EGI-InSPIRE

TECHNICAL MEMO: SOFTWARE PROVISIONING IN WORKFLOW EXECUTION

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Abstract

This document provides is a memo on how the Software Provisioning workflow was executed for the delivery of the EGI Trust Anchor version 1.38-1.

II. DELIVERY SLIP

	Name	Partner/Activity	Date
From	Michel Drescher	EGI.eu	19 February 2011
Reviewed by			
Approved by			

III. DOCUMENT LOG

Issue	Date	Comment	Author/Partner
1	19 February 2011	First draft	Michel Drescher/EGI.eu
2			
3			

IV. APPLICATION AREA

This document is a formal deliverable for the European Commission, applicable to all members of the EGI-InSPIRE project, beneficiaries and Joint Research Unit members, as well as its collaborating projects.

V. DOCUMENT AMENDMENT PROCEDURE

Amendments, comments and suggestions should be sent to the authors. The procedures documented in the EGI-InSPIRE "Document Management Procedure" will be followed: https://wiki.egi.eu/wiki/Procedures

VI. TERMINOLOGY

A complete project glossary is provided at the following page: http://www.egi.eu/about/glossary/.

VII. PROJECT SUMMARY

To support science and innovation, a lasting operational model for e-Science is needed – both for coordinating the infrastructure and for delivering integrated services that cross national borders.

The EGI-InSPIRE project will support the transition from a project-based system to a sustainable pan-European e-Infrastructure, by supporting 'grids' of high-performance computing (HPC) and high-throughput computing (HTC) resources. EGI-InSPIRE will also be ideally placed to integrate new Distributed Computing Infrastructures (DCIs) such as clouds, supercomputing networks and desktop grids, to benefit user communities within the European Research Area.

EGI-InSPIRE will collect user requirements and provide support for the current and potential new user communities, for example within the ESFRI projects. Additional support will also be given to the current heavy users of the infrastructure, such as high energy physics, computational chemistry and life sciences, as they move their critical services and tools from a centralised support model to one driven by their own individual communities.

The objectives of the project are:

1. The continued operation and expansion of today's production infrastructure by transitioning to a governance model and operational infrastructure that can be increasingly sustained outside of specific project funding.
2. The continued support of researchers within Europe and their international collaborators that are using the current production infrastructure.
3. The support for current heavy users of the infrastructure in earth science, astronomy and astrophysics, fusion, computational chemistry and materials science technology, life sciences and high energy physics as they move to sustainable support models for their own communities.
4. Interfaces that expand access to new user communities including new potential heavy users of the infrastructure from the ESFRI projects.
5. Mechanisms to integrate existing infrastructure providers in Europe and around the world into the production infrastructure, so as to provide transparent access to all authorised users.
6. Establish processes and procedures to allow the integration of new DCI technologies (e.g. clouds, volunteer desktop grids) and heterogeneous resources (e.g. HTC and HPC) into a seamless production infrastructure as they mature and demonstrate value to the EGI community.

The EGI community is a federation of independent national and community resource providers, whose resources support specific research communities and international collaborators both within Europe and worldwide. EGI.eu, coordinator of EGI-InSPIRE, brings together partner institutions established within the community to provide a set of essential human and technical services that enable secure integrated access to distributed resources on behalf of the community.

The production infrastructure supports Virtual Research Communities (VRCs) – structured international user communities – that are grouped into specific research domains. VRCs are formally represented within EGI at both a technical and strategic level.

VIII. EXECUTIVE SUMMARY

<< The text should provide a summary of the full report so that the reader can 'in a page' understand the problem it has been written to cover. This includes an overview of the background material and motivation for the report, a summary of the analysis, and the report's main conclusions.>>

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1 INTRODUCTION

In this document, a review of how the Software Provisioning Process defined by the members of the EGI-InSPIRE project is executed.

2 REVIEW

2.1 *Preparing the Provisioning Infrastructure*

The Technology Provider (represented by David Groep, NIKHEF) created a ticket in the RT queue "sw-rel" to notify EGI's Software Provisioning team of the availability of the new release 1.38-1 of the EGI Trust Anchors (technical name "CAs").

The Release Manager created the ticket, causing the status to be "new", and RolloutProgress to "Submitted".

"RolloutProgress == Submitted" automatically triggered the same field to be set to "Unverified". The underlying process is unclear.

"RolloutProgress == Unverified" triggered the analysis of the attached release.xml file, carrying out the following actions:

1. Validate Release.xml
2. Parse release.xml and set ticket fields
    a. ReleaseVersion
    b. Repository URL
    c. Added SSO group "sw-rel-qc" to the CC list
    d. Add a comment on successful execution of this step to the ticket
3. Email on adding the comment was sent out
4. Set the status of the ticket to "Open"

2.1.1 Preparation post-conditions

- The RT ticket is in state "Open"
- The RolloutProgress is set to "Unverified"
- CommunicationStatus is "Ok".
- Owner is set to "nobody in particular" and NOT to Carlos Fernandez.

2.2 *Verification of the release against QC*

2.2.1 Verification pre-conditions

- The RT ticket is in state "Open"
- The RolloutProgress is set to "Unverified"
- CommunicationStatus is "Ok".
- Owner is set to "nobody in particular" and NOT to Carlos Fernandez.

2.2.2 Execution of the Verification

Alvaro Simon assumed ticket ownership, which triggered an Email sent to the condigured recipients, and set RolloutProgress to "In verification" indicating that work is done on the release.

The Verification team complained that specific tests for the CAs package were not provided by the Technology Provider, and a reference link was given to the Wiki page [R 4]. However, QC are consistently defined in [R 3] including Quality Criteria for the CAs releases. There seem to exist confusion about the source of applicable Quality Criteria for a given release in the Provisioning workflow. Several ticket comments indicate confusion on the side of the TP, on the side of QC Verification officers, and location of information in the EGI space (wiki or documents).

Also the ticket comments indicate confusion and ambiguous information about the expected documentation and contribution a Technology Provider has to ship with a release to EGI. Several comments on the ticket give evidence.

Eventually the CAs release was verified and accepted. A report was attached to the ticket. Issues found:

- The verification report was attached to the ticket, and not stored in DocumentDB.
- The executive summary was included in the verification report

Alvaro Simon gave the ticket ownership to Mario David. This is not recorded anywhere as a necessary step in any process documentation. Instead, this should happen automatically.

Alvaro Simon set RolloutProgress to "StageRollout" as the Verification team accepted the quality of the release.

2.2.3 Verification post-conditions

- The RT ticket is in state "Open"
- The RolloutProgress is set to "StageRollout"
- Field QualityCriteriaVerificationReport was NOT set
- Verification reports (Executive and detailed report) were joined into one document, and attached to the ticket.
- CommunicationStatus is "Ok".
- Owner is set to "Carlos Fernandez"

2.3 *StageRollout of the CAs release 1.38-1*

2.3.1 StageRollout pre-conditions

- The RT ticket is in state "Open"
- The RolloutProgress is set to "StageRollout"
- CommunicationStatus is "Ok".
- Owner is set to "Mario David"

2.3.2 Executing StageRollout

An automatic process triggered on setting RolloutProgress to "StageRollout" and provisioned a StageRollout repository for the CAs release for the Early Adopters to use. Upon completion the SSO group "sw-rel-sr" was added as watchers to the ticket, and a comment was added indicating successful execution of this automatic process. RT then sent an Email to all ticket requestors and watchers about this change.

Mario David created a new child ticket [R 10] for StageRollout for this CAs release. The detailed workflow of executing SR is documented in this ticket.

Upon finishing StageRollout, Mario created a DocumentDB entry for the SR reports [R 8], and added this as a reference to the child ticket and the parent ticket. The child ticket's status was set to "Resolved".

Based on the outcome of StageRollout, the RT ticket's RolloutProgress was set to "Production".

2.3.3 StageRollout post-conditions

- The RT ticket is in state "Open"
- The RolloutProgress is set to "Production"
- CommunicationStatus is "Ok".
- Owner is set to "Mario David"
- Field StageRolloutReport was NOT set
- StageRollout report is stored in DocumentDB [R 8]
  - Document status is set to "FINAL"
  - Document is viewable by "Public"
  - Document is not only modifiable by a members of the SSO group "inspire-sa1"

2.4 Announcing the availability of the release

2.4.1 Announcement pre-conditions

- The RT ticket is in state "Open"
- The RolloutProgress is set to "Production"
- CommunicationStatus is "Ok".
- Field QualityCriteriaVerificationReport was not set
- Field StageRolloutReport is set

2.4.2 Executing the announcement

Setting RolloutProgress to "Production" triggered an automatic process to provision the new CAs release in EGI Production repository, adding the SSO group sw-rel-production to the watcher list, and sending out an Email for notification.

Mario David explicitly requested the approval of the release of the CAs package to production.

After approval, Mario David manually sent the announcement to the relevant user groups (which are the relevant user groups?).

As final steps, the ticket status was set to "Resoved", concluding the provisioning workflow.

2.4.3 Announcement post-conditions

- The RT ticket is in state "Resolved"
- The RolloutProgress is set to "Production"
- CommunicationStatus is "Ok".
- Field QualityCriteriaVerificationReport was not set
- Field StageRolloutReport is set

2.5 Postprocessing the ticket for the Verification documentation

Later on, the ticket was retrofitted to satisfy the requirements for the ticket workflow. The Verification executive report, and the verification report were stored in DocumentDB [R 7], and the link was set in field QualityCriteriaVerificationReport.

The process was not completed, and the following issues were found:

- DocumentDB space was NOT FINAL
- DocumentDB space was NOT readable for the public

3 ACTIONS

The review of the execution of the provisioning of CAs 1.38-1 illustrated that the process as devised is either wrong, or was not followed.

In order to produce reliable and verifiable results, the following actions are necessary to improve the situation:

1. Define the overall process in clear and distinct phases
    a. Define the pre-conditions of each phase
    b. Define all possible exit conditions of each phase
    c. The post-condition of the previous phase (if existing) must match the pre-condition of the immediately following phase
    d. Define and clearly describe the actions executed automatically at each defined call-out hook
        i. Trigger criteria to start execution
        ii. Target outcome upon completion of the automatic action

    1.d.i and 1.d.ii should match post-conditions and pre-conditions of the phases described below.
2. Define the process of "release delivery"
    a. There are obviously no preconditions.
    b. Define the specific actions and who is expected to execute them, in which order.
    c. Take into account that internal Technology Provider to not submit GGUS tickets.
    d. What are the post-conditions and who is responsible for safeguarding them?
3. Define the exact process of Quality Criteria Verification
    a. Who is responsible for checking that the pre-conditions of the verification phase are met?
    b. Define each step take in the Verification process, and document who is responsible for its completion (the "definition of done")
    c. What are the specific sources of information used to verify the product?
    d. Which type of information influences the decision of how much effort is put into independent verification of the release?
    e. How is the decision on verification effort documented that is taken based on the available information for the release?
    f. Define the information gathered throughout the Verification effort, and the respective target audience.
    g. Define appropriate templates capturing all the information that is planned to be gathered in this phase.
    h. Who is responsible for satisfying the post-conditions for the verification effort?
4. Define the exact process for StageRollout of a given product release.
    a. Who is responsible for gatekeeping the pre-conditions of the StageRollout?
    b. Define which sources of information are used for conducting tests in StageRollout
    c. Define the selection process of tests
    d. Define how the outcome of the tests are captured.
    e. Define the target audience for information gathered throughout StageRollout
    f. Define appropriate templates for information capturing
    g. Who is responsible for gatekeeping the post-conditions of the StageRollout?
5. Define the process of announcing GA for the assessed Product release

a. Who is responsible for gatekeeping the pre-conditions of this phase?
b. Define the specific actions that must be executed in order to announce GA of the new product verssion.
c. Who is responsible for gatekeeping the post-conditions of this phase?

6. Define the process of

4 REFERENCES

R 1	EGI New Software Release workflow, https://wiki.egi.eu/wiki/NSRW_New_Software_Release_Workflow
R 2	EGI New Software Release workflow as implemented in RT, https://wiki.egi.eu/wiki/NSRW_IMPLEMENTATION_RT
R 3	EGI Quality Criteria documents version "QC-1", https://documents.egi.eu/public/ShowDocument?docid=240
R 4	EGI Quality Criteria space in the EGI wiki, https://wiki.egi.eu/wiki/EGI-InSPIRE:UMDQualityCriteria
R 5	EGI Quality Criteria for CAs in the EGI Wiki, https://wiki.egi.eu/wiki/EGI-InSPIRE:UMDQualityCriteria:CA
R 6	RT Ticket for the provisioning of the EGI Trust Anchors version 1.38-1, https://rt.egi.eu/rt/Ticket/Display.html?id=1125
R 7	QC Verification reports in EGI Document Database for CAs 1.38-1, https://documents.egi.eu/secure/ShowDocument?docid=338
R 8	StageRollout reports in EGI Document Database for CAs 1.38-1, https://documents.egi.eu/public/ShowDocument?docid=342
R 9	StageRollout Workflow Technical Implementation, https://documents.egi.eu/document/260
R 10	StageRollout ticket for CAs 1.38-1, https://rt.egi.eu/rt/Ticket/Display.html?id=1151

