JMC FAQ

JDK Mission Control is a tools suite for monitoring, managing and profiling Java applications running in production.

Here is a list of resources you may want to consult when you have questions regarding Java Mission Control:

1. There is help included in Java Mission Control. The Mission Control FAQ included in the help is very useful for trouble-shooting common problems.
2. This FAQ.
4. This blog regularly posts on Mission Control related topics: http://hirt.se/blog/?cat=3.
5. The official twitter handle is @javamissionctrl. Also, @hirt often posts JVM and Mission Control related information.
6. There is a Facebook community page here: https://www.facebook.com/javamissionctrl/.

Q&A

Q: I am having problems building JMC core, more specifically with the JDP tests.
A: You may need to ask a local multicast route like so:

```
route add -net 224.0.0.0 netmask 240.0.0.0 dev lo
```

Q: I cannot see any locally running JVMs in the JVM browser!
A1: Are you running in Eclipse? If so, make sure you run your Eclipse on a JDK, NOT a JRE!
A2: You should have a directory named hsperfdata_<user> in your tmp directory, where <user> is your login. (On windows you should be able to find this folder under C:\Users\myuser\AppData\Local\Temp\hsperfdata_myuser.) Make sure that the directory can be written to. Also make sure that you are using a file system that supports ACLs.

Q: I cannot access the Flight Recorder!
A1: Make sure you are trying to connect to a 7u40 or later.
A2: If running with an Oracle JDK < 11, ensure you have started the JVM you are trying to start recordings on with the proper flags: -XX:+UnlockCommercialFeatures -XX:+FlightRecorder

Q: How do I install the Eclipse version?
A: Install Eclipse, then install the plug-ins from the update site. Either do that following the instructions in the README.txt and a local build, or from the update site provided by your favorite JMC vendor.

Q: I want to connect to my 64-bit JVM from a 32-bit Mission Control (or vice versa)
A: Start the JMX agent on your JVM by adding the JVM flag -Dcom.sun.management.jmxremote

Q: JMC on Mac OS X does not seem to start anymore.
A: Try removing your ~/.jmc folder. (If you still see this with JMC 5.3.0 or later, please let us know.)

Q: Why are there no I/O events in my JFR recording?
A1: Was the recording done with JDK 8u0? The I/O events are not included in JDK 8 GA. They exist in JDK 7u40, and were reintroduced in the JDK 8u20 release.
A2: Did you disable the I/O events in your template?
Q: I've installed plug-ins in the JMC application, why can't I use them?
A: If you're using JMC 5.3, see the JMC 5.3 Release Notes for a work around. This should not happen in 5.4.0 or later.

Q: Why do I get a lot fewer method samples then I expected?
A1: There's a bug in 7u60 (Linux only) that results in a large reduction of method samples. It's been fixed 7u71 and 8u20.
A2: Flight Recorder does not sample threads that are running native code.

Q: JMC crashes or hangs on Linux
A: This can be a known JavaFX/GTK related issue (https://bugs.openjdk.java.net/browse/JDK-8089584), try setting this environment variable:
```bash
SWT_GTK3=0
```

Q: Error message "Could not start JDP. Can't assign requested address"
A: Workaround: add "-Djava.net.preferIPv4Stack=true" to the JVM flags used to start JMC or Eclipse.

Q: I cannot connect
A: Consider the following:
- Are you using the correct protocol?
- Ensure that you are using the same version of the JVM that you want to monitor as is being used by the JVM running the JMC client.
- The format of the service URL is:
  ```
  service:jmx:rmi://jndi/rmi://<hostname>/jmxrmi
  ```
- Are the correct ports opened?
- Note that running JMX over RMI requires two ports and that one of the ports will not be known beforehand.
- Is the communication caught in a firewall? For more information, see "Java Mission Control Communications" in the Introduction to Java Mission Control on the Oracle Technology Network.

Q: When attempting to connect to a JVM, I get a stack trace indicating that the JVM attempts to communicate with a strange IP or host name. What does this mean?
A: Sometimes RMI can have a problem determining which address to use. This can happen because of any of the following:
- There are access restrictions in the Security manager.
- The machine is multihomed and RMI is selecting the wrong interface.
- There is a misconfigured hosts file or a number of different network related configuration problems.

If all else fails, you can try specifying the `java.rmi.server.hostname` system property on the JVM you are trying to connect to. Note that this can affect applications running on that JVM.

Q: I am getting exceptions during startup about classes not being found. What is wrong?
A: Ensure that you are using `JAVA_HOME/bin/jmc` to start the JMC client.

Q: Why does Java Mission Control fail to find any local JVMs?
A: Consider the following:
- Make sure that you are using `JAVA_HOME/bin/jmc` to start the JMC client.
- If you are running JMC from Eclipse, make sure that Eclipse is running on a JDK (not JRE).
- Make sure that there is a directory named `hsperfdata_username` in the system's `tmp` directory, that it is writable by the user running JMC, and that the file system supports access control lists (ACLs).

Also, see the last chapter in the documentation included with JMC.