



## JavaTMRuntime Environment

Each Aphelion JRE (Java Runtime Environment) is a software middleware that facilitates reliable runtime deployments of executable forms of Java applications developed with the corresponding Aphelion JDE on the RTOS/processor platform targeted by this JRE. In addition, each JRE can be used for deploying Java applications developed with other Java IDEs (for example, the Eclipse IDE), as long as each such application only uses the Java API packages the ports of which are included in this JRE.

Aphelion JREs are comprised of Apogee-created RTOS/processor ports of Java technologies from IBM, Apogee's partners, and various providers of open-source Java software (Apache.org, for example). The technologies licensed from IBM include WEME (WebSphere Everyplace Micro Environment) and WECE (WebSphere Everyplace Custom Environment).

Each JRE can be provided in one of the following configurations:

**Mobile Device JRE (MJRE)**, suitable for deployment of Java applications that use the Java API packages defined for the J2ME CLDC platform by MIDP2 (Mobile Information Device Profile version 2), and by various J2ME CLDC JSRs. (JSR - Java Specification Request.)

**Foundation JRE (FJRE)**, suitable for deployment of Java applications that use the Java API packages defined for the J2ME CDC platform by Foundation Profile.

**Extended JRE (EJRE)**, suitable for deployment of Java applications that use the Java API packages defined by J2ME CDC Foundation Profile, and any of the following:

the Java API packages defined by other API profiles of CDC J2ME platform (for example, the Personal Basis Profile or Personal Profile);

the Java API packages defined by J2ME CDC JSRs;

the client-side "runtimes" for various server-client services, as long as each such runtime only uses the Java API packages included in a given EJRE; and

the application-level packages, as long as each such package only uses the Java API packages included in a given EJRE.

**Custom JRE (CJRE)**, suitable for deployment of Java applications that use any of the following:

the J2SEAPI packages;

the client-side "runtimes" for various server-client services that use J2SE API packages; and

the application-level packages that use J2SE API packages.

Apart from the Mobile Device JRE (MJRE) configuration each JRE can be provided in a version conforming to the Real Time Specification for Java (RTSJ) based on the latest RTSJ specification RTSJ release 1.0.1b. In such a case the IBM's JIT compiler is replaced by an optimised RTSJ-compatible Ahead-Of-Time (AOT) compiler; Note that the JIT compilers cannot be used with the RTSJ-compliant JREs because they may "break" the RTSJ compliance of Java programs compiled with them.

Typically, Apogee provides each JRE (FJRE, EJRE, or CJRE) with the corresponding (targeted at the same RTOS/processor platform) RedHatLinux/x86-hosted or Windows/x86-hosted JDE. However, Apogee can also provide each JRE in a "stand alone" form, which can be installed on a RedHatLinux/x86 or Windows/x86 host platform and then downloaded on to the target device using Apogee-provided instructions and simple UNIX-like line commands.

The various available JRE configurations are described in detail on the following pages:

- **Mobile device JRE (MJRE)**
- **Foundation profile JRE (FJRE)**
- **Extended JRE (CJRE)**
- **Custom JRE (CJRE)**