Oracle® Java Micro Edition Software Development Kit

Release Notes

Release 8 EA 2 for Windows

E49310-01

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Contents

What's New in This Release

The following items are new in the Oracle Java ME SDK 8 Early Access (EA) 2 release:

- Support for Oracle Java ME Embedded 8.0 Early Access 2, including improved integration with external devices, such as the Raspberry Pi and Qualcomm Orion Internet of Everything (IoE) hardware platforms.
- Support for Device Access APIs, Version C, which provide enhanced device controls and improved input/output (IO) for small embedded devices.
- Support for Connected Limited Device Configuration 8 (JSR 360)
- Support for Java ME Embedded Profile (JSR 361)
- Improved Virtual Machine (VM) configuration
- Improved memory monitoring and CPU profiling on supported external devices
- Terminated support for Mobile (CLDC) and CDC platforms.

> **Note:** This is an Early Access release with limited features and testing.

Installation Prerequisites

The Oracle Java ME SDK 8 EA 2 product has three distinct components:

- The Oracle Java ME SDK 8 EA 2 base platform, which includes the runtimes (virtual machines), emulators, libraries, and more.
- A separately-installable, supported IDE, such as NetBeans 8.0 Beta.
- A Oracle Java ME SDK 8 EA 2 plugin for NetBeans 8.0 Beta. The plugin extends the NetBeans IDE so that it can seamlessly access the Oracle Java ME SDK 8 EA 2 features and utilities from the IDE.

Note: The NetBeans 8.0 Beta must be run with JDK 1.7 in order to work with Oracle Java ME SDK 8 EA 2 plugins.

Supported Platforms

For working with Oracle Java ME SDK 8 EA 2, a minimal system configuration is:

- Microsoft Windows 7 32-bit or 64-bit with recent service packs.
- Java Platform, Standard Edition Software Development Kit (JDK) version 1.7 Update 25, or higher. JDK 1.7 must be on your Windows path.
- NetBeans 8.0 Beta. To download the latest version, go to:

  `http://bits.netbeans.org/download/trunk/nightly/2014-02-03_00-01-07/`

Note: Oracle Java ME SDK 8 EA 2 was tested with the following version of NetBeans 8.0 Beta (`netbeans-trunk-nightly-201402030001-windows.exe`).

Installing Oracle Java ME SDK 8 EA 2 Plugins

Plugins make Oracle Java ME SDK 8 EA 2 platform features available to NetBeans 8.0 Beta. Plugins are delivered in two bundles.

- **Java ME SDK Tools**. Required.
- **Java ME SDK Demos**. Optional, but useful for getting started quickly. The documentation refers to these demos to illustrate features.

  For more information on installing the Oracle Java ME SDK 8 EA 2 plugins, see the *Oracle Java ME Embedded 8 Early Access Getting Started Guide for the Windows Platform*.

Note: The samples do not implement security measures. The "Installation and Runtime Security Guidelines" suggest how to maintain an environment in which sample code can be run safely.

Known Problems

- **Unpredictable emulator behavior if debugger is started twice**. The user must not attempt to reinstall or run an application, if the application has previously been started in debug mode, but the debugger not attached. This scenario is not handled properly and can cause unpredictable emulator behavior.
- **Running `cref` with a port larger than 65535 results in a misleading error message:** p 1" - port number is smaller than well-known port 1024. The port should be less than 65535.

Known Bugs

Table 1, " Known Bugs" lists the Oracle Java ME SDK 8 EA 2 bugs known to be in this release.

Table 1 Known Bugs

Bug Description
Connector.open() doesn't throw an exception while connecting to a closed port using the HTTP or HTTPS protocol The exceptions that are reported by the `Connector.open()` method that are derived from `IOException` are typically defined by the underlying protocol. However, attempting to open a closed port using the HTTP or HTTPS protocol does not throw an exception as defined by the specification.
TCK: SignatureTest.html#SignatureTest_static test fails The static signature test from the TCK fails.
[Raspberry Pi] Probe test makes I2C, SPI, UART not available When starting a probe test which tries to identify the available DAAPI Peripherals, the system tries to open and then close devices by ID from broad range. After that completes, attempting to open and use any of I2C, SPI, or UART peripherals will result in a `PeripheralNotAvailableException` being thrown. **Workaround**: Restart the Raspberry Pi after that to have I2C, SPI, UART peripherals available again.
DataOutputStream.close() never returns After sending large amounts of data using a `DataOutputStream` repeatedly until the system throws an IOException, the code cannot close the `OutputStream`.
The Settings.setProperty functions do not change any of the system properties After calling one of `Settings.setProperty` functions to set a system property, none of the properties are actually changed.
[Raspberry Pi]: Two TCK api/java_util/midp_overview/Service/index.html#Service tests fail Two TCK tests fail regarding the MIDP Service functionality.
NullPointerException occurs when installing a Midlet that uses a Service Provider When installing a Midlet that uses a service provider, a `NullPointerException` may occur during the install command.
TCK: event/EventManager/index.html#RegisterApplication Tests Result in an Abnormal VM termination Several of the Register Application tests, as specified in the TCK, may result in an abnormal termination from the Java VM.
IOException in call to getLocalAddress() In rare instances, an `IOException` may result in a call to `UDPDataConnection.getLocalAddress()`.
NullPointerException occurs when calling MMIOEvent.getCapturedRegisterValue().byteValue(). When using the `RawRegister EVENT_TRIGGER` with a `MMIOEventListener`, while setting a value, the listener gets called expectedly, and a `NullPointerException` is thrown when calling `MMIOEvent.getCapturedRegisterValue().byteValue()`.
[Qualcomm IoE]: Unable to launch feature tests with EmbeddedExternalDevice While registering the Qualcomm IoE board as EmbeddedExternalDevice1, running the following command may throw an exception: `%ME_HOME%\bin\emulator.exe -Xdevice:EmbeddedExternalDevice1 -Xautotest:http://192.168.0.7:8080/test/getNextApp.jad`

Table 1 (Cont.) Known Bugs

Bug Description
Unexpected ConnectionNotFoundException while using IMC Trying to connect using the following command '`imc://*:sqe.test.imc.IMCClient:1.0;`' should launch the IMCClient, but instead a `ConnectionNotFoundException` is thrown.
[Qualcomm IoE] GPIO23 and ADC-MUX-SEL cannot be opened On the Qualcomm IoE board, GPIO pin 23 and the ADC-MUX-SEL device cannot be opened.
There is no SocketConnection.getAccessPoint() method The `SocketConnection.getAccessPoint()` method is missing from this early access build.
Suite.getVersion() always returns null The `Suite.getVersion()` method always returns `null` in this early access build.
The Device Manager crashes when a connected access point is removed and run again When an Access Point added using code is removed using the Device Manager and the Device Manager is closed and run again, it will crash.
While debugging, not all watched variables and methods are evaluated On occasion, when debugging using NetBeans, not all watched variables and methods are evaluated, and warning messages may appear from NetBeans. This happens when debugging on both the emulator and also the device.
TaskListener.notifyStatusUpdate(Task task, TaskStatus newStatus) may send wrong Task classname On occasion, the specified AMS method may send the display name, not the class name.
Midlet START state cannot be moved to a STOP state when exceeding the maximum number of isolates When starting a Midlet when there are already the maximum number of Midlets running, as specified by the max isolates property, the system will allow it to start, but will not allow it to be moved to the stop state. **Workaround**: Do not run a number of Midlets exceeding the max isolates number in the configuration file.
An Access Point that is connected using the emulator may not be visible to code If an access point is created (connected) using the emulator, the same access point may not be visible to any code that is running inside the emulator.
Properties of an Access Point that is connected using the emulator are not visible to code If an access point is created (connected) using the emulator, the properties of that access point may not be visible to any code that is running inside the emulator.
ATDevice is present but not documented An `ATDevice` with the ID of 13 is present, but does not appear in the document ion.
Profiler (CPU, Memory) on Orion does not work properly IMlet profiling does not work on Orion through the NetBeans IDE. An IMlet appears on an emulator AMS with "not running" statu. It cannot be run or removed.
The `SuiteListener#notifySuiteStateChanged` method is not called Although the device log shows that an installed suite is assigned to a client, the `SuiteListener#notifySuiteStateChanged` method is not called.

Table 1 (Cont.) Known Bugs

Bug Description
The `set-property system.time.value` command (in proxy CLI) malfunctions The `set-property system.time.value` recognizes as correct the following range of dates: from 18-dec-1911 20:45:52 GMT to 24-jan-2048 03:14:07 GMT However, the time range from 18-dec-1911 20:45:52 GMT to 01-jan-1970 00:00:00 GMT is displayed in brew mp logger and treated by brew mp OS as an interval from 24-jan-2048 03:14:08 GMT to 07-feb-2106 06:28:15 GMT.
Time spontaneously changes after the board is reset Right after your reset the board, the time is set to a proper value. However, in several seconds it may spontaneously increase.
The Orion board cannot restore connection after restarting the Device Connection Manager After restarting the Device Connection Manager, the board cannot be connected again. The boards reboot helps.
After the board is removed it cannot restore connection. After the board removal by means of the "Remove" button in the Device Connection Manager and further adding it by means of the "Add" button the board hangs in the "Connecting" state. The boards reboot helps.
MMIO Event: Unexpected Event happens See the steps describe in the corresponding JIRA issue to reproduce the unexpected event.
MEEP-TCK_10 tests fails The following MEEP TCK tests fails: `api/javax_microedition/rms/RecordStore`. tests fails: The reported error: Error opening record store file.
Can not install MIDletSuite that depends on LIBlet with SWM API Although there are stack traces of exceptions in the log indicating that installation has failed, all MIDlets and LIBlets can be installed and started correctly. Exceptions do not influence the overall workability.
Timestamps in BrewMP logger and calendar output differ The difference in BrewMP logger and calendar output constitutes 12 seconds, which indicates a bug in the calculating procedure.
Test fails on HttpsConnection CLDC TCK tests under `api/javax_microedition/io/HttpsConnection` fail with `IOException`.

Documentation Accessibility

This release includes PDF documentation in the binary download. For an HTML version of the documentation that is suitable for screen readers, please visit the Java ME Developer Tools documentation page at `http://docs.oracle.com/javame/developer.html` and choose this version of Oracle Java ME SDK 8 EA 2.

When using NetBeans 8.0 Beta, see the online help topic “About Accessibility” for a complete list of keyboard shortcuts.

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at `http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc`.

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit
http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit
http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Installation and Runtime Security Guidelines

The Oracle Java ME SDK 8 EA 2 requires an execution model that makes certain networked resources available for emulator execution. These required resources might include, but are not limited to, a variety of communication capabilities between the Oracle Java ME SDK 8 EA 2 components. It is extremely important to note that the Oracle Java ME SDK 8 EA 2 installation and runtime system is fundamentally a developer system that is not specifically designed to guard against any malicious attacks from outside intruders. Given this, the Oracle Java ME SDK 8 EA 2 architecture can present an insecure operating environment to the Oracle Java ME SDK 8 EA 2 installation file system itself, as well as its runtime environment, during execution. For this reason, it is critically important to observe the precautions outlined in the following security guidelines when installing and running the Oracle Java ME SDK 8 EA 2.

To maintain optimum network security, Oracle Java ME SDK 8 EA 2 can be installed and run in a "closed" network operating environment, meaning the Oracle Java ME SDK 8 EA 2 system is not connected directly to the Internet, or to a company Intranet environment that could introduce unwanted exposure to malicious intrusion. This is the ideal secure operating environment when it is possible. Oracle Java ME SDK 8 EA 2 does not require an "Intranet" connection that supports network connections to systems outside the Oracle Java ME SDK 8 EA 2 architecture to intra-company resources.

An example of a requirement for an Internet connection is Oracle Java ME SDK 8 EA 2 running wireless functionality that requires a connection to the Internet to support the communications with the wireless network infrastructure that is part of the Java ME application execution process. Whether or not an Internet connection is required depends on the particular Java ME application running on Oracle Java ME SDK 8 EA 2. For example, some Java ME applications can use an HTTP connection. In any case, if the Oracle Java ME SDK 8 EA 2 is open to any network access you must observe the following precautions to protect valuable resources from malicious intrusion:

- Installing the Java ME SDK Demos plugin is optional. Some sample projects use network access and open ports. Because the sample code does not include protection against malicious intrusion, you must ensure your environment is secure if you choose to install and run the sample projects.
- Install the Oracle Java ME SDK 8 EA 2 behind a secure firewall that strictly limits unauthorized network access to the Oracle Java ME SDK 8 EA 2 file system and services. Limit access privileges to those that are required for Oracle Java ME SDK 8 EA 2 usage while allowing all the bidirectional local network communications that are necessary for Oracle Java ME SDK 8 EA 2 functionality. The firewall configuration must support these requirements to run the Oracle Java ME SDK 8 EA 2 while also addressing them from a security standpoint.
- Follow the principle of "least privilege" by assigning the minimum set of system access permissions required for installation and execution of the Oracle Java ME SDK 8 EA 2.

- Do not store any data sensitive information on the same file system that is hosting the Oracle Java ME SDK 8 EA 2.
- To maintain the maximum level of security, make sure the operating system patches are up-to-date on the Oracle Java ME SDK 8 EA 2 host machine.

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