

WarpEngine™ Enterprise

Overview

The Internet is a busy data superhighway driven by the rapid growth of wireless devices and cloud computing applications. Enterprises are evolving to handle non-localized content and applications as a result from increasing remote workforce, customer facing websites and web applications. These trends introduce network latency and bandwidth challenges for IT managers, regardless of whether it is a small, medium or large enterprise.

Badu Networks has developed TCP Optimization technology that improves data throughput and bandwidth utilization to provide a good user experience for the Enterprise market. It is a single-ended solution that can be deployed anywhere in the network without the costly expense of upgrading your existing devices.

Use Cases

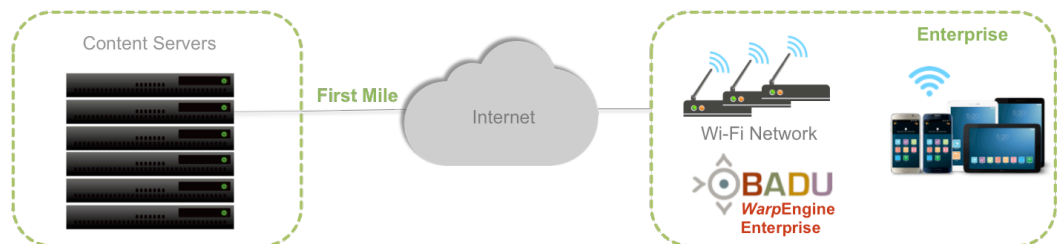
WarpEngine™ is ideal for deployment for the use cases below:

- Organizations requiring large file transfers over long network distances
- VOD (video on demand) and Video Streaming service optimization
- Content Delivery Networks (CDNs)
- Enterprise hybrid cloud architecture application optimization
- Retail/eCommerce sites requiring fast web page loads

WarpEngine™ TCP Optimization Proxy

WarpEngine™ Enterprise Edition is a scalable network optimization proxy appliance that can handle TCP sessions with little to no overhead. It can be deployed at the customer premise for Enterprise applications, in a Service Provider's core network or in front of 100's to 1000's of servers in a data center.

Performance for WarpEngine™ depends on network variables such as round trip time (RTT), packet loss %, available bandwidth, size of content, and other factors. It is based on Badu's WarpTCP™ technology, which was developed specifically to perform well in wireless networks.



Benchmarks

The *WarpEngine*[™] benchmarks were measured on an Enterprise Wi-Fi network showing throughput benefit as a function of number of users for various file size transfers.

Free Trial

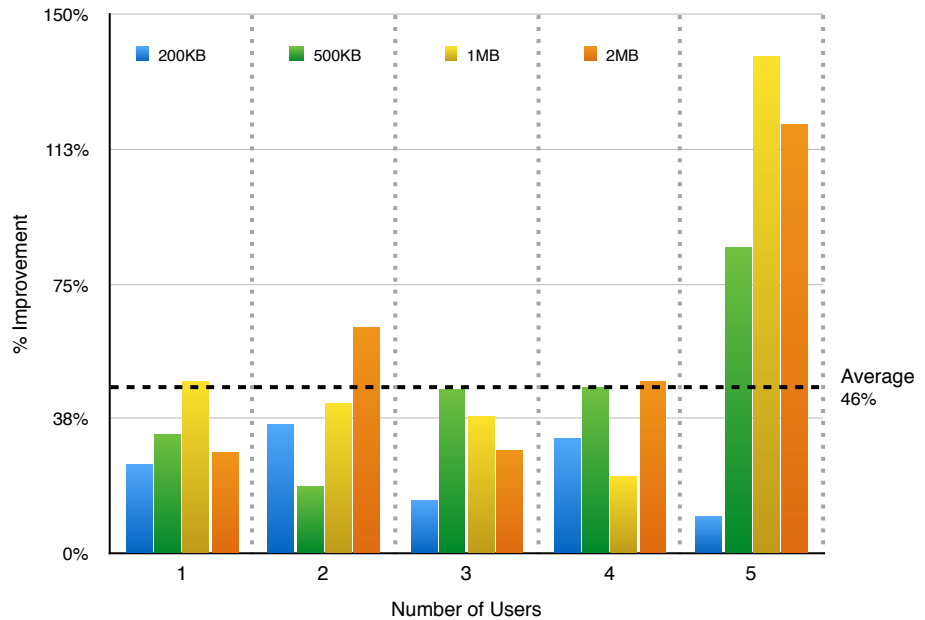
Discover the benefits that *WarpEngine*[™] delivers by asking for a free 30-day trial. Visit our website today and click on the “Free Trial” button at the bottom of the home page for your free copy of the software. It is risk free and easy to test.

WarpTCP[™] — Smarter Congestion Control

TCP protocol was invented 35+ years ago, however it was never designed for use in massive cloud infrastructures or wireless networks. It was architected with guaranteed delivery in mind, not speed. Given the jittery nature of wireless networks, TCP often overreacts to congestion and network variations. The result is a drastic drop in throughput, causing a poor user experience.

WarpTCP[™] is a set of intelligent algorithms that maximize TCP throughput in the face of network variations such as delay, jitter, packet loss and random bandwidth fluctuation. It was especially designed to maintain high TCP throughput in wireless networks such as LTE and Wi-Fi. Compared to competing solutions, *WarpTCP*[™] does not overreact to temporary or false-alarm congestion, minimizes re-transmissions, and recovers faster from a congestion event.

Benchmarks – *WarpEngine*[™] Enterprise Wi-Fi



Summary

WarpEngine[™] Enterprise Edition is a scalable and transparent appliance that can be easily deployed in large-scale infrastructures. The hardware is a robust solution supporting dual-hard drive and dual-power supply and NIC bypass features. The technology is suitable for many types of networks including wired, wireless and small to large Enterprise deployments.



Improving the mobile experience

Technical Specifications

Feature	WarpEngine™ Enterprise
Chassis	1U rack, 20" rack depth
Optimized WAN capacity	1Gbps
Memory	16GB DDR3
Hard drive bays (hot-plug)	Up to 4 x 2.5" hot-plug SSD (SATA or SAS)
Hard drives	Intel® S3610 200GB 2.5", Enterprise SSD SATA mix use MLC 6Gbps
RAID controller	Integrated hardware RAID
PCI slots	2 PCIe 3.0 slots
Embedded NIC	Dual Port 1Gb LOM (management port)
NIC Adapter Options	1Gbps dual-port bypass: <ul style="list-style-type: none">• Copper (RJ45)• Single-mode Fiber LX (LC)• Multi-mode Fiber SX (LC)
Dual Power supplies	Dual redundant 550W AC platinum power supplies
High Availability	Dual Raid 1 Hot-plug drives Hot-plug redundant PSU Internal Dual SD support Fan Fault Tolerance ECC memory
Temperature	Operating: 5°C to 45°C Non-operating: -40°C to 65°C
Relative Humidity (non-condensing)	5% to 95% at a maximum wet bulb temperature of 33°C
Operating Acoustic Noise (typical)	33 dBA
Harsh environment testing	Military Standard 810G tested for temperature, shock, vibration and altitude NEBS level 3 and ETSI tested.
System Dimensions (LxWxH); without bezel	545.7mm x 434.0mm x 42.4mm
Rail information	Static rails for tool-less mounting in four-post racks with square or unthreaded round holes; or tooled mounting in four-post threaded and two-post (Telecom) racks.
Management	WarpAdmin™ web-based management tool to monitor TCP sessions and throughput as traffic flows through appliance.

Product Ordering Information

WarpEngine™ Enterprise – Ordering Part Numbers:

WE-1GE-2B-2C-U1	1G Copper with NIC bypass
WE-1GE-2B-2LXLC-U1	1G Fiber LX (single mode) with NIC bypass
WE-1GE-2B-2SXLC-U1	1G Fiber SX (multi-mode) with NIC bypass

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