



Optimizing the Performance of Enterprise Applications

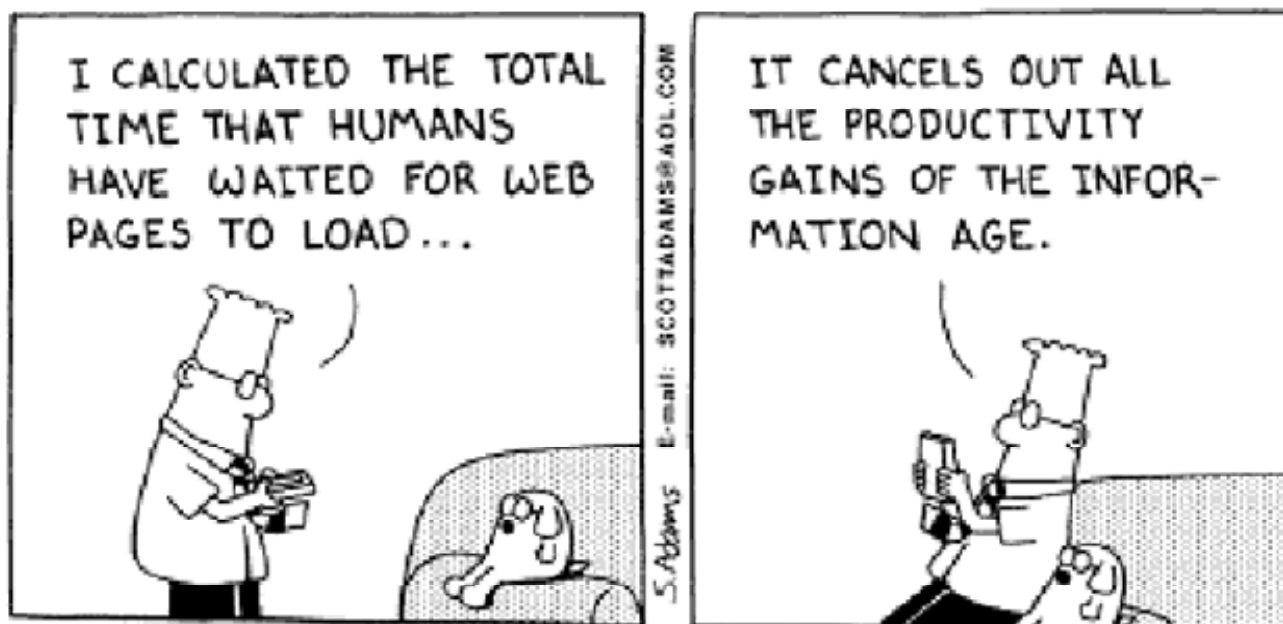
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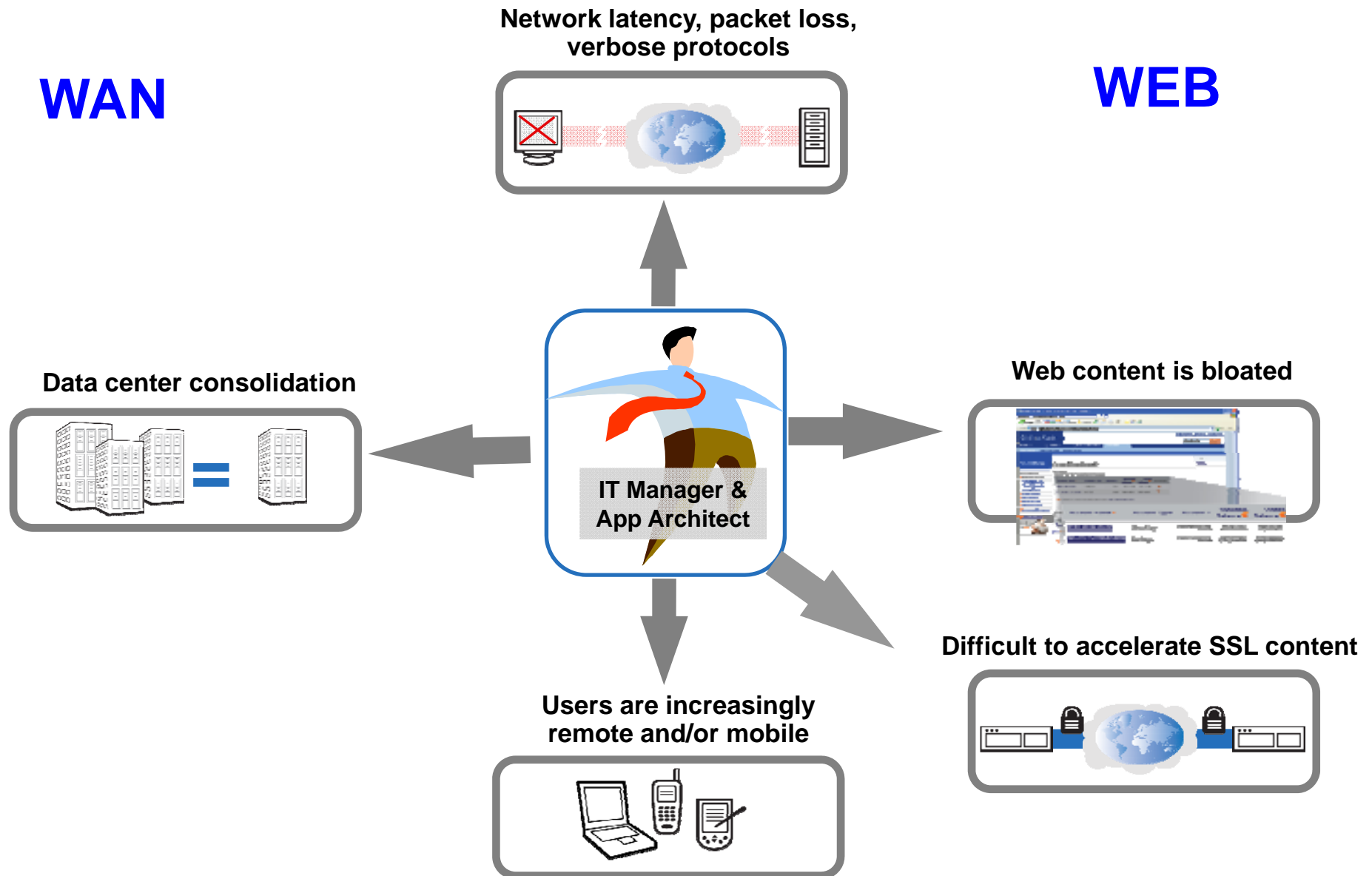
F5 Networks

Common Experience

Dilbert



Traditional Drivers for Application Acceleration



Standard Acceleration Techniques



Server Offload

- Compression
- Dynamic Caching
- Content Spooling
- Rate Shaping
- Connection limit

Network Acceleration

- Adaptive Compression
- De-Duplication
- TCP Optimizations
- QoS

Application Acceleration

- Dynamic Content Control
- Multi-Connect
- Dynamic Linearization
- Dynamic Caching
- Dynamic Compression
- SSL Acceleration

Key Trends in Enterprise Applications



- ❖ Infrastructure
 - SOA

- ❖ User Experience
 - Rich Clients
 - Disconnected Clients

- ❖ Delivery over the WAN

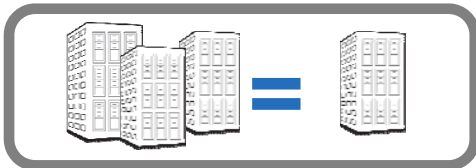
Additional Drivers of Application Acceleration

WAN

Portal-driven delivery of Apps
(SaaS, In-House, etc.)



Data center consolidation



Decreasing
RPOs and RTOs

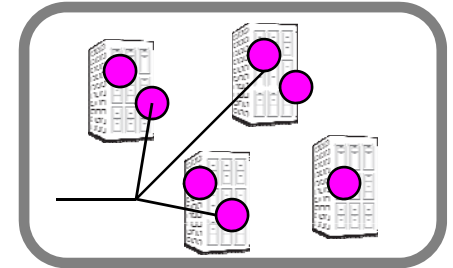


Network latency, packet loss,
verbose protocols



WEB

Preserving SLAs in SOA



Web content is bloated



Difficult to accelerate SSL content



IT Manager &
App Architect

Users are increasingly
remote and/or mobile



New Acceleration Techniques Needed



MS-Office SharePoint
Exchange LCS



MySAP ERP (w/
NetWeaver)
SAP Portal



Oracle 11i PeopleSoft
10g AppServer
Siebel 8



WebLogic AquaLogic
WLCP

Application-Specific Optimization Policies

Protocol Specific

- CIFS Read-Ahead/Write-Behind
- NFS Optimizations
- SIP

Payload Specific

- XML Acceleration
- MAPI
- SQL

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Application Specific Policies

- Validated in Vendor Application Labs
- Certified Policies Pre-configured

The screenshot shows the F5 WebAccelerator configuration interface. The main content area displays a table of application-specific policies. A magnifying glass is positioned over the 'SAP Portal' entry in the table.

Name	Last Published	Tools	Action
BEA Weblogic	N/A	Copy Export	View
Blue Cube	N/A	Copy Export	View
Hyperion Financial Management	N/A	Copy Export	View
IBM WebSphere	N/A	Copy Export	View
JD Edwards ERP	N/A	Copy Export	View
Level 1 Delivery	N/A	Copy Export	View
Level 2 Delivery	N/A	Copy Export	View
Lotus Domino	N/A	Copy Export	View
Microsoft Internet Information Services	N/A	Copy Export	View
Oracle 11i	N/A	Copy Export	View
Oracle Portal	N/A	Copy Export	View
Microsoft Outlook Web App	N/A	Copy Export	View
Peoplesoft	N/A	Copy Export	View
Plumtree with Collaborative	N/A	Copy Export	View
Hyperion Financial	N/A	Copy Export	View
SAP Portal	N/A	Copy Export	View
Microsoft Sharepoint	N/A	Copy Export	View
Siebel CRM	N/A	Copy Export	View
MyCustomSharepointApp	Jul 07, 2006 10:38am	Copy Export Rename Edit Delete	
MyCustomWebApp	Jul 07, 2006 10:38am	Copy Export Rename Edit Delete	

❖ SAP Portal

- Various operations via Dynamic Object Control and SAP Object Caching (e.g., order details, account info, etc.)

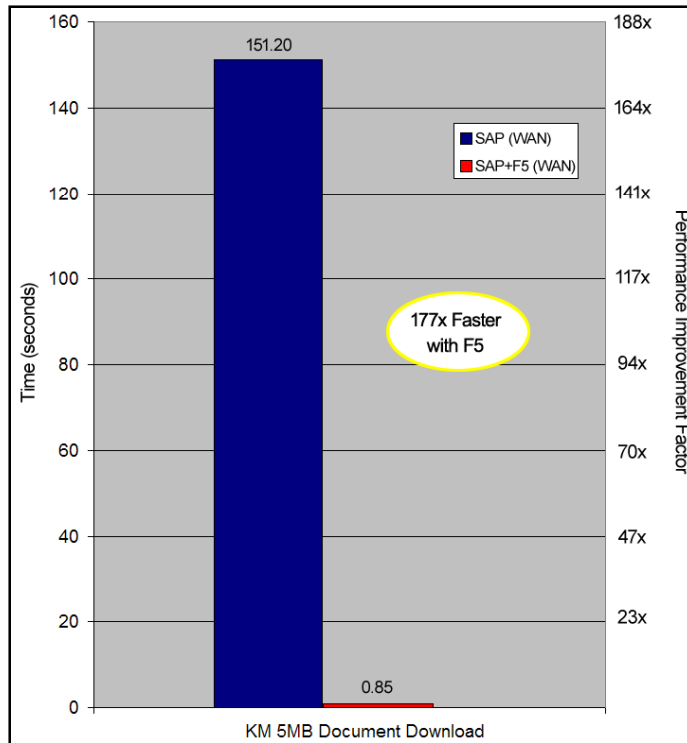
❖ MS Apps

- MS-Office Open/Read/Write over the WAN
- MS Exchange email pre-fetch

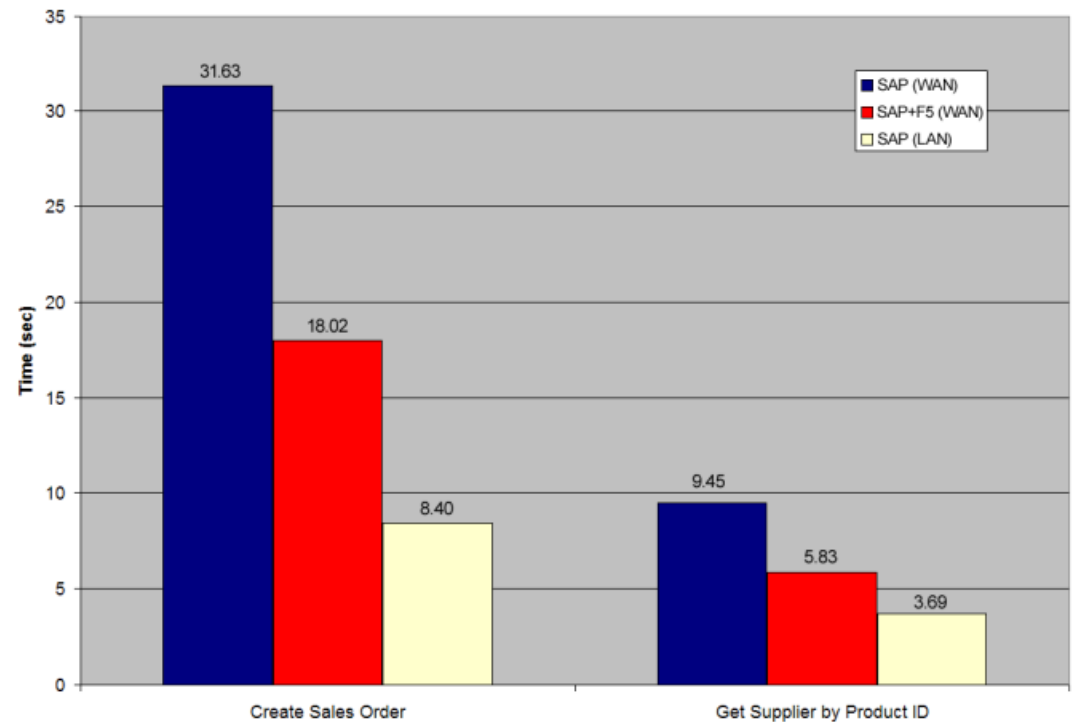
❖ Oracle

- Siebel CRM needs no-cache ActiveX client optimizations

SAP Specific Improvements



SAP Download Performance on the WAN
(45 Mbps, 300 ms RTT, 1% packet loss)



Typical End-User Transactions
(Single user, first visit, 768 Kbps, 60 ms RTT, 0% packet loss)

Dubious Value

❖ XML Offload (XML Parsing, XSLT)

- Few apps have this as the primary bottleneck (e.g., SAP, Oracle show little value vs. a Pure Web Service Portal with large POX/SOAP payloads)

❖ Static Caching

- File-level or Object caching works well for certain WAN deployments but not as broader optimization technique (especially with movement to Portal-based delivery of SAP, Oracle, SharePoint, etc.)

❖ Compression

- Can help or hinder depending on deployment scenario (e.g. MOSS Style sheets, BEA AquaLogic with/without Collaboration)

Key Takeaways

- ❖ Bar has risen to Application-Specific optimizations
- ❖ Going forward, need to look at holistic “overlay” solutions for addressing end-to-end needs