

Sun Java™ Enterprise System and N1™ Grid Service Provisioning System

For IBM WebSphere Application Server Environments



Solution Overview

The combination of Web infrastructure products from the Sun Java™ Enterprise System and Sun's N1™ Grid Service Provisioning System provide a complete, pre-tested, and ready-to-use integrated solution for improving security and lowering total cost of ownership (TCO) by reducing complexity in IBM WebSphere Application Server environments. Key components include:

- *Sun Java System Web Server*
Delivers secure, high-performance, and highly reliable HTTP services for WebSphere Application Server deployments
- *Sun Java System Directory Server*
Provides a central repository for storing and managing identity profiles, access privileges, and application and network resource information
- *Sun Java System Access Manager*
Helps organizations manage secure access to Web- and non-Web-based applications both on the intranet and extranet
- *N1 Grid Service Provisioning System*
Enables IT organizations to automate the complex application provisioning process, making it quick and reliable across heterogeneous environments.

As organizations race to make more services and content available via the Web, they are faced with the costly and complex task of securing, managing, and deploying these applications and services across a wide spectrum of platforms and technologies.

Web application security is one of the top concerns for today's IT departments. Defacements and virus infections can cause significant financial damage and loss of customers. Specific industries, such as financial services, telecommunications, governments, healthcare, and retailers, are prime targets for these attacks given their visibility and access to sensitive customer data.

It is widely known that unpatched and poorly configured Web servers are prime points of entry, yet the sheer number of Web server vulnerabilities reported each year makes it difficult and costly for organizations to maintain tight patch levels. As a result, many organizations rely solely on perimeter defense solutions rather than improving infrastructure security.

Managing and provisioning applications is another complex and costly issue, especially for large, Web-based application environments. Whether deploying a new application or service for the first time, or updating existing applications and content, reducing the time to market and managing the complexity of the deployment process can result in a powerful competitive advantage for any organization.

By combining the core components of the Sun Java™ Enterprise System with the N1™ Grid Service Provisioning System, Sun offers an integrated solution for IBM WebSphere Application Server environments that improves security and reduces cost and complexity, all while protecting your existing investment in Java application server technology.

Lower Risk, Greater Security

As proven, pretested components of the Java Enterprise System, the Java System Web Server, Java System Directory Server, and Java System Access Manager form Sun's secure Web infrastructure. Together, they significantly strengthen the architectural, authentication, and transport layer security features of WebSphere Application Server environments.

At the heart of the secure Web infrastructure is the Java System Web Server, which works seamlessly with the WebSphere Application Server as a secure, high-performance, front-end HTTP engine. As the leading enterprise Web server for security-sensitive industries — finance, airlines, pharmaceutical/biotechnology — Sun's world-class development process uses extensive design and security reviews to remove potential vulnerabilities before the product is released.

The Java Enterprise System and N1 Grid Service Provisioning System deliver a comprehensive solution for improving the security and reducing the cost and complexity of Web application environments.

As a result, the Java System Web Server, according to the CERT Coordination Center, has significantly fewer vulnerabilities than IBM's Apache-based HTTP server.

With the multiple vulnerabilities found in Apache's OpenSSL libraries, selecting the correct Secure Sockets Layer (SSL) implementation is critical. The SSL libraries used by the Java System Web Server have been validated to the U.S. Government Federal Information Processing Standards (FIPS) 140-1 Level 2, a security requirement for cryptographic modules for use within government agencies. SSL is also used by the Java System Web Server to ensure that all points of communication are secure — from access to its administration console to connecting to a directory server.

The addition of strong authentication and identity management services to applications can significantly improve Web security. The Java System Directory Server and Java System Access Manager provide WebSphere Application Server environments with secure access management services. With over 1.5 billion entries, the Java System Directory Server provides a central repository for storing and managing identity profiles, access privileges, and application resource information, while the Java System Access Manager supports policy enforcement agents as well as APIs/SDKs for single sign-on, authentication, remote secure access, authorization, policy, and user management.

Both the Java System Directory Server and Java System Access Manager work seamlessly with the Java System Web Server.

To ensure that an WebSphere Application Server environment meets a company's security requirements, Sun also offers a Security Assessment Service through its Sun Services practice. This service identifies exposures and risks within existing policies, processes, procedures, networks, and systems, and is benchmarked against industry standards and best practices.

Sun Services can also assist with the design and implementation of a trusted Web infrastructure, such as the Java System Web Server deployed on the Trusted Solaris™ Operating System. The Trusted Solaris OS is the only enterprise-class operating system certified under Common Criteria at Evaluation Assurance Level 4 (EAL4) with a labeled security protection profile (LSPP), controlled access protection profile (CAPP) and role-based access control (RBAC) protection profile.

Reducing Cost and Complexity

As Web applications increase in number and complexity, so do the costs of maintenance and provisioning. More than ever before, businesses rely on complex Web applications hosted in enterprise data centers. These multi-tiered applications typically involve Web servers, databases, transaction servers, and a variety of distributed components. Routine maintenance tasks, such as system upgrades and patches, and changing business operations continually keep these applications in a state of flux. And each change introduces risk and cost. It is estimated that up to 40 percent of application downtime can be attributed to operator error.

Sun can reduce the cost of maintaining WebSphere Application Server environments. Starting with the presentation tier, the Java System Web Server can reduce the hardware footprint in the data center. A recent KeyLabs report found that the Java System Web Server has a superior price/performance ratio over Apache, supporting 50-200% more users per server. This not only reduces the number of physical servers in the data center, but also the corresponding administrative workload. And with its superior security track record, which results in significantly fewer security patch requirements, the Java System Web Server can reduce the cost of ongoing maintenance and testing.

For a greater reduction in costs, the Java System Web Server, with its integrated, in-process Java Web container, can be used to power JavaServer Pages™ (JSP™) and Java Servlet technology-based applications. Offloading these applications to the Java System Web Server allows the WebSphere Application Server to focus solely on data-intensive transactions, providing a greater ROI for the entire infrastructure.

Expanding beyond the presentation tier, the N1 Grid Service Provisioning System provides the capability to provision, upgrade, and rollback applications at a touch of a button. These actions can be simulated beforehand to test out deployments prior to performing them. When provisioning applications, the N1 Grid Service Provisioning System can reduce deployment times from days or hours to minutes. With the N1 Grid Service Provisioning System, IT operators can manage applications more quickly and accurately, as distinct units rather than as a conglomeration of files. Automation of the application provisioning process enables complex services to be deployed rapidly and accurately. This reduces operating expenses while increasing application uptime through the elimination of errors and reduction in planned downtime during provisioning.

Enhancing the End-User Experience

While application server performance is important, the true goal of any Web application is to meet or exceed the needs and expectations of the end user. Web application performance is dependent on the performance of the total architecture — from network throughput to Web, application, and database server. However, most Web sites and applications contain a heavy proportion of static content or simple database queries. The delivery of this content, provided by the Web server, drives a disproportionate share of end-user satisfaction.

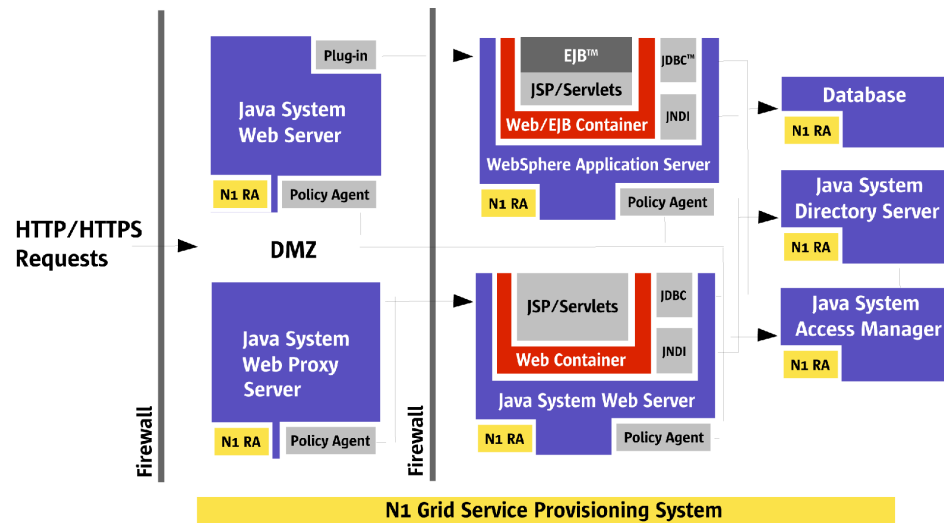
The Java System Web Server is designed with this in mind. A proprietary multiprocess, multithreaded architecture delivers superior performance. A KeyLabs report found that the Java System Web Server was eight times (8x) faster than the Apache server, which is the same code base used by IBM's HTTP Server. The highly scalable keep-alive subsystem ensures consistent and reliable performance, even under heavy stress. The same KeyLabs report also found that the Java System Web Server delivers eight times (8x) fewer page errors.

To maintain end-user satisfaction when moving from one Web application to another, Sun's directory and identity management products can add federated or single sign-on (SSO) capabilities. Web-based SSO can help increase the usability of applications and services by simplifying the authentication and authorization process. Self-service features such as password reset and a customizable "forgotten password" reset can improve user productivity and experience.

Under Protection With Sun

Sun can enhance and protect investments in IBM WebSphere Application Server environments by improving security and lowering TCO using a combination of Web infrastructure products from Sun's Java Enterprise System and N1 Grid Service Provisioning System. Contact your Sun sales representative or authorized reseller for more information.

Sun Java™ Enterprise System and N1™ Grid Service Provisioning System



About Sun Microsystems, Inc.

Since its inception in 1982, customers have continually turned to Sun to help them grow their business, lower their costs, and gain competitive advantage. Sun is a leading provider of industrial-strength hardware, software, services, and technologies that make the Net work

Serious Software Made Simple

Sun provides a complete portfolio of affordable, interoperable, and open software systems designed to help you maximize the utilization and efficiency of your IT infrastructure. Built from the secure, highly available foundations of UNIX® and Java, these systems deliver implementations that are preintegrated and backward compatible. Sun's portfolio consists of Solaris™ and Linux software for SPARC® and x86 platforms, the N1 platform for dynamic and utility computing, and the Sun Java System — five integrated software systems for the data center, the desktop, the developer, mobile devices, and identity implementations.

The Java System is a radical new approach that changes forever the way businesses acquire, develop, and manage software. Only Sun has the experience and the end-to-end portfolio to deliver such a unique and industry-revolutionizing strategy. With the Java System, network services and critical business applications are up and running faster, easier, and at a lower cost than ever before, so you can focus on innovation, competition, and bottom-line results.

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