

# Sedona Networks 8000 Product Brief

## Abstract

This document provides a description of the Sedona Networks 8000 Multi-service Access Switch. A description of the system architecture and functionality is also provided.

## Sedona Networks 8000 Overview

The Sedona Networks 8000 is a high-performance multi-service access switch located at the service provider's central office (CO) or first point of presence (POP). It is built to enable converged services delivery over any access network infrastructure by supporting a variety of edge switching applications. These include:

- High-speed subscriber data services
- Subscriber service aggregation
- Subscriber management
- Packet voice gateway
- Multi-context service switching

At the customer's site, an integrated access device (IAD) accepts user voice and data traffic, this information is integrated onto a single access pipe for transmission to the carrier's central office. Here the 8000 unbundles this traffic, and forwards them as appropriate to the PSTN, ISPs, ASPs and so on.

Efficient transport over the Access portion of the network is achieved through several means:

- Toll quality voice is supported to give voice packets a higher priority than data packets.
- VoIP and VoATM (BLES) are supported on the Sedona Networks 8000.
- Bandwidth consumed by voice traffic is reduced through echo cancellation, voice activation detection, and speech compression.
- Fax and modem traffic is automatically detected and transported transparently across the access network.
- Domain Switching™ provides aggregation and virtual networking (closed user group) capabilities of two kinds – by service-provider and by customer. This allows simpler network architecture, cost-effective security and efficient utilization of bandwidth and IP addresses

The Sedona Networks 8000 can be used effectively on any switched or bridged access network technology such as ATM, Ethernet or Frame.

## Sedona Networks 8000 Feature Overview

The Sedona Networks 8000 delivers the following capabilities.

- **Data Services**
  - IP, Routing: Static, RIP, RIPv2
  - RADIUS Sessions
- **Data Interfaces**
  - 1 Port DS-3 ATM Network Interface Card (Hot Swappable)
  - 2 Port 10/100 BaseT Ethernet
- **Voice Services and Features**

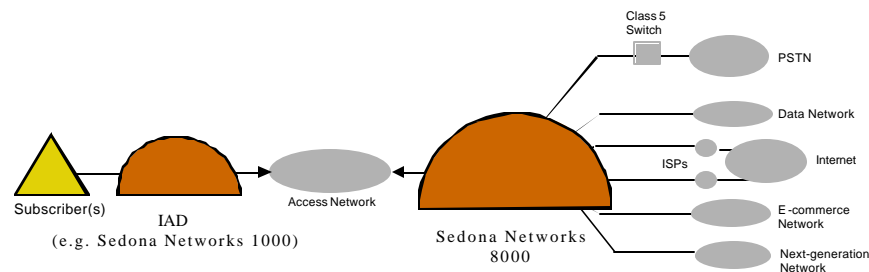
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- GR-303 certified interoperable with Lucent 5ESS and Nortel DMS 100 and DMS 500
- Path Protection Switching
- Support for Multiple Interface Groups
- Line Side Features Transparency for Centrex and CLASS features
- DS1 for Trunk Side Connectivity providing ISDN PRI and T1 CAS services
- Dial Pulse and DTMF dialing
- Voice over ATM using Broadband Loop Emulation (BLES)
- Voice over IP using a form of BLES over IP
- Silence suppression and comfort noise generation
- High speed Fax and Modem transport
- Loop battery reversal, Loop Start and Ground Start
- Clock synchronization to achieve frequency synchronization of voice sender and receiver systems

## Application Overview

The primary application of the Sedona Networks 8000 is to enable service providers, including CLECs, IXC's, ILECs etc., to cost effectively and rapidly deploy bundled voice and data services.

An integrated access device (IAD) such as the Sedona Networks 1000 accepts voice and data traffic at the customer premise and creates a single traffic stream for transport to a carrier central office. The following figure illustrates the application. Typically, there would be hundreds or thousands of IADs connected to each Sedona Networks 8000.



### System Connection to the Access Network

The Sedona Networks 8000 can accept up to 7 DS3 ATM links or 7 10/100BaseT Ethernet links that can be configured as the service provider wishes. Using both layer 2 and layer 3 techniques, voice traffic is delivered to the voice processing component and data traffic is delivered to an outbound data network interface.