EMULEX®

THAT'S WHY I/O IS STRATEGIC™

Top 5 Reasons
Why Emulex 10GbE Adapters are Strategic

Did you know selecting the right 10Gb Ethernet (10GbE) adapter can help reduce OPEX and CAPEX costs?

With Emulex OneConnect 10GbE universal converged network adapters (UCNAs), organizations can unify LAN and storage traffic over a common 10GbE networking infrastructure. This helps organizations reduce CAPEX and OPEX. Deploying a common network infrastructure reduces the number of adapters, switches and cabling required, thereby helping to cut capital expenditures. OPEX savings is realized in the reduction of management, power and cooling costs. OneConnect adapters also maximize utilization of server assets in virtualized environments while streamlining administration via an ESXi management plug-in. Given the financial impact of 10GbE adapters, it is easy to see that selecting the correct 10GbE adapter for your data center is strategic.

1

OneConnect™

Reduce CAPEX and OPEX

Convergence, utilizing 10GbE, simplifies networking by carrying Local Area Network (LAN) and storage traffic (iSCSI or Fibre Channel over Ethernet (FCoE)) over a common network infrastructure. This helps IT organizations lower capital infrastructure expenses by reducing the number of adapters, switch ports and cables. That results in lower OPEX by reducing power, cooling and management costs. In addition to using a common cable for LAN and SAN data traffic, converged networks also benefit from using a common network adapter called a Converged Network Adapter (CNA).

Emulex, a leader in server to fabric connectivity solutions, offers OEMs a broad array of converged network adapters designed to simplify network infrastructure deployment and management. With CNAs provided by Emulex, IT organizations can:

- Decrease the number of adapters and cables by as much as 80 percent
- Reduce switch, adapter and rack space requirements by as much as 28 percent
- Reduce power and cooling costs by up to 42 percent

CNAs provided by Emulex also provide hardware offload for processing Ethernet, iSCSI and FCoE traffic. This not only improves performance but also frees up server CPU cycles for application workload processing and virtual machine (VM) management. The net result is greater efficiency, which enables the use of lower power CPU to further reduce power and cooling costs.

2

Improved Business Agility

Deploying a converged network in data centers consolidates networks and facilitates on-demand provisioning of network bandwidth based on application needs. Network convergence is also complementary to server virtualization deployments, enabling IT organizations to dynamically respond to changing business demands through rapid provisioning of application and infrastructure services from shared pools of consolidated computing, storage and network resources.

CNAs provided by Emulex deliver greater CPU efficiency and the highest virtual port count per VM, enabling converged networks to offload processing from the hypervisor and support more VMs per server. In addition, with dynamic bandwidth allocation based on individual VMs, data centers have the flexibility to maximize server consolidation and workload performance. The combination of VM-optimized networking and storage services allows IT managers to tie VM mobility to policy and event-based triggers, such as CPU utilization, thermal load and environmental variables.

3

Infrastructure Investment Protection

One of the key advantages of network convergence is that it does not require a rip-and-replace approach. Based on standard FC and iSCSI protocols, converged networks can be phased into existing networks without affecting server and storage infrastructure or the processes required to manage and support installed applications.

4

Energy Efficiency

Increasing environmental mandates and regulations are forcing data centers to be designed for maximum energy efficiency in order to reduce their environmental impact. Adopting a converged network strategy can reduce a data center's energy demands. With convergence, data center administrators can take tangible steps to not only minimize power consumption but also help reduce cooling costs. CNAs provided by Emulex offer hardware offload for I/O processing. This capability facilitates the deployment of more VMs per physical server which has a positive impact on data center energy efficiency.

5

Simplified Management

Managing multiple protocols throughout the data center can be difficult without a centralized management console. The Emulex OneCommand® Manager application provides powerful adapter provisioning and diagnostic capabilities designed to help increase administration efficiency and business agility. This approach protects existing investments in management tools and processes and thus lowers the long-term operating cost of the data center. In addition, network convergence is fully compatible with common FC security mechanisms.

Conclusion

Consolidation and virtualization are the key data center initiatives for transitioning from existing IT infrastructures to more efficient, agile infrastructures. Network convergence fully complements virtualization initiatives and provides the foundation for a truly agile end-to-end infrastructure. Network convergence is all the more attractive since it powers this transition while achieving significant reductions in capital equipment and operational expenses.

- Ability to leverage existing skills = less cost. Perhaps the biggest challenge in deploying any new technology lies in training the staff to implement and manage these new technologies. By enabling management of new technologies using existing tools, such as OneCommand Manager, IT staff can implement faster, easier, and with less overall cost. Obviously, this doesn't mean that organizations can stop training staff, but makes it less necessary for minor generational changes.
- Increased workload size = more virtualized workloads. With such high core counts in the new Intel E5 processors, larger workloads can be considered as viable candidates for virtualization. In fact, the E5 line is tuned against large, memory-intensive single-application workloads, making it well-suited to the varied, multi-application nature of virtualization. So, have you been avoiding virtualizing that big SQL Server? Consider it!
- Less cabling = focus on IT value-add, lower costs. With 10GbE and I/O virtualization, organizations can enjoy a 10-to-1 reduction in the amount of network cabling that is necessary for a server. This translates into less time necessary to spend on physical networking needs. As these efforts scale, organizations can begin to reap significant ongoing benefits of both money and time. Companies should start by testing some of the new capabilities in a test bed to determine an appropriate level of investment based on the measured performance of the new hardware. They should discover where such investments can be made, sooner rather than later, and what kinds of tools may need to be put into place to supplement existing ones.

Some of these products may not be available in the U.S. Please contact your supplier for more information

World Headquarters 3333 Susan Street, Costa Mesa, California 92626 +1 714 662 5600
Bangalore, India +91 80 40156789 | **Beijing, China** +86 (10) 68499547
Dublin, Ireland+35 3 (0)1 652 1700 | **Hyderabad, India** +91 40 23740985
Munich, Germany +49 (0) 89 97007 177 | **Paris, France** +33 (0) 158 580 022
Singapore +65 68663768 | **Tokyo, Japan** +81 3 5325 3261
Taipei City, Taiwan +886 2 37895100 | **Shanghai, China** +86 13901886511
Wokingham, United Kingdom +44 (0) 118 977 2929

www.emulex.com