Performance and Memory Usage

Large TTCN-3 test suites tend to take quite a while to process (both for parsing and for documentation generation). Therefore, it is generally a good idea to set larger memory limits (as far as the system allows) in order to improve processing time and avoid possible memory problems. The default setting is to set the **upper** memory limit to 512MB, which by today's standards is rather conservative, however, it should be sufficient for smaller to medium-sized TTCN-3 test suites. The optimal memory limits are not easy to determine, and ways to automatically calculate and set these depending on the available system resources, the size of the input TTCN-3 test suite, and the configuration in use are currently being investigated. In the meantime, should processing take too long or memory errors occur, it is advisable to set a higher upper memory limit, depending on the available system resources. This can be done by manually editing the parameters in the start scripts (`t3d.bat` and `t3d` for Windows and Unix respectively). These files should be edited very carefully, as mistakes may prevent T3D from starting. Under Windows, in `t3d.bat`, set the `-Xmx` parameter in following line:

```
set JAVA_CMD=%JAVA% -Xmx512m -Xss128m -cp "%CLASSPATH%" org.etsi.t3d.T3D
```

to the desired upper limit (e.g. to `-Xmx1024m` for a 1GB upper memory limit).

Under Unix, the `t3d` file can be changed in a similar fashion by setting the `-Xmx` parameter in the

```
JAVA_CMD="$JAVA -Xmx512m -Xss128m -cp $CLASSPATH org.etsi.t3d.T3D"
```

line to the desired upper limit.

In general, the optimal setting depends on the size of the TTCN-3 test suite and to a degree on the selected output format.

As of v1.0.3, a tool to guesstimate the optimal memory settings is included with T3D. This tool is launched prior to the actual tool execution and attempts to detect the maximum memory settings with which T3D can be started at that particular moment, aiming to both reduce processing time and avoid potential out of memory errors. It should be noted that this tool can be considered in beta status, as in some edge cases it may cause T3D to crash or to fail at start. Such cases should be reported so that the memory detection tool can be further adjusted to avoid such issues in the future. It is still possible to select preferred memory settings manually by adjusting the start-up scripts as described above, where the particular line has been changed to:

```
set JAVA_CMD=%JAVA% -Xmx%HEAP%m -Xss128m -cp "%CLASSPATH%" org.etsi.t3d.T3D
```

under Windows and to

```
JAVA_CMD="$JAVA -Xmx`$MT_CMD`m -Xss128m -cp $CLASSPATH org.etsi.t3d.T3D"
```

under Unix, and the `%HEAP%` and `` `$MT_CMD` `` parts of the line should be substituted with the desired settings.