



# Maximize Your Network with Dynamic Bandwidth Allocation

## Multiplying Resources: Greater Bandwidth, Better Services, More Revenues

Service demands on carriers and other service providers are constantly increasing due to greater use of bandwidth hungry applications, such as video, gaming and other multimedia services. But not every user needs massive amounts of bandwidth on a constant basis. What is needed is a mechanism to dynamically adjust network resources giving the exact bandwidth to each user at any moment. Equally important, that mechanism should create network efficiencies that can multiply revenues.

## Matching Bandwidth to Demand

Matching bandwidth to each user's instantaneous demand also creates service package and billing flexibilities for service providers. The ability to constantly and automatically reallocate bandwidth priorities per user offers service providers an infinite number of business models and pricing options to use to provide maximum bandwidth at minimal cost to each user. For example, service providers can build a full range of service offerings into a package, with flexible bandwidth options to offer to businesses or application service providers (ASPs), thereby opening up a whole new segment of customers.

## BandWD – Enabling Bandwidth Brokers

BandWD enables carriers to be 'bandwidth brokers' by empowering them with policy and resource management software called BwPRM™. This dynamic bandwidth allocation tool can guarantee that the appropriate level of network resources are allocated per user per session, while its advanced quality of service (QoS) control guarantees optimal end-to-end management of network resources. In addition, BandWD enables carriers to do on-the-fly provisioning and scheduling of bandwidth consuming value-added services for non-guaranteed customers by creating differentiated and ad-hoc business schemes for all service levels and subscribers.

## Alvarion, the WiMAX Leader

Alvarion's market-leading broadband wireless access (BWA) products, and in particular its WiMAX platform BreezeMAX™, are ideal for operators to offer broadband IP data, voice, and multimedia services with state-of-the-art QoS, advanced performance and high capacity. Successfully deployed in more than 180 installations in 80 countries worldwide, BreezeMAX was designed from the ground up according to the IEEE 802.16 standards to support fixed, nomadic, portable and mobile WiMAX applications. Its carrier-class design supports broadband speeds and QoS to enable carriers to offer triple play broadband services to thousands of subscribers from a single base station.

The BreezeMAX system is managed by the AlvariSTAR™ carrier-class network management system (NMS), offering the full range of network surveillance, monitoring, configuration & fault management capabilities to maximize the effectiveness and efficiency of managing the network. Embedded with the entire knowledge base of broadband wireless access network operations, AlvariSTAR is a power multiplier in the hands of a service provider, dramatically extending the ability to provide a rich portfolio of services, support rapid customer base expansion, and ensure customer satisfaction.

## Maximizing WiMAX Services

Combining Alvarion's AlvariSTAR NMS with BandWD BwPRM software means that operators can offer more high quality broadband services over their BreezeMAX network without incurring additional hardware expenses. Operators receive a comprehensive solution for QoS control and dynamic bandwidth management. Each user receives required bandwidth when needed. The operator gets a network management interface for regulating bandwidth requests to avoid traffic bottlenecks, while being able to view all bandwidth allocations to users at any time.

BwPRM works by initially collecting detailed information on the network topology and its resource constraints and combines that with current and predicted network utilization, subscriber profiles, carrier policies, and service/content characteristics. The system then considers the prevailing parameters to make intelligent resource allocation decisions according to flexible and dynamic business rules. Services are provisioned using all relevant information regarding QoS requirements, such as maximum latency, jitter, recommended throughput and duration.





## Who Benefits

Flexibility in service provisioning as powered by dynamic bandwidth allocations is a top priority for carriers due to the inherent service and economic benefits. In addition, other service providers, such as ASPs or sites that stream video to users, would benefit due to the bandwidth efficiencies created. End users also benefit tremendously as they get the appropriate bandwidth whenever they want top quality streaming video or other multimedia services - and depending on the business model, pay little or nothing for the extra bandwidth.

### The overall advantages of dynamic bandwidth allocation are:

- Maximum resource efficiency
- Improved quality of service
- Additional revenues beyond service level agreements (SLAs)
- Flexible business models
- Enhanced user services and experience
- Simple user interface as with requirements to change service provisioning
- Better customer retention

## An End-to-End Guarantee

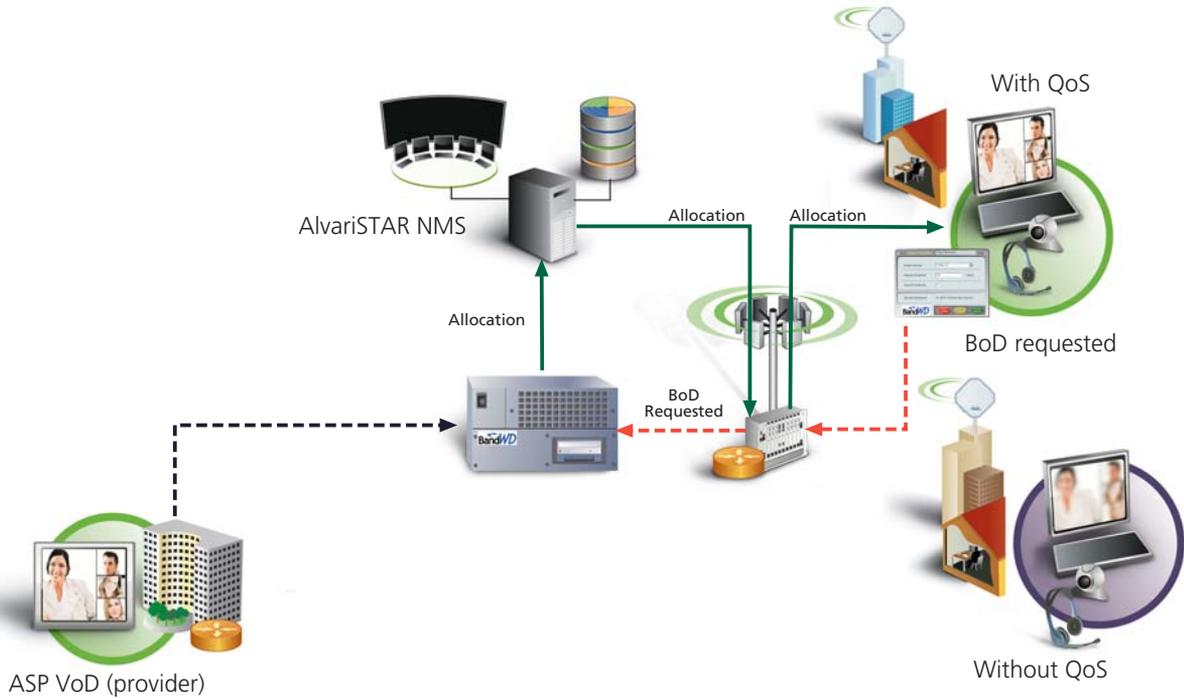
Alvarion's BreezeMAX provides the highest performance and quality of service for a WiMAX network and its subscribers. AlvariSTAR NMS allows operators to manage their BreezeMAX network to the maximum with powerful tools for mass service provisioning. With high bandwidth applications being used by more subscribers, BandWD's BwPRM system performs dynamic bandwidth allocation allowing operators to maximize resource efficiency and generate additional revenues with flexible business models. Combining the two carrier grade systems means that everyone - carriers, ASPs, businesses, and residential users - all benefit when the right amount of bandwidth is given and top quality broadband services are provided at minimum cost.

## About Alvarion

With more than 2 million units deployed in 150 countries, Alvarion is the world's leading provider of innovative wireless network and WiMAX solutions enabling personal broadband services to improve lifestyles and productivity with portable and mobile data, VoIP, video and other applications.

## About BandWD

BandWD is the world's leading provider of a policy and resource management solution for end-to-end real-time guarantee of network resources, advanced Quality of Service (QoS) control and dynamic bandwidth allocation and brokering for broadband service providers.



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