

AB-AccessTM

Point to Multipoint



Key Features

- Packet-on-Demand
- Single channel/TDD
- Point-to-Multipoint
- Multiple protocol support
- U-NII band
- Extensive management

Benefits

- Greater spectrum availability
- High cell capacity

HARNESSING THE POTENTIAL OF WIRELESS

AB-Access consists of fixed broadband wireless access equipment for Internet, data, multimedia, video, voice, and other emerging IP and ATM based applications. Combining Time Division Duplexing, patent pending Axxcelera Broadband Packet-on-Demand technology and true point-to-multipoint functionality, AB-Access provides a robust, cost-effective alternative to wired alternatives such as T1, DSL and cable modems.

THE AB-ACCESS NETWORK

AB-Access was developed with flexibility in mind, and supports a wide variety of topologies. In a typical topology, the cell site consists of six Access Point (AP) units (each of which houses an integrated antenna-transceiver-modem-control unit). Each of these units covers 60° of the sector and establishes a high-speed channel shared among up to 254 simultaneous active Subscriber Units (SU). The SU contains an antenna having a 20° x 20° directional beam, a transceiver, a QPSK modem, MAC (Media Access Control) and a bridge, switch, or router. The AP contains an antenna having a 60° x 7° directional beam, a transceiver, QPSK modem, MAC (Media Access Control) and a bridge, switch, or router. Both AP and SU have ATM or Ethernet wired-end connectivity options. Cell sites are interconnected by either conventional wired backhaul, or by wireless point-to-point links, using the AB Extender backhaul product. Multiple computers can be interconnected to a single SU.

MAXIMIZING BANDWIDTH USE

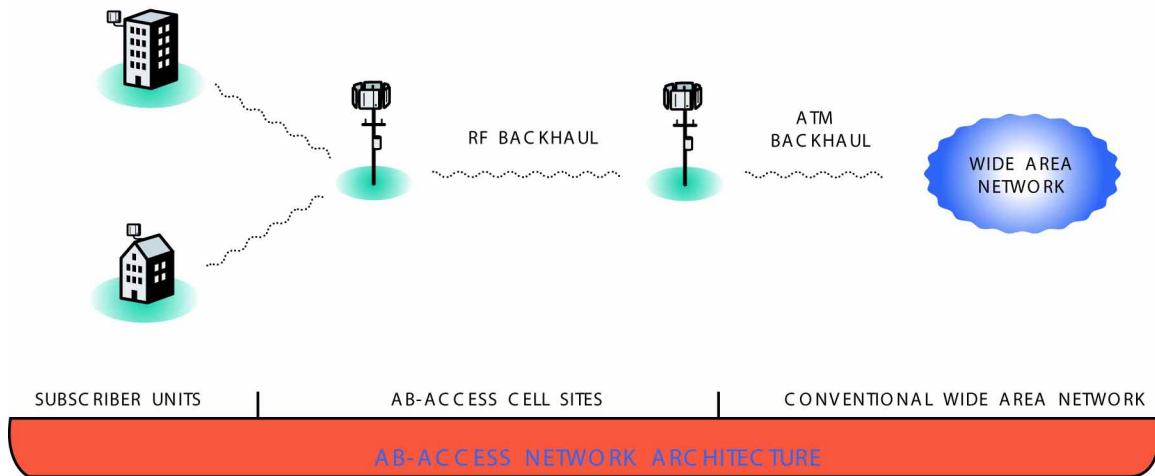
AB-Access dynamically allocates resources, serving only those subscribers with data to transmit or receive. Data throughput is maximized, as well as revenues. Much more than mere bandwidth-on-demand, AB-Access

allocates bandwidth to users at the granularity of a single cell or packet. Packet-on-Demand, coupled with very fast turn around time, virtually eliminates wasted bandwidth and greatly increases network efficiency and aggregate throughput. AB-Access systems optimize expensive RF spectrum by using Time Division Duplexing (TDD). TDD uses one shared RF channel for both upstream and downstream traffic. Because bandwidth direction is variable depending upon application usage, all available network bandwidth is deployed to support any mix of network traffic direction; upstream intensive, downstream intensive, or anywhere in between. Compared to legacy wireless (FDD) systems, wireless TDD provides a much more efficient network solution by:

- eliminating the need to reengineer the entire network as traffic patterns change;
- simultaneously supporting symmetric and asymmetric patterns without wasting spectrum;
- eliminating the need for a "guard band" between up and downstream RF channels.

ADVANCED SUBSCRIBER MANAGEMENT

New subscribers can be brought online immediately, with a single integrated unit that minimizes costs and enables fast, easy installation. To manage the network, a control server functions to maintain subscriber and configuration databases while the AB-Access Element Management System provides a GUI-based interface for configuring subscribers, monitoring network performance and reporting alarms. In addition, HP OpenView and SNMP interfaces are supported.



AB-ACCESS SPECTRUM

AB-Access was deployed in late 1999 and is readily available to be deployed in networks worldwide today. AB-Access operates in the 300MHz as specified in the unlicensed U-NII (5.2,5.3,and 5.8GHz,or lower,mid,and upper) bands. The use of license-free U-NII networks allows otherwise licensed operators to provide service where licenses are not yet available.

NETWORK MANAGEMENT

Network management system provides a GUI based interface for configuring subscribers, monitoring network performance and reporting alarms. The GUI may reside on either a Windows or a Linux platform.

CELLSITE COMPONENTS

- One or more environmentally sealed Access Points (AP), each with an integrated 60° by 7° beam width patch antenna. Six Access Points provide 360° geographic coverage
- ATM or Ethernet switch or multiplexer
- Optional 6-port Access Panel
- Backhaul equipment such as AB-Extender
- Other third party equipment as required

CUSTOMER PREMISE (CPE) COMPONENTS

- Environmentally sealed Subscriber Unit (SU) with integrated 20° by 20° beam width patch antenna
- Other third-party equipment as required

SERVICES

Axxcelera Broadband offers an array of support services, both direct and via our service partners. These include training, installation, and maintenance. We also support regulatory and homologation efforts in countries which have not yet received approval for usage in or near these bands.

SPECIFICATION SUMMARY

Dimension	Subscriber Unit: 10"Hx10"Wx3.2"D (250x250x80mm) Access Point: 20"Hx10"Wx3.2"D (510x250x80mm)
Weight	Subscriber Unit: 7.7lbs (3.5kg) Access Point: 11.0lbs (5.0kg)
FCC Certification	Subscriber Unit: OJBAAAB-ACCESS-SU01 Access Point: OJBAAAB-ACCESS-AP01
Canadian Certification	Subscriber Unit: 12411032091A Access Point: 12411032090A
Operating Frequency Range	5.25 - 5.35 GHz and 5.725 - 5.825 GHz (middle and high bands per U-NII specification)
Throughput	(raw) 25 Mbps per SU or AP (150Mbps per 6-AP cell)
Channel Bandwidth Range	15MHz per channel
Protocols	3.4 miles (5.6 km) RFC 1577 (CLIP), RFC 1483, (Multi Protocol Encapsulated over ATM), Native ATM
Interfaces	Subscriber Units and Access Point support RJ45 socket offering either ATM 25 or Ethernet (10 base T)
Error Control	Fast turnaround MAC-layer multiple ARQ

ENVIRONMENTAL CHARACTERISTICS

Temperature Range	-40°C to +50°C ambient temperature
Humidity	Up to 100% at 45°C
Wind Loading	112 m/hour



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