

How iWARP Helps In Implementing HPC Cloud Computing

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What is iWARP

- iWARP specification is maintained by the Internet Engineering Task Force (IETF)
- iWARP is Ethernet
- iWARP, because it is built on familiar, proven TCP/IP, is managed just like any Ethernet fabric
 - It uses all the same network management tools used today
- iWARP is a non-proprietary, multi-vendor sourced standardized technology

The Uniqueness Yet Familiarity of iWARP

- Built on the ubiquitous, tried, and proven TCP/IP stack enables iWARP to be Cloud-Ready
 - iWARP is WAN routable, it can go anywhere the internet can go via layer 3 routing
 - No special hardware, transmission lines, or programming is required
 - iWARP uniquely does not require any additional infrastructure to deliver RDMA capabilities beyond its source subnet
 - An iWARP packet performs like any other TCP/IP packet

The Flexibility of iWARP

- Today users often need to work in a “hybrid mode” environment
 - With iWARP, users can “write once” and use that RDMA application locally for the highest performance
 - Other times a user needs more local capacity or to lower their equipment cost and run applications remotely (in the cloud)
 - iWARP gives companies the flexibility to do both scenarios via it’s inherent routability
 - iWARP is the “cloud-ready” RDMA Fabric

iWARP Continues to Evolve

- Internet-Draft submitted and received by the IETF STORM WG: 'RDMA Protocol Extensions'
- The enhancements include
 - Closing the gap between different RDMA transport Verbs and semantics
 - Support for Atomic Operations
 - Wire Protocol to implement missing Verbs and semantics
 - iWARP is evolving to remove differences in functionality relative to IB as exposed through the OFA API
 - Draft co-authored by: Broadcom Corporation, Chelsio Communications, Inc., Intel Corporation

Tried and Proven

- University of Purdue – 1200 Node Coats Cluster
- University of Wisconsin
- Osaka University
- Shanghai Observatory
- Howard Hughes Medical Center
-and many more and more to come!!!