

HMC — You Should Upgrade Yours to Version 7.3

Part I

By Pete Massiello



This past summer, version 7.3 of the HMC became available. This new release is much easier to use, has a great friendly GUI interface, and you can connect to it remotely via a browser. If you are running on an HMC with a previous release, you will definitely want to upgrade to this new release. The HMC stands for the Hardware Management Console, and it is a single-purpose closed Linux appliance for controlling single or multiple System i (and System p) servers. Normally we partition these servers into Logical Partitions. The HMC allows us to configure the partitions, assign resources to each partition, power on/off the server, activate a partition, move resources between partitions, and handle console functions for each partition, as well as power on/off the actual servers.

The HMC connects to the FSP (Flexible Service Processor) of each POWER5 server via an Ethernet connection. You will see that the HMC has two connections. One is a closed “network” connection just between the HMC and the i5 Server’s FSP, and the other is connected to your corporate network (known as the open network.) See **Figure 1** for a visual on how the HMC attaches to the i5’s FSP.

Notice from the diagram that a single HMC can control multiple i5s, and that the HMC actually has its own firewall to help you keep it even more secure.

About a month after the new software was available, I decided it was time to upgrade a few of my HMCs. I started the planning process to determine what steps would be required. I read through the IBM HMC Web site (<https://www14.software.ibm.com/webapp/set2/sas/f/hmc/home.html>) and there were plenty of IBM caveats about installing the new version. We try to keep current on HMC code levels, FSP Firmware code, and i5/OS releases and PTFs.

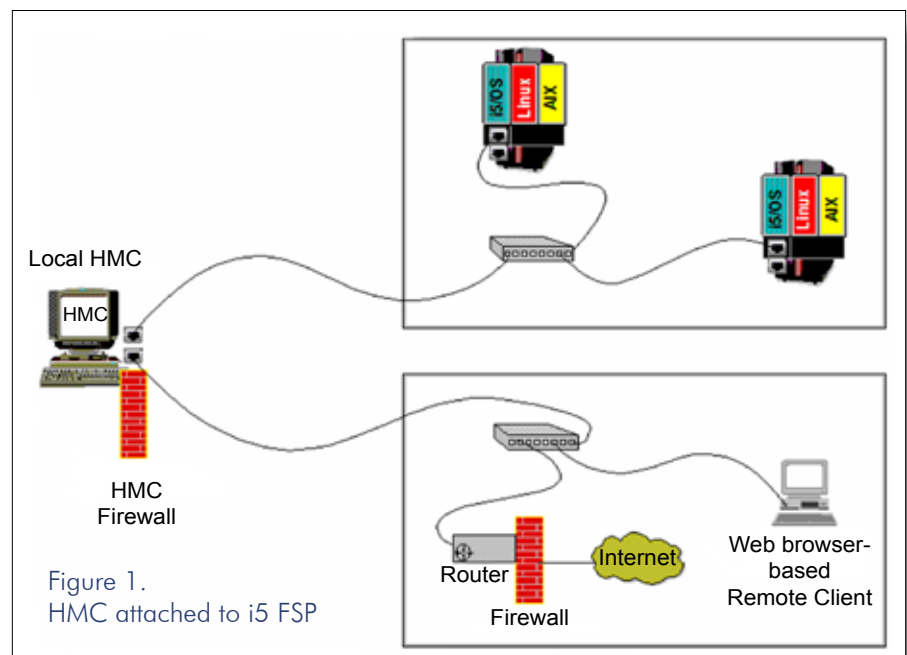
The first thing that you must understand is that you need to keep the relationship between the FSP firmware and the code on the HMC compatible. So, I went to the IBM Web site (<http://www14.software.ibm.com/webapp/set2/sas/f/power5cm/supportedcodep5.html>) to see if my current level of FSP firmware was compatible with HMC version V7R3. The chart in **Figure 2** tells me which releases work with each other, so that we can keep the HMC and FSP on supported combinations of code that talk to each other.

I was at the right release of the FSP firmware (sometimes referred to as server firmware) but unfortunately I didn’t have the latest FSP Service Pack for that level of server firmware which was required for the new version of the HMC code. You can see there are quite a few dependencies that must be synchronized. My FSP was at 01SF_240_284. For Power 5 systems, you read that as: SF stands for System Firmware; the 240 is what IBM calls the release level of the firmware; and 284 is the fix pack number, or the Service Pack number

which is similar to the PTF level of the release. I had to apply a newer Service Pack to bring my managed system (or i5 server) to at least Service Pack level 299.

If I had been at a different release, like 01_SF230 or 01_SF235, then I would have had to do a release upgrade to my FSP, and again I would refer to the compatibility chart to make sure my FSP and HMC were compatible. Since I was at the right release, I just needed to apply the latest Service Pack.

I went to the HMC Web site, downloaded the Service Pack to my PC, and then burned a CD with this new Service Pack for my level of firmware. If you don’t know what level you are on, you can check this from the HMC by expanding Licensed Internal Code Maintenance from the left-hand panel, then selecting Licensed Internal Code Updates. Then in the main panel, you select Change Licensed Internal Code for the Current release.



Supported HMC and Server code combinations
Excluding 690 and 695

The following table lists currently supported firmware (FW) Release Levels for POWER5 systems, as well as the compatibility of HMC FW levels with system FW levels.

HMC levels	POWER5 system Release Levels (System and processor)	330 Release	330 Release	330 Release
HMC V5R6 Minimum HMC level to support POWER5. Also supports POWER5 systems at Release level SF240_239 and above.	Supported combination for Service Pack SF240_239 and higher.	Not a recommended or supported combination.	Not a recommended or supported combination.	Not a recommended or supported combination.
HMC V5R1 Recommended HMC Level.	Recommended HMC and system firmware combination for the SF240 Release Level.	Supported HMC and system firmware combination. There are currently no planned releases of Service Packs for this Release level (SF239). Recommended upgrading to Release Level SF240.	Supported HMC and system firmware combination. There are currently no planned releases of Service Packs for this Release level (SF239). Recommended upgrading to Release Level SF240.	Recommended upgrading to Release Level SF240.
HMC V5R2 Minimum HMC Level required to support POWER5 Release Level SF240. Recommended upgrading HMC Level to V5R1.	Recommended upgrading HMC Level to V5R1.	There are currently no planned releases of Service Packs for this Release Level (SF239). Recommended upgrading to Release Level SF240 and HMC Level V5R1.	There are currently no planned releases of Service Packs for this Release Level (SF239). Recommended upgrading to Release Level SF240 and HMC Level V5R1.	Recommended upgrading to Release Level SF240 and HMC Level V5R1.
HMC V5R3 Minimum HMC Level required to support POWER5 Release Level 330. Recommended upgrading HMC Level to V5R1.	Not a supported combination.	There are currently no planned releases of Service Packs for this Release Level (SF239). Recommended upgrading to Release Level SF240 and HMC Level V5R1.	There are currently no planned releases of Service Packs for this Release Level (SF239). Recommended upgrading to Release Level SF240 and HMC Level V5R1.	Recommended upgrading to Release Level SF240 and HMC Level V5R1.
HMC V5R5 Minimum HMC level required to support POWER5 Release Level 330. Recommended upgrading HMC Level to V5R1.	Not a supported combination.	Not a supported combination.	There are currently no planned releases of Service Packs for this Release Level (SF239). Recommended upgrading to Release Level SF240 and HMC Level V5R1.	Recommended upgrading to Release Level SF240 and HMC Level V5R1.

Matrix Key:
Latest Release Level

Figure 2. HMC / FSP compatibility chart

Yes I know, even though you only wish to display the current release, you have to select “change” to actually view the release. This has been fixed in version 7.3 of the HMC, but until you upgrade, you must do it this way. By the way, there is also a way to see this from i5/OS (see sidebar). Next, you select the Managed Server (this will be your i5) and then View System Information. A screen like the one in Figure 3 will be shown.

You will see there are three levels. The *accepted level* is the Service Pack level that you have permanently applied, the *installed level* is the Service Pack level that is temporarily applied, and the *activated level* is the one in memory that

is actually running. The *permanent* and *temporary* levels are very similar to what we have in i5/OS with the A and B side of

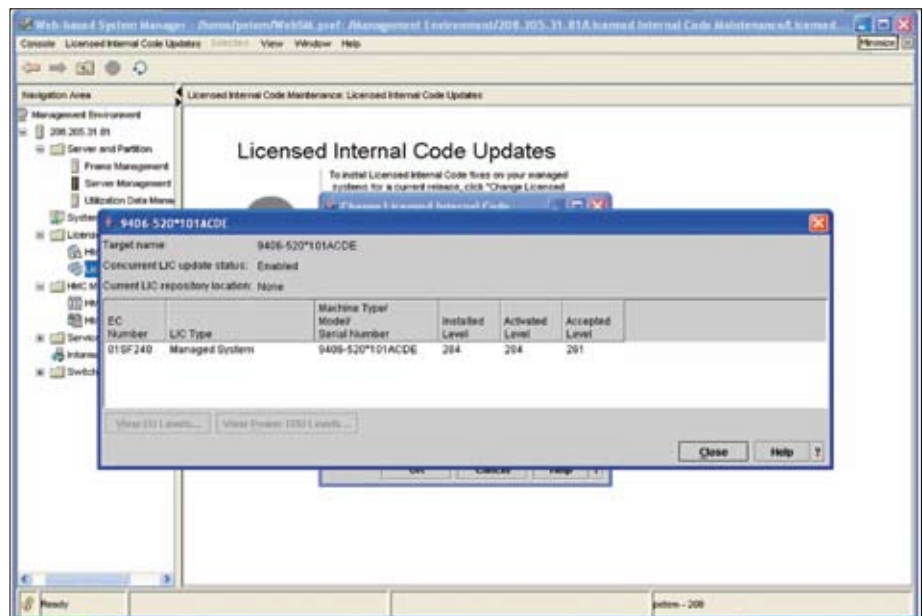


Figure 3. Display of current Licensed Internal Code

the Licensed Internal Code. Now, before we install these Licensed Internal Code fixes, we need to understand disruptive and concurrent fixes.

A concurrent fix can be applied without interrupting the running partitions and restarting the server (also referred to as the managed system or the i5). A disruptive fix will require that the FSP be turned off and then restarted. That means all partitions on the server would have to be ended prior to starting

this type of upgrade. All release upgrades (e.g., going from 01_SF235 to 01_SF240) are disruptive, so downtime must be scheduled for this to happen. In the case of Service Packs being concurrent or disruptive, it depends.

There is one more number for a Service Pack that I didn't mention before. The Service Pack that I downloaded was really 01_SF240_320_201. The 201 is what is called the last disruptive Service Pack level. Meaning that if the current Service Pack that I am running on the FSP is less than this number (the 201 in this case) applying this service pack would require a disruptive load. If the current loaded Service Pack is higher than this number, then I can do this concurrently.

So, in my example, I was running Service Pack 284, which is greater than 201, therefore, I can apply the 320 service concurrently. CC

NOTE: If you are at V5R4 of i5/OS with the current Cumulative CD, then there is a command called DSPFMWSTS that will provide you with this information. Otherwise, you need to follow the steps below to find out your Server Firmware version.

- Run the STRSST command
- Select Option 1, Start a service tool.
- Select Option 4, Display/Alter/Dump.
- Select Option 1, Display/Alter storage.
- Select Option 2, LIC data.
- Select Option 14, Advanced analysis.
- Select FLASHLEVELS, Press the Enter key.

In either case, if you have an HMC, then your firmware update policy that is shown on either screen should be set to HMC Managed, so that updates to your FSP come from the HMC, and not from Cumulative CDs that you apply to your i5/OS.

[In Part I we examined dependencies between the HMC and the FSP, as well as how to check the level of server firmware on the FSP. In Part II in February we will examine how to check your HMC's level, doing the actual upgrade to V7R3.1, and how to connect remotely via a browser.]

About the Author

Pete Massiello has been working with the AS/400, iSeries, i5 since 1989, focusing on systems management and technical support. He has held numerous technical positions throughout his career. He is the President of iTech Solutions Group, an IBM Advanced Business Partner delivering solutions and services to System i shops throughout the US. He is a member of IBM's certification test writing team, an IBM eServer Certified Systems Expert with certifications in iSeries Design, Administration, Implementation, LPAR, and HMC management. Pete has a BS in Computer Science from Hofstra University, and an MBA from the University of New Haven. He is President of the Fairfield CT AS/400 User Group (FASUG), a past member of the COMMON Board of Directors, and a frequent speaker at user groups.

Léo Lefebvre



COMMON President Randy Dufault presenting special award to retiring Board Director Pete Massiello for his many years of dedication and volunteer service to COMMON



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