MASERGY

Customer-Controlled Intelligent Networks

DELIVERING GLOBAL ETHERNET

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MAY 2007

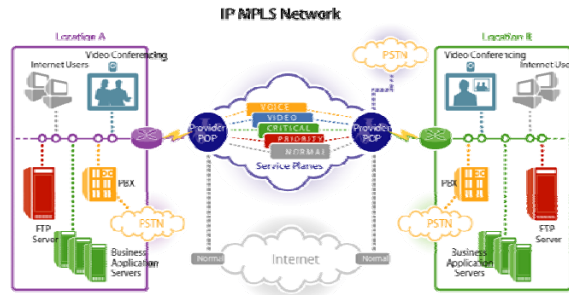**MASERGY**

MASERGY at a Glance

***MASERGY* is a global network service provider specializing in simplifying wide-area networks (WANs) for enterprises**

➢ Built first global native IP MPLS network

➢ First to offer VPLS service (2003)

➢ Global service provider supporting customers on six continents

➢ Strong service and marketing alliances

➢ Pioneered several industry "firsts"
- Customer-controlled networking
- VPLS
- Global Ethernet WANS
- Service-embedded network management

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Slide 1

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Native IP MPLS Backbone

A secure native IP MPLS network ensures end-to-end quality of service (QoS)

IP MPLS Network

- ❖ 5 levels of QoS
  - ❖ Voice
  - ❖ Video
  - ❖ Critical (Data)
  - ❖ Priority (Data)
  - ❖ Normal (Web)

- ❖ Predictable business application performance
- ❖ Lower costs for voice, video and data
- ❖ Network efficiency through convergence

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Slide 2

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Intelligent Bridge (MIB)

Universal Ethernet VPNs with Multiple VLANs

- ❖ The MASERGY Intelligent Bridge (MIB) deployed when Native Ethernet access is unavailable
- ❖ Enables secure convergence of multiple VLANs on the same circuit/network
- ❖ Native Ethernet VLANs can be bridged across Serial Access Connections (i.e. T1/E1s, DS3s, etc…) via Bridge Control Protocol
- ❖ Allows for multiple VLANs from the customer premises
- ❖ One-to-one, one-to-many, and/or any-to-any networks can be deployed
- ❖ Layer 3 Service (i.e. Private IP or Public IP) can provisioned over its own VLAN

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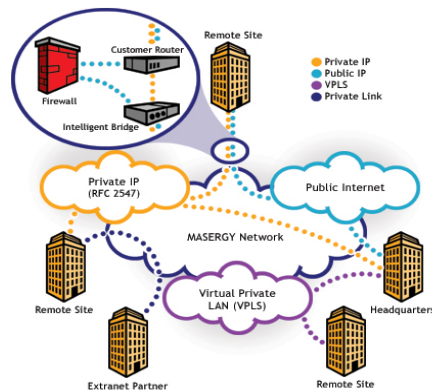
Ethernet WANs

**Ethernet WANS deliver the convenience and simplicity of Ethernet with all of the advantages of MPLS**

- ❖ Via MASERGY Intelligent Bridge
- ❖ Ethernet hand-offs everywhere (VLANs)
- ❖ Fully meshed network
- ❖ End-to-end QoS
- ❖ Layer 2 VPN (VPLS *RFC 4762*)
- ❖ Layer 3 VPN (Private IP *RFC 2547*)
- ❖ Public and private network on same circuit
- ❖ Price based on bandwidth, not on VLANs

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VPLS Offering
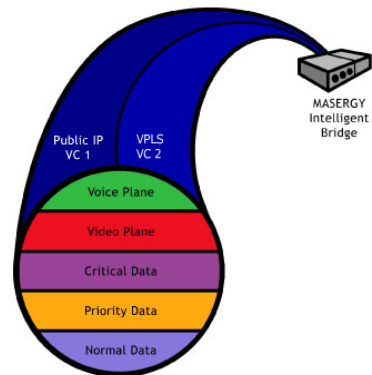
Layer 2 Transport Service

- ❖ VPLS is a standard (RFC4762), as defined by the IETF
- ❖ Customer can run any routing protocol (BGP, OSPF, EIGRP)
- ❖ Automatic failover for Disaster Recovery.
- ❖ Inherently fully meshed
- ❖ No DLCIs, PVCs, or CIRs to configure and manage
- ❖ Not tied to Ethernet speeds – E/FE/GigE/10GigE
- ❖ VPLS doesn't need fiber or Ethernet to the customer premise
- ❖ VPLS Customer Premise Equipment can be a Switch (Layer 2) or a Router (Layer 3)


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Selling VPLS
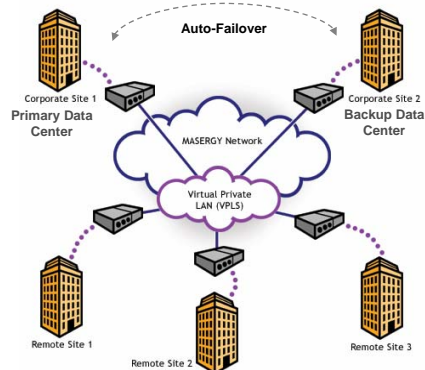
Selling focuses on outcomes first, then technology
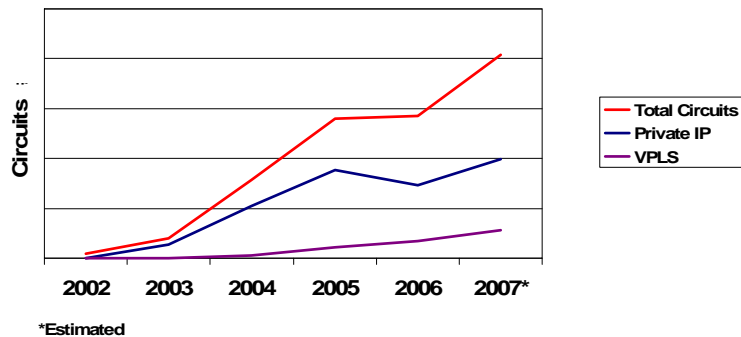
Question | Solution

- Do you want to run multi-protocol and/or non-IP applications? — VPLS

- Do you want to do your own routing? — VPLS

- Do you want to outsource routing to *MASERGY*? — Private IP

- Do you want to do both? — VPLS & Private IP

- Do you want to include your public network on this circuit? — Public IP

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VPLS Adoption Rate
Total Circuits
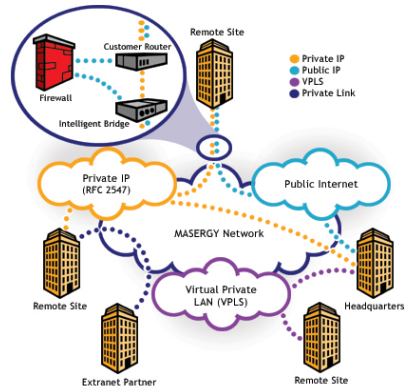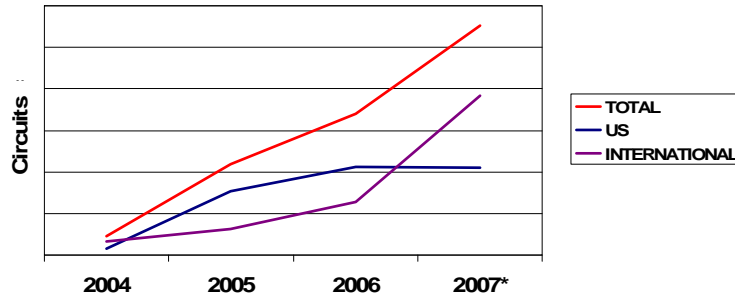
Adoption of VPLS continues to grow

- US Demand comparable to last year
- International demand growing at a dramatic rate
  - Q1 2007 @ 75% of total 2006

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VPLS Adoption Rate
Circuits

Adoption by international businesses facing strong growth

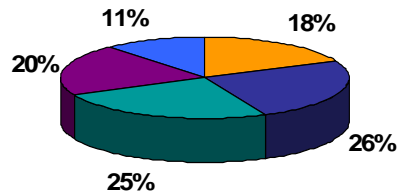Circuits
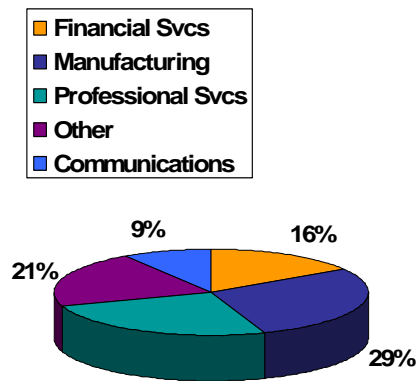
2004   2005   2006   2007*

*Estimated

- TOTAL
- US
- INTERNATIONAL

❖ US Demand comparable to last year
❖ International demand growing at a dramatic rate
  ▪ Q1 2007 @ 75% of total 2006

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VPLS Demand By Vertical

11%   18%
20%
26%
25%

By Customer

- Financial Svcs
- Manufacturing
- Professional Svcs
- Other
- Communications

9%   16%
21%
29%
25%

By Circuits

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Challenges of Global VPLS

- ❖ Spanning Tree
  - ▪ LAN protocols typically set to redundant path, blocking advertised MAC address and generating path tree loops.
  - ▪ Using a router as a CPE device on the port connected to service provider resolves this issue
  - ▪ MASERGY does not run Spanning Tree Protocol (STP) in the network, and advise enterprise to turn off STP for the port connected to the MASERGY network (after initial testing)
- ❖ When a router is not used, provider can limit MAC address table size
  - ▪ MASERGY limits to 500 MAC addresses
  - ▪ Protects against Denial of Service (DOS) attacks
- ❖ Ethernet availability limited in some markets
  - ▪ Intelligent Bridge deployed when necessary
- ❖ Future growth may require deployment of Hierarchical VPLS (HVPLS)
  - ▪ VPLS PEs act as hubs to limit number of LSPs to manage and number of LDP peers

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The Total VPLS Experience

SOLUTIONS
- ➢ Proven VPLS offering on mature, global IP MPLS network
- ➢ Seamless global VPLS offering via Ethernet VPNs
- ➢ Real-time control and embedded network management via advanced Web portal

COLLABORATION
- ➢ Complementary VPLS network design services
- ➢ Large list of service partners
- ➢ Global experience in delivering VPLS

DELIVERY
- ➢ Single point-of-contact for complete VPLS network installation
- ➢ Complete service installation at all national and international VPLS installs
- ➢ Customer-selected service activation schedule for VPLS

SUPPORT
- ➢ Proactive service alerts for all VPLS circuits
- ➢ Live support for ALL service calls with trained engineers always available
- ➢ Web portal for information, status and service changes

BILLING
- ➢ Simplified VPLS pricing
- ➢ Simple, accurate, easy-to-follow billing for all locations
- ➢ Flexible collection system for customized billing

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