



WebSphere software



Portlet Builders for Domino

Overview

*© 2003 IBM Corporation
IBM Confidential*

Portlet Builders for Domino Overview

IBM WebSphere Portal delivers enormous value to IT organizations, enabling them to create powerful web applications giving users centralized access to applications and personalized information. With portals, companies can reap benefits such as simplified infrastructure, faster development, and enhanced employee productivity.

A key, however, to deriving the most value from a portal deployment is to aggregate data, content, and processes from existing applications, such as Domino, providing users with custom views into the applications they need to do their jobs effectively. WebSphere Portal provides numerous means to attain this value and ships with various portlets for Domino out-of-the-box. These are primarily focused at making key Domino applications, such as accessing Domino mail accounts, iNotes Web Access accounts, Calendars and Teamrooms, for example, available via WebSphere Portal. However, in some instances, the out-of-the-box portlets don't necessarily deliver on the customization options sought after by customers, and there is a need to go beyond the options available and create custom portlet applications by writing code that connects the various data sources, business processes and existing systems with the portal specialized interfaces. In this case, there is a need to build custom portlets in which an investment is necessary in terms of skills, time, and new versions of code. In short, for the Domino install base, the portlet creation and deployment process can be time-consuming, especially given the general lack of appropriate skills in terms of custom Java development to rapidly create, customize, maintain, and deploy custom, high-value portlets. Hence, there is a need to focus on delivering high value to our Lotus Notes/Domino customers by way of portlet building technologies for Domino.

Portlet Builders

Portlet building technologies, including IBM's WebSphere Portal Application Integrator (WPAI) and those of various IBM Business Partners, enable the creation of portlets that can access and manipulate data in enterprise applications – including Domino - without requiring programming knowledge of the system. The ease of use and features of portlet building technologies, the entire portlet development process can be dramatically streamlined, enabling the delivery of adaptive portlets in a fraction of the time and at a fraction of the cost it requires today. By eliminating the need for programmers to write low-level functions, portlet building technologies simplify the development, deployment and change management process, saving companies time and money, and freeing developers to focus on more important, strategic work. And, ultimately, when the portlet is created, the portlet can be deployed to portal end users. By leveraging portlet building technologies from IBM and its' Business Partner community, customers can develop their portlets faster and easier, accelerating the sales cycle and helping you to close portal deals

Building Portlets for Domino

When it comes to building portlets for the Domino platform, there are many ways that developers can access Domino data and applications into their WebSphere Portal environment. They range from no coding techniques, such as using the out-of-the-box Notes/Domino portlets, to developing fully custom Java development methodologies, such as building your own portlets using the Domino Objects for Java and the portlet APIs. However, there are a number of available technologies in the market today that bridge the gap between no coding and custom Java development techniques, while still delivering the breadth of customization sought after. Ultimately, the method that you choose depends on your business needs, time to deployment goals, and skills.

This document outlines those technologies that bridge the gap between no coding and custom Java development options available in the marketplace and focuses on the technology offerings

from three vendors including IBM, Bowstreet and Conet. All offer similar technology in the sense that all enable quick and easy means to build portlets surfacing Domino applications for the WebSphere Portal platform while combined with the power of custom Java development. Additionally, all claim to rapidly and effortlessly leverage your Domino applications by querying and aggregating Domino data and displaying that content in a single portlet.

The purpose of this document is to differentiate these various offerings available today, as well as provide key information around each portlet builder including such factors as price, features and benefits to clarify the offerings that support building portlets for WebSphere Portal. The goal of this document is to enable the IBM/Lotus sales force with the information necessary to know what to say and do for customers when it comes to portlet building technologies/offerings, as well as positioning of the IBM WebSphere Portal platform against competitive marketplace offerings such as [BEA WebLogic Portal](#), [SAP's mySAP Portal](#), [Plumtree](#) and others.

It is key to note the information provided here on portlet building technology is merely a piece of the greater puzzle in terms of accessing and surfacing enterprise applications, such as Domino, to WebSphere Portal. There are many different means to this goal. Portlet building technologies are just one aspect of the enormous value WebSphere Portal delivers to IT organizations, enabling them to create powerful web applications that give users centralized access to applications and personalized information and capturing and reuse of critical business information from anywhere across your enterprise.

To put the portlet building technologies described in this document in context, it is necessary to understand the other options available for accessing and building portlets for Domino applications to WebSphere Portal. The positioning includes categorizing the available options in terms of skill level required to produce a portlet. In other words, the positioning of each option depends on the target audience. The summary below distills the available options by the target audience.

Line of Business and Power Users - Use the Out-of-the-Box Portlets

To easily make Domino applications accessible to portal users, there are various out-of-the-box portlets provided with WebSphere Portal that can be used. The primary focus of these portlets is to provide a no-coding means to leverage vertical access to Domino. The amount of effort necessary to use these portlets is minimal. In essence, the effort involves simple point-and-click with basic configurations options such as defining the location of your Domino server and selecting a Domino database and view from a list. Using the out-of-the-box portlets provides the quickest way to access your Domino environment with a relatively low amount of options available for customization. This involves little to no programming skills.

- Use the out-of-the-box Notes/Domino portlets provided with WebSphere Portal
- Use other out-of-the-box portlets provided with WebSphere Portal to display Domino data
- Use the Web Clipping portlet to point to existing Domino based Web sites
- Use the Web Page Portlet (iFrame) to point to existing Domino based Web applications
- Use the WebSphere Portal Application Integrator (aka Portlet Builder for Domino)

Below is a complete list of the out-of-the-box Notes/Domino portlets provided with WebSphere Portal 4.2.

- | | | | |
|------------------|-------------------|----------------------|--------------------------|
| • iNotesMail | • MyNotesMail | • NotesView | • WebPage |
| • iNotesCalendar | • MyNotesCalendar | • In-line Quickplace | • Domino.Doc |
| • iNotesContacts | • MyNotesToDo | • Quickplace | • Lotus Discovery Server |
| • iNotesNotebook | • NotesMail | • Sametime | • Mini-search |
| • iNotesToDo | • NotesDiscussion | • Who is Here | • Search results |
| • My iNotes | • NotesTeamroom | • Sametime BuddyList | • K-map |

Portal Administrators and Domino Developers – Customize Existing Portlets

Customizing existing portlets is the next level of options available for making your Domino applications accessible to portal users. When it comes to customizing existing portlets, the skills

necessary involve a certain amount of programming experiences and understanding to be able to make the appropriate modifications necessary to meet your needs. This area involves using your integrated development environment (IDE) of choice and – for example – modifying the corresponding JSP files to meet your specific needs.

- Modify the Domino Application to serve XML to an out-of-the-box portlet
- Customize other out-of-the-box portlets provided with WebSphere Portal to build your own portlets and display Domino data differently
 - Leverage Lotus Collaborative Components APIs
 - Leverage Lotus Sametime and corresponding STLinks APIs to provide Presence Awareness
 - Use the Domino ReadViewEntries URL Command
 - Customize the RSS portlet to point to existing Domino applications

Java Developer and Domino Developer with Java Skills – Build new portlets with toolkits

Building your own portlets allow for most flexible and powerful portlets. To that end, IBM makes available various software toolkits for use in WebSphere Studio Site Developer and WebSphere Studio Application Developer.

- Use Domino JSP tag library in building your own portlets
- Use Lotus Collaborative Components provided with WebSphere Portal to enhance you own portlets with Collaborative functionality from Domino
- Use WebSphere Studio and the Portal Toolkit v4.2.5. WebSphere Studio provides a world class integrated development environment (IDE) and the Portal Toolkit includes a portlet specific perspective and handy wizards to create the structure for common portlet types, ranging from Basic Portlet to JSP to Model-View-Controller and XSL.
 - IBM Lotus Domino Toolkit for WebSphere Studio - To give developers a straightforward way to create J2EE applications using Lotus Notes and Domino design elements, IBM has created a new toolkit. Currently available, it's a set of plug-ins to WebSphere Studio Site Developer and WebSphere Studio Application Developer 5, which itself is based on the Eclipse open IDE platform. The breakthrough is allowing developers to use Domino design elements and data to generate functioning J2EE-based Web applications without having to learn Java and JavaScript. The interface looks much like Domino Designer. Domino forms, views, agents, and more are wrapped in custom JSP tags. You drag-and-drop these objects onto your page, and WebSphere Studio writes the code in the background. You can design a page in a visual mode, and switch views to see the generated code. Developers looking to extend the scalability of their Domino Web applications now have a simplified path to WebSphere Application Server.
 - Domino Designer will continue to be the tool for developing Domino-based applications for Notes and the Web. IBM will continue to improve Domino Designer in subsequent releases of Notes/Domino.
- Build a web service portlet to access Domino

In summary, the following is a consolidation of the available options to integrate Domino with WebSphere Portal via portlets:

Line of Business and Power Users

- Use the out-of-the-box Notes/Domino portlets provided with WebSphere Portal
- Use other out-of-the-box portlets provided with WebSphere Portal, such as Web Clipping, Web Page, and RSS portlets to display Domino data differently
- Use the WebSphere Portal Application Integrator available on the Portal Catalog to build custom portlets that access custom Domino applications

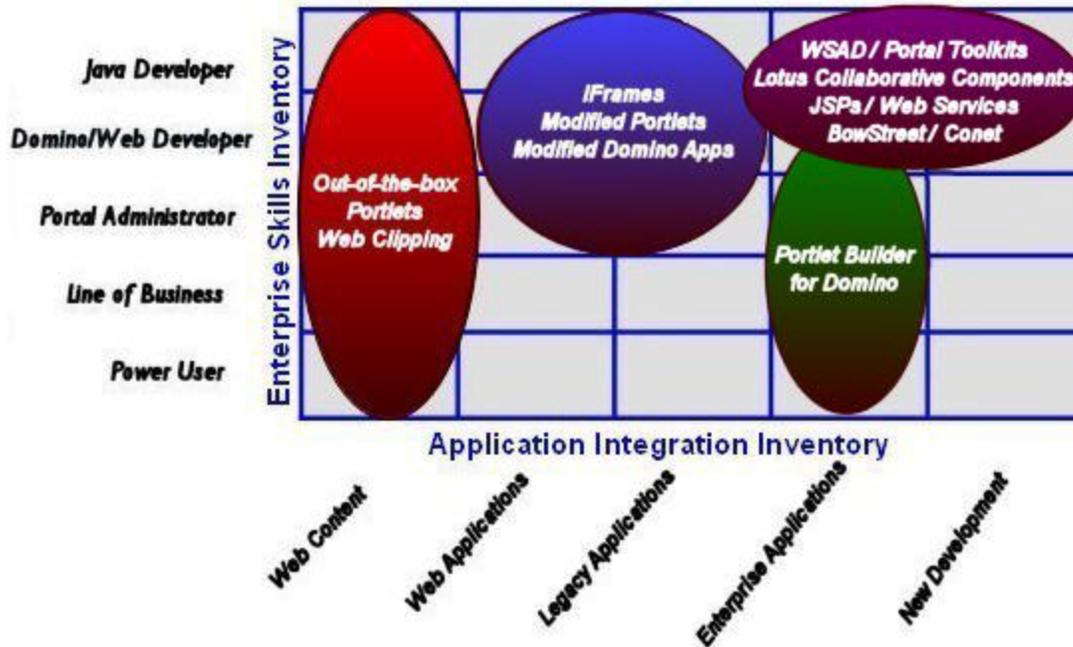
Portal Administrators and Domino Developers

- Modify the Domino Application to serve XML to an out-of-the-box portlet
- Customize other out-of-the-box portlets provided with WebSphere Portal to build your own portlets and display Domino data differently
- Various Third Party Portlet Building Tools such as BowStreet Portlet Factory

Java Developer and Domino Developer with Java Skills

- Use Domino JSP tags in building your own portlets
- Use Lotus Collaborative Components provided with WebSphere Portal in building your own portlets
- Use the Portal Toolkit for WebSphere Studio
- Build a web service portlet to access Domino

Portlet Building Options for Domino Positioning



Offerings Overview of Portlet Builders for Domino

Factor	IBM
Company Information	<p>At IBM, we strive to lead in the creation, development and manufacture of the industry's most advanced information technologies, including computer systems, software, networking systems, storage devices and microelectronics. And our worldwide network of IBM solutions and services professionals translates these advanced technologies into business value for our customers</p> <p>International Business Machines Corporation New Orchard Road Armonk, NY 10504 (914) 499-1900</p>
Product Name	<ul style="list-style-type: none"> Portlet Builder for Domino (aka IBM WebSphere Portal Application Integrator)
Price	<ul style="list-style-type: none"> Included with WebSphere Portal (no extra charge)
Target	<ul style="list-style-type: none"> Power Users, Portal Administrators and Domino Developers
Value Proposition	<ul style="list-style-type: none"> By adding Domino capabilities to the existing Websphere Portal Application Integrator framework, IBM is now offering the Portlet Builder for Domino through the WebSphere Portlet Catalog. IBM's portlet building technology enables line of business users and Portal Administrators to quickly and easily build portlets for third party enterprise applications such as SAP, PeopleSoft, Siebel and now based on IBM Lotus Domino. The ease of use and features of the portlet builders from IBM, the entire portlet development process is dramatically streamlined, enabling business users to deliver adaptive portlets in a fraction of the time and at a fraction of the cost it requires today. Portlets created with IBM's portlet building framework automatically present themselves as stand-alone portal applications, without requiring any coding, duplicating or versioning of assets. By eliminating the need for programmers to write low-level functions, IBM simplifies the development, deployment and change management process, saving companies time and money, and freeing developers to focus on more important, strategic work. All of IBM's portlet builders have been enhanced to include IBM/Lotus Sametime Presence Awareness and Click2Action capabilities for sharing information between portlets, providing immediate productivity gains for portal users. IBM's portlet building technology can help your customers develop their portlets faster and easier, accelerating the sales cycle and helping you to close portal deals.
Programming Model	<ul style="list-style-type: none"> Adds Domino capabilities to the existing Websphere Portal Application Integrator (WPAI) product currently available on the Portal Catalog WebSphere Portal - All interactions are conducted through WebSphere Portal web interface Appropriate Domino connectivity made via native Domino Java APIs Uses IIOP over the HTTP transport to communicate with each Domino server Output WAR files are immediately available for deployment in Portal <ul style="list-style-type: none"> Typical portlet deployment model post creation Basic configuration for pre-built Portlet Instances <ul style="list-style-type: none"> Provide Domino server name/path info Basic configuration of Domino Portlet Builder Provide Domino server name/path information WebSphere Portal interface to all Portlet Builder interfaces J2EE resource adapter to Domino Java API Support for Create, Retrieve, Update and Delete Provide metadata about the documents Business Object definitions, methods, and parameters
Required Installation	<ul style="list-style-type: none"> IBM/Lotus Domino v5 or v6 IBM/Lotus SameTime for People Awareness WebSphere Portal v4.1, 4.2x

	<ul style="list-style-type: none"> WebSphere Portal Express v4.1, 4.2x
Availability	<ul style="list-style-type: none"> WPAI for Domino (Portlet Builder for Domino) – May 16, 2003 WPAI available via the WebSphere Portal Catalog Additional Portlets/Builders available now SAP, PeopleSoft, Oracle, SQL, Siebel, HTML <ul style="list-style-type: none"> PeopleSoft 8.0 Portlets - Available now PeopleSoft 7.5 Portlets - Available now PeopleSoft 8.0 Portlet Builder - Available now PeopleSoft 7.5 Portlet Builder - Available now Siebel Portlets - Available now Siebel Portlet Builder - Available now SAP Portlets - Available now SAP Portlet Builder - Available now Oracle Portlets - Available now Oracle Portlet Builder - Available now Other Applications planned for 2003 <ul style="list-style-type: none"> Ariba, Hyperion, JD Edwards, Dassault, Lawson, Cognos
Features	<p>Data Access, Extraction and Transformation</p> <ul style="list-style-type: none"> Rapid connectivity to Domino and other back-end applications <ul style="list-style-type: none"> Enterprise Information Systems – SAP, Siebel, PeopleSoft, Oracle, etc. Relational Databases – DB2, Oracle, Informix, SQL Server, etc. Other applications – Domino, Ariba, Documentum, etc. Connects to any Domino database Integration of any existing Domino applications or data file (.nsf files) Create, Retrieve, Update and Delete access to all backend applications Aggregation of multiple Domino views No changes to existing Domino databases required <p>Portlet Presentation</p> <ul style="list-style-type: none"> Documents selected from a view are either rendered within the same portlet (take over portlet, or render beside view) or through a separate document viewer portlet The Document viewer portlet can render the document either as customized (through its associated form) or through an IFRAME (as the original document from Domino) Dispatching of documents from the View to the Document portlet is handled using C2A Documents can be updated and new ones created through either the iFRAME viewer or the "data" viewer <p>Portlet Development</p> <ul style="list-style-type: none"> All interactions are conducted through WebSphere Portal web interface All Single Sign On (SSO) options are configurable at development time Click to Action Sortable columns Search Select the views and forms on a Domino database to customize via portlet builder Domino views are customized by selecting what columns to display Domino forms are customized by selecting what fields to display Domino views are selected by the users from a list at runtime View columns are resizable Output WAR files are immediately available for deployment in Portal <p>Other</p> <ul style="list-style-type: none"> Presence Awareness (Requires WebSphere Portal Extend) Offline browsing support Mobile support for browsers and devices capable of rendering HTML and WML markup
Benefits	<ul style="list-style-type: none"> Out-of-the-box portlet - ships with WebSphere Portal <ul style="list-style-type: none"> Portlet can be installed and used immediately

	<ul style="list-style-type: none"> • Faster development <ul style="list-style-type: none"> ○ Business power users create portlets through the portal UI ○ No need for programmers to write low-level functions for connections, security, data beans, etc. • Fast execution <ul style="list-style-type: none"> ○ Portlets use connectors to access application through application's own native interface • Flexible interface <ul style="list-style-type: none"> ○ Look and feel of portlet can be customized ○ Takes advantage of front-end integration portal technology like Click to Action • Usability and security <ul style="list-style-type: none"> ○ Single sign-on using the portal credential vault ○ Easy to use tool for seamless integration of enterprise applications to portals ○ Easily connects to enterprise applications, including any Domino database ○ Leverages/respects backend application security model ○ No changes to existing databases are needed • Implemented in real-time and run in real-time - No programming required • Customization is done through configuration wizards with no programming • One WAR file for each customized portlet deployed
Company URL	http://www.ibm.com WebSphere Portal Catalog

Factor	BowStreet
Company Information	Bowstreet 200 Ames Pond Drive Tewksbury, MA 01876 Toll Free 1.877.663.2978 Toll 1.978.863.1500 Fax 1.978.863.1555
Product Name	<ul style="list-style-type: none"> Bowstreet Portlet Factory for WebSphere and Lotus Collaboration Extension
Price	<ul style="list-style-type: none"> Bowstreet Designer – 2,500 per developer workstation Bowstreet Portlet Factory 5.5 and 1 year maintenance - \$27,000 per CPU
Target	<ul style="list-style-type: none"> Domino or Corporate developers with little to no JSP / Java knowledge
Value Proposition	<ul style="list-style-type: none"> Bowstreet™ Portlet Factory for WebSphere® supercharges the WebSphere Portal Server with tools and technology for rapidly creating, customizing, maintaining, and deploying portlets. The Portlet Factory's ease of use and advanced development features dramatically streamline the entire portlet development process, enabling developers to deliver adaptive, robust portlets in a fraction of the time and at a fraction of the cost it requires today. With Bowstreet Portlet Factory for WebSphere, the complexity of J2EE development is greatly reduced. Developers are able to quickly and easily leverage their company's core assets, automatically assembling them into adaptive portlets that can respond instantly to change. Unlike portlets created with RAD or "clipping" tools, Bowstreet-powered portlets are dynamic, robust J2EE applications that react automatically to change, and can be further modified by business users in real time, to meet changing business requirements. In addition, portlets created with Bowstreet Portlet Factory can automatically present themselves as stand-alone web applications, web services or portlets, without requiring any coding, duplicating or versioning of assets. By eliminating the need to code all of these implementations and their variations, Bowstreet Portlet Factory simplifies the development, deployment and change management process, saving companies time and money, and freeing developers to focus on more important, strategic work.
Programming Model	<ul style="list-style-type: none"> Graphical tool plugs right into WebSphere Studio Using the Bowstreet Designer, developers assemble Builders into models, similar to the way they would build a spreadsheet model by snapping together formulas These models are then executed at runtime to dynamically generate application code, including JSP's, Java classes, and XML documents, as well as all of the low-level artifacts that make up the portlet application Developers can capture and automate the process of building dynamic portlets instead of explicitly coding each portlet Developers can quickly and easily create multiple highly customized portlets from one code base, without requiring additional code changes or redeployment
Required Installation	<ul style="list-style-type: none"> IBM/Lotus Domino v5 or v6 IBM/Lotus SameTime for People Awareness Bowstreet Portlet Factory for WebSphere v5.5.4+ WebSphere Portal v4.1, 4.2 or WebSphere Portal Express v4.1
Availability	<ul style="list-style-type: none"> Available now
Features	<ul style="list-style-type: none"> Automates the creation of the JSP and Java code Also enables re-use of existing Domino data in J2EE or portlets applications Ability to create custom portlets for all types of back-end systems in a consistent fashion, whether it is Domino or DB2 etc. Applications can run standalone and as portlets, without any modifications Portlet to Portlet communication can be added with programming Portlets are extremely flexible and quickly can adapt to changes

	<ul style="list-style-type: none"> • Ability for business or non-technical users to configure, administer, modify or create new portlets • Service oriented architecture • Runs on Domino 5 and 6 • People awareness (Requires WebSphere Portal Extend)
Benefits	<ul style="list-style-type: none"> • Quickly create, deploy and customize Domino portlets • Enable Domino developers to leverage the power of J2EE • Create many, customized versions of a Domino portlet from one portlet instance • Speed time-to-market by enabling business users to configure and customize portlets
Partner Status	<ul style="list-style-type: none"> • IBM is now reselling the Bowstreet Portlet Factory • IBM and Bowstreet have now signed a software marketing agreement enabling Portal sales reps to sell the Bowstreet Portlet Factory
Company URL	http://www.bowstreet.com http://www.bowstreet.com/ibm

Factor	Conet
Company Information	<p>CONET provides Products, Solutions and Services to Access Critical Information and Maximize Return on Existing IT Assets. Focus on Products for System Integration and Solutions.</p> <p>Founded in 1987 250 IT Professionals 5 Offices in Germany and 1 Office in the US Revenue 28M EUR in 2001 IBM Premier Business Partner Focus on Products for System Integration and Solutions</p>
Product Name	<ul style="list-style-type: none"> • WebSphere Portal Portlet Factory for Domino 2.0
Price	<ul style="list-style-type: none"> • WebSphere Portal Portlet Factory for Domino 2.0: \$29.000 per CPU • No additional costs for Portlet developer licenses • Note: Special pricing models and offerings for SMB WebSphere Portal Express Solutions
Target	<ul style="list-style-type: none"> • Domino or Corporate developers with little to no JSP / Java knowledge
Value Proposition	<ul style="list-style-type: none"> • Portlet Factory is a Domino-Websphere integration tool for bringing Domino legacy data and existing application functionality right into the portal interface. The product solves the Portal integration challenge faced by organizations with existing Domino applications and information assets. Portlet Factory allows customers to quickly deploy portlets into these Domino databases and applications for a fast and significant return on their existing Domino infrastructure investment. Portlet Factory relies on a unique configuration model that allows the complete and rapid integration of these valuable information assets into the portal utilizing existing Domino skills. Key differentiator is the RDBMS (e.g. DB/2) or memory based Domino Warehouse Model, which guarantees enterprise scalability and independence from the performance of the Domino Backend. • The Portlet Factory application was conceived from ideas and experiences that CONET had gained through building web-based enterprise architectures and highly scalable Data Warehouse Solutions for numerous clients in a broad range of industries. CONET has a strong track record going back 15 years with customers seeking to integrate Domino data into web-based applications, such as intranet and extranet sites. Success stories include some of IBM's largest Domino customers, as well as highly visible mid-size business customers.
Programming Model	<ul style="list-style-type: none"> • Domino-centric - visual tool that requires using the Notes Client as the interface to create the Portlets • Java connectivity from WebSphere portal to Domino applications • Uses the local Domino Java classes to access the databases • Portlets communicate with the Factory service using HTTP
Required Installation	<ul style="list-style-type: none"> • Lotus Domino 5/6 • WebSphere Portal V4.1+, 4.2+, WebSphere Portal Express V4.1+, 4.2+ • Installation of Portlet Factory Connector (JAR) code on every Domino server • Installation of Portlet Factory Service (EAR) code on WAS • Installation of Portlet Factory generic Portlet (WAR) on WP server • Installation of Portlet Factory Cache on RDBMS (no need if memory based caching is used). • Notes Client as interface and development environment to portlet factory database • Needs JDK 1.3 installed on the machine running Domino • Uses the local Domino Java classes to access the databases • Communicates with the Factory service using IIOP
Availability	<ul style="list-style-type: none"> • Available now
Features	Data Access, Extraction and Transformation

	<ul style="list-style-type: none"> • Integration of any existing Domino applications or data file (.nsf files) • No changes to the databases needed. PF doesn't require predefined views. • Powerful query/subquery concept with formulas • Combining Data from multiple domino databases • Enhanced Data Transformation Options: Append, Merge, Mix, Build m:n Relationship between the data • Aggregation and Calculation <p>Domino Warehouse</p> <ul style="list-style-type: none"> • Highly scalable J2EE WebSphere based data engine (EJB based PF Service) • Memory model or persistence RDBMS (DB/2, Oracle) • Variable caching options for every data source • Device Independent data assets • Separation of portlet content and layout <p>Portlet Presentation</p> <ul style="list-style-type: none"> • Free and flexible formatting options - Look and feel can be fully customized • User based Portlet Caching • Reverse Proxy for showing complex content directly in the Portlet (including Link and JavaScript Filtering) • Embedded Search: Field Search or Full Text, Categorizable Search Result, Layout can be defined, Sortable Search Results, • Multiple Building Blocks (Objects) can be deployed in one Portlet • N-tree Categories and unbalanced information hierarchies • Compatibility with people awareness (Uses STLinks API, not Lotus Collaborative Components) • Portlet Messaging • Portlet Factory Forms • Rich Text Support • Write Access <p>Portlet Development</p> <ul style="list-style-type: none"> • Easy to use Notes Database for developing and customizing the Portlet • Reusable Selections for using in multiple Portlets • Portlet Preview Function • Portlet Management Functions (Instances, History, Version Management, Categorizing...) • Embedded JS Formula Library • Code Checker • WAR file will be automatically generated <p>Other</p> <ul style="list-style-type: none"> • Single Sign on Support (Credential Vault) • Respects Domino backend application security model • Multiple configuration options (Single Server, Distributed Services, Enhanced Distributed Services)
Benefits	<ul style="list-style-type: none"> • High Performance and Enterprise Scalability through unique WebSphere J2EE based Domino Warehouse Model with flexible caching options. • Flexible Data Transformation Options for combining data from multiple domino applications through powerful query/subquery concept with formulas • Reusable components through Building Block concept. Components/Assets can be reused in several Portlets. • High developer acceptance especially for SMB customers: Portlets with rich functionality can be implemented with pure Notes knowledge. No need to learn Java technology. • Save Development Costs and Implementation Time - Portlet Factory configuration

	averages 10 times faster than Java portlet development
Partner Status	<ul style="list-style-type: none"> • IBM Premier Business Partner • Awards: Lotus Beacon Award 2002 "Excellence in Partnering", Apex Award 2002 "Best Content and Knowledge Management Solution", Advisor's Editor's Choice Gold Award 2002 "Best Development Tools, you@web CM/KD", Advisor Excellence Award 2001 "Best Solution, Henkel North America"
Company URL	http://www.youatweb.com http://www.youatweb.de