

# High Performance TCP Optimization Solution

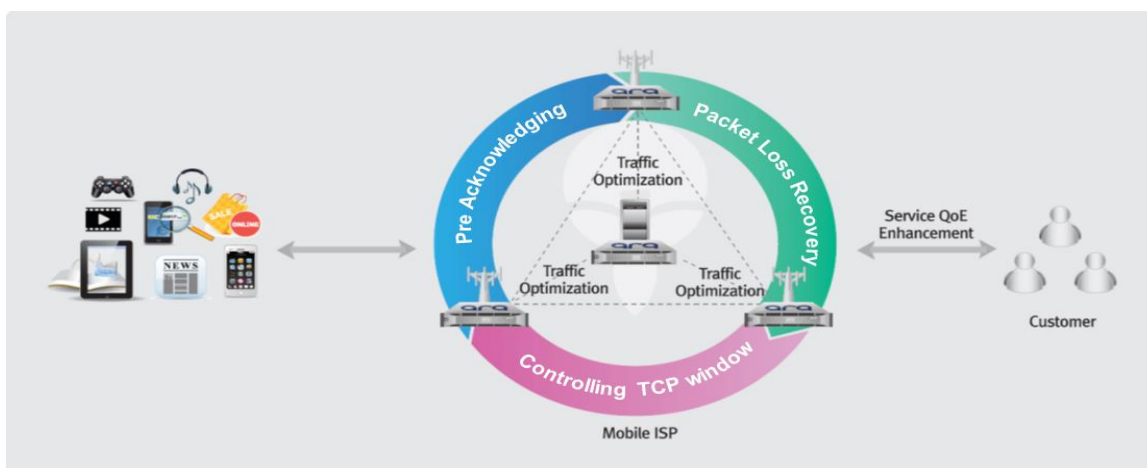
Optimize Your Traffic and Enhance QoE

## ❖ TCP Optimization for HTTPS Traffic for QoE Improvement

The amount of Internet HTTPS Traffic takes more than 70% of the total Internet traffic, and it increases explosively every year. Large ISPs are facing the challenge of Optimizing the encrypted.

The Transmission Control Protocol (TCP) is the engine of the Internet. Due to its ubiquitous use in video streaming, web browsing, file transfers, communications, and other application types, TCP typically represents 85% to 90% of fixed access Internet traffic and as much as 96% of mobile Internet traffic.

Based on the long experience in the internet traffic security and optimization for large national carriers and international internet whole sellers, ARA Networks developed its unique Web Optimization System that addresses all key challenges of TCP Protocol for the large Carriers and Teleco operators to optimize their internet traffic to provide with the best Quality Of Experience for its customers.



## ❖ Features & Benefits

### Improved Subscriber QoE

Faster data transmissions and increased application performance lead to measurably, consistently better subscriber quality of experience.

### Increased Revenue Opportunities

Subscribers tend to use more data when they are enjoying faster, more reliable connections.

### Enhance Browsing Service

Jaguar7000 TCP optimization Solution provides reliable, consistent services and application delivery while dramatically improving performance across networks to deliver a better user experience. Users gain faster browsing and quicker access to content, with uncompromised quality of service.

### Increase Average Bandwidth Per User

Jaguar7000 platform lets operators adapt in real-time to the variable conditions of the networks, like latency, packet loss, congestion, etc. fully utilizing available bandwidth and accelerating application traffic, which will increase the average bandwidth per user.

### Increased Network Performance

Higher ratio of goodput to throughput, better resource utilization, reduced retransmissions, and extended legacy infrastructure lifetimes.

### Rapid ROI

More efficient resource utilization defers capital, and lets access network resources run 'hotter' without compromising QoE.

### TCP Connection Splitting

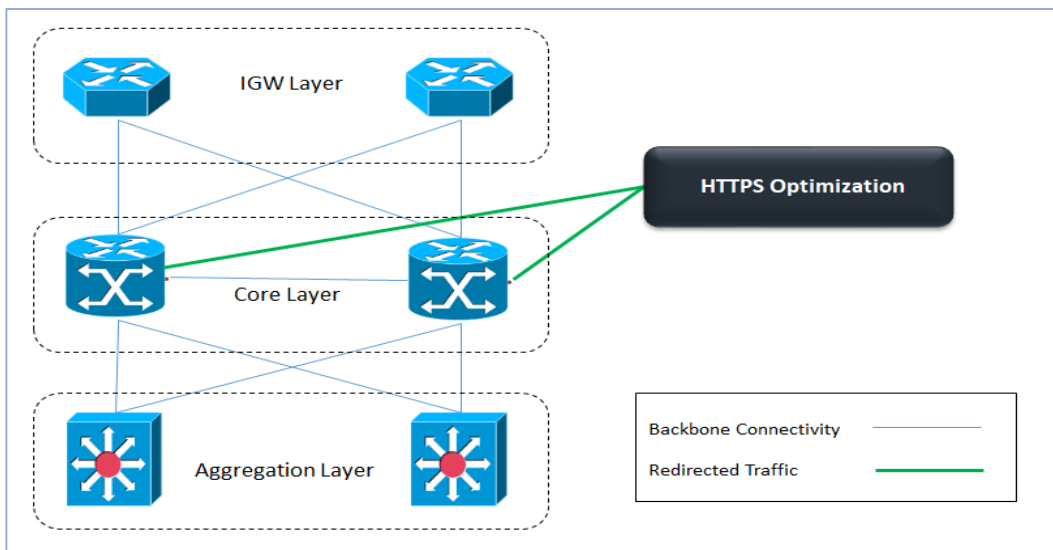
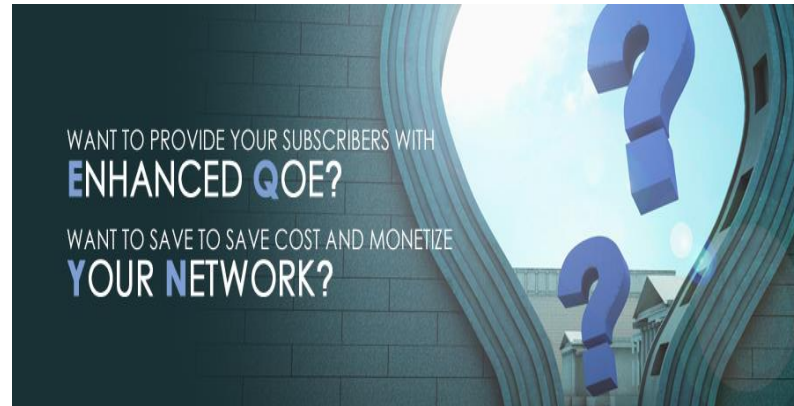
Jaguar7000 Optimization Solution reduces the time to reach available bandwidth by 'splitting' the latency between the subscriber/ access network and the Internet/transit network and applying techniques to optimize the performance of each 'side' of the connection.

### Decrease Packet Loss and Packet Retransmission

Jaguar7000 works on a per-packet basis, transparently, it does not need to wait until the Internet side packet loss is resolved, and instead can forward data segments that arrive after the lost packet which will significantly decrease the packet retransmission rate.

### ❖ Main Features

- TCP optimization pre acknowledging method
- TCP Packet loss recovery
- Controlling TCP window
- User's TCP timeout tuning
- Server's TCP timeout tuning
- Server's connection try counts
- Rate limit policy



### ❖ System Specification

Application Model	J7K-CN-HTTPS
Customer	Large ISP
Sustainable Client side Throughput	7.1 Gbps
Maximum Client side Throughput	7.5 Gbps
Total number of concurrent connections	2 Million
RPS (Request per second)	22K

### ❖ Hardware Specification

Model	J7K-CN-HTTPS
Server Model	Intel Based Bare Metal Server
CPU	2 of Intel Xeon E5-2630v4 (2.2GHz), 10 cores or higher
RAM	128GB (8 of 16GB)
HDD	2 of 900GB 2.5" SAS / 1 of 1.2TB 2.5" SAS
Raid Controller	HW RAID controller
Power supply	1100W, Hot plug, Dual
NIC	1G NIC (Broadcom 5720 QP 1G), 10G NIC (Intel X520 DP 10Gb DA/SFP+ with 2 of GBIC)

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