

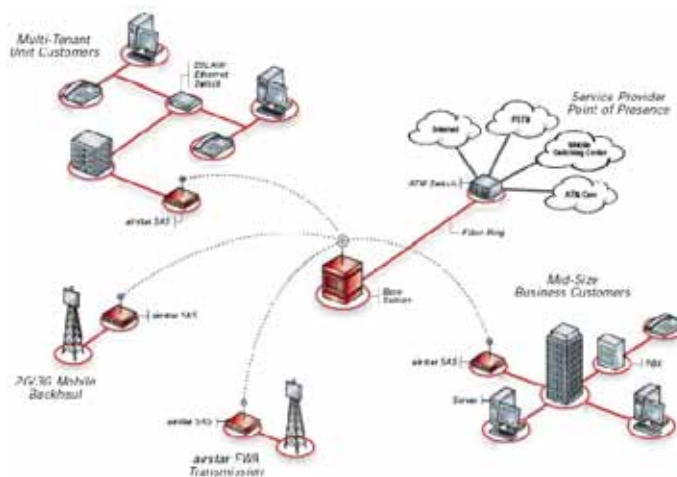
Airstar

Multi-service Broadband Access

Point-to-Multipoint Multi-service Broadband Wireless Access

Today's telecommunications service providers require a cost-effective solution that effectively handles applications ranging from toll-quality voice and data transmission to mobile base station backhaul, on a single platform. The airstar™ system delivers these critical requirements and much more.

The airstar system is a high-capacity, carrier-class, broadband fixed wireless access (BFWA) solution that delivers a vast range of telecommunications services to businesses and multi-tenant dwellings. Its point-to-multipoint (PMP) architecture significantly reduces installation and maintenance costs while maximizing the use of radio frequency spectrum.



Applications

The airstar system is a highly flexible platform that supports multiple applications. Using a cell-based airlink protocol, the airstar platform provides an evolutionary path and a future-proof solution that enables service providers to protect their infrastructure investments.

2G/3G mobile backhaul : Its cell-based air interface provides a future-proof backhaul infrastructure solution for supporting 3G mobile services. Mobile operators upgrading to 3G technologies face significant increases in the capacity requirements of their transmission networks, as well as a need to migrate from TDM to ATM and IP. The airstar system provides the transmission link to backhaul 2G and 3G mobile base stations from single customer premises equipment (CPE).

Small and medium-sized enterprise access : The airstar system maximizes revenue opportunities for small- and medium-sized enterprises (SMEs) by enabling the delivery of E1/T1-based voice, Internet access, virtual private network (VPN), and Frame Relay services from a single CPE. Given the large variety of equipment and applications within a typical SME, delivering multiple services is an essential part of any service provider's business case.

Multi-tenant unit access : The airstar CPE provides scalable and versatile solutions for multi-tenant unit access. In residential multi-dwelling units, the airstar system enables the delivery of Internet access and toll-quality voice or VoIP services.

Wireless local loop backhaul : The airstar system also provides backhaul transmission services for wireless local loop access networks. At 3.5 and 10.5 GHz, the system provides backhaul links up to 20 kilometres, enabling remote towns and villages to be served with the wireless local loop and backhauled to a larger city for connection to the public switched telephone network.

Wi-Fi hotspot backhaul : The airstar system also provides backhaul for Wi-Fi hotspots using the airstar CPE 10/100 Mbps Ethernet interface. All backhaul links are aggregated over the airstar airlink and delivered on a single ATM network connection at the base station. The ATM QoS implemented on the airlink guarantees the necessary bandwidth for Wi-Fi hotspots.

Features

Frequency bands : The airstar system supports widely used frequency bands, including 3.5, 10.5, 26, and 28 GHz. It enables multiple frequencies to be deployed from the same base station, aggregating data traffic onto a single network interface.

Interface versatility : The airstar system supports asynchronous transfer mode (ATM) interfaces, providing a single broadband converged interface from a base station. It is capable of delivering voice and data services with a high level of quality of service (QoS). In addition, the system provides time division multiplex (TDM) over E1/T1 and Internet protocol (IP) over 100Base-T interfaces from the base station for customers with TDM and IP backbones.

Wide coverage and high capacity : One airstar base station can cover up to 400 km², enabling thousands of customers to be served from a single base station. It provides up to 28 Mbps of capacity per radio channel and supports sectorization schemes from 2 to 12 sectors

Modular and scalable : The modular design of the airstar platform enables service providers to scale their networks according to their needs. Its capacity is scalable from 4 Mbps to 155 Mbps.

Service flexibility : The airstar platform efficiently supports the following voice and data services, enabling service providers to offer personalized solutions to their customers:

Voice Services

- E1/T1 leased line
- ISDN PRI
- VoIP
- Voice over Frame Relay
- Voice over xDSL

Data Services

- Internet access
- LAN interconnection
- Frame Relay
- Virtual LAN
- ATM

Service level agreements : The airstar platform enables service providers to reserve bandwidth for their different customers, according to the service level agreements they have purchased.

Service availability equivalent to fiber : Features such as base station redundancy and error correction algorithms are combined to achieve a high level of reliability. This allows the airstar system to provide up to 99.999% system availability. d'abonné.

Ease of deployment : The airstar system simplifies installation procedures. CPE configurations can be pre-provisioned prior to installation to accelerate CPE deployment.

Efficient spectrum utilization : The airstar system features dynamic bandwidth allocation to enable efficient bandwidth sharing over the airlink for the delivery of bandwidth-on-demand applications such as voice and Internet traffic.

Base station

Base Station Integrated Shelf : The airstar base station integrated shelf (BSIS) in conjunction with the base radio unit (BRU), acts as the hub that enables service providers to provide telecommunications services to a wide geographical area through wireless links. It provides modem functions, it aggregates and grooms traffic for transmission onto the backbone, and it manages the air interface. The BSIS offers different options to support redundancy and network interface selection. Its ability to communicate with multiple CPE in PMP architecture enables the system to serve large numbers of customers and allows service providers to deploy service incrementally, thereby spending money only when necessary.

Base Radio Unit : The BRU is a radio transceiver that is equipped and integrated with the sectoral antenna to cover a given cell sector. It is compact, lightweight and easy to install and align with the base station. It provides the radio link to enable communication with the remotely located airstar CPE. The BRU offers many options to support different frequency bands and cell sectorization patterns.

Customer Premises Equipment

Subscriber Access System : The airstar subscriber access system (SAS) is an easy-to-install indoor unit that provides the necessary interfaces to deliver voice and data services to customers. It is available with either one or four E1/T1 interfaces. The SAS features high throughput and support for several services and interfaces. Dynamic bandwidth allocation maximizes effective transmission capacity. The SAS is connected to the airstar subscriber radio unit (SRU), which is installed outdoors via a coaxial cable.

Subscriber Radio Unit) : The SRU provides the radio link to the base station and interfaces with the SAS. The SRU is a radio transceiver with an integrated directional antenna. It is easily deployed and supports automatic frequency tuning.