

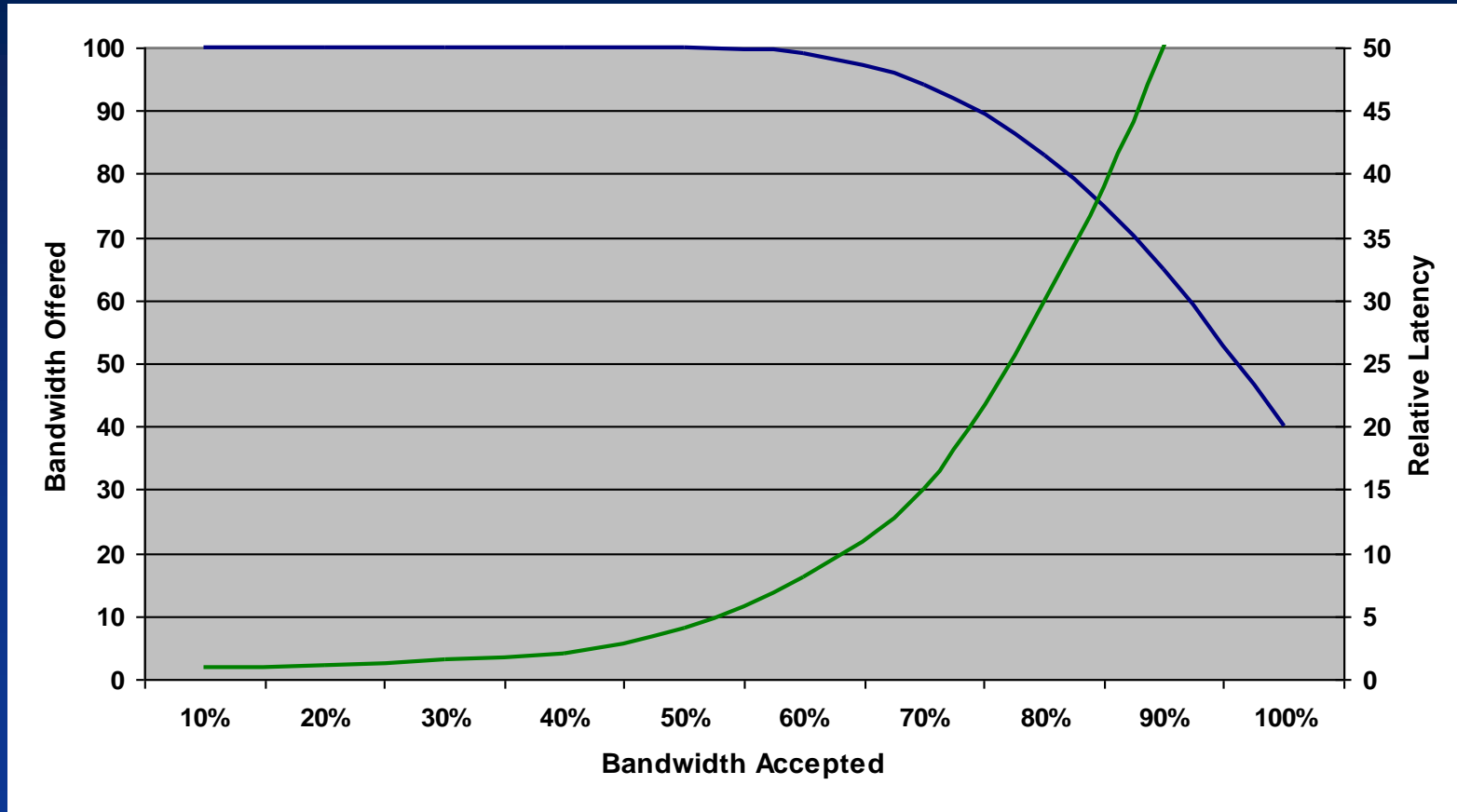
DPI Traffic Management for Switched Ethernet ATCA Platforms

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Agenda

- Effects of Best Effort Switching on Traffic
- Techniques for Traffic Management
- Facilities for Traffic Management in Ethernet Switches

Effects of Statistical Congestion



Statistical Congestion

- Less than full utilization of bandwidth
- Significant impact on latency even before bandwidth utilization is impacted.
- More important is variability in latency

Congestion Management

- Priority Scheduling
- Bandwidth Reservation
- Hierarchical Scheduling
- Traffic Classes

Congestion Avoidance

- Paused Based Flow Control
- Class Based Flow Control
- Ingress Traffic Shaping

Facilities in Advanced Ethernet Switches

- Ingress Traffic Classification
 - VPN Priority
 - Diffserve Codepoint
 - ACL
 - Other up to 128 bytes in the header
- Ingress Traffic Shaping
 - Rate limit enforcement
 - Tri-color marking

Facilities in Advanced Ethernet Switches

- Global Pause Frame Generation
- Class of Service Pause Frames
- Per Port Per Class Pause Frames
- Virtual Output Queues

Facilities in Advanced Ethernet Switches

- 8 Traffic Classes Per Port
- Priority and DRR scheduling per class per port
- High and low watermarks per class per port
 - Tri color marking for packet discard

About the Author

Chuck Hill is a 30 year professional with more than 15 years experience designing high availability and fault tolerant equipment for telecom.

Chuck Hill holds 10 patents for work in telecom and has participated in the development of many standards for PICMG, RapidIO, and IEEE.

He has a Master's Degree in Engineering from Arizona State University, and a Master's Degree in Business from DeVry University.

About Continuous Computing

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