

UltraBand™ Series

Transparent Caching and Content Delivery Platform

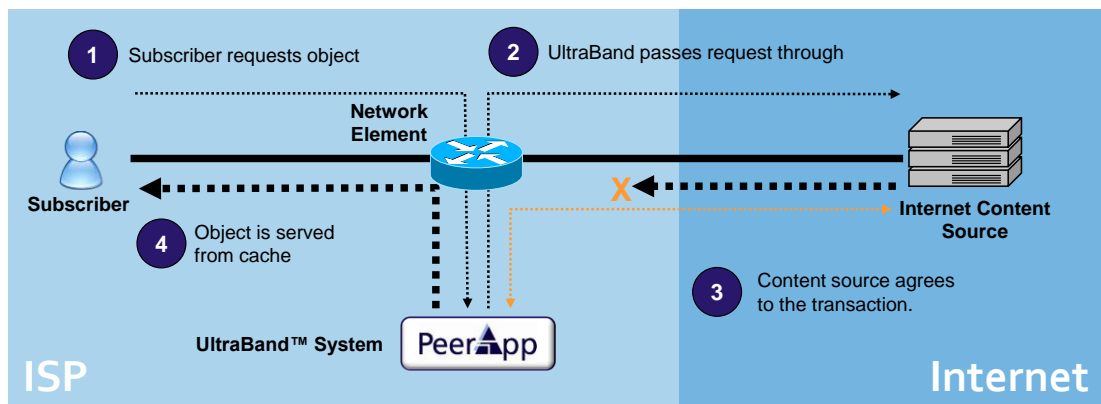
Internet video, peer-to-peer file sharing and other forms of “over the top” (OTT) network traffic are growing exponentially. Meanwhile, subscribers expect a smooth and flawless Internet browsing and multimedia experience. By caching redundant HTTP and peer-to-peer content, UltraBand improves end-user quality of experience (QoE) and reduces network infrastructure costs, within any service provider network: DSL, cable, FTTx or mobile.

Product Description

UltraBand is a next-generation transparent Internet caching solution that optimizes delivery of Internet video services, file sharing applications, software distribution services and more – virtually any service or application that consists of bandwidth-consuming large objects. UltraBand is focused on resolving congestion created by Internet video and other high-bandwidth applications, while meeting subscribers’ demand for the content. UltraBand consists of three major components:

- 1) One or more *cache engines* that detect repeatedly-requested content, copy the content into cache storage, retrieve the content from storage and deliver it to requesting subscribers
- 2) *Storage* ranging from appliances with self-contained storage to external storage arrays holding tens of terabytes
- 3) An *element management system*, UBView, that supports system configuration and management functions, and also provides reporting on key metrics

UltraBand integrates with the network via existing network elements, typically a router or deep packet inspection (DPI) device. Traffic is diverted from these elements to UltraBand, and then looped back to the same network element, to be routed just as it would be without the cache. As a result, there is minimal change to operator network configuration and traffic flow. Caching is completely transparent to the end user and to the originating application.



Transparent caching architecture ensures application integrity and freshness of content.

Transparent Caching

The UltraBand does not expose a public IP address to subscribers, to HTTP services, to peer-to-peer networks or to third parties. The resulting transparency ensures that the system never interferes with the business logic of any Internet application or service. Caching transparency guarantees that content served from cache is always up-to-date and is only delivered if it would also be delivered by the originating application. This enables full compliance with legislation for service provider liability protection, as defined in “safe harbor” procedural provisions in the US (DMCA 1998), the EU (E-Commerce Directive 2000) and in other countries as inherited through free trade agreements.

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Key Features and Benefits

Dramatic Quality of Experience (QoE) Improvement – Accelerates delivery of streaming and download content by 4X-10X.

Network Cost Savings – Provides 30% or greater reduction of transit link bandwidth consumption.

Broadest Content Support – Concurrently caches a wide and growing set of services including Netflix and other adaptive bit rate (ABR) video, flash, streaming video, web-based and peer-to-peer file sharing, online software updates, mobile-specific services and HTTP downloads. UltraBand is designed to facilitate rapid incorporation of new protocols and services.

IP Transparency / Legal Compliance – IP Transparency preserves application logic for HTTP services and peer-to-peer networks. The system fully complies with the procedural “safe harbor” provisions set by US (DMCA 1998) and EU laws.

IPv6 – IPv6 support for next-generation networks.

Content Filtering – Capabilities to define redirection and filtering policies via optional McAfee® SmartFilter.

Operational Simplicity – UltraBand dynamically processes all supported services and applications, eliminating the need to predict which services will drive the most content and allocate fixed capacity to them.

Scalability – Configurations range from entry systems with a single cache engine and 1 Gbps forwarding up to large 16-engine grid systems with tens of Gbps forwarding and tens of Terabytes of storage capacity, all under common software and management.

High Availability – Clustered system architecture has no single point of failure. “Fail-to-wire” network interfaces ensure that network traffic is not interrupted.

Commercial, Carrier-Grade Hardware Platform – Available on pre-configured rack-mount servers such as Dell PowerEdge (AC power) and IBM (DC power) with internal storage or external grid storage arrays, sized to match specified forwarding capacity.

Available Configurations

UltraBand is available in a range of configurations to meet the needs of small to very large traffic volumes. UltraBand is installed on pre-configured carrier-grade rack-mountable computing platforms.

UBView™ Element Manager

UltraBand’s UBView web-based management interface provides a comprehensive view of the system and its components, caching engines and storage arrays. SNMP compliant alerting and alarming provide real time insight into system performance and health.

UBView reports incoming and outgoing traffic for each protocol. Upstream and downstream data can be displayed for day, week, month or year periods. The average traffic for selected periods as well as minimum, maximum and current snapshot traffic is displayed. UBView provides key indicators for QoE (e.g. bandwidth acceleration), cache performance (traffic served, byte hit ratios) and other traffic statistics such as top URLs and domains.

System key health indicators such as CPU, memory, system and disk utilization are also provided. In addition Cache Detail Reports (CDRs) can be exported for use with third-party management and accounting systems.

Supported Application Classes and Protocols (partial list)

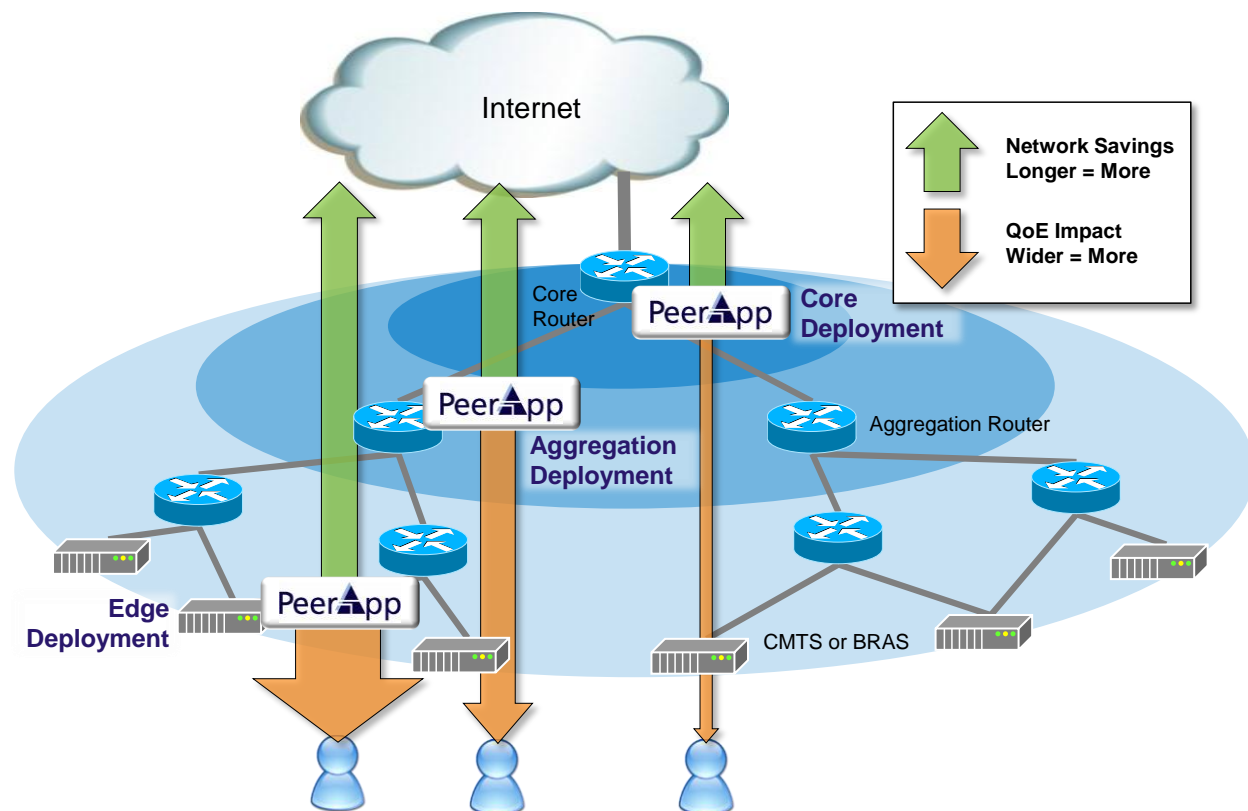
Video Services	Netflix, YouTube, Microsoft Silverlight, DailyMotion, Google videos, Todou, Youku, MSN Movies, Veoh, Yahoo Video, Metacafe, AOL Video, DivX, CNN
Cloud-based Storage	RapidShare, MegaUpload, Badongo, zShare, DL Free.
Online Software Updates	Microsoft Windows updates, Adobe Acrobat updates, Apple updates (Mac OS, iTunes, Safari), antivirus and gaming updates
Peer-to-Peer	BitTorrent, eDonkey, Ares, Gnutella
Web 2.0	Google Maps, Earth, Farmville, Web Mail, Flickr, Gaming
Mobile Applications	App store downloads, ringtones, mobile video, mobile games

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UltraBand in the Network

The UltraBand system provides benefits at each level of the network. Core deployments focus on transit Internet savings and basic QoE enhancements while deployments at the network edge allow operators to realize maximum subscriber quality increases and network infrastructure savings. Deployments at the IP edge allow operators to defray core network upgrades and interconnect providing maximum value from a transparent caching deployment.



Caching benefits increase as deployment moves to the network edge.

About PeerApp

PeerApp is the leading infrastructure provider of transparent Internet caching and content delivery platforms, enabling network operators to control rich media content, improve network efficiency, enhance subscribers' quality of experience, and offer new Internet content services. More than 175 operators in over 60 countries have deployed PeerApp systems. PeerApp was founded in 2004 and is headquartered in Newton, Massachusetts, USA.

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