EUROPEAN MIDDLEWARE INITIATIVE

SOFTWARE MAINTENANCE AND SUPPORT PLAN

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Abstract:
This document describes the Software Maintenance and Support processes, the roles and responsibilities and the main metrics to be used for the Service Level Agreements.

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1.5. DOCUMENT AMENDMENT PROCEDURE

Amendments, comments and suggestions should be sent to XXX. The procedures documented in XXX have been followed.

1.6. TERMINOLOGY

Table 2: Table of Definitions

2. EXECUTIVE SUMMARY

3. MAINTENANCE

This section will introduce the different types of EMI releases (major, minor, revision, emergency) and how it is planned to manage each of them, with a specific focus on how backwards-compatibility will be preserved within a major release. The role of the EMT will be discussed.

Since the first EMI major release is foreseen at PM 12, the existing separate middleware distributions still need to be maintained. This section will briefly describe how that will be done.

PKIs relevant for the maintenance task and how they will be monitored is presented.

4. SUPPORT

The reliability of the EMI distribution and the reputation of the EMI project itself depend critically on the ability to provide , together with EGI, effective support in case a user requests assistance about one of the services provided by EMI. The request can concern anything from documentation to configuration, from receiving advice to asking for a new feature, but the following description will concentrate mainly on incidents[1], because that is the type of request that will involve the EMI support task.

4.1. SUPPORT MODEL

The EMI support model integrates in the overall support structure adopted in EGI, which foresees an organization in three levels:

1. The EGI Helpdesk represents the main contact point for a user where to get support. Within the Helpdesk the Ticket Processing Management (TPM) is responsible for the monitoring and routing of all active tickets to the appropriate support units (SUs).

   In EGI the Helpdesk is a distributed infrastructure consisting of a central Helpdesk interconnected with a collection of local NGI or EIRO Helpdesks.

   If the Helpdesk is unable to resolve the incident, this is escalated for further investigation to a 2nd-level support unit.

2. The Deployed Middleware Support Unit (DMSU) ensures the availability of more specialized skills than those offered by the Helpdesk in the investigation and resolution of incidents. The DMSU includes people that together can cover all middleware areas: job and compute management, data management, security, information systems, accounting, etc.

   The DMSU is an integral part of EGI.

   If the DMSU is unable to resolve the incident, this is escalated for further investigation to a 3rd-level SU.

3. 3rd-level SUs offer the most specialized skills needed for the investigation and resolution of an incident and are typically represented by the developers of the affected software component.

   3rd-level SUs are not normally part of EGI but are integrated in the organization of the software providers, such as EMI.

This industry-standard model provides the most effective use of resources, for it involves the ultimate technical experts only when their detailed knowledge is indispensable for the investigation of an incident.

Support tickets should not normally flow from the Helpdesk directly to the EMI SUs, unless it is evident that the incident is caused by a software problem.

The tool adopted by EGI to track support requests is GGUS. Incidents occurring to users on the production infrastructure should always be reported through GGUS and their processing tracked

1 ITIL defines an incident as “an unplanned interruption to an IT service or reduction in the quality of an IT service.”

through GGUS tickets. This would allow to compute user-oriented metrics completely from GGUS data.

Different support models for other DCIs will be evaluated on a case-by-case basis.

4.2. THE EMI SUPPORT UNITS

Within EMI many SUs are established. Their exact number and scope can change during the course of the project, but approximately an SU is foreseen for each software product that has user visibility and is registered in GGUS, typically high-level middleware services.

Since multiple software products can be under the responsibility of the same Product Team, it may happen that the memberships to two or more SUs are in fact overlapping or even coincident.

When a product becomes registered in GGUS, a SU must be established and should provide:

- an e-mail address;
- a FAQ describing the SU;
- ...

The internal organization of an SU is left to the responsibility of the corresponding PT, provided it is adequate to satisfy the SLAs established between EMI and EGI.

The following metrics will be computed for every EMI SU:

M1) Number of incidents per week

M2) Incident resolution time

4.3. THE CATCH-ALL SUPPORT UNIT

A special EMI SU is established, the Catch-All SU, whose purpose is to intercept and quickly re-assign all GGUS tickets for which the EGI support units are not able to properly identify a specific EMI SU.

The organization of the C-A SU is under the responsibility of the SA1 User Support task. Considering that a) the number of GGUS tickets that require the intervention of the 3rd-level is relatively low (e.g. about 40 tickets have been received by all the gLite SUs during the period January-April 2010) and b) the assignment of a ticket to the C-A SU should be in turn an exceptional situation, the organization of the C-A SU should be lightweight. Initially it will simply consist of a mailing list (emi-support@eu-emi.eu) that will re-direct all ticket notifications to the general support mailing list of ARC, dCache, gLite and UNICORE. It is then expected that subscribers to those lists will process the tickets and re-assign them to the specific SUs. If needed, particularly complex issues can be discussed within the EMT.

The tickets arriving at the C-A SU will be properly monitored (by whom?) to guarantee that they are promptly re-assigned. If not, the problematic ticket should be brought to the attention of the EMT.

The following metrics will be computed for the C-A SU:

A) Number of incidents per week

B) Re-assignment time

If, contrary to the expectations, A) or B) are consistently high (how much???), the organization of the C-A SU will be reviewed with the introduction of shifts among all the SA1 members.

4.4. RESOLUTION OF INCIDENTS

In case an incident is reported, the goal of the user support activity is to restore normal service operation as quickly as possible, thus ensuring that the best possible levels of service quality and availability are maintained. What "normal service operation" means is defined in the Service Level Agreement (SLA).

An incident may or may not be caused by a problem[2]. If it is, a corresponding entry shall be created by the SU in the bug tracking tool specific to the affected software product and the two should be cross-linked. In a GGUS ticket this is done using the "Related issue" field.

The incident should stay open until a satisfactory (for the user) solution is found. The solution may not necessarily require that the causing problem is fully fixed, for example an acceptable (according to the SLA) workaround may exist. If the incident resolution instead does require that fix, then the ticket should stay open until the fix becomes part of a new product release.

4.5. SUPPORT TIMELINE

It is foreseen that only the latest two EMI major releases are supported at a time. Within an EMI major release only the latest version of a component is supported. More extensive coverage will be evaluated on a case-by-case basis together with the users requesting it.

4.6. KEY PERFORMANCE INDICATORS

2 ITIL defines a problem as "the cause of one or more incidents." In practice it is a software bug.

5. CONCLUSIONS