ByteMobile Adaptive Traffic Management Product Family

Building Adaptive Traffic Management Solutions

ByteMobile Adaptive Traffic Management Solutions allow mobile operators to actively and dynamically manage mobile network traffic to maximize the user experience and optimize network efficiency.

The essential building blocks of Adaptive Traffic Management Solution are the data plane based:

- ByteMobile T3100 Adaptive Traffic Manager
- ByteMobile T2000 Series Video Cache
- ByteMobile T1000 Series Traffic Director

These three products work in conjunction with three in the management plane:

- ByteMobile Reporting Dashboard
- ByteMobile Data Loader
- ByteMobile Element Manager

Together, these six products create an integrated architecture for efficient and streamlined deployment of Adaptive Traffic Management Solutions.

Figure 1: ByteMobile Adaptive Traffic Management network architecture enables a powerful, fully integrated solution to manage traffic growth and deliver a superior user experience.
Data Plane Products

**T3100 Adaptive Traffic Manager**

The ByteMobile T3100 Adaptive Traffic Manager is the cornerstone of the ByteMobile Adaptive Traffic Management Solution. As the central “brain” for Adaptive Traffic Management, the T3100 system leverages ByteMobile applications and integrates deep packet inspection (DPI), video, web and Internet radio optimization, analytics and policy control to dynamically adapt to changing network conditions and ensure mobile subscribers have the best user experience possible.

The T3100 incorporates the ByteMobile Orchestration System, allowing the T3100 to act as a single network element for the above applications. This eliminates the cost and complexity of deploying and managing multiple network elements from different vendors for traffic management. Acting as an intelligent, content-aware control point between the Internet and the mobile network, the T3100 improves the utilization and performance of existing mobile network capacity by 30-50%.

The T3100 is a 12 RU, carrier-grade, NEBS Level 3-compliant, fault-tolerant system with built-in redundancy for all hardware and software components. Purpose built for Adaptive Traffic Management Solution, the T3100 integrated design significantly reduces the mobile operator’s total cost of ownership for traffic management.

**T2000 Series Video Cache**

The T2000 Series Video Cache improves subscriber quality of experience (QoE) and reduces data volume by delivering popular content from within the mobile operator’s network. The T2000 integrates with the T3100 to deliver superior video quality by leveraging both offline and online video optimization and supporting policy enforcement on a per-subscriber basis.

The T2000 supports transparent caching and can process traffic from every major website without requiring any changes in content server configuration. The T2000 caches up to 60% of video data volume on average, reducing the need for videos to be fetched across Internet links. Because the T2000 is tightly integrated with the ByteMobile video optimization application, operators can compress cached videos by up to 40%, providing additional data reduction for heavily constrained networks or fulfilling a mandate for intelligent capacity growth.

The T2000 is a 2 RU platform, supporting 10 Gbps subscriber traffic and 9.6 TB of raw storage. Multiple T2000 systems can be combined for a total of 40 Gbps of subscriber traffic, with 38.4 TB of raw storage.

**T1000 Series Traffic Director**

The T1000 Series Traffic Director steers traffic and manages load for the T3100 platform and other operator elements on the data plane, control plane and application plane. The T1000 facilitates network integration and intelligently maintains high availability for applications running on the T3100. The T1000 offers deployment flexibility to rapidly insert Adaptive Traffic Management applications to control subscriber mobile data traffic.
The T1000 is a 2 RU platform that can scale capacity from 10 Gbps to 50 Gbps in 10-Gbps increments. Linking multiple T1000 units in a virtual system enables linear scalability to hundreds of Gbps. Mobile network planners can immediately add capacity to meet changing traffic requirements within the mobile packet core – without having to provision new hardware modules.

### Management Plane Products

#### The ByteMobile Reporting Dashboard

The ByteMobile Reporting Dashboard provides operators with a consolidated summary of mobile data trends and optimization performance across multiple sites where Adaptive Traffic Solutions are deployed. Designed to help operators measure, at a content level, the impact of different traffic types, device types, video formats and network performance, the Reporting Dashboard is vital in planning, managing and maintaining mobile data networks for maximum performance, efficiency and subscriber quality of experience (QoE).

The Reporting Dashboard can be accessed remotely through any standard web browser, offering operators an intuitive and easy-to-use tool for understanding mobile network performance and the precise impact of data optimization. Operators can view network information across multiple geographies and deployments, comparing and benchmarking the effects of optimization on network efficiency and subscriber QoE.

#### The ByteMobile Data Loader

The ByteMobile Data Loader provides critical information feeds into operators’ business intelligence systems that offer new levels of insight and opportunity. It enables operators to feed unique and detailed information on mobile data subscriber behavior – from device types to content preferences, from content sources to device and application usage patterns – to business intelligence systems for rapid analysis and decision-making.

The Data Loader is an extract, transform and load (ETL) system that processes data from ByteMobile Adaptive Traffic Management Solution, ensuring reliable, secure and consistent access to content-level data across different network deployments. In addition, Data Loader provides pre-built packages designed to accelerate creation of external data feeds such as GSMA systems for advertising, enterprise data warehouses for business intelligence and Splunk for network monitoring and troubleshooting.
The ByteMobile Element Manager

The ByteMobile Element Manager enables mobile operators to rapidly deploy, manage and operate multiple ByteMobile network elements supporting the Adaptive Traffic Management Solution. It supports fault, configuration, accounting, performance, security (FCAPS) – the ISO Telecommunications Management Network model and framework for network management.

The Element Manager is a server application with a web-based graphical user interface (GUI) that simplifies control, configuration, maintenance and upgrades of the ByteMobile Adaptive Traffic Management Solution. The result is reduced operational complexity and lower overall cost of Adaptive Traffic Management Solutions deployed across multiple network sites.

Together, these six ByteMobile products encompass a range of functionality that helps network operators effectively address the traffic challenges and revenue opportunities of the mobile data revolution.

Adaptive Traffic Management provides operators and their subscribers:

- Faster, more efficient networks
- Better service – better experience
- More traffic – higher revenue, lower cost
To find out more about each product, please refer to:

- ByteMobile T3100 Adaptive Traffic Manager Data Sheet
- Byte Mobile T2000 Series Video Cache Data Sheet
- ByteMobile T1000 Series Traffic Director Data Sheet
- ByteMobile Reporting Dashboard Data Sheet
- ByteMobile Data Loader Data Sheet
- ByteMobile Element Management System Data Sheet