

PDA Desktop

The PDA Desktop is an OSGi-based application framework that collaborates with the PDA's visual environment. It offers a model for developing OSGi-aware applications with a graphical interface. The PDA Desktop provides integration with the Pocket PC desktop so that applications can be started, stopped and switched to from the native desktop. In addition, the PDA Desktop offers techniques for application delivery and deployment, which can be initiated either over-the-air or from a locally-connected PC. The GUI of the OSGi-aware applications, running in the context of the PDA Desktop, can be set the Pocket PC L&F.

Features

- PDA Desktop is an OSGi-based application framework that collaborates with the PDA's visual environment
- Supports over-the-air application deployment and installation from a locally connected PC
- Demonstrates the communication with a backend server and enables seamless deployment of 3GT service packages
- Contains sample applications such as news, music player, weather forecast, games, etc.

Benefits

- Seamless visual integration of Java-based applications within the PDA's visual environment and its native platform, with minimized consumption of system resources
- Offers developers a new dimension in application portability by truly harnessing the Java motto: "Write once, run everywhere!"
- Enables dynamic deployment of applications without system restart - hassle-free and invisible process for the users

The PDA Desktop runs on top of mBedded Server Framework and requires a backend server (for example mPower Remote Manager) in case remote application delivery is enabled. It uses the mBedded Server Framework as a component framework and the mGUI graphical library as the source of graphical elements.

The desktop distribution contains a set of sample service applications that should be imported into the services database of the mPRM backend server. The PDA Desktop does not include the complete

mPRM software and the same services in a format suitable for local (PC) deployment.

Models for service deployment

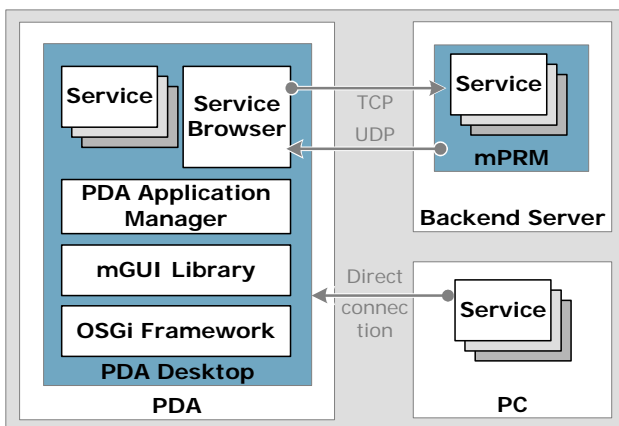
The PDA Desktop supports two models for the dynamic deployment of services, which is initiated by the clients (PDA users):

- **Over-the-air service deployment** – Users are able to establish a connection to the mPRM backend server through the Service Browser user interface, browse the available services on

the backend and subscribe to the desired services (purchase them or use them for free). Users can start using the subscribed services instantly after their installation.

- **Installation from a locally connected PC** – By using a PC, users can connect to their PDA devices and install available services without using the Service Browser, but as native applications directly on the particular PDA platform (for example by using CABs for Windows CE).

Architecture of the PDA Desktop



Architecture of the PDA Desktop

- The product is based on the ProSyst's OSGi framework, including extended features, such as "lazy" bundle initialization, which drastically reduce the startup time.
- The visual interface is based on the mGUI library – an embedded Java GUI library that is optimized for resource-limited devices.
- The visual shell of the PDA Desktop is provided by the PDA Application Manager – a visual application container, with a look&feel designed for the target platform.
- Users perform service deployment and management via the Service Browser – an

mGUI-based application, which appears in the start menu of the PDA operating system and enables users to subscribe or unsubscribe to services published on the backend. It also allows installing and uninstalling services on the underlying OSGi Framework.



The Service Browser Overview

- The smooth integration of OSGi/mGUI-based applications with the underlying desktop is ensured by the PDA Desktop Integration Agent. It creates start menu icons and shortcuts on the PDA's native desktop for each installed Java application.
- MIDP 1.0 support - provides smooth integration of MIDlets with the OSGi and mGUI environments. MIDlets can run as if they were pure mGUI applications and can likewise benefit from the PDA Desktop Integration.

Supported formats for service applications

The PDA Desktop supports 3GT service applications, as they have been defined in the 3GT project (an European funded project, promoting the OSGi technology). A service application is a bundle or a set of bundles provided by the backend, which

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Technical Data Sheet

are wrapped as PAR archives, containing also resources and stored application settings.

Integration of services

The technology of the PDA Desktop seamlessly integrates Java-based applications with native applications, allowing them to be installed, uninstalled, started, stopped and visualized in the same manner as if they were separate native applications. However, all applications are started within one process of the Java virtual machine, where they can entirely benefit from the OSGi technology and instantly interact with other running services.

Applications

The PDA Desktop is distributed with several sample applications - mainly infotainment and entertainment services. Some of them communicate with the backend server to provide content (like news), while others don't contact the backend server after the initial service deployment (like games).

- Album - shows a series of images, provided by installed bundles.
- News – provides a news service to a mobile news client that can read news messages from a backend news database.
- Weather - shows current weather, forecast and satellite images, received from a servlet, deployed on the backend server.
- Games:
 - ✓ Tetris – the popular Tetris game as an mGUI- and OSGi-based application.
 - ✓ SpruceGo - the common Go game, provided as a MIDP 1.0 MIDlet.
 - ✓ SpruceCheckers – the Checkers game, provided as a MIDP 1.0 MIDlet.

- ✓ Blocks - the popular Blocks game as an mGUI- and OSGi-based application.



The popular Blocks game

Additional capabilities and packages of mBedded Server and other ProSyst products are explained in the data sheets available for each product.

If you have any further questions, we will be happy to assist. Please contact us via info@prosys.com or visit our Developer Zone at dz.prosys.com.