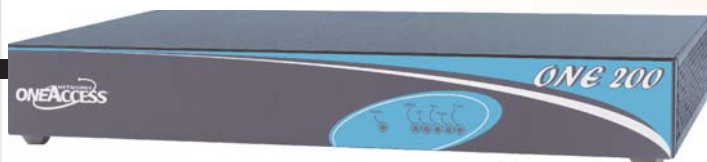# ONE 200

Versatile VoDSL, VoIP Access Router

The *ONE 200* multi-service router delivers advanced voice and IP services to small to medium-size branch offices. The device is available with digital and analog telephony interfaces for connectivity using CES, VMOA, VTOA or VoIP. In addition to voice service over DSL, the device features powerful router functions including Quality of Service (QoS) and secure access control. The *ONE 200* embeds a suite of tools to more efficiently deploy, manage and supervise service delivery. Versatile and easy to operate, the *ONE 200* lowers total cost of ownership, and creates value for both carriers and businesses delivering bundled voice and data.

Flexible Design for Faster, New Service Delivery

The *ONE 200* is available with an SHDSL/SDSL interface that provides symmetrical speeds from 192 Kbps up to 2.3 Mbps, and is well adapted to the traffic profile for voice and information exchange between businesses. A four-wire SHDSL interface increases reach and throughput. Alternatively, an ADSL interface is used as an uplink. Combining ADSL, SDSL and SHDSL with extended reach, the device expands the potential customer base and leverages existing xDSL coverage. Also supporting multiple Ethernet, E1, serial and ISDN interfaces, the ONE 200 offers numerous options for data connectivity.

For adaptation in various customer environments analog or digital (BRI, PRI) voice interfaces are available for connectivity with either phones or PBX. Whether the *ONE 200* is used with ATM or IP-based networks, the device easily adapts to the network infrastructure. For transparent E1 Leased Line service, the *ONE 200* offers Circuit Emulation Service (CES) over xDSL/ATM.

When using more bandwidth efficient technologies (such as VMOA-145 and VTOA-113), carriers provide voice over DSL and deliver increased throughput for data and Internet access. Alternatively, voice over IP is used by carriers using a Next Generation IP architecture, or by corporations to leverage their IP/VPN. Uniting multiple technologies, the *ONE 200* is the result of OneAccess long-held expertise in voice processing and signaling, which guarantees by design, high voice quality and interoperability. With various options for delivery of voice, the *ONE 200* is a secure choice in evolving networks.

In addition to voice and IP, the *ONE 200* optionally bundles legacy traffic over a single uplink. The device connects a legacy CPE with traffic from the CPE bridged over ATM. The xDSL access is thus highly optimized by sharing resources for voice, data and IP. The total solution lowers operational costs by omitting the need for a dedicated CPE Leased Line.

ONEACCESS NETWORKS

Feature-Rich IP Service Broadband DSL access supplies a permanent, high-speed connection to the data network and enables new bandwidth-intensive applications such as video-streaming and host-based interactive exchange. To deliver differentiated quality for these applications, the *ONE 200* features enhanced Quality of Service (QoS) to classify, condition and schedule traffic flows. Congestion is avoided and latency is controlled. Compatible with the latest advances in backbone QoS, the features enable carriers and businesses to take full advantage of new IP/MPLS networks.

While maintaining high quality and fast access is beneficial to the user experience, it is also important that the risk associated with permanent access be minimized by advanced access control. With hardware-powered encryption, the device provides high performance and security when exchanging information with remote applications. The *ONE 200* also provides solid protection for LAN users and applications by individually monitoring the session flows with outside hosts. Thus, the robust firewall performs packet content analysis and context-based control to prevent unauthorized access and Denial of Service (DoS) attacks. Powerful NAT/NAPT and DHCP functions are also integrated for eased management and protection of LAN stations.

Superior Management Facilities Designed for wide-scale deployment, the *ONE 200* software streamlines and accelerates network operations. Deployment of multiple devices is eased with automated replication of device configuration and a set of auto-discovery functions. For efficiency, the device can be remotely managed and accessed securely from the Network Operation Center to perform diagnostics and performance analysis. A set of embedded tools and service level indicators enable more responsive customer support and virtually eliminate the need for costly on-site assistance. As a result, the comprehensive management facilities of the *ONE 200* help service providers to control operational expenditures associated with deployment and maintenance.

With versatile hardware and software, the *ONE 200* offers value-added options for delivery of high quality services and streamlines delivery of bundled voice and data solutions.

ONE200 Application Cases and Technical Specifications

Voice Over DSL / CES
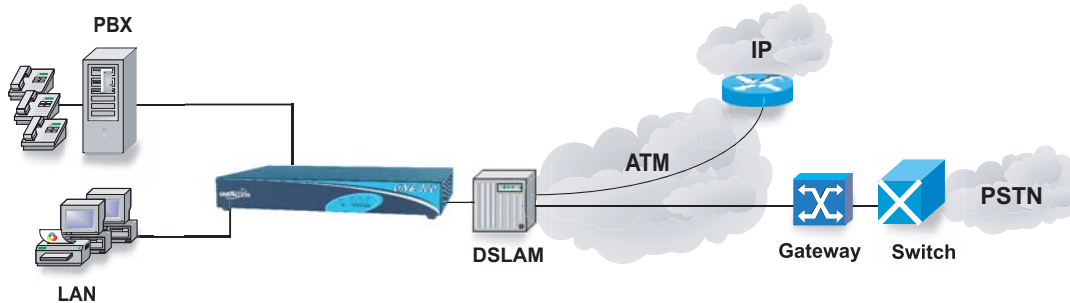
The *ONE 200* enables the transport of voice over ATM networks using xDSL or E1/T1 ATM access. For BRI and FXS, the VMOA-145 standard is used to achieve voice over DSL. For PRI, different solutions are offered: with VMOA-145 and VTOA-113, voice is compressed and transported in AAL-2 frames. If the gateway does not support such standard, a third possibility is the use of circuit emulation (CES).

IP - VPN Access Router
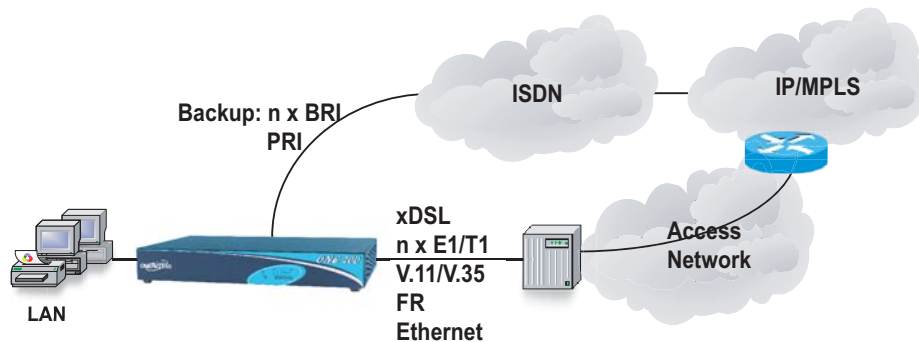
The multiple options of the *ONE 200* enables a connection to IP networks over a variety of access media: serial, TDM, ATM-based or xDSL. ISDN interfaces provide high availability for critical IP-based applications.

Voice Over IP
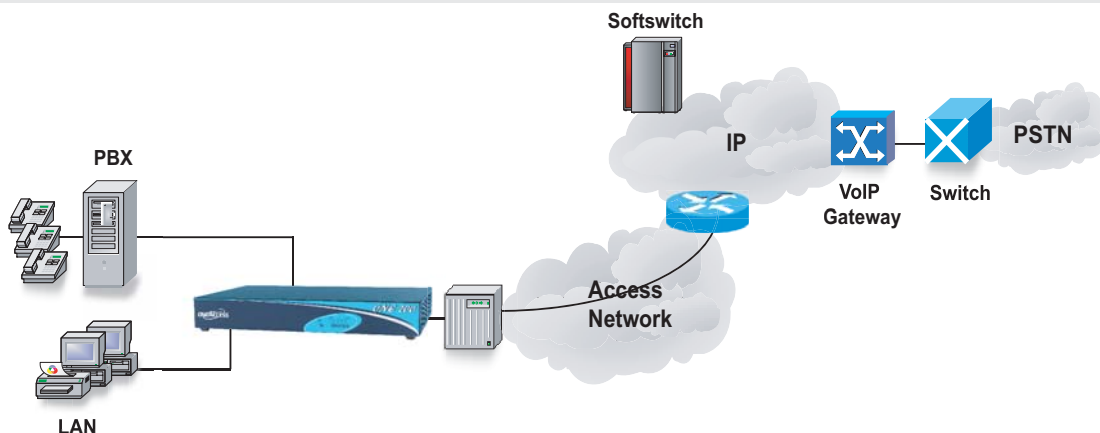
The *ONE 200* is a VoIP gateway, which manages the interworking between telephone equipment (FXS, BRI S/T0, PRI) and a VoIP network. The device connects to any access network supporting IP services.

ONE200 Specifications

Product Architecture
Basic Configuration:
- 1 Ethernet base T 10/100 Mbps
- G.SHDSL/SDSL/ADSL modem or E1/T1 (FR- PPP (*), ATM)
- 1 Console port
- 1 Slot for voice connectivity

Factory Options:
- 1 slot for single S0
- 1 Serial WAN port V.11/V.35/V.28/V.36 DTE/DCE up to 8 Mbps
- 5 Port Ethernet 10/100 Mbps
- IPSEC encryption accelerator module
- 4-wire G.SHDSL

ISDN S0 Slot
- 1 S0 for IP services (dial-in and dial backup)

Voice Slot
- 1/4 E1/T1/PRI: up to 16 voice channels
- 4/8 BRI S/T0: optional lifeline backup for S0
- 4/8 FXS

Voice over DSL
- VMOA-00145, VTOA-0113
- Fax, modem, DTMF detection and relay/trans-port
- G.726, G.711
- Voice activity detection
- G.165 / G.168 compliant echo cancellation

Voice over IP
- H.323 V4
- Fax, modem, DTMF detection and transport
- Unrestricted ISDN data, H.320 video pass-through
- G.711, G.723 5.3/6.3, G.729 (A)
- Voice activity detection and comfort noise generation
- G.165 / G.168 compliant echo cancellation

Circuit Emulation Service
- VTOA-0078
- Full E1 support in CCS mode
- Structured/Unstructured
- Adaptive clock recovery, recovery from DSL or E1 clock source

Interworking Functions (Serial Port)
- FRF.5, FRF.8
- X.25 over TCP/IP

IP Services
- IP Classification and priority (DiffServ), CB-WFQ, WRED
- NAT/NAPT (N to M, two-way, twice NAT, application pass-through)
- DHCP client, server, relay
- DNS proxy
- Routing: static, RIP v2, BGP, OSPF, policy-based
- Tunneling: L2TP, GRE
- VRRP
- Server load balancing

Security
- IP sec with optional hardware acceleration (*)
  DES/3DES encryption
  Tunnel and transport mode
  IKE and PKI
  AH, ESP with SHA1 and MD-5 hashing
- Firewall (filtering and content analysis)
- VLAN IEEE 802.1q

Management Services
- Performance agent
- CLI and SNMP (V.1, V.2, V.3) manageable
- TFTP for software, configuration and script downloading
- Statistics and event recording
- Remote ping, traceroute, traffic generator
- AAA/Radius, Tacacs+

PPP
- PPP over ATM (rfc 1483), PPPoE (rfc 2516)
- Automatic IP parameter assignment
- PAP/CHAP authentication
- MLPPP with BAP/BACP

FR
- QoS management
- LMI: T1.617, Q.933a
- FRF.12

ATM
- ILMI V4.0
- OAM F5
- UNI 3.1
- AAL-1, AAL-2, AAL-5
- VBR, UBR, CBR
- IPoA, PPPoA, PPPoEoA

Hardware Compliance
- MTBF: 400,000 hours
- Dimension: 20x30x5 cm
- Weight: 1,8 kg
- Compliant with European and US standards regarding safety, electromagnetic compatibility, immunity aspects and interfaces

(*) Please check with OneAccess marketing for availability.