eGee

Pan Compiler—Status and New Features

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Enabling Grids for E-sciencE

- **V7 series (not supported)**

- **V8.2 series (production)**
  - No active development of this branch.
  - Serious bugs will be fixed.

- **V8.3 series (development)**
  - Currently 8.3.1 is a release candidate.
  - Feedback requested before it becomes production.
  - Major changes: dependency file, annotation syntax

- **V8.4.0 (next production)**
  - Expected just after Quattor Workshop.

- **V9**
  - Expected for next Quattor Workshop (October 2010).

- **See READMEs in releases for detailed changelog.**

Enabling Grids for E-sciencE

- **Bare word includes**
  - Deprecated: include mysource
  - Replacement include { 'mysource' }
- **Lowercase automatic variables**
  - Deprecated: self, object, argv, argc, …
  - Replacement: SELF, OBJECT, ARGV, ARGC, …
- **Old external path syntax (NEW!, no warnings yet(?))**
  - Deprecated: //machine/path
  - Replacement: machine:/path
- **File suffix (NEW!, no warnings yet (?))**
  - Deprecated: *.tpl
  - Replacement: *.pan

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- **Release management:**
  - Build now running with maven
  - Need to cleanup outputs, verify packages before 8.4.0

- **Features:**
  - Allow sources from non-file locations, e.g. http(s).
  - Enable an XML-based syntax.

- **Code refactoring:**
  - Clean up and internationalize code.
  - Make AST more accessible (e.g. editors, code formatters)
  - Allow execution to be more tightly controlled (e.g. debugger)

```
@info{
  Example template to describe the
  pan language annotation features
}
@maintainer{
  name = Charles Loomis
  email = loomis@example.org
}
object template anno-demo;

@{
  arg = number (double or long) to square
  returns = square of the given number
}
function square = ARGV[0]*ARGV[0];

@{
  definition of a valid port
}
type port = long with (SELF>0 && SELF<65536);

@{
  access = private
}
variable INTERNAL_VARIABLE ?= 1;

@{
  access = public
  desc = controls inclusion of mytemplate
  type = boolean
}
variable USE_MYTEMPLATE ?= false;
```

```xml
<?xml version="1.0" encoding="UTF-8"?>
<template xmlns="http://quattor.org/pan/annotations"
          name="anno-demo" source-range="10.1-10.26"
          type="OBJECT">
    <maintainer>
        <name>Charles Loomis</name>
        <email>loomis@example.org</email>
    </maintainer>
    <info>
        <desc>
  Example template to describe the
  pan language annotation features
</desc>
    </info>
    <function name="square" source-range="16.1-16.34">
        <arg>number (double or long) to square</arg>
        <returns>square of the given number</returns>
    </function>
    <type name="port" source-range="21.1-21.45">
        <desc>
  definition of a valid port
</desc>
        <basetype name="long" source-range="21.13-21.16"
                  extensible="false"/>
    </type>
    <variable name="INTERNAL_VARIABLE" source-range="26.1-26.32">
        <access>private</access>
    </variable>
    <variable name="USE_MYTEMPLATE" source-range="33.1-33.33">
        <access>public</access>
        <desc>controls inclusion of mytemplate</desc>
        <type>boolean</type>
    </variable>
</template>
```

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- **Roadmap**
- **Best practice for annotations**
- **Problems, feedback, etc.**