Integrating .NET Assets into WebSphere Portal:

A practical approach to SOA

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Mainsoft

IBM Business Partner

Agenda

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University Hospital Ghent
- Overview
- Business Need
- Technical Requirements
- Solution
- Implementation

.NET Extensions for WebSphere Portal

Demo

Q & A

Dr. Bart Sijnave, CIO
University Hospital Ghent

University Hospital Ghent
Background

UZ *University Hospital Ghent*

✓ Founded in 1959, University Hospital Ghent is one of the largest healthcare providers in Flanders, Belguim.

✓ A "third line" hospital with 1,000+ beds for acute and extensive services for ambulatory diagnosis, treatment & care.

✓ The hospital is also a center for scientific research & medical training for doctors to become medical specialists.

"*Our main concern is providing the best care to patients. Every day, all our doctors, nurses, technical and administrative employees devote themselves heart and soul to the patient's care, treatment and comfort.*"

University Hospital Ghent
Business Requirements

UZ *University Hospital Ghent*

Replace existing Extranet, Intranet sites w/ self-service virtual information center that better supports diverse customer needs:

- ✓ 380,000 patients & families: locate doctors, make appointments, request medical records, and pay bills online.
- ✓ >5,000 doctors, nurses, technical and admin staff: provide secure, *reliable* access to mission-critical applications that support surgeries & other medical procedures; integrated access to research, medical records & billing.
- ✓ Healthcare professionals: single sign-on access to make referrals, request consultations, transfer patients and access continuing education programs from a single location.
- ✓ Researchers and students: facilitate exchange knowledge and best practices.

University Hospital Ghent
Technical Requirements

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State-of-the-art technology that:

- ✓ Offers maximum reliability, availability, scalability and security.
- ✓ Integrates home-grown .NET application framework, a picture archiving and communication solutions (PACS) from GE based on .NET 1.1; 14 Visual Basic applications, > 5 terabytes of patient data stored in an Oracle database, and an LDAP repository that provides uniform user access.
- ✓ Context integration: no need to re-enter patient information for each application.
- ✓ Is open to Exchange, Instant Messaging and potentially SharePoint.
- ✓ Runs on Dell data center, which is 75% Windows and 25% Linux.
- ✓ Provides flexible, service oriented architecture that can be expanded, re-used in the future.
- ✓ Enables in-house team of .NET developers to build, maintain portal.

University Hospital Ghent
Alternatives

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UZ *University Hospital Ghent*

SharePoint 2007

Issues:

X <u>New technology</u>: *not* proven in the marketplace.

X <u>Limited capacity to integrate non-Microsoft technologies</u>: Need to synchronize LDAP directories via scripts or an identity management tool to synchronize user directories.

X <u>Expensive to scale</u>: requires 2x hardware compared to a Java EE architecture.

University Hospital Ghent
Alternatives

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WebSphere Portal

Issues:
In 2005, UZ Gent <u>standardized on .NET development</u>, and we want to maintain this development strategy going forwards.

? Is there a <u>bridge</u> that will <u>enable our VB team</u> to build and maintain the portal?

? Can we <u>extend WebSphere Portal's infrastructure services</u> (branding, navigation, composite application development) to our .NET apps and services?

➢ IBM introduced .NET Extensions for WebSphere Portal from Mainsoft
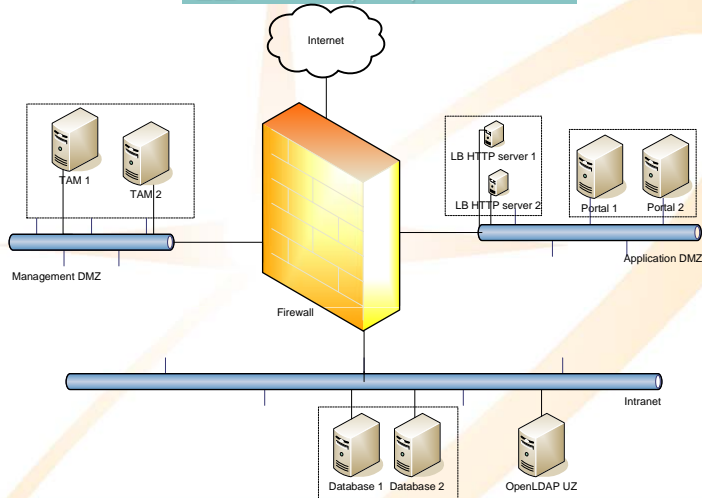
University Hospital Ghent
Proof of Concept

LZ *University Hospital Ghent*

✓ Mainsoft team provided on-site POC featuring its Visual Studio-based software development kit.

✓ In 4 hours, our .NET team lead integrated 20,000 lines of VB.NET code into WebSphere Portal, demonstrated integration with WebSphere Portal credential vault and back-end systems.

➤ Decision: WebSphere Portal + .NET Extensions

High-Level Architecture

University Hospital Ghent Implementation Schedule

UZ *University Hospital Ghent*

1. **Phase I:** Online implementation of the Internet site scheduled for December 2007. Thereafter, information updates will be carried out using a Web Content Management System.
2. **Phase II:** Electronic patient data exchange and content management will include integrated search functionality, access control and single sign-on to existing applications, transactional services; services for content and knowledge management and security based on eID-technology. Scheduled for delivery at the end of 2008.
3. **Phase III:** Federate UZ Ghent's portal with affiliated hospitals.

Yaacov Cohen
President & CEO
Mainsoft

Who Is Mainsoft?

Founded:	1993
Business:	Leader in .NET-Java EE interoperability Advanced IBM Business Partner since 2004
Vision:	Move to Open Systems, Preserve Microsoft investments
Clients:	150+ banking, insurance, manufacturing, retail, software development and public sector customers
Product Validations:	Ready for IBM. WebSphere. software IBM Server Proven Optimized for Microsoft Visual Studio
Awards:	Finalist: Best in Show Lotusphere 2007 FORRESTER <u>Best</u> option for rehosting .NET apps on J2EE servers

13

.NET Extensions for WebSphere Portal

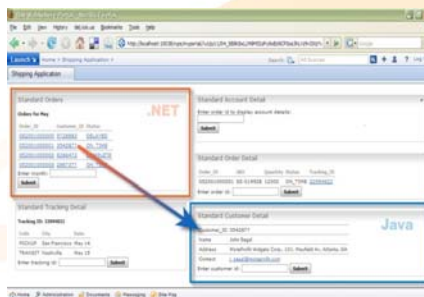✓ **Capitalize on existing .NET assets**
- Use existing .NET skills
- Integrate existing ASP.NET applications
- Federate contents stored on existing SharePoint sites and SQL Reporting Services.

✓ **Build composite apps across .NET and Java**
- Create on-the-glass mash-ups across .NET and Java.
- Enhance employee productivity.
- Improve customer relationships.

✓ **Extend .NET to WebSphere Portal**
- Single point of access to all enterprise services - *both .NET and Java* - within a secure, role-based environment.
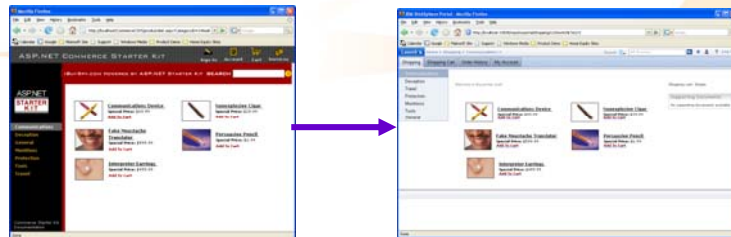- Proven availability, scalability & performance.

On-the-glass integration between .NET and Java portlets

.NET Extensions for WebSphere Portal:
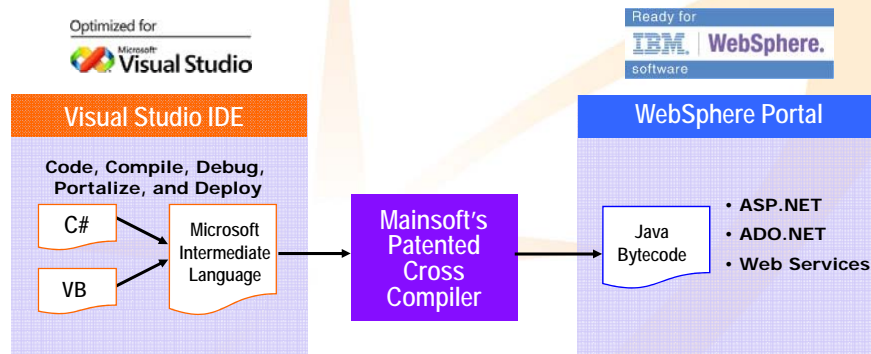### Mainsoft's Portal Edition

Mainsoft

- ✓ C# and Visual Basic developers use Mainsoft's Visual Studio-based SDK to create and integrate ASP.NET applications into WebSphere Portal, *without* having to learn Java
- ✓ .NET developers can also access WebSphere Portal Services to deliver a complete Portal implementation
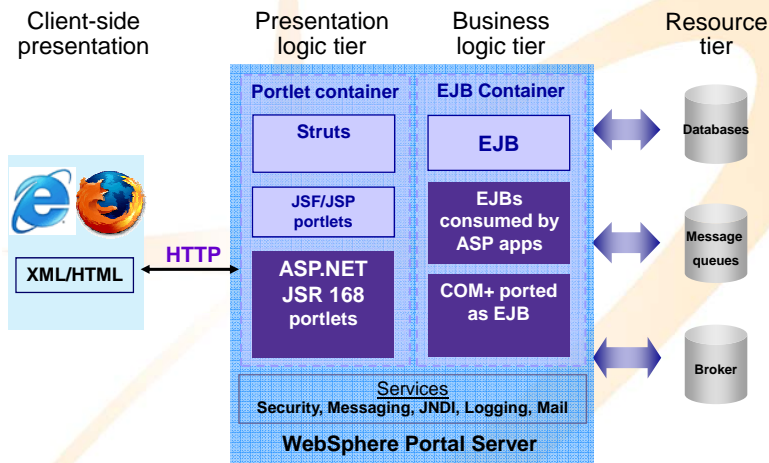- ✓ End user experience is *seamless* across .NET and Java.

Use Mainsoft's Portal Edition to integrate a ASP.NET store front, with a product catalog, user authentication and personalization, shopping carts and a Web service to submit orders into WebSphere Portal.

.NET Extensions for WebSphere Portal:
Enabling Technology

Mainsoft

Optimized for
Microsoft Visual Studio

Ready for
IBM. WebSphere. software

Visual Studio IDE

Code, Compile, Debug, Portalize, and Deploy

C#
VB → Microsoft Intermediate Language → **Mainsoft's Patented Cross Compiler** → Java Bytecode

WebSphere Portal

- ASP.NET
- ADO.NET
- Web Services

16

ASP.NET: One More Framework Running on the JSR 168 Container

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Client-side presentation	Presentation logic tier	Business logic tier	Resource tier

Portlet container
- Struts
- JSF/JSP portlets
- ASP.NET JSR 168 portlets

EJB Container
- EJB
- EJBs consumed by ASP apps
- COM+ ported as EJB

Resource tier
- Databases
- Message queues
- Broker

HTTP — XML/HTML

Services
Security, Messaging, JNDI, Logging, Mail

WebSphere Portal Server

.NET Extensions for WebSphere Portal:
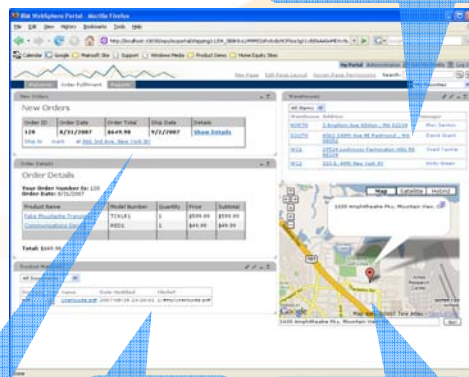### SharePoint Federator for WebSphere Portal *New!*

Mainsoft

✓ Give end-users SSO, role-based access SharePoint content
- SharePoint lists
- Documents
- Announcements
- Events
- Contacts
- Meetings

✓ Portlets are highly customizable and can participate in mash-ups across .NET and Java.

✓ Build composite apps using SharePoint, .NET & Java portlets.

ASP.NET portlet obtains warehouse info stored in a SharePoint Services site

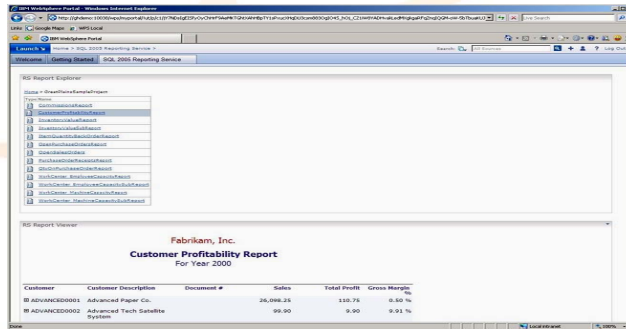Re-use of an ASP.NET orders processing component (from the ASP.NET store front)

ASP.NET portlet obtains list of materials stored in a SharePoint document library

Warehouse location mash-up created from WebSphere Portal palette (Google gadget) & SharePoint content

.NET Extensions for WebSphere Portal
SQL Reporting Services Federator for WP

Mainsoft

✓ Federate <u>SQL Reports</u> within WebSphere Portal.
✓ Integrate with <u>IBM Dashboard</u> to deliver detailed reports using customer's reports stored on the **SQL Server**.

Provide real-time sales performance and profitability performance, with up-to-the-minute on-line sales incorporated into the report.

DEMO

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