



HPC User Site Census: All Networks

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EXECUTIVE SUMMARY

This report, part of the Intersect360 Research Site Census series, provides an examination of the server interconnects and network characteristics found at a sample of HPC user sites. Intersect360 Research surveyed a broad range of users about their current computer system installations, storage systems, networks, middleware, and software supporting these computer installations.

The goal in this analysis of networks is to examine the installations by network type and by supplier across the three locales (system, storage, and LAN) within the HPC user communities.

Key findings of the survey include the following:

- Ethernet and InfiniBand are the two primary network protocols that compete across all three locales: system interconnects, storage networks, and LANs. Ethernet is the most prevalent for all three locales when data rates are disregarded. For the higher performance interconnects, InfiniBand (40G in particular) continues to be used in the greatest number of systems reported in our study.
- About two-thirds of the surveyed sites reported both Ethernet and InfiniBand installed at their site.
- 10 Gigabit Ethernet has the most representation for storage networks, capturing the upgrade business from Gigabit Ethernet, and surpassing InfiniBand installations.
- Mellanox is the supplier used most often for system interconnects, with 40% of mentions, and also for storage networks, with 28% of mentions. Cisco continues to be the leading supplier for the LAN market, with 48% of the mentions.
- Ethernet, as expected, accounts for the majority of LAN network implementations reported at these sites, with Gigabit Ethernet accounting for 40% of the mentions, followed by 10 Gigabit Ethernet, with 33%.