Papyrus Industry Consortium
Steering Committee

Subject: Request for Work: UML2 enhancements

UML2 Eclipse project is one of the core projects of the Papyrus platform. It provides the APIs to manipulate UML2 models inside the Eclipse platform, and the way to serialize and de-serialize UML2 models as XMI. It provides also the management for UML profiles including their definition and their application. Finally, it also provides notifications on model changes and some validation rules based on UML2 specification.

It is based on the Eclipse Modeling Framework (EMF). This framework provides the facility to describe a meta-model and to generate code from the meta-model definition. Eclipse UML2 relies on Eclipse EMF to implement UML2 meta-model and also for the code generation. UML2 project also reuse EMF facilities to extend its code generator to support specific constructs from UML2.

EMF and UML2 are currently part of the Eclipse simultaneous release train. This release train provides an official major release every year in June, and 3 releases that provide only small improvements and bug fixes. Oxygen was released in June 2017. 2018 one is named Photon.

For the Photon release, EMF made some evolutions in the base code generators. These evolutions require also UML2 to evolve, so UML2 code generators specializations are still compatible with the EMF Framework. In parallel, UML2 build system is based on Buckminster, and uses the command line signing service currently provided by the Eclipse Foundation to authenticate the binaries produced by the build system. This signing service will be terminated in 2018, thus requiring the evolution of the build system from Eclipse UML2.

In the current state, Eclipse UML2 will have to leave the release train, and so Papyrus should also leave the release train. The Papyrus IC would like to keep Papyrus in the release train. This RFP intends to address the 2 issues previously mentioned:
- EMF evolutions and subsequent UML2 evolutions
- Build system & Signing service updates.

This Request for Proposal is intended to serve as a basis for the supplier to deliver Statement of Works to the Papyrus IC Steering Committee. The Steering Committee members will then decide to launch the activity based on the Statement of Work they will receive.

The Papyrus IC Steering Committee reserves the right to not select any of the proposals received.

1. REQUESTED ENHANCEMENTS

1.1. EMF EVOLUTIONS

EMF made some evolution on the Photon branch, which will lead to some incompatibilities for the Photon version of Eclipse UML2, if it is not evolved. This is all about code generators that are extended by Eclipse UML2. The current UML2 code generators should be compatible and benefit to EMF Photon.

1.2. BUILD SYSTEM

Eclipse UML2 currently relies on Buckminster and Eclipse Foundation CLI signing service. This service will be terminated by the Eclipse Foundation in 2018, in order to reduce the number of maintained resources.
Other alternatives for building and signing Eclipse plugins exist, as for example the maven/tycho implementation or Gradle. These latter frameworks are widely used by Eclipse projects, Papyrus being built for example using Maven/Tycho integration. For maintenance reasons, it would be useful to switch the build system entirely from Buckminster to a more widespread system, with more users being able to help with the build system. It would then solve the signing service issues.

2. CONTEXT OF THE STUDY

This work would also include a mentoring part, where some supplier members of the Papyrus IC would be involved in the 2 parts of the contract. The Eclipse ecosystem being based on the meritocracy system, this would grow the current ecosystem of the tools, where new developers could be involved and integrated in the Eclipse UML2 project.