**POWER9 E950 & E980 Server FAQ**

Questions and Answers:

[General 4](#_Toc522184923)

[When will this document be updated? 4](#_Toc522184924)

[What is being announced? 4](#_Toc522184925)

[What is the product rollout schedule (Announce, GA…)? 4](#_Toc522184926)

[When can we start configuring systems? 4](#_Toc522184927)

[When will rPerf and CPW be published for these servers? 4](#_Toc522184928)

[When will the System Planning Tool available? 4](#_Toc522184929)

[When is Knowledge Center available? 4](#_Toc522184930)

[Are there Redbooks for the E950 and E980? 5](#_Toc522184931)

[What is the warranty? 5](#_Toc522184932)

[What IO adapters can be migrated to the E950 and E980? 5](#_Toc522184933)

[Does the E950 and E980 support PCIe Gen4? 5](#_Toc522184934)

[What about Meltdown and Spectre Security Issues? 5](#_Toc522184935)

[Does Meltdown and Spectre have a software or hardware patch? 5](#_Toc522184936)

[Are these servers coming with Meltdown and Spectre patch enabled by default? 5](#_Toc522184937)

[What is Smart Seller and what is the URL? 5](#_Toc522184938)

[Is the encryption engine on the chip in Scale Out or just Enterprise servers.? Do both E950 and E980 have encryption on the chip? 5](#_Toc522184939)

[Can you move your move mobile activations from POWER8 to POWER9? 6](#_Toc522184940)

[If a customer that leased his E880 and returns it to IBM and leases a new E980, can he still use the RPQ to transfer his mobile activations from the E880 to the E980? 6](#_Toc522184941)

[Can we transfer or convert IFL's to these new processor features? 6](#_Toc522184942)

[What is the minimum active cores for the E950 and the E980 6](#_Toc522184943)

[Can the E950 and E980 servers have both the AIX Cores and Linux-Only Cores in the same server? 6](#_Toc522184944)

[Will there be E950C and E980C going to happen in future? 6](#_Toc522184945)

[There's Range Clock speed in E980 and E950. Is this the same as what we have in POWER9 Scale-out? 6](#_Toc522184946)

[Do the integrated NVMe drives have separate end-point like scale-out so each drive can be assigned to a different LPARs? 7](#_Toc522184947)

[Is the CEC concurrent maintenance available for E980? 7](#_Toc522184948)

[Which power plugs are on the E950 and E980? 7](#_Toc522184949)

[Will NVMeoF (NVMe over Fabrics) be supported? 7](#_Toc522184950)

[Can P8/P9 Scale-out Buffered Memory be migrated to P9 Enterprise servers with buffered memory? 7](#_Toc522184951)

[Are GPUs supported on the E980/E950? 7](#_Toc522184952)

[OS Related 7](#_Toc522184953)

[What OS levels are supported on the E980? 7](#_Toc522184954)

[What OS levels are supported on the E950? 8](#_Toc522184955)

[Are the POWER9 E950 and E980 server software prerequisites available in the IBM Prerequisite Tool? 10](#_Toc522184956)

[Will there be AIX Standard and Enterprise Editions on POWER9? 10](#_Toc522184957)

[Are there plans to provide native AIX 5.3 support on POWER9? 10](#_Toc522184958)

[What are the minimum Server firmware levels? 10](#_Toc522184959)

[When will IBM i be supported on the E950? 10](#_Toc522184960)

[Virtualization 10](#_Toc522184961)

[Is PowerVM included with the systems? 10](#_Toc522184962)

[If PowerVM is built in, what about SWMA? 10](#_Toc522184963)

[Will there be a new version of PowerVM? 11](#_Toc522184964)

[Can PowerVC be removed from eConfig if not desired like for a small IBM i user? 11](#_Toc522184965)

[Can LPM be used to migrate workloads from older Power servers to the new POWER9 models? 11](#_Toc522184966)

[What HMC version can be used to manage the POWER9 Scale-Out servers? 11](#_Toc522184967)

[What is the minimum HMC firmware levels? 11](#_Toc522184968)

[Will PowerVP be supported on POWER9? 11](#_Toc522184969)

[Can the Linux only cores be used to run VIOS? 11](#_Toc522184970)

[What is the replacement for smaller configurations with no HMC which relied on Integrated Virtualization Manager (IVM)? 11](#_Toc522184971)

[Can Cloud Management Console (CMC) replace HMC? 12](#_Toc522184972)

[Is the Cloud Management Console (CMC) what we used to call HMC Apps as a Service? 12](#_Toc522184973)

[Can the CMC manage both Power8 and Power9 or exclusive to P9? What about P7? 12](#_Toc522184974)

[Any plans to run CMC in a datacenter in Europe? 12](#_Toc522184975)

# General

## When will this document be updated?

This document will be used to capture relevant data regarding the E950 and E980 servers. It will be updated frequently as information become available. Please check back often as this will an on-going process. Your patience is appreciated.

## What is being announced?

On August 17, the following POWER9 Enterprise Servers will announce:

|  |  |  |  |
| --- | --- | --- | --- |
| **Server** | **MTM** | **Description** | **Workloads** |
| E950 | 9040-MR9 | Midrange 4-Socket 4U server | AIX, Linux |
| E980 | 9080-M9S | High-end modular | AIX, IBM i, Linux |

## What is the product rollout schedule (Announce, GA…)?

POWER9 E950 and E980 Servers will rollout as follows:

|  |  |
| --- | --- |
| **Date** | **Event** |
| 8/7/2018 | E950 and E980 Product announce. eConfig goes live. Pricing available. Orders can be placed. |
| 8/7/2018 | E980 MES Upgrades (Same SN) orders can be placed. |
| 8/17/2018 | E950 General Availability (GA). Customer shipments begin. |
| 9/21/2018 | E980 with 1-2 nodes General Availability (GA). |
| 11/16/2018 | E980 with 1-4 nodes General Availability (GA). |
| 11/16/2018 | E980 MES Upgrades (Same SN) GA with 1-4 nodes. |

## When can we start configuring systems?

­eConfig will be ready for configurations and order placement on day of announce August 7.

## When will rPerf and CPW be published for these servers?

At announce - 8/7. Here is the link to the [performance report](https://www-01.ibm.com/common/ssi/cgi-bin/ssialias?htmlfid=POO03017USEN).

## When will the System Planning Tool available?

The SPT is now available. For the E950 and E980 use version [SPT 6.18.220.0](http://www-01.ibm.com/support/docview.wss?uid=isg3T1026100)

## When is Knowledge Center available?

On announce 8/7/2018. Here is the link to the [Knowledge Center POWER9 landing page](https://www.ibm.com/support/knowledgecenter/POWER9/p9hdx/POWER9welcome.htm).

## Are there Redbooks for the E950 and E980?

Yes, these will be available on 8/7/2018. The links are [950](http://www.redbooks.ibm.com/Redbooks.nsf/RedpieceAbstracts/redp5509.html?Open) and [980](http://www.redbooks.ibm.com/abstracts/redp5510.html?Open).

## What is the warranty?

For the E950, the warranty period is 3 years 24x7 (1 year of standard warranty + 2 additional years of extended support and warranty services upgrade) except in China and Japan. Please refer to the announcement letter for these geos.

For the E980, the warranty period is 1-year 24x7 except Turkey, AP and China. Please refer to the announcement letter for these geos.

## What IO adapters can be migrated to the E950 and E980?

Charts have been posted to Smart Seller which summarize the IO migration story.

To navigate there, go to: Cognitive Systems > Power E950/E980… > More Assets > Sell > POWER9 Midrange and High-End Server IO Migration 2018.07.18.pptx

## Does the E950 and E980 support PCIe Gen4?

Yes, the servers support PCIe Gen 4, these slots are also downward compatible to PCIe Gen 3,2, ...

## What about Meltdown and Spectre Security Issues?

Information is available at the [IBM Product Security Incident Response (PSIRT)](https://www.ibm.com/blogs/psirt/) site. Details can be found in the [February blog post](https://www.ibm.com/blogs/psirt/potential-impact-processors-power-family/). All systems in this announcement ship with the latest security patches installed and enabled for these issues.

## Does Meltdown and Spectre have a software or hardware patch?

For the Enterprise systems, we have a mix of both hardware and software patches.

## Are these servers coming with Meltdown and Spectre patch enabled by default?

Yes, the Spectre and Meltdown patches are enabled by default for the Enterprise servers.

## What is Smart Seller and what is the URL? ­

Smart Seller is the new seller collateral repository which replaced FindIT. It’s located at <https://smartseller.mybluemix.net/>­

## Is the encryption engine on the chip in Scale Out or just Enterprise servers.? Do both E950 and E980 have encryption on the chip?

The encryption acceleration engines in the POWER9 processor chip and is available on both the Scale Out and the Enterprise systems.

## Can you move your move mobile activations from POWER8 to POWER9?

Yes, there will be the same ability to move Mobile activations from POWER8 to POWER9 similarly to what we offer with RPQ 8A2231 between POWER7+ and POWER8.

## If a customer that leased his E880 and returns it to IBM and leases a new E980, can he still use the RPQ to transfer his mobile activations from the E880 to the E980?

A client cannot use the RPQs to transfer mobile activations to a system he does not own. IGF could offer an attractive transition for this situation, however, if the new system is also going to be on lease, they could leverage the Mobile activations.

## Can we transfer or convert IFL's to these new processor features?

On POWER8 IFL bundled 4 Linux only processor activations, 32 GB memory activations and PowerVM entitlement. On POWER9 these components have been revised to a discounted Linux only processor activation, separate Linux only memory activations and the PowerVM entitlement is included by default with the system. By default, a MES Upgrade will replace the P8 Linux activations with new P9 Linux activations.

## What is the minimum active cores for the E950 and the E980

For the E950 the minimum active cores is one socket’s worth (for example if 12 core processors are installed then the minimum active cores are 12. If 8 core processors are installed, then the minimum active cores is 8). For the E980 the minimum active cores is 8, regardless of the number of cores per processor.

## Can the E950 and E980 servers have both the AIX Cores and Linux-Only Cores in the same server?

Yes, we can support a mix of AIX and Linux only cores in these servers.

## ­Will there be E950C and E980C going to happen in future?

There are no plans currently.

## There's Range Clock speed in E980 and E950. Is this the same as what we have in POWER9 Scale-out?

It is the same technology as used in the scale-out systems, but different frequency range each server. Here are the ranges for the E950 and E980.

|  |  |  |
| --- | --- | --- |
| **System** | **Processor Cores** | **Typical Frequency Range** |
| E950 | 12 cores | 3.15 to 3.8Ghz (max) |
| 11 cores | 3.20 to 3.8Ghz (max) |
| 10 cores | 3.40 to 3.8Ghz (max) |
| 8 cores | 3.60 to 3.8Ghz (max) |
| E980 | 12 cores | 3.55 to 3.9 GHz (max) |
| 11 cores | 3.584 to 3.9 GHz (max) |
| 10 cores | 3.7 to 3.9 GHz (max) |
| 8 cores | 3.9 to 4.0 GHz (max) |

## Do the integrated NVMe drives have separate end-point like scale-out so each drive can be assigned to a different LPARs?

Yes, on both the E950 and the E980, each NVMe drive can be assigned to different LPARs

## Is the CEC concurrent maintenance available for E980?

The CEC node for E980 is not concurrently maintainable.

## Which power plugs are on the E950 and E980?

The E980 power plug is C13 and the E950 power plug is C19.

## Will NVMeoF (NVMe over Fabrics) be supported?

Not yet, not in 2H2018.

## Can P8/P9 Scale-out Buffered Memory be migrated to P9 Enterprise servers with buffered memory?

No.

## ­Are GPUs supported on the E980/E950? ­

No.­

# OS Related

## What OS levels are supported on the E980?

If installing the AIX operating system LPAR with any I/O configuration (one of these):

* AIX Version 7.2 with the 7200-03 Technology Level or later
* AIX Version 7.1 with the 7100-05 Technology Level and Service Pack 7100-05-03-1838 or later
* AIX Version 6.1 with the 6100-09 Technology Level and Service Pack 6100-09-12-1838 or later (AIX 6.1 service extension required)
* AIX Version 7.2 with the 7200-01 Technology Level and Service Pack 7200-01-05-1845 or later (planned availability January31, 2019)
* AIX Version 7.2 with the 7200-02 Technology Level and Service Pack 7200-02-03-1845 or later (planned availability January31, 2019)
* AIX Version 7.1 with the 7100-04 Technology Level and Service Pack 7100-04-07-1845 or later (planned availability January31, 2019)
* If installing the AIX operating system Virtual I/O only LPAR (one of these):
* AIX Version 7.2 with the 7200-02 Technology Level and Service Pack 7200-02-01-1732, or later
* AIX Version 7.1 with the 7100-05 Technology Level and Service Pack 7100-05-01-1731, or later
* AIX Version 7.2 with the 7200-01 Technology Level and Service Pack 7200-01-01-1642, or later
* AIX Version 7.2 with the 7200-00 Technology Level and Service Pack 7200-00-02-1614, or later
* AIX Version 7.1 with the 7100-04 Technology Level and Service Pack 7100-04-02-1614, or later
* AIX Version 6.1 with the 6100-09 Technology Level and Service Pack 6100-09-07-1614, or later (AIX 6.1 service extension required)

If installing the IBM i operating system (one of these):

* IBM i 7.2 TR9, or later
* IBM i 7.3 TR5, or later

If installing the Linux operating system (one of these):

* Red Hat Enterprise Linux 7.5 for Power LE (p8compat), or later
* Red Hat Enterprise Linux for SAP with Red Hat Enterprise Linux 7 for Power LE version 7.5, or later
* SUSE Linux Enterprise Server 12 Service Pack 3, or later
* SUSE Linux Enterprise Server for SAP with SUSE Linux Enterprise Server 12 Service Pack 3, or later
* SUSE Linux Enterprise Server for SAP with SUSE Linux Enterprise Server 11 Service Pack 4, or later
* SUSE Linux Enterprise Server 15, or later

**Note:**The above list applies to the installation of the Linux operating system LPAR in nonproduction SAP HANA implementations. See the Statement of Direction for IBM Power System E980 (9080-M9S) for SAP HANA Production Use.

If installing VIOS:

* VIOS 2.2.6.31 or later

## What OS levels are supported on the E950?

If installing the AIX operating system LPAR with any I/O configuration (one of these):

* AIX Version 7.2 with the 7200-02 Technology Level and Service Pack 7200-02-02-1832, or later
* AIX Version 7.1 with the 7100-05 Technology Level and Service Pack 7100-05-02-1832, or later
* AIX Version 7.2 with the 7200-03 Technology Level, or later (planned availability September 14, 2018)
* AIX Version 6.1 with the 6100-09 Technology Level and Service Pack 6100-09-12-1838 or later (planned availability September 14, 2018) (AIX 6.1 service extension required)
* AIX Version 7.2 with the 7200-01 Technology Level and Service Pack 7200-01-05-1845, or later (planned availability January 31, 2019)
* AIX Version 7.1 with the 7100-04 Technology Level and Service Pack 7100-04-07-1845, or later (planned availability January 31, 2019)
* If installing the AIX operating system Virtual I/O only LPAR (one of these):
* AIX Version 7.2 with the 7200-03 Technology Level, or later (planned availability September 14, 2018)
* AIX Version 7.2 with the 7200-02 Technology Level and Service Pack 7200-02-01-1732, or later
* AIX Version 7.2 with the 7200-01 Technology Level and Service Pack 7200-01-01-1642, or later
* AIX Version 7.1 with the 7100-05 Technology Level and Service Pack 7100-05-01-1731, or later
* AIX Version 7.1 with the 7100-04 Technology Level and Service Pack 7100-04-02-1614, or later
* AIX Version 6.1 with the 6100-09 Technology Level and Service Pack 6100-09-07-1614, or later (AIX 6.1 service extension required)

See the IBM Prerequisite website for compatibility information for hardware features and the corresponding AIX and IBM i Technology Levels.

If installing the Linux operating system (one of these):

* Red Hat Enterprise Linux 7.5 for Power LE (p8compat), or later
* Red Hat Enterprise Linux for SAP with Red Hat Enterprise Linux 7 for Power LE version 7.5, or later
* SUSE Linux Enterprise Server for SAP with SUSE Linux Enterprise Server 11 Service Pack 4, or later
* SUSE Linux Enterprise Server 12 Service Pack 3, or later
* SUSE Linux Enterprise Server for SAP with SUSE Linux Enterprise Server 12 Service Pack 3, or later
* SUSE Linux Enterprise Server 15, or later

**Note:** The above list applies to the installation of the Linux operating system LPAR in non-production SAP HANA implementations. Reference 'IBM Power System E950 (9040-MR9) for SAP HANA Production Use' Statement of Direction for production support.

If installing VIOS:

* VIOS 2.2.6.23, or later

## Are the POWER9 E950 and E980 server software prerequisites available in the IBM Prerequisite Tool?

They will be available soon after announce at [ibm.biz/IBMPrereq](http://ibm.biz/IBMPrereq).

If you are not familiar with the IBM Prerequisite Tool, the tool dates to the POWER5 days and publishes externally minimum software prerequisites. All you need is the MTM and/or the Feature Code. It is typically used by anyone deploying Power hardware to determine if new hardware additions to data centers will easily fit the current environment or will it be disruptive. MTM-Feature code level prerequisites are available for AIX, IBM i, Linux, system firmware, HMC, and VIOS. IBMer can get more information on the tool at the Box community [ibm.biz/iprt-users](file:///C:\Users\BobArenburg\Box%20Sync\Zeppelin-Fleetwood%20Top\Zeppelin-Fleetwood%20Core%20Team\Zeppelin%20-%20Fleetwood%20FAQ\ibm.biz\iprt-users).

## Will there be AIX Standard and Enterprise Editions on POWER9? ­

Yes.

## Are there plans to provide native AIX 5.3 support on POWER9? ­

No, there are no plans for native AIX 5.3 support on POWER9. The only option is for clients who are already running AIX 5.3 WPARs, they can run then on P9 as well­.

## What are the minimum Server firmware levels?

* For E950, use FW920.10
* For E980, use FW920.10 (9/21/18 GA with 1-2 node) / FW920.20 (11/16/2018 for 1-4 node)

## ­When will IBM i be supported on the E950? ­

­There is no plan to support IBM i on the E950 at the present time­

# Virtualization

## Is PowerVM included with the systems?

Yes, PowerVM Enterprise Edition license is “embedded” in every model. In eConfig PowerVM shows as a zero-cost item which cannot be removed.

## ­If PowerVM is built in, what about SWMA? ­

The PowerVM license is included as a zero-cost feature, however, SWMA can optionally be purchased if desired.

## Will there be a new version of PowerVM?

The new firmware (FW920) in the E950 and E980 includes an updated PowerVM hypervisor, which supports the new secure/compressed live partition mobility (LPM) capability. A new release of PowerVM (v3.1) with updated VIOS and NovaLink will be announced in 4Q2018.

## ­Can PowerVC be removed from eConfig if not desired like for a small IBM i user­?

­Yes - PowerVC Cloud Manager is included in default POWER9 server orders in eConfig, but it can be deselected­.

## Can LPM be used to migrate workloads from older Power servers to the new POWER9 models?

Yes, LPM can be used to quickly and easily move workloads from POWER7 or POWER8 servers to new POWER9 models. If a client does not already have PowerVM Enterprise Edition installed on their older servers, a free 60-day activation (Feature Code ELPM) can be requested for those servers to facilitate migrations.

## What HMC version can be used to manage the POWER9 Scale-Out servers?

The planned HMC support includes:

* x86 based - 7042-CR7, CR8, CR9
* POWER8 based - 7063-CR1
* vHMC on x86 or POWER systems LPAR

## What is the minimum HMC firmware levels?

The minimum HMC Firmware Levels is HMC Firmware V9R1.920

## Will PowerVP be supported on POWER9?

PowerVP does not support Power9 servers and will be retired. It will also be removed from PowerVM Enterprise Edition with the next (3.1) release. There is no IBM replacement, although clients can obtain similar metrics from the monitoring capabilities of the HMC, along with open source monitoring tools such as LPAR2RRD.

## Can the Linux only cores be used to run VIOS? ­

Yes.

## What is the replacement for smaller configurations with no HMC which relied on Integrated Virtualization Manager (IVM)?

For small configurations without an HMC use the vHMC appliance.

## Can Cloud Management Console (CMC) replace HMC?

No CMC is complementary to HMC and is used to provide an aggregated view across multiple Power datacenters. It is launched as a SaaS solution and connects to the HMCs at each Power site.

## Is the Cloud Management Console (CMC) what we used to call HMC Apps as a Service?

Yes, Cloud Management Console (CMC) is the new name previously this was referred to it as HMC Apps as a Service.

## Can the CMC manage both Power8 and Power9 or exclusive to P9? What about P7?

CMC can manage deployments including both POWER8 and POWER9 servers (but not POWER7). CMC requires the connected HMCs to run V8 R8.6 SP1 + MH01898 (or later).

## Any plans to run CMC in a datacenter in Europe?

Yes - we plan to host CMC throughout Europe, starting with Germany.