

# Mobile Development Tools

## Mobile Development Tools

### BENEFITS:

- Build end-to-end solutions in Microsoft Dynamics.
- Create vertical applications quickly using the Mobile Framework.
- Develop new business opportunities by integrating with other mobile Microsoft Dynamics ISV solutions.
- Sell your mobile solutions to the Microsoft Dynamics channel.
- Expand your existing mobile solutions using the standard building blocks provided with Microsoft Dynamics Mobile.
- Enjoy an open architecture that helps enable integration to other client legacy systems as well as out-of-the-box integration with Microsoft Dynamics™ AX and Microsoft Dynamics™ NAV.

The Mobile Development Tools enable Microsoft partners to develop and customize mobile applications for Microsoft Dynamics. The Mobile Development Tools make it easy to integrate with Microsoft Dynamics and extend the existing functionality to benefit users who need to work in mobile environments.

The Mobile Development Tools consist of the following components:

- Mobile Framework: *for easy mobile application development and customization.*
- Mobile Server: *for easy mobile application integration and deployment.*

*The Mobile Development Tools allows partners to bring more value to their customers and significantly speed the development process for their own applications.*



## Mobile Framework

The Mobile Framework enables you to build modularized mobile business applications tailored to specific roles in your company. Using the Mobile Framework (an extension of Visual Studio® 2008) developers can quickly create mobile applications from reusable components called tasklets. Tasklets can be combined in different ways to cater to the needs of individuals. This RoleTailored architecture leverages the power of Windows Mobile®-based devices and helps mobile users become more effective and efficient in their daily tasks.

The architecture of the Mobile Framework makes it easy to reuse, deploy, and combine individual tasklets with customer-specific processes or work flows. Mobile applications created with the Mobile Framework operate on any VGA or QVGA device that runs on Windows Mobile 5.0/6.0 or 6.1. Communication with the back end server is done through XML Web services handled by the Mobile Server.

## MOBILE FRAMEWORK FEATURES:

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### **Mobile Framework**

The Mobile Framework is integrated into Visual Studio 2008 and enables developers to quickly create task-based mobile applications using the .NET Compact Framework.

The application consists of a number of tasklets. A tasklet represents a typical task for a mobile user and can be reused in any mobile application built using the Mobile Framework. Tasklets are run on the Role Pad, a Windows Mobile 5.0/6.0 or 6.1 application.

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### **Tasklet User Interface**

Tasklets have a User Interface (UI) to display information on the mobile device screen. The Mobile Framework provides a template that contains the standard Windows Mobile layout, including the navigation bar and soft key menu. This enables the tasklet developer to just focus on the contents and layout specific to the tasklet. The Mobile Framework also provides advanced controls to help create new UI.

It is easy to configure RoleTailored views and provide users with customized tasklets and data. This feature makes it easy to deliver business data and processes tailored to the needs of users or groups within the company and let users attend to their daily work tasks.

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### **Tasklet Orchestration**

The flow and interaction of tasklets is handled through orchestration. Orchestration determines how users navigate through the application on the mobile device. Orchestration is done using only XML. No additional tasklet coding is required. Orchestration specifies the input to and output from the tasklet; modifying the tasklet flow only requires modification of the orchestration. This allows for wide reuse of the tasklets in other work flows within the same application or even across applications.

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**Data Handling**

Tasklets can be programmed to perform various actions for handling data. A tasklet can extract data from a Microsoft SQL Server™ database, accept input from one tasklet, and output data to another tasklet.

A request document represents a transaction (such as the creation of a sales order) that can be interpreted and processed at the back end server. Using XML helps ensure that the correct business logic is applied at the server without having to replicate the business logic on the mobile device.

A request document is created using a combination of orchestration and tasklets. The orchestration defines the request document for a group of tasklets and the tasklets provide the request document with contents. When a user navigates on a device, each tasklet outputs data that is serialized into a block of XML. The individual blocks of XML are combined into a single request document that is sent to the back end server for processing.

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**Service**

A service provides functionality that is available across the entire application. Pluggable interface based architecture makes it possible to replace common functionality in the application.

An example of replaceable common functionality is bar code scanning. The Mobile Framework comes with bar code scanning functionality and suppliers. However, with services it is easy for Microsoft partners to add new bar code scanning functionality and suppliers that can be made available across the entire application.

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# Mobile Server

The Mobile Server provides the technology infrastructure to connect your mobile business applications with Microsoft Dynamics supporting different networks such as WiFi and GPRS.

The Mobile Server enables applications to work offline as well as online and takes advantage of a local database to enable offline operation during periods of no network connectivity or intermittent network connectivity.

The Deployment Service manages the deployment of mobile applications to mobile devices via a Management Console snap-in. Document service helps ensure the communication between the mobile devices and Microsoft Dynamics.



## BENEFITS:

- Experience superior device management abilities and interoperability with existing IT infrastructure.
- Keep vital business information synchronized and accessible across a wide range of devices.
- Optimize technology investments with applications that are easily customizable, simple to deploy and manage, and that can scale to support the evolving needs of your customers.

## MOBILE SERVER FEATURES:

<b>Document Service</b>	<p>The Document Service is a Web Service that handles requests such as placing an order sent from the mobile client to Microsoft Dynamics. These requests are stored in XML documents and matched by the back end server for further processing.</p> <p>The Document Service features tailor-made integrations with Microsoft Dynamics AX and Microsoft Dynamics NAV where the management interface resides inside the products. The Document Service also features a general “dispatcher” functionality that can be used to e.g. call Microsoft Dynamics AX and Microsoft Dynamics NAV web services or integrate with legacy systems (or both at the same time). With the dispatcher functionality we supply a MMC snap-in for easy setup and administration of the documents, users and queue.</p>
<b>Deployment Service</b>	<p>The Deployment service is a key element for the administrator to distribute and update the mobile applications to the mobile device users. The Deployment service consists of a Web service and a snap-in added via the Microsoft Management Console.</p>
<b>Logging Service</b>	<p>The Logging service is a reporting tool that logs all events from the mobile device. The Logging service consists of a Web service and a snap-in added via a MMC.</p>
<b>Reference Database</b>	<p>Mobile Server is responsible for replication of data to the device’s reference database from Microsoft Dynamics. The reference database of the device contains a subset of the replicated data and is limited to the data relevant to the mobile user.</p>
<b>Back end Integration</b>	<p>Mobile Server connects to Microsoft Dynamics through a number of integration components that are installed with the product and subsequently configured at the back end.</p>

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## MOBILE DEVELOPMENT TOOLS SYSTEM REQUIREMENTS:

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**TO OBTAIN THE FEATURES MENTIONED IN THIS FACT SHEET, THE FOLLOWING MODULES AND TECHNOLOGIES ARE REQUIRED:**

### Mobile Client

- Windows Mobile Pocket PC 5, 6 or 6.1 Classic/Professional Edition Devices (VGA and QVGA)
- .NET Compact Framework 3.5 SP1
- SQL Server™ 2008 Mobile Compact Edition 3.5 SP1

### Mobile Server

- Windows Server 2003/2008 Standard Edition, 32 and 64 bit
- Internet Information Server 6.0/7.0
- .NET Framework 3.5 SP1
- Microsoft Management Console (MMC) 3.0
- SQL Server 2005/2008 Standard Edition

### Development Toolkit

- Microsoft Visual Studio 2008 SP1 Professional or above

### Microsoft Dynamics\*

- User licensing: customers are required to license the correct number of Microsoft Dynamics users based on the licensing rules.
- Integration technologies: when integrating to Microsoft Dynamics the customer is required to license the correct integration technologies they have decided to use for the solution.

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\* Please review the appropriate Microsoft Dynamics price list and license conditions for a complete list of requirements and conditions that apply when integrating to an application within the Microsoft Dynamics line.

Connectivity and synchronization may require separately purchased equipment and/or wireless products (e.g., WiFi card, network software, server hardware, and/or redirector software). Service plans are required for Internet, WiFi and phone access. Features and performance may vary by service provider and are subject to network limitations. See device manufacturer, service provider and/or corporate IT department for details.

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