



Choosing the  
**Right Acceleration Solution**

In the previous piece in this series, *What is Network Acceleration*, we outlined the various techniques used to improve network performance.

Now, we will discuss how these techniques are deployed in commercial products, and which techniques benefit different applications.



## Introduction

### Network Acceleration Techniques

- Availability Improvement
  - Load Balancing
  - Offloading (SSL, Compression, Caching)
- Data Reduction
  - Deduplication
  - Caching
- Transport Acceleration
  - TCP Acceleration
  - High Performance Protocols
- Application Optimization

## Web Service Provider

Web Service Providers deliver content to consumers distributed around the globe. Uptime and responsiveness are key as user impatience translated directly into lost revenue. End-user systems cannot be modified, so acceleration must be deployed asymmetrically.



### Example Applications

- Social Media Platform
- eCommerce Site
- Airline Booking Portal

### Application Needs

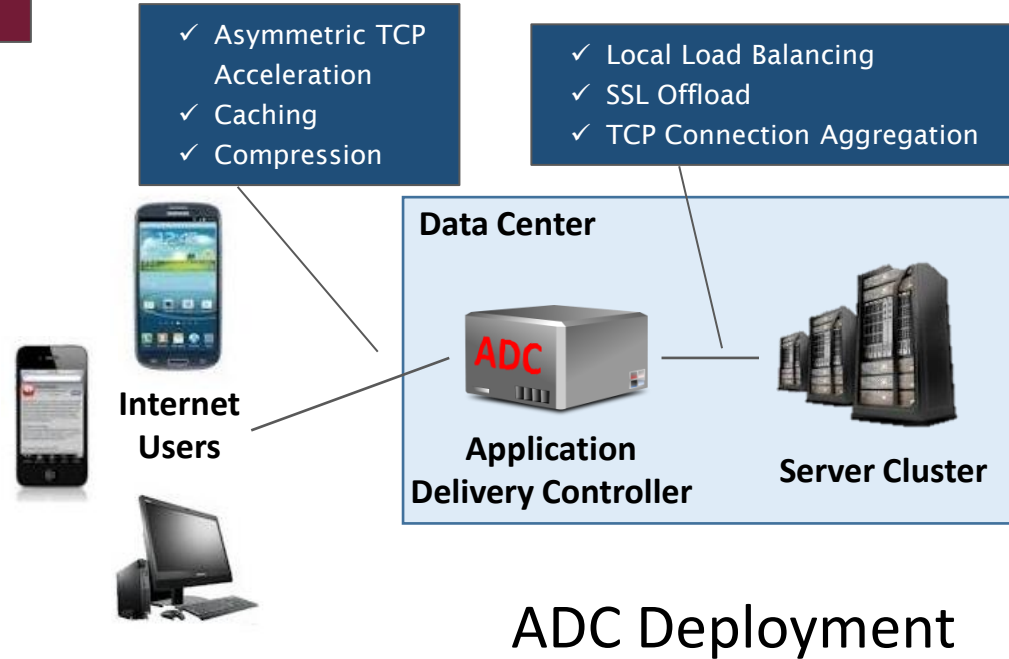
- High Up-Time
- High Request Volume
- User Experience
- Responsiveness

Recommended Solution

# Application Delivery Controller

ADCs are designed to improve the performance, availability, and security of web-delivered applications. They are a form of asymmetric network acceleration and are deployed at data centers. ADCs are typically backed by a cluster of servers, but use Network Address Translation (NAT) to provide a single interface to the outside world. By offloading common server tasks like TCP connection establishment, SSL encryption, and HTTP compression, ADCs reduce workload on servers and increase the number of requests a data center can handle. F5, Citrix, Radware, and A10 Networks are major players in this space.

## Web Service Provider



## Distributed Network

On corporate networks, distributed knowledge workers share files, conduct video conferences, and access internal databases. These transactions must be timely and reliable. For Data Center Replication, vast amounts of data must be synchronized across the globe. In both situations, there are a limited number of locations, so symmetric acceleration is possible.

### Example Applications

- Multi-site Corporation
- Data Center Replication

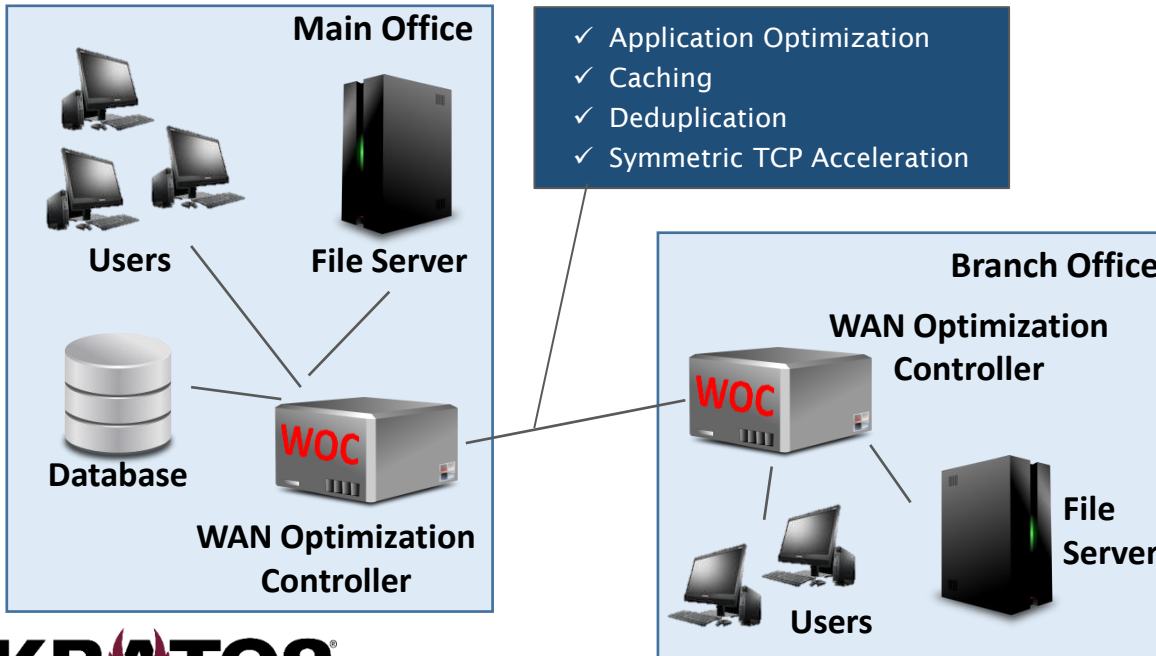
### Application Needs

- Responsiveness
- Bandwidth Efficiency



Recommended Solution

# WAN Optimization Controller



## Distributed Network

WOCs accelerate business applications and file transfer between distributed locations. They are symmetrically deployed with a WOC at each location. They maximize bandwidth by reducing the amount of data that needs to be transmitted through caching and deduplication. By minimizing protocol chattiness and performing specialized optimization on application protocols, WOCs decrease response time. They are effective for compressible, non real-time, general purpose traffic. Riverbed, Cisco, Silver Peak, Citrix, and Blue Coat are the primary players in this space.



## Mission Critical, Strategic Applications

Strategic Applications depend on connectivity between global sites. Information streams must be delivered in real time without loss across impaired, long-haul links. Data is typically incompressible and cannot be throttled or delayed.



### Example Applications

- High Value Asset Data
- Critical Command & Control
- Health and Safety Telemetry

### Application Needs

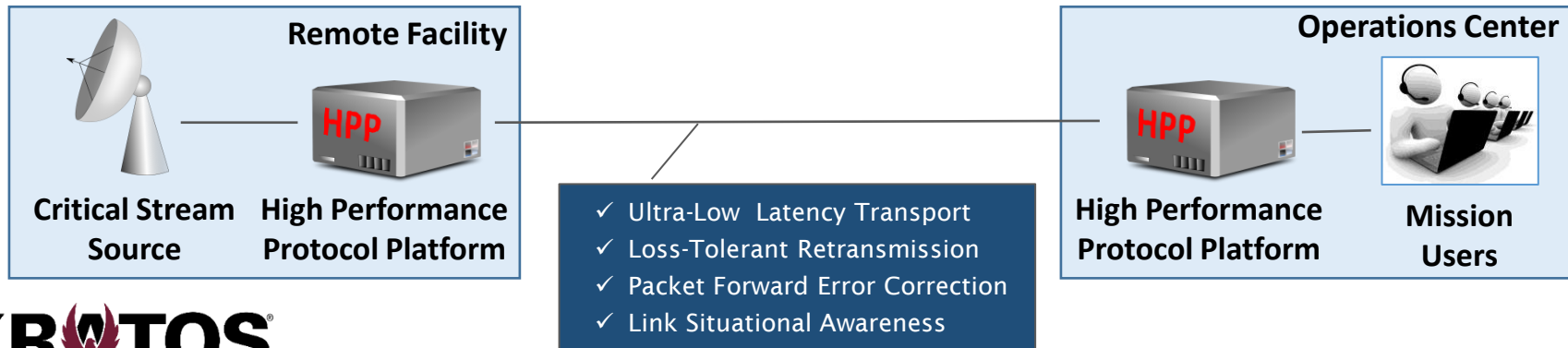
- Ultra-Low Latency
- Maximum Resiliency
- High Throughput
- Guaranteed Delivery

Recommended Solution

High Performance Protocol

# Mission Critical, Strategic Applications

HPPs are designed to transport streams of critical data. They guarantee lossless delivery across impaired, long haul networks. Through low-latency, loss-tolerant retransmission and packet forward error correction, HPPs overcome even severe packet loss without reducing throughput. HPPs measure network performance to provide link situational awareness and add resiliency to critical systems. Kratos is the industry leader in HPPs, and DataDefender is the only HPP purpose-built for strategic applications. That is why DataDefender is trusted to deliver data for systems including Global Positioning System (GPS), Space Based Infrared System (SBIRS), and the Air Force Satellite Control Network (AFSCN).





## Conclusion

Each type of application is best served by a different set of Network Acceleration techniques.

**Web Service Providers** require high-availability and exceptional user experience. Application Delivery Controllers (ADCs) provide this function.

**Distributed Networks** need efficient bandwidth usage and responsiveness. WAN Optimization Controllers (WOCs) were designed for this purpose.

**Mission Critical, Strategic Applications** require the ultimate in resilience and low latency while maintaining high throughput. Kratos DataDefender is a High Performance Protocols purpose built for this application. To see how DataDefender stacks up against other protocols, please read *The Best Protocol for Real-Time Data Transport*, available at [www.rtlogic.com/products/datadefender](http://www.rtlogic.com/products/datadefender).