

iDirect WEB Optimizer Solution Overview

XML Applications Over Satellite

With the rising popularity and rapid emergence of complex HTTP, SSL, AJAX and XML applications come new demands on essential enterprise and e-business satellite network infrastructures. These challenges include:

- Delivery of complex traffic loads from composite applications
- Dramatically increased client-side and bi-directional traffic
- Processing-intensive connection management issues
- New bottlenecks in Web site interaction
- Machine-to-machine performance and security
- Installation and operation of client-side software
- Network management complexity

A Network of Applications

Often, network providers dedicate additional bandwidth to handle new applications and network loads, yet end users invariably perceive that performance has suffered. Networks are flooded with more traffic and asynchronous connections, application servers are overwhelmed, network activity spirals and connections are dropped. Network latency, or the amount of time it actually takes for data to travel through the network, becomes one of the biggest issues affecting performance. But how does mitigating latency actually improve application performance? And how do you make sure your network is truly equipped to deal with new enterprise applications?

The new iDirect WEB Optimizer is the first enterprise solution specifically designed to accelerate and secure the new breed of network-intrusive applications.

Accelerating New Enterprise Applications

The iDirect WEB Optimizer offers flexible implementation options to:

- Improve response time
- Maximize bandwidth utilization
- Optimize transaction flows
- Reduce data loads
- Secure data from end to end

iDirect WEB Optimizer accelerates and compresses a rich variety of HTTP, AJAX, and XML applications delivering a host of tangible benefits:

- ◆ Dramatically reduced bandwidth usage
- ◆ More satisfied users
- ◆ Flexible deployment options
- ◆ No hidden surprises when your customers launch new Web applications



A Comprehensive Acceleration System For Emerging AJAX and XML Applications

Built upon a visionary end-to-end approach to acceleration, the iDirect WEB Optimizer injects additional performance and accelerated security to optimize and protect emerging client-centric applications that utilize Service Oriented Architectures (SOA), Extensible Markup Language (XML) and Asynchronous Java and XML (AJAX).

Acceleration On-Demand

Built-in unique Acceleration On-Demand (AOD) technology improves the performance and ensures the delivery of network-intrusive HTTP, SSL, AJAX, XML and SOA applications in both iDirect and non-iDirect satellite network environments. AOD provides all of the bi-directional Layer 7 HTTP/HTTPS acceleration functionality of competing products, but does not require installation of client software or hardware. AJAX and other enterprise applications are accelerated on demand without requiring complex hardware and software deployments at multiple remote sites.

Single-Sided vs. Two-Sided

Enterprise application acceleration is typically provided through one of two implementations: a single-sided solution or a two-sided solution. Single-sided solutions optimize the delivery of Web pages to browser-based end-users. Utilizing industry standard compression techniques (GZIP), off-loading of TCP connection management, and caching of static application data can provide significant improvements in bandwidth utilization and ultimately application performance. However, these solutions are limited when applications require sharing of data throughout an enterprise, and users are doing much more than Web page browsing.

Two-sided solutions, which can improve performance through bi-directional acceleration techniques are usually deployed with hardware devices in every location. While these solutions provide improved performance over single-sided, the cost is prohibitive for locations with small numbers of users, and they do not address the needs of mobile users.

The iDirect WEB Optimizer extends the single-sided solution and provides a more cost-effective and flexible alternative to the hardware oriented two-sided environment by utilizing ActiveX software at each client PC, seamlessly installed during normal browsing.

Implement a one-sided solution with just an appliance in front of your Web servers, and accelerate the delivery of Web page information to your end-users. Upgrade to a two-sided solution for the ultimate in performance or implement a combination of the two and tune your bandwidth usage per customer.

Flexibility In Deployment

If a single-sided solution is what is required for an application, or a series of applications, the iDirect WEB Optimizer can be configured to accelerate the delivery of Web pages and information to the end-users. For those applications that require the benefits only achievable through a two-sided solution, you may deploy iDirect's AOD client technology for the complete set of bi-directional performance improvements.

A single-sided solution starts with an appliance that provides:

- **Application Firewalling:** Protects your enterprise and applications from attacks caused by unauthorized transactions
- **Load Balancing:** Intelligently distributes the transaction workload across multiple Web application servers
- **Connection Management:** Reduces the burden of establishing and terminating TCP connections from the Web Servers
- **SSL Off-Loading:** Eliminates the overhead of SSL key and encryption processing from the Web servers
- **GZIP Compression:** Automatically compresses data sent to standard browsers
- **Image Reduction:** Automatically reduces the size of images to minimize bandwidth consumption
- **Static Caching:** Maintains copies of routinely accessed data eliminating unnecessary requests to the Web server

The Power of Client Technology

While performance is greatly increased with just the iDirect WEB Optimizer appliance, deploying two-sided AOD client technology takes performance to the next level:

- **Cache Differencing:** Maintains a coherent copy of the browser's cache on both the client and the appliance, transmitting only the dynamic changes across the network
- **Compression:** Data size is reduced through extremely efficient and intelligent compression techniques
- **Reduction of Active TCP Session Counts:** Each instance of a browser will multiplex all HTTP traffic across a single accelerated and optimized TCP session, reducing setup times and over-the-air traffic.
- **SSL Client-Side Termination:** All other acceleration solutions see the data after it has already been encrypted. iDirect's patent-pending technology intercepts the SSL data at the client, applies our acceleration technology to that data, and then securely accelerates it across the network.

Choose Your Client Technology

iDirect's technology provides the ultimate in performance, with the flexibility to match the needs of your enterprise. One of two different client solutions can be deployed depending on your requirements and the level of control you need.



Acceleration On-Demand

iDirect's Acceleration On-Demand technology enables all the acceleration without the need to install software at the end-user device. With Acceleration On-Demand, the iDirect WEB Optimizer is able to automatically inject the proper acceleration technology into a Web page the first time that page is accessed by the user. From that point forward, the necessary software is maintained at the client.

Winsock Layer 5

iDirect's Advanced Optimization Client encompasses all of the features of the AOD client for HTTP/HTTPS applications, but also adds support for traditional TCP applications that use the Winsock interface. Now applications such as custom client-server and client-based email solutions can benefit from the acceleration of the iDirect WEB Optimizer.

Powerful, Flexible and Simple Configuration

The iDirect WEB Optimizer has a simple yet powerful GUI to configure your deployments. Additionally, a rich array of statistics are maintained internally, enabling you to measure your bandwidth savings.

Support Multiple VNO Installations and More

The iDirect WEB Optimizer is completely compatible with iDirect's Virtual Network Operator offering. System settings can be configured independently for VNOs and other customer groups, and the AOD clients can be re-branded with either your name, a VNO's name or even an end user's company name.

High Availability and Performance

For maximum performance and high availability, the iDirect WEB Optimizer can be configured with multiple appliances. Two or more appliances can be configured in a primary-backup or load balancing mode. With a primary-backup implementation, all of the workload is processed by the primary appliance, and the secondary system will automatically assume the workload should a failure occur in the primary. For the ultimate in performance and reliability, choose a load balancing set up, where two or more devices share the workload. In the event of a failure of one of the devices, the remaining device will automatically assume the processing of all transactions.

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