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Oneshield Networks Bandwidth Manager

White Paper

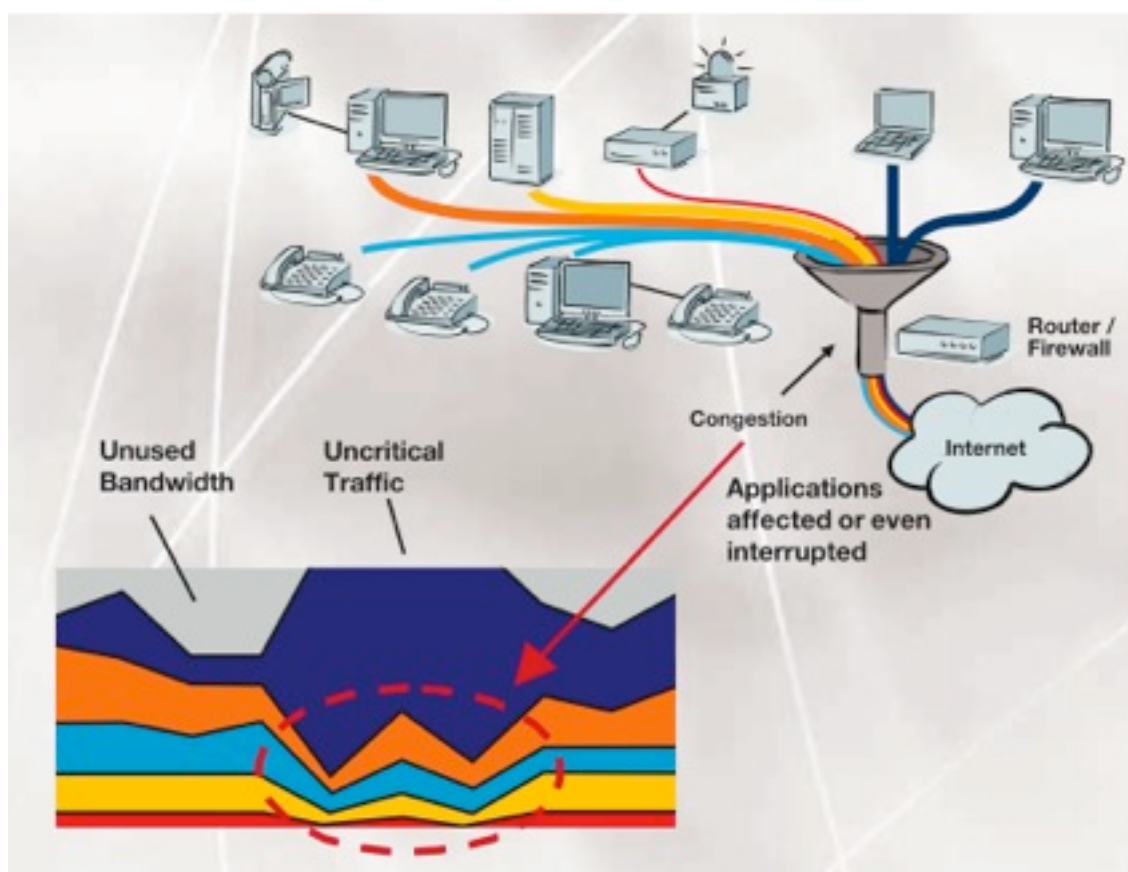
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Enable and Protect Critical Business Network Applications

Problems with Network Applications ?

Many networks users have experienced serious slow-downs or even collapses of business critical network applications.

Quite often these problems result from congestion at typical network bottlenecks. Such bottlenecks are best described as points in the network where network technologies of different transmission bandwidth are jointed together.



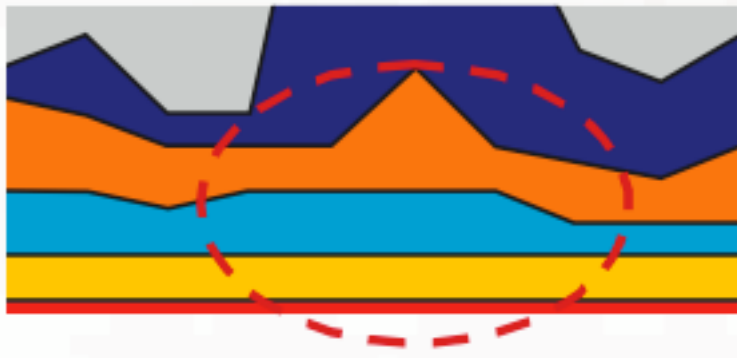
In most networks there are several different kinds of applications that compete for the available network bandwidth.

A few applications are mission critical, many are not. Other applications are delay sensitive or simply require a specific available bandwidth. Some applications “just” slow down in congestion situations, others simply fail.

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The Solution



What is needed to solve the problem is not simply adding more bandwidth at network bottlenecks but more control. It is important to give the network application exactly the bandwidth and priority it requires.

The Oneshield Bandwidth Manager architecture allows the definition of multiple sub-

channels to “divide” the available bandwidth, enforcing the desired policy and network behaviour for them. They are effective tools to implement and ensure application and user specific quality of service (QoS) and service levels (SLAs). The Oneshield Bandwidth Manager solutions are very powerful network appliances designed to analyze, manage and control crucial network traffic. These devices support the network manager in solving a broad range of WAN and LAN bandwidth bottleneck problems and to reduce cost by preserving and prioritizing communication streams.

The product family contains appliances that offer excellent price/performance ratios for scenarios ranging from broadband Internet access (ADSL, SDSL, Cable, etc.) to wireless LAN-to-LAN (WLAN, laser, microwave) links, metropolitan network connections and high bandwidth Internet and intranet communication.

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Figure 1 : Oneshield Bandwidth Manager 10 Mbps



Figure 2 : Oneshield Bandwidth Manager 100 Mbps

Key Features :

- Giving network applications the bandwidth/priority they need
- Optimization of WAN/MAN/LAN Bandwidth
- Enable application or host/group specific service levels
- Enabling mission critical applications
- Ensure optimal network performance
- Fully transparent (forwarding) operation
- Layer 7 Support for several critical protocols (VoIP, Citrix, etc.)
- Analysis mode for high bandwidth analysis and monitoring
- Excellent price/performance
- Minimal delay (latency)
- Intelligent management interfaces
- Integrated network traffic monitoring and analysis tools
- Separate management Ethernet interface for more flexibility

Network traffic and bandwidth management appliance, specifically designed for Enterprises and Internet Providers.

The Oneshield Bandwidth Manger is a very powerful network appliance designed to analyze, manage and control crucial network traffic. This device supports the network manager in solving a broad range of WAN and LAN bandwidth bottleneck problems and to reduce cost by preserving and prioritizing communication streams. Because of its performance and features the Bandwidth Manager is the optimum solution to provide traffic prioritisation and shaping in a broad range of network applications including high bandwidth wireless LAN-to-LAN (WLAN, laser, microwave) links, metropolitan network connections and high bandwidth Internet and intranet communication. With an excellent price/performance and the easy to use, intelligent graphical web user interface the Oneshield Bandwidth Manager offers minimal total cost of ownership.

Optimal utilization of broadband Internet connections.

The Oneshield Bandwidth Manager can analyze and shape traffic respectively up to a maximum bandwidth of 100 Mbps. Fast Ethernet interfaces provide connectivity to place the system transparently in LAN/WAN/WAN connections. The design of the system is based on powerful Oneshield technology that ensures highest reliability and minimal latency (delay).

Enabling mission critical applications by optimizing traffic at network bottlenecks.

The Oneshield Bandwidth Manager allows the definition of multiple sub-channels to “divide” the available bandwidth, enforcing the desired policy and network behaviour. They are effective tool to implement and ensure application and user specific quality of service (QoS) respectively service levels (SLAs). Managed bandwidth consists of streams with certain policies applied. For example it is possible to set a minimum guaranteed throughput or a maximum usable bandwidth for each sub-channel defined. Managing bandwidth is completely dynamic and each sub-channel is able to go over the minimum guaranteed limit, if other sub-channels are not using their assigned bandwidth.

Intelligent management interfaces to solve complex network problems easily.

The key to effective network bandwidth management in medium enterprises environments is reducing the level of complexity the network manager is facing. An easy to use web graphical interface, a powerful group concept, optimally pre-defined standard configurations and easy to understand, automatically generated statistics and charts assist the network manager to quickly resolve even complex bandwidth management issues. Easy to be configured logging capabilities (external Syslog) and alert notification (email, GUI, Syslog) allow the network administrator to be informed about important events (system alerts, stream alerts, thresholds, etc.) and to react quickly.

Monitoring and analysis of network utilization and traffic patterns becomes an easy task.

The Oneshield Bandwidth Manager also allows to monitor quantity and traffic type (http, smtp, ftp, etc), incoming and outgoing, based on single IP addresses, networks, or groups of addresses respectively groups of networks. All the statistics are visualized using colour graphs and charts. A bright display on the front panel can show boot and status information, as well as traffic and shaping information configurable by the web user interface.

Highlights

Monitoring and analysis of network utilization and traffic patterns becomes an easy task. The Oneshield Bandwidth Manager appliances allow monitoring of the quantity and types of the incoming and outgoing traffic. This can be based on addresses, networks, addresses or even groups of networks.

All the statistics are visualized using colour graphs and charts. Intelligent management interfaces to solve complex network problems easily.

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An easy to use web graphical interface, a powerful group concept, optimally pre-defined standard configurations and easy to understand, automatically generated statistics and charts assist the network manager to quickly resolve even complex bandwidth management issues.

Separate Management Port - More Flexibility

The Oneshield Bandwidth Manager appliances all are equipped with a separate management LAN interface. This not only ensures that management data is not wasting valuable bandwidth but allows the appliances to be placed in the network without the need to have a free valid IP address in the path where the bandwidth management will be performed.

Performance Oneshield BM 100 Business

- Effective Managed Bandwidth (Mbps) **100**
- Pass-through Bandwidth (Mbps) **100**
- Analysis Mode Bandwidth (Mbps) **100**
- Managed Connections Supported **100.000**
- Managed Streams Supported **20.000**

Options / Features

- Layer 7 VoIP Support
- Layer 7 Citrix Support
- Internal Hard Disk ²
- Configurable back-lighted Display
- Redundant Power Supply ³

Applications typology for the BM 100 Business

- Enterprise WAN **XX**
- Small IPS, Server Hosting **XXX**
- Building-to-Building **XXX**
- LAN, MAN, Intranet **XXX**

² Available as special built

³ Available only in Oneshields BM 100 Business

Hardware Architecture

- Fully transparent (forwarding) operation
- Industrial grade custom hardware
- One PCI expansion slot
- Hardware watch-dog system
- Hardware Ethernet bypass (INT-EXT)
- Mass storage on Compact Flash
- 3 x Ethernet network interfaces
- 2 x 10//100/1000 Mbps active network interfaces for shaped bandwidth. Set to 10 Mbps for BM-10 and 100 Mbps on the BM 100 product (internal, external port)
- 1 x 10/100/1000 Mbps network interface (management port)
- 1 x serial port, RS-232, male DB9 connector
- Up to 100 Mbit/s effective shaped bandwidth
- Up to 100 Mbit/s in Monitor mode
- Up to 100 Mbit/s passthru traffic. Please note that this mode is disabled if the effective service rate is set at 100 Mbit/s.

Management / Configuration

- Integrated web management interface
- Console port (RS-232,VT100)
- Dual-image support (firmware)
- Export/import of configurations
- Status LED (power/fault/ready)
- Alert notification (Syslog, email, GUI)
- Configurable 122x32 back-lighted display³

Supported Standards / Protocols

- IEEE 802.3 (10Base-T), IEEE 802.3u (100Base-TX)
- IP,ARP,TCP,UDP,ICMP
- HTTP,NTP,TIME,DNS (client),SNMP

Approvals / Compliance / Safety

- CE 60/2003 (24/07/2003)
- Electromagnetic compl.:
- EN 55022 Class B
- Immunity:

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Oneshield Networks is an European high-tech company focusing on embedded IT and communication solutions. Oneshield Networks, with headquarter in Venice Italy, develops, manufactures and sells cutting edge network appliances, specifically designed and optimized for small and medium size enterprises. Oneshield Networks is an integral part of Delemont Technology srl. Partners and customers benefit from strong synergy effects in technology, engineering, purchasing and professional services within Delemont Technology srl. Being a true European company, Oneshield Networks is a new player in the international network appliances market.

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