

Branch Office Optimization

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Background & Session Goals

-Background:

- This session will focus on the performance issues related to employees in branch offices accessing applications that are hosted remotely.

-Session Goals:

- To describe some of the factors that make branch office optimization both important and difficult
- To mention some of the techniques that are used to enhance the performance of applications accessed by employees that reside in branch offices
- To question some of the leading vendors

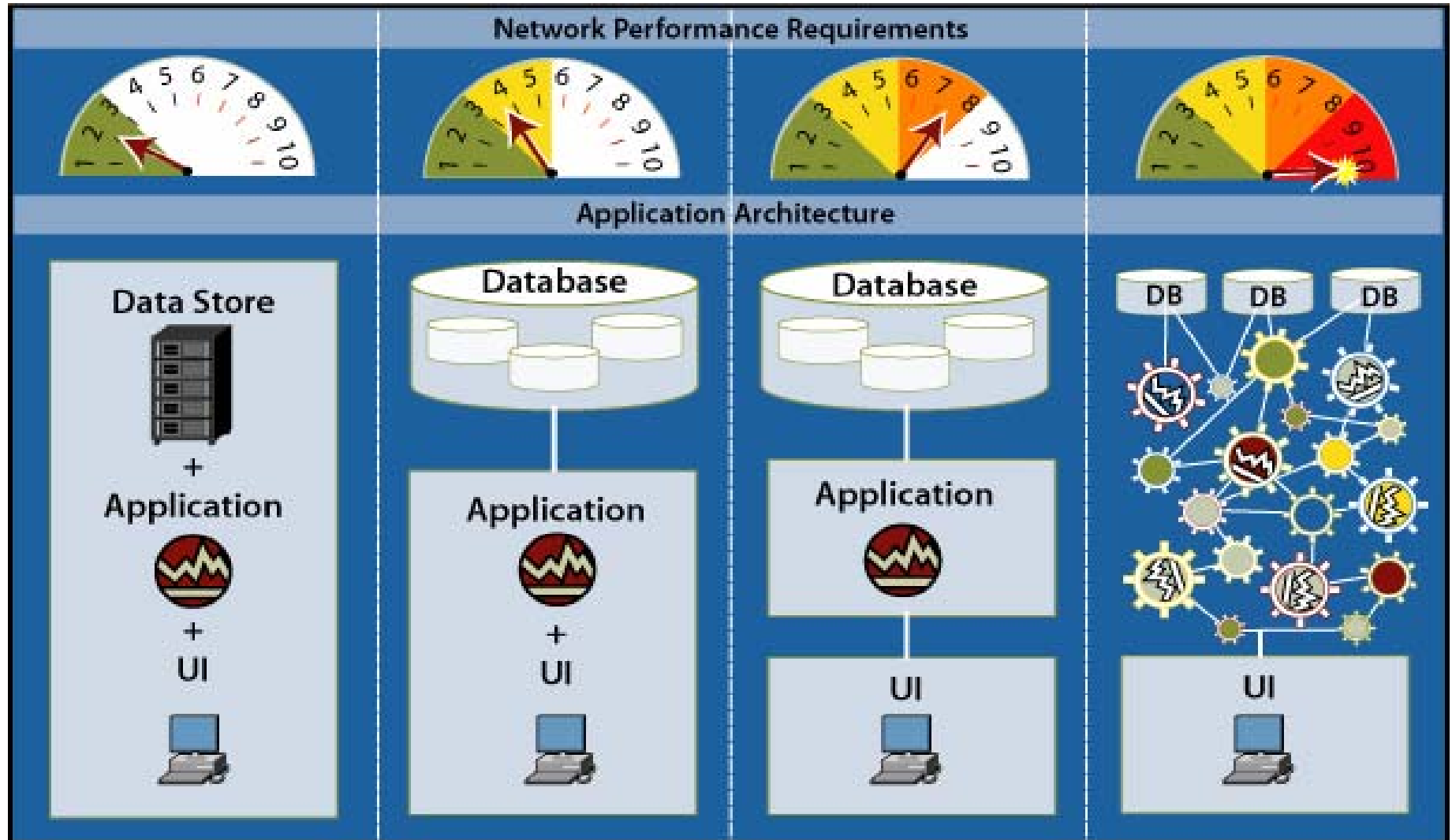
The Factors That Make This Important & Difficult

- Few application development groups place much emphasis on how well an application will run over the WAN.
- Until recently, it was rare to find an organization that had ongoing responsibility for application delivery.
- Today, roughly two thirds of network groups have at least some responsibility for application delivery.
- Most network groups have little if any detailed application expertise and most applications groups have little network expertise.
- There is a lot of un-necessary traffic (i.e., Internet Radio) running on most networks.

The Factors That Make This Important & Difficult

- In some instances, the IT organization acquires the application from a third party and so cannot influence how it is developed or modified.
- Application delivery involves multiple technologies and organizations; i.e., applications, WAN, LAN, SAN, servers, data bases, security, OSs.
- Traffic patterns are changing to include more real-time traffic as well as some-to-many and many-to-many traffic.
- Applications are becoming more complex; i.e., n-tier applications, SOA and Web services.

The Evolving Application Architecture



Web Services Based Application

- In a Web services based application architecture, the application is composed of multiple modules – referred to as Web services.
- Possible relationships between a service and a server:
 - One service per server
 - Multiple services per server
 - Multiple servers per service
- Servers that run the Web services are housed within:
 - A given data center owned by the enterprise
 - Multiple data centers owned by the enterprise
 - Multiple data centers owned by different entities

The Factors That Make This Important & Difficult

- The consolidation of servers out of branch offices and into centralized data centers.
- The deployment of protocols that are chatty (i.e., CIFS, HTTP), dense (i.e., XML) or computationally intense; i.e., SSL
- Data Center consolidation and hosting an application in a single data center.
- The increasingly distributed organization means that most users access an application over a WAN link.

Mitigating the Impact of the WAN

- Insufficient Bandwidth

- Compression
- Caching
- Differencing

- Network Contention

- Quality of Service

- High Latency

- TCP Acceleration
- Request Prediction
- Request Spoofing

- Packet Loss

- Forward Error Correction (FEC)

What Problem are you Trying to Solve?



What Solution Should I Choose?



Things to Keep in Mind

- The applications acceleration marketplace is comprised of myriad solutions, typically designed to solve differing problems.
- If you do not have a good handle on what problem you are trying to solve long term, it is important to choose a solution that can solve your short term problem and then scale in terms of functionality and cost.
- More information: *The Application Delivery Handbook*, www.kubernan.com

Panelists

- Peter H. Schmidt, North American Technical Director, Ipanema
- Alan Saldich, Vice President, Product Marketing, Riverbed
- Liad Ofek, VP Technical Services, Expand
- Sunil Potti, Vice President, F5 Networks
- Mark Weiner, Director Market Management, Cisco