

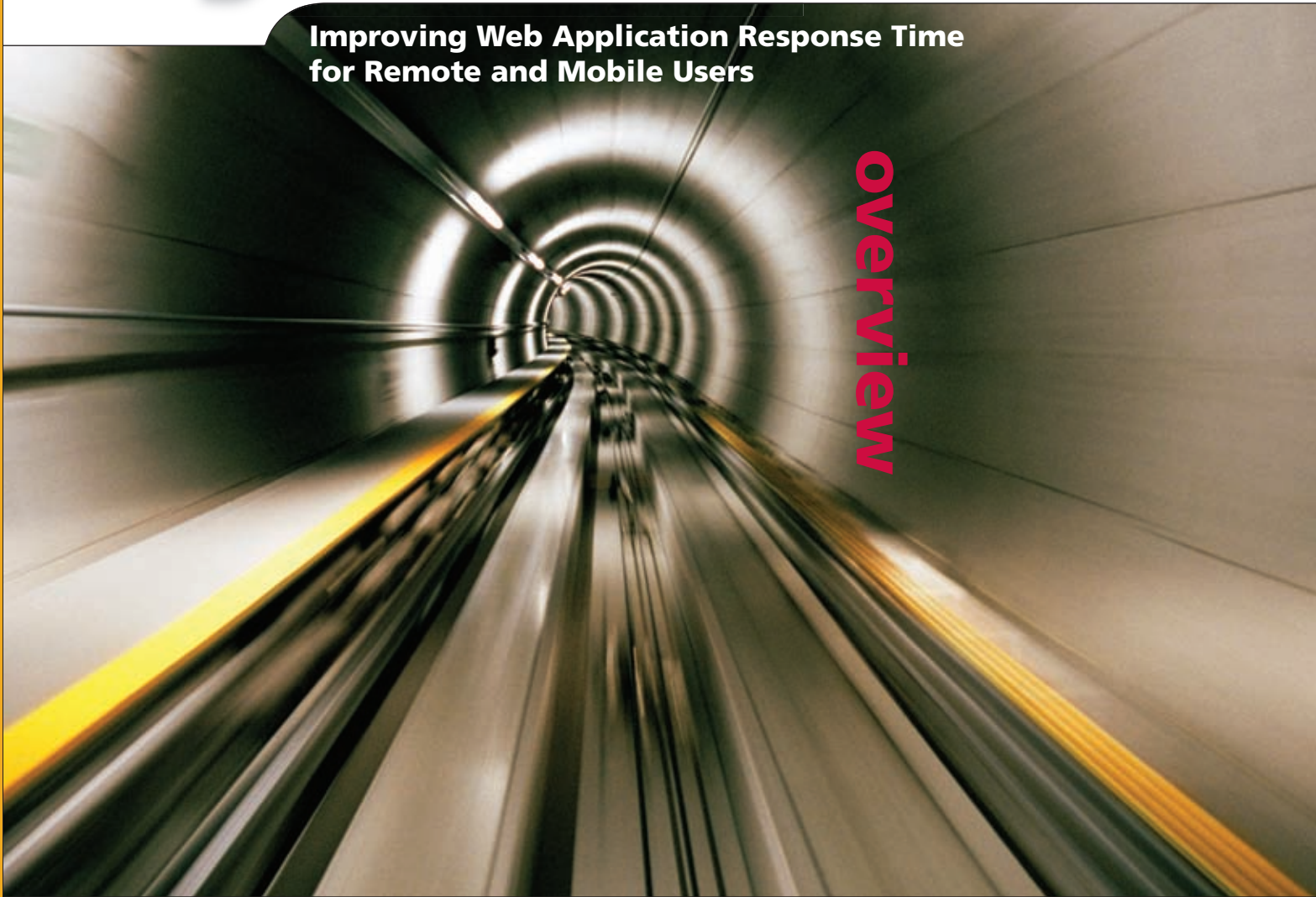


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F5 NETWORKS

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Improving Web Application Response Time
for Remote and Mobile Users

overview



Improving Web Application Response Time with Application Delivery Networking Technologies

Microsoft SharePoint, Oracle Portal, Microsoft Outlook Web Access, and Siebel CRM 7.7 are just a few of the dynamic web applications critical to today's organizations. But while users working near the corporate office's data center have virtually instant access, remote or mobile users get painfully long delays, or even worse, find the application doesn't work at all.

Today's web acceleration products can help alleviate the pain, accelerating web applications to remote and mobile users, reducing bandwidth usage by lowering the amount of data sent, and improving server capacity by offloading repetitive content. In short, these new technologies can make applications leaner so users can download them faster and therefore actually use them.

Faster Web Application Delivery for Portal, CRM, ERP, and Collaboration

Many organizations embark on multi-million dollar web application deployments only to later discover that their users are unsatisfied with the performance versus their old client server application. And that's just one factor that's creating a perfect storm against application performance. Enterprises are also centralizing their servers due to regulation and data security requirements. Web application users are becoming more widely distributed in remote offices and as mobile users. WAN latency, errors, and other issues prevent web applications from being delivered quickly. And web application architects and managers are finding it difficult if not impossible to meet the expectations of their users when delivering Portals, CRM, Collaboration, and other enterprise applications.

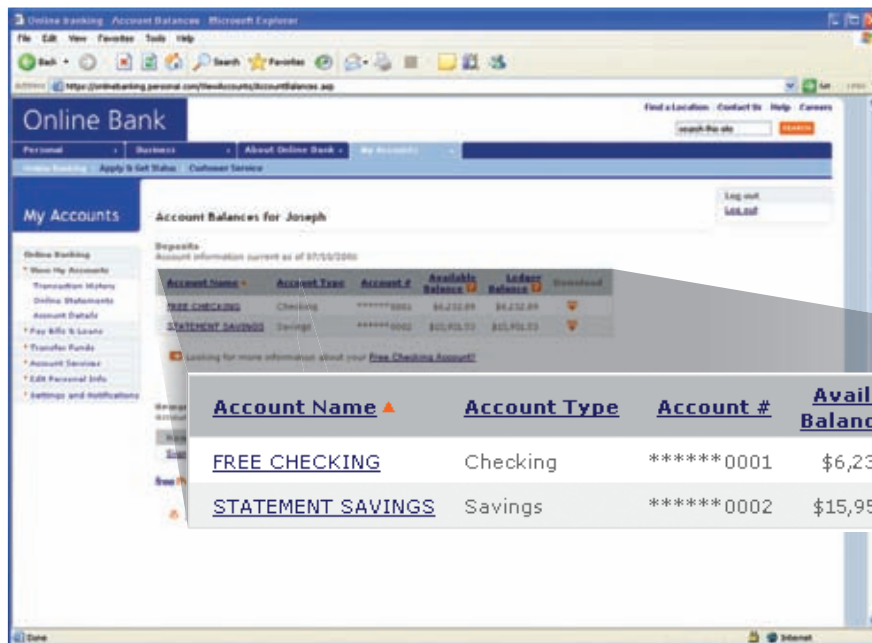
Today's web acceleration devices provide a series of intelligent technologies designed to overcome problems with browsers, web application platforms and WAN latency issues which impact user performance. By leveraging unique technologies, web acceleration products can increase interactive user performance web applications, Portals, CRM, and Collaboration such as MS Sharepoint, Oracle Portal, MS Outlook Web Access, Siebel, Hyperion, Peoplesoft, Plumtree, SAP, and other custom and homegrown web applications.

The Best Way To Accelerate Content: Don't Serve It.

The best way to accelerate content is to avoid serving repetitive or duplicate data. Web acceleration technology accomplishes this with two groups of functionality: browser referencing and offloading dynamic data from the servers. The result is enhanced web application performance from any location to improve interactive performance, decrease download times for static and dynamic data, reduce bandwidth usage, and lower the cost of delivering web applications.

Intelligent Browser Referencing (IBR)

F5's Intelligent Browser Referencing (IBR), is a group of capabilities that eliminates the need for the browser to download repetitive or duplicate data, as well as ensures the best use of bandwidth by controlling browser behavior. By reducing the extra conditional requests and excess data (re)transmitted between the browser and the



web application, IBR reduces the effects of WAN latency and errors. IBR also significantly reduces the amount of data downloaded without requiring java applets or making changes to the browser that are common in delta compression methodologies.

Within F5's Web Acceleration technologies, IBR is comprised of three main functionalities: MultiConnect, Dynamic Content Control, and Dynamic Linearization. **MultiConnect** enables Internet Explorer to open more simultaneous connections between the browser and web application, allowing increased parallel data transfers. It's also extremely effective on high latency/high bandwidth networks such as satellite and mobile networks.

Dynamic Content Control eliminates the download of repetitive data by ensuring that the browser downloads only the data that is truly dynamic and unique. It also eliminates browser "conditional requests" for static data that is incorrectly considered dynamic while ensuring truly dynamic and unique content is freshly served.

Dynamic Linearization serves up individual pages of Adobe PDF documents from large non-linear PDFs, allowing fast first page views of PDF documents. Only the pages that a user is reading are transferred; users no longer have to wait for an entire manual, customer form, design spec, or drawing to be loaded prior to viewing.

Dynamic Data Offload (DDO)

DDO extends server capacity and reduces server processing by offloading repetitive requests for data. DDO includes the ability to perform SSL Acceleration, Dynamic Caching, Dynamic Compression, and HTTP Protocol Optimizations. SSL Acceleration offloads the servers from computational-intensive SSL encryption and decryption, reducing server processor utilization by as much as 50%. Dynamic Caching functionality caches unchanging data that may seem dynamic (contains query parameters, etags, session ids,) but is actually static data or changes in an identifiable pattern. F5 web acceleration technology can cache a higher percentage of data from dynamic web applications while

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maintaining proper application behavior. It accomplishes this by fully inspecting every aspect of HTTP requests, controlling caching behavior, and invalidating cached data.

Dynamic Compression allows web acceleration devices to compress dynamic data from web applications. F5's Dynamic Compression is different from standard compression implementations because of its compression efficiency and its ability to avoid widespread browser compression bugs. Further enhancements are utilized when serving dynamic, unique, or modified requests for compressed data from the cache. Even dynamic content requiring unique session ids within every link on the page can be delivered and compressed with zero compression overhead.

Last, but not least, HTTP Protocol Optimizations allows F5 web acceleration technology to maintain high levels of user performance by optimally tuning each HTTP and TCP session for each user's connection conditions. Furthermore, optimizations for Microsoft's NTLM authentication protocol enhance access to protected resources.

Prove It

A big part in choosing effective web acceleration products is to make sure they're tuned with popular web application platforms. By partnering with application vendors to test, tune, and validate specialized acceleration policies, F5 has delivered pre-defined acceleration policies for the most popular web application platforms. These validated application acceleration policies allow you to quickly configure and deploy F5 web acceleration products to accelerate your web applications.

Validated web application acceleration policies that are shipped with F5 web acceleration products include:

- Microsoft Sharepoint
- Oracle Portal
- Microsoft Outlook Web Access
- Siebel 7.7
- Plumtree (BEA Aqualogic)
- Hyperion Financial
- and many others...

These policies can be used as templates to create custom policies for your own custom or homegrown implementations and web applications. Additionally, the policies contain in-depth knowledge of the interoperability issues between specific browsers, web applications, and network environments to help you avoid problems specific to your environment.

Move Your Work. Not The Workforce

For organizations that have remote offices or target groups of users connecting through slow links, F5 offers an additional symmetric deployment option. A web acceleration remote device can be deployed in a remote office or near remote users to gain additional performance increases and bandwidth reductions.



For additional guides from our User Experience/Acceleration series, go to <http://learn.f5.com>, email us at resources@f5.com, or call 888-88BIGIP (888-882-4447).

Guide 2 – Network Application | Guide 3 – Server Offload | Guide 4 – Application Acceleration