JDE

JavaTMDevelopment Environment

Each Aphelion JDE is a complete development environment derived from IBM's Workplace Client Technology MicroEdition (WCTME) product family, the relevant components of which, such as the WebSphere Studio Device Developer (WSDD) and the Micro Environment Toolkit for WebSphere Studio (METWS), are included, fully or partially, in each JDE according to the needs of a given customer. In addition, each JDE is customized to work seamlessly with the corresponding (targeted at the same RTOS/processor platform) JRE (Java Runtime Environment).

JDEs are available in Windows/x86-hosted or RedHatLinux/x86-hosted configurations, each comprised of the following main components:

- A "standard" configuration of IBM's WSDD.
- A plug-in interface for the corresponding JRE, which allows the use of JDE GUI to remotely start and control the runtime execution of this JRE on a target RTOS/processor platform, as long as such a platform is connected to the host platform of JDE.
- Plug-in interfaces for the C/C++ compiler, assembler, linker, archiver and other tools and utilities from a toolkit of RTOS vendor, needed for compiling, assembling, and linking into the JNI-compatible forms (JNI - Java Native Interface) the C/C++ "native methods" used in Java classes from customer's Java applications and in ports of Java class libraries and API packages included in the corresponding JRE. Each plug-in interface allows the use of JDE GUI to start and control the execution of a tool or utility serviced by this interface.
- RTSJ-compliant RTOS/processor-targeted AOT compiler, if the corresponding JRE is compliant with the Real-Time Specification for Java.

Apogee can also include in a given JDE the following optional components obtained from IBM or various third parties:

- Customer-requested tools and tool packages from IBM's METWS, such as:
  - The Service Management Framework(SMF) Bundle Development Kit, a full implementation of the OSGi Service Platform, which facilitates the use of JDE for creating Java applications in form of OSGi bundles.
  - The SyncML4J bundle for implementing the SyncML Data Synchronization and Device Management protocols in Java applications created with JDE.
  - Packages allowing the access to IBM's DB2 Everyplace and DB2 Cloudscape relational databases.
- The mPower Remote Manager(mPRM) from ProSyst Software providing the "server side" support for the OSGi platform.
- The server-side support for the OpenFusionRT CORBA from PrismTech Corporation, or the server-side support for the ORBexpress CORBA package from Objective Interface Systems.

Each JDE is then fully usable for:

- creating all types of Java applications targeted at the corresponding JRE;
- building the executable forms of such applications;
- downloading the executable forms on to the JRE for runtime execution;
- remotely debugging the executable forms on the JRE;
- tuning the executable forms of deployment-ready applications for small runtime footprint; and
- tuning the executable forms of deployment-ready RTSJ-compliant applications for fast runtime execution.

The target-dependent tools of each JDE (for example, the execution profiler/analyzer) are retargeted by Apogee at the RTOS/processor platform supported by this JDE.

Each JDE comes with the corresponding (targeted at the same RTOS/processor target platform) JREin form of a remote (target-resident) "plug-in" component of the JDE, unless a given customer prefers to get such a JRE in a stand-alone configuration.