



Release Notes:

Helix Mobile Server 11.0.1

Helix Mobile Gateway 11.0.1

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1. Version Information

Release: Helix Mobile Server 11.0.1 and Helix Mobile Gateway 11.0.1

Version: 11.0.1.1884

Build: servproxyall-110405-5688

Release Status: General Availability

Products: Helix Mobile Server, Helix Mobile Gateway

Files:

Windows Server and Gateway Software:

mbrs1101-win32.zip

mbgw1101-win32.zip

Linux Server and Gateway Software:

mbrs1101-linux-rhel4.tar.gz

mbgw1101-linux-rhel4.tar.gz

Solaris 8 and Solaris 9 Server and Gateway Software:

mbrs1101-solaris-8.tar.gz

mbgw1101-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.realnworks.com/resources/contentdelivery/server/recommended_platforms.html

3. What's New

There are no new features included in the v11.0.1 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

4.2.1 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 allocate 512 megabytes of memory to the server process.

4.2.2 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.

4.2.2.1 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
```

4.2.2.2 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
```

4.2.3 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.

4.2.4 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-noncachable.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:

1. 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"
2. Please refer to your Linux documentation regarding updating your Linux kernel
3. During the configuration step of your kernel update, make the following changes:
 - a. Under "Processor type and features" change the following:
 - i. Select "4 GB kernel-space and 4 GB user-space virtual memory support"
 - ii. Select "Symmetric multi-processing support"
 - iii. Deselect "Virtual Kernel Preemption"
 - b. Under "High Memory Support (65GB)", select "4GB"
4. Save the configuration, and compile and install the kernel

4.2.5 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.

4.2.6 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.

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

- a. HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\AFD\Parameters
3. Add a new DWORD Value to the key called `DefaultSendWindow` and set that value to 32767 (decimal).
4. Restart your Windows 2003 Server machine.

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

4.3 Proxy Caching and Fastfile functionality

Fastfile is an undocumented feature which gives a minor performance gain to the Helix Mobile Gateway. Due to a issue in the Helix Mobile Gateway 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 Mobile Gateway 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>
```

4.4 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.

4.5 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

4.6 Using TCP Limitrate

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, the 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 v11.0.1

- **128366: Proxy doesn't log SETUP streamid=1 events correctly:** The proxy was mistakenly logging the RTSP SETUP event for streamid 1 as an RTSP SET_PARAMETER event instead
- **149679: Chunked-encoding issues when very large requests were made through the HTTP file system:** Further fixes made to reduce allocation issues when very large transfer encodings are requested
- **152311: Memory leak in the Helix Proxy and the Helix Mobile Gateway:** Reduces extra memory allocation in the Proxy product line
- **152664: Proxy leaks message in RTSPServerProtocol::SendKeepAlive:** Further reduces memory allocation in the Proxy product line
- **149664: mp4fformat won't read content out of the Proxy cache or from an asyncfs mountpoint:** Fixes an issues where only .RM content was being cached properly
- **150008: Denied URL is logged incorrectly:** Denied URLs were inappropriately getting logged with error code 404 when they should have been logging error code 403
- **150195: 3gp live streaming from SLTA to failed to render in the Sanyo 8300 handsets when going through the Proxy:** Fixes a streaming problem specific to this scenario
- **150961: Proxy failing to cache content from v10 Helix Server:** Connections through the Proxy were always failing back to passthru mode when connecting to a v10 server
- **Various TCP related rate control:** A number of issues relating to over-sending, under-sending, and rate-shifting at the wrong time.

6. Known Issues

Below is a summary of known issues in functional and stability areas of the Helix Mobile Server 11.0.1 and Helix Mobile Gateway 11.0.1.

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
- 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 Limtrate, 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
978846579e28a5baabfd233b284f8fd4	HelixMobileProxyAdmin.pdf
91c619a91033040cee2f97aee8304e22	HelixMobileProxyConfig.pdf
e2268115b96d87a81972f4f9f98dab98	HelixMobileServerAdmin.pdf
94ff0382e49c592abd837418152b0363	HelixMobileServerConfig.pdf
0fc41168905a3d3e513f1496247e0b6e	mbgw1101-linux-rhel4.tar.gz
0e28d87d86f36212e815511613ff37c6	mbgw1101-solaris-8.tar.gz
b5eadad223f7a955f08c3d22bcf5ee03	mbgw1101-win32.zip
6434865786103b4f5b99af4f6cb7ac7e	mbrs1101-linux-rhel4.tar.gz
b3b6c2f0c51747afaf65e8a3f71ec683	mbrs1101-solaris-8.tar.gz
4d02978141b3ac127395e93f41dad2cc	mbrs1101-win32.zip