



**Extend the reach of your existing  
mission-critical data.**

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**Introduction**

This white paper is intended to provide a basic understanding of the IBM WebSphere® Host Publisher product. It explains how WebSphere Host Publisher fits in the Web-to-host integration market space, describes its basic features and functions and identifies positioning with respect to other IBM Web-to-host products and competitive advantages. This white paper should help the reader understand how WebSphere Host Publisher can enable the user to quickly and easily extend existing host applications to new Web users and new e-business applications without modifying existing applications. In addition, the paper discusses the synergy of WebSphere Host Publisher and IBM WebSphere Application Server.

**Where does WebSphere Host Publisher fit with Web-to-host integration?**

Web-to-host integration has become a well-known term and is understood more and more as an integral part of any e-business. Seventy percent of business-critical data and applications reside on IBM S/390®, IBM AS/400® and IBM RS/6000® host systems. Making this information available to new users and using it in new ways across intranets, extranets and the Internet enables companies to reduce costs, improve services, generate new sources of revenue and establish competitive advantage.

The term legacy application extension is used to describe the trend where companies quickly move existing host applications to the intranet, extranet and the Internet without modifying existing applications. This move is the quickest way for companies to gain benefits from e-business. Industry consultants have observed that combinations of technologies are required to satisfy the needs of different types of users. For example, many customers are using the power of Java™ technology to implement new Web applications or to provide new user interfaces to existing applications. This implementation requires a level of control over the user's desktop, or at least requires a user to have a Java technology-enabled browser. This is typically not a problem when dealing with intranet or extranet users. However, when you use the Internet to extend existing applications to new users, especially customers, you cannot know that every customer has a Java technology-enabled browser – and you will most likely use Hypertext Markup Language (HTML) for your Web applications because any type of Web browser can read it.

IBM Host Integration products provide a complete solution to address the legacy application extension space with solutions to address the needs of all user groups, including intranets, extranets and the Internet. IBM WebSphere Host On-Demand is targeted primarily at intranets and extranets. WebSphere Host Publisher is targeted primarily at the Internet, and to a lesser degree, intranets and extranets.

**WebSphere Host Publisher overview**

IBM WebSphere Host Publisher can help you extend the reach of existing mission-critical data to new Web users and new WebSphere software applications across the Internet and extranets with no need to modify your existing applications. It supports any standard HTML browser and does not require the download time of Java applications. WebSphere Host Publisher also allows you to integrate multiple sources of host data into a single Web page, so that you can create composite applications that appear to the user as a single new application. WebSphere Host Publisher supports access to 3270, 5250 and VT applications and databases that provide a Java Database Connectivity (JDBC™) interface, such as IBM DB2® Universal Database™, Oracle and Sybase, as well as any application program interface (API)-based Java application or bean.

WebSphere Host Publisher is an excellent solution for quickly implementing Web applications, such as Web self-service applications, from existing host applications. This had a great appeal to companies and government agencies implementing customer relations management (CRM) solutions to provide information directly to customers and thus reduce call center volumes.

WebSphere Host Publisher includes two major components, Host Publisher Studio and Host Publisher Server. Host Publisher Studio provides an easy-to-use customization environment for creating Integration Objects you can use on Web pages to dynamically access back-end data sources. Host Publisher Server provides the runtime environment for executing Integration Objects created with Host Publisher Studio. You create Integration Objects and Web pages

using Host Publisher Studio and IBM WebSphere Studio (which is included with the product). You can then publish them to the Host Publisher Server, and provide access to the desired end user. Integration Objects are made up of reusable beans for Java applications that can:

- *Automatically establish a connection with a data source (host application or database)*
- *Navigate, inject and extract data from and/or to the source*
- *Disconnect from the source and end the connection*

WebSphere Host Publisher provides the enterprise-class features you expect, including security, load balancing and failover. WebSphere Host Publisher supports Secure Sockets Layer (SSL) encryption and authentication, as well as Data Encryption Standard (DES)-encrypted passwords to provide a high level of security. It also supports standard X509 client certificates for client authentication. WebSphere Host Publisher exploits the workload manager (WLM) features of WebSphere Application Server, Advanced Edition to provide a sophisticated level of load balancing and failover protection for large enterprises where user loads require more than one server. WebSphere Host Publisher also supports both the servlet and EJB environments of WebSphere Application Server, Advanced Edition.

Performance options, such as connection pools, optimize connection establishment and reuse. You can use Integration Objects within fully customizable HTML pages, or other Java application programs can reuse them.

### **Host Publisher Studio**

Host Publisher Studio is a collection of task-oriented, easy-to-use graphical user interfaces that assists the Web page designer in managing and creating Web-to-host applications. It uses task-oriented prompts to guide the user through the creation process, including recording host and database interactions, identifying desired data and labeling the data for retrieval. Host Publisher Studio automatically generates a type of bean for Java applications, called an Integration Object, which encapsulates the

interactions and data retrieval. You can use Host Publisher Studio to generate fully customizable HTML Web pages for modeling interaction with the Integration Objects and rendering the resulting data. You can enhance the generated HTML with your favorite Web authoring tool, such as WebSphere Studio, to meet corporate guidelines for image and style. When the Web page is completed, you can publish it to a Host Publisher Server for production access by users.

Host Publisher Studio runs on the Microsoft® Windows NT®, Windows® 95, Windows 98 and Windows 2000 operating systems.

#### **Host Publisher Server**

Host Publisher Server provides the runtime environment for supporting Integration Objects and Web pages created with Host Publisher Studio. Host Publisher Server requires WebSphere Application Server, Advanced Edition\*, and provides other runtime components, such as connection management, license monitoring, runtime administration and log and trace management.

WebSphere Host Publisher enables you to model complex host applications and helps you to increase user response time. A key feature, object chaining, enables passing in-use host connections between multiple Integration Objects. This decreases the amount of repeated host actions and helps the application developer to build applications as collections of smaller segments. With WebSphere Host Publisher, you create a separate Integration Object for each task that is required. You can then chain these integration objects together to create a complete application, as well as reuse them in other applications.

To enhance performance, WebSphere Host Publisher provides connection pools, which are defined in Host Publisher Studio. Connection pools are used during runtime to cache connected, logged-on and ready connections to improve response time to Web page requests. A user-defined number of connections will remain active in the pool, supporting requests from any user. This eliminates the overhead of establishing a connection, logging on and disconnecting for each host request. The user can define the minimum and maximum number of connections in the pool, as well as whether WebSphere

Host Publisher should wait for an available connection or create a new, nonpooled connection if all are in use.

WebSphere Host Publisher Remote Integration Object (RIO) support provides remote access to Host Publisher Server Integration Objects. This enables remote Java applications, applets or servlets running on a remote client or server to execute Host Publisher Integration Objects for existing application access as though they were physically running on the Host Publisher Server machine. The interface to Host Publisher Integration Objects is unchanged regardless of whether the customer's Java application is calling it from a remote client or is running on the Host Publisher Server. This feature can extend the capabilities of Java client-based applications.

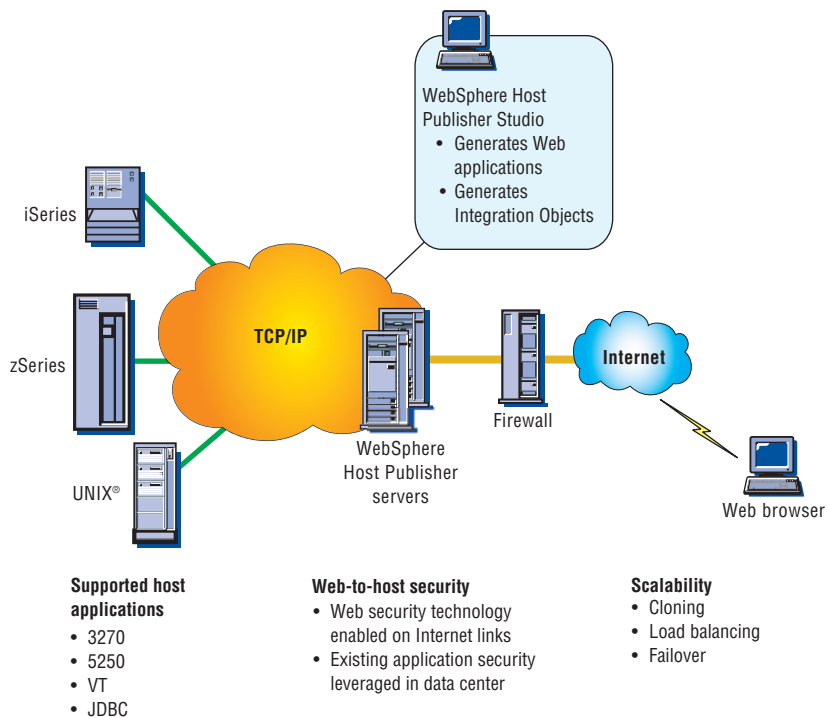
WebSphere Host Publisher provides an Extensible Markup Language (XML) gateway for accessing existing 3270 and 5250 applications and making this application data available to customer-provided Java applications in an XML format.

WebSphere Host Publisher XML gateway also provides a load-and-go, HTML entry-level emulator for 3270 or 5250 application access. Without any customization, existing 3270 and 5250 applications can be extended to Web users. This capability is targeted at end users who:

- *Need occasional access to the host application*
- *Consider a native terminal screen look and feel to be acceptable*
- *Do not yet have Java technology-capable desktops*

For Java-enabled users, you should consider IBM Host On-Demand should be considered to meet their emulation needs.

WebSphere Host Publisher integration with the WebSphere software platform enables it to integrate with other IBM connectors, such as one for IBM MQSeries®, by integrating Integration Objects into WebSphere software-developed applications. WebSphere Host Publisher can be used as a generator for JavaBeans™ or Enterprise JavaBeans™ (EJB) generator to quickly and easily



create the beans needed by new WebSphere applications for legacy access. Host Publisher Studio delivers a wizard-like interface for bean generation that eliminates the programming that would otherwise be needed. As a result the time and expense associated with the application development reduces significantly.

WebSphere Host Publisher is written in Java and is supported on IBM OS/390®, IBM AIX®, IBM OS/400®, Windows NT and Sun Solaris™ operating environments.

**Positioning WebSphere Host Publisher with WebSphere Application Server**

Although WebSphere Host Publisher and WebSphere Application Server complement each other and WebSphere Host Publisher integrates WebSphere Application Server with its runtime environment, a fundamental difference between the primary use of each solution exists.

WebSphere Host Publisher can deliver a quick and easy way for companies to implement e-business applications by extending existing applications to the Internet. It focuses on the legacy extension space with little or no new business logic. In contrast, WebSphere Application Server provides a robust Java infrastructure for the development and execution of Java applications and servlets. WebSphere Application Server focuses on adding new business logic to existing applications or deploying totally new Web applications like those used in business reengineering.

The two products are complementary in that WebSphere Host Publisher uses the WebSphere Application Server environment to support the runtime environment for applications using Integration Objects created by WebSphere Host Publisher. You can reuse Integration Objects within new WebSphere software based applications, or you can use WebSphere Application Server and your favorite Java interactive development environment (IDE), such as IBM VisualAge® for Java, to add new business logic to WebSphere Host Publisher applications. WebSphere Host Publisher can be used as a super connector for WebSphere software applications to create reusable Integration Objects that provide back-end host data to the WebSphere software application. This can help increase productivity of WebSphere software application developers who require back-end host data.

#### **Positioning WebSphere Host Publisher with WebSphere Host On-Demand**

WebSphere Host Publisher is targeted primarily to Internet users, who may not have Java technology-enabled browsers and who require HTML. As with Web self-service applications, the user typically connects infrequently and for short periods of time. Users are familiar with the standard HTML browser, and they are accustomed to Web response time. Users are not familiar with typical host green screens, and they often don't know how to navigate through legacy applications, so a new, easy-to-use graphical interface is critical. Requirements often include accessing multiple back-end hosts for a single presentation to the end user. WebSphere Host Publisher can also be appropriate for extranet users and, to a lesser extent, intranet users, where the requirements are similar to those of the Internet user.



WebSphere Host On-Demand is the answer for Java technology-based host access primarily targeted to meet the needs of intranet and extranet users. In these situations, user desktop software is typically well controlled, so you can ensure each desktop includes a Java technology-enabled browser. Users typically connect for extended periods of time, and fast response times are important to maximize productivity. These types of users may be familiar with green screens and can be considered power users who require full-function emulators.

**WebSphere Host Publisher competitive advantages**

WebSphere Host Publisher is built on open industry standards, such as Java technology, HTML and JavaServer Pages™ technology. The Integration Objects are reusable components that can be used in Java applications created outside WebSphere Host Publisher. Likewise, IDE tools can be used to add new business logic to applications created with WebSphere Host Publisher. Host Publisher Studio also generates fully customizable HTML output. Users can use their favorite HTML editor to enhance and customize the output to meet their design guidelines and personal preferences.

Host Publisher Server provides enterprise-class performance, scalability and availability through several key features, such as object chaining, connection pooling, load balancing, failover and cross-platform portability. Because the runtime environment of the Host Publisher Server runs on OS/390, AIX, OS/400, Windows NT and Sun Solaris platforms, applications created with Host Publisher Studio run unchanged in all environments. The load balancing capabilities of WebSphere Host Publisher can help you to balance the load of Integration Object requests over a group of WebSphere Host Publisher servers, providing predictable performance, easy scalability and failover. The ability to move from one operating system platform to another can enable you to move your workload to a higher capacity platform as demands increase.

**For more information**

To learn more about IBM WebSphere Host Publisher, visit:

**ibm.com**/software/Webservers/hostpublisher



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06-01  
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\* For IBM WebSphere Host Publisher for OS/390 operating environments, WebSphere is provided with the base operating system and is not included in the Program. For IBM WebSphere Host Publisher for Windows NT, AIX and Sun Solaris operating environments, the Program includes WebSphere Application Server, Advanced Edition.