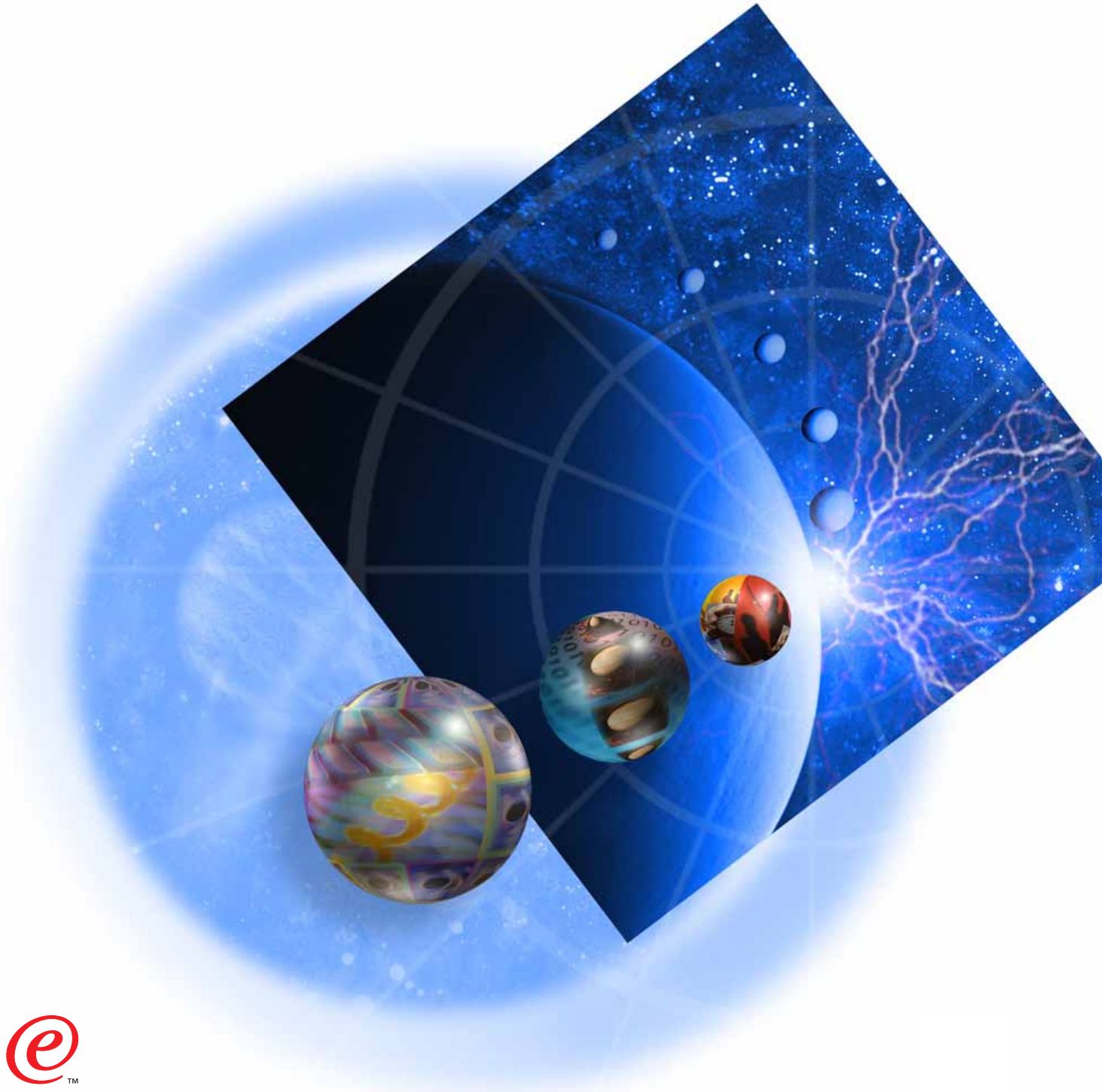


Help extend the reach of existing
mission-critical data



IBM WebSphere Host Publisher



Abstract:

This paper is intended to provide a basic understanding of the IBM WebSphere® Host Publisher product. It will explain how Host Publisher fits in the Web-to-host integration market space, its basic features and functions, positioning with respect to other IBM Web-to-host products and competitive advantages. This paper will help the reader understand how 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 will discuss the synergy of Host Publisher and the WebSphere Application Server, and how the two products are used together.

Where does 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 host systems such as IBM S/390®, IBM AS/400® and IBM RS/6000®. 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 a 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 a combination 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-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-enabled browser—and you will most likely use HTML for your Web applications, because it can be read by any type of Web browser.

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 Host On-Demand and IBM Screen Customizer are targeted primarily at intranets and extranets, and to a lesser degree, the Internet. Host Publisher is targeted primarily at the Internet, and to a lesser degree, intranets and extranets.

Host Publisher overview

IBM WebSphere Host Publisher can enable you to extend the reach of existing mission-critical data to new users across the Internet and extranets with no need to modify the existing applications. It supports any standard HTML browser and does not require Java technology-enabled browsers. 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. Host Publisher supports applications that run on 3270, 5250, VT and databases that provide a JDBC interface—such as IBM DB2® Universal Database™, Oracle and Sybase—as well as any API-based Java application or bean.

Host Publisher provides the enterprise-class features you expect, including security, load balancing and failover. Host Publisher supports Secure Sockets Layer (SSL) encryption and authentication, as well as DES-encrypted passwords to provide a high level of security. Host Publisher includes IBM Network Dispatcher, which provides a high level of load balancing and failover for large enterprises where user load requires more than one server.

Host Publisher is an excellent solution for quickly implementing Web self-service applications from existing host applications. This can enable companies or government agencies to provide information directly to customers, reduce the expense of call centers and improve service.

Host Publisher builds Web-to-host applications based on Integration Objects. 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 to and extract data from the source
- Disconnect from the source and end the connection

Host Publisher is divided into two major components: Host Publisher Studio and Host Publisher Server. Host Publisher Studio provides an easy-to-use customization environment for creating Integration Objects that can be used on Web pages to dynamically access backend 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 then publish them to the Host Publisher Server and provide access to the final user.

Performance options, such as connection pools, optimize connection establishment and reuse. Integration Objects can be used within fully customizable HTML pages or can be reused by other Java application programs.

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 on image and style. Once 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 consists of IBM WebSphere Application Server, and other runtime components, such as connection management, license monitoring, runtime administration and log and trace management.

Host Publisher supports object chaining, which enables the user to break a complex task into logical subtasks to improve performance, increase flexibility and reduce the administration of creating complex Integration Objects. For example, you might use object chaining in a typical 3270 application which uses multilevel menus. A corporate phone directory might have several menus to step you down to the point where you can display the personnel list of a particular department. You want to display the office location of a name on the list, return to the department list and select a new name, and then display the second-name office location. Object chaining enables you to break the task into several reusable Integration Objects so that each object performs a specific subtask and can be combined with other similar Integration Objects to form a complete task.

To enhance performance, 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 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 XML gateway for accessing existing 3270 and 5250 applications and making this application data available to customer-provided Java applications in an XML format.

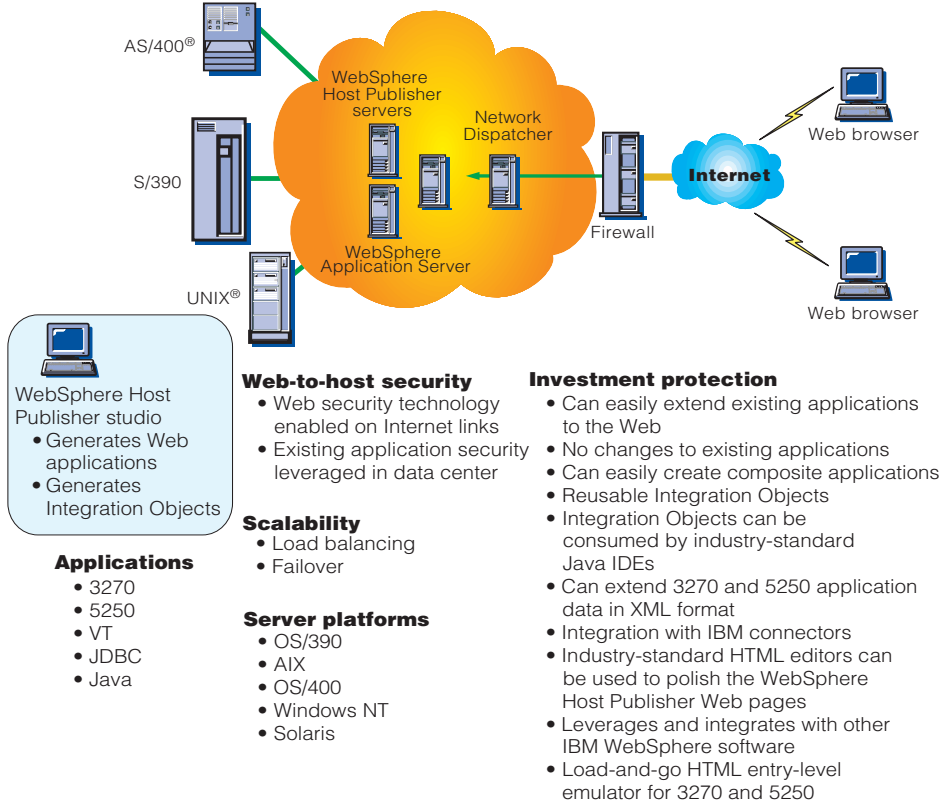
Host Publisher XML gateway also provides a load-and-go HTML entry-level emulator for 3270 or 5250 application access. Without any customization, existing 3270 and 5250 applications can be extended to Web users. This capability is targeted at end users who:

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

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

Host Publisher integration with WebSphere enables it to integrate with other IBM connectors, such as one for IBM MQSeries®, by integrating Integration Objects into WebSphere-developed applications. One should consider Host Publisher as a "super connector" for WebSphere, using Host Publisher to create Integration Objects that integrate back-end host applications with the new WebSphere application.

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



Host Publisher summary

Positioning Host Publisher with WebSphere

Although Host Publisher and WebSphere application server complement each other very well and Host Publisher integrates WebSphere application server with its runtime environment, there is a fundamental difference between the primary use of each solution.

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 Host Publisher uses the WebSphere application server environment to support the runtime environment for applications using Integration Objects created by Host Publisher. You can reuse Integration Objects within new WebSphere-based applications, or you can use WebSphere and your favorite Java interactive development environment (IDE), such as IBM VisualAge® for Java, to add new business logic to Host Publisher applications. Host Publisher can be used as a “super connector” for WebSphere applications to create re-usable Integration Objects that provide backend host data to the WebSphere application. This can provide increased productivity to WebSphere application developers who require back-end host data.

While Host Publisher provides WebSphere Application Server Standard Edition*, if you need or already use the advanced features of WebSphere Advanced Edition or WebSphere Enterprise Edition, you can substitute those products to support the Host Publisher runtime environment.

Positioning Host Publisher with Host On-Demand

Host Publisher is targeted primarily to Internet users, who may not have Java-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 their 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 backend hosts for a single presentation to the end user. Host Publisher can also be appropriate for extranet users and, to a lesser extent, intranet users where their usage and requirements are similar to the those of the Internet user.

IBM 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 all the desktops include a Java-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 the green screens and can be considered power users who require full-function emulators.

Host Publisher competitive advantages

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 Host Publisher. Likewise, IDE tools can be used to add new business logic to applications created with Host Publisher. The 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 will run unchanged in all environments. The load balancing capabilities of Host Publisher can help you to balance the load of Integration Object requests over a group of 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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* 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 Solaris operating environments, the Program includes WebSphere Application Server Standard Edition.