

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

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## At a glance

- Active Memory Expansion (AME) is enabled for the IBM<sup>(R)</sup> Power<sup>(R)</sup> 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<sup>(R)</sup> 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](mailto:daniel.goldener@ibm.com) for additional information.

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## **Key requirements**

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

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## **Planned availability date**

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- 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.

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## **Reference information**

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For additional information about the IBM i System Subscription, see Hardware Announcement:

Not applicable.

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## **Product number**

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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

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**Publications**

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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

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## Services

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### 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.

Systems Lab Services offers a wide range of infrastructure services for IBM Power servers, IBM Storage systems, IBM Z<sup>(R)</sup>, and IBM LinuxONE. Systems Lab Services has a global presence and can deploy experienced consultants online or onsite around the world.

For assistance, contact Systems Lab Services at [ibmsls@us.ibm.com](mailto:ibmsls@us.ibm.com).

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

### IBM Consulting<sup>TM</sup>

As transformation continues across every industry, businesses need a single partner to map their enterprise-wide business strategy and technology infrastructure. IBM Consulting is the business partner to help accelerate change across an organization. IBM specialists can help businesses succeed through finding collaborative ways of working that forge connections across people, technologies, and partner ecosystems. IBM Consulting brings together the business expertise and an ecosystem of technologies that help solve some of the biggest problems faced by organizations. With methods that get results faster, an integrated approach that is grounded in an open and flexible hybrid cloud architecture, and incorporating technology from IBM Research<sup>(R)</sup> and IBM Watson<sup>(R)</sup> AI, IBM Consulting enables businesses to lead change with confidence and deliver continuous improvement across a business and its bottom line.

For additional information, see the [IBM Consulting](#) website.

### IBM Technology Support Services (TSS)

Get preventive maintenance, onsite and remote support, and gain actionable insights into critical business applications and IT systems. Speed developer innovation with support for over 240 open-source packages. Leverage powerful IBM analytics and AI-enabled tools to enable client teams to manage IT problems before they become emergencies.

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

### IBM Expert Labs

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### **IBM Security<sup>(R)</sup> Expert Labs**

With extensive consultative expertise on IBM Security software solutions, Security Expert Labs helps clients and partners modernize the security of their applications, data, and workforce. With an extensive portfolio of consulting and learning services, Expert Labs provides project-based and premier support service subscriptions.

These services can help clients deploy and integrate IBM Security software, extend their team resources, and help guide and accelerate successful hybrid cloud solutions, including critical strategies such as zero trust. Remote and on-premises software deployment assistance is available for IBM Cloud Pak<sup>(R)</sup> for Security, IBM Security QRadar<sup>(R)</sup>/QRoC, IBM Security SOAR/Resilient<sup>(R)</sup>, IBM i2, IBM Security Verify, IBM Security Guardium<sup>(R)</sup>, and IBM Security MaaS360<sup>(R)</sup>.

For more information, contact Security Expert Labs at [sel@us.ibm.com](mailto:sel@us.ibm.com).

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

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## **IBM support**

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

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## **Additional support**

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### **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](mailto:sysgarage@ibm.com).

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## **Technical information**

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### **Planning information**

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#### ***Cable orders***

No cables required.

### **Security, auditability, and control**

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

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## Terms and conditions

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### 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.

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## Prices

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For all local charges, contact your IBM representative.

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## Regional availability

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Argentina, Belize, Plurinational State of Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Bolivarian Republic of Venezuela

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