

ONE1540

Cloud Services Gateway & Multi-service Access Router



- Enhanced performance, dual core architecture
- Cloud Application Acceleration
- Gigabit Ethernet Switching
- For 50 to 300 data-only desktops; 20 IPT seats*
- GPON, Ethernet (1000, 100Base-X), Ethernet First Mile
- Industry leading price performance
- Simple deployment, provisioning and management
- Industry standard CLI
- Lowest power consumption; no fan

DEPLOY AND ACCELERATE CLOUD SERVICES TO THE MID-MARKET

The ONE1540 Multi-service Access Router is purpose designed for service providers capitalising on new and emerging cloud services. Collapsing three hardware platforms into one - Router, SBC and App Processor – the ONE1500 protects service provider margins and enhances service flexibility, whilst delivering an improved Cloud experience to end users.

The ONE1540 extends the existing range of ONE access routers, adding dual core network processors to boost performance; and high speed symmetrical broadband uplinks with Gigabit Ethernet and GPON as standard. The new processing architecture has a dual purpose: it provides accelerated IP routing to match the expanded, symmetrical uplinks; and it concurrently provisions an App Processor, running Cloud apps and other value added applications to enhance service delivery and user experience.

Today's applications include SBC Nano® and Integrated Business Communications® (IBC), adding richness, assurance and simplicity to new Cloud and value added service introductions. Also with Dial Tone Continuity®, sophisticated IP Quality of Service and flexible IP VPN as standard, the ONE1500 is a one box solution for unified voice and data services.

The ONE1540 is scaled to provide 50 to 300 desks with sophisticated, symmetrical broadband, value added data services. Alternatively, up to 20 desks can be provisioned with data and IP telephony services*. Embedded security and high availability is common to all scenarios. It is a perfect fit for operators targeting medium sized enterprises, or branch offices of large enterprises, with a portfolio of managed and value-added Cloud based services up to and including SIP Centrex. All this whilst setting a new green benchmark for low power consumption.

VOICE SERVICE RICHNESS AND ASSURANCE*

The ONE1540 focuses on IP voice services - from SIP trunking, through managed IP PBX, to cloud based SIP Centrex - adding value at every stage of the journey. For example, the unique SBC Nano app provides trouble free signalling between the customers' IP PBX and the provider's network in SIP Trunking scenarios. Likewise, Integrated Business Communications (IBC) turns the ONE1540 into a fully fledged IP PBX with embedded Unified Communications. For SIP Centrex, the SBC Nano again allows a broad range of SIP phones to connect directly and seamlessly to core networks.

Assuring the migration to managed and hosted voice services is Dial Tone Continuity.

* Only available in models with voice ports on board

This sophisticated feature automatically leverages IBC, SBC Nano and concurrent routing over an optional second broadband uplink, to maintain high availability of telephony services in the event of primary network failures. Provisioning is simple, and supported by an industry standard CLI.

ENTERPRISE-CLASS DATA SERVICES

IP PBXs, server rooms and local area networks are connected to each other and the wide area network via the built in 4 port Gigabit Ethernet (GigE) switch. The ONE1500 can be optionally specified with WiFi, supporting 802.11b, g and n.

The powerful ONE1540 platform supports symmetrical, high speed Layer 3 switching at next generation broadband throughputs, with sophisticated QoS. In-built IP VPN capabilities enable the seamless networking of enterprise branch offices.

ACCESS NETWORK SPEED AND SYMMETRY

The ONE1540 has a single SFP interface as standard, offering plug-in options for GPON ONT, 1000Base-X and 100Base-X modules, with a range of fibre flavours and lengths catered for. Electrical Ethernet alternatives are a factory option.

In environments where uplink redundancy is required, a SHDSLbis (Ethernet First Mile) interface can be specified, offering speeds of up to 22Mbps.

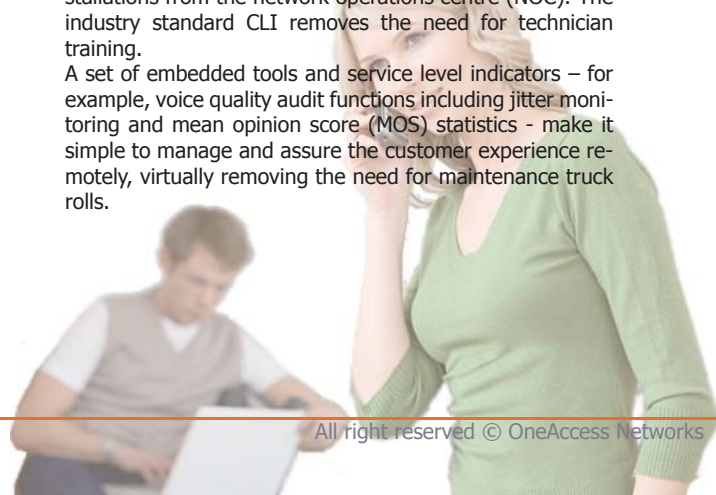
REDUCING TOTAL COST OF OWNERSHIP

As well as opening the door to new revenue opportunities, the ONE1540 helps achieve long term cost savings. As a service provider, the opportunity to replace multiple CPE with a single, flexible unit, means reduced capital costs and simpler logistics and operations.

In addition, a suite of provisioning tools makes roll out simpler, less prone to error and more cost effective. For instance, auto discovery options simplify initial set-ups. Tried and tested configurations can then be 'cloned' to new installations from the network operations centre (NOC). The industry standard CLI removes the need for technician training.

A set of embedded tools and service level indicators – for example, voice quality audit functions including jitter monitoring and mean opinion score (MOS) statistics - make it simple to manage and assure the customer experience remotely, virtually removing the need for maintenance truck rolls.

- G.SHDSL
ATM & EFM
up to 22Mbps
- fibre SFP
uplink
(100/1000)
- Ethernet
Uplink
(100/1000)
- Ethernet Switch
4 ports Gigabit
- FXS ports
- up to
8
Voice
Channels
- SIP
H.323
- SIP
& VoIP
Proxy
- WiFi
802.11b/g/n





Sample configuration with 4 pairs SHDSL uplink & SFP

ONE1540 SPECIFICATIONS

General

- Single or dual WAN uplinks
- 4 port Gigabit Ethernet LAN switch
- Up to 8 voice channels
- Optional 3rd party applications
- Optional voice features sets: IBC and SBC nano
- Optional Wireless LAN

Gigabit Ethernet WAN Interface

- Fibre, Copper, configurable SFP/UTP
- 1 SFP slot for fibre modules: 100BASE-X, 1000BASE-X,
- UTP interface 10/100/1000 BASE-T with RJ-45 connector

SHDSL Interface (factory option)

- G.SHDSLbis ITU-T G.991.2 - 2 or 4 line pairs
- ATM, EFM and ATM/EFM auto detect
- Bonding based on EFM, SHDSL or ATM IMA
- RJ-11 connectors (2 RJ-11 for 4 pairs)

LAN Interfaces

- Ethernet, Fast Ethernet, Gigabit Ethernet
- 4 port switch 10/100/1000BASE-T auto-sense
- Automatic cross-over
- RJ-45 connectors

Wireless LAN (factory option)

- Dual mode IEEE 802.11b/g/n
- Two detachable antennas
- WMM QoS
- Encryption options WEP, WPA 1.2 (TKIP) and WPA 2.0 (802.11i, AES-CCMP)
- Authentication options WPA-PSK (pre-shared key) and 802.1x with a RADIUS server (PEAP, EAP-SIM, EAP-TLS and EAP-TTLS)
- Wireless access point controller (optional)

Voice Interfaces (factory option)

- 2 x FXS ports
- Loop start: On hook voltage 35V rms
- Caller id, fax and modem

Console port

- RS232 – RJ-45 port

Performance

- LAN to LAN: 400,000 pps

IP Addressing & Routing

- NAT/NAPT: static/dynamic NAT, NAPT, selective NAT, twice NAT, Application pass-through
- DHCP client, server, relay, IP helper addresses
- DNS proxy, DNS server update protocol: DynDNS
- Routing protocols: RIP v1/v2, OSPF v2, BGP v4
- Multicast Routing: PIM-SM and IGMP v2/v3
- Policy-Based Routing
- VRRP
- Server load balancing

IP Quality of Service

- IP Classification and priority (DiffServ)
- Class-Based Queuing (CBQ), CB-WFQ on LAN/WAN interfaces
- Low Latency Queuing, fragmentation and interleaving
- Policing and remarking
- RED, WRED, ECN

PPP

- PPP over ATM, PPP over Ethernet (PPPoE) on Ethernet, EFM (VDSL2/SHDSLbis) and ATM (ADSL2+/SHDSLbis) interfaces
- Automatic IP address assignment
- MLPPP bonding with fragmentation and interleaving
- PAP/CHAP authentication
- IPCP subnet mask
- MAC address based authentication

Security

- Firewall with stateful packet inspection
- Standard and extended access lists
- Session monitoring and limiting
- Configurable timers per port and application
- All firewall log messages can be buffered, viewed or sent to a syslog server

IP VPNs

- IPsec, GRE, IPIP, L2TP
- IPsec encryption: AES, DES, 3DES
- IPsec tunnel and transport mode IKE and PKI, AH and ESP with SHA1 and MD-5 hashing
- UDP-based encapsulation for NAT traversal
- IKE with pre-shared secret, symmetrical or client-server mode
- Perfect Forward Secrecy

Bridging and VLANs

- Bridging & Integrated Routing and Bridging (IRB)
- VLAN tagging and un-tagging
- Multiple VLAN IDs per port
- 802.1p priority tagging, TOS/COS and COS/TOS mapping

Voice*

- Voice compression: G.711 (a/μ law), G.726, G.729a, configurable packet length
- DTMF detection and generation
- Country specific tone generation and customisation
- Silence suppression and comfort noise generation
- Adaptive Jitter buffer
- MOS scoring evaluation

Voice over IP*

- SIP, MGCP, H.323 version 4
- Fax and Modem over IP
- SBC Nano, including SIP proxy (optional)
- IBC Call Manager/soft IP-PBX features for up to 20 VoIP users (optional)

* Only available in models with voice ports on board

Management

- Industry standard Command Line Interface (CLI)
- Telnet, SSH, HTTPS
- Web-based configurator for LAN and WLAN
- SNMP V1/V2C/V3
- Support of user privileges
- FTP/TFTP upload/download configuration and binaries
- QoS measurement probe
- Traceroute, ping, extended ping
- User authentication via RADIUS or TACACS+
- RADIUS accounting
- Global statistics screens (console, web-based). Event and trace buffering
- Syslog client
- Flow capture and decoding

Dimensions

- Desktop, wall mountable
- W x H x D: 270 x 55 x 150 mm; Weight: 1.3 kg

Power supply

- External adapter 12V – 3A
- Voltage range: 110-230 VAC – 50/60 Hz
- Power consumption: <35 W

