IBM WebSphere Edge Server Version 2.0

Sales and Marketing Presentation

"WebSphere Edge Server's sophisticated load balancing capabilities enabled us to support 3.2 million unique users and 208 million page views at The Championships, Wimbledon in 2001. The openness and speed of the WebSphere platform was a tremendous asset for us throughout the two weeks."

Jeff Lucas, IT Director, The All England Lawn Tennis Club

![IBM logo] ![WebSphere software — the fastest way to dynamic e-business]

Agenda

- ► **Edge Server Overview**
  - ✓ Current Customer Challenges
  - ✓ How new V2 Features solve Customer Pains
- ► **Edge Server Basics**
  - ✓ Packaging
  - ✓ Pricing
  - ✓ Rebate Promotion
- ► **Selling Edge Server**
  - ✓ Selling Strategy
  - ✓ Selling Edge Server with WebSphere Application Server
  - ✓ Selling Edge Server with Akamai EdgeSuite
  - ✓ Selling Edge Server in Cisco/Nortel Environment
  - ✓ Selling Edge Server against BEA
- ► **Analysts' Perspective**
- ► **Customer and Business Partner Testimonials**
- ► **Resources Available to You**
- ► **Summary**

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Product Overview

Today's e-business Internet challenges

- ## Scalability
  - ► **Need**: Applications need to scale for increasing numbers of simultaneous users on a wide range of web access devices
  - ► **Issue:** How to provide more dynamic and personalized content needed to maintain competitiveness - and how to achieve this, securely

- ## Performance
  - ► **Need:** End users demand quick response times, regardless of their geographic location or the type of content being delivered.
  - ► **Issue:** How to ensure consistent response times for "most valued" customers

- ## Availability
  - ► **Need:** Users must reach the application regardless of failed servers sites or links
  - ► **Issue:** How to maximize availability without maximizing costs
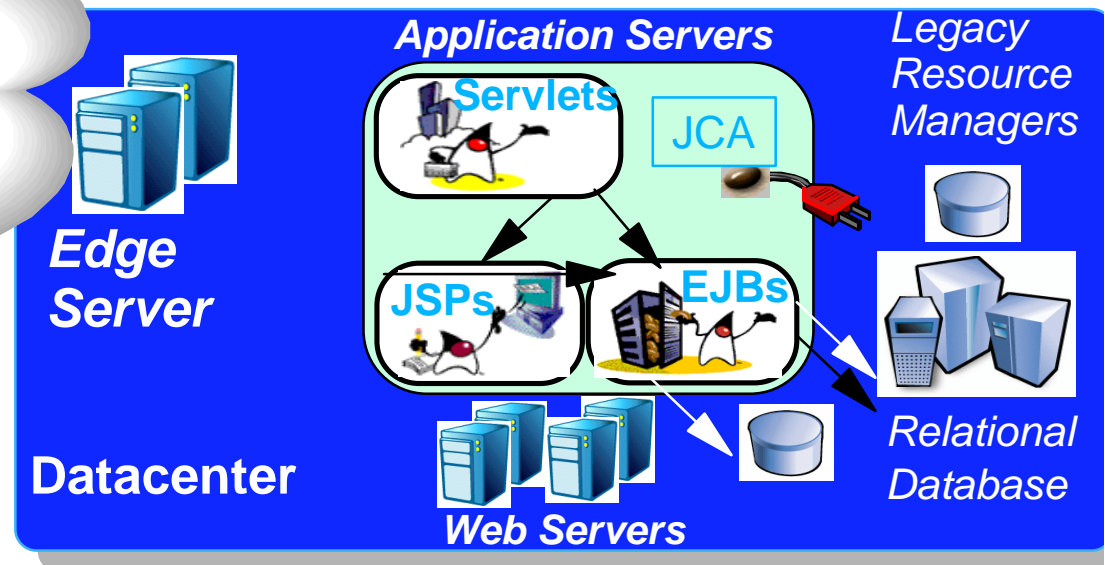
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IBM WebSphere Edge Server, Version 2

Branch Office or POP
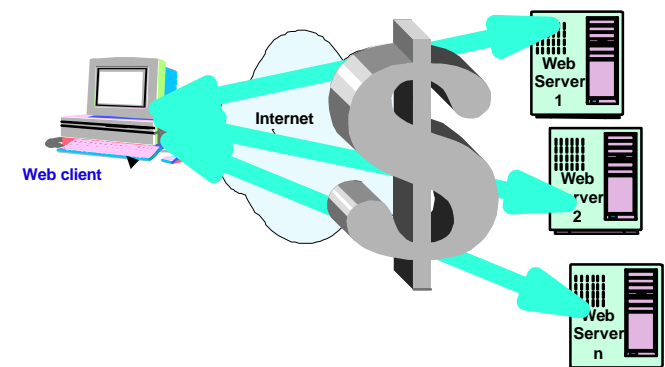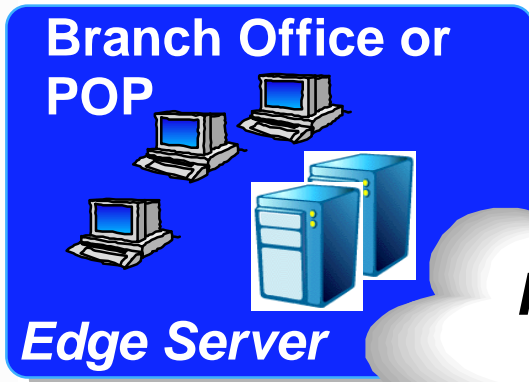
Edge Server

Sydney Olympics: 8.7M visitors; 230M page views; Web site available 100% of time, powered by IBM technology, including WebSphere Edge Server.

Internet

Deutsche Telekom: Reduced peering costs by 45% with cache hit rates of 48%, by deploying WebSphereEdge Server

Edge Server

Datacenter

Application Servers

Servlets

JCA

JSPs

EJBs

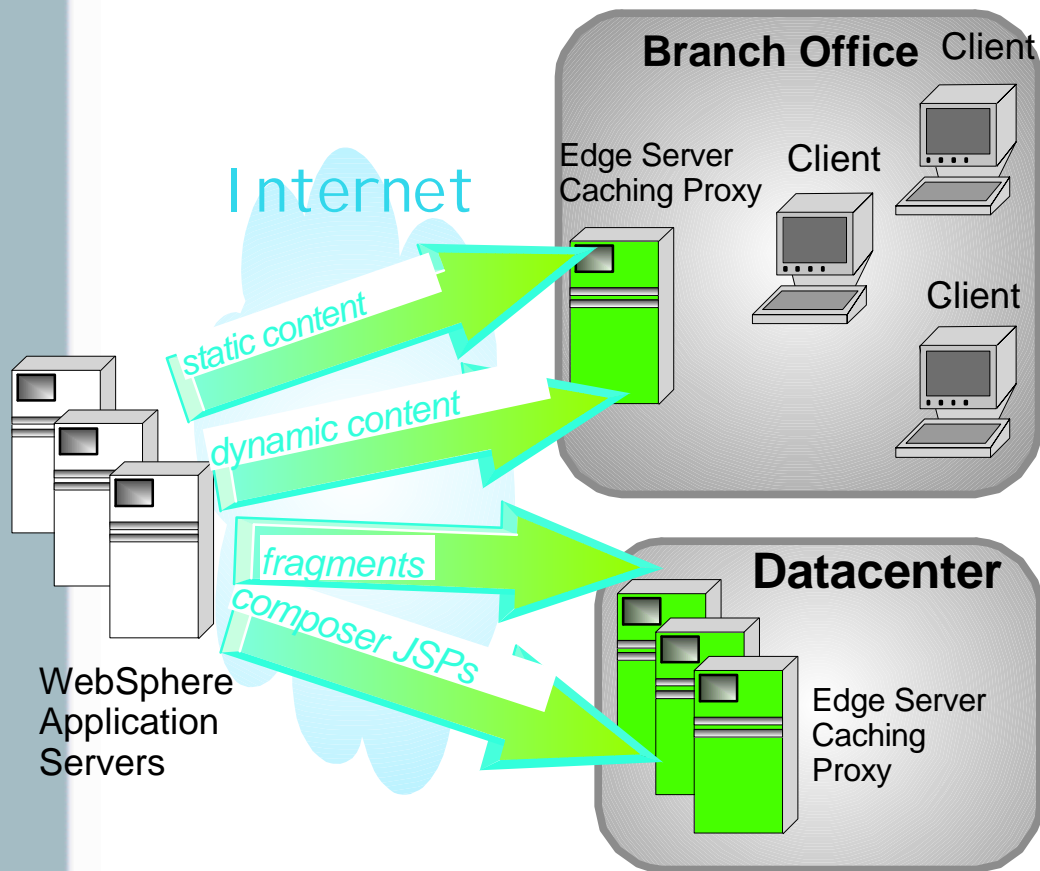*Web Servers*

Legacy Resource Managers

Relational Database

✓ *WebSphere Edge Server brings the WebSphere software platform to the edge of the network, enabling unprecedented performance, scalability, and availability for dynamic e-business applications.*

Edge Server V2 Components ⭐ = New in Version 2

- ## Application Offload ⭐
  - ► Improve user response time with Application Offload by "delayering" applications for execution on the edge.

- ## Content Distribution ⭐
  - ► Improve network utilization by prepositioning content, enabling customers to quickly deploy and refresh content throughout the network

- ## Access Control Security ⭐
  - ► Provide integrated, authorization security to ensure protection of confidential, e-business information.

- ## Transactional Quality of Service ⭐
  - ► Enhance web experience via differentiated services, enabling priority services to preferred users

- ## Sophisticated Load Balancer
  - ► Provide scalability and availability through server clustering and failover

- ## Enhanced Caching Proxy
  - ► Enhance user response time by caching recurring static and dynamic content for quick

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Application Offload

Branch Office Client

Client

Edge Server
Caching Proxy

Client

Client

Internet

static content

dynamic content

fragments

composer JSPs

WebSphere
Application
Servers

Datacenter

Edge Server
Caching
Proxy

- ■ Benefits:
  - ► Relieve server workload and reduce network traffic by making certain traffic application components "edgeable"
  - ► Enable creation and exploitation of new service offerings

- ■ Technical Implementation:
  - ► "Delayer" applications and redistribute to Edge Servers, for dynamic re-assembly at the Edge
  - ► Web components, such as JavaServer Pages (JSPs), servlets and JavaBeans, can be designated as "edgeable"
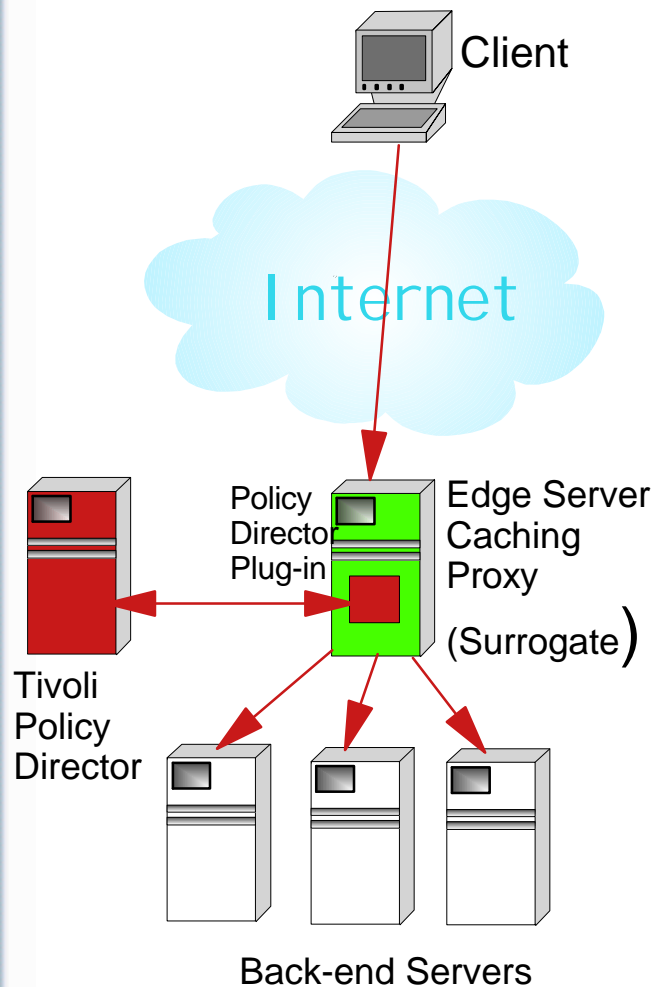 - ► Exploits edge-resident WebSphere Application Server

Content Distribution

Content
Distribution
Clients

Internet

Intranet

Content
Distribution
Server

Publish

Publish

Content
Author

Publish

Application
Server
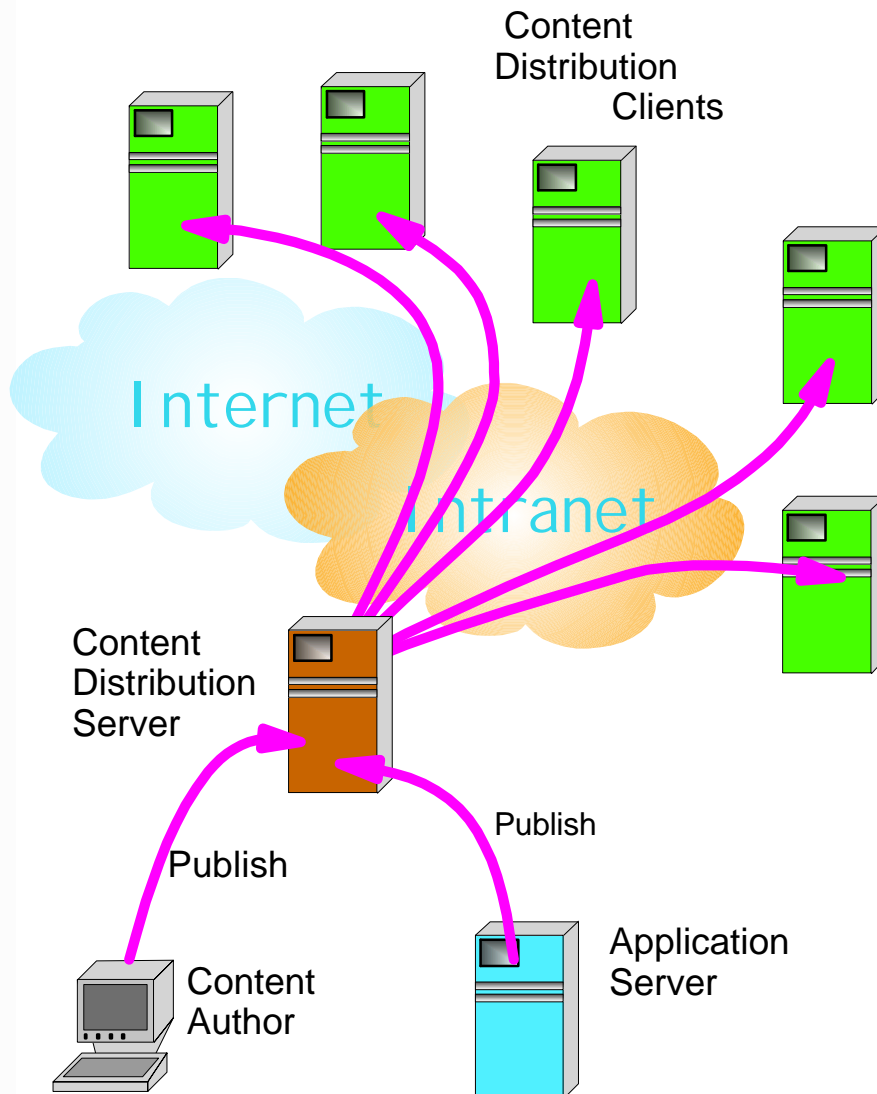
Benefits:

► Preposition content - where it's closer to the user - for enhanced user experiences and improved performance

Technical Implementation:

► Provides an infrastructure that can be used to distribute static, dynamic, and multimedia content, along with applications, to production servers and edge servers.

► Update, invalidate and/or refresh content

► Based on technology developed for IBM-sponsored Olympic Games Web Site, first deployed Atlanta 1996, matured for Sydney 2000

  − Proven in record-breaking events
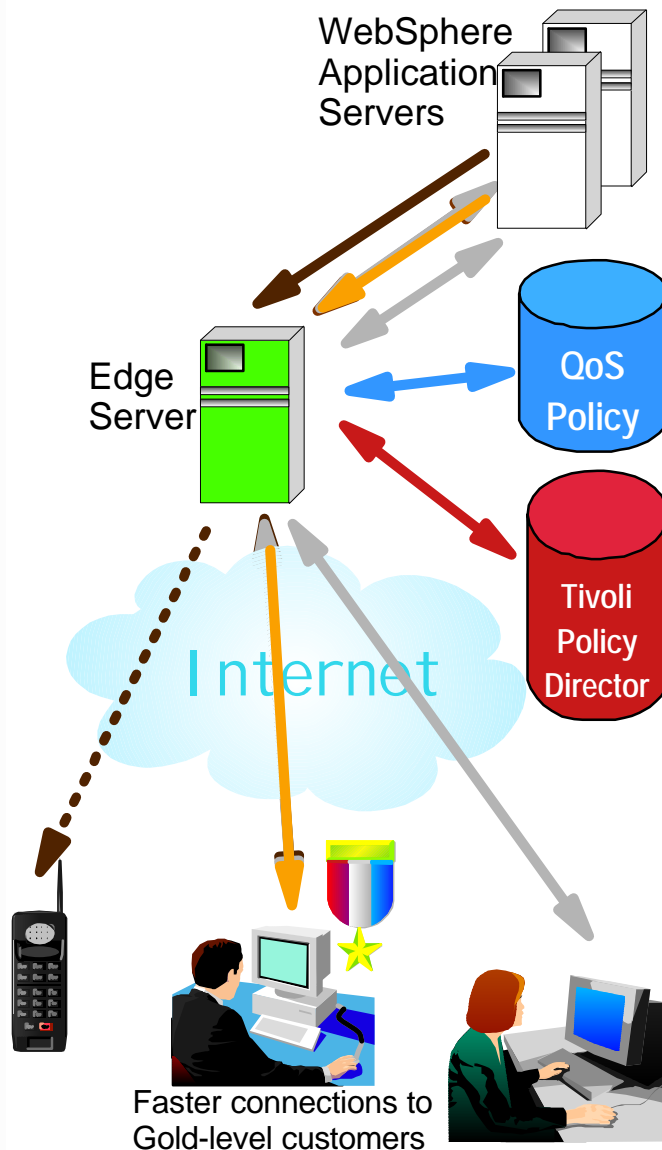
Access Control Security

Client

Internet

Policy Director Plug-in

Edge Server Caching Proxy

(Surrogate)

Tivoli Policy Director

Back-end Servers

- **Benefits:**
  - ► Ensures only authorized users can access cached and non-cached Web resources
  - ► Provides robust client authentication and content authorization
  - ► Supports cross-domain, web single sign-on access across WebSphere and other software resources

- **Technical Implementation:**
  - ► Exploits Tivoli SecureWay Policy Director's authorization framework through plug-in to Edge Server's Caching proxy
  - ► Authentication via 401 User/Password challenge, Form based login, or SSL client certificate

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Transactional Quality of Service

WebSphere
Application
Servers

Edge
Server

QoS
Policy

Tivoli
Policy
Director

Internet

Faster connections to
Gold-level customers

- **Benefits:**
  - ▶ More important e-business transactions get better services (e.g. "gold" transactions are prioritized over "silver" or "bronze")
  - ▶ Service Providers can provide a differentiated service to customers
  - ▶ Guarantee response time for important workloads

- **Technical Implementation:**
  - ▶ Provide a persistent QoS for all transactions within a session instance
  - ▶ QoS classifications determined by policy rules:
    - – Users, usergroups, applications and ip properties
  - ▶ Exploit Tivoli SecureWay Policy Director for shared user/user group classifications
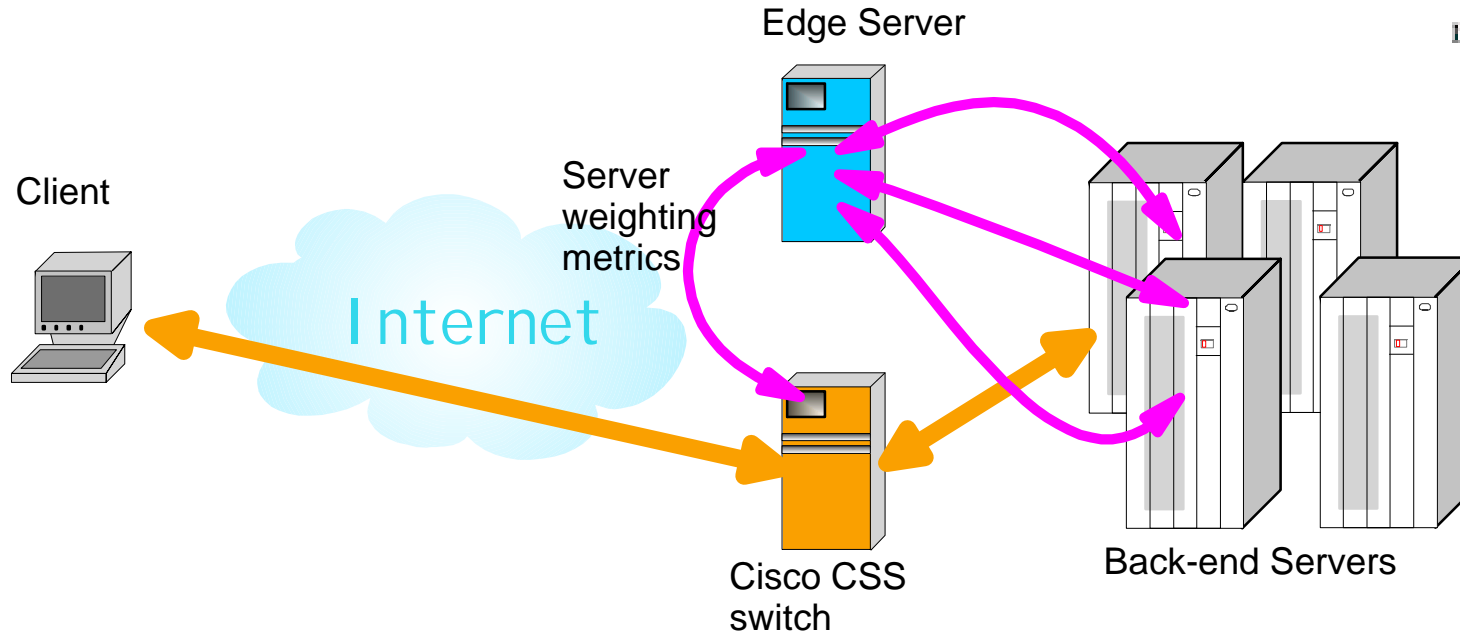
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Load Balancing: Scaling the Server Site

IBM WebSphere software — the fastest way to dynamic e-business
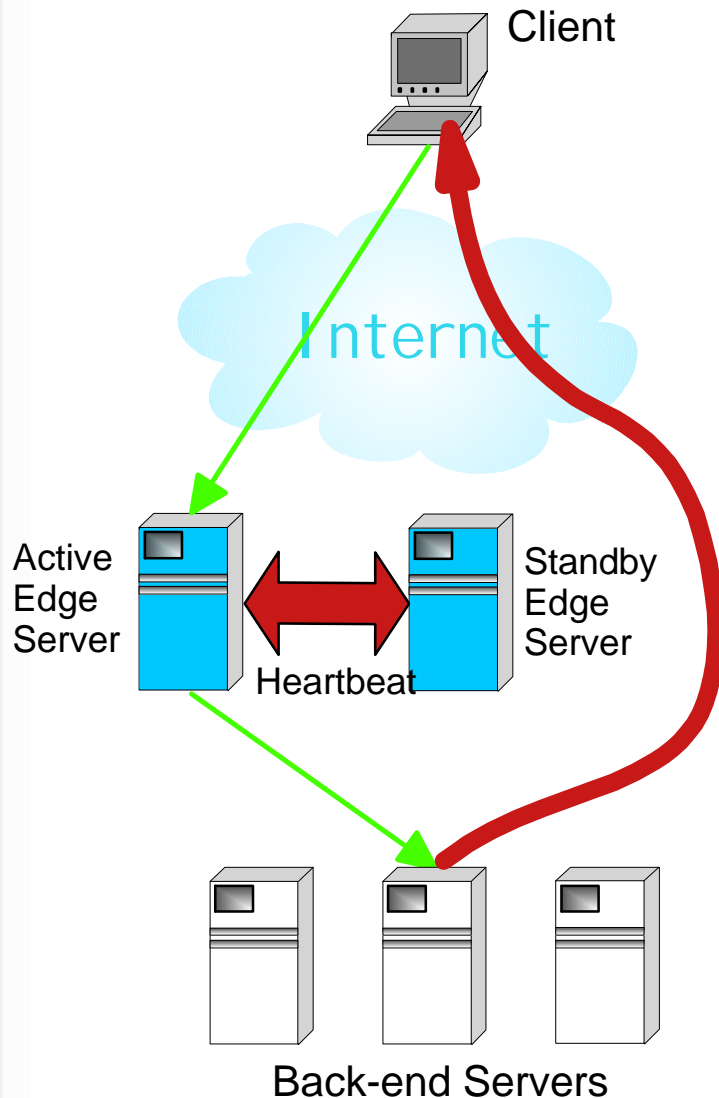
- **Benefits:**
  - ► Distributes workload across multiple servers to improve performance, scalability and availability of high-volume web sites

- **Technical Implementation:**
  - ► Availability: Requests are not routed to down servers
    - Custom Advisors for server availability
    - Servers removed for scheduled maintenance
    - Automatic failover to backup Edge Server via the heartbeat, as shown. (Standby machine uses heartbeat to decide if a failure has occurred)
  - ► Scalability: Requests are load-balanced across active servers
    - Increases scalability by allowing transparent clustering of servers (Three servers appear as one to the client)
    - Allows split inbound/outbound traffic flow for network scalability
  - ► Performance: Load optimization across server clusters and across sites
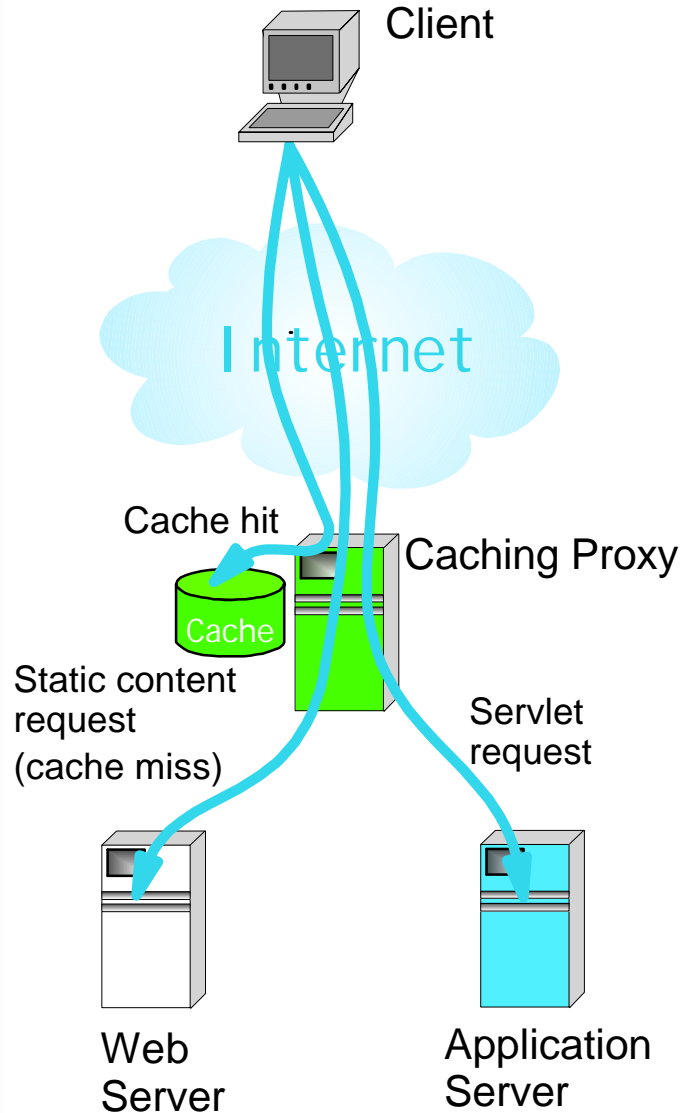
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Consultant for Cisco CSS

Edge Server

Client

Server
weighting
metrics

Internet

Cisco CSS
switch

Back-end Servers

- **Benefits:**
  - ► Provides optimal server selection, load balancing, and fault tolerance within a Cisco Switch and Edge Server environment.

- **Technical Implementation:**
  - ► Edge Server generates server weighting metrics and distributes them to the Cisco CSS 11000 switches

Caching Proxy: Store Content Closer to the User

Client

Internet

Cache hit

Cache

Caching Proxy

Static content request (cache miss)

Servlet request

Web Server

Application Server

- **Benefits:**
  - ► Reduces bandwidth usage and improve user response time when same content is requested multiple times or by multiple users

  - ► Secures transactions via end-to-end SSL

- **Technical Implementation:**
  - ► Stores Web documents that the proxy receives, and serves subsequent requests from its local cache.
  - ► Caches dynamic content in the form of JavaServer Pages™ (JSP) and servlet results generated by WebSphere Application Server
  - ► Hides back-end server configuration from the Internet via Reverse Caching Proxy (Proxy acting on behalf of local servers)
  - ► Reduces backbone and Internet bandwidth via Forward Caching Proxy (Proxy acting on behalf of a set of clients)
  - ► Supports extensive Application Programming Interfaces (APIs)

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Edge Server Basics

Edge Server Packaging

➤ Edge Server V2 includes:

    ✓ Base Edge Server components
- ➡ Application Offload
- ➡ Content Distribution
- ➡ Access Control Security
- ➡ Transactional Quality of Service
- ➡ Sophisticated Load Balancer
- ➡ Enhanced Caching Proxy

    ✓ WebSphere Application Server, Advanced Edition Single Server, Version 4.0.1
- ➡ With license restricted for use with Application Offload only

    ✓ Tivoli SecureWay Policy Director, Version 3.8
- ➡ With license restricted to 100 Users

Edge Server Pricing

- **New Edge Server License**
  - Including 1 Year Maintenance - $10,000
  - Including 2 Year Maintenance - $12,000

- **Edge Server Maintenance Renewal:**
  - 1 Year Renewal - $2,222
  - 1 Year Renewal (After License) - $6,667

- **Trade-ups (Including 1 Year Edge Server Maintenance)**
  - From Communication Server - $5,000
  - From Cache Manager - $9,000
  - From Network Dispatcher - $6,500
  - From WebSphere Performance Pack - $5,000

- **Build to Plan, Passport Advantage only**

- **PPA Electronic Delivery and Media Packs**

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Edge Server Rebate Promotion with WAS

► **Objectives**

✓ Jumpstart sales of new Version 2 release

✓ Increase clothing rate of Edge Server with WAS AE

► **Concept**

✓ 50% rebate off of Edge Server customer invoice

✓ Conditions:

➡ Customer must have purchased WAS AE 4.0

➡ Rebate applicable on 1:1 ratio

- For each WAS AE 4.0 installed, customer can purchase equivalent number of 'rebate eligible' Edge Servers

ACT NOW !!   Rebate Expires 12/31/01 !!

Selling Edge Server

Edge Server Selling Strategy

➤ Depending on the specific customer IT environment, WebSphere Edge Server can be sold as a

- ✓ Complement to WebSphere Application Server to exploit its synergy with WebSphere Portfolio

- ✓ Complement to Third Party Load Balancing Switches

- ✓ Upgrade to Third Party Static Cache in WebSphere Account

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Selling Edge Server with Application Server

Reasons WebSphere Edge Server 2.0 should be included with every WebSphere proposal because it:

➤ ***Enhances user experience*** and ***improves system performance*** by offloading the WebSphere Application Server.

➤ ***Avoids network bottlenecks by dynamically caching content.***

➤ ***Ensures freshness of content*** for the user.

➤ Lets you allocate web resources to ***assure service level to users*** based on their business need.

➤ ***Provides centralized, integrated authorization security*** with Tivoli Policy Director, including single sign-on access to WebSphere resources.

➤ Lets you ***increase the size of every deal.***

> *And, to get you started, we offer an Edge Server/Application Server Rebate Promotion !!*

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Selling Edge Server with Akamai EdgeSuite

► **Akamai Technologies**

✓ Provides a collective suite of managed edge services (referred to as "Akamai EdgeSuite"), such as content, streaming media and application delivery, that run on Akamai's global network.

► **Positioning Edge Server with Akamai EdgeSuite**

✓ Today, customers using WebSphere Edge Server can benefit from the implementation of Akamai EdgeSuite for dynamic content assembly at the edge.

✓ Dynamic content assembly is especially critical for quick retrieval of frequently changing Web page fragments (e.g. news, stock quotes, catalogs)

✓ Allows customers to deploy highly dynamic Web sites with greater performance - while minimizing infrastructure costs !!

Selling Edge Server in Cisco/Nortel Environment

► Customer Objection:

✓ We already have a hardware load balancing solution (e.g..
Cisco and Nortel), we don't need Edge Server as part of our
solution.

► Answer:

✓ Edge server complements Cisco and Nortel hardware
- ➡ Makes hardware application-aware
- ➡ Cisco Consultant generates server weighting metrics and distributes
them to the Cisco CSS 11000 switches to provide optimal server
selection, load balancing, and fault tolerance within a Cisco Switch and
Edge Server environment.

✓ Need a complete Edge of Network Architecture

✓ Provide preferred treatment for valuable customers

✓ Positioned for next-generation content distribution

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Selling WebSphere Software against BEA

► BEA WebLogic Server:

✓ Is a WebSphere Application Server competitor

✓ Claims leadership in standards definition and support

✓ Claims investment of $20M in expanding partner programs will enable them to maintain lead in being "defacto infrastructure for e-business"

✓ Touts "highest levels of scalability, expandability and high-availability through workload management and clustering"
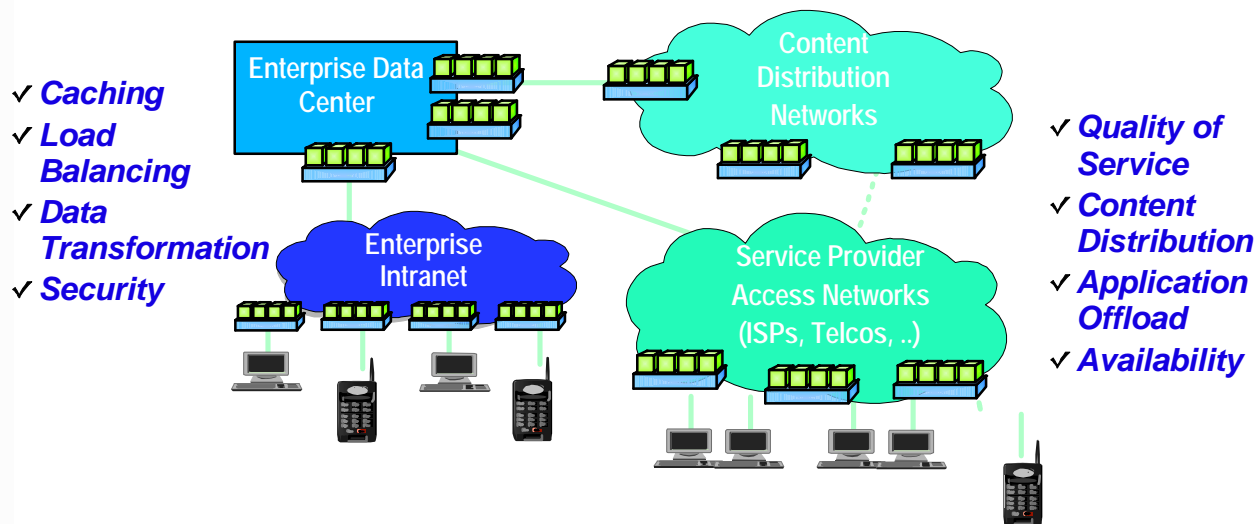
► IBM:

✓ Contributed 80% of the definitions to current J2EE specs with WAS supporting 10 of the J2EE standards

✓ Will invest more in WebSphere this year than BEA's 2000 revenue, and WAS has more than 1500 BPs and 11,000 customers today

✓ Offers customers an edge solution (Edge Server) that enables unprecedented performance, scalability, and availability for dynamic e-business applications - and is tightly coupled with WebSphere Application Server !!

➡ Sell customers with Edge Server and WebSphere Application Server

➡ Promote Edge Server's tight synergy with WebSphere Application Server (via Application Offload, Dynamic Caching of JSP Results, Security, and Quality of Service interoperability)

➡ AND, mention that many BEA customers (such as British Airway and ENEL) use Edge Server with WebLogic to achieve their performance requirements !!

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Analysts' Perspective

Analysts' Perspective

Our Strategy ...   What the analyst's are saying

✓ **Caching**
✓ **Load Balancing**
✓ **Data Transformation**
✓ **Security**

Enterprise Data Center

Enterprise Intranet

Content Distribution Networks

Service Provider Access Networks (ISPs, Telcos, ..)

✓ **Quality of Service**
✓ **Content Distribution**
✓ **Application Offload**
✓ **Availability**

Edge of Network

- Extend WebSphere programming model to the Edge
- Create network-based control point for WebSphere at the Edge
- Position Edge Server as that control point, bridging application layers and network infrastructure
- Drive upsell opportunity for entire portfolio through control point

Gartner

"It is essential that businesses have the abililty to move database and application logic from centralized data centers to distribution points closer to their end users. When they can, businesses will begin to more fully realize performance improvements, bandwidth savings and increased efficiencies"*
Rob Batcheleder, Research Director, Gartner, May 2001

Frost & Sullivan

Content Delivery Market is Huge
F&S analysis indicates industry generated $905M in 2000 and is expected to reach $12.1B by 2007 (May 2001)

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Customer and Business Partner Testimonials

What our Customers are Saying

► Deutsche Telekom

"The deployment of the WebSphere Edge Server as part of the Deutsche Telekom IP-Network infrastructure helped us lower network costs and deliver content faster to our clients. The open-standards technology of the WebSphere platform enabled us to easily - and quickly - create new exciting services that meet our customers growing e-business needs." **Klaus Breitbach, Head of Technical Product Management, Deutsche Telekom**

► Wimbledon

" WebSphere Edge Server's sophisticated load balancing capabilities enabled us to support 3.2 million unique users and 208 million page views at The Championships, Wimbledon in 2001. The openness and speed of the WebSphere platform was a tremendous asset for us throughout the two weeks." **Jeff Lucas, IT Director, The All England Lawn Tennis Club**

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What our Business Partners are Saying

► **Nortel Networks**

"*Nortel Networks is pleased to be working with IBM to develop new solutions based on the WebSphere portfolio. WebSphere Edge Server's new capabilities, integrated with WebSphere Application Server, are an excellent complement to our Optical Ethernet solutions and content switching products. In addition, the openness of the WebSphere platform accelerates the ability to bring to market solutions such as our jointly developed Network Solutions for eBusiness, an integrated solution which speeds delivery of high-speed, mission critical eBusiness applications across multiple locations in a metropolitan area. This is a natural extension of our long-term relationship with IBM, and allows us to build integrated solutions that leverage Nortel Networks Optical Metro leadership and IBM's leadership in e-business infrastructure. By working together to create solutions that break the metro bottleneck, we are positioning our service provider and enterprise customers to deliver new revenue-generating services.*" ~**Peter Evans, VP Product Marketing, Metro Optical Solutions, Nortel Networks**

What our Business Partners are Saying

► **SurfControl**

"SurfControl's technology enables businesses and educational institutions using the IBM WebSphere Edge Server to restrict access to objectionable and dangerous online content, including sites related to hate, drugs/alcohol, pornography, weapons, violence and gambling." **Hywel Morgan, Product Manager , SurfControl**

► **Rainfinity**

"The WebSphere Edge Server 2.0 offering is an ideal complement to Rainfinity's transaction assurance technology. Customers today demand comprehensive and reliable e-business solutions. The openness of the WebSphere platform allows us to quickly leverage our transactional monitoring and reporting competencies with IBM's leadership in e-business infrastructure." **John Schroeder, Vice President of Marketing, Rainfinity**

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Edge Server Customer Statistics

➤ **Deutsche Telekom:** Deutsche Telekom
- ✓ Installed approx. 390 Nodes (incl. 30 Test-Systems), currently running WTE 3.5.
- ✓ User approx. 8 Million. They proxy about 500.000.000 HTTP Requests per day with a volume of approx 4-5 TB.

➤ **Sydney Olympics:**
- ✓ Handled 11.3 billion hits (An increase of 1,700% over Nagano, just 2 years ago)
- ✓ 8.7 million Unique Users, 230 million Page Views.
- ✓ The Guinness Book of Records has officially recognized IBM for setting two world records in Internet traffic on the 1998 Nagano Olympic Winter Games Web Site
  - ➡ "The Most Popular Internet Event Ever Recorded" (650 million hits in 16-days)
  - ➡ "The Most Hits on an Internet Site in One Minute" (110,414). (Issued 7/14/98)
- ✓ Peak traffic topped out at 1.2 million hits a minute (10 times higher than anything they saw in Nagano)
- ✓ The entire Olympics Web was 100% available from start to finish with ALL positive press coverage
- ✓ Provided up to date information on 300 medal events & 260,000 members of the Olympic family

➤ **Wimbledon 2001**
- ✓ 3.2 million Unique Users
- ✓ 208 million Page Views

Resources Available to You

Edge Server SWAT Team

- ► Edge Server SWAT Team is in place to help drive Q4 Revenue

- ► SWAT Team Objectives:
  - ✓ To help you deliver the key value propositions to your customers and partners
  - ✓ To assist in solution assessments, competitive positioning, and overall sales and technical enablement

- ► To leverage the SWAT team skills, contact Peter Crotty at crotty@us.ibm.com

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*Edge Server Sales Kit ***

- ➤ **Specific Edge Server V2 Product Information:**
  - ✓ Description
  - ✓ Overview
  - ✓ Technical Specifications
  - ✓ Screen Captures
  - ✓ Pricing
  - ✓ And more....

- ➤ **Complementary Product Detail (e.g. IBM WebSphere Everyplace Access and User Experience Offerings)**

- ➤ **Competitive Landscape Information, including:**
  - ✓ How to win against or complement Cisco, Nortel, F5, Inktomi, Network Appliance & CacheFlow
    - ✓ IBM's and our Competitors' Strengths and Weaknesses
    - ✓ Strategies to Win against the Competitors
  - ✓ Winning Strategies for Specific Selling Situations

★ The WebSphere Edge Server V2 Sales Kit can be found at either URL:
http://w3-3.ibm.com/software/sales/ti/tisites.nsf/$$bucket/IBM+WebSphere+Edge+Server+Version+2.0
or via the IBM SMI Internal Database

Edge Server Documentation on the Web

- **Web sites**
  - ► www.ibm.com/software/websphere - WebSphere Family home page
  - ► www.ibm.com/software/websphere/edgeserver - Edge Server home page
  - ► www.ibm.com/software/websphere/edgeserver/library.html - Edge Server Library
  - ► www.redbooks.ibm.com - ITSO Redbooks

- **White Papers**
  - ► WebSphere Edge Server Fact Sheet
  - ► WebSphere Edge Services Architecture White Paper
  - ► WebSphere Edge Services Architecture Guide to Edge Applications
  - ► Network Dispatcher, V3.6: Scalability, Availability, and Load-Balancing for TCP/IP Applications

- **Redbooks**
  - ► Working with Web Traffic Express and Network Dispatcher, SG24-6172 (8/01)
  - ► Load Balancing with IBM Network Dispatcher, SG24-5858 (10/99)
  - ► Caching and Filtering with IBM WebTraffic Express, REDP0003 (10/99)
  - ► Web Caching and Filtering with IBM WebSphere Performance Pack, REDP0009 (3/99)

Edge Server Technical Deliverables - In Process

- **Edge Server V2 Redbook**
  - ► Targeted 10/31/01

- **Edge Server V2 IBM Learning Services Course**
  - ► Targeted 10/31/01

- **Edge Server V2 eSar:**
  - ► eSar is a web-based, Electronic Solution Assurance Review application, that allows customers, business partners and IBM teams the ability to review their proposed deployment for technical integrity, prior to costing out the proposed customer solution and prior to purchasing the software/hardware
 - ► Targeted 1Q/02

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Summary

In Summary....

Why should customers buy Edge Server ??

- ► *Tight synergy with WebSphere Application Server* (to win against BEA), including a **special 4Q Edge Server price** !!
  - ✓ *Cache dynamic content, including JSP results* generated by Application Server
  - ✓ *Offload WebSphere Application Servers of mundane processing* through Application Offload

- ► Provides **ability to preposition content** - closer to the user - for improved user response times through Content Distribution

- ► Allows **preferred treatment for valuable customers**

- ► Provides **centralized, integrated access control security** with Tivoli SecureWay Policy Director

- ► *Distributes workload across multiple servers* for enhanced performance, scalability and availability

- ► *Complements Cisco (via Cisco Consultant) and Nortel solutions*

- ► *Great Customer and Business Partner testimonials*

- ► Includes *IBM's World-Wide, World Class, Customer Service and Support*

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Questions ?

Back-Up Charts

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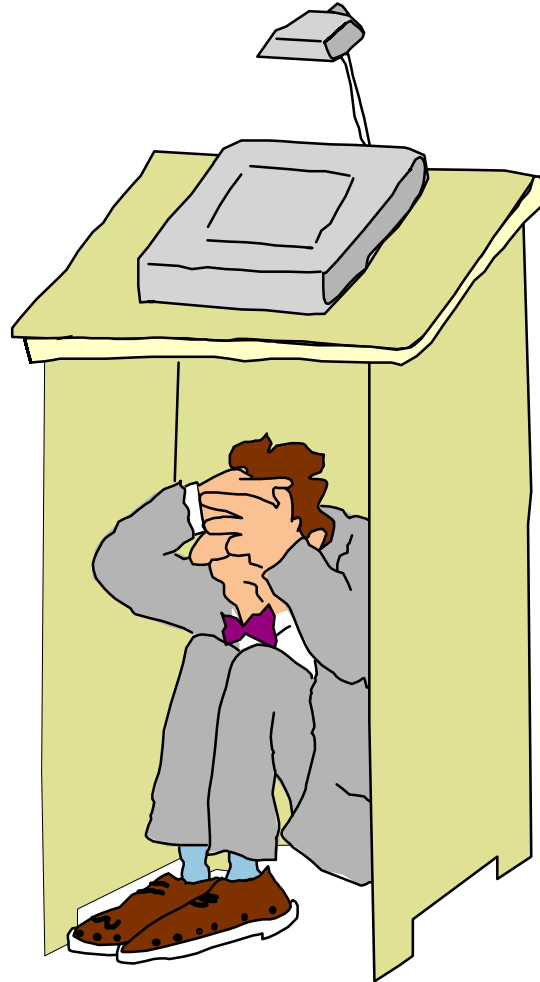
Edge Server Pricing Information

Part Number	Description	USD SRP (*)
D5AMYLL	IBM(R) WebSphere(R) Edge Server LIC/SW MAINT 1 ANNIV	$10000
D5AMZLL	IBM WebSphere Edge Server LIC/SW MAINT 2 ANNIV	$12000
E1AN0LL	IBM WebSphere Edge Server SW MAINT Renewal 1 ANNIV	$2222
D5AN1LL	IBM WebSphere Edge Server SW MAINT After License 1 ANNIV	$6667
D50RHLL	IBM WebSphere Edge Server from Comm Server TRD LIC/SW MAINT 1 ANNIV	$5000
D5CZ9LL	IBM WebSphere Edge Server from Cache Mgr Srv TRD LIC/SW MAINT 1 ANNIV	$9000
D5CZALL	IBM WebSphere Edge Server from Network Dispatcher SVR TRD LIC/SW MAINT 1 ANNIV	$6500
D5D28LL	IBM WebSphere Edge Server from WS Performance Pack Svr TRD/LIC/SW MAINT 1 ANNIV	$5000
BA01DML	MEDIA PACK - IBM WebSphere Edge Server 2.0 Win2K, AIX(R), Solaris, Linux Media Pack NLV	$20
BA01EML	DOCUMENTATION PACK - IBM WebSphere Edge Server 2.0 Win2K, AIX, Solaris, Linux DocPk NLV	$50

(*): United States Dollar Suggested Retail Price (USD SRP)

(**): Universal Product Code (UPC)

Note: Prices quoted here are suggested retail prices for the United States only as of September 2001. They are provided for your information only and are subject to change without notice. Dealer prices may vary, and prices may also vary by country. For additional information and current prices, contact your software dealer or IBM.