

BuySpeed

POWERED BY Periscope

W h i t e P a p e r

BuySpeed 8.2.X

Abstract

BuySpeed is an Internet-enabled application that provides distributed and automated purchasing functionality specifically designed for government agencies.

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About BuySpeed

BuySpeed is a web-enabled application that provides centralized/decentralized purchasing functionality specifically designed for government agencies. The unique functionality offered by BuySpeed accelerate routine business processes, expand buying opportunities and reduce overall costs. Deployed as either a stand-alone product or integrated to your financial software solution, BuySpeed allows organizations to securely delegate and control purchasing processes beyond the traditional boundaries of the purchasing department.

About this White Paper

This white paper is intended to provide general information about BuySpeed including:

- BuySpeed Solution;
- BuySpeed Architecture and Configuration; and,
- NIGP Code Features.

BuySpeed Features

Supporting the Procurement Process

Though variations exist from one organization to another, the procurement process typically consists of four fundamental steps – requisition, bid, quote and purchase order. The entire process involves many participants such as agency departments, approvers, purchasers, accountants, vendors, remote purchasing users and other government stakeholders. Manual processes performed by each of these participants during the traditional life-cycle of a purchase can significantly delay the acquisition of goods and services.

BuySpeed is a comprehensive software solution designed to automate and enhance the procurement process for all participants in the buying process.

BuySpeed offers numerous benefits to purchasers and vendors including:

- Ease of accessibility – BuySpeed is available from any workstation with access to the Internet.
- Paperless notification – BuySpeed eliminates manual retrieval of purchase orders and bids.
- No time constraints – BuySpeed is ready when you are. Internet access provides the capability to work where and when you need.
- Increased operational efficiency and decreased operational costs - BuySpeed decentralizes the purchasing process.

NIGP Code Functions and Benefits

BuySpeed incorporates the NIGP Commodity/Services Code into all of its functions. The Code is also compatible with most software packages. Depending upon the software you use, it can be used to:

- Register and maintain your bidder/vendor files.
- Capture purchase history.
- Generate management reports.
- Purge vendor lists.
- Evaluate vendor performance.
- Perform open-market bidding.
- Identify MBE/WBE vendors.
- Create cooperative purchasing opportunities.
- Provide valuable assistance in your electronic commerce purchasing activities.

The NIGP Code makes agencies more efficient and better organized by:

- Allowing for more meaningful communication between departments.
- Providing quick access to your vendor files.
- Providing an immediate link for your vendors to the services and commodities you buy.
- Bringing order and efficiency to your open market purchasing.

The NIGP Code helps agencies do competitive bidding by:

- Helping develop competitive specifications, which are the cornerstones of competitive bidding.
- Providing the correct list of vendors who can supply the commodity or service requested

Benefits of using the NIGP Code:

- It's standardized.
- It's the key that opens the door to purchasing automation.
- It allows for more meaningful communication between departments/agencies.
- It makes more organized cooperative purchasing efforts possible.
- It is an excellent tool for government at all levels.
- Proper use of the code can generate a savings in purchases not previously realized.

BuySpeed Solutions

Department Access (Requestor)

BuySpeed Department Access provides remote-access to users/approvers, allowing requisition entry and document tracking, easy purchasing from contracts, blanket orders, and inventory picklists. Department Access functions supported also include:

- Easily identify vendors using a variety of search criteria such as by commodity, location, business type, minority status, etc.;
- Web requisitioning and document tracking. Supports open market requisitions, payment requests, releases from blanket PO's, releases from term contracts, and Inventory orders;
- Navigational tools: Advanced Search, Digital Dashboard, Online help;
- Informal quotes and tabulation;
- Multi-level electronic approvals by document, department, dollar amount, commodity and account segments;
- Account code validation and budget verification;
- Pre-encumbrance / encumbrance management;
- Document attachment repository;
- Easy access to the NIGP Commodity Code;
- Direct ordering from vendors via a punch-out to vendor eCommerce sites;
- Purchase order receipts;
- Clone all documents eliminating the need to re-key data;
- Proxy users.

Basic Bidding

This module provides stand-alone functionality to manage the end-to-end bid process from document creation through email/fax/mail distribution, amendments, online response, bid tabulation and award, and PO distribution. Basic Bidding functions supported also include:

- Comprehensive online bid/quote functionality;
- Easy access to the NIGP Commodity/Service Code;
- Easy identification of Bidders for items or services on bid;
- Unlimited number of questions on item and header levels;
- Attach or auto-attach documents or links to bids;
- Subcontractor preferences for participation by category (e.g., minority);
- Bid tabulation, subcontractor comparison, vendor scoring;
- Multi-level electronic bid approvals by department, dollar amount, account segment and NIGP commodity;
- Conversion of award to purchase order/s;
- Pre-encumbrance / encumbrance management.

BuySpeed Vendor Subcontractor Processing

As a public procurement professional, you are responsible for tracking subs for not only your boards and elected officials, but often for federal agencies as well. Periscope has produced robust, yet easy to use features and functions to give you the tools you need to identify and track subcontractors. From bidding to tabulation, award and post-award, BuySpeed provides you the tools you need.

- Identification of vendor subcontractor participation at the time of bid, including preferred participation levels;
- Ability to set preferences for certified subcontractors by category, e.g., minorities;
- Ability for primes to identify subs and their estimated participation levels;
- Alerts to primes if subs are not certified;
- Bid tabulation to compare subs and comparison of estimated participation versus preferred;
- Automatic transfer of subs to the PO upon award, no re-keying;
- Ability to set effective and end dates for subs and ability to add new subs on PO;
- Ability to track payments by primes to subs and track sub acknowledgement.

Basic Purchasing (Buyer)

This module is a super-set of Department Access, Basic Bidding and Subcontractor Processing providing all features available in each module plus contract management, RFP scorecard and sub-contractor processing. Basic Purchasing functions supported also include:

- Comprehensive online requisition and bid/quote functionality;
- Navigational tools: Advanced Search, Digital Dashboard, Online help;
- Easy access to the NIGP commodity code;
- Multi-level electronic document approvals by document, department, dollar amount, account segment and commodity;
- Purchase Order creation from scratch or from existing document;
- Blanket Purchase orders and term contract management;
- Subcontractor identification and participation;
- Encumbrance management;
- PO distribution including capabilities for email, fax and mail;
- Receiving and Invoicing completing the 3-way match;
- Automated contract renewal and bid worksheet.

Vendor Management

This module is designed to provide a comprehensive Vendor Management tool and consists of functionality for both agency users and vendors to include:

Vendor Features

- Self-service vendor account maintenance;
- Vendor categories and certifications;
- On-line vendor registration;

- View “open” and “closed” bid opportunities indexed by commodity and service;
- Submit online bid responses (formal and informal quotes);
- View Purchase Orders awarded;
- View Contracts and blanket purchase orders;
- Search NIGP Commodity/Service Code;
- Submit online customer service requests.

Agency Features

- Configure registration options;
- Maintain vendor accounts;
- Maintain vendor categories and certifications.

Receiving & Invoicing

BuySpeed Receiving & Invoicing supports a three-way match which includes the purchase order. This solution incorporates real-time validation routines, ensuring you pay for only goods and services you have actually received. Tight integration with purchasing ensures that invoice time adjustments are applied to the purchase order, too.

Features

- Robust receipt functionality;
- Real-time revisions during matching process;
- Separation of invoice entry and approval prior to invoice completion.

Inventory

BuySpeed Inventory is a full-featured inventory module that offers robust transactional support for issues, adjustments, cycle counts, transfers and returns. This solution integrates seamlessly with the rest of BuySpeed, extending functionality to include requisitioning from inventory and replenishment of inventory.

Features

- Full control of replenishment method
- Vendor selection for solicitations
- HAZMAT and FEMA designations
- Setup and maintenance of multiple warehouses capability
- Evaluation of debits/credits against inventory budgets
- FIFO, LIFO and Average Cost inventory valuation methods

Administration

BuySpeed is a user-driven application. Upon implementation, the system administrator will create individual user accounts and assign the appropriate role(s) for that user. For example, a department purchaser would normally be given privileges to create and view requisitions and purchase order but not necessarily access to agency administration. System Administrators can perform the following tasks:

- Maintain purchasing and system configuration options;
- Maintain users;
- Maintain user communications.

BuySpeed Architecture and Configuration

Development Environment

The following represents the major software components of BuySpeed.

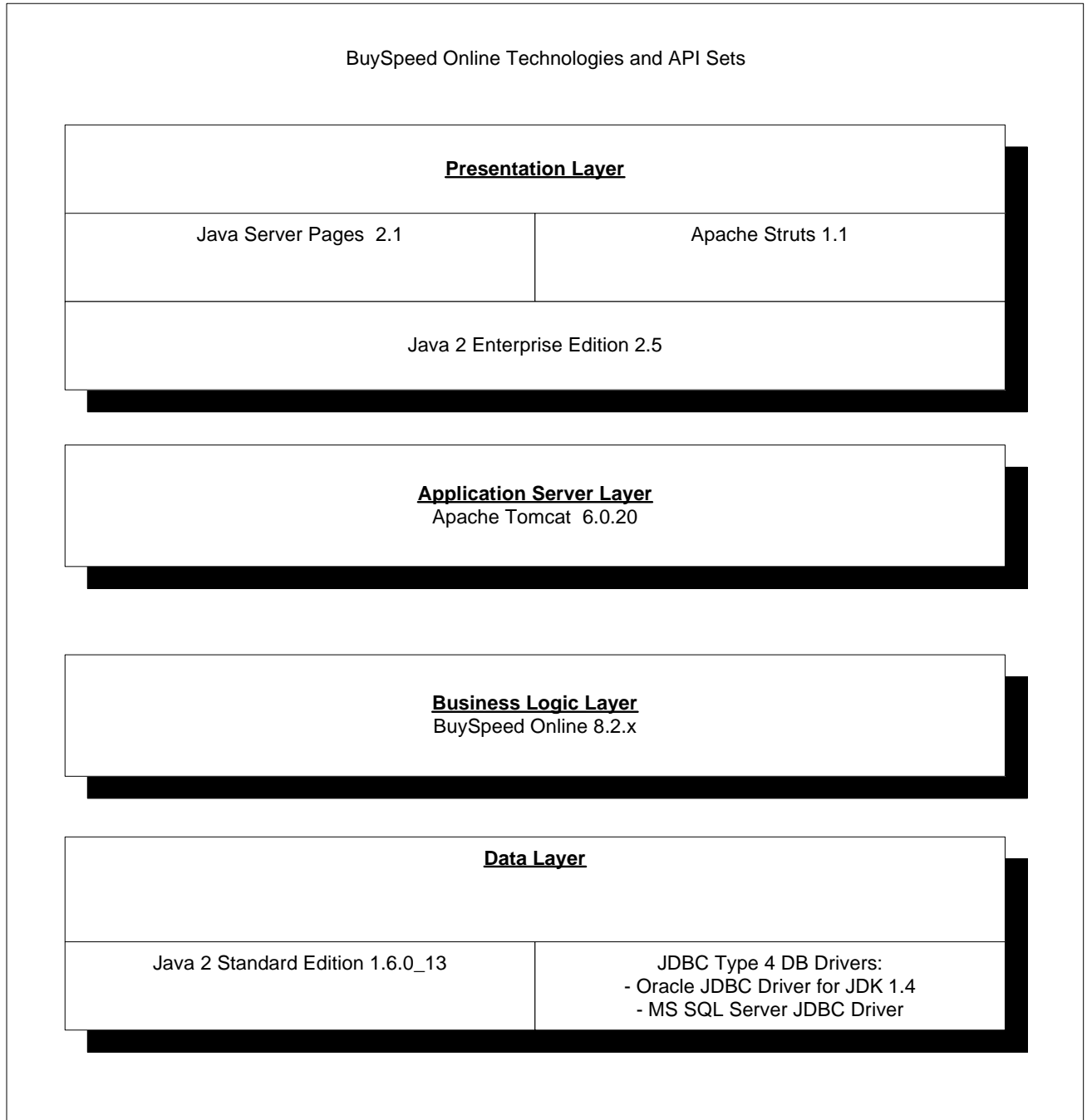


Figure 1 - BuySpeed software components.

All BuySpeed modules are written with Java technology. Java allows Periscope to rapidly develop and easily maintain dynamic web pages that leverage existing business systems and scale disparate technology platforms.

There are two primary technical benefits to deploying BuySpeed. First, Java is the tool of choice for creating robust end-to-end solutions in a modular fashion. As business requirements change and drive the BuySpeed development cycle, enhancements are simply 'plugged-in' to support the new enhancement.

The second technical advantage of BuySpeed is flexibility. BuySpeed's open architecture allows for deployment in almost any operating environment (see Network Configuration, page 12).

Network Configuration

BuySpeed is a web-server based application capable of operating in either perimeter or internal network environment.

Figure 2 below illustrates a network architecture where BuySpeed is installed in a perimeter network. Perimeter networks are generally small LANs connecting border routers with internal routers and are often configured as a DMZ. The DMZ is an area where both the internal network and external network have access. The reason servers accessible to the outside world are put in the DMZ is in the event that one of those servers is compromised, the internal network is still secure. The theory is that you never want an external user making a direct connection to private internal resources, so the DMZ is a semipublic zone. Figure 2 also illustrates high-availability at each level of the configuration by including redundant, failover servers at the web server, application server, and database server levels.

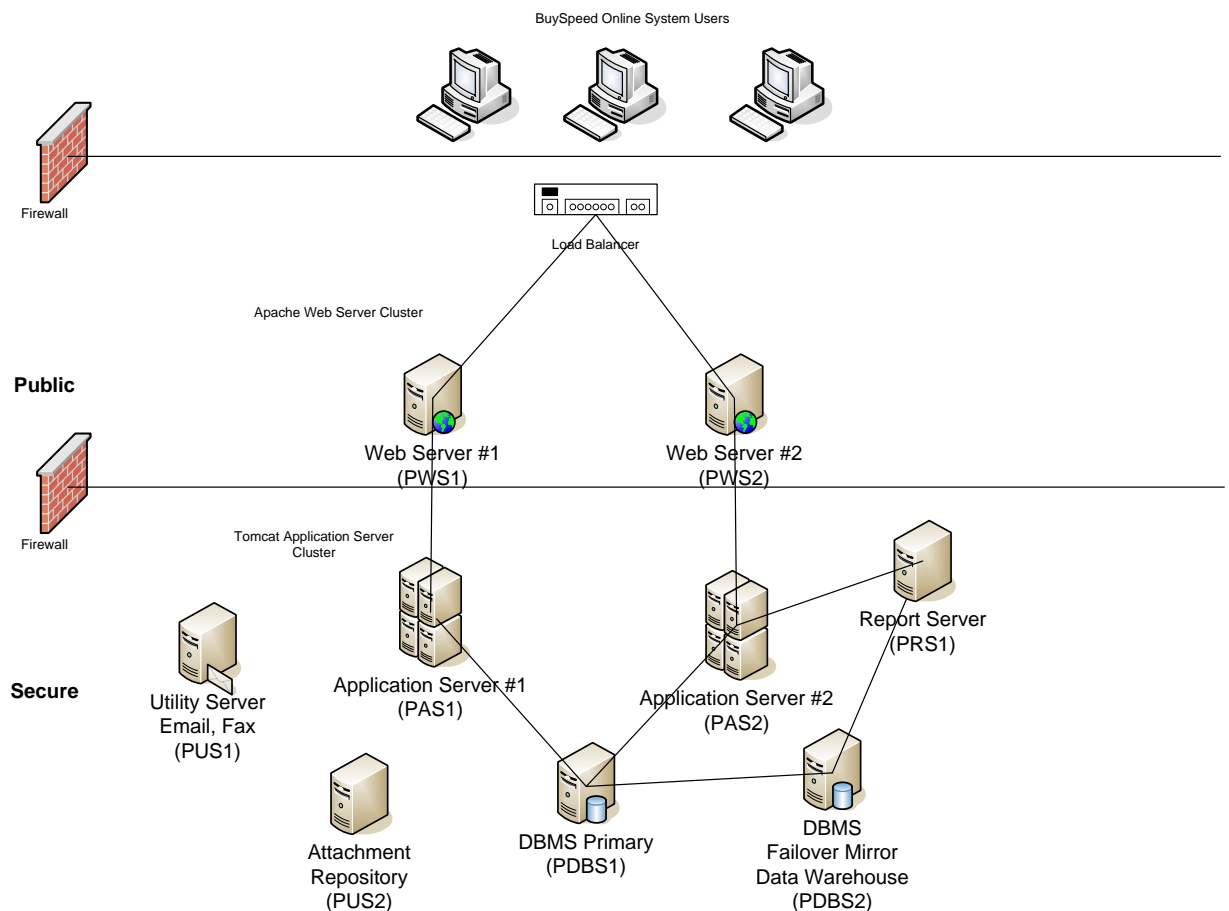


Figure 2 – BuySpeed perimeter (DMZ) network architecture.

BuySpeed may also be configured in a scaled-down, internal network environment as illustrated in Figure 3.

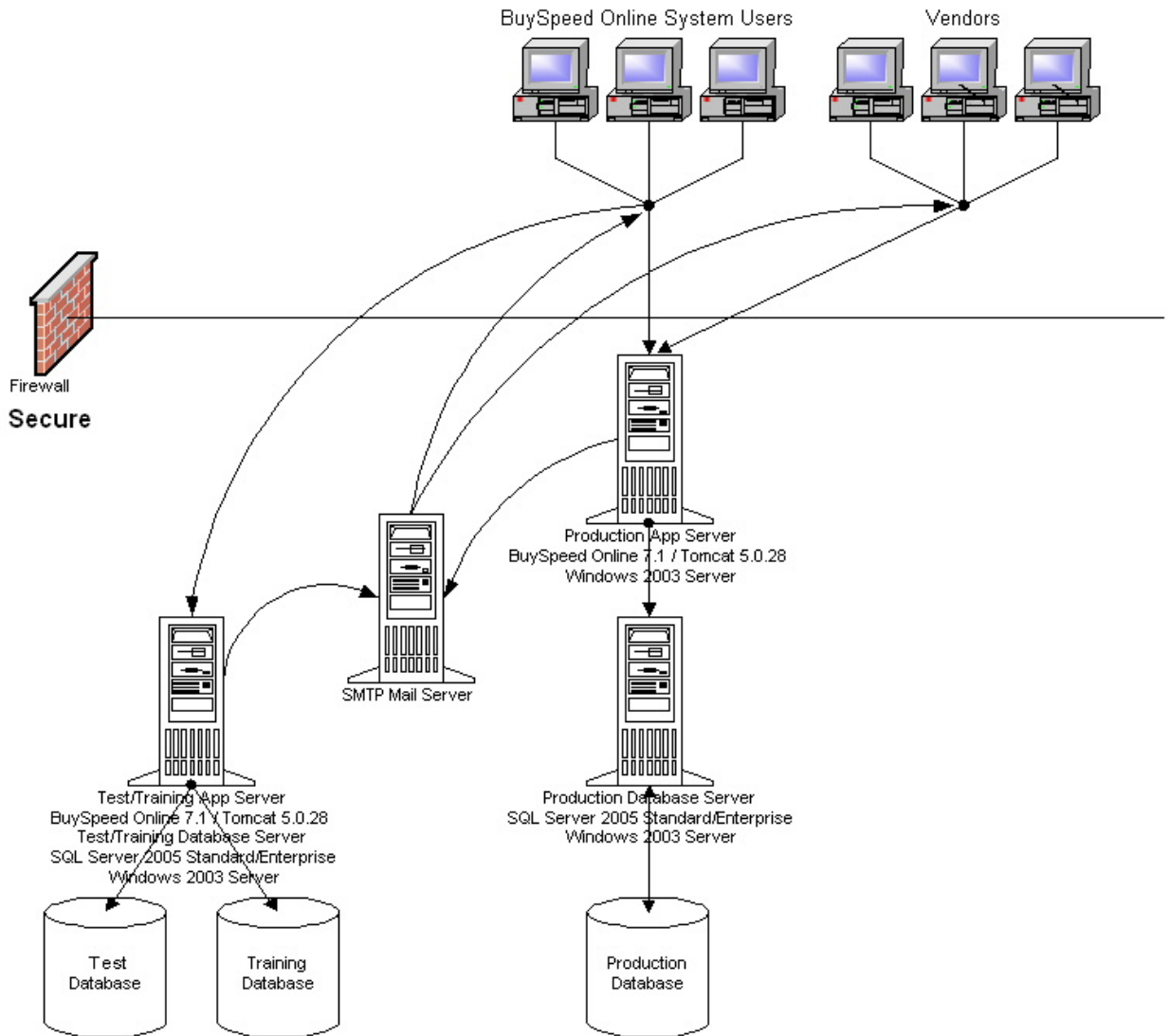


Figure 3 – BuySpeed internal network architecture.

Please note that BuySpeed network architectures may vary depending upon factors such as:

- Total number of users (BuySpeed system users and vendor users)
- IT department security requirements
- Data redundancy requirements
- Application availability requirements

Platforms and System Requirements

Hardware Recommendations

Periscope recommends that BuySpeed is installed on server-class hardware running dual/quad core Intel Xeon processors such as:

- Dell PowerEdge 1900/1950, 2900/2950
- IBM System x3400, x3500, x3550, x3650

BuySpeed has been developed, tested, and certified on the hardware recommendations listed below. Recommendations are based on optimum system performance.

Test Application Server

2 – Dual Core Intel Xeon processors, 2.0 GHz or faster

2GB RAM

RAID 5 with the minimum requirement of 3 drives (3 - 73GB drives or bigger)

Gigabit Ethernet NIC

Windows 2003 Server Standard Edition 64 bit

Test Database Server

2 - Dual Core Intel Xeon processors, 2.0 GHz or faster

2GB RAM

RAID 5 with the minimum requirement of 3 drives (3 - 73GB drives or bigger)

Gigabit Ethernet NIC

Windows 2003 Server Standard Edition 64 bit

Production Application Server

2 – Dual Core Intel Xeon processors, 2.0 GHz or faster

4GB RAM

RAID 5 with the minimum requirement of 3 drives (3 - 73GB drives or bigger)

Gigabit Ethernet NIC

Windows 2003 Server Standard Edition 64 bit

Production Database Server

2 - Quad Core Intel Xeon processors, 2.0 GHz or faster

4GB RAM

RAID 5 with the minimum requirement of 3 drives (3 - 73GB drives or bigger)

Gigabit Ethernet NIC

Windows 2003 Server Enterprise Edition 64 bit

Operating Systems

BuySpeed has been certified to run on the following operating systems:

- Microsoft Windows Server 2003 Standard/Enterprise Edition or above.

BuySpeed can run on any flavor of Unix or Linux that supports Java 2 Standard Edition version 1.6.0 (*).

(*) Please visit Sun's website for a complete list of supported operating systems for Java 2 Standard Edition 6 at:

<http://java.sun.com/javase/6/webnotes/install/system-configurations.html>

Databases

BuySpeed supports the following databases:

- Microsoft SQL Server 2005 Standard/Enterprise Edition and above.
- Oracle 10G and above.

Browser

BuySpeed supports the following browsers (*):

- Internet Explorer 6.0/7.0/8.0
- Netscape Navigator 6.2.3 or higher

(*) JavaScript and Cookies must be enabled and pop-up blockers must be disabled.

Workflow

BuySpeed supports the following workflow tools:

- Crystal Enterprise 10 (reporting);
- Microsoft SSRS (reporting);
- Zetafax Business Edition with API Toolkit*;
- PlanExpress - document management, printing, and logistics

(*) In order for Zetafax to utilize its attachment feature which provides attachment support for faxed documents, the Document Conversion add-on is required.

Software

BuySpeed deploys with the following software and optional software recommendations:

- JDK 1.6.0_13
- Tomcat 6.0.20
- Apache Web Server 2.2.4 – 2.2.10
- Mod_jk-1.2.27

Deployment Notes

Installation

Assumptions.

- Hardware environment meets minimum requirements defined in **Platforms and System Requirements**.
- Installation of database software on database servers.
- Network access and file sharing capability to all environment components including web server, application server, database server, fax server (if applicable), mail server, and reports server (if applicable). Remote connectivity recommended via Terminal Services.
- All current OS and Database patches/service packs have been applied.

Software Downloads. All BuySpeed software components necessary for a successful installation are available via download from our secure download site.

Software Installation. BuySpeed is installed with an automated installation program that will load BuySpeed files and configure server files. (Currently only available for Windows). Professional services are provided by Periscope on a time-and-materials basis to assist with the upgrade process.

Security

There are many security conventions available for Internet-based applications. We've chosen an architecture, design and supporting technologies that allow us to implement system and data security at several layers beginning at the application layer.

BuySpeed security begins during the design and development phase where Periscope has adopted the Open Web Application Security Project's (OWASP) Comprehensive, Lightweight Application Security Process (CLASP) methodology. Periscope recognizes that application software security is not a one-time static event, but an ongoing evaluation process that is interwoven with standard software development tasks and procedures. BuySpeed employs several techniques to ensure that the application is protected from hacking and other internet based attacks. The following is a listing of some of those security implementations:

- White list filtering using OWASP Stinger
- Regular expression black list filtering for XSS and SQL Injection protection
- Numeric / non-numeric fields are validated by the client
- Numeric values are enforced on the server-side via struts
- Struts 1.1 XSS vulnerability patched by Tomcat upgrade / custom error page
- Database level escaping of quotes for String values
- Encrypting SQL passed to client

Security continues with the application being configured to run using HTTPS with a server side certificate. This is accomplished by configuring Tomcat and Apache to only allow communication using the HTTPS protocol and on secure ports. Once the site is SSL enabled, communication between the client (browser) and the server (BuySpeed) is encrypted making the communication impervious to intrusion. Although unsecure transactions are supported via the port (80), **it is recommended that all BuySpeed transactions be conducted securely via the default secure web port 443.**

At the BuySpeed user interface, BuySpeed performs authentication using decryption and encryption of the user identification code and password. All user identification codes and passwords are encrypted and stored to ensure that this information is never compromised. In addition to encrypting system authentication information, sensitive and confidential information such as supplier quotes and tax identifications are also encrypted to prevent any form of intrusion.

Upon successful authentication, application roles manage and control end-users' access and privileges.

As discussed previously in the Network Configuration section, BuySpeed supports secure network conventions such as perimeter networks configured as a DMZ.

Finally, BuySpeed utilizes Sun's Java Cryptography Extension (JCE) version 1.2 to provide security at the data level. JCE 1.2 is a complete security framework providing the facility for key generation, key agreement, and message authentication code (MAC). Within the BuySpeed application and database, formal vendor quotes and P-Card information for purchase orders are encrypted with the Triple DES (U.S. Data Encryption Standard) algorithm using 192-bit keys.

Integration

Supporting a broad range of both output and input document types, the BuySpeed XML interface sends documents between systems in XML format via the use of message brokering. This functionality is useful for scalable, robust, and secure messaging and can be used to interface with almost any application regardless of operating system or environment. Additionally, custom interfaces have been written to the following third-party financial applications:

- Advantage Financial Systems by AMS
- FAMIS
- Banner
- Lawson
- Microsoft Dynamics - GP

More Information

About Periscope

Periscope Holdings, Inc. is a technology holding company focused on offering best-in-class procurement solutions for public and private sector organizations. Every day, Periscope delivers time- and money-saving results for its customers spanning the United States and Canada including the City of Tucson, Virginia Beach Public Schools and Knox County, Tennessee. Periscope holds the exclusive license to maintain, enhance and market the NIGP code, a national standard for product/service codes used in the public sector. Periscope Holdings, Inc. is a privately held company headquartered in Austin, Texas.

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