



Combining Broadband Wireless and Traffic Management Solutions

Unburden the Network and Ensure QoS

Alvarion's market-leading broadband wireless access (BWA) systems feature comprehensive quality-of-service (QoS) mechanisms, including extensive traffic classification capabilities and advanced filtering options to regulate network traffic. Alvarion's industry leading broadband wireless systems, both its WiMAX platform, BreezeMAX™, and the licensed-exempt BreezeACCESS® VL, are ideal solutions for operators to offer broadband IP voice and data services with state-of-the-art QoS and high performance.

Increasing bandwidth challenges for operators, however, threaten to disrupt the QoS mechanisms of broadband networks. Bandwidth hungry applications, such as peer-to-peer (P2P) file sharing, consume large portions of uplink bandwidth, reduce over-subscription capabilities, and degrade service quality for other subscribers. Performance sensitive applications, such as voice over IP (VoIP) and online gaming, need special care to provide optimal service levels for all subscribers.

To solve this problem, Allot Communications, a leading provider of advanced traffic-management solutions, developed its NetEnforcer® product. Using deep packet inspection (DPI) technology and advanced QoS enforcement technologies, carriers can establish 'application aware' traffic management policies to control costs, while offering premium services for additional revenues.

Allot & Alvarion Team to Overcome the Burden

To meet its customers QoS challenges, Alvarion has teamed with Allot Communications to offer a combined solution. With NetEnforcer deployed at the edge of a BreezeMAX or BreezeACCESS VL network, operators can extend QoS support to the wired network, while adding application awareness to QoS policy decisions.

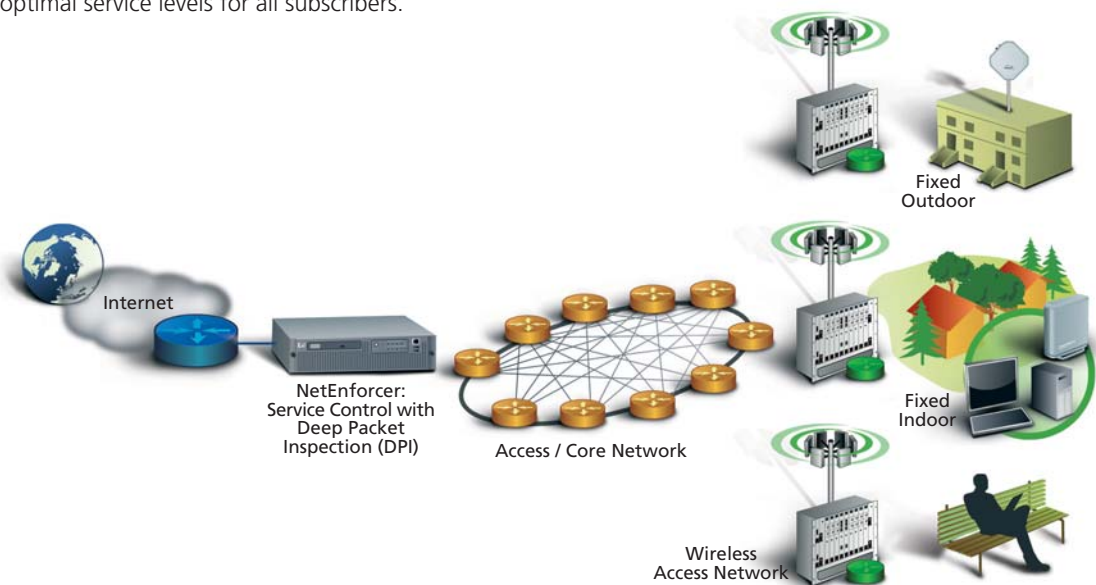


Figure 1: Traffic management appliance in a broadband wireless access network



Service providers benefit from a combined solution by:

• **Oversubscription**

The over provisioning of services is a tool often used by operators to maximize network efficiency, minimize user access costs and meet financial targets. P2P traffic, generated extensively by about 5% of subscribers, may be responsible for 80% of a total network load, jeopardizing oversubscription assumptions. Using a NetEnforcer traffic management device, P2P file transfers (uploads/downloads) may be limited, allowing other applications to continue in their normal flow. This allows carriers to significantly increase the number of subscribers, and realize valuable savings on uplink costs and other infrastructure investments, while maintaining optimal service levels for the majority of subscribers.

• **Service fairness**

BreezeMAX or BreezeACCESS VL working together with the NetEnforcer ensure that even during times of network congestion subscribers on the same service plan receive the same level of service quality over both the wireless and wired parts of the network, regardless of the application.

• **Service differentiation**

Allot's traffic management extends Alvarion's QoS mechanisms, allowing differentiated services to be offered over both the wireless and wireline portions of the network. Operators can block, limit, prioritize, or guarantee bandwidth by an individual subscriber, application class, or service plan, while tracking bandwidth usage by subscriber or application to support a wide variety of billing models.

• **VoIP performance**

Operators need to monitor and maintain overall VoIP performance, an increasingly critical application that is sensitive to network delay and jitter. BreezeMAX/BreezeACCESS VL and NetEnforcer combine to ensure that VoIP services are guaranteed over both the wireless and wireline networks, while reducing the priority and limiting the resources consumed by competing services.



Image 1: BreezeMAX family



Image 2: BreezeACCESS VL family

• **Improved subscriber satisfaction**

By granting higher priority to VoIP and web browsing applications, to which users demand immediate response, over applications such as email and file transfers to which response may be slower, operators improve subscriber satisfaction.

• **Comprehensive traffic monitoring**

Operators require information and statistics to optimize network efficiency and performance. NetEnforcer's real-time and long-term traffic monitoring and reporting capabilities complement the performance and traffic management features of AlvariSTAR, the carrier-class network management system (NMS) for BreezeMAX & BreezeACCESS VL.



Image 3: NetEnforcer AC-400 series of entry level traffic management devices for small to medium broadband service provider networks



Image 4: NetEnforcer AC-800 series of mid range traffic management devices for medium and large broadband service provider networks



Image 5: NetEnforcer AC-1000 series of carrier class traffic management devices for medium and large broadband service provider networks



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