AMERICAS COMMUNICATIONS TECHNOLOGY

Expert Network Series: Data center outlook with Dell'Oro

Michael Ng, CFA
+1(212)902-8618 | michael.ng@gs.com
Goldman Sachs & Co. LLC

Katherine Murphy
+1(212)902-1151 | katherine.a.murphy@gs.com
Goldman Sachs & Co. LLC

Yash Goenka, CFA
+1(212)934-6312 | yash.goenka@gs.com
Goldman Sachs India SPL

Lizzy Xie
+1(212)357-3206 | lizzy.xie@gs.com
Goldman Sachs & Co. LLC

We hosted a group investor meeting on October 7 in New York with Dell'Oro's Sameh Boujelbene, Baron Fung, and Tam Dell'Oro.

Bottom line: AI infrastructure investments continue to be justified through capability developments rather than returns, and that likely will continue to be the case for the next several years. Data center capacity likely will increase ~200GW over the next 5 years to ~250GW by 2030, with on-site generation becoming more critically important over time. Within networking, ANET is among the best positioned in scale-across networks, while CLS and HPE likely will lead in scale-up networks; CSCO has shown impressive progress in scale-out.

Key takeaways

Scale up represents net new TAM opportunity for networking vendors. Dell'Oro believes scale-up represents largely net-new networking TAM rather than a substitution within existing data center spending, with vendor success dependent on both liquid-cooled switch capabilities and deep rack-level integration. The firm highlighted Celestica and HPE Juniper as among the earliest beneficiaries, with revenue contributions expected as early as this year, while some competitors (ANET) may not see material scale-up exposure until later in the cycle based on their underlying customer programs. Importantly, Dell'Oro emphasized that most early scale-up deployments are tied to hyperscalers that run their own network operating systems, making these opportunities less attractive from a margin perspective than traditional scale-out or scale-across deployments. Dell'Oro estimates approximately $200 million of networking content within HPE Juniper's recently announced $1.2 billion Vultr program.

Power availability is the primary gating factor for industry growth and revenue recognition. The firm estimates roughly 200GW of incremental data-center power will need to be deployed globally between 2026 and 2030 (from 50-60 GW as of 2025), with 60-70% concentrated in North America. Dell'Oro's view is that demand for AI infrastructure remains well above current supply forecasts, but power, permitting, inter-site connectivity, and customer readiness increasingly determine when equipment can actually be accepted and recognized as revenue. The firm

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expects the industry to become progressively less dependent on traditional grid power, with on-site generation potentially reaching roughly 30% of total power deployment over the next five years as hyperscalers prioritize speed-to-market and seek to avoid regulatory bottlenecks associated with grid expansion.

Scale-across networking architectures could help alleviate some of the industry's power constraints by enabling AI workloads and capacity to be pooled across geographically distributed campuses. The firm noted that networking vendors are addressing these deployments through a combination of routing and switching technologies, with deep-buffered platforms becoming increasingly important. For long-distance deployments, Dell'Oro views Arista's Jericho-based architecture as particularly competitive and a driver of both TAM expansion and new customer wins, while HPE Juniper, Cisco, and Nokia also maintain strong positions. For shorter-distance deployments, Tomahawk-based platforms have historically been sufficient, but growing adoption of MACsec security has increased the importance of Jericho-based solutions. Looking ahead, Dell'Oro believes future integration of MACsec functionality directly into coherent optical technologies could alter competitive dynamics in scale-across networking and potentially reshape market share opportunities across the industry.

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Contributing Authors: Michael Ng, CFA Goldman Sachs & Co. LLC, Katherine Murphy Goldman Sachs & Co. LLC, Yash Goenka, CFA Goldman Sachs India SPL, Lizzy Xie Goldman Sachs & Co. LLC.

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