



f5 **F5 Networks Background**

- **#1 market share in Application Traffic Management solutions**
 - Application and Network High Availability / Scale
 - Reduce infrastructure cost
 - Enhance network and application security
 - Application and server acceleration
- **Founded 1996, public 1999**
- **HQ in Seattle, offices in North America, Europe and Asia**
- **> 500 employees**

f5 **F5 Market Position**

- Worldwide #1 for Traffic Management (L4-L7) switches and appliances
- Worldwide #1 for SSL hardware acceleration
- Worldwide #1 for L4-7 on blade server form factor
- Japan #1 market share for Layer 2-7 switching
- Rock solid financial position
- Partnerships with Microsoft, Dell, HP, Fujitsu-Siemens, Oracle and IBM.

f5 **6000+ Customers Worldwide**

Financial	IT	Telco/ISP	Media	Transport	Other
Prudential, Citigroup, Bank of America, Wells Fargo, UBS, John Hancock, Charles Schwab, SunTrust, ABN AMRO, NASDAQ	Microsoft, Oracle, HP, Dell, Adobe, Fujitsu, Intel, Symantec, Seagate, McAfee, Tivoli, Netscape, Hitachi, Salesforce.com	AT&T, Alltel, Alltel Wireless, DoCoMo, SBC, BT, Exodus, Sprint	ABC, NBC, HBO, Sony, Bertelsmann, AOL, Reuters, The Washington Post, USA Today, Yahoo!, Tower	Alaska Airlines, American Airlines, British Airways, Qantas, United, FedEx, UPS	Levy, U.S. Treasury, John Deere, IRS, Public, United States Surgical, Dow, Target, Nordstrom, Monsanto, Office Depot, Sysco, Delphi

The United States Mint

f5 **Leadership Position**

Gartner Web Infrastructure Optimization Magic Quadrant for 2002

"We still consider F5 to be the thought leader in the market. They continue to add to a broad product offering and include a dizzying array of features, some of which competitive companies have built entire product offerings around."

"We believe the F5 will continue to add capabilities that are compelling to the enterprise and broaden their offering to concentrate on the natural consolidation points within the IDC."

Mark Fabbi, Gartner

Gartner, Sept. 2002

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BIG-IP Traffic Management



What Does an ATM Device Need To Do? (ATM – Application Traffic Management)

- ATM devices must do more than simple traffic direction
- ATM devices must enable the extraction of business value from the traffic stream
- In order to extract value from the traffic stream, ATM devices must
 - Intercept all IP traffic
 - Inspect the traffic to discover requester information
 - Transform the traffic to support QoS, security, application, or business criteria
 - Direct traffic to the most appropriate resource based on business policies

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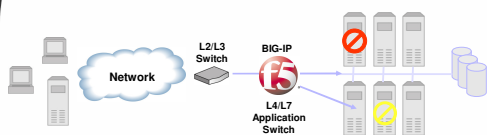
Traffic Management Feature Highlights

- Load Balancing – **Predictive Mode**
- High Availability – **Failover, State Mirroring**
- Monitoring / Service Checking – **ECV and EAV**
- Persistence – **Cookie Persistence**
- Connection Management – **One Connect™**
- SSL – **Integrated Acceleration**
- Network and Application Protection – **SYN Check**
- Application Switching – **UIE and iRules**

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Load Balancing



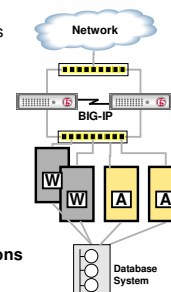
- **L2/L3 Switch routes network traffic**
 - Connectionless device
 - Switch traffic based on network protocol headers (IP header)
 - **No Availability** concept
- **L4/L7 Switch routes application traffic**
 - Connection-oriented device
 - Switch traffic based on network protocol (TCP or UDP), application protocol (HTTP) and application content (XML, Oracle, SAP, BEA, etc)
 - **Absolute Availability** concept

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Health Checking

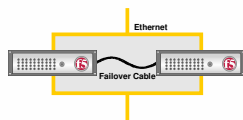
- Check Network - wires and gateways
- Check Servers by:
 - Pinging servers
 - connecting to servers
- Check Applications by:
 - Retrieving and validating the content (**ECV**)
 - Conducting live transactions and evaluating the results (**EAV**)
 - Validating dependency between applications
- Set Connection Limits to Applications



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Redundant and Stateful Failover



- Device Failover in Seconds
- State mirroring for connections and persistence

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Specialize traffic handling - Persistence

Paradox: Persistence is the opposite of load balancing, yet it's vital to a load balancer!

- Simple Persistence
 - Persists on Client IP address
- SSL Session ID Persistence
- HTTP Cookie Persistence
 - U.S. Patented 4 modes
 - no memory drain
- Destination Address Affinity for cache servers
- Persistence records mirrored to standby controller

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SSL Acceleration and Cert Management

- Centralize SSL processing
 - Eliminate the SSL need for every server
 - Let servers do what they do best without SSL headaches
- Centralize certificate management
 - Eliminate the need for certificates on each server
 - Validate client certificates against LDAP
 - Client Authentication/Authorization and CRL support

Internet

Encrypted HTTPS

BIG-IP

HTTP

Servers

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Advanced Application Switching

Layer 7 - Application Traffic Management

SOAP/XML

PL SQL, ODBC, TDS, Application Specific Protocols

iMode/SIP/SMS/MMS

Name	Acct1	Acct2
Principal	\$80	\$125
Interest	\$15	\$20
Credit	\$5	\$5
Total	\$100	\$150

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Advanced Application Switching

Universal Inspection Engine (UIE)
The ability to identify any value(s) in a TCP/IP header or payload.

IRules
Flexibility to direct, persist, or filter traffic based on values identified by UIE.

Application Content

BIG-IP

Web Servers

Databases

Web and Application Services

Security Systems (IDS, Virus Scanning, Firewalls)

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BIG-IP Hardware

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Application Switch HW

5000/5100/5110

2000/2400

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Application Switch HW (5100)

Processor board

- A. Dual 1.26G Pentiums
- B. ServerWorks chipset
- C. SDRAM (2G Max)
- D. Compact Flash Drive

Switch board

- E. SSL Security Processors
- F. Processor to Switch Interfaces
- G. Switch chip and 10/100 ports
- H. Switch chip and Gigabit ports

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A Sneak Peak at the future...

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BIG-IP Version 9.0



- SSL Performance Enhancements
- Compression
- IP V6
- iRule Enhancements
- Advanced Client Authentication Modules
- Interface Improvements
- F5 Magnifire

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Next Steps!



Q & A

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