



# HP World

## **Achieving Top Web Site Performance**

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# F5 Networks Keeps .com on

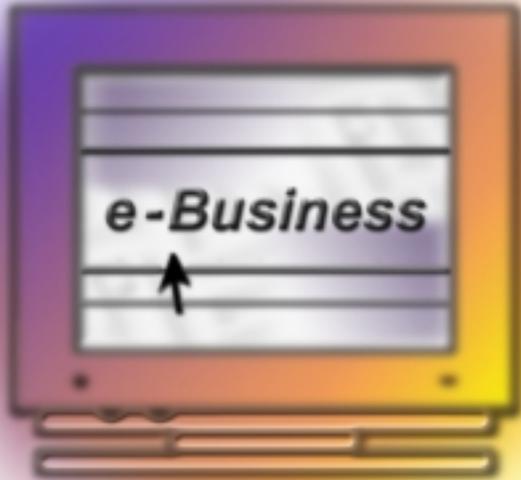


# Integrated Internet Traffic and Content Management Products and Services



- ▶ **F5 Networks is the leading provider of Internet traffic and content management (iTCM) products**
- ▶ **F5 has an integrated suite of high-performance products that automatically and intelligently manage user traffic and content to deliver web site integrity for e-Business**

# Web Site Integrity



**Web site integrity translates to...**

- ▶ **High customer satisfaction**
- ▶ **Control over your global Internet traffic**
- ▶ **High availability and dependability**
- ▶ **Scalability for mission-critical sites**
- ▶ **Simplified management for e-Business resources**
- ▶ **Security**

# Over 2000 Customers

## • E-Commerce

- Abercrombie + Fitch
- Alaska Airlines
- Best Buy
- CDNow
- Circuit City
- Columbia House
- CompUSA
- eBay
- Egghead
- eToys
- iCat/Intel
- Ingram Micro
- Nordstrom
- Nortel Networks
- REI
- Tower Records
- Ubid

## • Financial

- Bank of America
- BigCharts
- Capital One
- Countrywide
- Citicorp
- Fidelity
- First Data
- Freddie Mac
- FreeEDGAR
- Knight Securities
- Olde Discount
- Paymentech
- People's Bank
- PricewaterhouseCoopers
- Republic Bank
- Sallie Mae
- Salomon Smith Barney
- T. Rowe Price
- Wit Capital
- US Bank

## • Intranet/Enterprise

- Alcoa
- Apple
- Bell Atlantic
- Bell South
- Cabletron
- Compaq
- Eastman Kodak
- Federal Express
- GTE
- Hewlett Packard
- Microsoft
- Monsanto
- Motorola
- Newbridge Networks
- NTT
- Oracle
- Packet Engines
- Siemens
- Singapore Technologies
- Sony
- Sprint

## • ISP/Web Hosting

- Angelfire
- Cable & Wireless
- Demon Internet
- DIGEX
- Exodus Communications
- Frontier GlobalCenter
- Internet Canada/ACC
- MRNet/MEANS
- Planet Online
- PSINet
- Qwest
- StarMedia
- USWeb/CKS
- UUNet
- Verio
- Worldcom

## • Internet Service

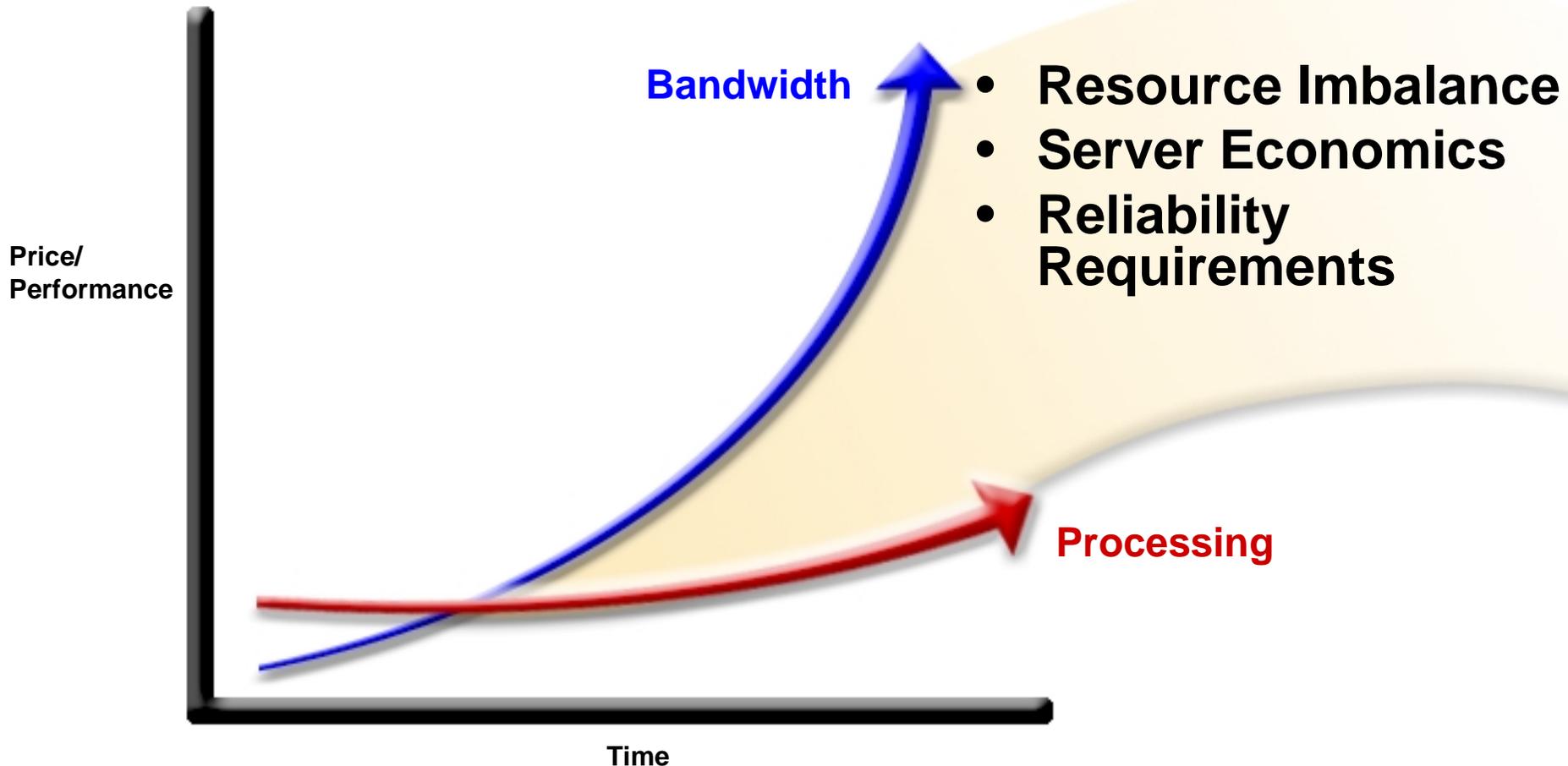
- @Home
- Ask Jeeves
- Encyclopaedia Britannica
- GO2NET
- Infospace
- Intuit
- iVillage
- Jupiter Communications
- Lycos
- MapQuest
- The Motley Fool
- MovieFone
- Netscape
- Network Solutions
- Playboy
- RealNetworks
- USA Today
- ZD Net

## • Government

- CIA
- Defense Tech. Info. Center
- Federal Reserve Bank
- Government Printing Office
- International Trade Commission
- Lawrence Livermore Nat'l Lab
- NASA
- National Library of Medicine
- National Security Agency
- National Technical Information Service
- Office of Secretary of Defense
- Tennessee Valley Authority
- U.S. Navy

Recently added customers

# Today's Internet Challenge



# Top Performance in the Face of Unprecedented Growth

***A “pretty face” is no longer enough: an e-Business site must have the proper foundation to handle increasing customer demands.***

# What You Want...

- **Pick up the phone and you get dialtone. Flip a switch and lights turn on. Go to a web site and ... oops ... not as predictable.**
- **Businesses need control over their Internet sites. Revenue, profitability and reputation depend on control of Internet site availability and performance.**
- **People don't scale**

# The Infrastructure Behind e-Business

- **e-Business presents a tremendous opportunity to build brand equity for a company.**
- **If a site is difficult to access, or sends back error messages, an opportunity has been lost to build brand equity.**
- **An easy to use, easy to access site builds customer loyalty.**
- **The basics to building loyalty are deceptively simple: ensure that the site is always available and ready to take customer orders.**

# High Availability and Load Balancing For e-Business

- **So how can a business make sure that its e-Business site is always providing 24/7 uptime to the customer?**
- **The key is to deploy the proper Internet traffic & content management (iTCM) products behind the infrastructure**
- **The effective solution combines both high availability and load balancing with connection and content management**

# Additional Benefits for e-Business

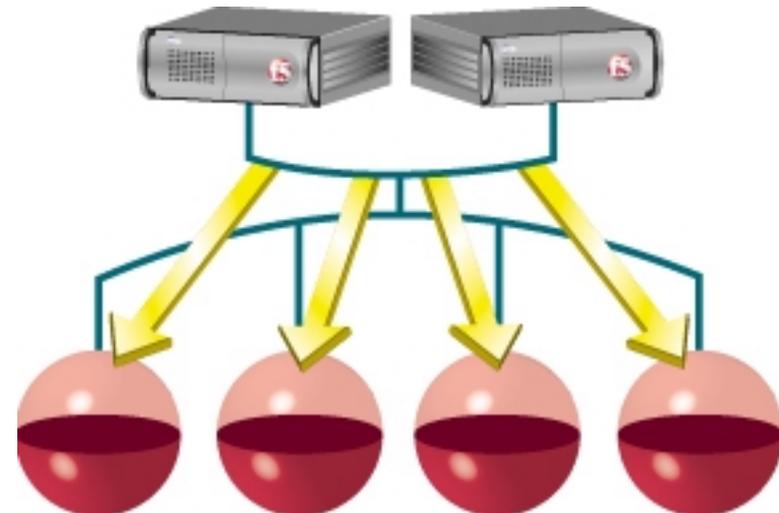
- **Intelligently managing connections, content and applications is critical to deliver the foolproof infrastructure necessary to build brand loyalty.**
- **Effective iTCM products reduce operational costs by simplifying site management and the special challenges faced managing an e-Business site.**
- **Improve ROI on web site investment**

# Improve ROI on Web Site Investment

- **A direct measure for ROI for the Internet may be the cost of *not* doing business**
- **Example: An e-Commerce site that realizes more than \$1 million per day in sales revenue goes down for 2 hours. Cost: \$83,000 in lost sales**
- **An effective ROI strategy should include an investment in iTCM products behind the infrastructure**

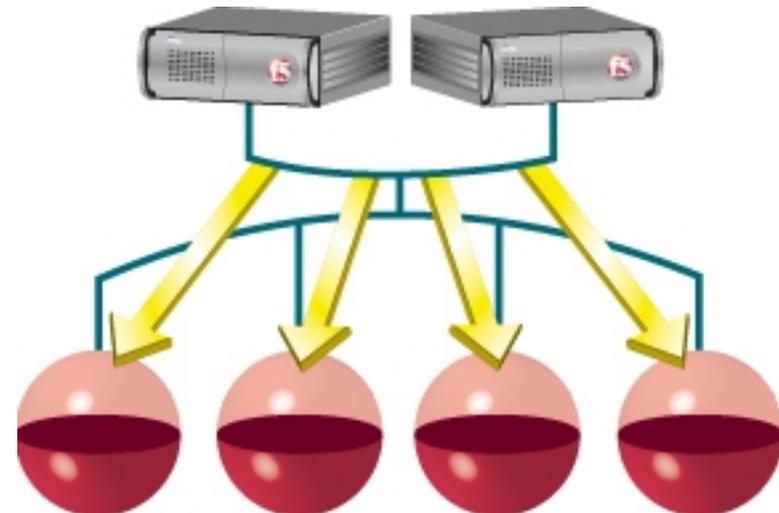
# High Availability and Load Balancing For e-Business

- **Load balancing involves directing incoming connections to the optimal resource/site.**
- **High availability guarantees the applications, services and sites are always available for the customer.**



# High Availability and Load Balancing For e-Business

- **F5's BIG-IP continuously monitors each server and site, ensuring they are performing correctly and...**
- **automatically routes incoming service requests to the most available server or site**



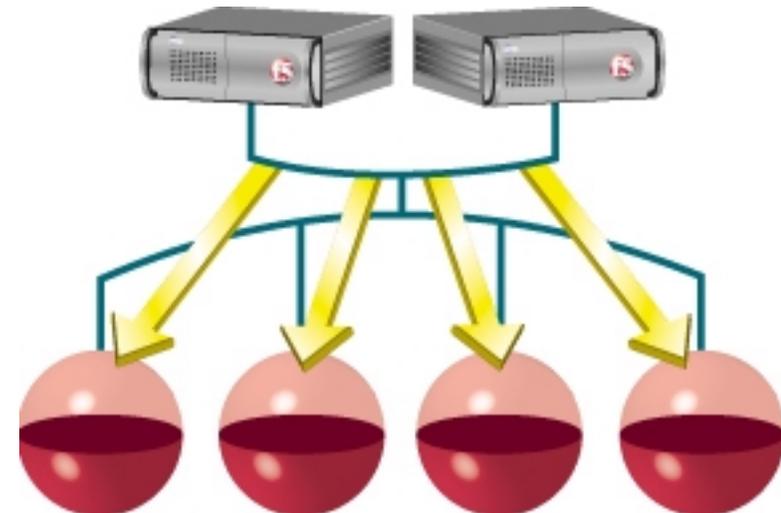
# Response Time

**The longer customers wait to access the site, the more impatient they become. After “seven seconds” you’ve lost them.**

- **Application response time is a critical measure for the success of an e-Business site.**
- **You should be able to set server response time thresholds using the available applications. That way, customers will never be directed to a server that is not meeting these response time thresholds.**

# Quality Service Checking

- **Servers, services, content, applications are proactively checked**
- **Connections made only to available servers**
- **“Client” view of quality of service based on response time**



# Managing Applications

- **IT managers can emulate a customer experience while visiting a site.**
- **Extended Application Verification (EAV) proactively tests the transaction process, placing items into a shopping cart, enabling check out of items, verifying credit card authorization, and completing the on-line financial transaction.**
- **Using EAV, you can guarantee customers will always be sent to a server providing the correct, timely answers to customer requests.**

# Prioritizing Traffic

**Building brand equity on an e-Business site means taking care of customers.**

- **ITM products should allow you to define access performance based on service requirements.**
- **High priority access can be given to customers who are performing secure transactions – those actually purchasing products – over those who are just surfing for general information.**
- **Application Recognition, Cookies, SSL Session ID are key**



# Keeping Securely Connected

- **Persistence comes into play using a load balancer with multiple servers**
- **A customer must return to the same server during a session. Persistence is required to keep the server and customer link unbroken.**
- **Persistence is crucial, especially when a customer's source IP address changes over the course of a session.**

# Keeping Securely Connected - Persistence

- **Many forms of persistence: Source IP, SSL Session ID, Cookie**
- **SourceIP persistence is simple, flawed, rarely effective for e-Commerce**
- **SSL persistence is required to uniquely identify each secure commerce session**
- **Cookie persistence allows application flexibility, higher ITM appliance performance.**
- **Your ITM appliance must support ALL persistence technologies**

# Scalability

- **Surges (or spikes) in traffic must not slow an e-Business site.**
- **If you're off, it doesn't matter how fast you are. Many ITM products perform no active verification of availability of servers or content on those servers.**
- **The right ITM appliance *intelligently* distributes traffic to the most available servers and sites, giving businesses the means to provide customers with the quick response they expect.**
- **SSL termination/acceleration critical**

# e-Business and Web Site Integrity - Expanded

- **There are two other critical “points of control” that businesses need to consider -**
- **Control of applications and content**
- **Control of network management.**

# Control of Network Management

- **The Human Factor scales the least.**
- **Companies require precise monitoring tools and forecasting mechanisms to assist in capacity planning.**
- **Network management tools spot potential problems before they occur, then visualize the future steps needed to keep e-Business sites performing as they should.**

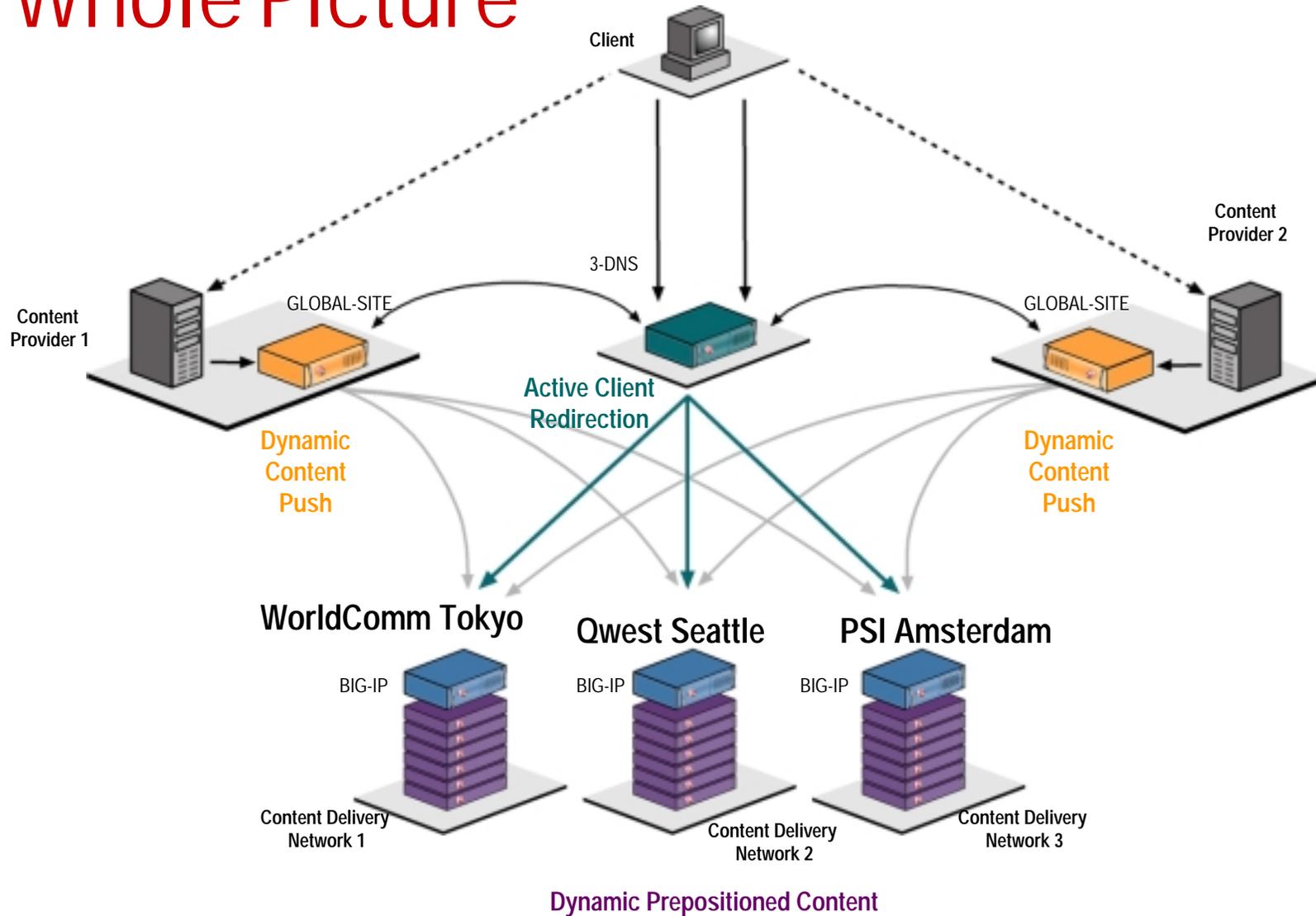
# Control of Network Management

- **iTCM Management Tools:**
  - Monitor server traffic in real time
  - Provide forecasting to assist in traffic analysis and network planning.
  - Perform capacity planning exercises to forecast when the infrastructure will require upgrades.
- **For an e-Business site, iTCM tools help administrators decide when and how to upgrade infrastructures to meet increasing user demand.**

# Control of Content

- **Replicating and synchronizing content across local and geographically dispersed servers**
- **Global content management:**
  - Dynamically moves content to adjust for network conditions
  - Recovers failed servers & sites
  - Synchronizes content updates
- **iTCM must intelligently integrate content management**

# The Whole Picture

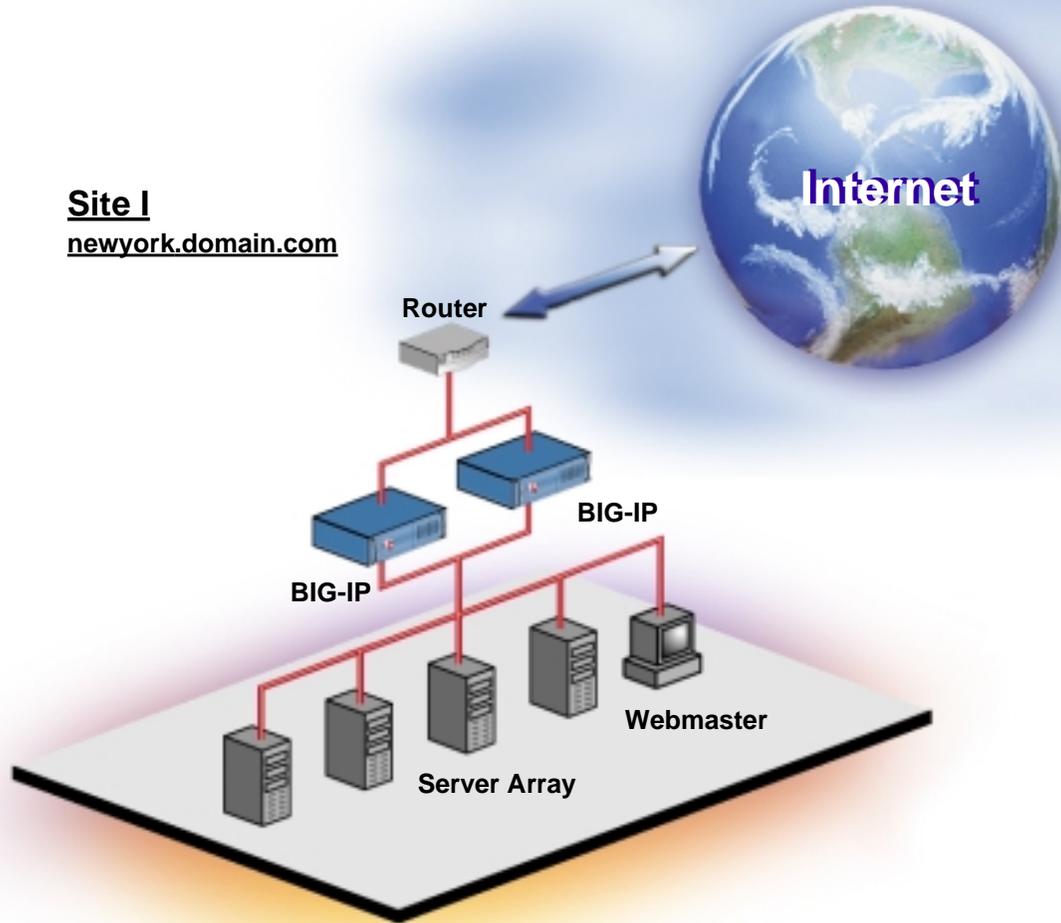




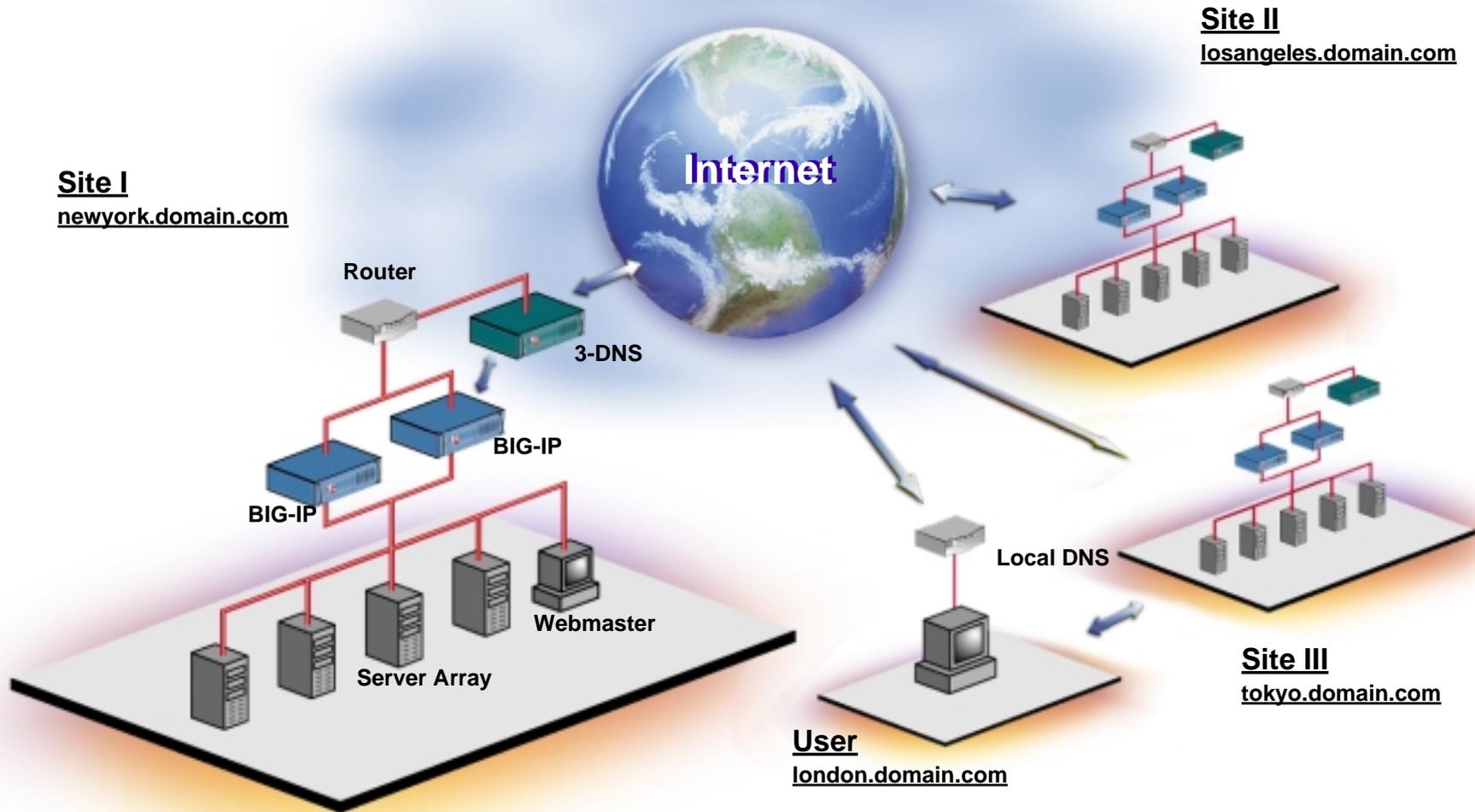
# F5 Delivers Internet Quality Control



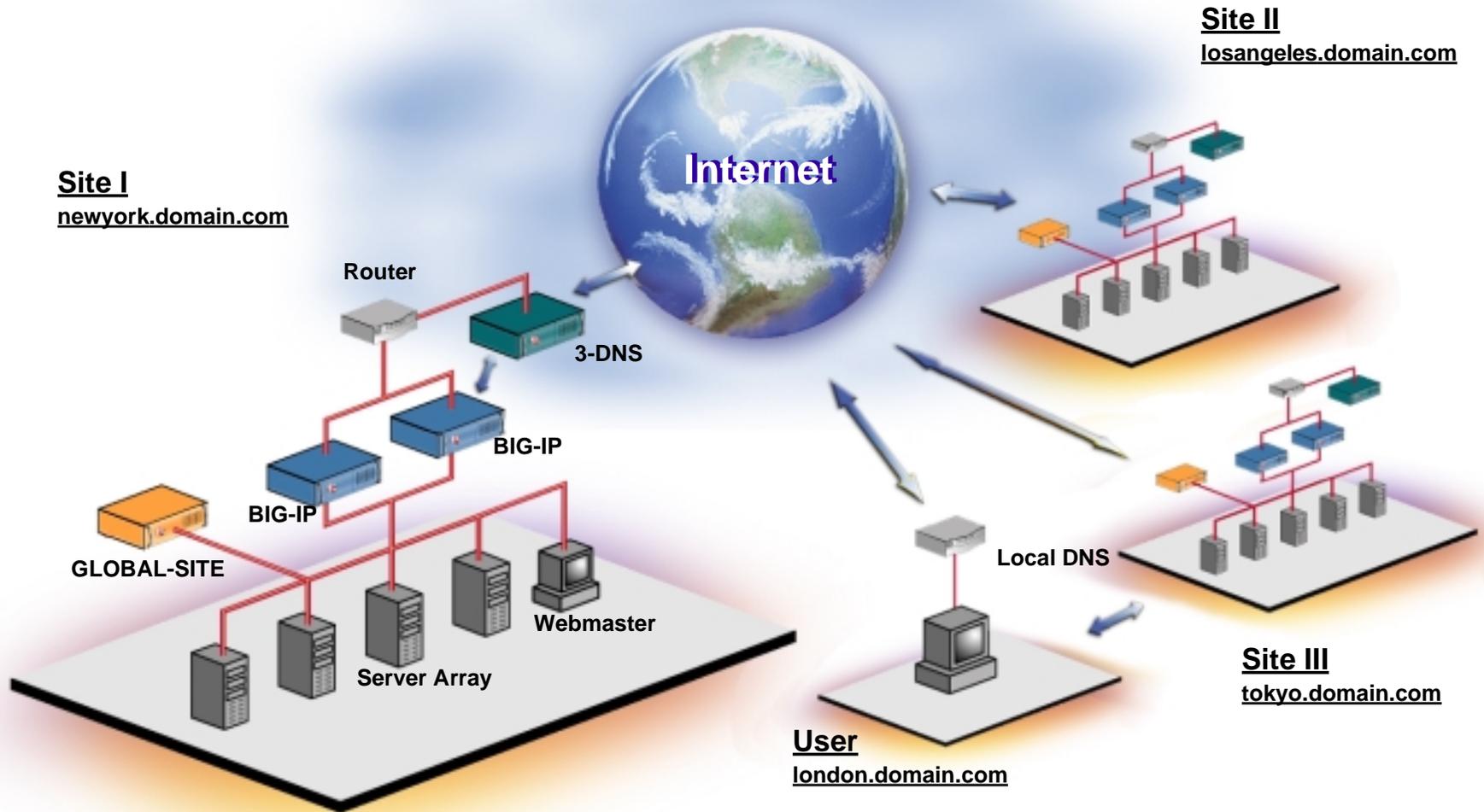
# Local Traffic Controller



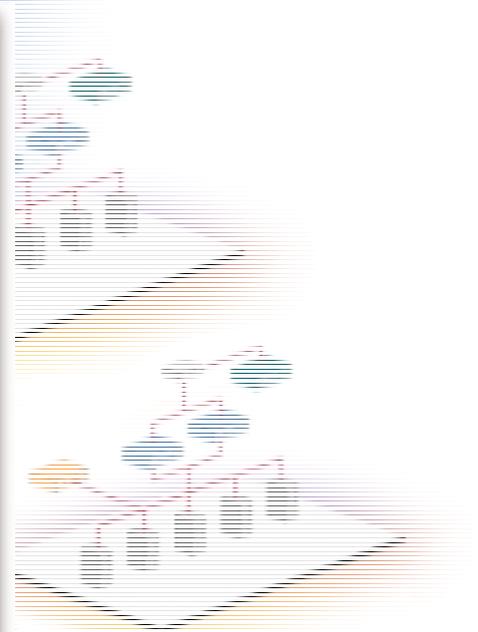
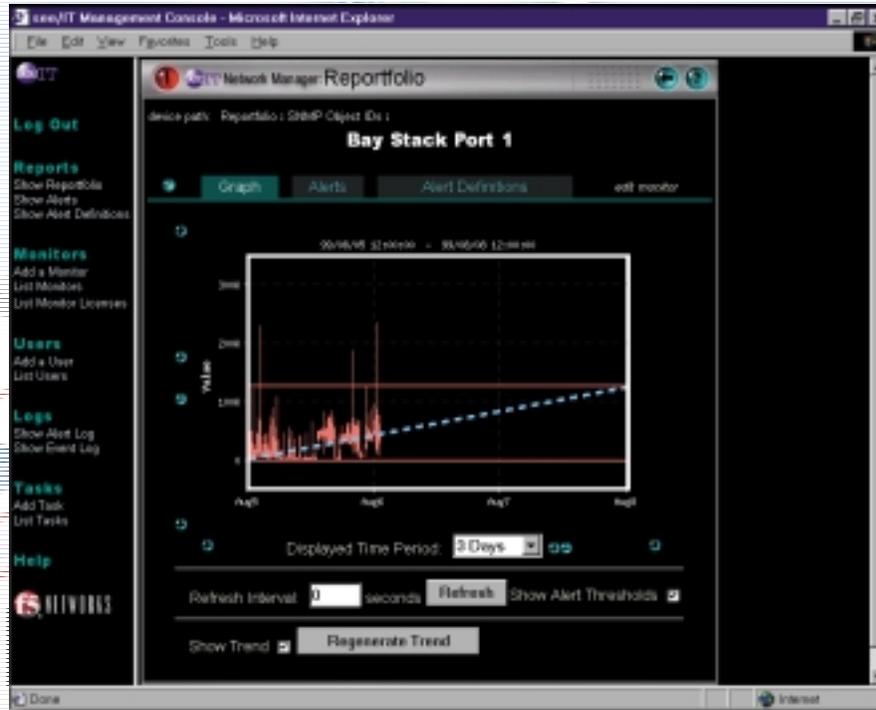
# Distributed Traffic Controller



# Content Controller



# Network Manager





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