

IBM delivers key hardware enhancements for selected IBM Power10 technology-based servers

Table of contents

| | |
|---|---|
| 1 Overview | 5 Technical information |
| 2 Key requirements | 5 Terms and conditions |
| 2 Planned availability date | 6 Prices |
| 2 Product number | 6 Regional availability |
| 3 Publications | |

At a glance

- Active Memory Expansion (AME) is enabled for the IBM^(R) Power^(R) S1024, IBM Power S1022, IBM Power S1014, IBM Power S1022s, IBM Power L1024, and IBM Power L1022 technology-based servers.
- One-core Base Processor Activations are available for scale-out capacity migration from IBM Power9 to IBM Power10 servers.
- IBM i System Subscription indicator on Power S1014 server feature (#EHSB) is available.

Overview

IBM delivers enhanced capabilities for the Power S1024, Power S1022, Power S1014, Power S1022s, Power L1024, and Power L1022 servers as follows:

Active Memory Expansion (# EMBP)

AME is an innovative technology supporting the AIX^(R) operating system that helps enable the effective maximum memory capacity to be larger than the true physical memory maximum. Compression or decompression of memory content can enable memory expansion up to 100% or more. This can enable a partition to do significantly more work or support more users with the same physical amount of memory. Similarly, it can enable a server to run more partitions and do more work for the same physical amount of memory.

AME uses CPU resource to compress or decompress the memory contents. The trade-off of memory capacity for processor cycles can be an excellent choice, but the degree of expansion varies on how compressible the memory content is. It also depends on having adequate spare CPU capacity available for this compression or decompression.

Power10 chips include a hardware accelerator designed to boost AME efficiency and use less Power core resource. The Power10 accelerator includes some minor enhancements and also leverages Power10 higher bandwidth and lower latency characteristics.

You have a great deal of control over AME usage. Each individual AIX partition can turn on or turn off AME. Control parameters set the amount of expansion desired in each partition to help control the amount of CPU used by the AME function. An IPL is required for the specific partition that is turning on memory expansion. When turned on, monitoring capabilities are available in standard AIX performance tools, such as `lparstat`, `vmstat`, `topas`, and `svmon`.

A planning tool is included with AIX, enabling you to sample actual workloads and estimate both how expandable the partition's memory is and how much CPU resource is needed. Any Power model can run the planning tool. In addition, a one-time, 60-day trial of AME is available to enable more exact memory expansion and CPU measurements. You can request the trial using the Power Capacity on Demand website.

AME is enabled by chargeable hardware feature (#EMBP), which can be ordered with the initial order of the system node or as an MES order. A software key is provided when the enablement feature is ordered, which is applied to the system node. An IPL is not required to enable the system node. The key is specific to an individual system node and is permanent. It cannot be moved to a different server.

The additional CPU resource used to expand memory is part of the CPU resource assigned to the AIX partition running AME. Normal licensing requirements apply.

One-core Base Processor Activations for scale-out capacity migration

Each new Base Processor Activation feature purchased on a scale-out Power10 server is eligible to be exchanged for a corresponding Power9 one-core Base Processor Activation feature using the Entitled Systems Support (ESS) process to help facilitate scale-out capacity migration.

IBM i System Subscription Indicator on Power S1014 server (# EHSB)

Feature EHSB provides an IBM Power S1014 server with a four-core processor module that supports a maximum system memory of 64 GB and subscription licensing for the IBM i 7.3, or later operating system version. Having feature EHSB on the order will cause the order to be routed to an IBM Project Office representative for the IBM System Subscription integrated processes.

Note: Feature EHSB is password protected. Contact daniel.goldener@ibm.com for additional information.

Key requirements

A Power S1024, Power S1022, Power S1014, Power S1022s, Power L1024, or Power L1022 server is required.

Planned availability date

- September 6, 2022, except for features EMBP and EHSB
- September 16, 2022, for feature EMBP
- September 23, 2022, for feature EHSB

Availability within a country is subject to local legal requirements.

Reference information

For additional information about the IBM i System Subscription, see Hardware Announcement: [AG22-0090](#), dated September 6, 2022.

Product number

The following are newly announced features on the specific models of the IBM Power 8335, 9080, and 9105 machine types:

Planned Availability Date September 6, 2022

New Features

| Description | Machine type | Model number | Feature number |
|---|--------------|--------------|----------------|
| 4TB DDR4 Memory (32x128GB) CDIMMs | 9080 | M9S | EF25 |
| 1 core Base Processor Activation (Pools 2.0) for EPG9 (from Prev) | 9105 | 22A | EP9Q |
| 1 core Base Processor Activation (Pools 2.0) for EPG8 (from Prev) | 9105 | 22A | EPDT |
| 1 core Base Processor Activation (Pools 2.0) for EPGA (from Prev) | 9105 | 22A | EPDY |
| 1 core Base Processor Activation (Pools 2.0) for EPGM (from Prev) | 9105 | 42A | EPS3 |
| 1 core Base Processor Activation (Pools 2.0) for EPGC (from Prev) | 9105 | 42A | EPS8 |
| 1 core Base Processor Activation (Pools 2.0) for EPGD (from Prev) | 9105 | 42A | EPSN |

The following are newly announced features on the specific models of the IBM Power 9105 and 9786 machine types:

Planned Availability Date September 16, 2022

New Features

| Description | Machine type | Model number | Feature number |
|-------------------------|--------------|--------------|----------------|
| Active Memory Expansion | 9105 | 22A | EMBP |
| | 9105 | 22B | |
| | 9105 | 41B | |
| | 9105 | 42A | |
| | 9786 | 22H | |
| | 9786 | 42H | |

The following are newly announced features on the specific models of the IBM Power 9105 machine type:

Planned Availability Date September 23, 2022

New Feature

| Description | Machine type | Model number | Feature number |
|---------------------------------------|--------------|--------------|----------------|
| IBM i HW/SW Bundle Solution Indicator | 9105 | 41B | EHSB |

Publications

No publications are shipped with the announced products.

To access the IBM Publications Center Portal, go to the [IBM Publications Center](#) website.

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided. A large number of publications are available online in various file formats, which can currently be downloaded.

National language support

Not applicable

IBM Systems Lab Services

Systems Lab Services offers infrastructure services to help build hybrid cloud and enterprise IT solutions. From servers to storage systems and software, Systems Lab Services can help deploy the building blocks of a next-generation IT infrastructure to empower a client's business. Systems Lab Services consultants can perform infrastructure services for clients online or onsite, offering deep technical expertise, valuable tools, and successful methodologies. Systems Lab Services is designed to help clients solve business challenges, gain new skills, and apply best practices.

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For assistance, contact Systems Lab Services at ibmsls@us.ibm.com.

To learn more, see the [IBM Systems Lab Services](#) website.

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For details on available services, see the [Technology support for hybrid cloud environments](#) website.

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For more information, contact Security Expert Labs at sel@us.ibm.com.

For additional information, see the [IBM Security Expert Labs](#) website.

IBM support

For installation and technical support information, see the [IBM Support](#).

Additional support

IBM Client Engineering for Systems

Client Engineering for Systems is a framework for accelerating digital transformation. It helps you generate innovative ideas and equips you with the practices, technologies, and expertise to turn those ideas into business value in weeks. When you work with Client Engineering for Systems, you bring pain points into focus. You empower your team to take manageable risks, adopt leading technologies, speed up solution development, and measure the value of everything you do. Client Engineering for Systems has experts and services to address a broad array of use cases, including capabilities for business transformation, hybrid cloud, analytics and AI, infrastructure systems, security, and more. Contact Client Engineering at sysgarage@ibm.com.

Technical information

Planning information

Cable orders

No cables required.

Security, auditability, and control

The client is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

Terms and conditions

Field-installable feature

Yes

Warranty period

To obtain copies of the IBM Statement of Limited Warranty, contact your reseller or IBM. An IBM part or feature installed during the initial installation of an IBM machine is subject to the full warranty period specified by IBM. An IBM part or feature that replaces a previously installed part or feature assumes the remainder of the warranty period for the replaced part or feature. An IBM part or feature added to a machine without replacing a previously installed part or feature is subject to a full warranty. Unless specified otherwise, the warranty period, type of warranty service, and service level of a part or feature are the same as those for the machine in which it is installed.

Customer setup

Yes

Machine code

The same license terms and conditions as the base machine apply.

Prices

For all local charges, contact your IBM representative.

Regional availability

Australia, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, People's Republic of China, Christmas Island, Cocos (Keeling) Islands, Cook Islands, Fiji, Heard Island and McDonald Islands, Hong Kong, India, Indonesia, Kiribati, Republic of Korea, Lao People's Democratic Republic, Macao, Malaysia, Maldives, Mongolia, Myanmar, Nauru, Nepal, New Zealand, Niue, Norfolk Island, Papua New Guinea, Philippines, Samoa, Singapore, Solomon Islands, Sri Lanka, Taiwan, Thailand, Timor-Leste, Tokelau, Tonga, Tuvalu, and Socialist Republic of Viet Nam

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