

# 1622

## Fibre Ethernet Access Device



### Ethernet ACCESS DEVICES

#### ABOUT OneAccess

OneAccess designs and develops a range of world-class Multi-Service Routers and Ethernet Access Devices for over 140 global service provider customers including four of the top five operators in Europe. The products are tailored to the services offered by telcos for their enterprise customers.

With an international support network operating from offices in North America, Europe and Asia, OneAccess is able to work closely and cooperatively with all its clients throughout the development and roll-out phases for new services.

The 1622 family of Ethernet Access Devices (EAD) offers service providers a cost-effective fibre-optic access solution and enables them to offer managed Ethernet services to their business customers. As Ethernet Demarcation Device it is possible to monitor and control Ethernet services end-to-end and to provide SLA reports. In addition to comprehensive layer-2 functionality the device also offers a layer-3 router implementation which makes it an ideal choice to deliver carrier Ethernet, Internet and IP services with one device. The equipment is interoperable with any standards-based carrier Ethernet equipment and can be integrated into any existing management environment.

#### Fibre Access

The 1622 provides network operators the means to deliver advanced carrier Ethernet services to their business customers at minimal cost. A fast Ethernet Combo interface provides copper or fibre connectivity to the rest of the carrier Ethernet infrastructure and the 4-port GigE switch provides the interface to the user applications.

#### Extensive Feature Set

At the heart of this platform is a high performance Ethernet switch/router incorporating advanced Layer 2 and Layer 3 forwarding, security and Quality of Service capabilities as standard. The software-based switching and routing core offers a very high degree of flexibility when compared to hardware-based designs in terms of features, software maintenance and upgrades.

#### Backup Facilities

In addition to the Fast Ethernet uplink, other interfaces are provided as an option to provide alternative connectivity to the carrier Ethernet backbone in case of problems with the primary Ethernet connection. A first option is to add an ADSL2+ uplink which provides an independent alternative path to the core network over the standard broadband network. Another option is to use an external 3G backup module with USB interface to establish a backup over HSxPA.

#### Metro Ethernet Services

As a demarcation device the unit can deliver standard Ethernet services such as Ethernet Private Lines (EPL), Ethernet Virtual Private Lines (EVPL) and Ethernet LAN services (ELAN). The 1622 fully complies with the MEF.9 and MEF.14 requirements as defined by the Metro Ethernet.

#### OAM Monitoring

Monitoring quality and availability of every dataflow as part of the carrier Ethernet service gives a clear view on the status and the performance of the Ethernet service. The 1622 supports both point-to-point OAM monitoring (IEEE 802.3ah) and end-to-end performance monitoring (IEEE 802.1ag & ITU-T Y.1731) on all Ethernet interfaces.

#### Accelerated Deployment and Service Provisioning

The OneAccess 1622 Fibre EAD can be integrated in any managed environment and supports all the common management interfaces such as SNMP, Telnet, SSH, HTTP and HTTPS. In addition to these interfaces a number of management tools are available to facilitate the integration of these access devices in a managed environment. These include:

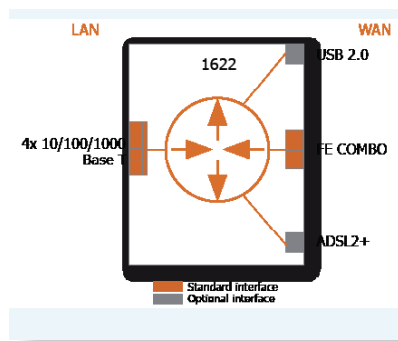
- TMA GUI application
- A customisable Web-configuration utility
- A CLI for scripting and simple integration with provisioning and management systems
- Element and Inventory Management System for control and the customer.

#### Quality monitoring and Service Level Agreements

The 1622 keeps statistics of the last 15 minutes, 2 hours, 24 hours and 7 days. Selected statistics can be stored over a longer period on the device for later retrieval and processing on a management platform. Traffic quality monitoring provides all the information needed to offer Service Level Agreement reports to the customer.

# 1622

## Fibre Ethernet Access Device



Backpanel view of 1622 F4TE



Backpanel view of 1622 F4TEU



Backpanel view of 1622 AF4TEU

### Technical Specifications

#### Basic hardware

- 1 Ethernet Combo interface (10/100Base-T or 100Base-X SFP) with physical parameter monitoring of SFP modules (MSA SFF-8472)
- 4 port GigE switch
- 1 console port V.24/V.28 with RJ-45 connector

#### Optional interface

- ADSL2+ as main link or backup
- USB2.0 for 3G backup

#### Copper Ethernet interfaces

- 4 port switch 10/100/1000Base-T
- Half/full duplex with auto-sense, automatic cross-over
- Link status and activity LEDs

#### Layer-2 functionality

- IEEE 802.1D Transparent Bridging
- 10K MAC addresses per bridge group
- IEEE 802.1D Spanning Tree Bridging
- IEEE 802.1W Rapid Spanning Tree Bridging
- IEEE 802.1S Multiple Spanning Tree Bridging
- IEEE 802.1Q VLAN Tagging
- IEEE 802.1p QOS on Ethernet Level
- Basic and extended MAC filtering
- Ethertype translation
- VLAN Switching
- Port-based VLANs
- IEEE 802.1ad Provider Bridges or QinQ

#### Operations and maintenance (OAM)

- OAM IEEE 802.3 chapter 57 (for EFM operation)
- OAM IEEE 802.1 ag & ITU-T Y.1731
- Built-in traffic generator and analyser (RFC2544)
- Loopbacks on ports and virtual interfaces

#### IP functionality

- NAT/PAT
- DHCP client/relay/server
- DNS server/relay
- IGMPv1, v2
- Stateful Inspection Firewall
- Basic and Extended IP filtering
- DMZ

#### IP Routing

- Static routing
- Policy based routing
- RIP v1 and v2, OSPF, BGP-4
- VRF (VPN Routing & Forwarding)
- VRRP (Virtual Router Redundancy Protocol)

#### Virtual Private Networks

- GRE tunnelling
- L2TP tunnelling
- Tunneling of Ethernet traffic over IP with GRE or L2TP tunnels
- IPSec (tunnel and transport mode)
- GRE or L2TP transport mode
- IKE and Manual Key Management
- AH and ESP Protocol
- DES, 3DES and AES encryption
- SHA-1 and MD5 Authentication

#### QoS

- Traffic Classification and Policing (inbound/outbound)
- Layer-2 classification based on MAC addresses/ranges, 802.1p, 802.1q, IP-TOS/DSCP, Ethertype (Protocol) and physical port
- Priority Queuing Layer-2 (8 levels, programmable)
- Layer-3 classification based on IP addresses/ranges, IP-TOS/DSCP, Protocol
- Priority Queuing Layer-2 (8 levels, programmable), vRED, WRED
- Traffic Shaping CIR/EIR
- Hierarchical queuing and shaping
- Queuing mechanisms: SP, RR, WFQ, LDWFQ

#### Performance and scalability

- Routing and bridging performance: 250 Kpps
- Number of IPSEC, L2TP or GRE tunnels: 25

#### Maintenance and management support

- Console port, CLI, Telnet, SSH
- Multilevel password protection, Radius/TACACS+ AAA
- HTTP, HTTPS, customised Web Interface
- FTP/TFTP upload/download configuration/firmware
- SNMPv1, v2, v3, MIB II, proprietary MIB
- Statistics 5min, 15min, 2h, 24h, 7 days
- IP traffic monitoring: roundtrip delay, jitter, loss
- Syslog, SNMP
- DHCP/BOOTP for automated provisioning
- PC-based maintenance tool
- Element management application
- Inventory management application

#### Dimensions

- Desktop, metal housing, wall mountable
- W x H x D: 218 x 45 x 128 mm, weight: max 950 gr

#### Power supply

- External adapter 12V – 2A
- Power consumption: <10 W