

## CLDC Edition 1.0

mBedded Server CLDC Edition provides implementation of OSGi R3 Specification for CLDC/MIDP. Most of the mobile phones on the market today support the CLDC/MIDP Specifications. The functionality of the package is ideal for such type of device. It brings additional benefits on top of MIDP as a component framework to write complex MIDP applications, and for remote installation and configuration of software components utilizing the benefits of the OSGi. Typically CLDC-based VMs consume less memory and CPU power compared to CDC-based VMs. ProSyst CLDC OSGi Framework is the ideal choice for an OSGi solution when resource consumption is an important factor.

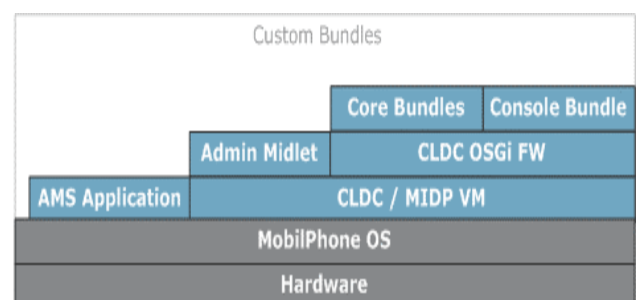
### Features

- Lightweight OSGi implementation, especially designed to run on CLDC/MIDP platforms
- Provides a component framework that enables the modularization of complex MIDP applications
- Provides the possibility to offer the benefits of the OSGi platform on a great number of CLDC-based devices
- Remote management of CLDC OSGi platforms
- Tight collaboration with the native environment so the usage experience is the same as when using traditional MIDP applications

### Benefits

- High-performance production-quality runtime environment, optimized and running on today's mobile hardware
- Extends traditional MIDP development with new possibilities.
- Small memory footprint (less than 230 KB) and minimal system requirements

The mBedded Server CLDC Edition is a lightweight OSGi framework implementation. The programming model provided in product is based on OSGi bundles. An OSGi bundle can provide non visual logic – it can be either a simple library bundle or can have start/stop methods (e.e. can have a state) and can provide OSGi services. An OSGi bundle can also provide visual logic. This is done by registering an OSGi service that implements the Midlet interface. Registered Midlets then can be accessed from an admin midlet or directly from the native phone desktop (if this is supported for a particular phone in an AMS application).



Legend:  ProSyst components

mBedded Server CLDC Edition Architecture

### Architecture Components

- AMS Application – this is a native application for a particular OS and phone. It is responsible for the starting of the Admin Midlet. Admin Midlet loads and starts the OSGi framework. It handles specific operations that cannot be performed by the CLDC framework due to the limitations of the CLDC/MIDP platform. The MIDP JVMs have no support for separate class loaders and this imposes the use of the native agent as a framework launcher in order to perform install, update and uninstall operations on bundles.
- Admin MIDlet – it loads and starts the CLDC OSGi framework and also provides an user interface for the interaction. The user can view the Framework startup time and heap memory usage, view bundle state, and perform bundle lifecycle operations - start, stop, uninstall, install, update; restart the framework.
- CLDC Framework – implements the OSGi R3 specification, adopted for CLDC/MIDP.
- Console Bundle provides support for console access to the target framework.
- OSGi Bundles – provide core OSGi services. Supported OSGi services are Log Service, Configuration Admin, User Admin, and Start Level.

In addition to that custom bundles that provide user functionality can be developed on top of the CLDC OSGi framework.

### Persistent storage

The CLDC OSGi framework stores persistent data and works with the persistent device storage through the `javax.microedition.rms` API.

### OSGi Framework Features and Services that are not Supported

Due to the limitations of the CLDC/MIDP platform, some services and features from OSGi Release 3 are not available:

- Package Admin Service
- Separate class loader per bundle (MIDP allows the use only of a single system class loader)
- Permission Admin Service
- Native libraries - the CLDC framework uses a workaround for some JVMs with support for native libraries (like J9 2.2 MIDP profile)
- Bundle sub-archives support
- Security Manager and Security
- Management of URL Stream Handlers and Content Handlers

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 are happy to assist. Please contact us at [info@prosyst.com](mailto:info@prosyst.com) or visit our Developer Zone at [dz.prosyst.com](http://dz.prosyst.com)