AI Server: AMD EPYC 9006 Series / "Venice“ Dell PowerEdge R9825 Teardown Report



Product outlook

https://www.dell.com/ja-jp/shop/ipovw/poweredge-r9825
DELL Website

Report Overview

The 6th Gen AMD EPYC 9006 "Venice“ Series is AMD's latest server processor, delivering high-performance computing with up to 256 cores per socket. Supporting DDR5 memory, PCIe Gen6, and high-speed NVMe storage, it is engineered for demanding workloads such as AI inference, High-Performance Computing (HPC), cloud services, virtualization infrastructure, and large-scale databases. Its high core density and massive memory bandwidth enable space-saving server consolidation and improved performance per watt. **Released in November 2026**, the Dell PowerEdge R9825 is a 3U rack server capable of housing up to two of these 6th Gen AMD EPYC 9006 Series processors. It supports configurations with up to 512 cores and up to 8TB of memory, positioning it as a high-performance platform for AI, HPC, and large-scale enterprise systems.

The package architecture is presumed to consist of two I/O Dies (IODs) and up to eight Core Complex Dies (CCDs). Moving away from the conventional method of connecting components solely via traces on an organic substrate, the design is widely believed to adopt Elevated Fanout Bridge (EFB) advanced packaging technology, which is thought to use bridge dies to achieve high-bandwidth, low-power chiplet-to-chiplet interconnects.

Project Overview

Mounted PCB
Through unit teardown, the analysis will cover the board structure, PCB layout, mounted components, power delivery configuration, and cooling methods.

Package
The analysis aims to clarify the detailed structure and layouts of the package substrate and interposer, including validating the assumptions mentioned above.

IOD and CCD
The process node will be identified, and the functional blocks will be estimated.

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Report Contents (Tentative)

We are planning to conduct the following analysis and issue reports.

	Report
PCB	**Report (1) : Survey of Key Semiconductor and Components mounted on the PCB** - Survey of mounted semiconductor devices - Datasheets (if available) - Enlarged photographs of mounted components such as sockets
	Report (2) : L/W Measurement of the Finest Features Across each PCB Layers - Measurement of line width and line pitch of the finest features in each layers
	Optional: CAD data (ODB++) of PCB
	Report (3) : Cross-section Analysis of PCB - Cross-section structural analysis - Measurement of individual layer thicknesses
Package	**Report (4) : Image Data of Package Substrate Layers** - Wiring information (photographs of each layers, line width, line pitch)
	Optional: CAD data (ODB++) available (additional fee is required)
	Report (5) : Image Data of RDL Interposer Layers - Wiring information (photographs of each layers, line width, line pitch)
	Optional: CAD data (ODB++) available (additional fee is required)
	Report (6) : Cross-section Analysis of Package - X-ray images of the package - Cross-section structural analysis - Measurement of individual layer thicknesses
Die	**Report (7) : Analysis of CCD and IOD Dies** - SEM cross-section of Seal Ring area - Photographs of top layer and gate layer - Floor plan analysis (Function block identification)

- The information provided above is preliminary and subject to change without notice.
- If you are interested, please contact your sales representative or the email address below for further information.

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