



Akamai Technology

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Agenda



Akamai Introduction

- Who is Akamai?
- Product Portfolio
- NOCC Snapshot

Akamai Overview

- The Akamai System
- Object Delivery
- Whole Site Delivery

Basic Technology

- Akamai Edge Suite
- Downloading www.example.com
- Finding the IP address

Akamai Accelerated Network Partnership

- Overview
- How You Benefit
- Typical Ratio
- Requirements

A black and white photograph of a woman with dark hair, smiling and looking down at a laptop screen. In the foreground, a bowl of popcorn sits on a surface. The background shows a bookshelf filled with books. A blue horizontal band is overlaid across the middle of the image, containing the title text. Below the blue band is a solid orange horizontal bar.

Akamai Introduction

Who is Akamai?

Akamai is the leading global service provider for accelerating content and business processes online. Akamai has transformed the Internet from a chaotic network into a predictable, scalable, and secure business platform. Thousands of customers rely on Akamai to deliver their content and applications — getting more value out of their Web businesses at less cost. Leveraging the Akamai EdgePlatform, these organizations gain business advantage today, and have the foundation for the emerging Web solutions of tomorrow. Akamai is "The Trusted Choice for Online Business."

- Public company – symbol AKAM
- Founded: 1998
- Headquarters: Cambridge, MA, USA
- 16+ worldwide offices, including Europe and Asia
- 1,400+ employees worldwide

DIGITAL ASSET SOLUTIONS

To provide a superior online experience

Akamai Media Delivery

Helps media providers deliver and monetize media assets quickly and effectively

Akamai Stream OS

A single point of control for producing, publishing, and delivering rich media, and essential reporting tools to effectively support online business models

Electronic Software Delivery

Delivers any type of software over the Internet effectively and reliably

DYNAMIC SITE SOLUTIONS

To speed up rich interactive content

Dynamic Site Accelerator

Ensures high performance and reliability of dynamically-rendered, personalized Web sites

Dynamic Site Accelerator Enterprise

Handles the most complex Web sites – increasing scale, reach, and performance rapidly without added infrastructure

APPLICATION PERFORMANCE SOLUTIONS

To accelerate dynamic applications

Web Application Accelerator

Improves performance and reliability of Web-based applications

IP Application Accelerator

Improves the performance and reliability of any IP-enabled application

Traffic Snapshot



6,107,350 Hits/sec

884,510 Mbits/sec



Akamai Overview



The image is a composite of two black and white photographs. The top photograph shows a woman with dark hair, smiling and looking down, with a bookshelf filled with books in the background. The bottom photograph shows a person sitting on a couch, holding a large bowl of popcorn, and looking at a laptop screen. A solid blue horizontal band separates the two images, and the title 'Akamai Overview' is written in white text on this band.

The Akamai System

The world's largest on-demand, distributed computing platform delivers all forms of Web content and applications for over 2,000 customers and 20,000 domains

The Akamai EdgePlatform:

30,000+
Servers

1450+
POPs

950+
Networks

660+
Cities

67
Countries

Resulting in traffic of:

885 Gbps peak traffic

6,419 terabytes / day

274 billion hits / day

274 million unique clients IPs / day



Object Delivery (Classic CDN)



1. Enduser types **www.retailer.com** into browser
2. Browser retrieves HTML from retailer's origin infrastructure
3. HTML instructs browser to get objects from Akamai
4. Browser retrieves images from optimal Akamai EdgeServer

Origin Infrastructure



End User



Whole Site Delivery (for Static Sites)

1. Enduser types **www.retailer.com** into browser
2. **Browser retrieves entire site from Akamai cache at the edge**
3. HTML instructs browser to get objects from Akamai
4. Browser retrieves images from optimal Akamai EdgeServer

Origin
Infrastructure



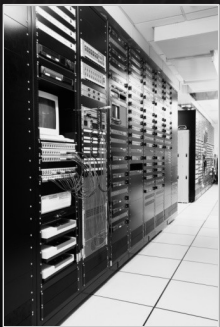
End User



Whole Site Delivery (for Dynamic Sites)

1. Enduser types **www.retailer.com** into browser
2. Browser requests HTML from optimal Akamai EdgeServer
3. **Akamai EdgeServer** retrieves **HTML** from **origin infrastructure**
4. Akamai EdgeServer sends HTML to browser
5. Browser retrieves images from optimal Akamai EdgeServer

Origin Infrastructure



End User



Without Akamai:

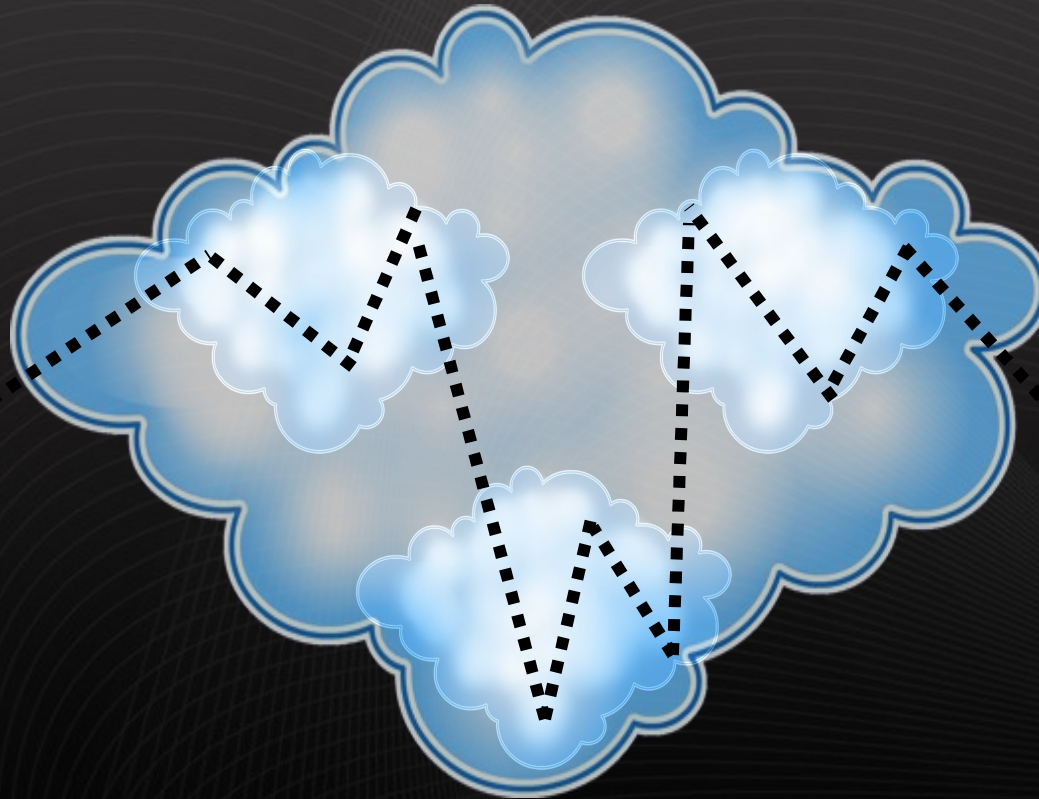
Many round trips to retrieve content



Origin
Infrastructure



End User



With Akamai:

Fewer round trips with Akamai TCP Optimization



Origin
Infrastructure



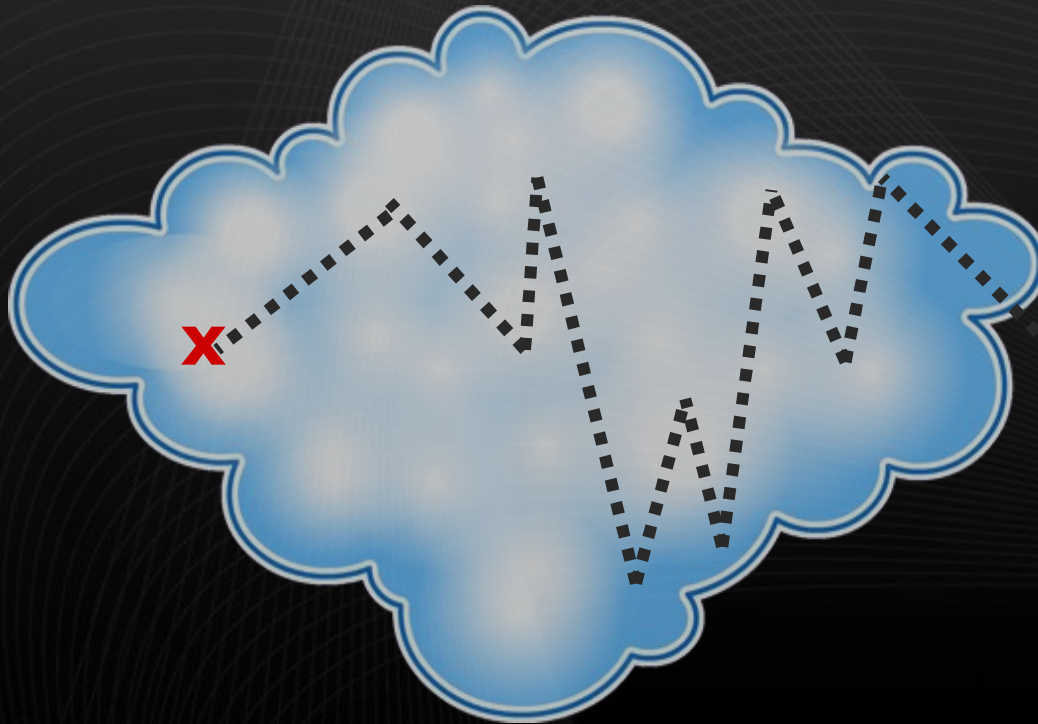
End User



Without Akamai: Unreliable connectivity



Origin
Infrastructure



End User



With Akamai:

Route around trouble spots using Akamai SureRoute



Origin
Infrastructure



End User



Without Akamai:

More round trips to get dynamic or “cold” objects



Origin
Infrastructure



End User



With Akamai:

“Just-in-time caching” of dynamic and “cold” content by Akamai Pre-fetching



- 1) Enduser types www.retailer.com into browser
- 2) Browser requests HTML from optimal Akamai EdgeServer
- 3) Akamai EdgeServer “GETs” HTML from origin infrastructure
- 4) Akamai EdgeServer parses HTML and requests uncached images from origin while delivering HTML to browser
- 5) EdgeServer delivers “Akamaized” images to browser

Origin
Infrastructure



End User



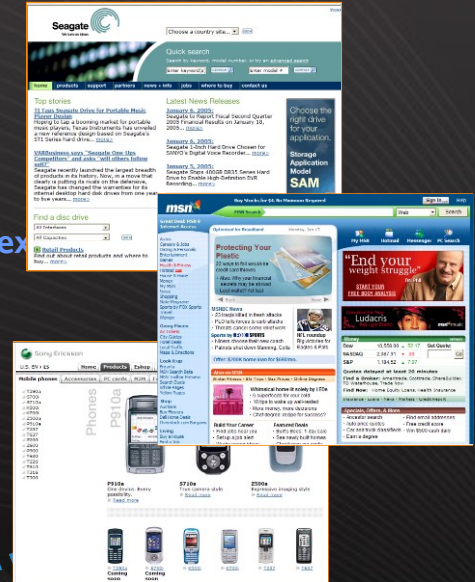
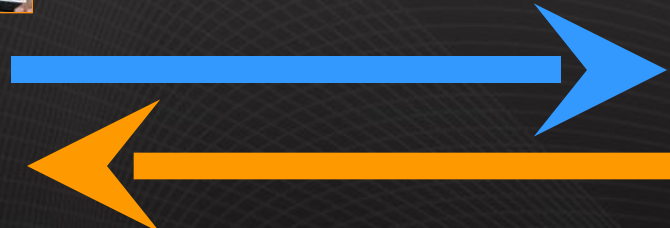
A black and white photograph of a woman with dark hair, smiling and looking down at a laptop screen. She is wearing a dark turtleneck sweater. In the foreground, a bowl of popcorn sits on a surface. The background shows a bookshelf filled with books. A blue horizontal band is overlaid across the middle of the image, containing the text "Basic Technology".

Basic Technology

Basic Technology Edge Suite



HTTP request
user enters standard URL (www.ex



HTML code
contains Akamai Code

HTTP request
for embedded content

Akamai Server #1



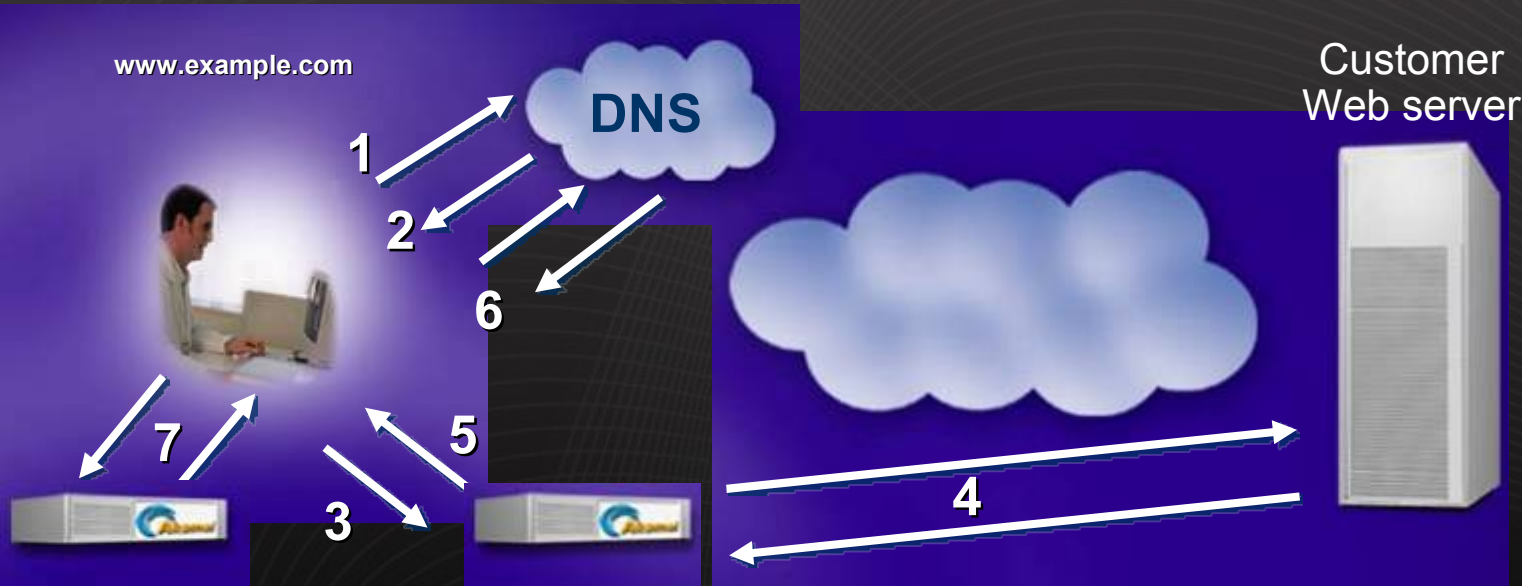
Or Retrieved from source
if content not found in region

Retrieved from server in region
if content not found on server #1



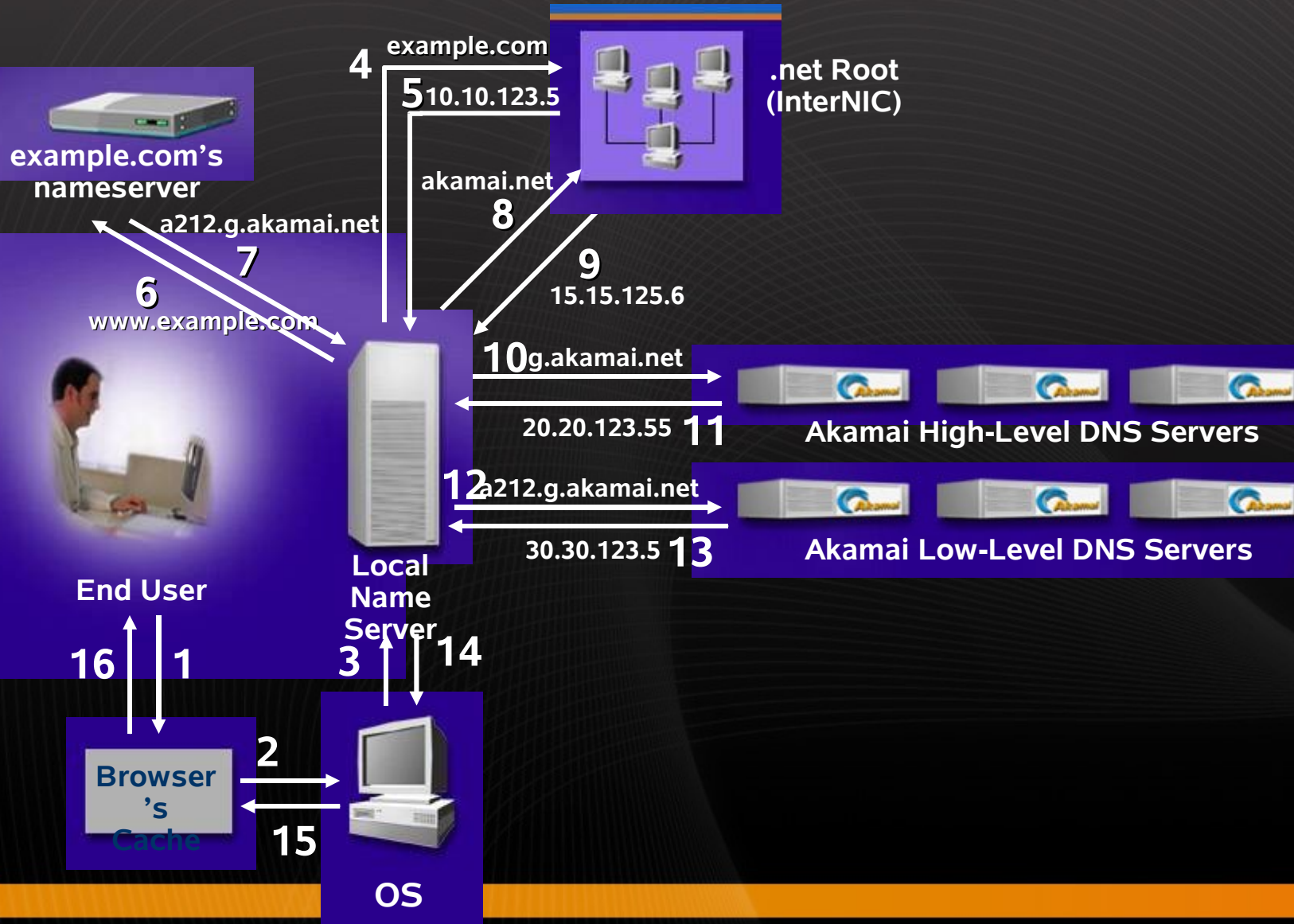
Akamai Server #2

Downloading www.example.com with Akamai's EdgeSuite



- User enters www.example.com
- Browser requests IP address for www.example.com
- DNS returns IP address of optimal Akamai server
- Browser requests HTML
- Akamai server assembles page, contacting customer Web server if necessary
- Optimal Akamai server returns Akamaized HTML
- Browser obtains IP address of optimal Akamai servers for embedded objects
- Browser obtains objects from optimal Akamai servers

Finding the IP Address: The Akamai Way



Akamai Accelerated Network Partner (AANP)



AANP Overview



This is a partnership for free,
a win-win for both sides!

With this partnership you can offer the most popular content from your network to our subscribers and customers without using peering points, other providers or international links.

Your subscribers and customers will be directed by Akamai's resolution algorithms to retrieve content from the Akamai edge servers within your network, thus eliminating the need to leave the local network.

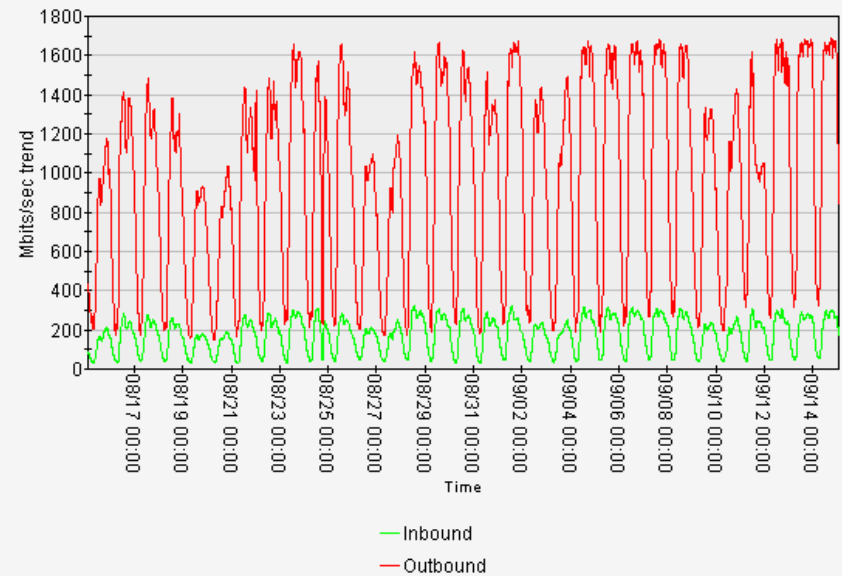
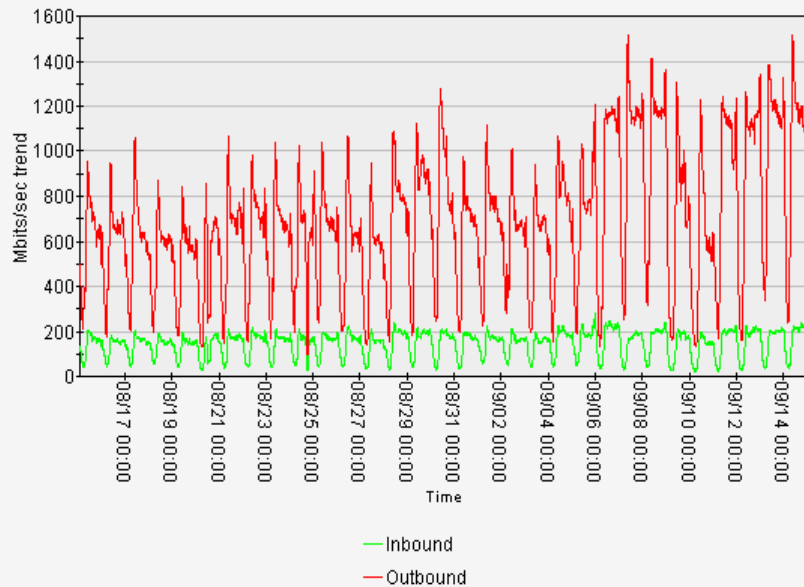
How You Benefit



By placing servers inside your network, Akamai enables you to:

- * Deliver peak performance for maximum competitive advantage
- * Reduce transit bandwidth expense
- * Free up peering capacity
- * Increase subscriber satisfaction
- * Leverage customized network-monitoring tools
- * Take advantage of full technical and marketing support, with 24/7 network support

Typical Inbound – Outbound Ratio



- Massively optimized inbound/outbound traffic ratios
- Typically the ratio is **inbound 1 : 9 outbound**

Inbound: traffic from the origin website server to the Akamai servers

Outbound: traffic from the Akamai servers to your users

Requirements



Akamai

- provides the servers and technology
- takes care of the shipping costs
- will monitor the servers
- if a server goes down, we'll send a replacement server
- continuously monitor the capacity if sufficient

YOU provide

- rack space (i.e. One standard 19" rack, 600x800)
- uplink (ie. Multiple bonded GigEs or 10Gbps)
- IP addresses (i.e. /26)

Questions?





Questions?

