the Player on the proxy. Issue is fixed.
- 165119 Windows Media content streams audio only when accessed via HTTP
Problem was caused by the server reading stream number in decimal rather than in hex. This has been fixed.
- 165813 Helix Mobile Client rebuffers when streaming from Server v11
Problem was caused by variations in units of measurement used by various mobile clients. Addition of a new configuration variable "LinkCharMultiplier" to the User Agent corrects the behavior.
- 166333 URL Alias function fails with live rtp content
Issue was related to the URL aliasing literally replacing an alias of i.e. "/t0" with original value for mount point of i.e. "/", resulting in a link of "///rtpenoder/live.sdp" passed to the rest of the system.
- 166361 Proxy keeps connection open to Helix Server for Windows Media content
Playing windows media content resulted in a leak, which then caused the connections to remain in an open state. This has been resolved.
- 166673 Unable to play from Windows Media server WM content via Helix Proxy using RTSP
Problem was related to proxy's failure to parse control lines inside an SDP file. This has been fixed.
- 166694 MMS server response forwarded to client through proxy is truncated – client disconnects
This has been corrected. Truncation no longer occurs and therefore the clients do not get disconnected.
- 167254 Server Crash Avoidance caused by DESCRIBE method on Solaris 10 platform
Issue due to difference in how Solaris 10 vs other Unix systems handle certain function calls. Issue has been fixed.
- 167421 Missing date and time from the startup.log
Problem with missing time and date stamp have been corrected.
- 167431 Server erroneously allows two Helix Mobile Producer connections on the same port range
The Server now recognizes the different IP address that the sdp comes from and creates a separate stream objects for each. This enables having multiple encoders using the same port address but without conflicts.

This functionality however has some limitations. For example, if the encoders are behind the same NAT server, they would appear to have the same IP address. Thus, if there's more than one encoder behind a NAT-Server, then if both try to use the same port, the server would not be able to differentiate between the different streams and would just send all incoming packets as part of the same outgoing stream.

- 167761 Authentication failure when using NTLM features of the Server
Problem was due to a broken functionality. Issue has been resolved.
- 168133 SLTA stops at end of 3GPP (mpeg4 & amrnb) hinted content created with Helix Mobile Producer
Problem caused by incorrect internal messaging indicating stream failure rather than stream completion. This has been resolved.
- 170686 Windows Media video playback from Helix Server 11.1 fails on certain SunOS 5.8 machines
Problem caused by outdated patch level. To correct the problem ensure that the latest patches are applied to the Solaris 5.8 operating system.
- 171329 Server 11.1 generates Crash Avoidance every couple of minutes or less
Problem was caused by streaming unhinted 3gpp2 content encoded with QCELP codec for the audio stream. This codec is currently not supported by the Helix Server. Fix consists of the server returning an error code 415 (Invalid File).
- 175062 Very large memory allocation in mobile RSD live
Issue caused by an outdated memory management code. This has been fixed.

6. Known Issues

Below is a summary of known issues in functional and stability areas of the Helix Mobile Server 11.1.1 and Helix Mobile Gateway 11.1.1.

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 Mobile Server and Helix Mobile Gateway, 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

Rate Adaptation

When MDP is enabled, and you are using TCP Limitrate, 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 is 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 Mobile Gateway 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 Mobile Gateway

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

CAs occur on certain types of connection attempts with the Sony Ericsson P900 and the Nokia 6630

Handset Specific Issues

Sony Ericsson P900 renders 3GP content at the incorrect speed

7. Checksum

MD5SUM

File Name

866607ca311ba43c8f1f4a76d69958e5	mbgw1111-ga-linux-rhel4.tar.gz
5afdaceebce4011fa47508611d38b75a	mbgw1111-ga-solaris-8.tar.gz
00f5f591b9ad0c78e51f26a1ae56542a	mbgw1111-ga-win32.zip
b0ce850d6ea7c6b2bf7f2e29e8d6f61d	mbrs1111-ga-linux-rhel4.tar.gz
20bae79f23e7adedc324e1754326c8a8	mbrs1111-ga-solaris-8.tar.gz
4432a21457d8aecb5fdca52efd6d85da	mbrs1111-ga-win32.zip