

Execution Manager, EM

<http://harmony.apache.org/subcomponents/drlvm/EM.html>

- 1.
- 1.1.
- 1.2.
- 1.3.
- 1.4.
- 2.
- 2.1.
- 3.
- 3.1. VM
- 3.2. Profile
 - 3.2.1. EM_PC
 - 3.2.2. PC
- 3.3. Profiler
- 4.
- 4.1.
- 4.2.
 - 4.2.1.
 - 4.2.2.
- 5.
- 5.1. EM_VM
- 5.2. EM_JIT
- 6.

(Dynamic Runtime Layer,DRL)DRLVMDRLVMDRL
(EM)EMVMDRLVM[3|#ref3]

DRLVMprofile

- DRLVM(EM)
- - profile
 -
 -

DRL

EMJITprofileDRL[profile](#)(PC)JITVMprofile__[1|[#ref1](#)],[2|[#ref2](#)]

VM[4|[#ref4](#)]

- `_EM`
- `_JIT_EM`
- `profile`
 - `.profile`
 - `profile`

EMDRLVM[3|[#ref3](#)]

DRL

- `profile`
- `profile`
- `profile`
-
-

EMEMVMEMprofileEM3.2[Profile](#)

VM

EMVME[M_VMEMVM](#)

JIT_EMJIT[3|[#ref3](#)]profileprofile[EM_JIT](#)EM_JIT

- *profile*profileJITprofileprofile
- *profile*profileprofile

15.

<pre>{{ http://harmony.apache.org/subcomponents/drlvm/images/EM_interfaces.gif }}</pre>
1.EM

1.profilePCJIT5.

Profile

*profile*Profile Collector,PCEMJITJava*profileDRL EMprofile

profileJITprofileJITprofilePC

PCprofile""JITprofileJITprofileEM[4|[#ref4](#)]JITprofileJITinclude/open/em.hJITprofile

```
enum EM_JIT_PC_Role {
EM_JIT_PROFILE_ROLE_GEN=1,
```

```
EM_JIT_PROFILE_ROLE_USE=2
};
```

```
JITPCprofile
profilePCPCprofilePCEMprofileprofileEM
```

EM_PC

```
EM_PCEMprofilePC
    • time-based sampling support interfaceTBSEMprofileprofilePCprofile
    • profileprofile-related events interfacePCprofileEM
EM_PC{{include/open/em_profile_access.h}}{{Doxygen}}
```

PC

```
EMprofileprofileEMprofileprofileprofileEMprofileprofileEM
    • {{ProfileCollector}}{{em/src/DrlProfileCollectionFramework.h}}
    • {{include/open/em_profile_access.h}}profileEM_PCTYPE
    • {{em/src/DrlEMImpl.cpp::initProfileAccess()}}profile
    • {{em/src/DrlEMImpl.cpp::createProfileCollector()}}profile
EMprofilePC-(entry-backededge)PC(edge)PC-PCJava*profileEMprofileprofile""
```

Profiler

```
profileprofileEMVMJava*class resolution""JIT
{{main()}}EMEMEMprofilePCprofile
PCEMprofilerprofilePMUprofiler
```

```
EM_""_""profileJIT""EM[4|ref4]""
EM""JITprofiling""JITprofile
""VM
1profilingCustom profiling mode
JIT1instrumentationJIT2JIT3EM""JIT1JIT2JIT3method filters
class initializersprofile
2.Bug-fixing mode
JIT1""JIT2""
""EM""
```

VMVMEMprofilePC

JIT

- JITJITJITJITJIT
- JITprofileprofile

JITprofileprofileJITprofileprofile

DRLVM

- VM
- EM^{""}
- EMJIT
- VM
- ""EMJIT

PCprofile""entry and back-edgePC""

EMVMJITEMprofilePCEMVMJIT

EM_VM

EMVM{{Doxygen}}{{em_vm.h}}VMEMVM_EMDRLVM[3|[ref3](#)]

EM_JIT

EMJITprofile{{Doxygen}}{{em_profile_access.h}}{{ee_em_intf.h}}VMEMVM_EMDRLVM[3|[ref3](#)]

[1] Toshio Suganuma, Toshiaki Yasue, A dynamic optimization framework for a Java just-in-time compiler, <http://portal.acm.org/citation.cfm?id=504296>
<ac:structured-macro ac:name="anchor" ac:schema-version="1" ac:macro-id="f43f0cc1-8f95-430f-b13a-70aa2c9f0c31"><ac:parameter ac:name="">ref1</ac:parameter></ac:structured-macro>

[2] A Survey of Adaptive Optimization in Virtual Machines (2004) Matthew Arnold, Stephen J. Fink, David Grove, Michael Hind, Peter F. Sweeney <http://cite-seer.ist.psu.edu/arnold04survey.html>
<ac:structured-macro ac:name="anchor" ac:schema-version="1" ac:macro-id="cd6bc843-e2e2-4b38-820f-2347175fceb7"><ac:parameter ac:name="">ref2</ac:parameter></ac:structured-macro>

[3] DRLVM Developer's Guide, <http://harmony.apache.org/subcomponents/drlvm/index.html>
<ac:structured-macro ac:name="anchor" ac:schema-version="1" ac:macro-id="0c3ba51a-6ecd-475b-83c6-2faddf1688c3"><ac:parameter ac:name="">ref3</ac:parameter></ac:structured-macro>

[4] Guide to Execution Manager Configuration, <http://harmony.apache.org/subcomponents/drlvm/emguide.html>
<ac:structured-macro ac:name="anchor" ac:schema-version="1" ac:macro-id="38ce5482-d0de-4d67-9407-b151c52f30b9"><ac:parameter ac:name="">ref4</ac:parameter></ac:structured-macro>

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