**# Title:**

SPM Hot-plug Support

**# Status:**

Draft

**# Document:**

ACPI Specification Version 6.next

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**# Summary of the change**

This ECR is related to a proposal to extend the ACPI SRAT to support hot-adding memory that is intended for specific-purpose usage, aka specific-purpose memory (SPM). The UEFI specification defines a memory attribute (EFI\_MEMORY\_SP) for describing SPM that is present and available at boot time. However, this attribute does not cover scenarios where the memory is unavailable/absent at boot time, and then hot-added physically or logically at runtime, and then used as SPM. Such dynamically added memory cannot be described in the EFI memory map and must be declared in the ACPI SRAT or HMAT tables instead. This ECR proposes that the SPM attribute be extended to the SRAT table.

An OS that is aware of this SRAT attribute is thus able to assign the hot-added memory to the correct memory pool - SPM or conventional memory (general-purpose).

The usage model remains the same – the hot-added/onlined SPM is intended to be used by a specific application and general-purpose use of this memory is permitted but could impact the performance of the applications it was intended for.

**# Benefits of the change**

Improved description of system memory to the OS, for selective treatment, especially in hetero-compute environments such as CXL.

**# Impact of the change**

Platforms firmware will have to modified to support the extended SRAT. Likewise, operating systems will require new code to support the extended SRAT.

**# Detailed description of the change [normative updates]**

Existing text

New text

~~Deleted Text~~

**5.2.x. System Resource Affinity Table (SRAT)**

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**5.2.X.x. Memory Affinity Structure**

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**Table 5.y:** Flags - Memory Affinity Structure

|  |  |  |  |
| --- | --- | --- | --- |
| **Field** | **Bit Length** | **Bit Offset** | **Description** |
| … | … | … | … |
| Specific-purpose | 1 | 3 | Indicates whether this memory is intended for specific-purpose usage. This field is functionally analogous to the UEFI EFI\_MEMORY\_SP attribute. See the UEFI specification for more details on this attribute. |
| *Reserved* | 28~~29~~ | 4~~3~~ | Must be zero. |

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