Cisco BWX 8300 Series Broadband Wireless Access System

Emerging service providers deploying new broadband wireless systems need to build Mobile WiMAX networks in the most capital-efficient way. Established service providers want to use their existing cell towers as much as possible. Both want to offer high-performance service over the widest possible area and with excellent indoor coverage. The Cisco® BWX 8300 Series Broadband Wireless Access System meets these needs, and more, for all types of service providers.

Features and Benefits

The Cisco BWX 8300 Series Broadband Wireless Access System offers service providers the following benefits:

- Standards-compliant Mobile WiMAX performance
- Adaptive beamforming with multiple-input, multiple-output (MIMO) service to increase coverage and capacity (planned future software release)
- Decreased capital expenditures and operating expenses due to reduced number of cell sites and basestations
- Excellent spectral efficiency, throughput, and indoor coverage for increased customer satisfaction
- Comprehensive integration with the Cisco Service Exchange Framework, enabling the full range of subscriber management and service control
- A licensed Mobile WiMAX radio access component of the Cisco Broadband Wireless network architecture for a tested, integrated end-to-end system

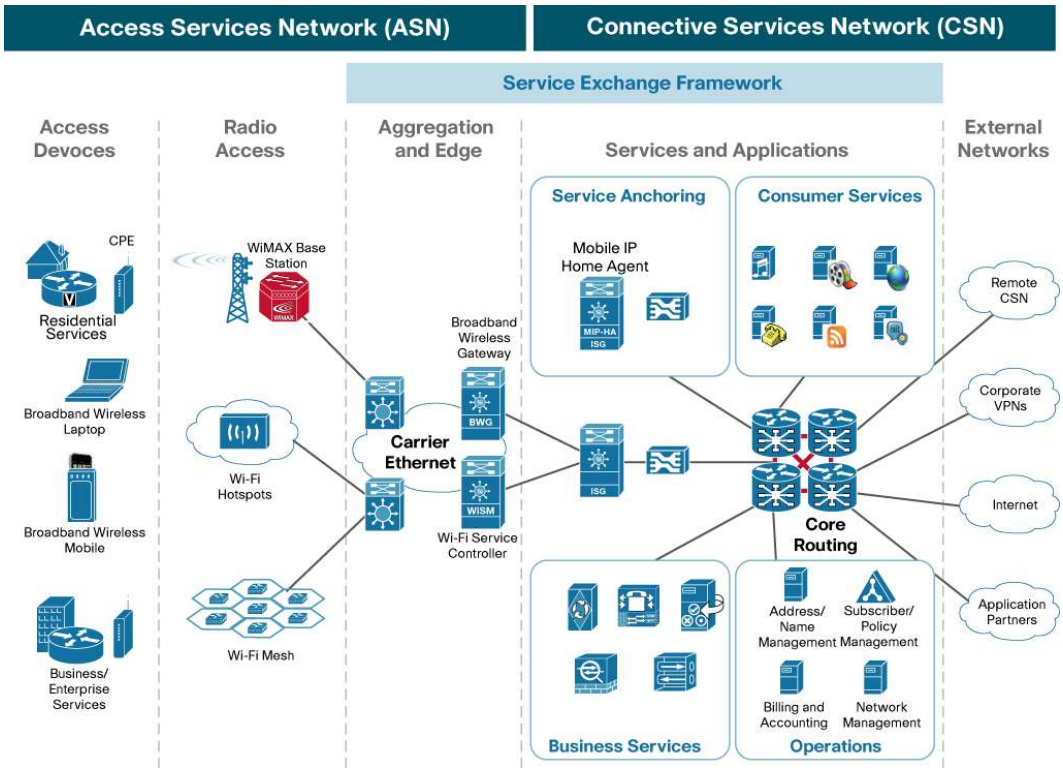
Figure 1. Cisco BWX 8305 Broadband Wireless Access System

Product Architecture

The Cisco BWX 8305 Broadband Wireless Access System uses an eight-element antenna array and advanced RF techniques, such as adaptive beamforming, to reduce service provider capital expense by 30 to 50 percent while also offering substantial operating expense savings.

The Cisco BWX 8305 is a key element of the Cisco Broadband Wireless Solution (Figure 1) featuring leading Mobile WiMAX radio access technologies and tight integration with Cisco's proven IP Next-Generation Network transport and service-delivery infrastructures. This open-standards solution is compliant with the Mobile WiMAX specification and the Profile C Network Reference Model and includes a full suite of base stations, antenna systems, access service network gateways, management systems, and customer premises equipment.

Figure 2. Cisco Broadband Wireless Solution



The integration of IP technologies throughout this end-to-end broadband wireless architecture allows service providers to make use of a large body of innovation in IP transport, service control, and application delivery, extending from the core through the access networks to the subscriber devices. Building on more than 20 years of Internet technology innovation, Cisco uses Mobile WiMAX to extend broadband beyond the reach of wired networks.

Product Specifications

Table 1. Cisco BWX 8305 Basestation Specifications

Item	Specifications		
Basestation	**2.3 GHz**	**2.5/2.6 GHz**	**3.4/3.5 GHz**
Frequency range	2300–2400 MHz	2496–2690 MHz	3400–3600 MHz
Model number (AC)	2.3-BTS3A-R1	2.5-2.6-BTS3A-R1	3.4-3.6-BTS3A-R1
Model number (+24 VDC)	2.3-BTS3T-R1	2.5-2.6-BTS3T-R1	3.4-3.6-BTS3T-R1
Model number (–48 VDC)	2.3-BTS3F-R1	2.5-2.6-BTS3F-R1	3.4-3.6-BTS3F-R1
Antenna			
Model number (frequency range)	2.3-RFS2-S2 (2300–2390 MHz)	2.5-RFS2-S2 (2496–2620 MHz) 2.6-RFS2-S2 (2595–2690 MHz)	3.4-RFS2-S2 (3400–3525 MHz) 3.5-RFS2-S2 (3475–3600 MHz) 3.5-RFS3-S1 (3475–3600 MHz), high power
Type	8-element panel array, 120°		
Gain	16 dBi typical		
System Parameters			
Access scheme	Orthogonal Frequency Division Multiple Access (OFDMA)		
Duplexing scheme	Time Division Duplexing (TDD)		
Downlink/uplink duplex	32:15 typical		
Channel bandwidth	5 MHz		
Baseband modulation	QPSK/16QAM/64QAM adaptive		
Bandwidth allocation	Dynamic		
Beamforming gain	D/L: 18 dB U/L: 9 dB		
Power control	Forward/reverse, open/closed loop		
TX RF power	20–30 dBm to each antenna element (23-33 dBm for 3.5 GHz high power) 36–46 dBm EIRP, per antenna element (39-49 dBm for 3.5 GHz high power)		
Security	PKMv2		
Serviceability	EMS remote operation		
Upgradeability	Software downloads		
Number of users	200/BTS average		
Backhaul interface	10/100 Ethernet (RJ-45) data/management port		
Mechanical			
Operational temperature	BTS: 0 to 50°C (32 to 122°F) Ant: –40 to 50°C (–40 to 122°F)		
Power consumption (at peak TX power)	655 W	700 W	772 W 835 W (high power)
Dimension/weight	BTS: 13 x 48 x 37 cm / 11 kg Ant: 147 x 56 x 53 cm / 35 kg	BTS: 13 x 48 x 37 cm / 11 kg Ant: 147 x 56 x 53 cm / 35 kg	BTS: 13 x 48 x 37 cm / 11 kg Ant: 101 x 56 x 51 cm / 30 kg
Regulatory	FCC Part 15-B and Part 27, ETSI EN 302 326-2, EN 301 489-1 and -4, EN 60950-1, UL 60950	FCC Part 15-B and Part 27, ETSI EN 302 326-2, EN 301 489-1 and -4, EN 60950-1, UL 60950	ETSI EN 302 326-2, EN 301 489-1 and -4, EN 60950-1, UL 60950

Certification 	The Cisco BWX 8305 Basestation and Antenna have been designed to be WiMAX Forum compliant. Certification is underway and will be dependent on test lab readiness for the various system profiles.

- The assumptions used to calculate the above performance values may not represent actual deployment conditions.
- Performance values are subject to change without notice. Please contact Cisco for the latest product specifications.

Service and Support

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Additional Information

For more information about the Cisco BWX 8300 Series Broadband Wireless Access System, contact your local account representative or visit: http://www.cisco.com/go/bwx.

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