PORTAL

CREDO
we connect.

AEC APPLICATIONS

ABOUT AECS APPLICATIONS HIWIRE CONSORTIUM

The demand for cloud computing, instant data streaming, and emerging applications including 5G, AI, and machine learning have pushed Hyperscale, enterprise and edge data centers to accelerate the deployment of 400G and 800G networks. However, traditional architectures, component availability, costs, and device limits on power and performance have presented significant hurdles to moving forward.

After years of research and development, Credo introduced HiWire™ Active Electrical Cables (AECs) as the next industry solution to solve the connectivity bottleneck. AEC technology was immediately embraced and over 50 cable, switch, datacenter and

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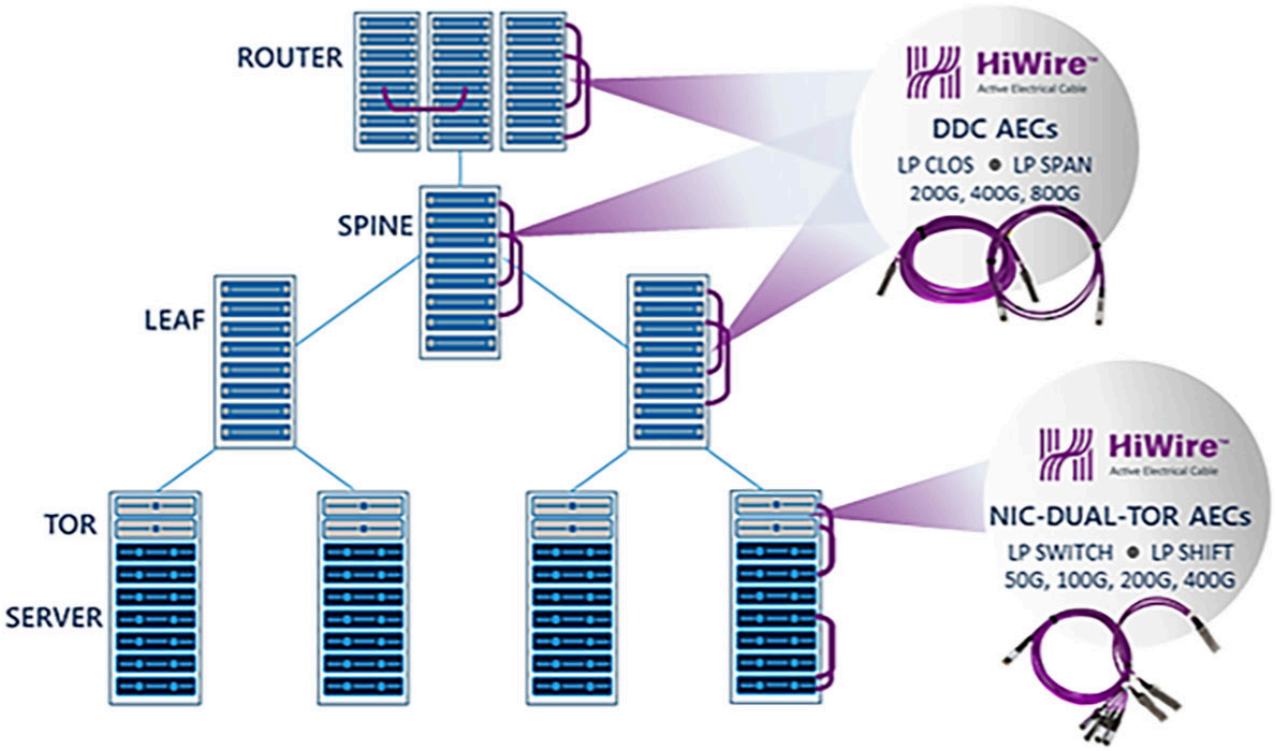
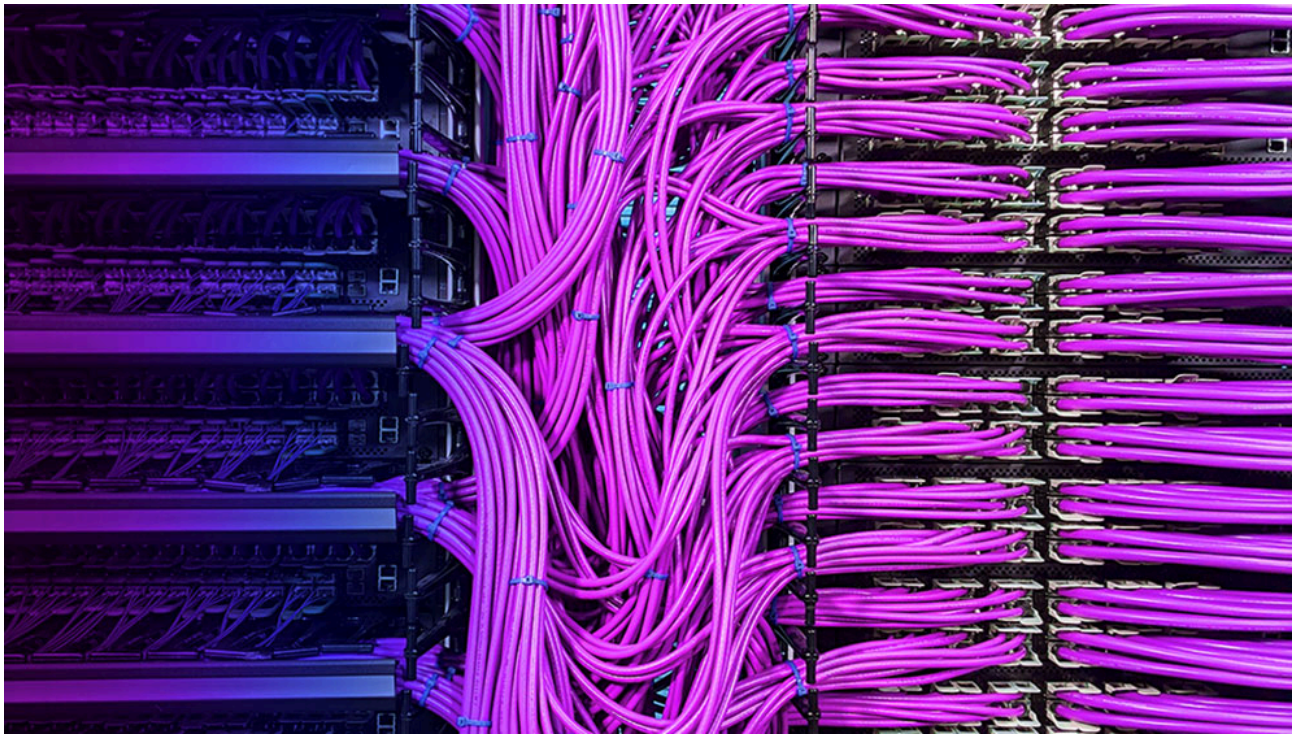
IPR2025-00834

connectivity suppliers have joined the HiWire Consortium to accelerate the standardization and deployment of AECs.

The applications for AECs in the data center fall under two broad categories: The Servers-TOR Racks and the Leaf-Spine-Router Racks.





DDCs replace proprietary, high-cost chassis using back panel interconnect with standards-based white box hardware, open-source or 3rd party software and front panel interconnect. AECs take up to 75% less volume than DACs and up to 50% less power than AOCs enabling unprecedented DDC densities.

DDC APPLICATIONS

Application Notes

350Tb Jericho2c+ DDC Switch

96Tb Jericho2 DDC Switch

100Tb Tomahawk4 DDC Switch

Demos

350Tb Jericho2c+ DDC Demo

96Tb Jericho2 DDC Demo

100Tb Tomahawk4 DDC

800G AEC Switch Rack vs. DAC, pt. 1

800G AEC Switch Rack vs. DAC, pt. 2

AEC HPC vs. Tray Routing

Of all data center cabling infrastructure, Server (NIC) to Top-of-Rack (TOR) switch links are undergoing the most innovations. AECs enable extended lengths for shared TORs, gearboxing for NRZ-PAM4 links, and advanced functions enabling network-managed redundancy and security.

NIC-TO-TOR APPLICATIONS

Application

Seamless Connectivity between Servers/NICs and Dual TORs

Demos

SWITCH AEC and SONiC Dual TOR Webinar

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