



CLABBY ANALYTICS

## Research Report

### Advanced Voice/Video (Telepresence)/Data Services: MASERGY's Intelligent Transport and Network Services

#### *Executive Summary*

MASERGY is a global, privately-held network service provider that offers advanced virtual private network (VPN) services to mid-sized and large enterprises. These advanced services include a global network platform for:

- “As-if-you-were-there” global video conferencing “telepresence”;
- High-quality VoIP (voice over Internet Protocol) between worldwide sites;
- Enhanced application performance (high-speed Oracle database read/writes, for example);
- Global distribution of digital images;
- Distance learning facilities;
- Product demonstration capabilities; and,
- Live event broadcasts across-the-globe in real-time.

*What makes MASERGY interesting to Clabby Analytics is that the company has found a way to deliver bandwidth hungry applications efficiently across the globe. By exploiting the heck out of an industry standard networking protocol called Multi-Protocol Label Switching (MPLS), MASERGY is able to drive rich media and data-intensive applications over wide-area networks (WANs) in a highly-secure, high performance manner.*

*Further, MASERGY recently announced that it has enhanced this MPLS offering with an additional Class of Service (CoS) specifically targeting Scalable Video Coding (SVC) desktop video application delivery. (SVC is an encoded video stream that is scalable in terms of video quality — enabling high quality desktop video without interfering with corporate or internet applications). While other vendors and individual enterprises struggle to handle complex, bandwidth-heavy applications, MASERGY leverages the MPLS and SVC standards within a management environment to help information technology (IT) managers provide high-quality services to their VPN users. Additionally, MASERGY offers a variety of network management “hosted” services for IT managers should they wish to farm-out the management of their networks.*

In this *Research Report*, *Clabby Analytics* takes a closer look at MASERGY's Intelligent Transport environment and related hosted network services. We explore how the company uses their native IP/MPLS network to provide secure, seamless services. And we examine how MASERGY is able to use MPLS to provide various quality-of-service (QoS) levels. After considering MASERGY's market position and its clever use of MPLS blended with various hosted services, we suggest that IT managers looking to build private cloud environments that can handle bandwidth-intensive, data/rich-media applications examine this company, what it does, how it does it, and how it may be of service to their respective organizations.

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### **About MASERGY**

MASERGY is a privately-held company founded in 2000, based in Plano, Texas (its European headquarters are in London). A global network service provider, MASERGY specializes in offering wide-area Ethernet services over a global MPLS VPN. MASERGY competes with large telecommunications service providers (AT&T, Verizon Global Crossing) — but targets customers just below the Fortune 200 where those large service providers don't provide the level of customer service that a smaller company like MASERGY can.

*MASERGY's technology provides particular benefits for converged business applications that incorporate voice, video and data, since applications can be prioritized and bandwidth allocated based on priority settings — resulting in high quality voice, video and data unmatched by other providers. And combining data over a single network connection also saves on telecommunications costs.*

Also important, because MASERGY's solution is based on MPLS, customers can use MASERGY's product offering to easily connect worldwide offices.

Industries served by MASERGY include financial services, healthcare, entertainment, pharmaceutical, manufacturing and legal; marquee customers include Torus Insurance, Hallmark Channel, WR Grace, Hudson Advisors, Jeppeson, Brocade, Dunkin' Donuts and Orrick.

### **Background — Why MASERGY's Offering is Important**

About a decade ago, Joe Clabby, president of *Clabby Analytics*, wrote a book entitled "Visualize This" — an overview of some of the technologies that would be used to provide a more "sensory" experience over the Internet. In that book, he identified that handling large files (Binary-Large-Objects — BLOBs) and bandwidth hungry rich media applications were going to be two of the big challenges for creating sensory experiences over the Internet. He also suggested that ways to overcome these problems were to increase communications speeds as well as getting clever about the compression and decompression of data.

*One of Clabby's key points was that people want "as-if-they-are-there" communications experiences with their fellow employees, their business partners, and their customers. MASERGY has found a way to provide this type of real-world experience.*

Clabby spent very little time in his book discussing the specific business problems that would need to be overcome in order to provide those services securely — and with high quality of service. And this is where MASERGY stands-out — MASERGY focuses on providing high-performance, high-quality sensory experiences over VPN's while ensuring that services are delivered securely.

### **How MASERGY Delivers Its Offerings**

MASERGY delivers its product and service offerings by:

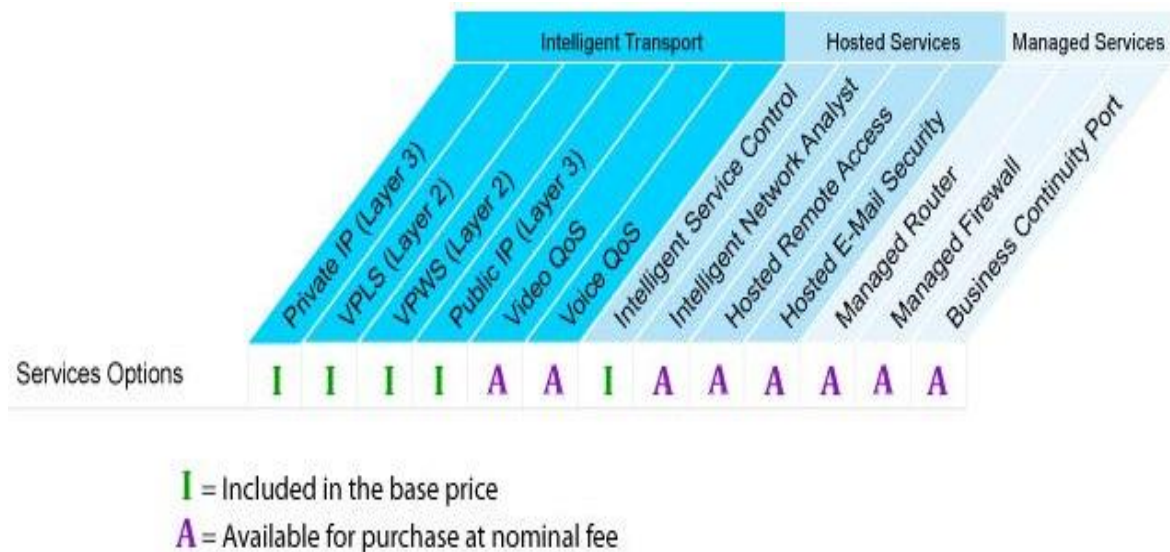
1. Providing the convenience of Ethernet anywhere in the world corporations do business with single or multiple transport service options in as many quantities and combinations needed. (known as Intelligent Transport);

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2. Providing hosted services that off-load IT managers from having to perform service control, network analysis, remote access, and security functions including a Web-portal-based interface that tracks application performance and network behavior; and by
3. Providing managed services for routers, firewalls, and business continuity services.

Figure 1 illustrates MASERGY's portfolio of offerings.

**Figure 1: How MASERGY Organizes its Product and Service Offerings**



Source: MASERGY — April, 2010

The following section examines the function and importance of MPLS — and is followed by a closer look at MASERGY's Intelligent Transport, hosted services, and managed services offerings.

### ***A Closer Look at the MPLS and SVC standards***

MPLS, as defined by Wikipedia, “is a mechanism in high-performance telecommunications networks which directs and carries data from one network node to the next. MPLS makes it easy to create ‘virtual links’ between distant nodes. It can encapsulate packets of various network protocols.” Wikipedia goes on to describe MPLS as “highly scalable and protocol agnostic”. In MLPS, data packets are given labels that provide routing information without actually looking at the packets themselves. This capability improves performance and scalability and enables data packets to be transferred using any connection method and any protocol.

MPLS enables service providers to offer a VPN that can compete with Frame Relay and ATM for connecting geographically-dispersed sites. Businesses don't have to purchase a frame relay or ATM circuit or lease a dedicated line, and MPLS VPNs are high performance, scalable and secure, making them increasingly popular for enterprise

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customers. *And MPLS is ideal for converged business applications that combine voice, video and data.*

SVC is an extension of the H.264 video compression standard. SVC enables the encoding of a high-quality video bit stream that contains one or more subset bit streams – layers within the encoded stream. There is a base layer encodes the lowest quality of the video stream, and then a series of enhancement layers can create higher quality or resolution if bandwidth permits. In this way, video applications can be prioritized based on needs for video quality while balancing the need for performance in corporate applications. As the market for desktop video grows - and as users increasingly expect high-definition video - SVC can “protect” corporate and internet applications by providing scalable video quality.

### ***A Closer Look at MASERGY's Intelligent Transport***

MASERGY's Intelligent Transport use a graphically-driven, Web-portal interface to provide IT managers with a view of their network's behavior as well as application performance on that network.

Intelligent Transport includes a variety of private as well as public IP services, including:

- *Private IP* — MPLS Layer 3 service with Layer 2 equivalent security. For customers with separate networks, more than one Private IP connection can be implemented;
- *Public IP* — MPLS Layer 3 service for Internet access over a separate logical connection from private traffic. This allows prioritization of business critical applications;
- VPLS (Virtual Private LAN Service) — VPLS is a Layer 2 transport technology that provides a virtual private network (VPN) across a shared network infrastructure for secure, cost-effective networking. This option makes the network look like a single Ethernet switch, enabling customers to use Ethernet for both LAN and WAN. MASERGY's MPLS Layer 2 IPVPN is for customers who want to do their own routing over their WAN and support IP and non-IP applications; and,
- VPWS (Virtual Private Wire Service) — Layer 2 service connects sites over a point-to-point connection separate from private and public IP connections (enabling users to send and receive voice and video over point-to-point leased or private lines).

Additionally, offered as add-on (chargeable) service plane, Intelligent Transport offers IT managers the ability to track and manage their voice and video service levels using:

- Voice QoS (additional monthly charge) — high-quality IP bandwidth specifically for voice/video with SLA guarantee: 100% voice packet delivery, guaranteed in sequence, <1ms maximum latency variation, sub 1second fast failover; and
- Video QoS (additional monthly charge) — high-quality IP bandwidth specifically for voice/video with SLA guarantee: 100% voice packet delivery, guaranteed in sequence, <1ms maximum latency variation, sub 1second fast failover; can be configured as a Video Overlay network (also can be used for data backup) or as a converged network.

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Finally, it should be noted that Intelligent Transport can provide granular support for six classes of service:

- Limited plane (new May 2010) – lower priority than normal data, ideal for data back-up or packet loss tolerant applications such as SVC desktop video
- Normal data -equivalent to service provider best effort, used for low priority business applications;
- Priority data -prioritize application higher than normal best efforts, typically used for ERP, CRM, and financial applications;
- Critical data -highest priority can burst to full rate if required for high-bandwidth applications;
- Video -above all data except critical data, commonly used for video conferencing; and,
- Voice -above all traffic.

### ***Hosted Services***

MASERGY's hosted services include:

- *Intelligent Service Control*- MASERGY's Intelligent Service Control, a secure web-based management portal where customers can view the service portfolio in real-time from anywhere in the world to view bandwidth; modify services including bandwidth upgrades (to support a scheduled videoconference, for example); to view or change voice or video QoS alternatives; view order status, service summary, and billing information; add new services, or modify existing ones; view SLA information; and generate reports on application performance.
- *Intelligent Network Analyst* — Available for an additional fee, Intelligent Network Analyst tracks network traffic and performance. Granular reporting enable users to view traffic by application, port, protocol, IP address and service plane or view the IP addresses that are generating the most traffic- for accurate application performance analysis and trouble shooting. A network service map shows data moving between your top 15 sites. And Intelligent Network Analyst has no impact on bandwidth utilization or latency.
- *Hosted Remote Access* — MASERGY's Hosted Remote Access service provides a cloud-based SSL VPN for secure access to the corporate WAN from any Internet access device. Access to files and applications is offered through the MASERGY portal from any web browser without reconfiguring the network or application. Remote traffic comes through the MASERGY hosting center, is encrypted and then passed on to the corporate network, ensuring the security of the corporate network. Company intranet and extranets are easily accessible. VoIP phone calls and video conferences can be originated as if users were calling from their desk at the office.
- *Hosted Email Security* — MASERGY's Hosted Email Security provides protection against spam, viruses IM worms and other email threats and is available with optional email encryption and message archiving for data retention. This option provides enterprise class security to mid to large business without having to make an investment in hardware or maintenance.

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### *Managed Services*

In addition to providing an MPLS network combined with hosted services, MASERGY also provides managed services designed to offload IT managers from management responsibility related to routers, firewalls, and network-related business resiliency functions. These services include:

- *Managed Router Services* — MASERGY Managed Router provides customer premise equipment (CPE) procurement, installation maintenance and fault management services;
- *Managed Firewall Services* — (IPSec VPN) service provides advanced unified threat management and securely connects remote sites (making them appear local), all covered by 24x7x365 monitoring, proactive troubleshooting, overnight hardware replacement and daily support. To do this, Juniper Networks security appliances are positioned at the Internet gateway throughout a VPN to provide each office with 24x7 monitoring protection; and,
- *Business Continuity Port* — an encrypted IPSec tunnel from the customer premise equipment to closest MPLS gateway, this offering acts as a failover communications mechanism in the instance that connectivity is compromised and primary communications becomes unavailable.

### *MASERGY Differentiators*

According to MASERGY, its differentiators include:

- *A "Global Ethernet" offering (the ability to leverage local access)* — MASERGY partners with local access providers, leveraging their networks (of any type: T1, E1, GigE, Fast Ethernet, DS3) at the local level in order to provide wide-area Ethernet access (enabling the extension of LANs across Ethernet WANs). This is available as a Layer 3 Private IP service, or as a Layer 2 Virtual Private LAN service.
- *Embedded Services* – Included in the base price is MASERGY's Intelligent Service Control, a secure web-based management portal where customers can - in real time from anywhere in the world - access information about account services and billing, view network usage data and initiate support requests. MASERGY customers can self-provision and prioritize their own data traffic as well (with add-on modules).
- *Service Performance* – MASERGY boasts the highest SLA guarantee in the industry – they can guarantee network performance to and from sites throughout the world –100% packet delivery for all voice and video. MASERGY's global network with intelligent hosted services was purpose built to simplify the integration and management of data, video, voice and real-time applications. MASERGY has six class of service (CoS) offerings designed to provide flexible options to optimize performance and customer experience in a wide range of corporate applications.
- *Customer Experience* – MASERGY's size and focus on mid-to-large customers enables them to offer superior customer service and consistent QoS throughout a customer's network. Each time a customer support call is received, it is answered

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and handled by a trained engineer. MASERGY has a measurement tool that allows the company to measure five key areas of interaction with the customer – from product conceptualization and design to service billing and collection. MASERGY consistently gets high marks from customers for the straightforward-ness and simplicity of their billing-especially when compared to bills of large service providers.

- *Certified Partner Program* — Partnerships with service providers on the local level provide “just in time” local access over a range of network types ensuring a competitive cost structure. Ethernet is virtualized through VLANs, paying only for ports needed at that time and traffic is prioritized across the circuits. MASERGY has strong relationships with local service providers throughout the world – and as a result can advise customers on the best provider in any given area. MASERGY VARS and system integrators offer value-added solutions such as data networking, video conferencing, IP telephony, Internet access, and other services while using MASERGY to provide industry leading WAN services. MASERGY doesn't offer equipment, maintenance or professional services, or hardware, so there is no competition with reseller partners.

### *Summary Observations*

MASERGY's ability to deliver global “as-if-you-were-there” services for voice and video excites *Clabby Analytics*. We believe that corporate networks are evolving toward delivering more and more sensory experiences — and MASERGY's combination of products and services represent a huge step in the right direction toward delivering high-quality sensory experiences.

We also find that the way MASERGY has structured its offering is very conducive to the way that businesses around the globe have to operate. Global enterprises need to deal with multiple telecommunications providers — and MASERGY makes that easy by using a standard protocol (MPLS) as its basis. MASERGY's managed services take the IT manager out of the day-to-day management of network devices; and MASERGY's hosted services provide even more value add on top of managing the physical network by managing important services such as security and remote access.

The MASERGY model has interesting implications for cloud computing — MASERGY is essentially virtualizing Ethernet – using local providers for local access over a range of connection types on a pay-only-for-the-ports-that-you-need basis. MASERGY enables the creation of virtual local area networks (VLANs) that can be extended over wide area distances (around the globe). In this way, private networks can be connected to data centers offering businesses enterprise-class scalability and performance in a cloud-based delivery model- saving money on networking, hardware, maintenance and management costs.

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