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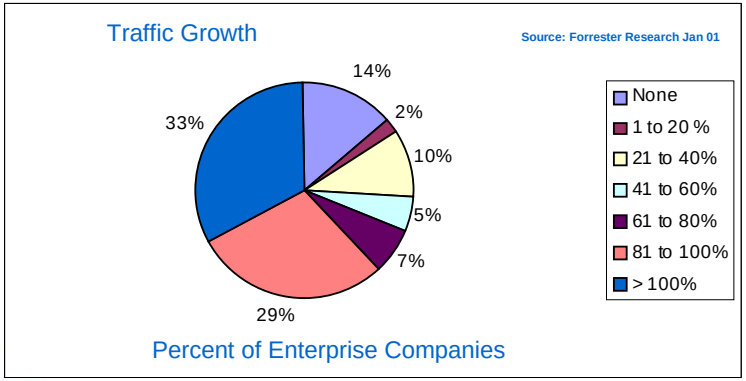
Making Networks Smarter

A Framework for Quality of Service Provisioning for Broadband Internet Access with Wireless Networks

Manickam R. Sridhar
CTO
msridhar@sitaranetworks.com

Most Firms See Bandwidth Requirement Ballooning

How much will Internet bandwidth usage increase during the next two years?



Seventy percent of firms will increase Internet bandwidth usage by at least 60% in next two years

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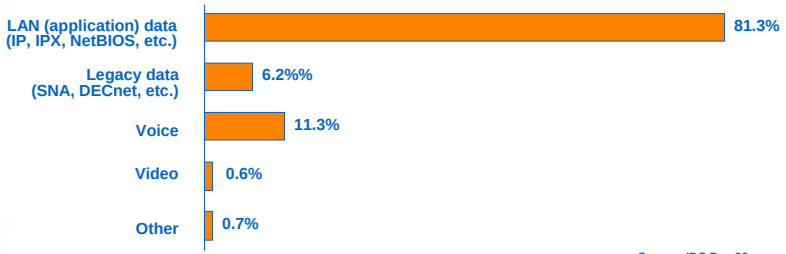
Growing Demand, Constrained Budget
Result: Network Rationalization

Traffic type by percentage volumes



Source: IDC Dec 00

- **Control Operating Expenses**
  - Converge all applications on a single network
- **Control Capital Expenses**
  - Move towards a common IP infrastructure
  - Wireless Networks

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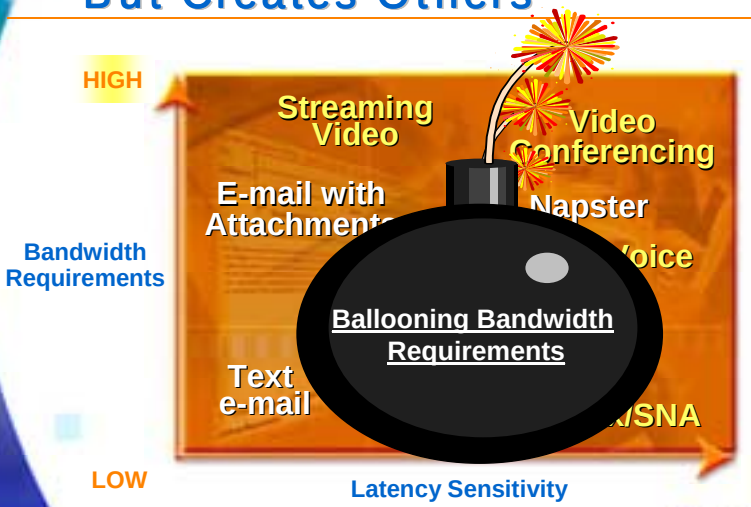
IP Solves Some Problems But Creates Others



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The Need for Quality of Service (QoS)
Provision and Enforce Application SLAs

1. **Minimum Bandwidth**
2. **Latency**
3. **Packet Loss Rate**
4. **Jitter**
5. **Availability**

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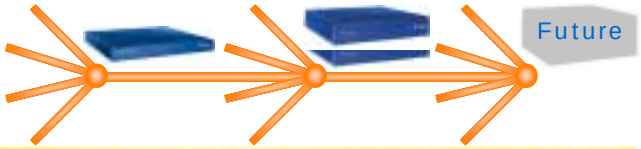
Need for QoS: Network Topology



Aggregation Point	1	2	3
Location	Enterprise	Access Pop or Hosting Site	Edge of Core
Speed	64K - 100 Mbps	10M - OC3	OC12-OC192

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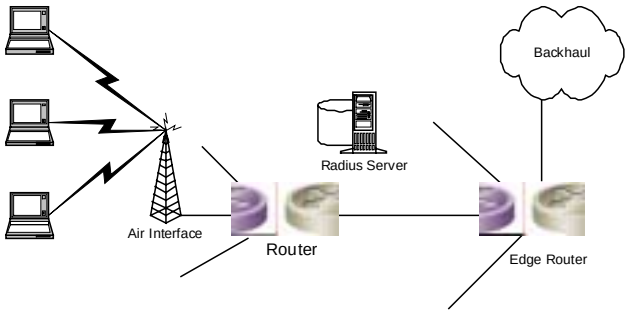
The Broadband Wireless Network Model



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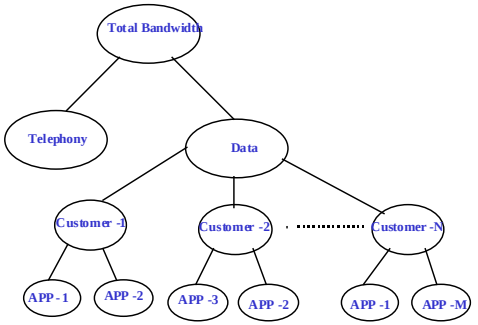
SLA Provisioning Example



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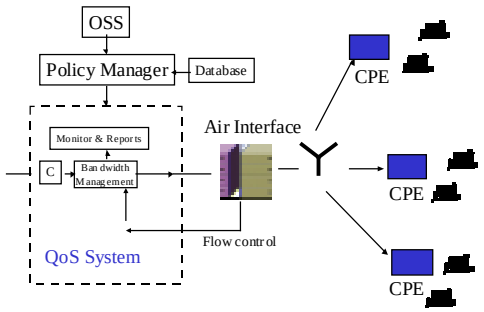
QoS Framework for a Broad band Wireless Access Network



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Service Level Agreements

Voice over IP (example)

	Platinum	Gold	Silver
Guaranteed VoIP B/W	x kbps	y kbps	z kbps
# of Voice Sessions	X	Y	Z
Maximum Burst	Pipe Speed	3/4 Pipe	1/2 Pipe
Priority traffic (Other)			
Core Business	High	Medium	Medium
Email	Medium	Low	Low
FTP	Low	Low	Low
Web	Medium	Medium	Low

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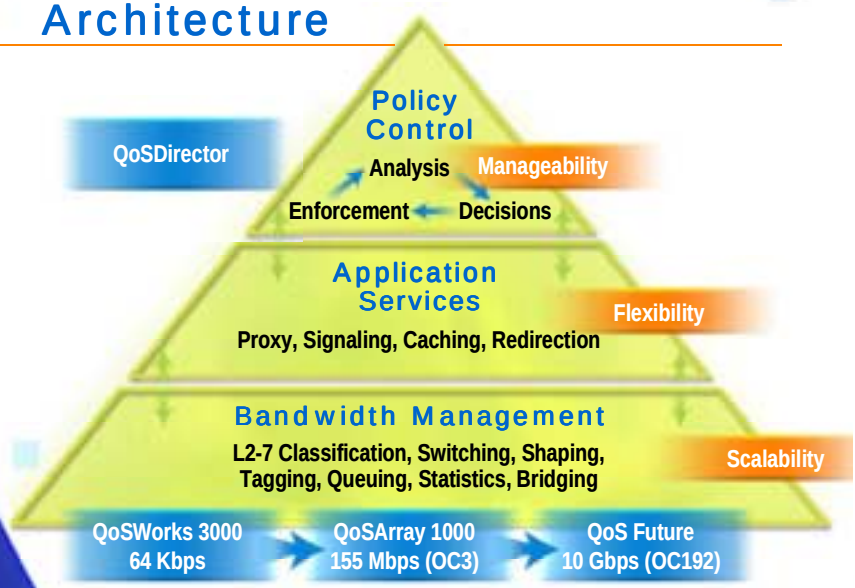
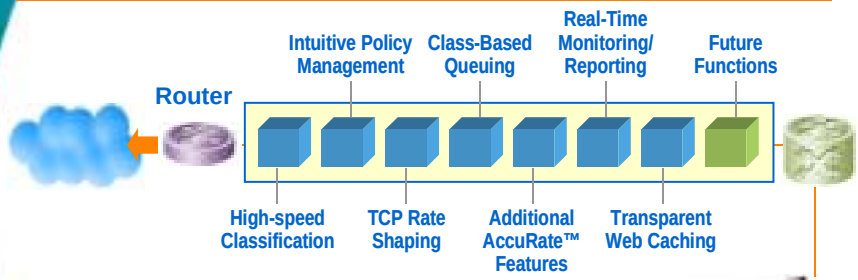
Sitara's Unique QoS Architecture



Sitara QoS Technology



- Complete, integrated best-of-breed QoS solution
- Requires no change in existing network infrastructure
- Optimal network bandwidth utilization to maximize user satisfaction

LAN Clients

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