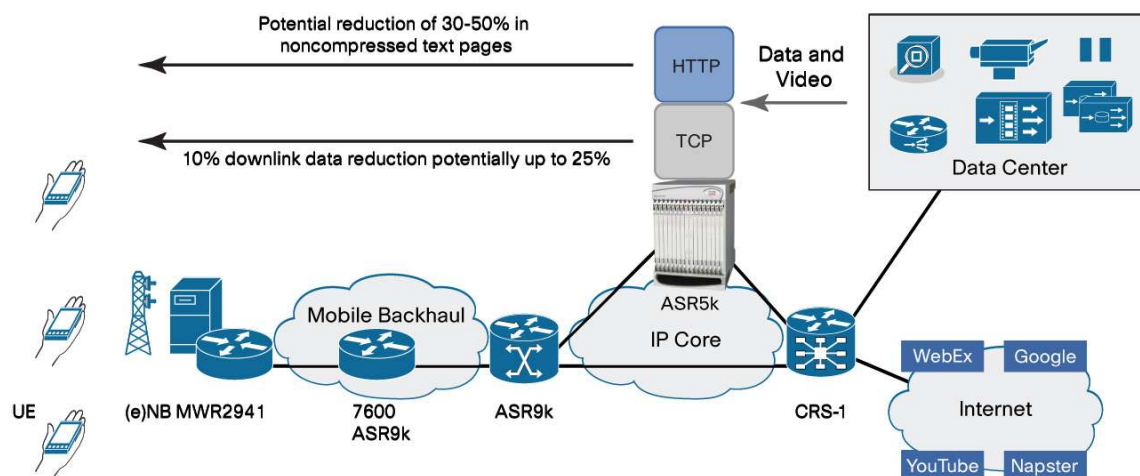# Traffic Packet Optimization

Product Overview

Traffic packet optimization provides clientless optimization for TCP and HTTP traffic. Optimization is performed by splitting the TCP and HTTP connections between client and server using a proxy. The TCP and HTTP proxies are implemented as a Cisco® In-Line Service in the Cisco ASR 5000 Series platform. Network operators can expect a 30 to 50 percent reduction in noncompressed HTTP traffic and a 10 percent reduction in the downlink data. This reduction can go as high as 25 percent (see Figure 1).

Mobile operators can enhance the user's experience on 3G and 4G networks with faster response times and higher throughput, while reducing the overall CapEx and OpEx of the network.

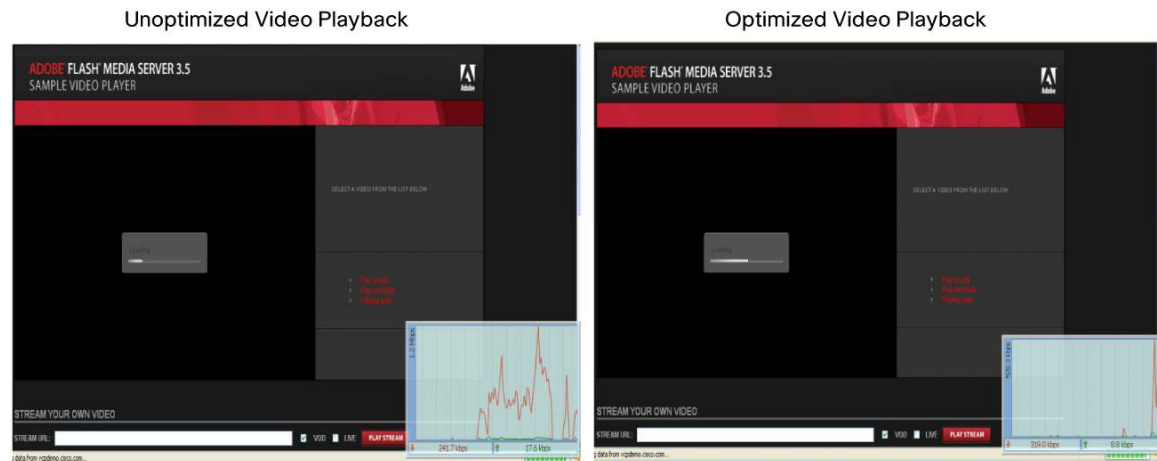**Figure 1.** Traffic Packet Optimization

Features and Benefits

TCP optimization provides:

- A 10 percent + improvement in downlink throughput during congested periods
- Better performance by rapidly adapting the window size based upon wireless network conditions
- Minimized TCP retransmissions and acknowledgements
- Enhanced user experience with faster initial startup and noticeably less jitter during video playback

Figure 2 illustrates a major benefit of TCP optimization - improving the user experience by smoothing the effects of packet loss as a result of channel fading.

Figure 2.   TCP Optimization: Improving the User Experience During Video Playback

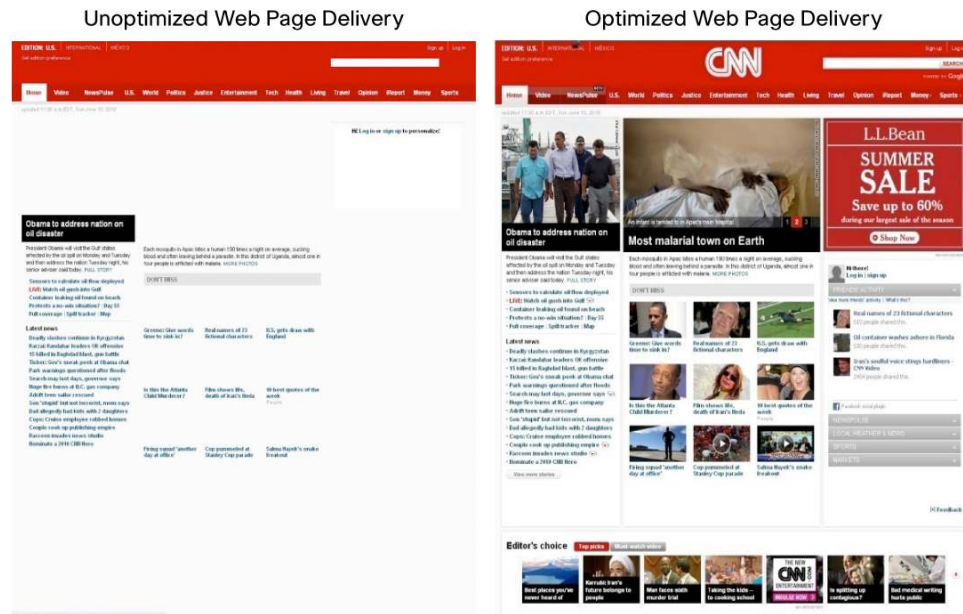Unoptimized Video Playback   Optimized Video Playback

HTTP optimization provides the following benefits:

- Less bandwidth used in the Radio Access Network (RAN) through the implementation of standard RFC 2616 compression
    ◦ Reduction in transmitted bytes over the air can be greater than 50 percent for noncompressed data (depending on the URL)
    ◦ Supported by all HTTP clients
- Faster response time because DNS resolution between user device and mobile gateway is minimized

Figure 3 illustrates how HTTP optimization improves the user experience by delivering web pages faster.

Figure 3.   HTTP Optimization: Improving the User Experience by Delivering Web Pages Faster

Unoptimized Web Page Delivery   Optimized Web Page Delivery

Licensing

Traffic packet optimization is available in increments of 1K simultaneous sessions.

System Requirements

Traffic packet optimization requires the presence of one of the following features:

- Cisco Enhanced Charging Bundle 1 (ASR5K-00-CS01ECG1)
- Cisco Enhanced Charging Bundle 2 (ASR5K-00-CS01ECG2)
- Cisco Dynamic Content Charging and Control Bundle (ASR5K-00-CS01DCC)

Ordering Information

- Traffic Packet Optimization, 1K sessions ASR5k-00-CS01TRPO
- Traffic Packet Optimization, 1K sessions (Failover) LIF5k-00-CS01TRPO

To place an order, visit the Cisco Ordering Home Page. To download software, visit the Cisco Software Center.

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