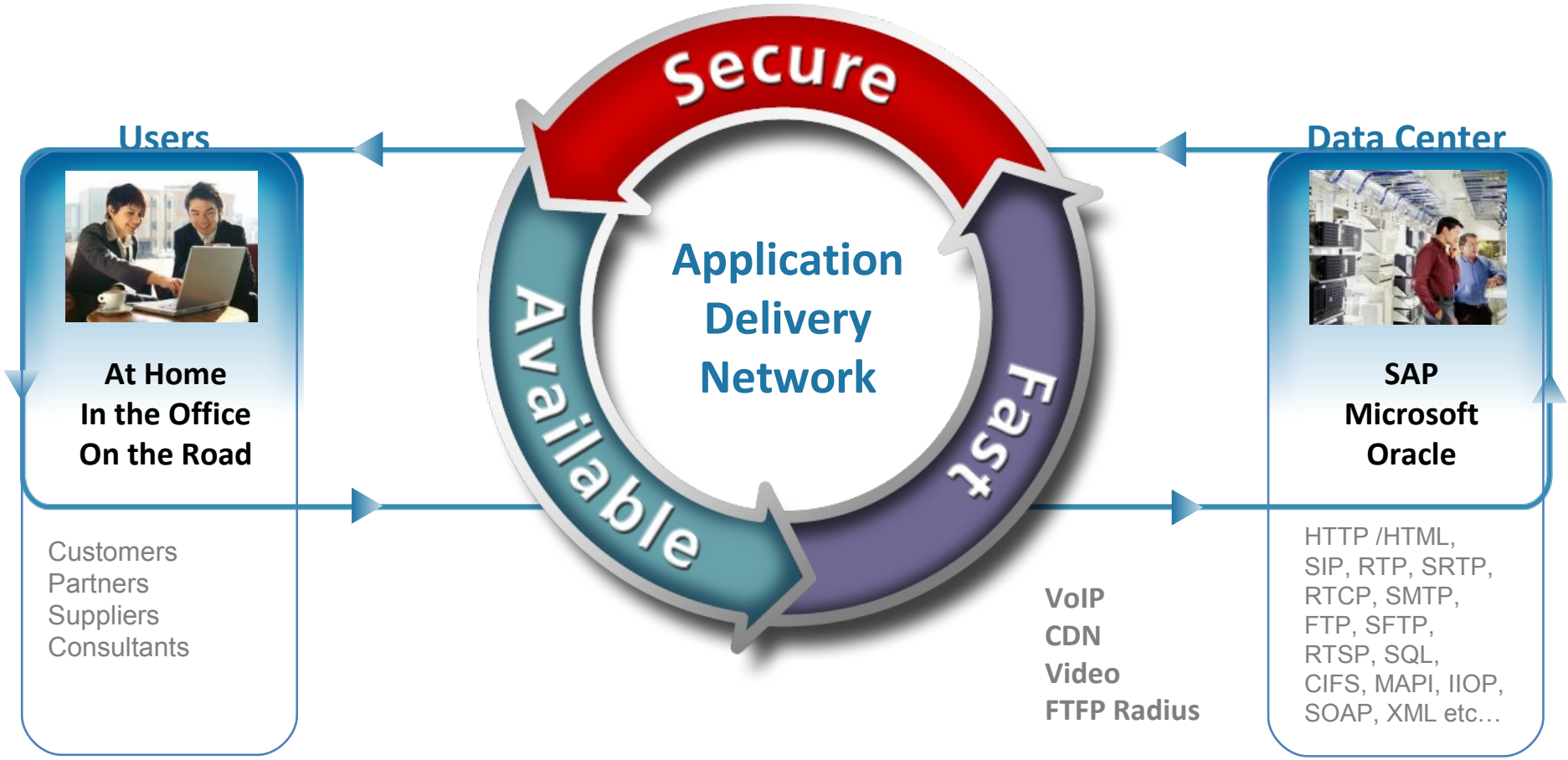
Wirtualizacja i optymalizacja infrastruktury

Zbigniew Skurczyński
Dyrektor regionalny EE
F5 Networks

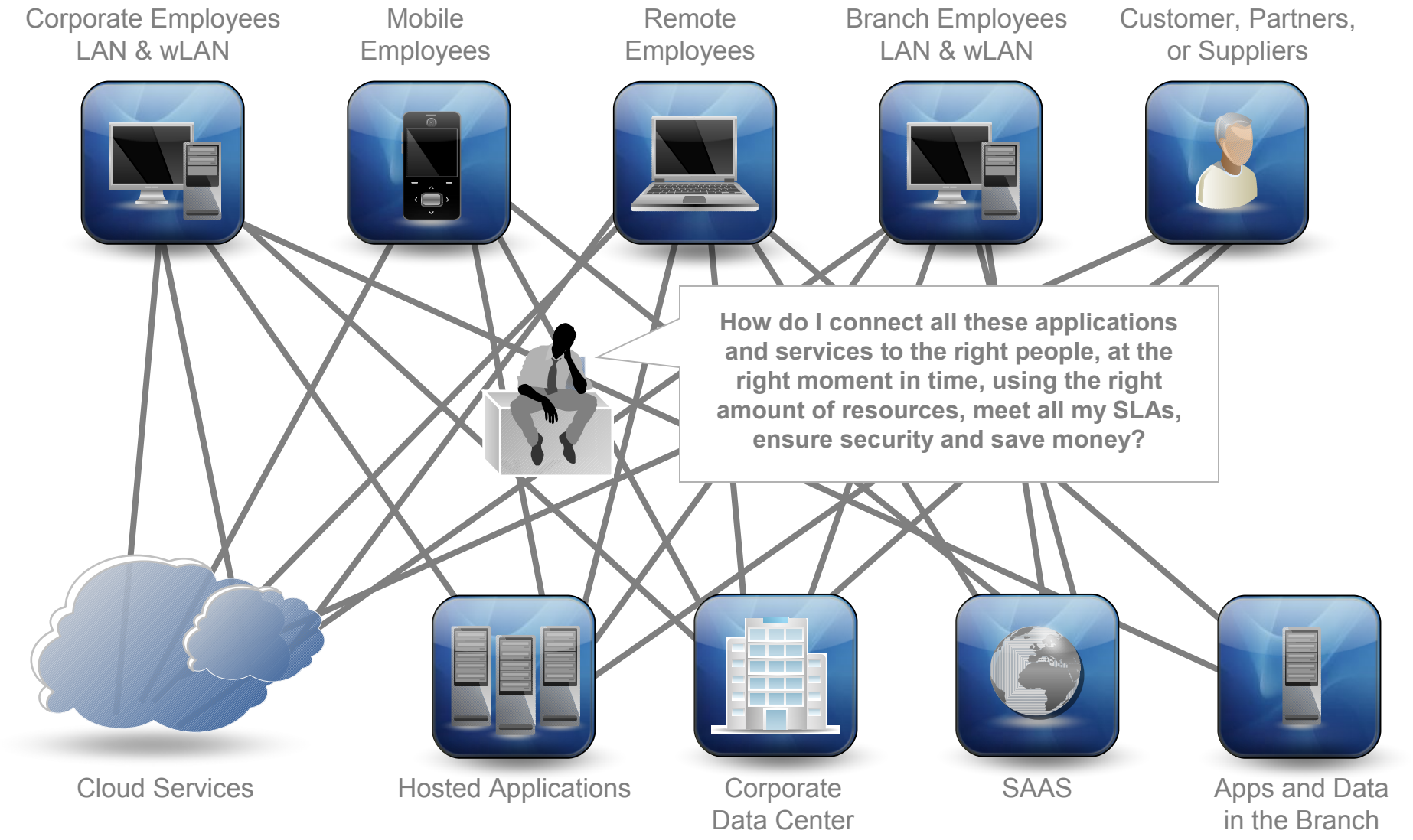
IT agility. Your way.

The Leader in Application Delivery Networking

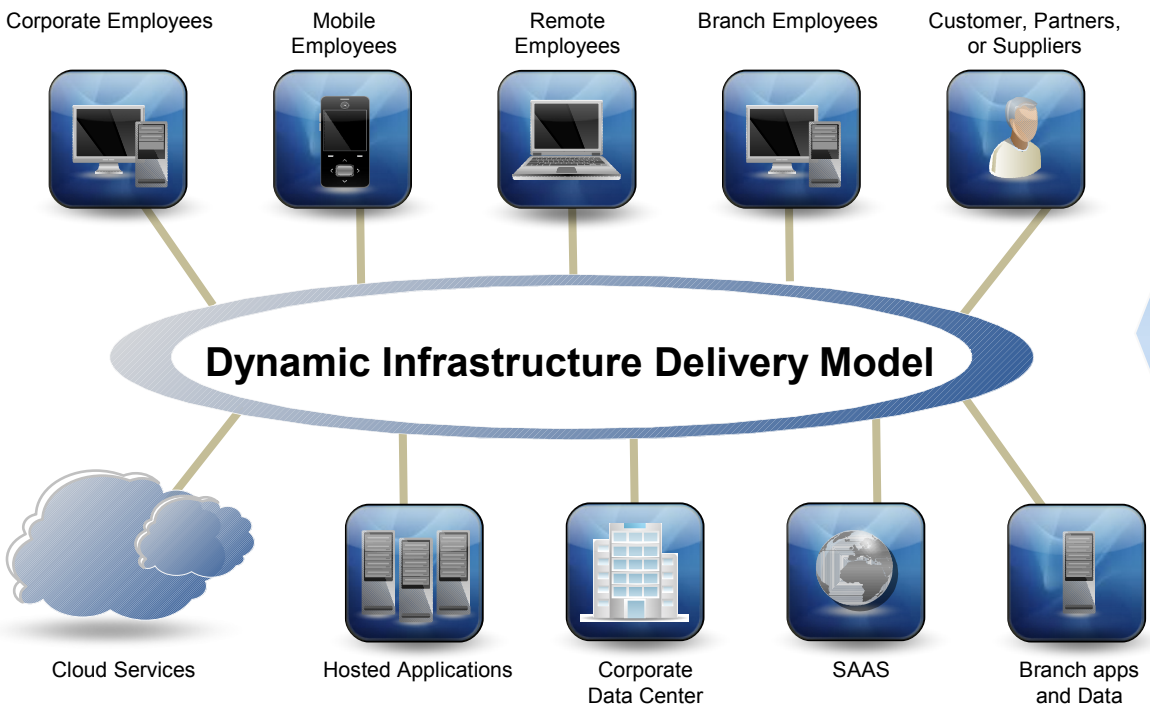


F5 ensures applications & Services running over the network are always secure, fast and available

Traditional Infrastructure Model

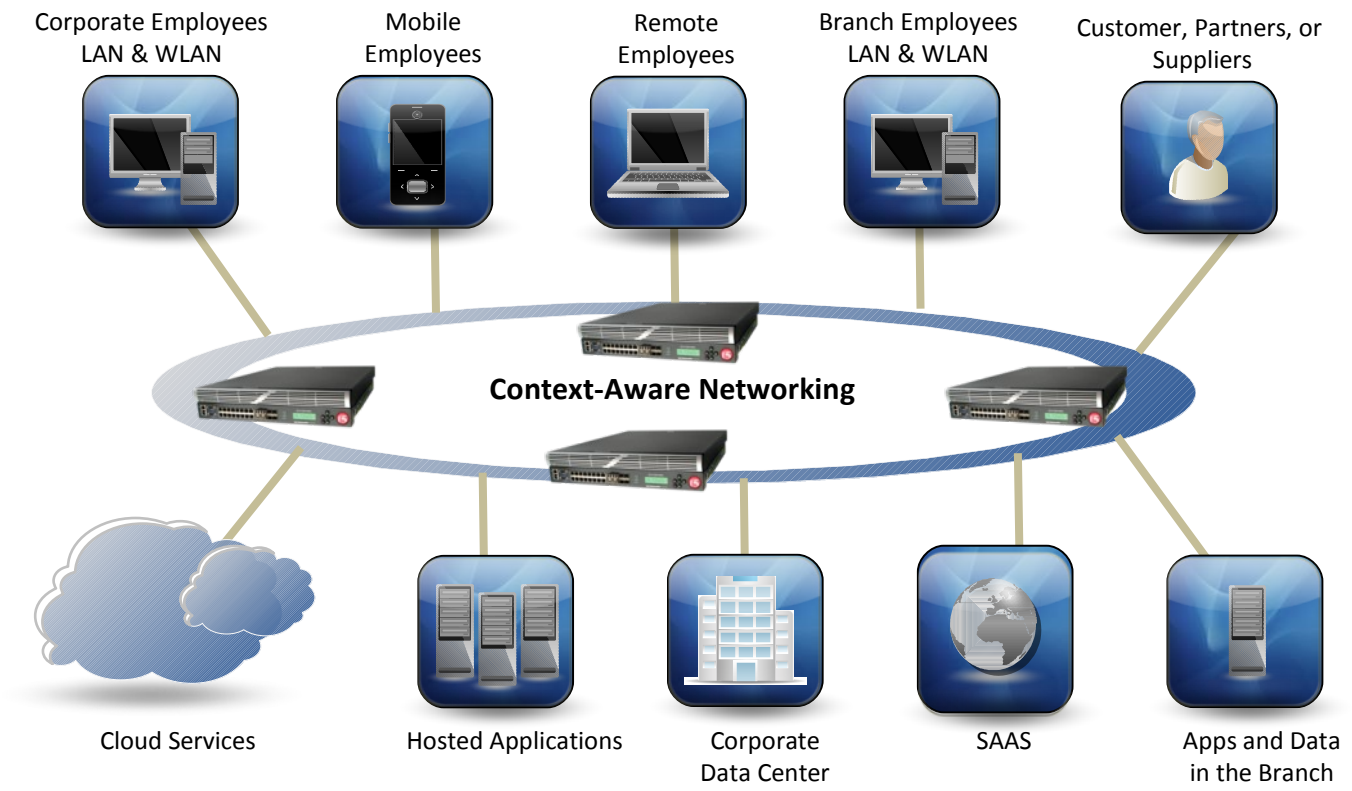


What is Required to Fill the Gap



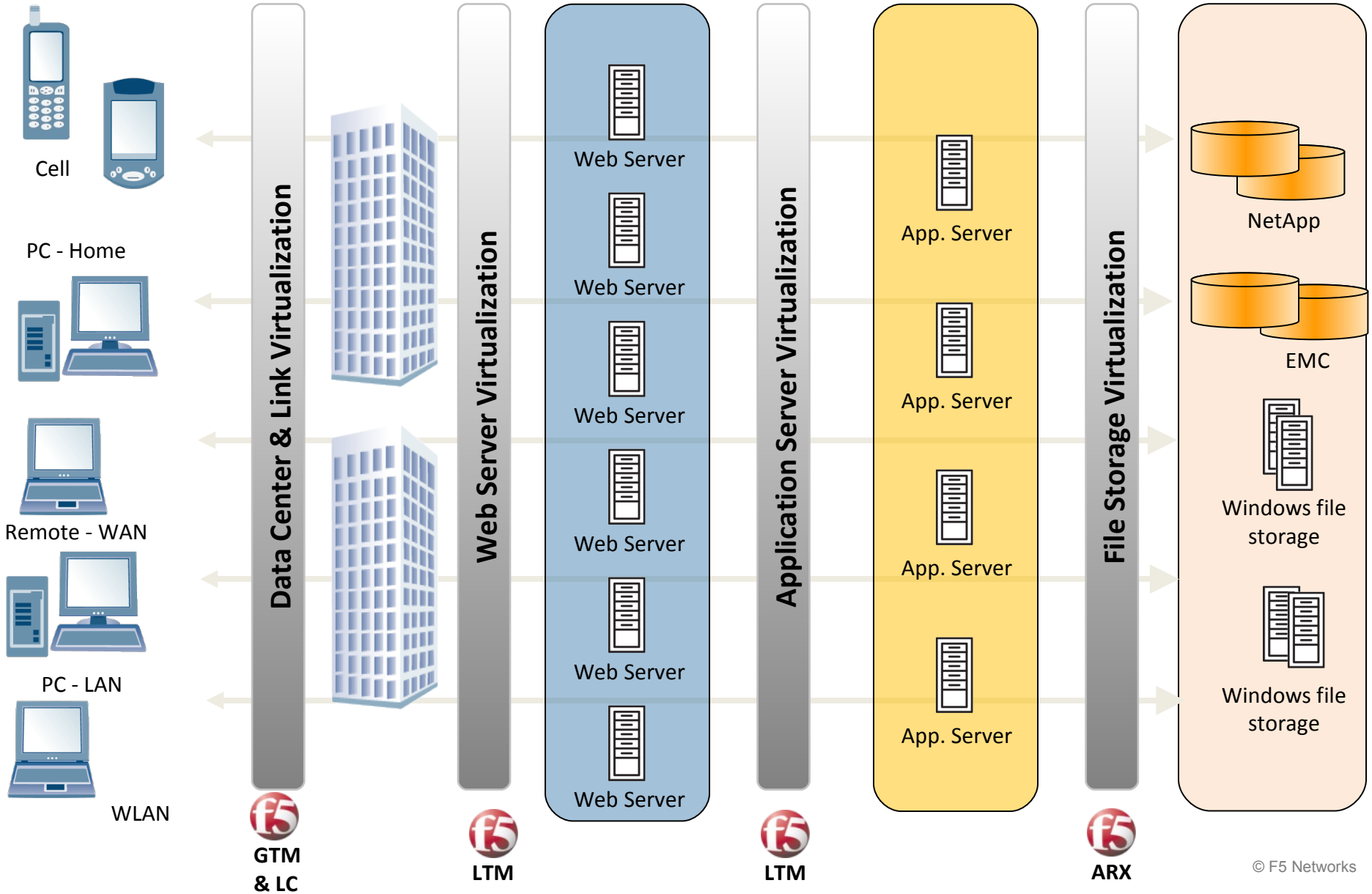
- Integration
- Visibility
- Context
- Action

F5 Vision: Unified Application & Data Delivery

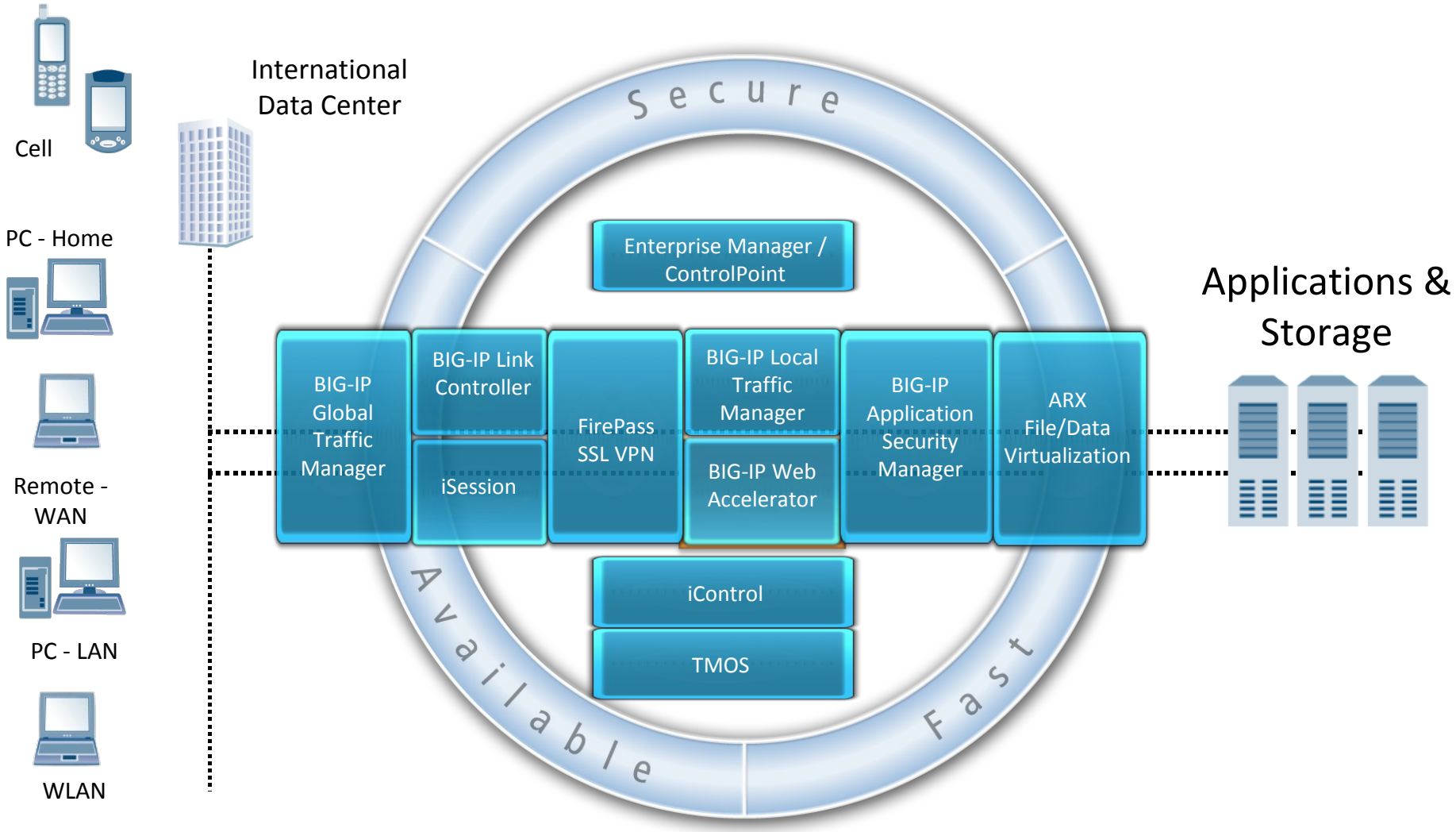


Enables the Dynamic Infrastructure

Consolidation by Virtualisation



F5's ADN – Freeing IT, Optimizing Business



Business Goal: Achieve these objectives in the most operationally efficient manner

Wirtualizacja ośrodków obliczeniowych

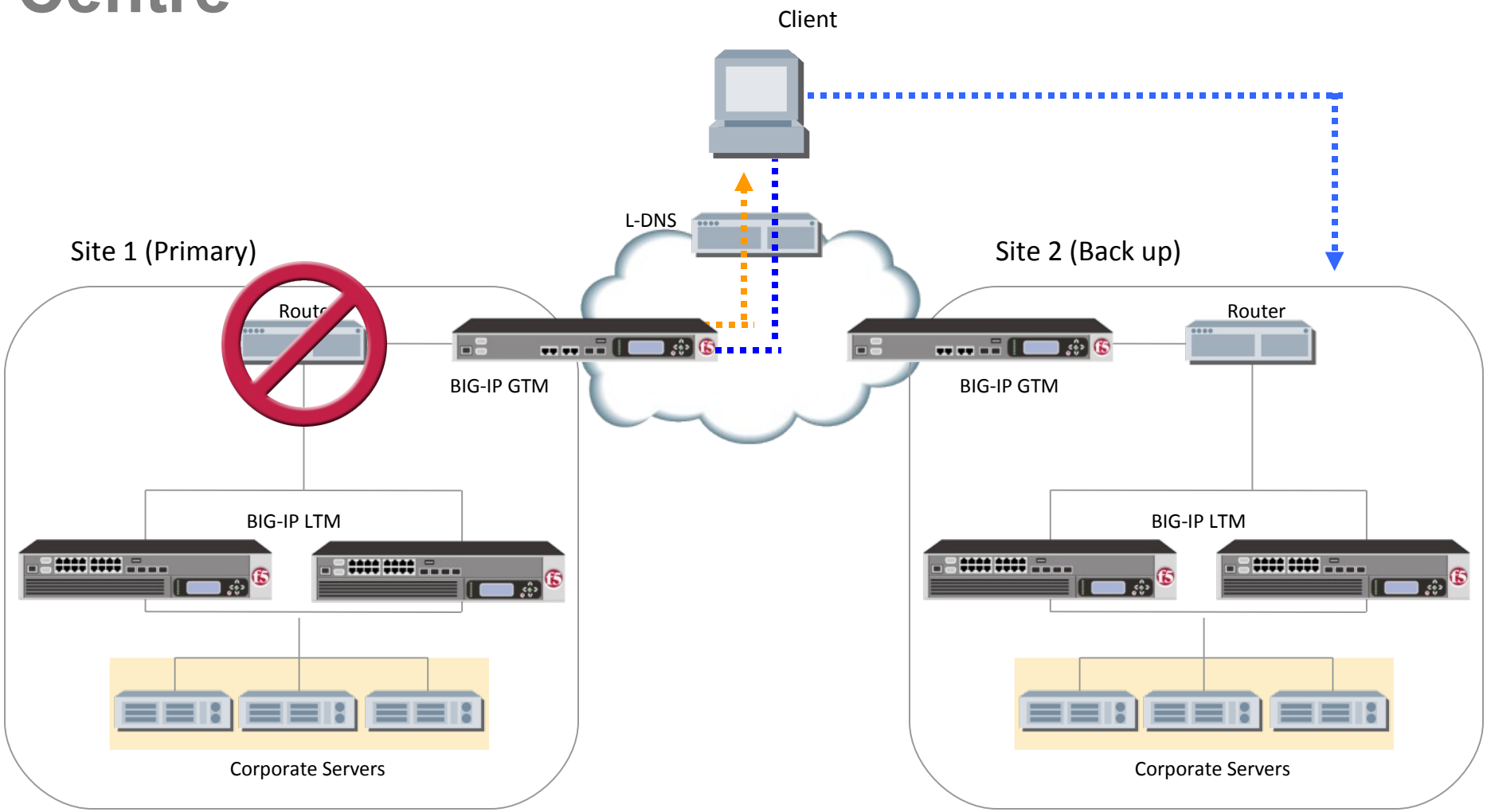
High Cost of Downtime

- 33% of businesses did not have Disaster Recovery plans in place
- 16% of businesses lost between $100-$500K/ day
- 26% of businesses don't know how much they lost

Source: AT&T and IAEM report

"47% of the businesses cited that disaster recovery was a prime target for IT Spending" – Network Computing Survivor's Guide to 2006 survey

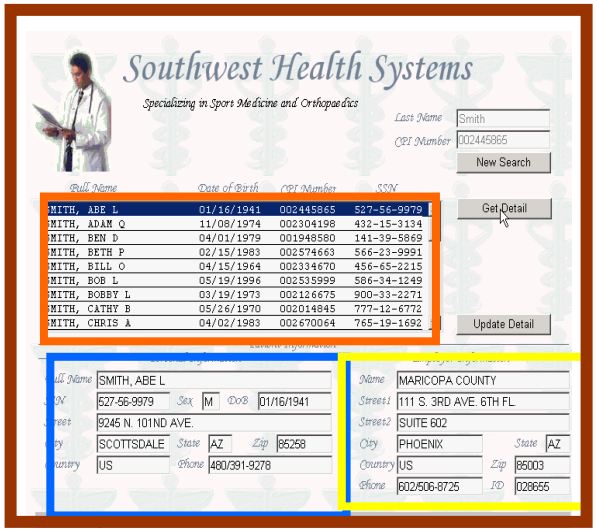
Getting Users to the Best Available Data Centre



SOA Application Management

Delivering unique flexibility and intelligence to meet emerging application challenges

Singapore
Data Centre

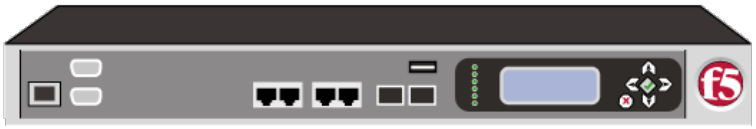


Sydney
Data Centre

High availability

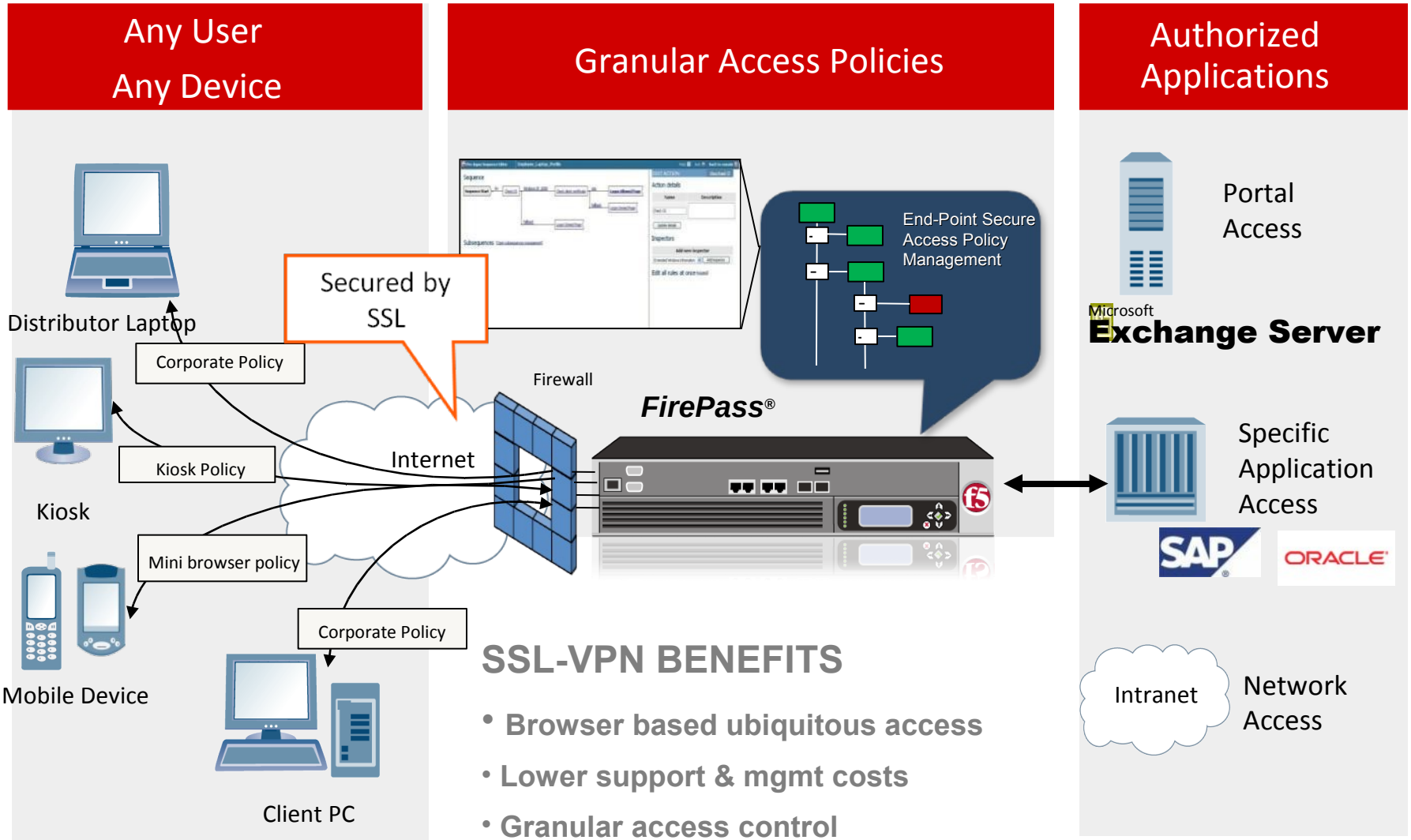
Persistence

Ease of maintenance



Wirtualizacja wewnątrz ośrodków obliczeniowych

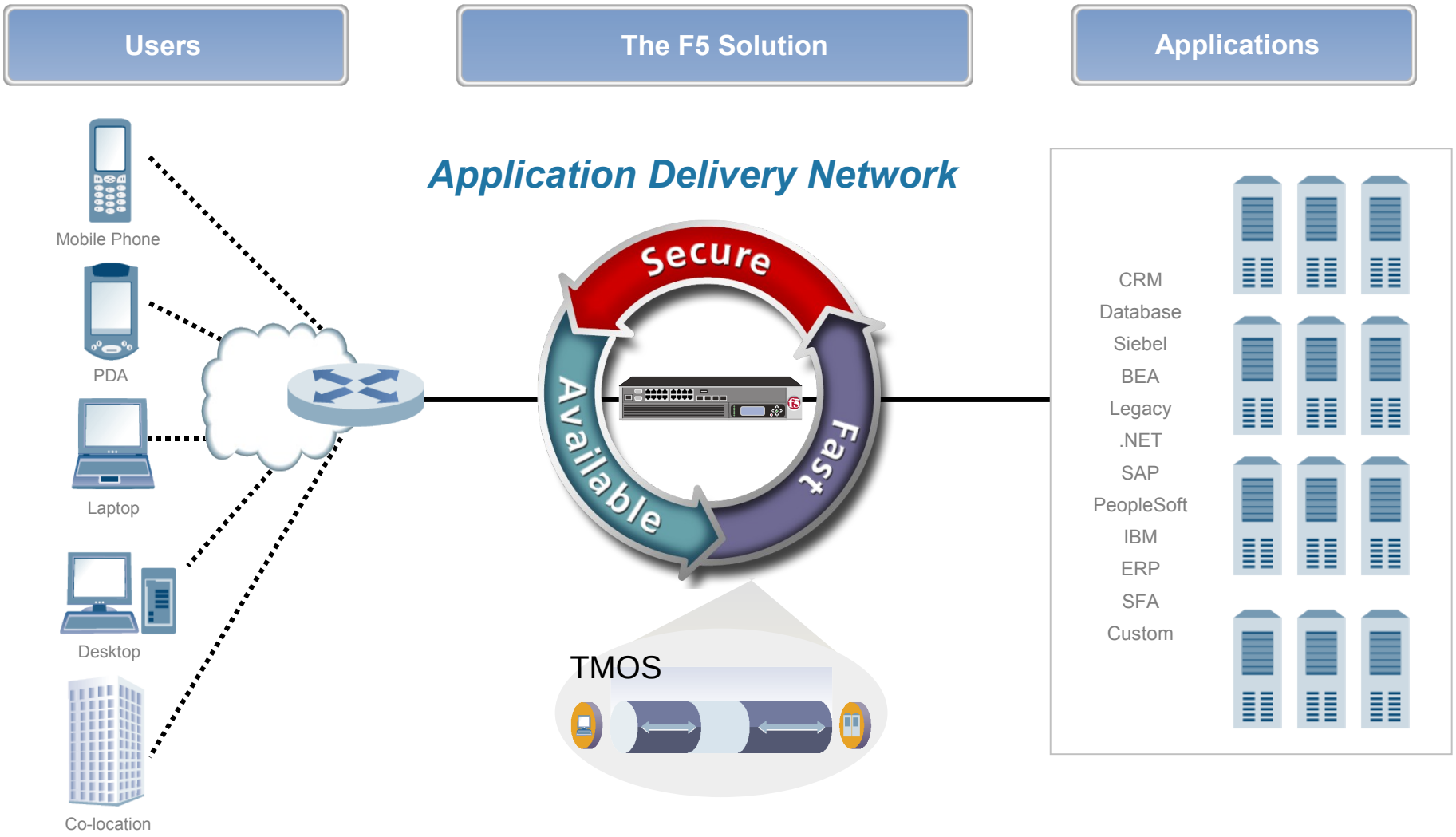
Secure Access to Corporate Applications



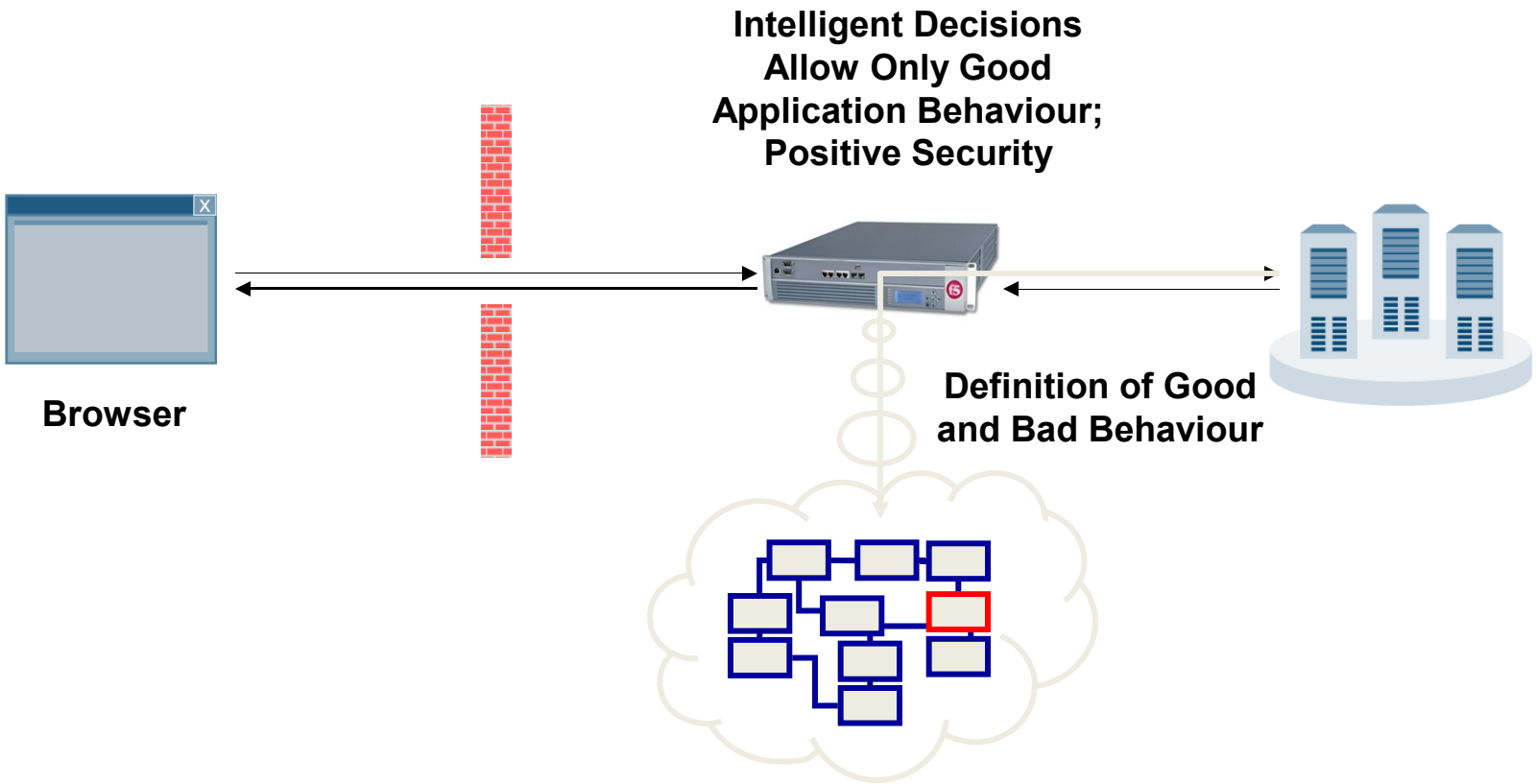
SSL-VPN BENEFITS

- Browser based ubiquitous access
- Lower support & mgmt costs
- Granular access control
- Endpoint security
- Group Policy Enforcement

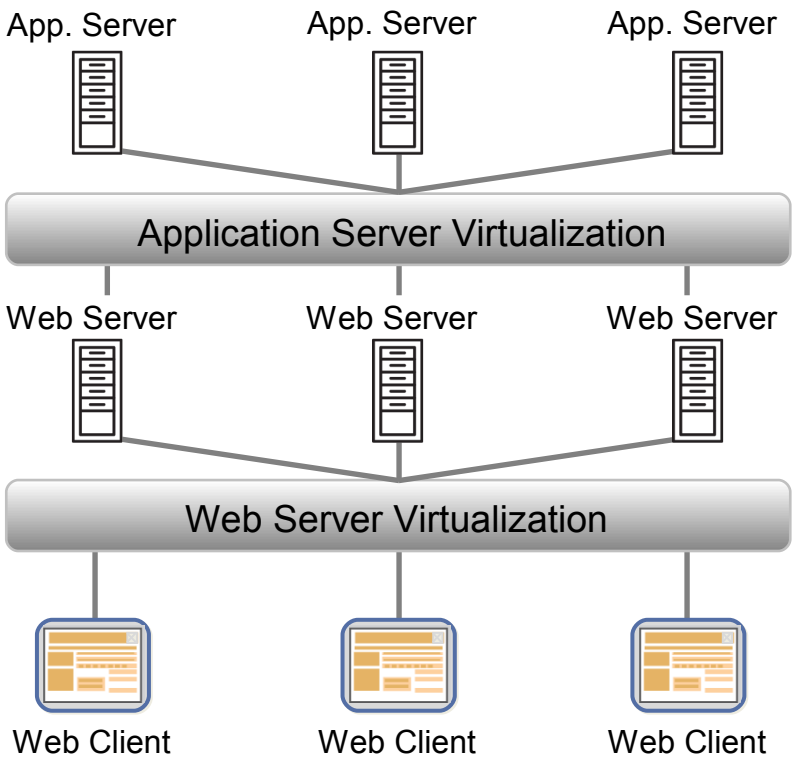
Virtualization and optimization apps and services



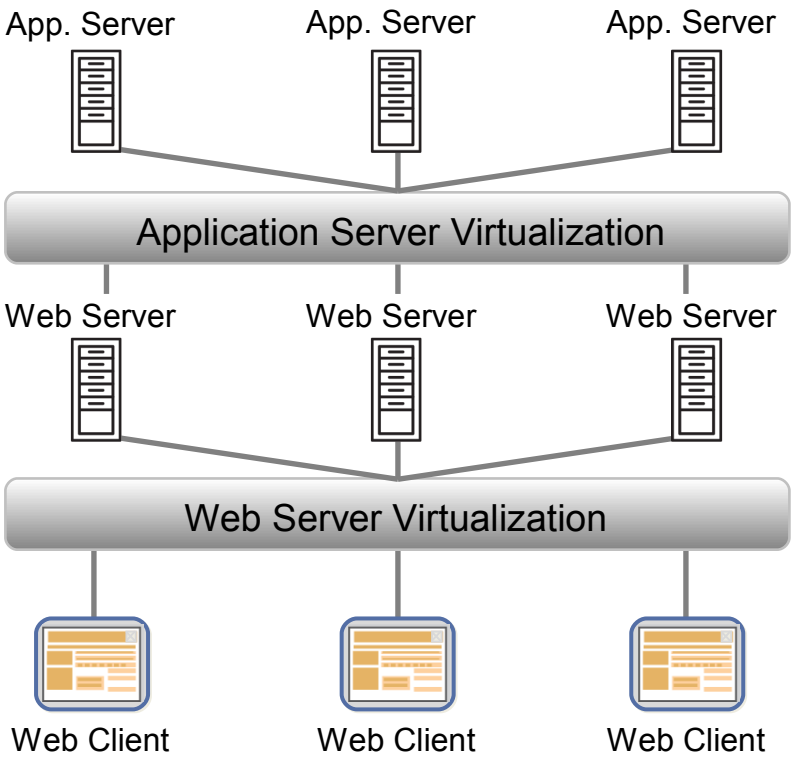
Application Security



F5 in the Enterprise Data Center



F5 in the Service Provider Data Center



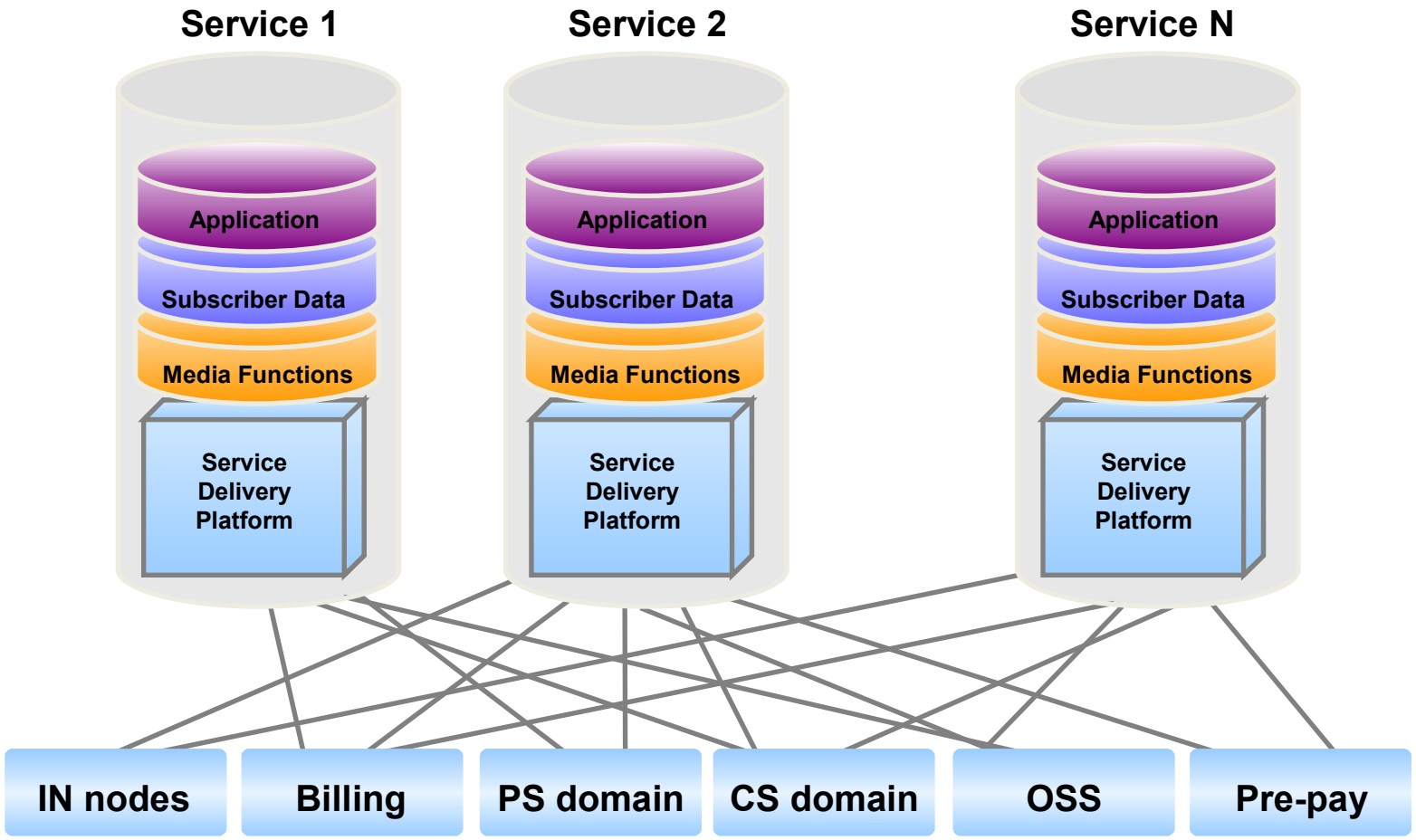
- **Web Applications**
  - WAP Proxy
  - Hosted Acceleration
- **Messaging**
  - SMS and MMS Scaling & High Availability

Service Provider Trends

- It's all about the application!
  - New revenue generating services
- Deploying multimedia services today
  - Overlaid on legacy networks
  - High OpEx to manage siloed applications
- IMS migration plans

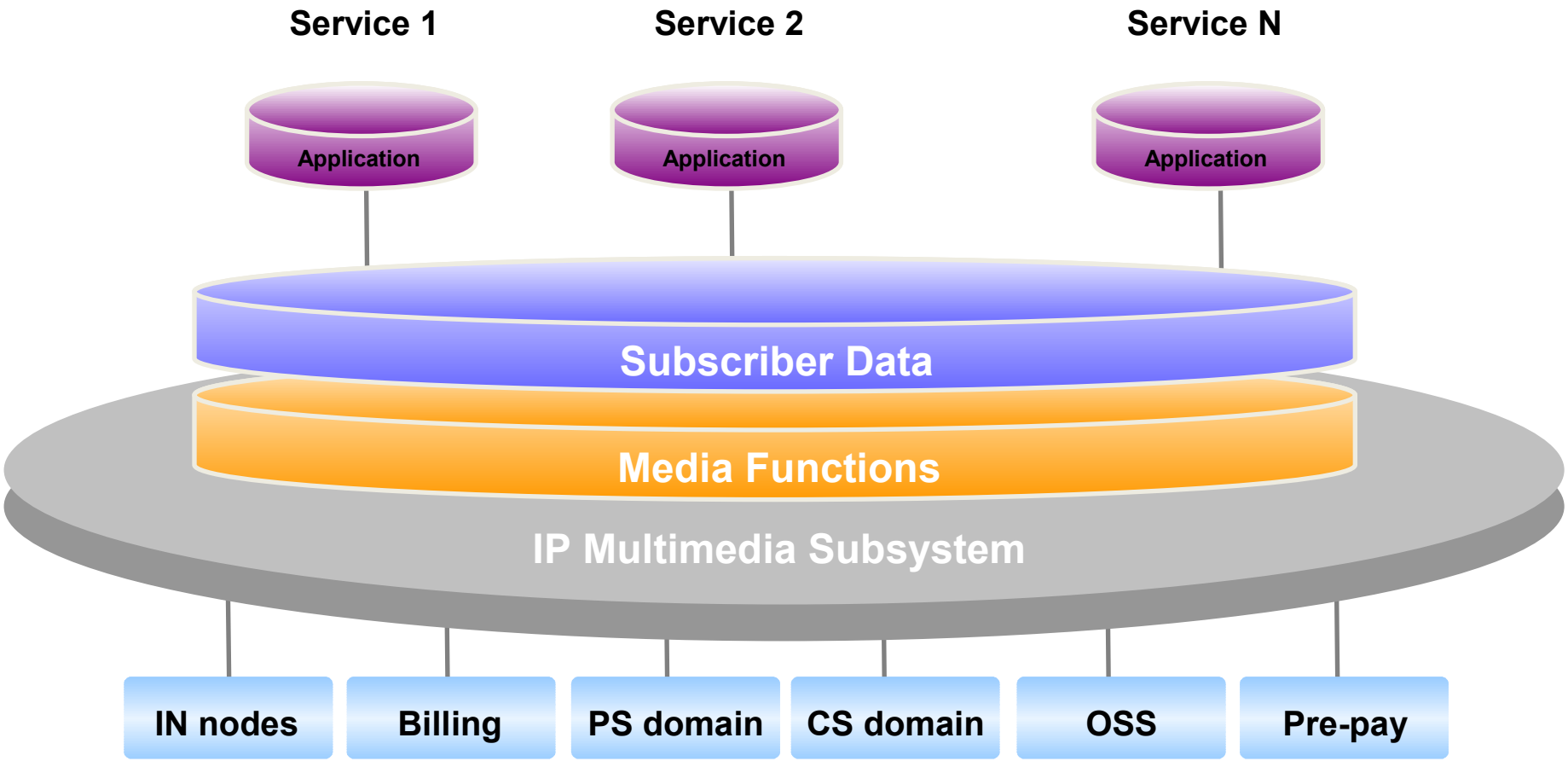
Multiple networks

- High cost of deployment and operation

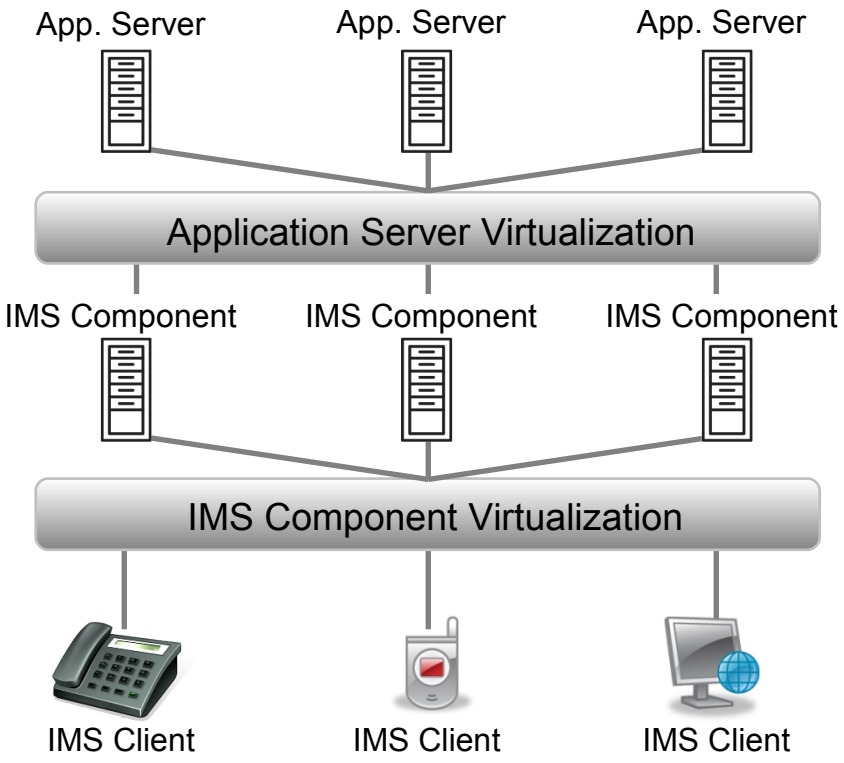


What is IMS?

- Standardized framework for IP applications



F5 in the IMS Network



IMS Ready ADC

Multimedia Services

- Streaming video servers
- SIP application servers

IMS Control Components

- Session border controllers
- Call/session controllers
- Signaling Gateways

Service Provider Challenges

- Scale Applications
- Complexity and interoperability of applications
- Scaling infrastructure
- Migrate and interoperate between legacy and IMS components

Complex Applications

- Leader in mobile targeted advertising
- Problem:
  - Require high availability
  - Each carrier sends custom RTSP headers
  - Each mobile device has different requirements
  - Need solution that can be customized in the field

Problem Solved

- Designed network with BIG-IP 3400
- Deployed for two major UK carriers
- **Zero** downtime
- iRules to customize per carrier and handset

"F5 allows my application developers to focus on the roadmap and customization to be done in the field"

Craig Holland, Senior Director of Operations and Integration, Rhythm NewMedia

The power of SIP iRules

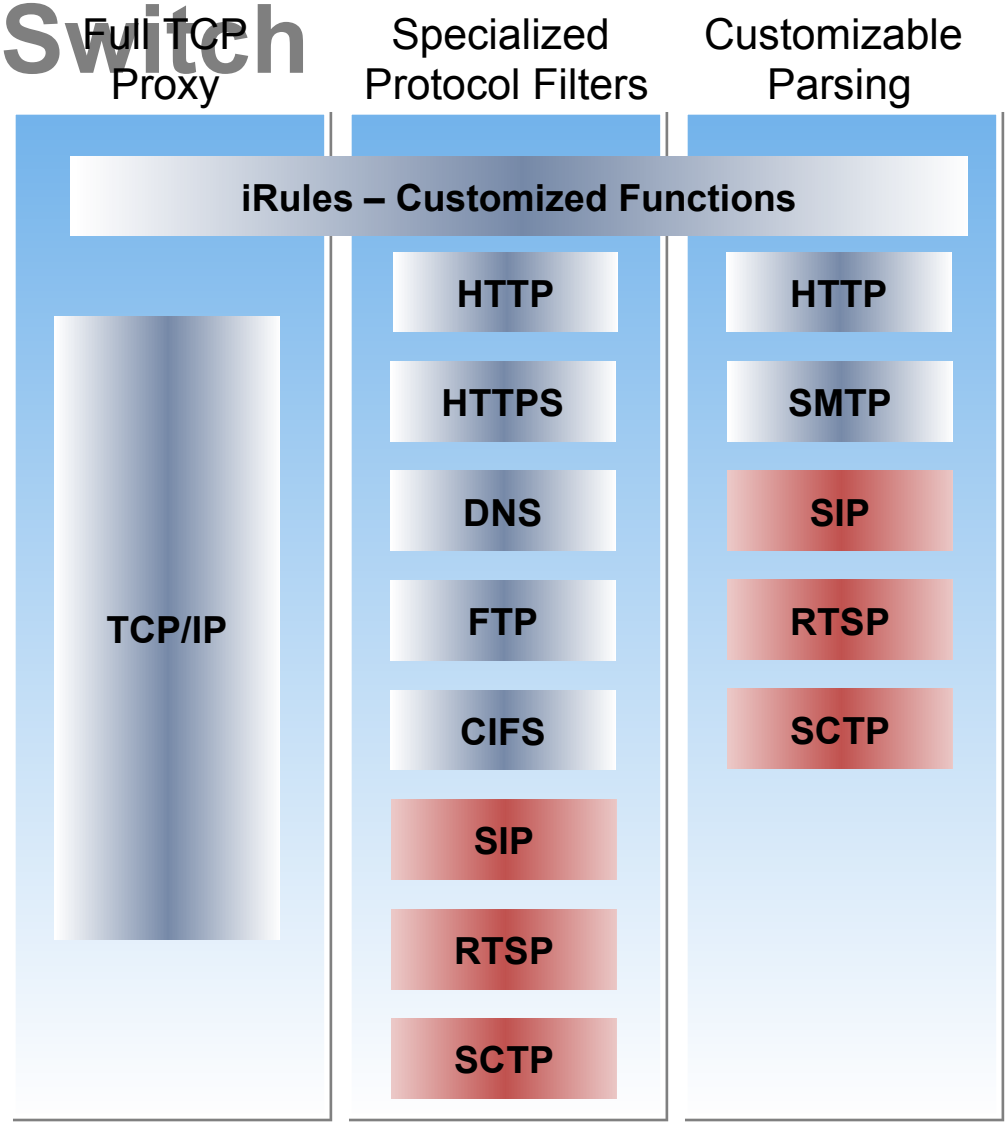
Caller Anonymous functions (*67)
would crash core voice networking infrastructure

F5 and had an iRule Fix in 3 hours

Benefits

- Dramatic Cost Reduction – Saved $1 Million USD
- Avoided 9 Month Delay – Implemented in 1 week
- Fixed application compatibility issues in the network
- Highly scaleable solution, deployed today

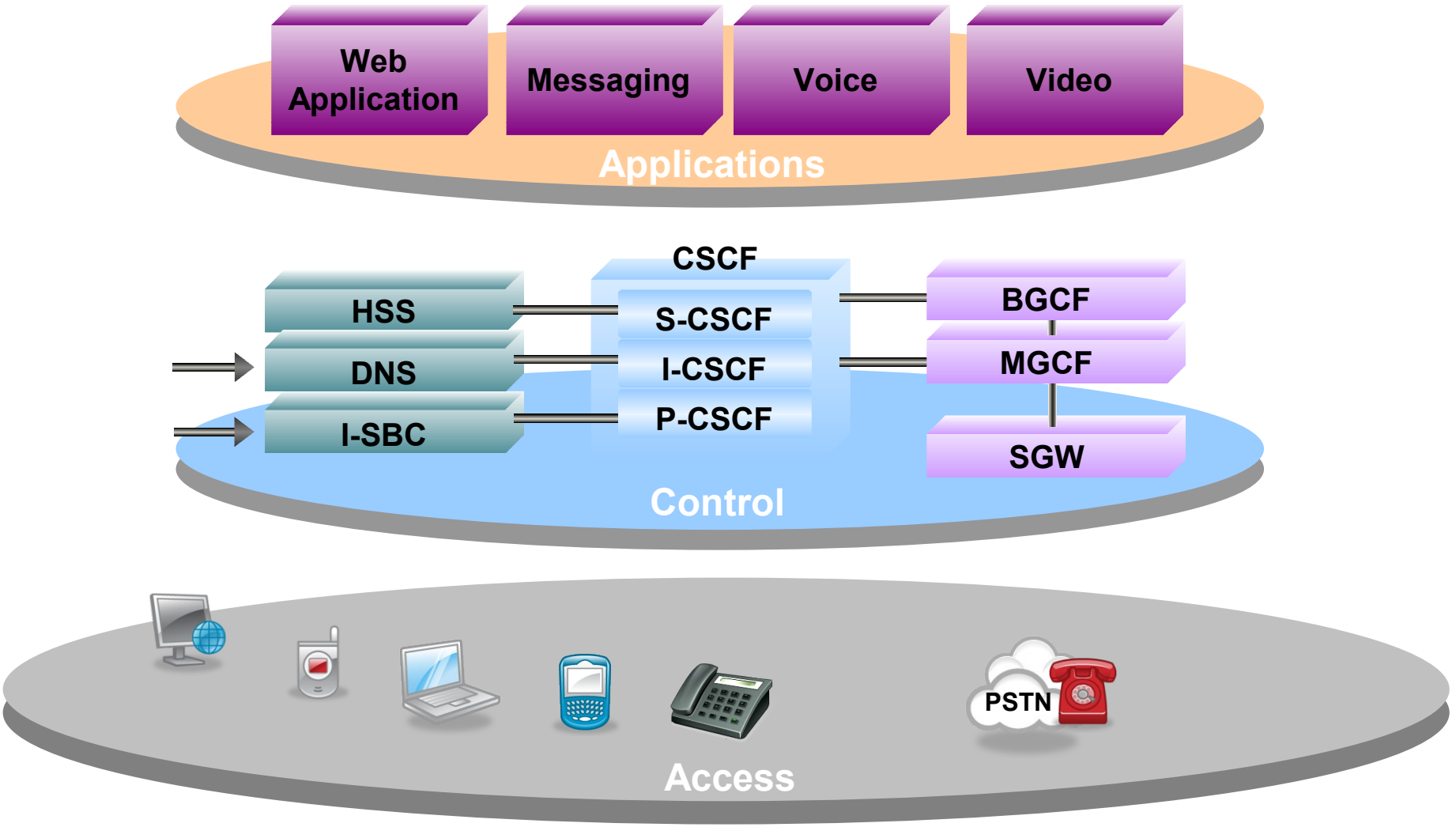
TMOS – Universal Application Switch



- ***Only*** unified application delivery controller
- Integrated, modular traffic management

F5 provides the **only** Unified Application Switch to intelligently manage any IP application.

IMS Architecture

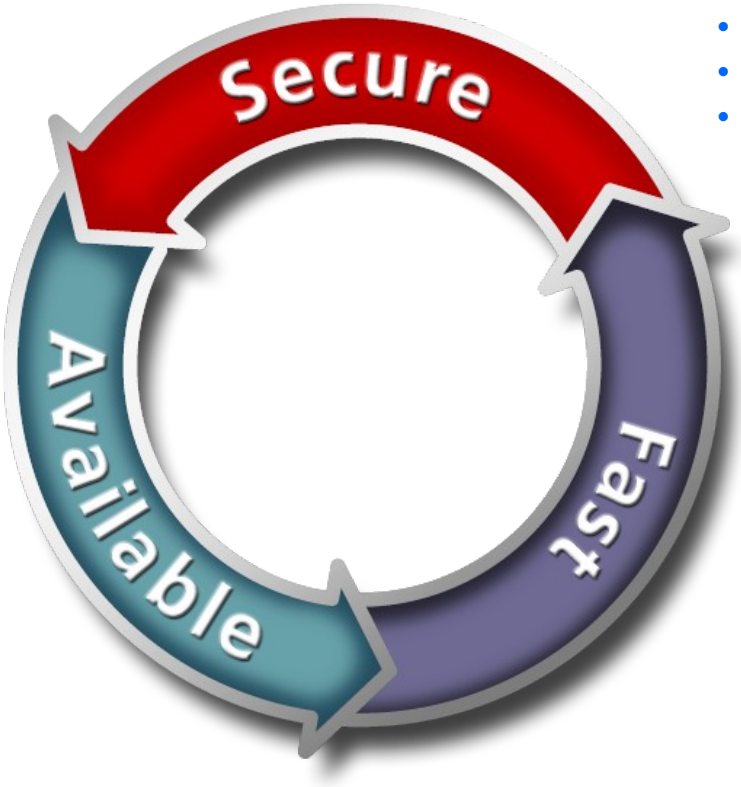


Integrated solution

- DoS and SYN Flood Protection
- Network Address/Port Translation
- Application Attack Filtering
- Certificate Management

- **DoS and DDos protection**
- **Brute Force attacks protection**

- Resource Cloaking
- Advanced Client Authentication
- Firewall - Packet Filtering
- Selective Content Encryption
- Cookie Encryption
- Content Protection
- Protocol Sanitization



- **Secure and Accelerated DC to DC data flow**

- Comprehensive Load Balancing
- Advanced Application Switching
- Customized Health Monitoring
- Intelligent Network Address Translation
- Advanced Routing
- Intelligent Port Mirroring

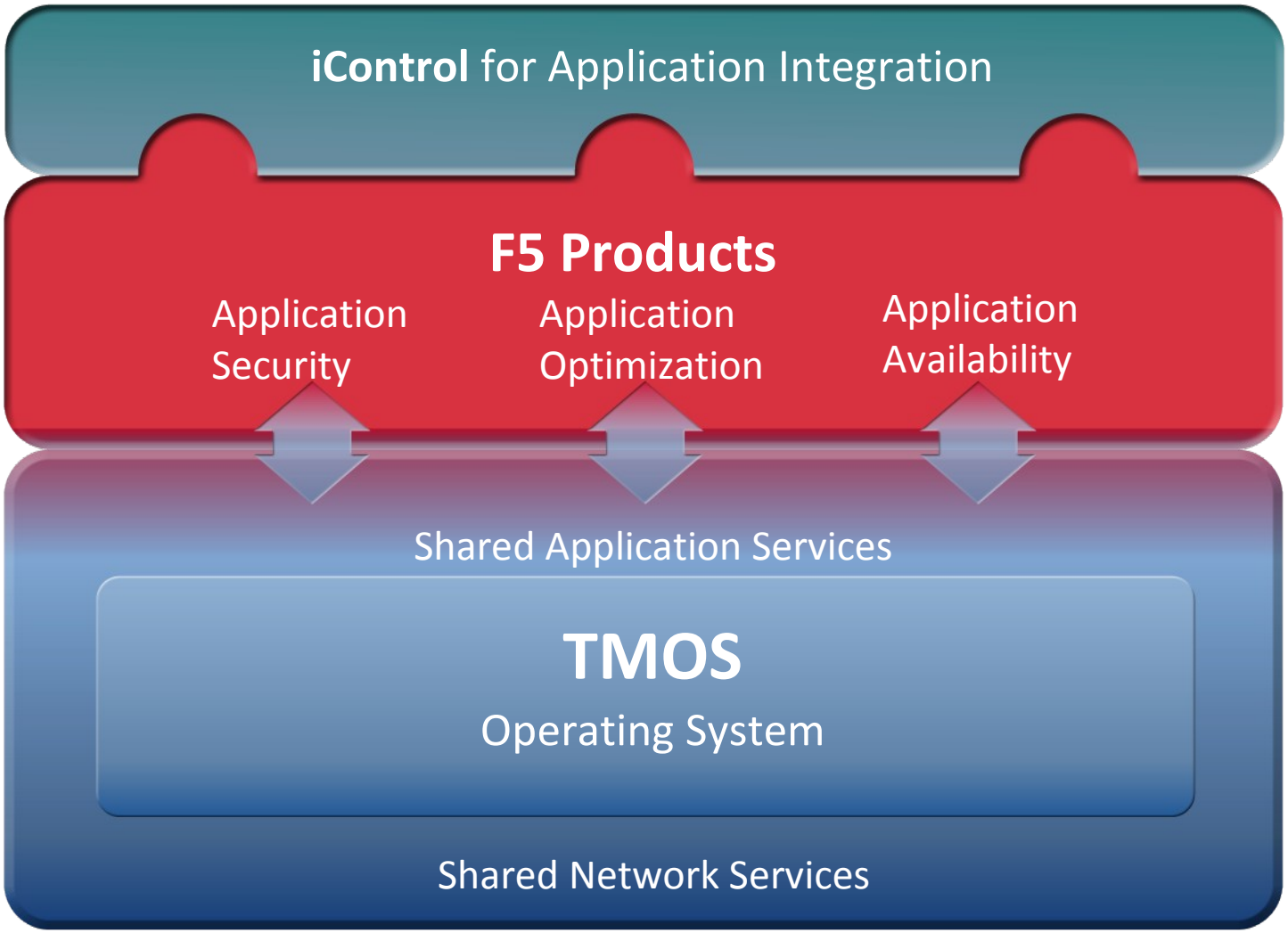
- SSL Acceleration
- Quality of Service

- Connection Pooling
- Intelligent Compression
- L7 Rate Shaping
- Content Spooling/Buffering
- TCP Optimization
- Content Transformation
- Caching
- TCP Express

- IPv6 Gateway
- Universal Persistence
- Response Error Handling
- Session / Flow Switching

- **Network Virtualization**
- **System Resource Control**
- **Application Templates**
- **Dashboard**

Architected for Integration



BIG-IP Hardware Line-up

Price

BIG-IP 1600

Dual core CPU
4 10/100/1000 + 2x 1GB SFP
1x 160GB HD
4 GB memory
SSL @ 5K TPS / 1 Gb Bulk
1 Gbps max software compression
1 Gbps Traffic
1 Basic Product Module

BIG-IP 3600

Dual core CPU
8 10/100/1000 + 2x 1GB SFP
1x 160 GB HD + 8GB CF
4 GB memory
SSL @ 10K TPS / 2 Gb bulk
1 Gbps max software compression
2 Gbps Traffic
1 Advanced Product Module

BIG-IP 6900

2 x Dual core CPU
16 10/100/1000 + 8x 1GB SFP
2x 320 GB HD (S/W RAID) + 8GB CF
8 GB memory
SSL @ 25K TPS / 4 Gb bulk
5 Gbps max hardware compression
6 Gbps Traffic
Multiple Product Modules

BIG-IP 8900

2 x Quad core CPU
16 10/100/1000 + 8x 1GB SFP
2x 320 GB HD (S/W RAID) + 8GB CF
16 GB memory
SSL @ 58K TPS / 9.6Gb bulk
6 Gbps max hardware compression
12 Gbps Traffic
Multiple Product Modules

Function / Performance

On-Demand & Dynamic Application Security

Leading Value

- World's first on-demand scaling Web Application Firewall
- Advanced security
- Integrated security performance
- Application insight/visibility

Better security ● 2x+ performance!

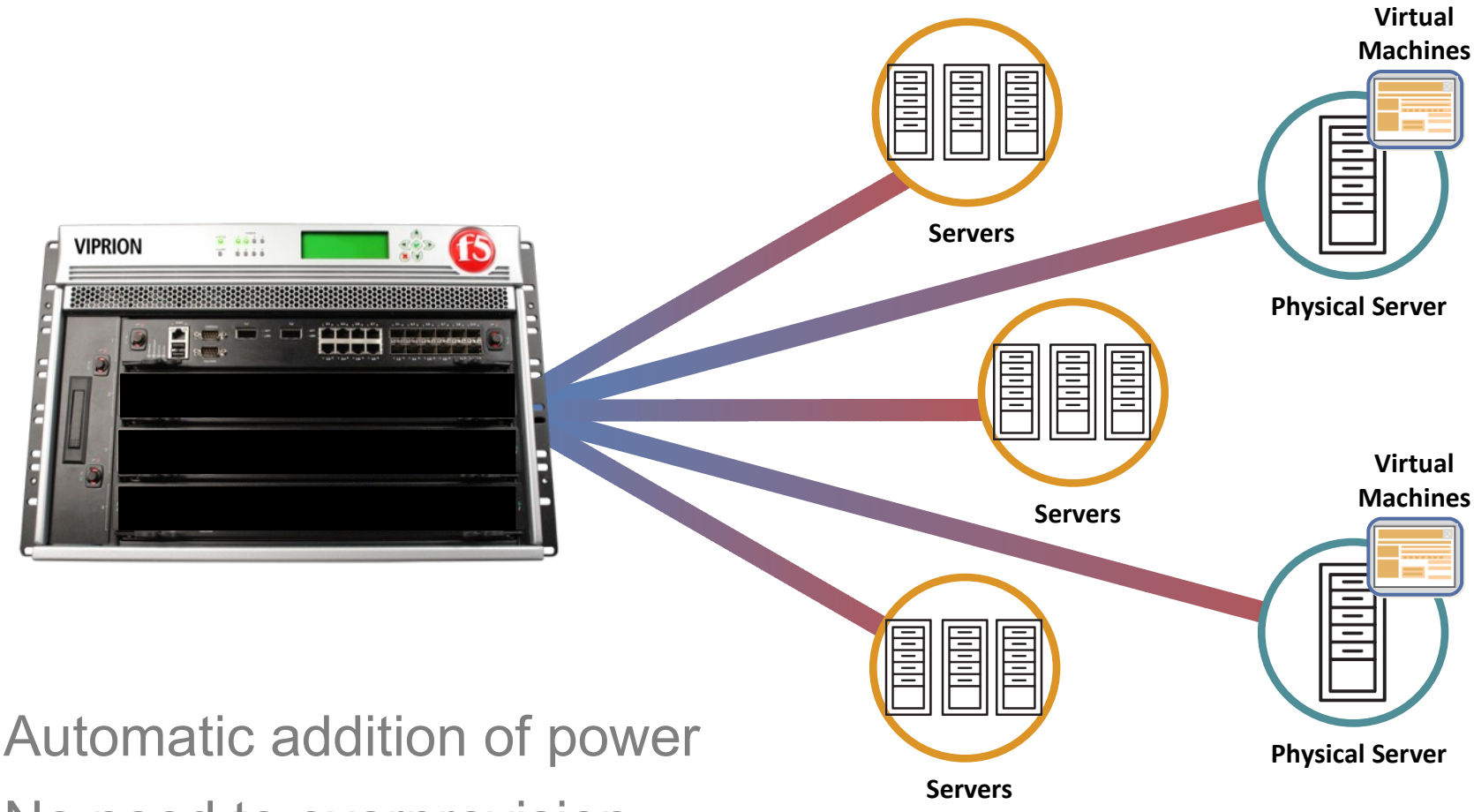
Ultimate Reliability

Multi-Level Redundancy

- Blade failure will not cause chassis failure
- Redundant and hot swappable components

Always Available

On Demand – Zero Reconfiguration

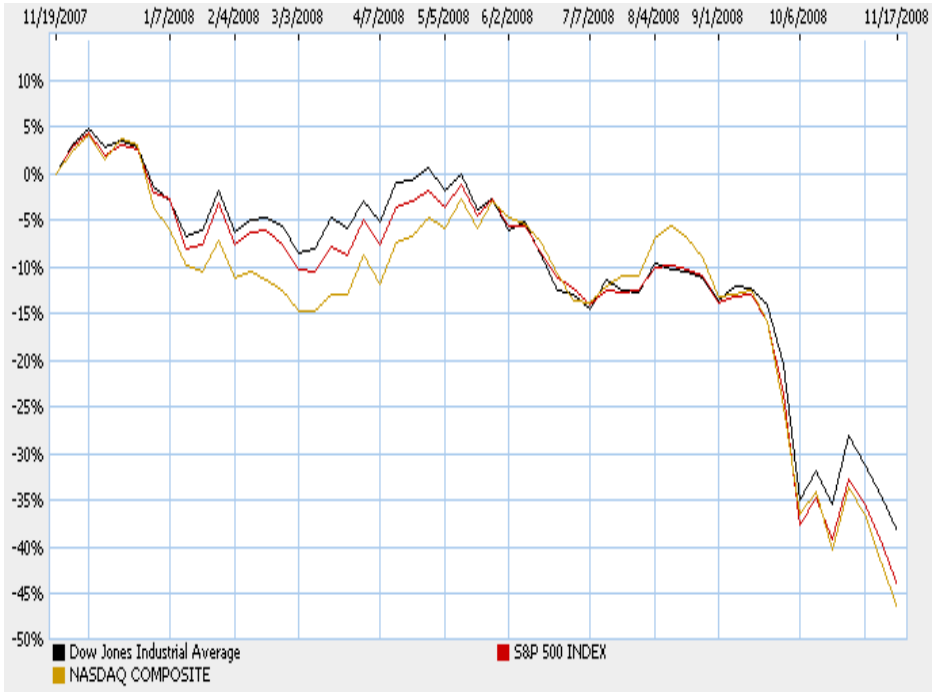


- Automatic addition of power
- No need to overprovision
- Fixed and predictable opex

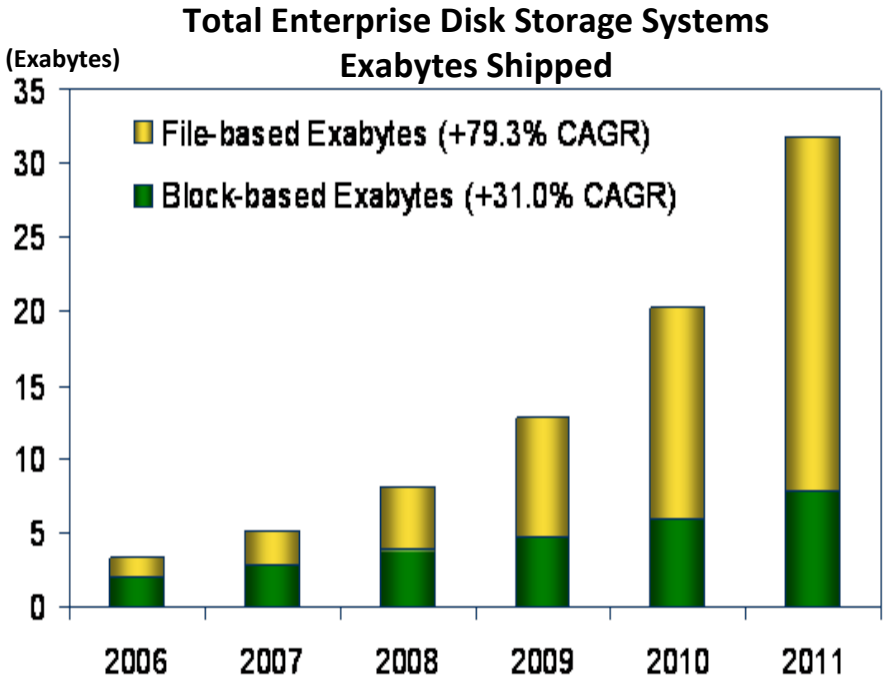
Wirtualizacja storage’u

Why This Matters

IT Budget Constraints



Volume of Data Growing

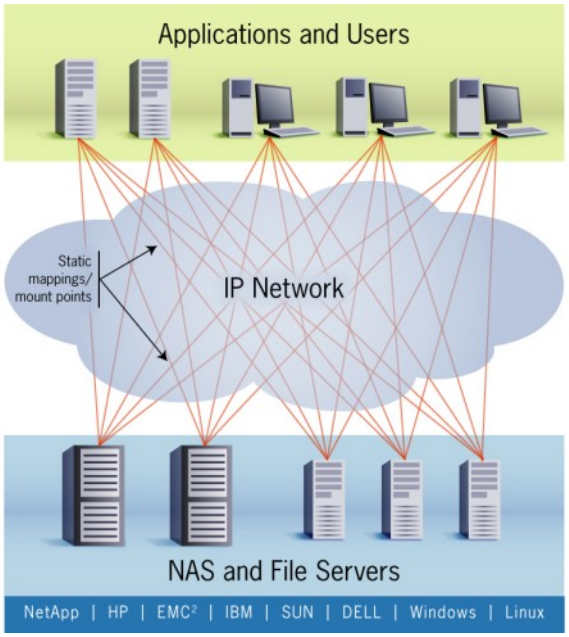


IDC: Worldwide Network Controller and Block-Level Storage Virtualization 2008–2012 Forecast: A Key Component in Building the Virtual Datacenter, April 2008

IT is seeking cost and efficiency improvements

The Key to Managing Storage Growth

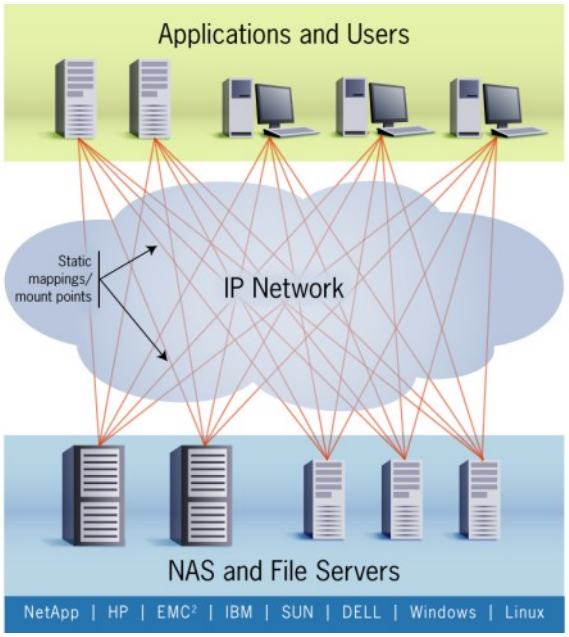
BEFORE



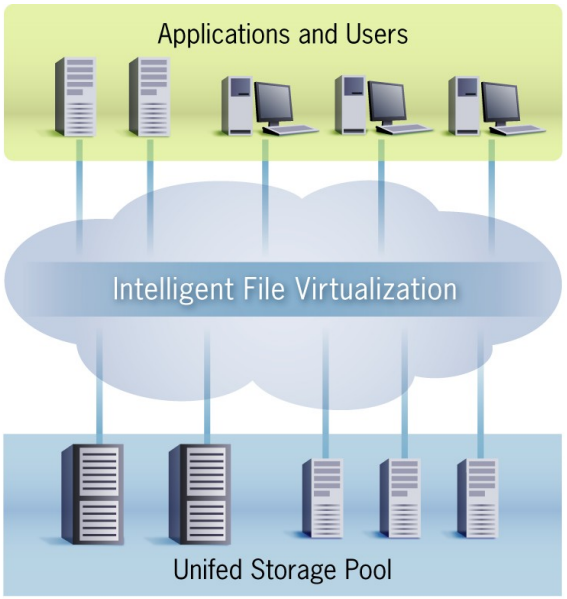
- User / application access tightly coupled to physical file storage
  - Inflexible: change is disruptive
  - Complex: multiple mappings to heterogeneous storage devices
  - Inefficient: low aggregate utilization

The Key to Managing Storage Growth

BEFORE



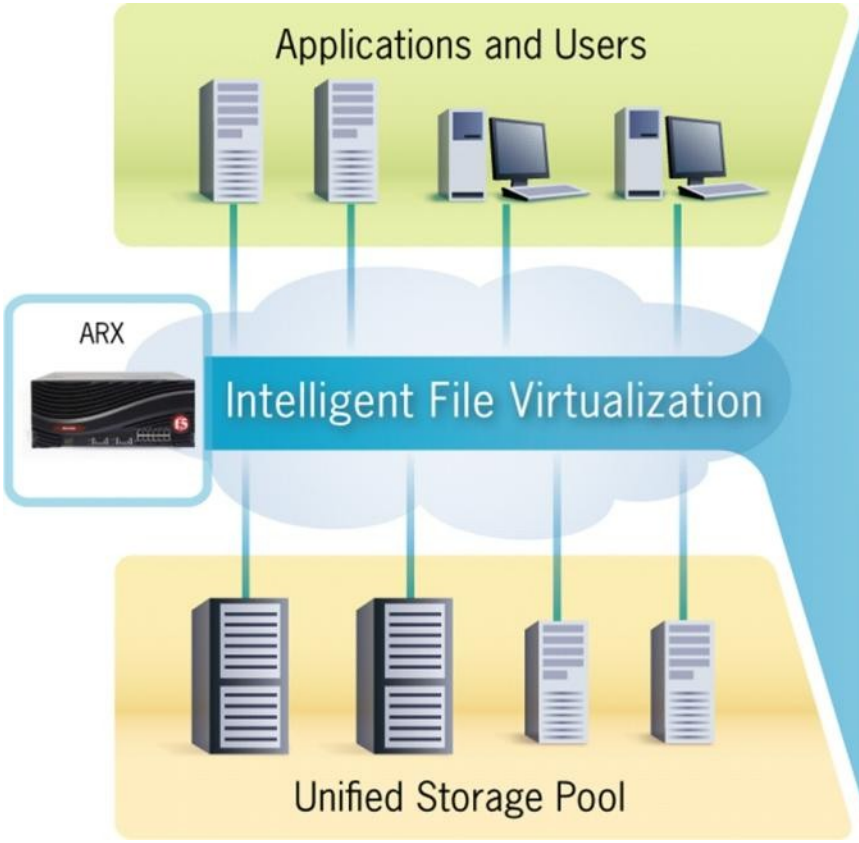
AFTER



- User / application access tightly coupled to physical file storage
  - Inflexible: change is disruptive
  - Complex: multiple mappings to heterogeneous storage devices
  - Inefficient: low aggregate utilization

- File access decoupled from physical storage location
  - Flexible: change is non-disruptive
  - Simple: single mapping to unified storage pool
  - Efficient: maximize utilization

What Does F5 ARX Do?



PRESENTATION

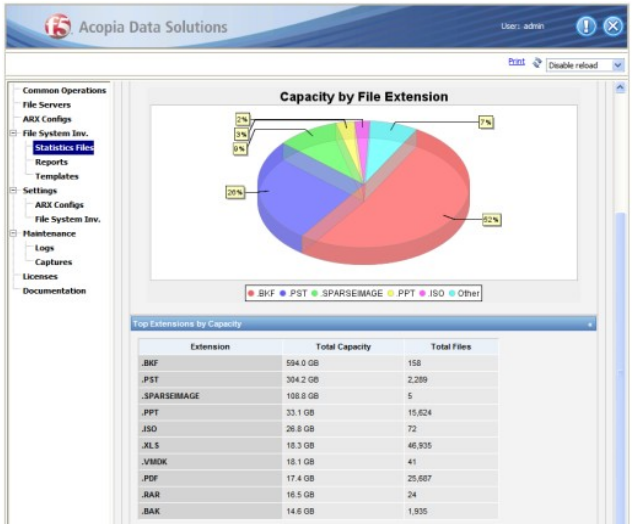
- Decouples access from physical file location
- Presents a **Global Namespace** view of the data – a federation of the underlying file systems
- Masks changes to underlying storage systems from users and applications

AUTOMATION

- Automates common storage management tasks
  - **Migration**
  - **Storage Tiering**
  - **Load Balancing**
- These tasks now take place without affecting access to the file data or requiring client re-configuration

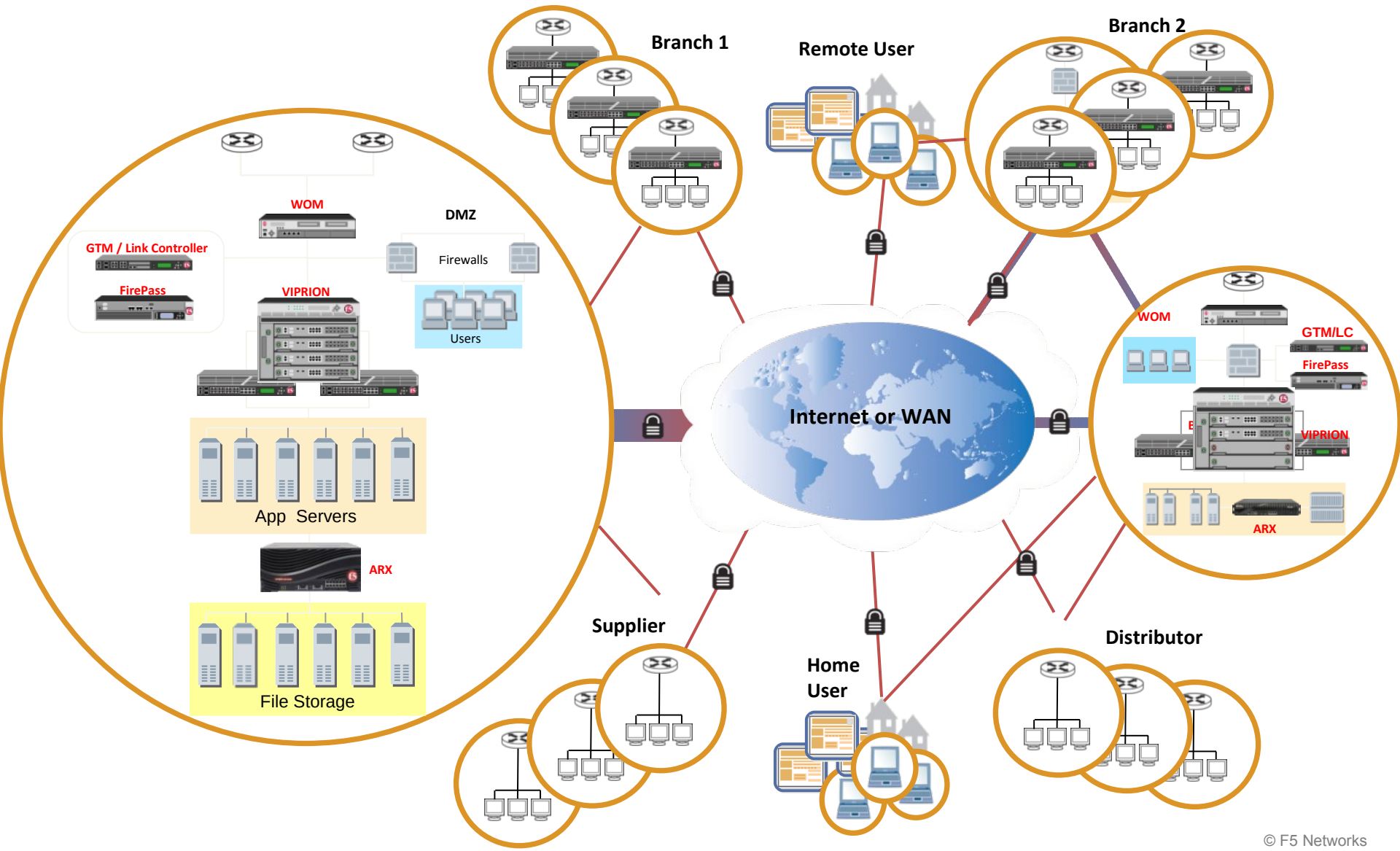
F5 ARX® Product Family

- Scalable product family
  - ARX500: Departmental Device
  - ARX1000: Mid Tier Device
  - ARX4000: Mid to Large Enterprise Device
  - ARX6000: Data Center Device
- Enterprise-class management and serviceability
  - CLI, GUI, SNMP
  - Logging, reporting, scripting
  - Diagnostics, “e-mail home”
- Data Manager : Extensible software platform
  - File system inventory
  - Configuration assistant



Podsumowanie

F5 in the Data Centre



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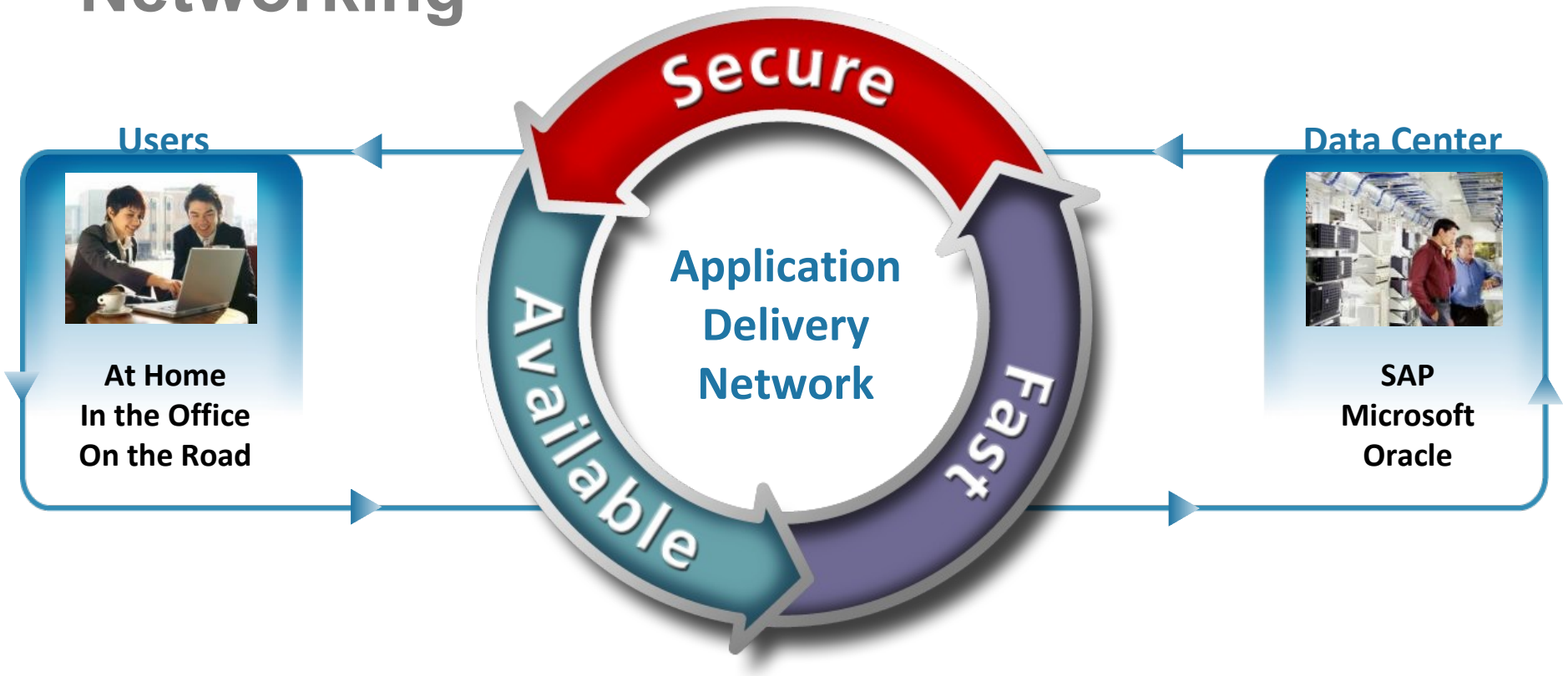

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