



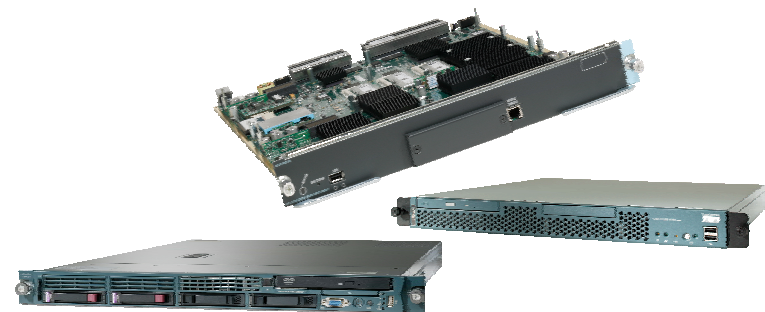
Cisco Expo
2007

Cisco ACE

Product Portfolio Introduction



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Data Center and Application Challenges



Data Centers under Increasing Pressure

Challenges



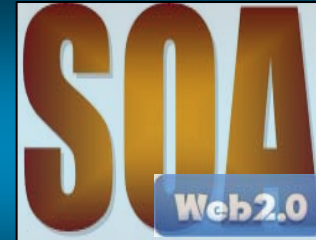
Power & Cooling



Consolidation



Provisioning



Threats and Perf.



Bus. Continuance

- Power and cooling crisis in data centers
- Consolidation of data centers
- Longer application provisioning cycles
- Application downtime and slower application response times
- SOA and Web 2.0 - security vulnerabilities and performance bottlenecks
- Need to maintain business continuity

Data Center & Application Challenges

“Power and cooling is a pandemic in the world of the data center. By next year, about half the world's data centers will be functionally obsolete due to insufficient power and cooling capacity.” **Gartner Inc, June 2007**

“Replacing or upgrading applications is an important issue for many firms, ranking as the fifth-highest priority among IT decision makers for 2006 ..” **Forrester Research, June 2007**

“Applications are the biggest source of network downtime, accounting for roughly 25% or \$213,000 annually, split 65/35 between application outages and degradations.”, **Infonetics Research, March 2006**

“50% of enterprises and government agencies are using XML, Web services or SOA.” Gartner
“XML accounted for 15% of internet traffic in 2005. By 2008, it is expected to account for 50%.”
451 Group

Cisco Data Center Strategy & Evolution

Consolidation



- Regain IT Asset Control
- Lower Operational Expenses
- Protect and Control Investments

Virtualization



- Capital Asset Utilization Improvement
- Power Savings
- Overall Systems Abstraction

Automation



- Simplified and Policy Based Provisioning
- Reproducible Processes
- Manage Business Processes and Templates

- Unified Network Fabric
- Integrated Provisioning

Innovation & Integration

- Data Center Class Platform
- Integrated Services

Cisco: Transforming Data Centers



Data Center Assurance Program

Edge to Disk Data Center systems testing and validation



Application Networking

- Empowering applications thru network
- WAN Optim, App Switching, XML Security/Offload
- Broad Portfolio of Application Networking Technologies



DC Automated Provisioning

- Link LAN, SAN, AFE, Security together w/ compute and storage
- Visibility to Business Process Execution



Secure DC Infrastructure

Purpose built infrastructure and transport systems designed for tomorrow's data centers



Unified Network Fabric

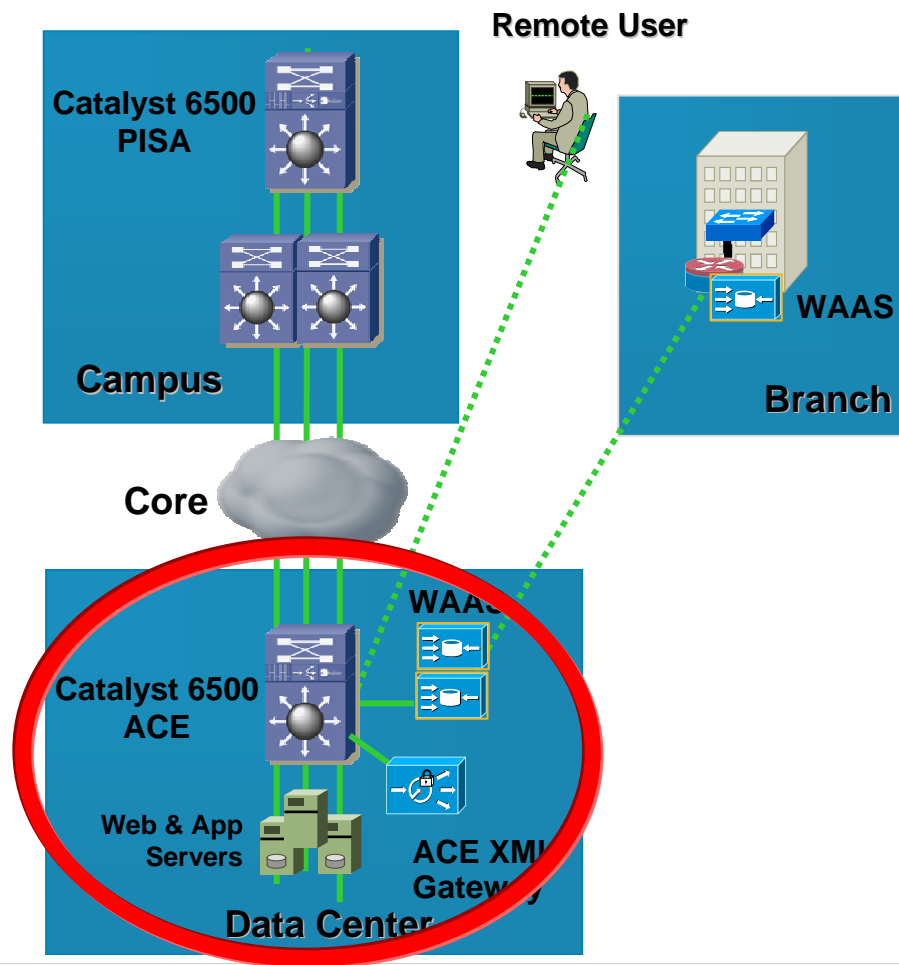
Evolution of data link to allow a single network in the data center for all traffic types

Cisco Application Networking: Solution & Benefits



Cisco Application Networking

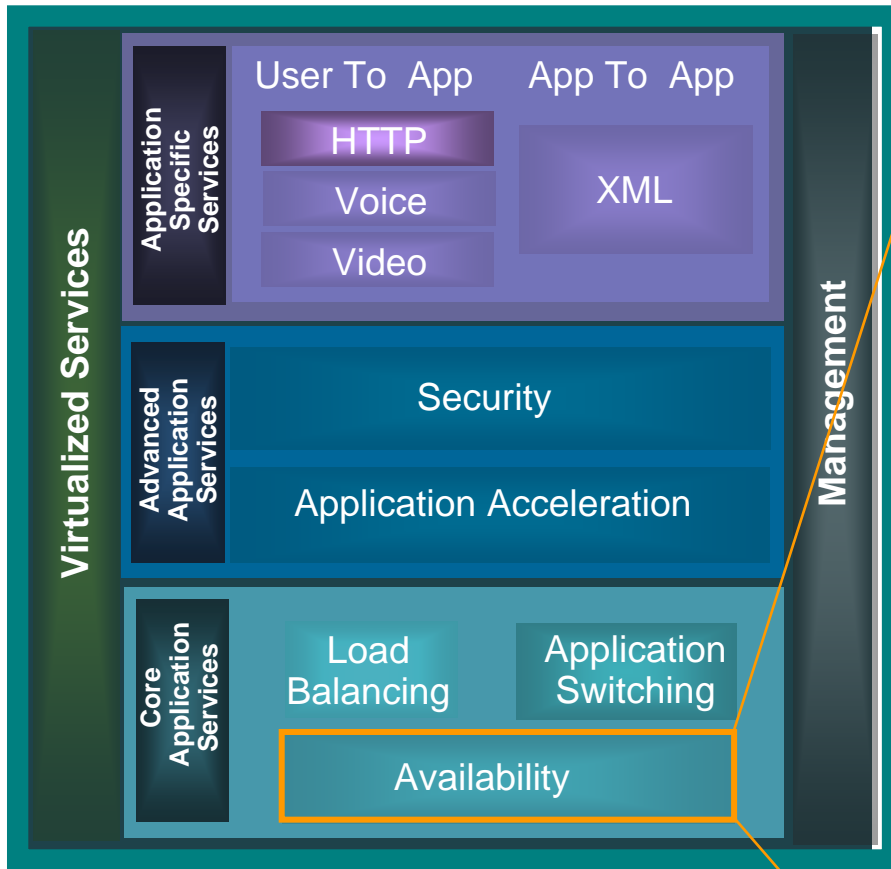
End-to-End Solution for Enterprise



- **Campus – Sup32 PISA**
Deep packet inspection and QoS
- **Branch – WAAS**
WAN optimization
App acceleration
- **Data Center - ACE**
App and XML switching
App and XML acceleration
Application and XML Firewall

**ACE Is Industry's Leading Set of Solutions
for Data Center Application Networking**

Application Availability



Highly Scalable Application Switching

Maximize availability through best-in-class load balancing & content switching

Per-Server

Extensive set of application health probes to forward traffic to the most available server

Per-Physical App Switch Device Failover

Maximize Availability using highly available system software and hardware

Per- App / Department/ Customer

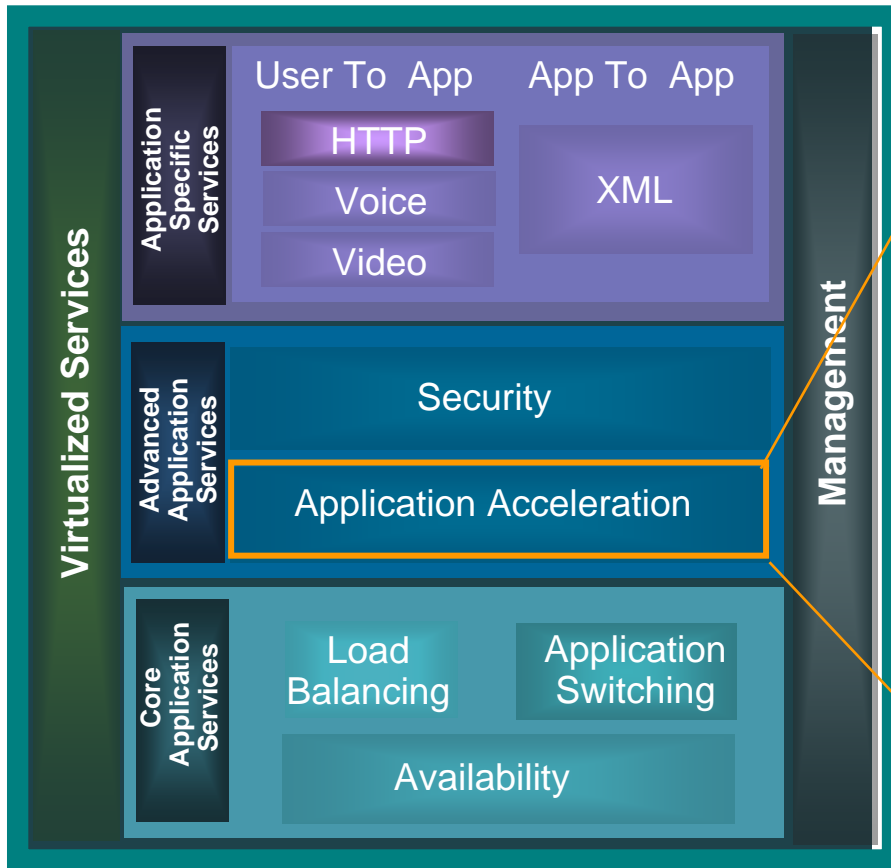
Application/Department/Customer specific failure does not Impact other using virtual devices

Per-Data Center

Data Center Failover via Interoperability with Cisco ACE Global Site Selector (GSS)

“The Cisco ACE module’s ability to maximize the availability, scalable performance and security of the college’s data center applications played a large part in our decision to upgrade to ACE.”
John McManus, Manager of Servers and Networks Group, Harper College

Application Acceleration



Fast Response Times = Productivity

Optimizes Performance for Low Bandwidth, high Latency Connectivity up to 300% faster

More Efficient Servers

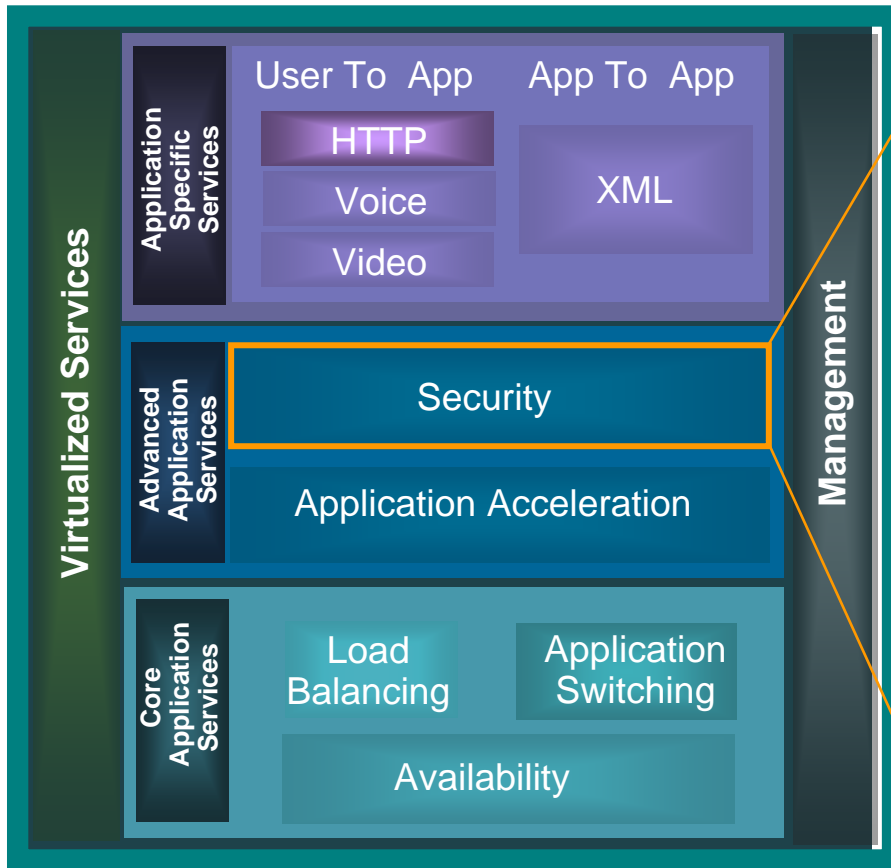
80% additional server processing capacity by SSL, TCP and XML offloading

Faster Time to Deployment

XML and Web services Acceleration using XML Gateway

“Cisco ACE is also helping First National offload SSL processing that had previously been a function of another vendor product. The capability of performing multiple tasks on the Cisco ACE makes it so much more appealing to us than having websites run through a traditional Web load balancer.” Todd Kleinsasser, Network Engineer at First National Bank

Application Security



Network-layer Protection

Safeguard Against L3-4 Attacks using Access control filtering and deep packet inspection

Application Protection

High-Performance Protocol Inspection to stop Application Attacks

SOA & Web 2.0 Protection

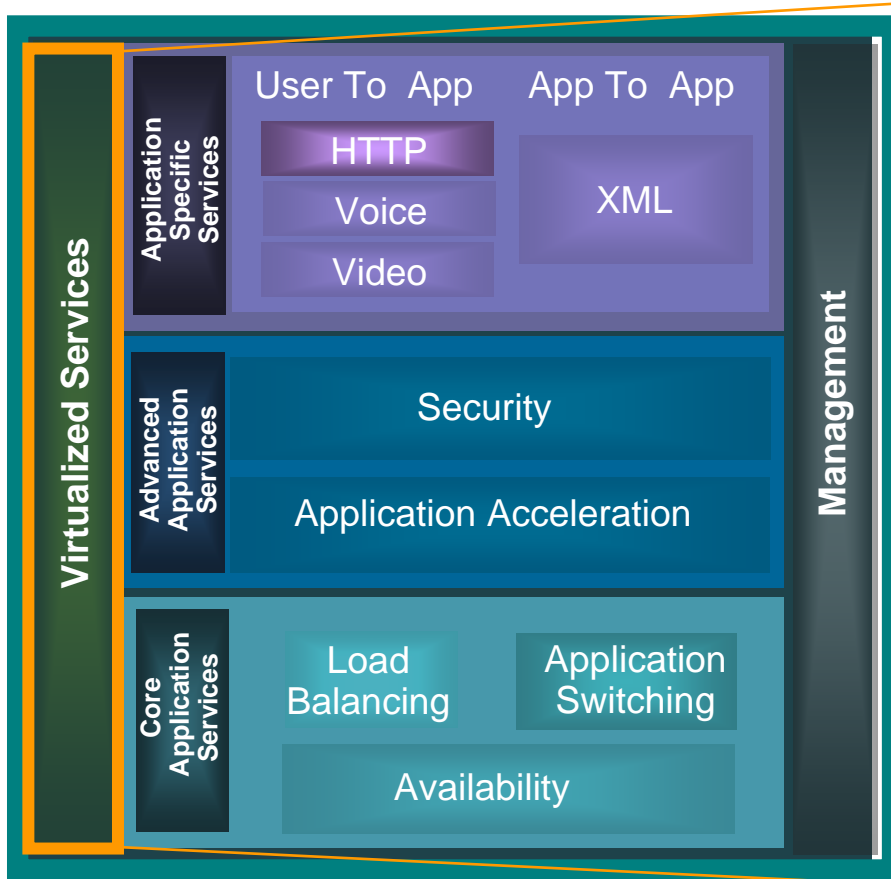
Protects XML application and Web Services using XML Firewall

Highly Scalable Server Protection

Supports 1M NAT entries, 256K ACLs & provides last line of defense for servers

“We are going to utilize security features of ACE to eventually replace our firewall. The Cisco ACE will also be used to front-end the server between load balancers and the server security.” Jim Healis, Network Engineer, Weber State University

Optimal TCO with Virtualized Architecture



Reduced OPEX

90% lower Power, Cooling & Space requirements via virtual devices

Reduced CAPEX

65% CAPEX savings less physical app switching devices via virtual devices

Improved Workflow & IT Productivity via RBA

Centralized Control with Delegated Management via Role-based Administration

Faster Application Roll-out

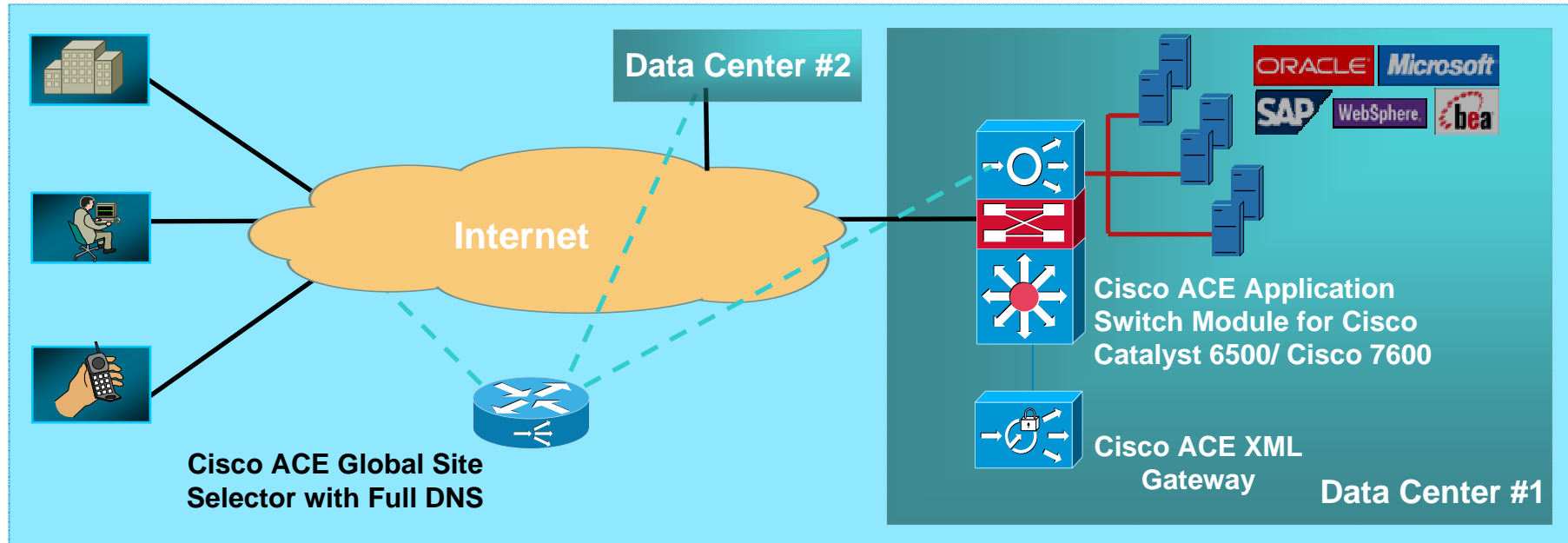
Virtual Devices accelerate application Roll-out by up to 70%

“These capabilities ease our IT management challenges, as we can better manage traffic across multiple servers and deploy applications within minutes, in normal business hours, without disruption to our user communities.” John Turner, Director of Network Systems for Brandeis University

Cisco ACE Portfolio: Products and Features



Cisco ACE Portfolio: Comprehensive Application Delivery for the Data Center



ACE GSS – Global Site Selector

ACE – Application Switch Module

**Application Networking Manager
(ANM) – Management Software**

**ACE XML Gateway – XML Switching
& Security**

ACE Global Site Selector :

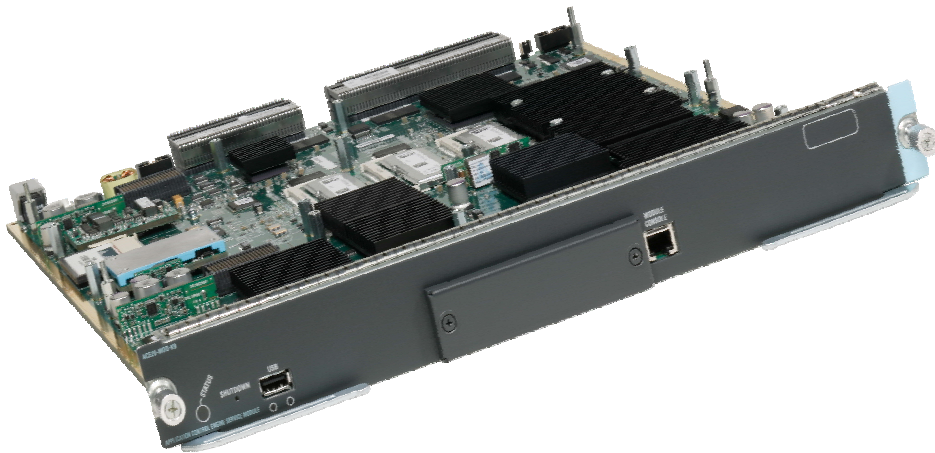
Ensuring DC-DC Continuity



- Provides failover across distributed data centers to maintain availability
- Intelligently select best data center to ensure application SLAs
- Fully integrated DNS Server
- Reacts to changes in Local and Global Networks
- Scale as you grow to multiple Data Centers, servers, and switches

Global Application Switching Solution

Cisco ACE Module : Next Generation of Application Switch



- Best-in-class Load Balancing and Content Switching
- Application Availability
- Application Acceleration
- Application Security
- Virtualized Architecture
- Support for Catalyst 6500 Switch and Cisco 7600 Router

**Industry's Highest Performing
Application Switching Platform: 4-64 Gbps**



ACE XML Gateway :

Leading Transition to Web 2.0 & SOA



- **Inspect, secure & accelerate XML traffic**
 - **Industry leading 30K TPS**
- **Deep XML message visibility**
- **Powerful XML Firewall**
- **Offload XML message processing & server load**
- **Translate protocols and integrate messages**

**Enables faster and more secure deployment
of SOA and Web 2.0**

Application Networking Manager : Complete, Single-View Mgmt for ACE (Family)

Grouping

Virtual Server (a.k.a. "VIP") View

Configure, Monitor, Report, Admin, Screens

Intuitive Sequencing of Actions

ACE 4710 DM Web (scimitar) - Mozilla Firefox
http://192.168.65.34:10080/index.vlm
Cisco Directory Quick Search ANM Web (rh23) ACE 4710 DM Web (scimitar) CDETS SI (Standard Interactivit... SWPD - Manager View - Dev. Ke... Logout Help
Cisco ACE 4710 Device Manager 1.0 (0) (20061116:1646)
Config Monitor Reports Admin
Virtual Contexts Operations
All Devices
scimitar
Slot 2
Admin
perf_vc_1
perf_vc_2
perf_vc_3
perf_vc_8
perf_vc_10
perf_vc_11
perf_vc_12
perf_vc_13
perf_vc_14
perf_vc_15
Virtual Context: Admin
System
Primary Attributes
Scales
Policy
Class Management
Balancing
Servers
Server Farms
Health Monitoring
Stickiness
Parameter Map
SSL
Certificates
Keys
Parameter Map
Chain Group Parameters
CSR Parameters
Proxy Service
Security
ACLs
Network
VLAN Interfaces
BVI Interfaces
Static Routes
High Availability (HA)
Setup
HA Tracking and Failure Detection
Interfaces
Hosts
Ready 36 Friday, November 17, 2006 6:26:47 PM

Properties

VIP Name*:
VIP IP*:
Netmask*: 255.255.255.255
Protocol*: any tcp udp
Application Protocol*: http
Port*: 80
All VLANs:
VLAN*:
HTTP Parameter Map:
Connection Parameter Map:
ICMP Reply*: none active always
VIP Advertise*: none
Status*: in-service out-of-service

Protocol Inspection

Enable Inspect:
Logging Enabled:
Actions*:
Matches Action
No records
Add Edit Delete Up Down
Default Action: permit reset N/A

L7 Load-Balancing

Rule Match Action SSL Initiation Insert HTTP Headers (name=val,...)
No records
Add Edit Delete Up Down

Default L7 Load-Balancing Action

Action*: Primary Action*: drop forward loadbalance
SSL Initiation:
Insert HTTP Headers (name=val,...):

Cisco ACE Portfolio Technology OverView

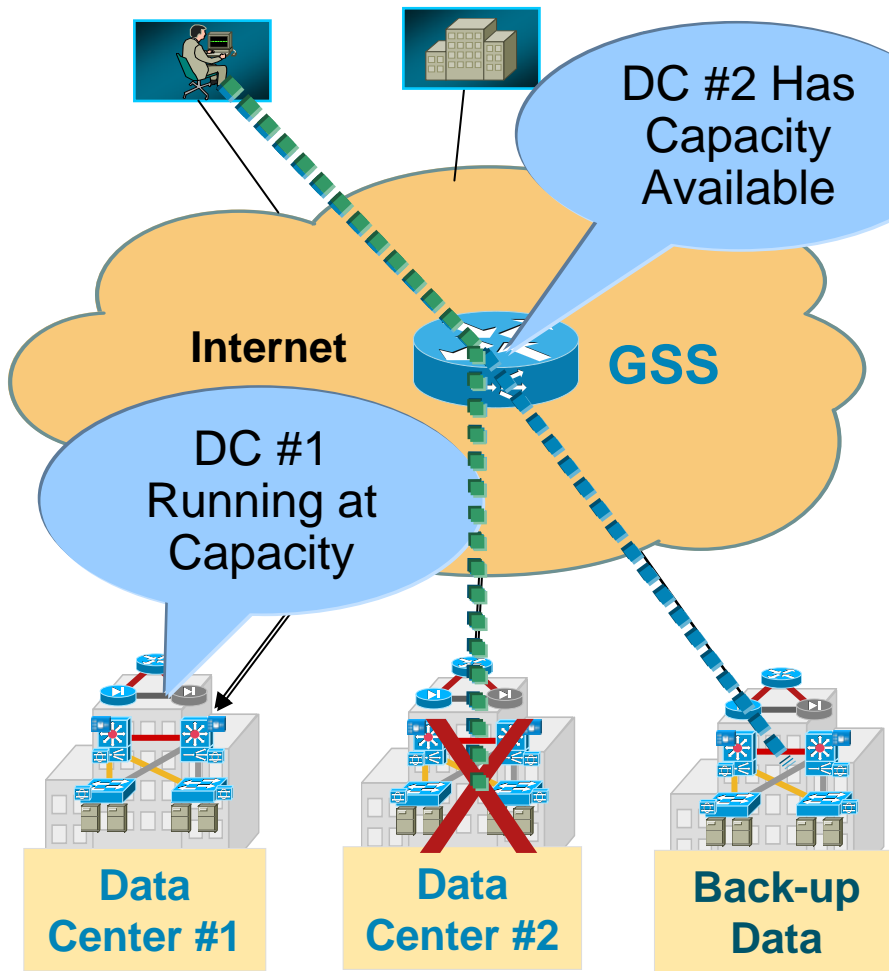


Cisco ACE Portfolio Technology OverView

ACE-GSS



Global Site Selector (GSS) - Availability and App Optimization Between Data Centers



- **GSS intelligently balances traffic between geographically distributed data centers**

- **Improve protection in the event one or more data centers is disabled**

Enables a fault tolerant, globally distributed application delivery network

GSS 449X Key Features & Functionality

- **Improves availability and resiliency of DNS infrastructure with high performance**

- Rules-based load balancing for a given hosted domain
- DNS configuration for global SLB's and DNS name servers
- Domain name processing for specified Web applications at wire speeds

- **Offloads and optimizes data center BIND/DNS processing and selects the best site based on:**

- Intelligent load balancing algorithms & “clauses”
- Proximity to user request
- Data center and server loads, availability & health
- Persistence to prevent lost session information



- **Scales as you grow to support hundreds of data centers, servers, and content switches**
- **Centralized domain management for Web applications**
- **Can be deployed with or without content switches**
- **Supports all DNS-compatible devices**

Cisco ACE Portfolio Technology OverView

ACE-Module



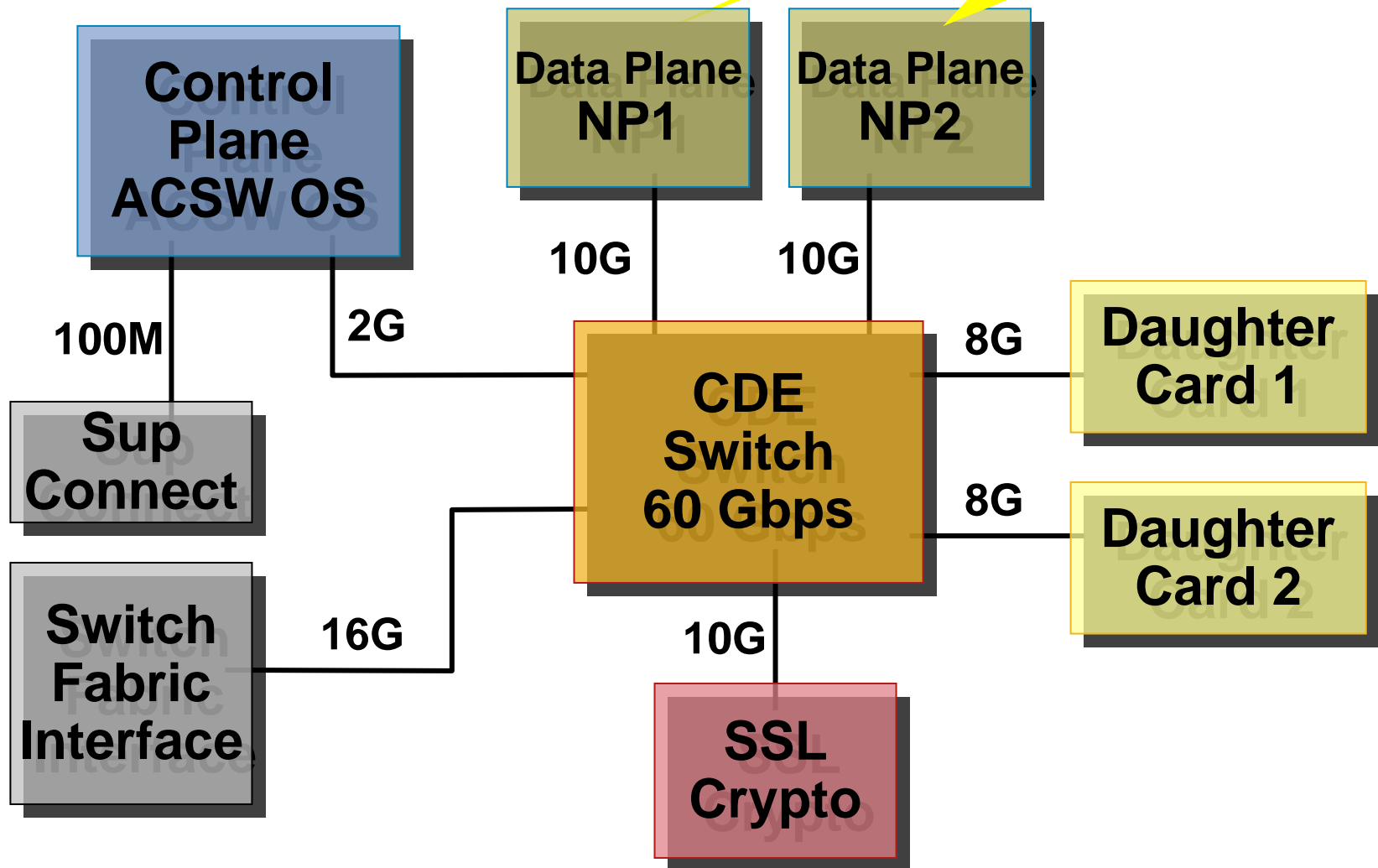
Cisco Application Control Engine (ACE)



**Parallel network-processor based architecture
with separate control and data paths**

ACE – Hardware Architecture

16 Micro-Engines on each
20B ops / sec

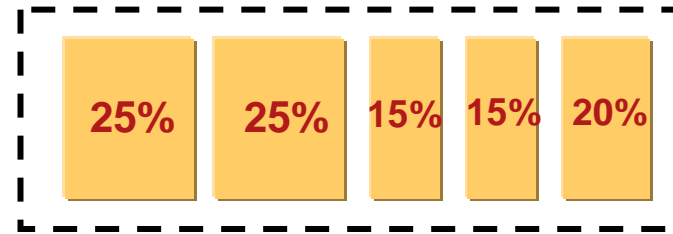


Virtual Partitioning – System Separation

One physical device



Multiple virtual systems
(dedicated control and data path)



Traditional device

Single configuration file

Single routing table

Limited RBAC

Limited resource allocation

Cisco Application Infrastructure Control

Distinct **configuration files**

Separate **routing tables**

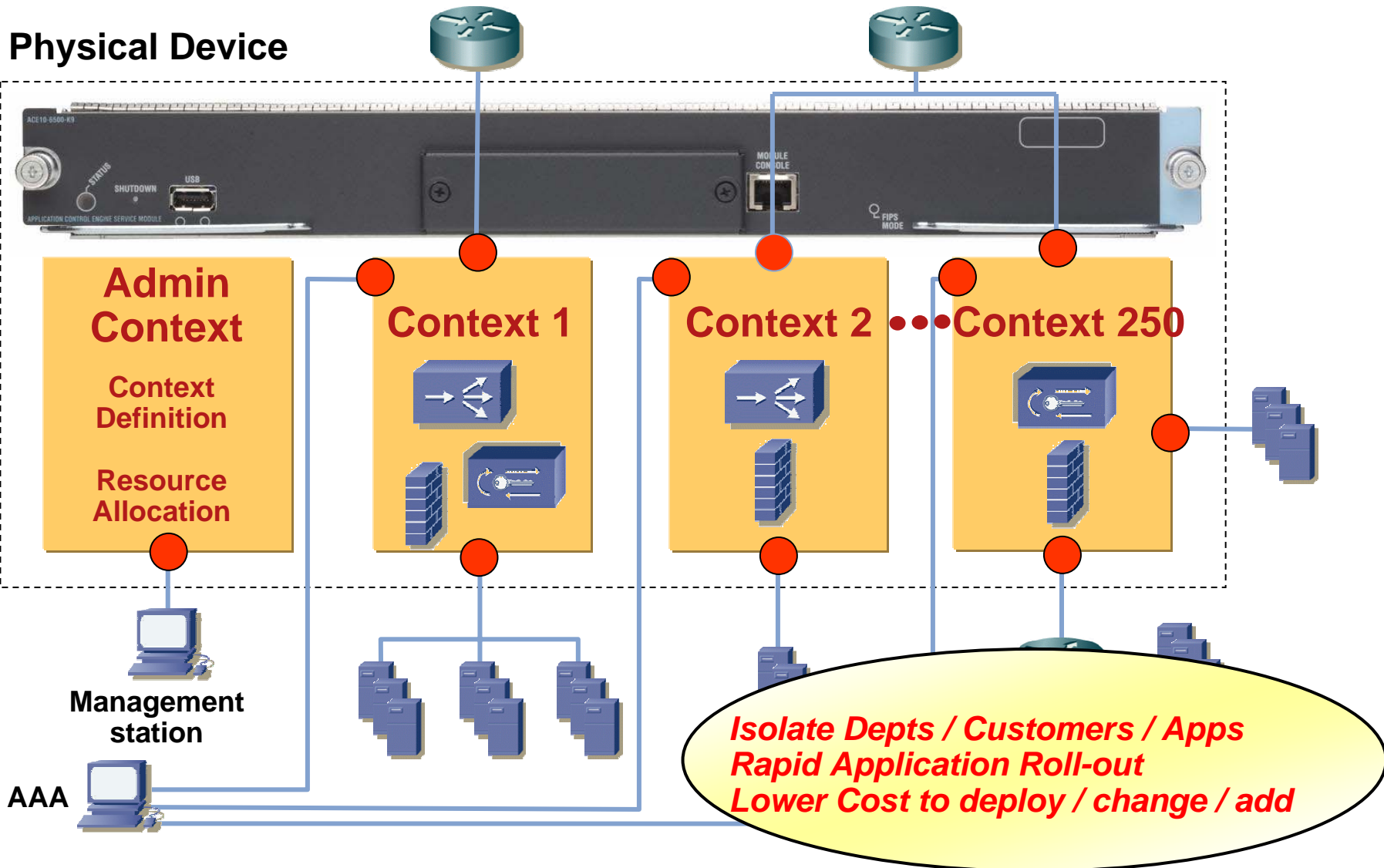
RBAC with **Contexts, Roles, Domains**

Management and data **resource control**

Independent application **rule sets**

Global administration and monitoring

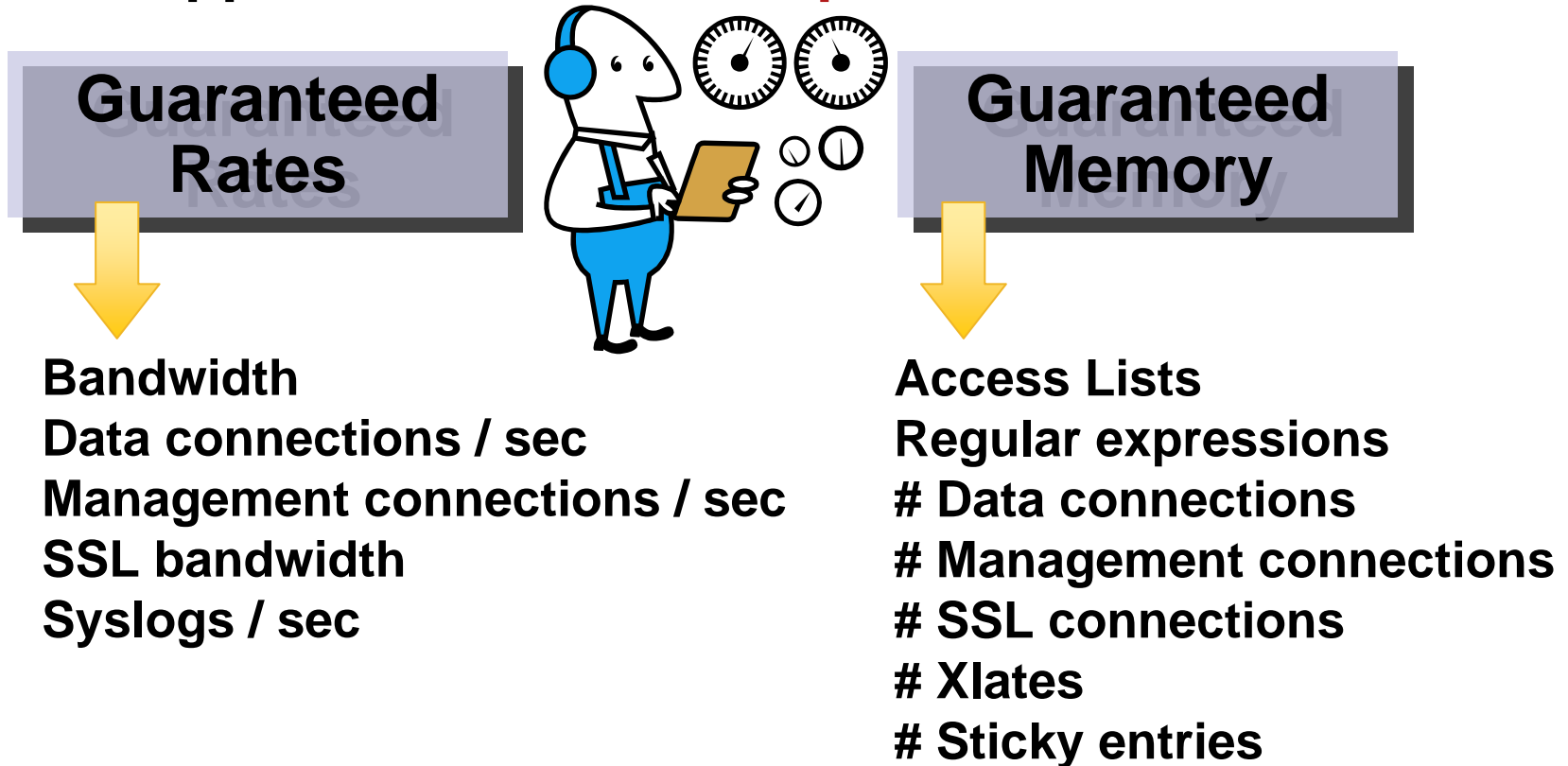
Virtual Partitioning – Deployments



Virtual Partitions – Resource Control

Per context Control

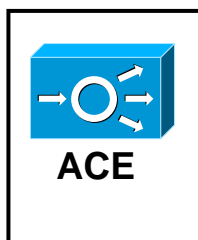
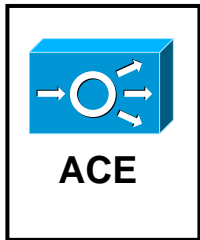
- **Guaranteed resource levels** for each context
- Support for **over-subscription**



Robust Application Availability

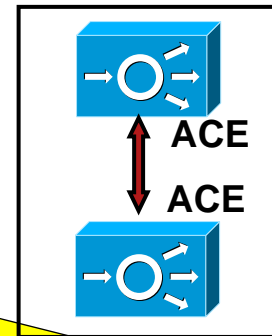
Catalyst 6500

Catalyst 6500

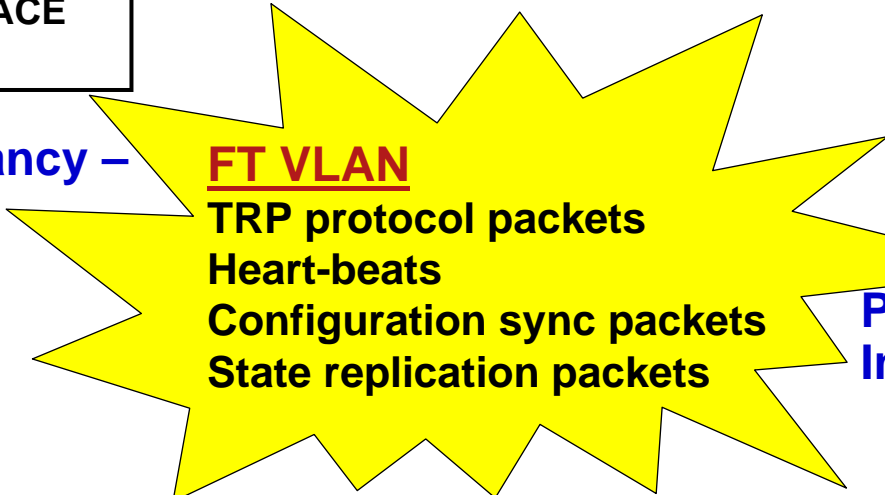


Physical Redundancy – Inter-chassis

Catalyst 6500

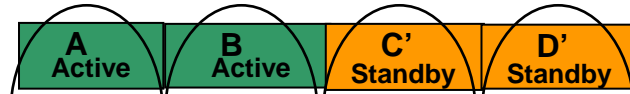


Physical Redundancy – Intra-chassis



Red-grp1 Red-grp2 Red-grp3 Red-grp4

ACE-1



ACE-2



Application Redundancy -- Inter-Context

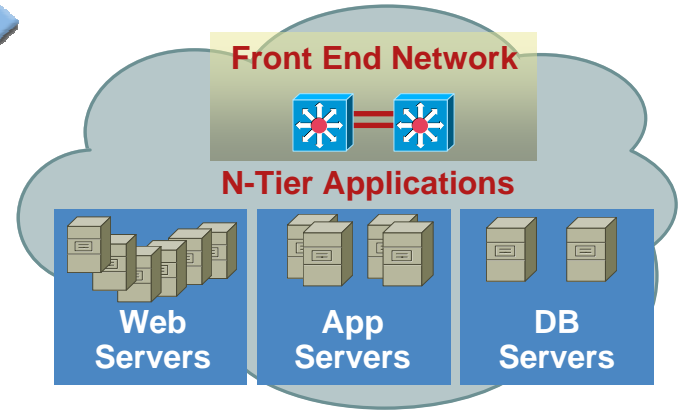
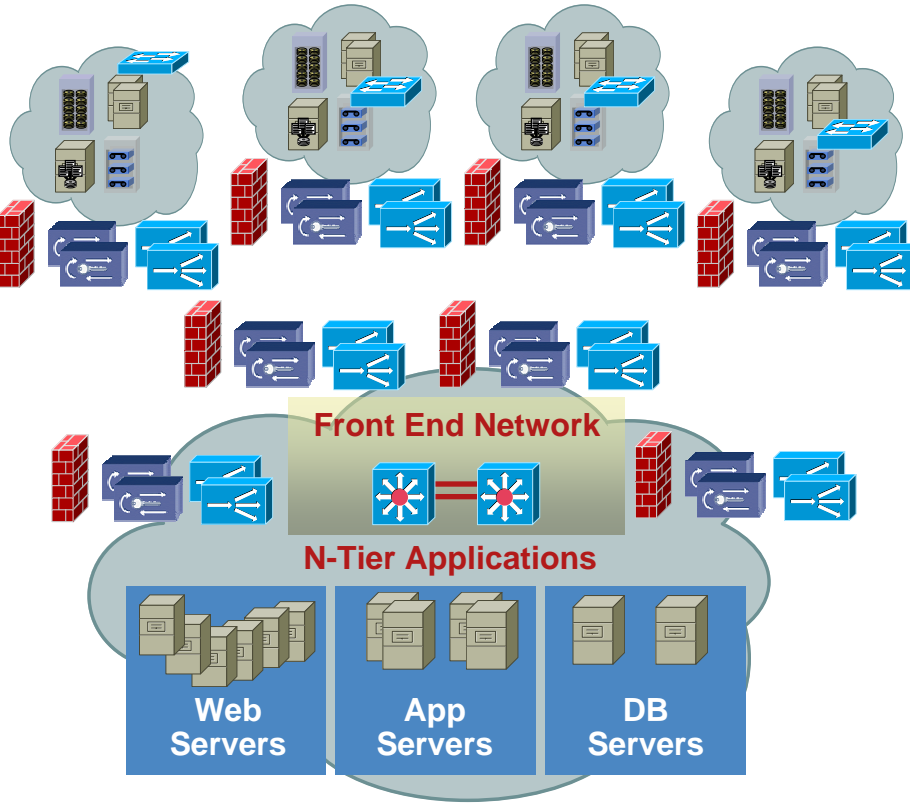
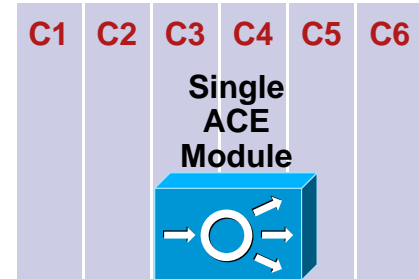
Failover Tracking

- HSRP
- Interface up / down
- Multiple probes with priority

ACE in Action: Data Center Consolidation

Depts, Users, Applications

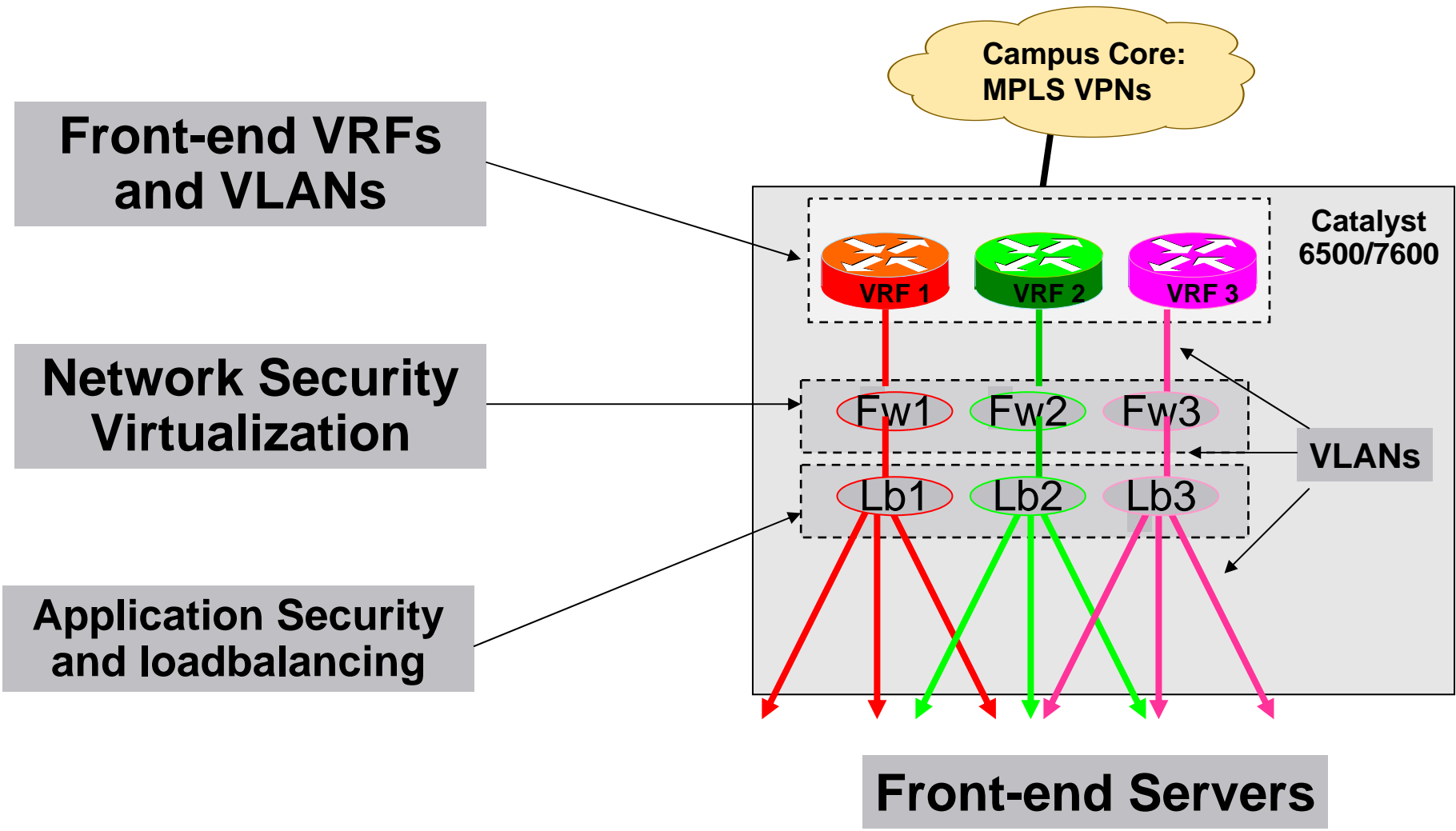
Multiple
Virtual
Partitions
(each with
functions
and
resources)



ACE consolidates horizontal application silos and supports central control with distributed management

Virtualized Datacenter Services

Some Examples



Cisco ACE Portfolio Technology OverView

ACE-XML Gateway



What's Happening in XML

 **Reactivity** + **CISCO** = ACE XML Gateway

- \$135 million, acquisition closed March 21st '07
- AXG now an integral part of the ACE product family
- Appliance form-factor today...
- *“Cisco's Reactivity acquisition is a logical extension of the company's SONA architecture. There's a move towards delivering appliances that provide out of the box application-integration services.”*

David Greenfield, Editor Network Computing. Feb 07

How IT has changed

IT has evolved under pressure from 'The Business'

Then

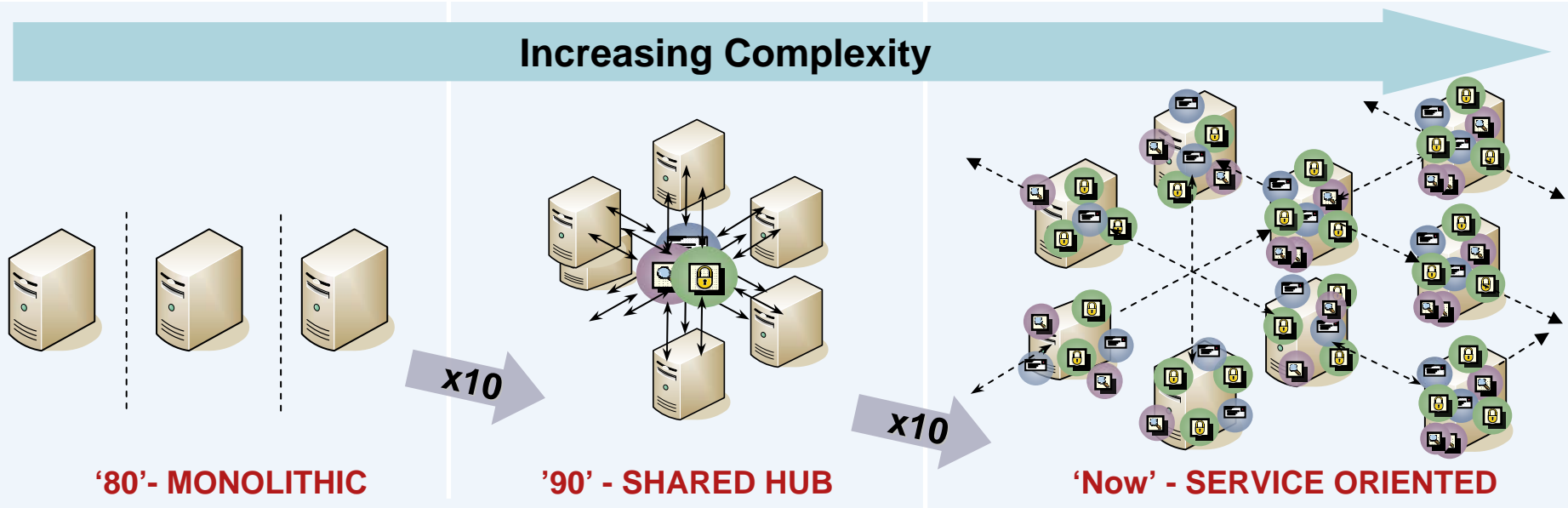
- **Complex** and varied data formats (Encoded, CSV, FLR)
- **Proprietary** Application Languages (COBOL, Tandem, C, COM)
- **Custom, hand-crafted integration** of systems (Middleware, home-grown infrastructure)
- **Inconsistent business views** and broken business processes across data silos
- **High** life cycle costs
- **Rigidity** and fragility

Now

- **Open and self describing** data structures (XML)
- **Open and transportable** application languages (Java, Web)
- **Standards based architectures** for applications and their integration (SOA, ESB)
- **Common business processes** and single view of key business data across systems
- **Reduced** life cycle costs
- **Flexibility** and Agility

Standards and Architectures have evolved

Applications Have Been Moving to a Distributed Infrastructure



Drivers

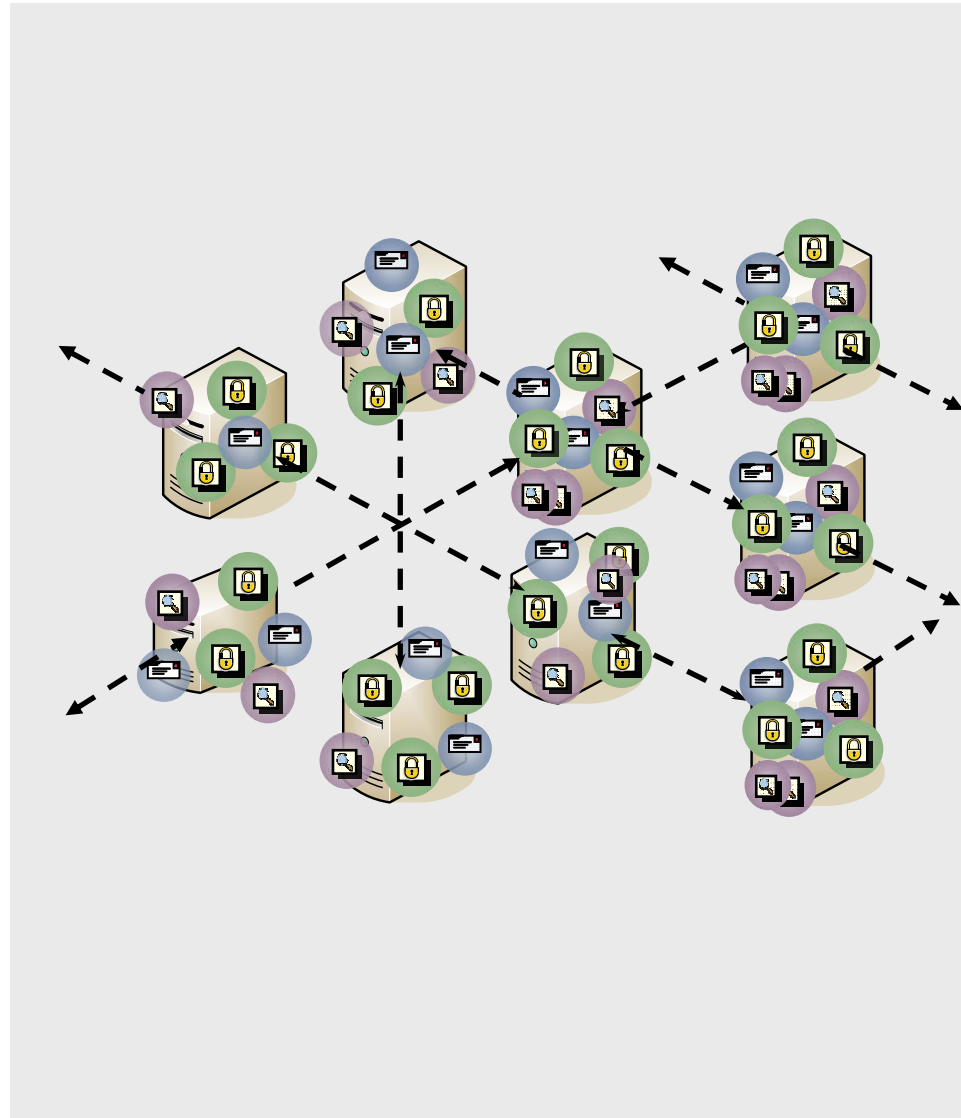
- **Connectivity**
IP networks
- **Universal communication**
HTTP, XML
- **Service-oriented computing**
Standardized interfaces

Impact

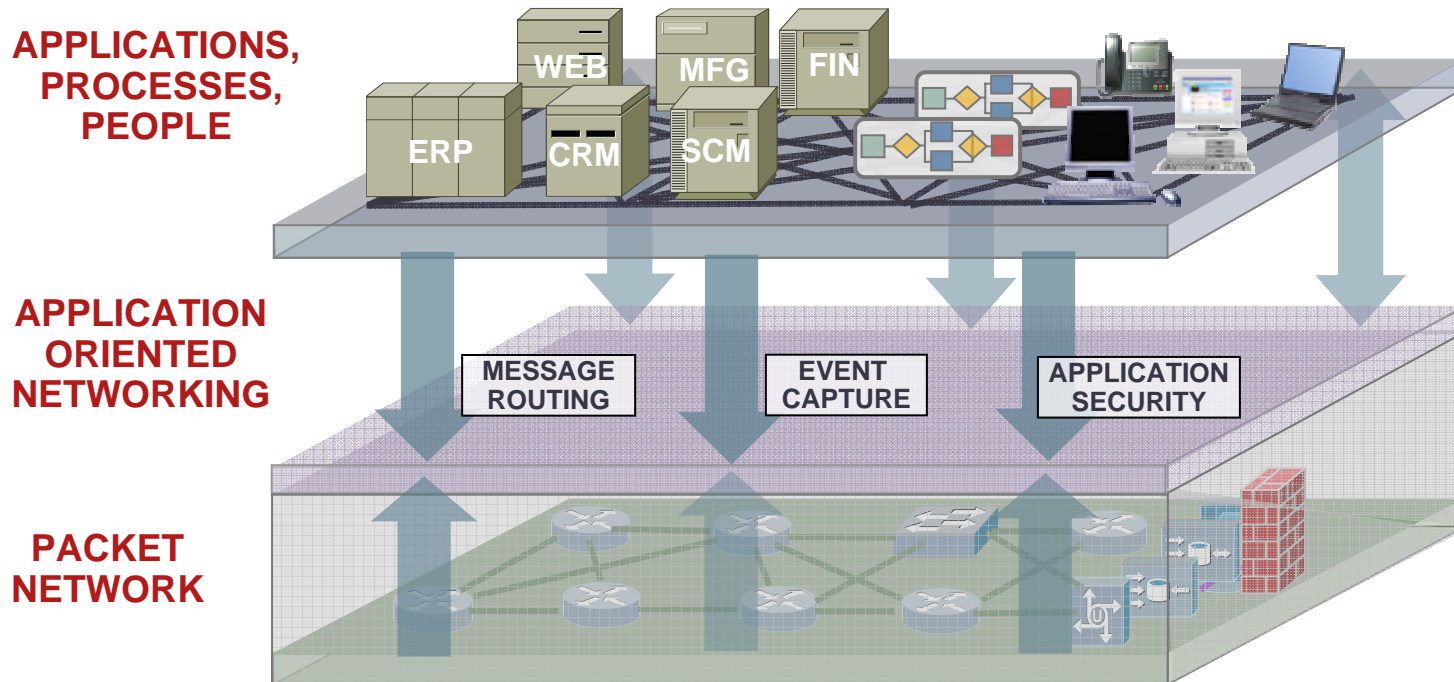
- Increase in **number** of applications
- Increase in **complexity** of interactions, messages, languages
- Introduces **security**, management issues with highly distributed applications

Network Is the Ideal Place to Address These Requirements

- Ubiquitous presence that touches every application system
- Centrally manageable across location and organizational boundaries
- Scalable through pipe-line and cluster based parallelism

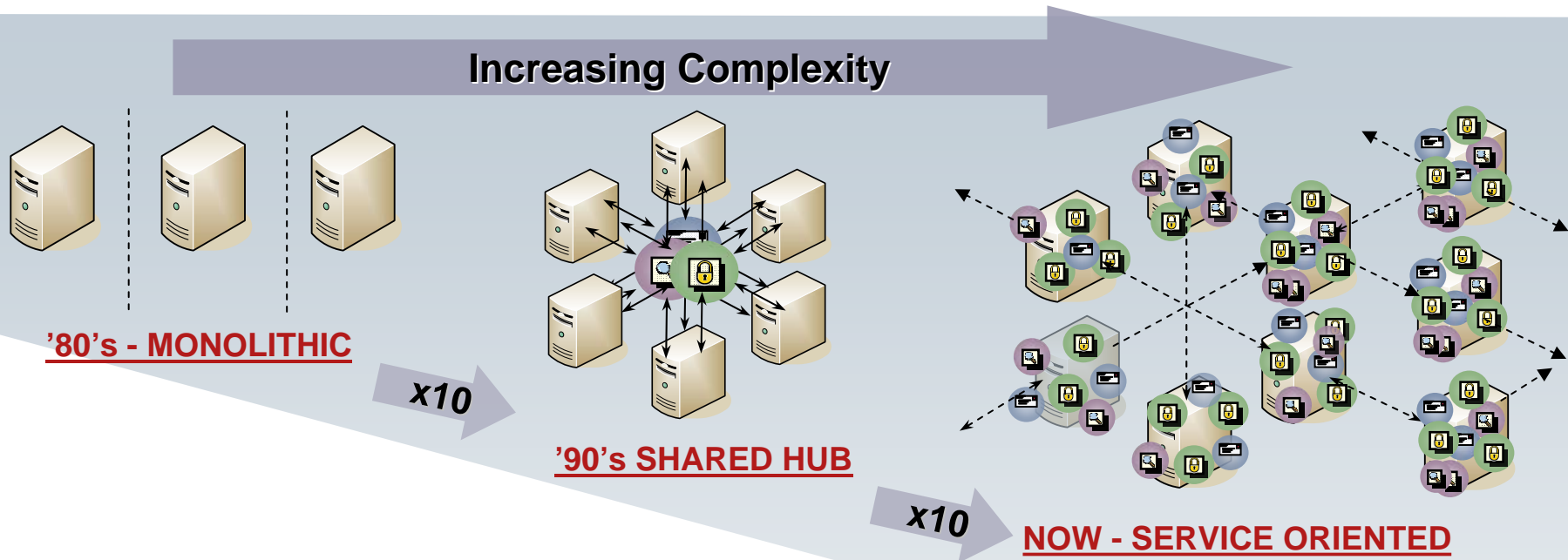


AON Is the 'Network for Applications'



- **The next stage in the evolution of the network—**
 - Process at application message level**
 - Able to natively understand the content and context of application messages**
 - Enable application to focus on business logic and user interaction while offloading application overhead aspects to the network with no changes to the existing systems**

XML Adoption



Increased complexity drives need for standards

- Message protocol – HTTP
- Message representation – XML
- Message interaction – SOAP (based on HTTP & XML)
- Message security – Web Services (based on SOAP)

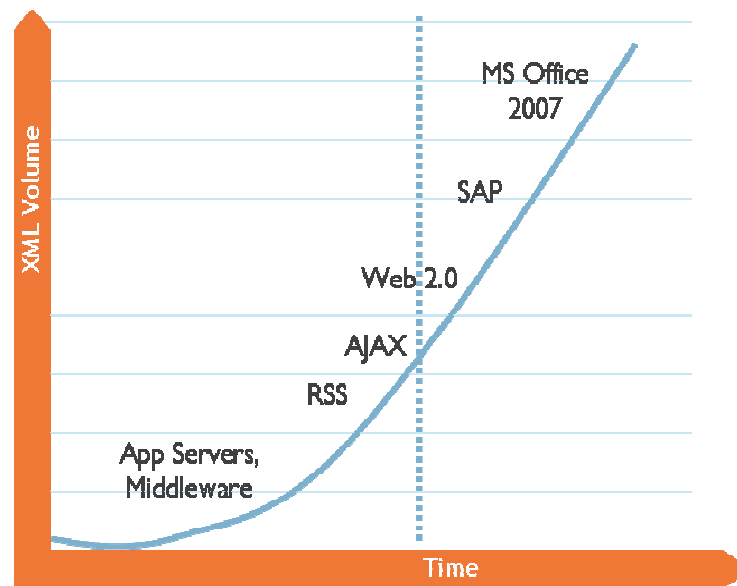
Why XML Is The Natural Next Step?

- XML is being used to describe data in all enterprise applications
SAP, Oracle, Microsoft, IBM all have built in XML support
- XML is the default format for business data
ebXML, FIXML, RosettaNET
- XML is a key component of new Application Architectures
Web Services, SOAP, WSDL/UDDI
Web 2.0, AJAX, Mashups, RIAs



The Problem - Exponential Increase in XML Messages

- XML is becoming ubiquitous across platforms, middleware and applications
- XML accounted for 15% of internet traffic in 2005. By 2008, it is expected to account for 50% of internet traffic (*451 Group*)



Sources: Gartner, ZapThink

XML adoption

The issues

Performance: XML is verbose and cumbersome

- More CPU/memory to parse the messages
- More disk to store the data
- 30% of load on application servers is due to the overhead of processing XML (ZapThink: 2005)

Integration: Heterogeneous systems will always exist

- Increased number of system interactions
- Despite standards, mediation of security, protocol and data is non-trivial
- Virtualisation of services and management of the estate

Security: Protection of distributed, open systems

- Heavy burden of public key operations
- New forms of malicious attack based upon XML and Web Services

Leveraging a Network Appliance Model

Traditional

- **Build capabilities into service end-points**
- Higher data center costs
 - More Servers & CPUs
 - More space
 - More power and cooling
- Rigid and inflexible
 - Services must do more than provide their business function

Network Appliance

- **Build capabilities into the network**
- Perform computationally expensive tasks in a single, scalable location
- Reduced data center overheads
- A common location and management of common infrastructure services

Evolution to a Service Oriented Network Architecture

The ACE XML Gateway

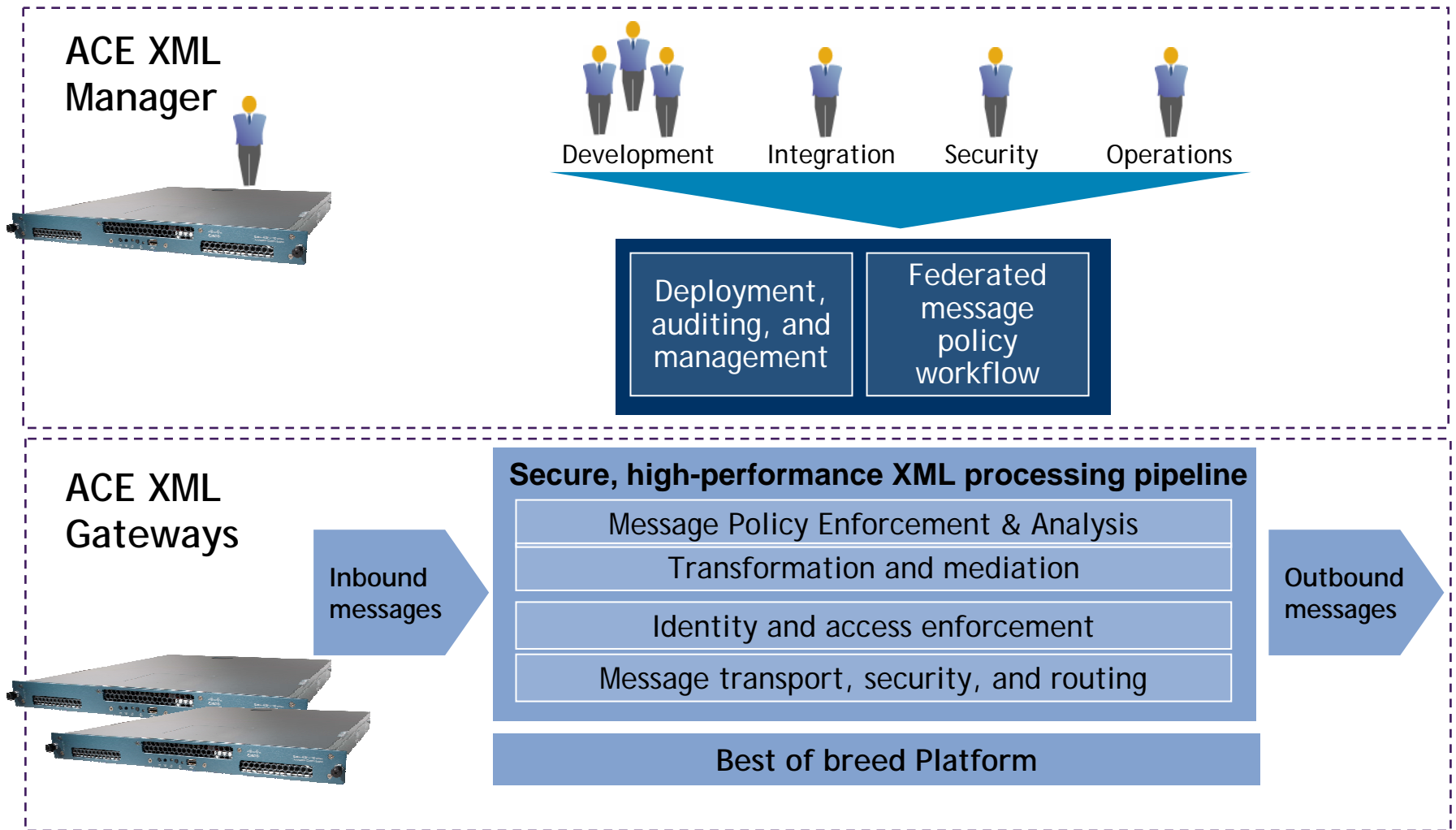


Network device that *understands* XML and Web Services

- Secure - Prevents threats to application
 - XML Firewall, message inspection and security, access control and authorization
- Accelerate - Offloads XML and message processing from application servers
 - Release data centre server resources from non-business transaction focused work
- Scale - Reduce end-to-end application latency and improve concurrency
 - 30,000 TPS and 40,000 concurrent connection per gateway
- Manage - Policy-driven message enforcement of how and when applications may be accessed
 - Intuitive GUI to define and monitor service execution

**Industry's Highest Performing XML Application Switch -
30,000 XML transactions per second!**

ACE XML Gateway and Manager



Cisco ACE XML Gateway Functionality

Authentication, Transformation, & Management API's/SDK

XML Threat Def

XML denial of service
Content screening
XML attack detection
Attachment anti-virus routing
Privacy enforcement

Access Enforcement

WS-Security
Authentication
Authorization
IAM integration
LW security token service (STS)
Multi-level credential collection
Identity-based reporting & alerting
Identity-based routing
Compliance reporting
SSL termination

Inbound messages

HTTP/S

SMTP/
ebXML

MQ

TIBCO

JMS

Custom

Outbound messages

HTTP/S

SMTP/
ebXML

MQ

TIBCO

JMS

Custom

Message Processing

XML schema, encryption/signing,
transformation, mediation, acceleration,
monitoring
Content/IP/header based routing,
management,
Auditing & forensics

CISCO ACE XML Manager

Sub-Policy: Shared

Deploy Policy... | Logged in as administrator | Log Out

- Manager Dashboard
- Policy
 - Message Routing
 - Routing Browser**
 - Imported WSDL Files
 - Open HTTP(S) Ports
 - HTTP Servers
 - Messaging Servers
 - Exception Mapping Defaults
 - Access Control
 - Access Control Browser
 - LDAP Servers
 - Global Security
 - Denial-of-Service Protection
 - Content Screening Defaults
 - Policy Administration
 - Policy Manager
 - Sub-Policies
- Resources
 - Public/Private Keypairs
 - Trusted Certificate Authorities
 - Remote Server Certificates
 - Consumer Certificates
 - Password Files
 - Validation (XSD/DTD)
 - Content Transformations (XSLT)
 - ebXML Lookup Tables
- Reports & Tools
 - Message Traffic Log
 - Event Log
 - Service Health
 - Performance Monitor
 - Cache Manager
 - Compliance Report
 - Service Directory
- Administration
 - System Management
 - License Management
 - User Administration
 - Manager Audit Log
 - Diagnostic Snapshot

Routing > Service Proxy: getBooks [SOAP 1.1 RPC]

BOOKS > GETBOOKS [EDIT]

Protocol: SOAP 1.1 RPC
Message Traffic Logging: log statistics only (no message content); on error, leave message logging at its default

CONSUMER INTERFACE [EDIT]

Port: Default HTTP port (80, Insecure)
Exposed Local Path: /xampp/books.php
SOAPAction: "http://192.168.1.67/xampp/books.php/getBooks"
SOAP Method: getBooks xmlns="http://books.org/Books"

Backend Service <http://192.168.1.67/xampp/books.php>

ACCESS CONTROL

↔ Provisioned to specific access groups [Edit Access Control...]

REQUEST MESSAGE SPECIFICATION [EDIT]

SOAP Message Validation [enable]

well-formed XML only

Arguments

author (optional) String

REQUEST PROCESSING

Pre-Processing XSLT	[enable]
SOAP Header Processing	[enable]
SOAP Attachments Validation	[enable]
SOAP Attachments Output	[enable]
SOAP Timestamp Generation	[enable]
XML Signing	[enable]
XML Encryption	[enable]
Post-Processing XSLT	[enable]

RESPONSE MESSAGE SPECIFICATION [EDIT]

SOAP Message Validation [enable]

well-formed XML only

Arguments

return (optional) Schema-Based XML

RESPONSE PROCESSING

Pre-Processing XSLT	[enable]
SOAP Header Processing	[enable]
SOAP Attachments Validation	[enable]
SOAP Attachments Output	[enable]
SOAP Timestamp Generation	[enable]
XML Signing	[enable]
XML Encryption	[enable]
Post-Processing XSLT	[enable]

CONTENT SCREENING [EDIT]

Use the default settings configured on the [Content Screening Defaults](#) page for all content screening rules.

Exit to Routing | Enabled | Disable | Duplicate | Delete

Access Controls

Request/Response Processing

- ★ Manager Dashboard
- Policy
- Message Routing
 - Routing Browser
 - Imported WSDL Files
 - Open HTTP(S) Ports
 - HTTP Servers
 - Messaging Servers
 - Exception Mapping Defaults
- Access Control
 - Access Control Browser
 - LDAP Servers
- Global Security
 - Denial-of-Service Protection >>
 - Content Screening Defaults
- Policy Administration
 - Policy Manager
 - Sub-Policies
- Resources
- Reports & Tools
 - Message Traffic Log
 - Event Log
 - Service Health
 - Performance Monitor
 - Cache Manager
 - Compliance Report
 - Service Directory
- Administration

Denial-Of-Service Protection Settings

Enable Denial-of-Service Protection

ATTACK DETECTION THRESHOLDS

These settings describe the traffic allowed from any one IP address before that IP address is considered to be attacking the ACE XML Gateway.

Traffic / Attack Type	Detect Messages That:	Maximum Allowed Rate*	Maximum Allowed Burst
Overall Request Rate	n/a -- all requests are counted	60 requests/min	10 requests
Authentication Failures	n/a -- all failures are counted	12 failures/min	3 failures
CPU Usage	use > 250 ms CPU time	30 "detected" messages/min	5 "detected" messages
Internal Errors	n/a -- all errors are counted	30 errors/min	5 errors
Service Latency	cause > 1 sec of latency	30 "detected" messages/min	5 "detected" messages
Service Errors	n/a -- all errors are counted	30 errors/min	5 errors

*Maximum Allowed Rate of "0" disables detection for that attack

Note: Any attack detected will log an event at "warning" level, regardless of the "Attack Protection" setting below.

ATTACK PROTECTION

When an attack is detected, block the attacking IP address for at least 5 seconds
(actual time could be longer and is calculated based on the intensity of the attack)

Save Changes Cancel **Note:** Changes will not take effect until the next time the policy is deployed. Reset to Defaults

XML Denial of Service Protection

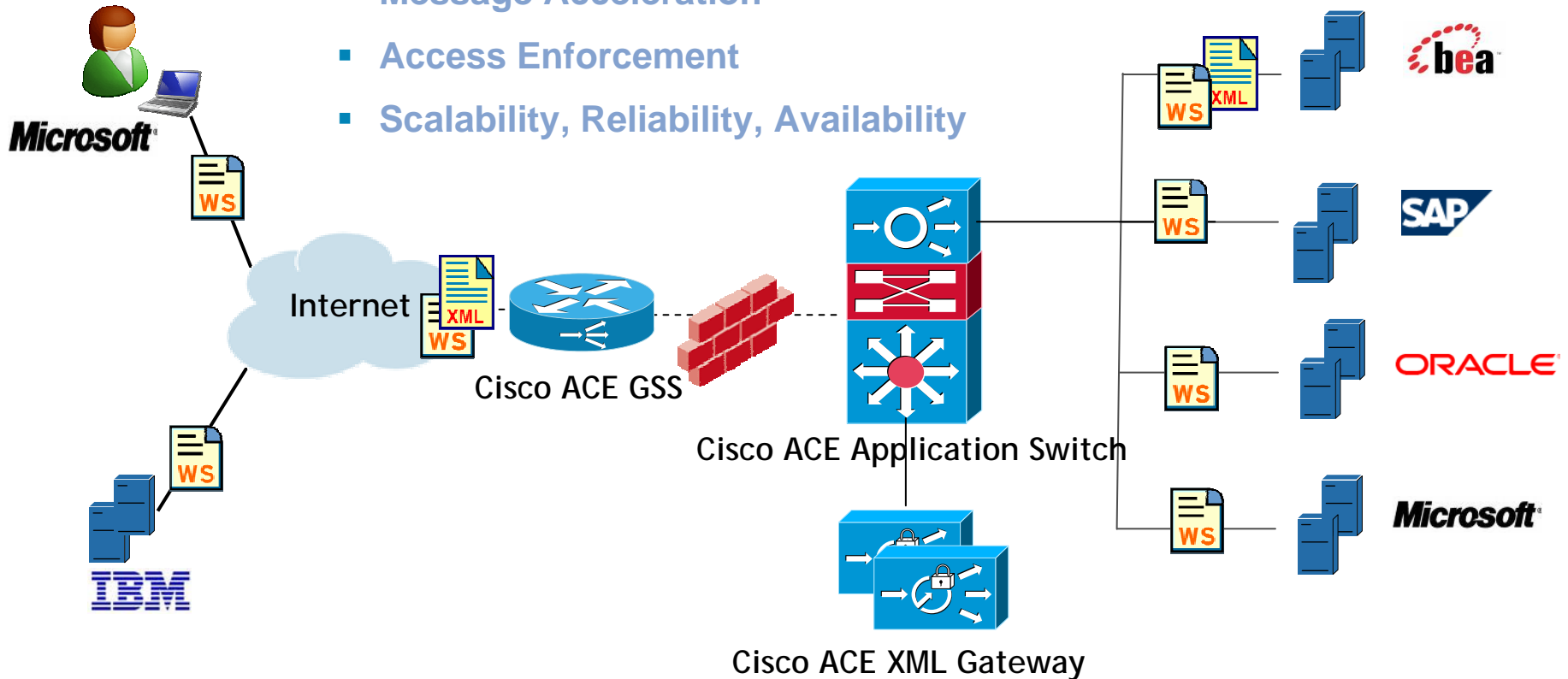
Content Screening Settings

com.reactivity.sql.SQLInject.1 (version 2) ✓ Cisco signature verified [remove]			
Current Default	New Default	Rule Name	Rule Description
disable	disable	SQL Commands (v. 2)	Detects and blocks any message containing standard SQL commands, including ALTER DATABASE, ALTER TABLE, ALTER VIEW, CREATE DATABASE, CREATE PROCEDURE, CREATE SCHEMA, CREATE TABLE, CREATE VIEW, DELETE FROM, DROP DATABASE, DROP PROCEDURE, DROP TABLE, DROP VIEW Run this rule on requests . When a match is found, log an event and reject the message . + Rule Details
disable	disable	SQLServer 2000 (v. 2)	Detects and blocks any message containing the default stored procedures included with SQLServer 2000. Run this rule on requests . When a match is found, log an event and reject the message . + Rule Details
disable	disable	SQLTABLE (v. 1)	Detects SQL Server 2000 Master database default table names Run this rule on requests . When a match is found, log an event and reject the message . + Rule Details
disable	disable	Oracle (v. 1)	Detects and blocks any message containing the system tables, default stored procedures, or factory passwords included with Oracle. Run this rule on requests . When a match is found, log an event and reject the message . + Rule Details
com.reactivity.xml.EntityExpansion.1 (version 1) ✓ Cisco signature verified [remove]			
Current Default	New Default	Rule Name	Rule Description
disable	disable	XML Entity Expansion (encoded) (v. 1)	Detects and blocks any message containing the "<!ENTITY" XML entity expansion sequence Run this rule on requests . When a match is found, log an event and reject the message . + Rule Details
disable	disable	XML Entity Expansion (unencoded) (v. 1)	Detects and blocks any message containing an XML "<!ENTITY" element Run this rule on requests . When a match is found, log an event and reject the message . + Rule Details
com.reactivity.xss.XSS.1 (version 1) ✓ Cisco signature verified [remove]			
Current Default	New Default	Rule Name	Rule Description
disable	disable	Embedded HTML SCRIPT (encoded) (v. 1)	Detects and blocks any message containing the "<SCRIPT" HTML escape sequence Run this rule on requests . When a match is found, log an event and reject the message . + Rule Details
disable	disable	Embedded HTML SCRIPT (unencoded) (v. 1)	Detects and blocks any message containing an HTML "<SCRIPT" element Run this rule on requests . When a match is found, log an event and reject the message . + Rule Details

The Role of Network

Network Can Address Key XML Challenges: Securely Scale and Accelerate

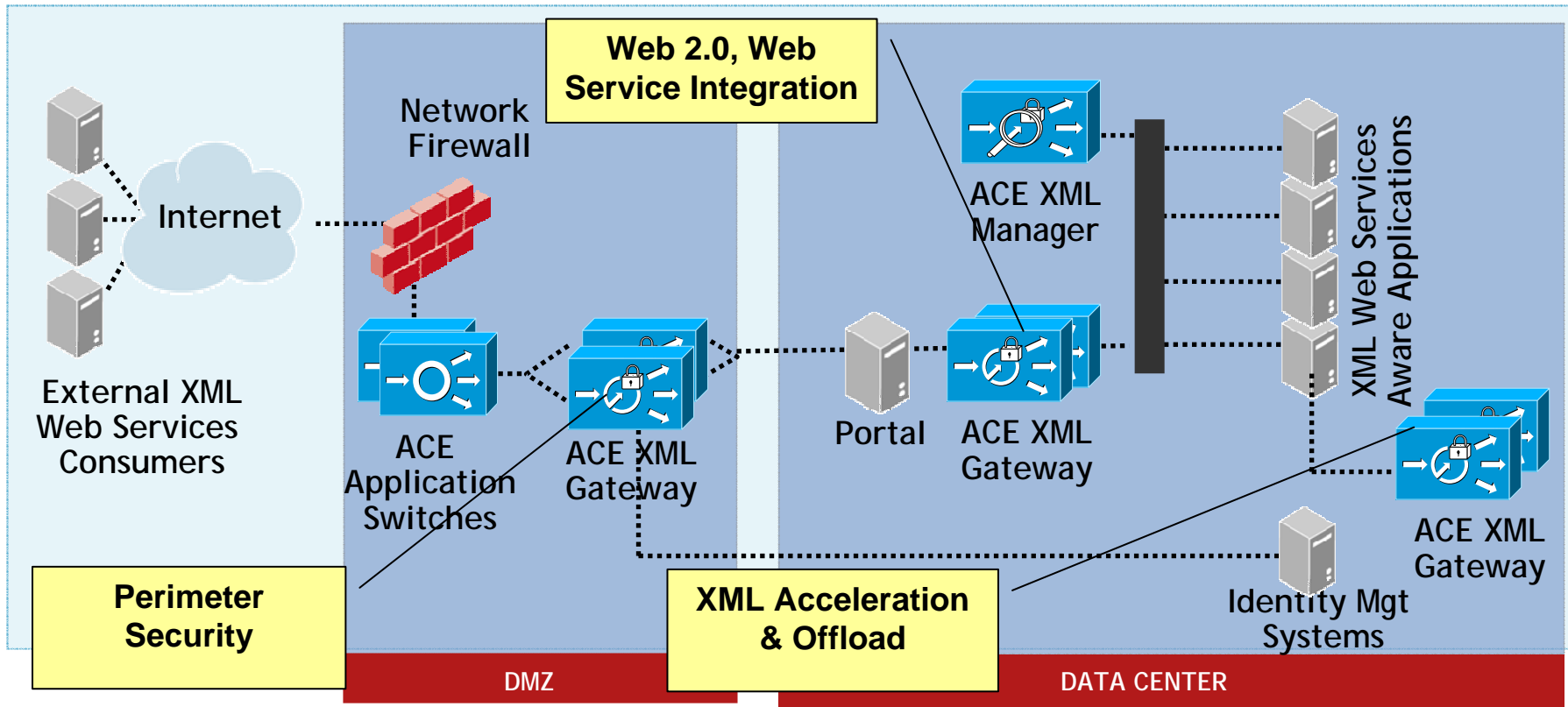
- Perimeter Security
- Message Acceleration
- Access Enforcement
- Scalability, Reliability, Availability



Network is the common point of interaction between applications

ACE XML Gateway: Key Use Cases

1. **Perimeter Security** (e.g. for B2B Application Integrations)
2. **Web 2.0 + Web Service Integration** (e.g. Protocol Bridging between Web Services and Legacy Protocols/Dialects)
3. **XML Acceleration and Offload** (e.g. XML Processing Offload from Servers)



Cisco is the only application delivery solution which accelerates, scales, and secures XML

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