



Why PowerEdge Does Not Offer Intel Xeon AP

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SUMMARY

The complex architecture of processor technology can sometimes make it difficult to explain Dells design reasoning to customers.

This DFD is a sales resource to further assist in understanding why the Intel Xeon AP CPU will not be supported in our PowerEdge products.

There are many factors involved when deciding which processor architecture will pair best with our PowerEdge servers. Intel Xeon AP is not supported in our PowerEdge product line as it does not enable the core capabilities our customers demand in a PowerEdge Server. Integrating Xeon AP would reduce many features and would not fulfill the brand tenets to be a PowerEdge server. As seen below, existing R840 server architecture can produce equivalent processing performance without sacrificing any unique PowerEdge benefits:

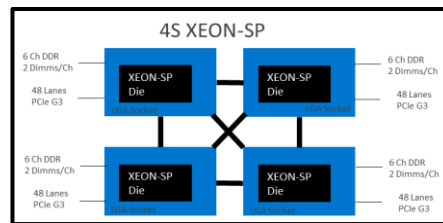


Figure 1: R840 server design for 4S Xeon-SP (56 cores). All four CPU's are included in a four-socket configuration. This socketed package enables flexibility for custom PowerEdge system design and features.

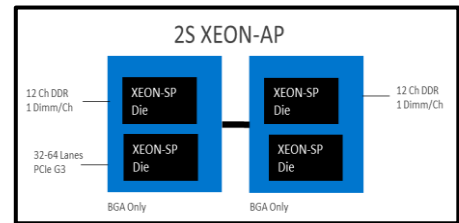


Figure 2: Server design for 2S Xeon-AP (56 cores). All four CPU's are included but packaged as a MCP. This is a single server platform design only available to OEM from Intel as a complete system.

Reasons Why Intel Xeon AP is Not Supported for PowerEdge

- At the highest level, a 2S Xeon AP is equal to a 4S Xeon SP. The Xeon AP is a MCP (multi chip package) that combines two Xeon SP processors into one BGA (ball grid array) package. This level of computing performance can already be achieved in PowerEdge R840 four socket design, as seen in Figure 1
- Packaging 2 Xeon SP die together will create a high power CPU thus requiring liquid cooling in most cases
- Traditional server socket design was replaced with a BGA package to keep the motherboard compact. This design requires full system replacement for any processor failure as the CPU's are soldered to the motherboard
- This processor is only available within a configured system from Intel
- Dell EMC PowerEdge features such as Open Manage Enterprise, iDrac, Dell BIOS, DPAT, DAPC, hardware root of trust, security features and support assist are not possible
- Not available in rack, tower or blade form factors
- Not compatible with other PowerEdge products
- Limited IO slot options and unbalanced IO configuration
- No support for Intel Optane DC Persistent Memory Module or accelerator class devices such as GPU's and FPGA's
- Very limited NVMe drive support due to form factor and power consumption
- The Xeon AP has the most value in a dense rack data center that can support 100K Watts of power and cooling per rack