

IBM Systems ^{MEDIA}

Reap the Benefits of the HMC V9 Update

AIX expert Jaqui Lynch explains the advantages of upgrading your hardware management console to version 9.



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IBM brought out HMC V9 M910 in March 2018. Since then, there have been various updates to the V9 code, adding features and fixing bugs. With the introduction of the POWER server-based HMC, the HMC code is now split into streams—one for the x86 HMCs and one for the POWER (PPC) HMCs. The release dates for new code are the same for both. However, the MH numbers and the location of the code releases will be different for x86 and PPC.

As of Feb. 28, the HMC V9 releases and updates are as follows. There are patches within each service pack, but I have only listed the most recent ones for M921.

Versions and Dates

Release V9R1M910: March 20, 2018

Service pack V9R1M911: May 25, 2018

Service pack V9R1M920: Aug. 17, 2018

Service pack V9R1M921: Nov. 16, 2018

iFix for V9R1M921 x86 MH01804: Jan. 17, 2019

iFix for V9R1M921 PPC MH01805: Jan. 17, 2019

HMC Version Naming

The way that HMC versions are named has changed in V9. You still have version, release and maintenance (VRM) as a format, but they're a little different for V9. In V9, you will see the following:

V	9	This means the POWER9 family
R	1, 2, 3	This changes only if there is a major change
M	910, 920	Maps to the first two digits of the server firmware release increments for each service pack

So V9R1M921 is the first service pack for the 92 firmware. New recovery images will be released whenever the release number increments, so the next should be at R2, whenever that comes out.

HMC V9 Notes

V9 is required by POWER9 servers and only supports POWER7 servers and higher in addition to the newer HMCs. The minimum HMC that can support the x86 code is a 7042-CR7 or 7042-OE1. The only POWER HMC is the 7063-cr1. I highly recommend that any new HMCs should be the new POWER HMC (7063-cr1) as IBM has stated that V9R1 is the last supported release for the 7042 x86 HMCs. It should also be noted that V9 only supports enhanced mode. Classic

mode has gone away.

It's important to pay attention to the README or description file for each update as they list prerequisites for VIO server levels, firmware, HMC hardware, etc. These can be found through Fix Central or at the links in the references below. To use enhanced mode, VIO servers must be at 2.2.3 or higher but IBM recommends 2.2.6 or higher. Since all versions of the VIO server prior to 2.2.5 are eoSPS (end of service pack support) as of Dec. 31, 2018, and 2.2.5 will be eoSPS Nov. 30, 2019, it makes sense to ensure your VIO servers are at 2.2.6. or v3.1.

HMC M910 Features

M910 is the initial code level for the V9 HMC. For x86, it's also known as MH01733, and for PPC, it's known as MH01735. To upgrade to this level, the HMC being upgraded must be installed at V9R86.0 SP1 or higher, V8R8.7.0 plus MH1706 or MH01707 or higher.

The primary functionality provided by M910 of the HMC code is support for POWER9 processors. Significant enhancements have been made to system plans, remote restart/simplified remote restart operations and maintenance for user resource roles. The DHCP configuration has been updated to allow users to configure a custom IP address range. Support has also been added to SR-IOV for specifying the maximum capacity setting and to allow you to enable or disable an SR-IOV logical port when necessary. Device support has also been added for some additional network adapters.

Additionally, there are enhancements to the user interface, including: allowing changes to the default view; adding the ability to create a network bridge on an existing internal network; adding the ability to add multiple virtual networks with the same VLAN ID and Virtual switch to a partition; and adding the ability to remove or delete a virtual switch.

You can also specify a custom IP address range for the DHCP configuration on the HMC and the CLI was enhanced for displaying NTP information. Additionally, a number of security vulnerabilities were fixed and all Arcfour and CBC mode ciphers on the HMC SSH interface were removed.

More details on additional functionality can be found in the HMC M910 announcement and readme files.

Updates in M911

This is the first service pack for V9 and is also known as MH01762 (x86) or MH01763 (PPC). This service pack requires that M910 be installed prior to application.

In this release, restricted support was added for the scale-out Power LC systems on the POWER processor-based HMCs only. The functionality that was added was primarily a subset of hardware and serviceability management functions such

as FSP and BMC management and BMC/PNOR updates. The supported servers will be the 8335-GTH, 8335-GTX, 9006-12P and the 9006-22P.

Additionally, there were a number of fixes for various problems as well as some security patches.

Updates in M920

This service pack is also known as MH01759 (x86) or MH01760 (PPC) and can be directly installed on top of the M910 code. This service pack provides support for the E950 (9040-MR9) along with a significant number of enhancements to the GUI. The GUI enhancements include the capability to export topology diagrams, a virtual networks option in the VIO server menus, new views in the partition virtual storage, the capability to modify advanced boot settings and some HMC management enhancements.

This release also provides support for USB installation of the VIOS from USB and addresses multiple security issues with SSH, NPT, SSL and Kerberos.

Updates in M921

This service pack is also known as MH01789 (x86) or MH01790 (PPC) and can be directly installed on top of the M910 code. It adds support for the E980 (9080-M9S), multifactor authentication, HMC support for iSCSI devices and partition secure boot. It also fixes a number of outstanding problems and addresses a security issue in BIND.

Updates in M921 Patches MH01804 or MH01805

This iFix is known as MH01804 (x86) or MH01805 (PPC) and can only be installed after M921 is installed. Its primary purpose is to fix some outstanding issues.

Location of Install Code

There are multiple image types for the HMC code. Images can be obtained directly from IBM by using anonymous FTP to `public.dhe.ibm.com`. The starting directory is `/software/server/hmc`. From there, the images are broken down by type as follows:

Recovery images (used for initial install of 910): `/software/server/hmc/recovery_images`

In that directory, you will find multiple HMC recovery images. For v910, you will use either the x86 or the PPC one. They are:

`HMC_Recovery_V9R1M910_1_x86.iso`

`HMC_Recovery_V9R1M910_1_ppc.iso`

You can burn these ISO images to a DVD to install them

If you want to install across the network from an NFS server, the links to the code are:

`/software/server/hmc/network/v910/ppc` or

`/software/server/hmc/network/v910/x86`

You can download these images to your own FTP or NFS server or you can use `getupgfiles` directly from the HMC to bring the files in there. This is for using to upgrade to V910 only.

To apply service packs or patches, there is a different set of directories.

Service packs show up as ISO images in the updates directory:

`/software/server/hmc/updates`

As of right now, the service packs are in this directory for M911_SP1, M920_SP1 and M921_SP1 (both x86 and PPC).

Patches show up as ISO images in the fixes directory

`/software/server/hmc/fixes`

This is where you will find the latest ifixes. For M921, these are:

MH01804_x86.iso

MH01805_ppc.iso

Summary

Since M910 was released, there have been a number of significant updates to the HMC code. With all releases prior to 8.8.7 now out of service as of Oct. 31, 2018, this is the time to upgrade to V9 of the HMC even if it requires you to replace your current HMC. The improvements in performance and functionality will make it well worth your while. Just keep in mind that V9 only supports POWER7 servers and higher.

The information in this article is just a small summary of the new functions and features at each level of V9. It has come a long way in a very short time frame. For those of us who resisted Enhanced mode, it's much improved and far easier to navigate now. Hopefully your experience will be as positive as mine.

References

Fix Central

<https://www-945.ibm.com/support/fixcentral/> (<https://www-945.ibm.com/support/fixcentral/>)

Entitled Software

<http://www-304.ibm.com/servers/eserver/ess/ProtectedServlet.wss> (<http://www-304.ibm.com/servers/eserver/ess/ProtectedServlet.wss>)

HMC v9 Announcement

http://www-01.ibm.com/common/ssi/ShowDoc.wss?docURL=/common/ssi/rep_ca/6/897/ENUS218-026/index.html&request_locale=en (http://www-01.ibm.com/common/ssi/ShowDoc.wss?docURL=/common/ssi/rep_ca/6/897/ENUS218-026/index.html&request_locale=en)

HMC Enhanced Mode Documentation and Cheat Sheet

<http://www-01.ibm.com/support/docview.wss?uid=nas8N1022258> (<http://www-01.ibm.com/support/docview.wss?uid=nas8N1022258>)

<http://www-01.ibm.com/support/docview.wss?uid=nas8N1022258&aid=1> (<http://www-01.ibm.com/support/docview.wss?uid=nas8N1022258&aid=1>)

HMC v9 readme

<https://delivery04.dhe.ibm.com/sar/CMA/HMA/07hbb/2/MH01735.readme.html> (<https://delivery04.dhe.ibm.com/sar/CMA/HMA/07hbb/2/MH01735.readme.html>)

README FILES

HMC V9 for x86

M910 recovery: <https://delivery04.dhe.ibm.com/sar/CMA/HMA/07hb4/5/MH01733.readme.html>
(<https://delivery04.dhe.ibm.com/sar/CMA/HMA/07hb4/5/MH01733.readme.html>)

M911 SP: <https://delivery04.dhe.ibm.com/sar/CMA/HMA/07m4d/3/MH01762.readme.html>
(<https://delivery04.dhe.ibm.com/sar/CMA/HMA/07m4d/3/MH01762.readme.html>)

M920: <https://delivery04.dhe.ibm.com/sar/CMA/HMA/07r9o/4/MH01759.readme.html> (<https://delivery04.dhe.ibm.com/sar/CMA/HMA/07r9o/4/MH01759.readme.html>)

M921: <https://delivery04.dhe.ibm.com/sar/CMA/HMA/07yj1/0/MH01789.readme.html> (<https://delivery04.dhe.ibm.com/sar/CMA/HMA/07yj1/0/MH01789.readme.html>)

M921 MH01804: <https://delivery04.dhe.ibm.com/sar/CMA/HMA/081mn/0/MH01804.readme.html>
(<https://delivery04.dhe.ibm.com/sar/CMA/HMA/081mn/0/MH01804.readme.html>)

HMC V9 for PPC

M910 recovery: <https://delivery04.dhe.ibm.com/sar/CMA/HMA/07hbb/5/MH01735.readme.html>
(<https://delivery04.dhe.ibm.com/sar/CMA/HMA/07hbb/5/MH01735.readme.html>)

M911 SP: <https://delivery04.dhe.ibm.com/sar/CMA/HMA/07m4b/4/MH01763.readme.html>
(<https://delivery04.dhe.ibm.com/sar/CMA/HMA/07m4b/4/MH01763.readme.html>)

M920: <https://delivery04.dhe.ibm.com/sar/CMA/HMA/07r9u/1/MH01760.readme.html> (<https://delivery04.dhe.ibm.com/sar/CMA/HMA/07r9u/1/MH01760.readme.html>)

</sar/CMA/HMA/07r9u/1/MH01760.readme.html>)

M921: <https://delivery04.dhe.ibm.com/sar/CMA/HMA/07yj5/0/MH01790.readme.html> (<https://delivery04.dhe.ibm.com/sar/CMA/HMA/07yj5/0/MH01790.readme.html>)

M921 plus MH01805: <https://delivery04.dhe.ibm.com/sar/CMA/HMA/081mr/0/MH01805.readme.html>
(<https://delivery04.dhe.ibm.com/sar/CMA/HMA/081mr/0/MH01805.readme.html>)

About the author

Jaqui Lynch has over 38 years of experience working with a projects and Oses across vendor platforms, including IBM Z, UNIX systems and more.

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