

Evaluating Networking Performance on HP 9000 Systems

Presentation #260

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Target Audience:

System Administrators

Technical Level:

Intermediate/Novice

Two-line Summary:

This talk will cover the basics of networking as related to performance: packet size, software stack, and measuring tools. It will use the Gigabit Ethernet Adapter as an example.

What attendees will learn:

1. Some common tools to use in measuring networking performance
2. Components that affect networking performance
3. Ways to evaluate performance test results

Abstract:

Network performance is generally considered black art. There are many elements in a network. However, this talk will focus on the system and the network adapter. The Gigabit Ethernet Adapter on HP 9000 servers will be used in several examples.

This talk will demystify networking performance. Networking is measured by throughput (bits per second, transactions per second), latency (seconds per byte), and utilization (percent of cpu cycles). Each term will be defined and examples given.

A major influence on networking performance is the layer where the performance is measured. For example, at the application level, data processing by the application decreases the system's ability to deliver data to the network. The various layers in the system will be discussed, along with the different factors active at each level.

Common tools used to measure network performance are ftp, netperf, and ttcp (testing tcp). These tools will be discussed and compared.

Biographical Sketch:

Edward Chang is currently GbE / 10 GbE Technical Lead at Hewlett Packard's System Solutions Interconnect Lab. He joined HP from University of California, Davis in 1989 and has worked on data communications and networking links on HP's MPE and HP-UX operating systems for HP9000 systems. Edward is currently leading a team to investigate, architect, and develop the next generation high speed networking link on 10 Gigabit Ethernet and TCP/IP Offload adapter technologies on HP-UX for HP 90000

systems. He has previously led the development of the HP-UX software drivers for HSC and PCI adapters on HP 90000 systems for network links such as Ethernet, Token Ring, FDDI, Gigabit Ethernet, and Fibre Channel adapters. He was an architect and developer of Fibre Channel protocol software for HP's Fibre Channel switches.