Alcatel's award-winning 7300 ASAM DSL Subscriber Access Platform (ASAM) simplifies deployment of broadband services like high speed Internet access and toll-quality voice over digital subscriber line (VoDSL). With its carrier grade reliability, the 7300 ASAM is an ideal solution for bundled voice and high speed data services. The 7300 ASAM DSL platform offers superior density and scalability.

The 7300 ASAM features an integrated VoDSL solution as well as support for G.shdsl (single pair high bit rate DSL) services.

The 7300 ASAM has the lowest power usage and best performance in the industry. It supports both full rate and G.Lite ADSL. Service providers can extend their DSL reach to customers in remote locations with the 7300 ASAM DSL Remote Access Platform (RAM). This high density platform is temperature hardened and UL listed, making it ideal for deployment in a digital loop carrier (DLC) or office park.
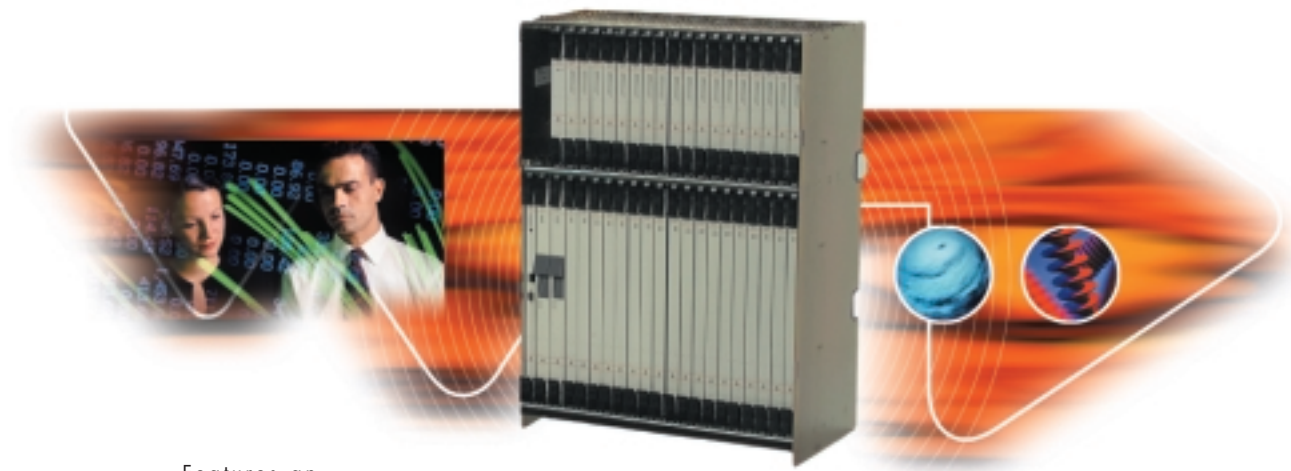
Features an
integrated
VoDSL solution
and support for
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ALC▲TEL

A R C H I T E C T S   O F   A N   I N T E R N E t   W O R L D

Alcatel has integrated the 7300 ASAM, the market leader in the provision of cost-effective and reliable asymmetric DSL (ADSL) solutions, with a VoDSL solution. The 7300 ASAM enables mass deployment of revenue generating broadband services for both business and residential customers — no matter how far they are from the central office (CO).

Network management for the 7300 ASAM is available using the industry leading family of Alcatel network and service management products, including the powerful Alcatel 5620 Network Manager (NM), through a local management port or remotely using simple network management protocol (SNMP).

New opportunities with VoDSL technology

Simply providing network connections is no longer enough. Service providers must also deliver those value-added services that will lead to fast revenue generation. Digital subscriber line (DSL) is the most cost-effective solution for delivering value-added applications over the last mile to end customers.

VoDSL technology offers service providers new revenue opportunities they can easily and cost-effectively deploy using their existing DSL infrastructure. With VoDSL, providers can take advantage of new opportunities while maintaining the same high service quality and reliability their customers have come to expect.

VoDSL solutions prioritize, multiplex, and transport multiple voice and data channels over a DSL connection to a gateway interface that provides connectivity between a data network and the public switched telephone network (PSTN).

Alcatel offers a cost-effective, flexible architecture that easily scales to meet the demands of a mass market DSL services rollout. Alcatel takes an end-to-end systems approach to DSL with proven solutions. Alcatel's DSL solutions allow for the introduction of new network services with a competitive edge.

Converging voice and data

The 7300 ASAM is at the heart of a converged data and voice world. Together with an integrated access device (IAD), it merges a quality of service (QoS)-based broadband data access network with voice networking.

Bundled, cost-effective service offerings

The 7300 ASAM allows providers to deliver bundled local, long distance, or multi-line telephone services with Internet access to a variety of customers from small- and medium-sized businesses to residential users over a single copper pair. The 7300 ASAM leverages the investments already made in local exchanges, ATM switches, and digital subscriber line access multiplexers (DSLAMs) — without the need to change the end user equipment already in place. With Alcatel's VoDSL solution, a carrier can provide a business with ten toll quality telephone lines, and high-speed Internet access, over one DSL line. An added benefit is that dynamic bandwidth allocation automatically increases the amount of bandwidth available for data applications when end users are not using bandwidth for voice calls.
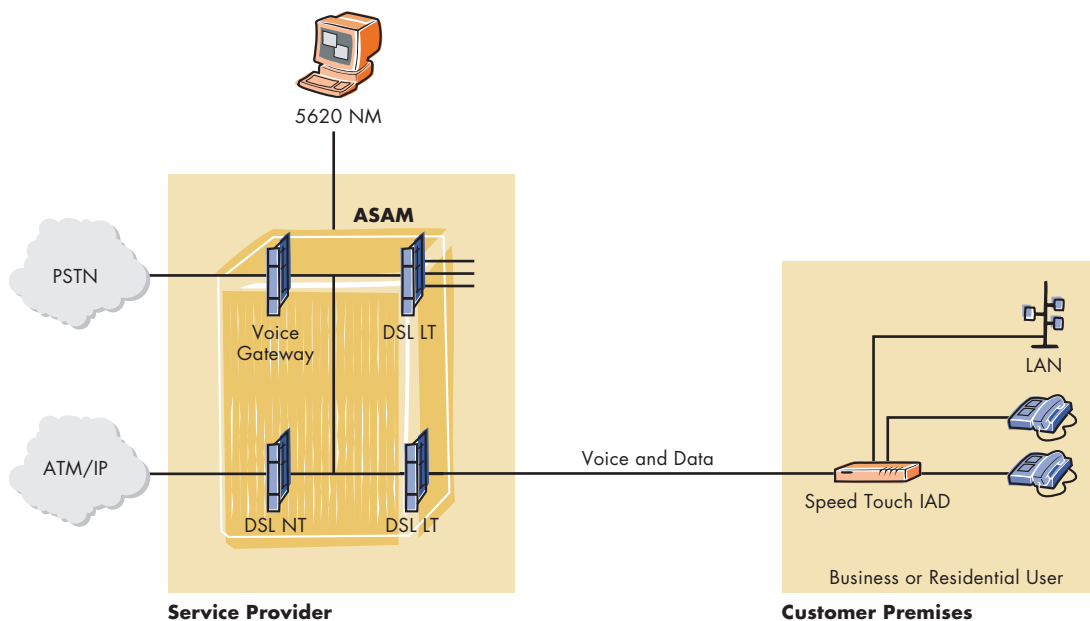
Scalability

Alcatel's VoDSL technology offers providers scalability while minimizing their incremental investment. The scalable configuration of the 7300 ASAM allows providers to envisage a "pay as you grow" strategy. In a minimum configuration, the 7300 ASAM delivers the capability of handling eight E1 interfaces, or 240 simultaneous calls to a local exchange. Providers can extend the system up to eight cards or 64 E1/1,920 active calls, allowing them to connect up to 8,000 business phones (1 to 4) or 20,000 residential phones (1 to 10). Embedded digital signaling processors (DSPs) implement voice compression for optimal bandwidth usage, allowing providers to grow their network seamlessly and cost-effectively.

True circuit-switched voice quality

Calls made using VoDSL technology are indistinguishable from traditional circuit-switched telephone calls in terms of voice quality. From a user perspective, there is no difference between a voice call over the traditional PSTN and a voice call over a DSL access network compliant with ATM forum loop emulation service (LES) using ATM Adaptation Layer 2 (AAL2).

Designed to ITU-T (Telecommunication Standardization Sector, International Telecommunication Union) and ATM Forum AAL2 standards, the 7300 ASAM guarantees true transparent PSTN (analog voice, digital voice, fax, and modem) and ISDN services for the end user while offering high quality voice services and value-added local exchange features. Users can experience true circuit switched voice quality and continue to receive the reliability they have come to expect.

Alcatel, your partner for VoDSL solutions

Alcatel is the right partner in the design and implementation of a VoDSL network. Alcatel is the only company in the industry with extensive experience in the deployment of both voice and DSL access networks. Designed to meet the reliability, availability, and scalability of carrier class telephone equipment, Alcatel's VoDSL solutions allow for the introduction of new network services with a competitive edge — exactly what service providers are looking to offer.

Technical Summary

Bundled Voice and Data Services

▼ Offered over ATM broadband access

▼ VoDSL

Voice Features

▼ Full transparency for all PSTN (supplementary) services

▼ Toll quality voice over DSL

▼ High availability

▼ Voice band terminals (POTS, fax, and dial-up modems) and ISDN terminals

Architecture

Voice over DSL implementation

▼ DSL Forum TR-036, Annex A

▼ Broadband loop emulation service (BLES)

Interface with IAD

▼ ATM Forum AF-VMOA-0145, CCS option

▼ AAL2 conform 1.363.1, 1.366.1 and 1.366.2

Supported IADs

▼ Speed Touch Integrated Access for Data and Voice (IAD) (Ethernet + 4 analog l/f)

▼ Third party IAD support

Gateway Features

Packet network interfaces

▼ STM-1 or OC-3c

▼ Multimode fiber for Intra-office use (e.g., 200 m/656.16 ft.)

▼ Single mode fiber for short haul (maximum 15 km/9.3 mi)

▼ E3 or DS3

▼ Intra-office use (e.g., 200 m/656.16 ft.)

PSTN interface

▼ V5.2 over up to 8 E1 links

▼ Up to 8 V5.2 groups

▼ Intra-office use (typically 300 m/984.24 ft.)

Gateway Functions

▼ AAL2 termination

▼ Call handling

▼ Narrowband switch interface

▼ V5.2 and gateway management

▼ Voice handling (incl. echo cancellation)

Signaling

▼ Common channel signaling option of LES (to IAD)

▼ V5.2, incl. protection switching (to narrowband switch)

Voice Coding

▼ G.711 PCM, A-law and μ-law

▼ G.726 ADPCM compression

▼ Silence suppression/comfort noise generation option

Echo Cancellation

▼ G.168, 32 ms window in tail up to 128 ms

Transport Modes

▼ Autoswitch to G.711 on tone detection indicating dial-up modem and fax

ATM Connectivity

▼ Permanent virtual channels (typically 1 per IAD)

▼ ATM traffic classes: CBR and rt-VBR – maximum 10,000 connections

Gateway Dimensioning

Overbooking

▼ Typical concentration factor for residential users: 8 to10

▼ Typical concentration factor for business users: 4

Simultaneous calls

▼ Modularity of 240 simultaneous calls

▼ Linear extendable to 1,920 simultaneous calls

Subscriber telephone lines or equivalent

▼ Modularity of 4,000

▼ Maximum 32,000

Number of PSTN interfaces

▼ Modularity of 8 E1s

▼ Maximum 8x8 E1s

Gateway Equipment/Physical

Line redundancy

▼ Automatic protection switching (APS) to packet network

Equipment redundancy

▼ 1+1 for packet network interface module

▼ 1+1 for gateway and E1 interface module

Timing

▼ Clock recovery from PSTN (any E1)

▼ Internal oscillator (holdover)

Connectors

▼ SC PC for optical (packet network)

▼ Mini-coax – 75 Ω (PSTN via E1)

Dimensions

Shelf

▼ Height: 95.0 cm (37.40 in.)

▼ Width: 53.5 cm (22.06 in.)

▼ Depth: 28.5 cm (11.22 in.)

▼ Rack mounting is ETSI compliant (60 cm/23.62 in.)

Rack for 2 shelves

▼ Height: 220.0 cm (86.61 in.)

▼ Width: 60 cm (23.62 in.)

▼ Depth: 30 cm (11.81 in.) (according to ETS 300 119-2)

Powering

▼ Voltage tolerance: -40.5 V to -57 V DC (-48 V DC source)

Environment

Standards

▼ ETS 300 029-1-1 Class 1.1; ETS 300 019-1-2 Class 2.3; ETS 300 019-1-3 Class 3.1 and 3.1E

▼ EN 300 386; referring to EN 55022 (Class A) and EN 6100 4-2, 4-3, 4-4, 4-5, 4-6

Dissipation

▼ Max. 500 W per shelf

Operating Humidity

▼ 0% to 90% non-condensing

Operating Temperature

▼ 0 C to 45 C (32 F to 113 F)

Management

▼ EML/NML via Alcatel 5620 NM

▼ Connectivity via ATM network (ATM VP/VC)

▼ SML via 5740 Service Subscription Manager (SSM)

▼ Interfacing with other (legacy) OSS

▼ Command line interface for V5.2 management option

▼

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