Problem Management and Change Management in gLite

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Information Society and Media

Overview

- Some definitions
- Defect vs Enhancement
- Severity
- Priority
- Release Schedule
- Detection Area
- GGUS and Savannah
- Metrics

Some definitions

- **Inspired by ITIL**
  - Information Technology Infrastructure Library, a set of concepts and practices for managing IT services, IT development and IT operations
- **Incident**
  - unplanned interruption to an IT service or reduction in the quality of an IT service → GGUS ticket
- **Problem**
  - cause of one or more incidents → Savannah bug
- **Change**
  - addition, modification or removal of authorized, planned or supported service or service component and its associated documentation
- **Typical chain: incident → problem → change**

Defect vs Enhancement

- **Defect**
  - Any deviation from the specification of a component, either in interface or behaviour
  - An actual problem requiring a corrective action
  - *Reactive maintenance*
- **Enhancement request**
  - Any request of improvement with respect to the specification of a component
  - Concerns either the prevention of a problem or other improvements to a service
  - *Proactive maintenance* and other *developments*

- **An enhancement request is identified in Savannah using one of the *Severity* levels (*Enhancement*)**

Severity

- **Guidelines for assigning the severity to a defect**
  - Critical
    - Either the affected product or a product directly or indirectly depending on the affected product is totally unusable.
  - Major
    - There is a major degradation of the quality of service either of the product or of a product directly or indirectly depending on the affected product.
  - Normal
    - There is some degradation in the quality of service either of the affected product or of a product directly or indirectly depending on the affected product. The degradation affects the quality of a product aspect that is directly implied by the product's specification.
  - Minor
    - There is some degradation in the quality of service either of the affected product or of a product directly or indirectly depending on the affected product. The degradation affects the quality of a product aspect that is **not** directly implied by the product's specification.
  - Cosmetic ???
- **The severity can be overridden by the EMT**

Priority

- **Main driver to decide which changes to apply when**
- **Priority is affected by severity, impact, cost, urgency, …**
- **Levels of priority**
  - High
    - The bug needs to be addressed as soon as possible. A release containing fixes to high-priority bugs can contain only fixes to high-priority bugs. Multiple high-priority bugs can be included in the same release, provided that any fix does not delay the release significantly.
  - Medium
    - The bug needs to be addressed in the next or in the following scheduled release.
  - Low
    - There is no target date for addressing the bug.
- **Work on lower-priority bugs can not delay work on higher-priority bugs**
- **Priorities are set by the EMT**

Release Schedule

- **All releases need to be in the JRA1 workplan, linked to the corresponding Savannah Patch**
  - http://bit.ly/22we3i
  - Monitored by the project
- **Scheduled releases, i.e. releases addressing medium- and low-priority bugs, should be included in the workplan well in advance, in order to help the planning of activities such as testing and deployment**
- **All defects and enhancement requests, once accepted, should be attached to a patch**
- **Unscheduled releases, i.e. those addressing high-priority bugs, can be included in the workplan just when they happen**

Detection Areas

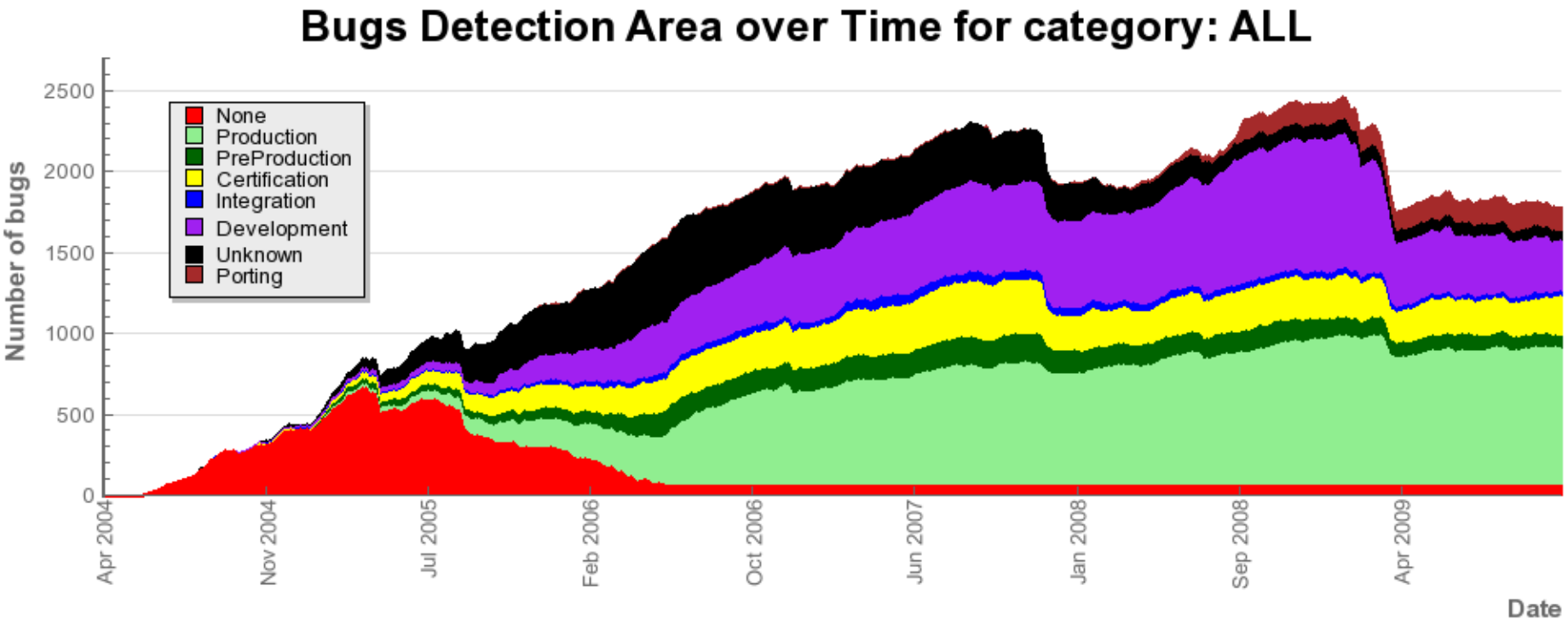
- The highest deployment stage reached by the software component showing that defect
- Meaningful values are: development, porting, integration, certification, pre-production, beta service.

GGUS and Savannah

- **Incidents occurring to users on the production infrastructure should always be reported through GGUS**
  - If directly in Savannah, **encourage** users to submit also a ticket
- **If an incident is actually caused by a software defect, a corresponding entry will be created in Savannah and the two will be cross-referenced**
  - By the TPM or by the support unit
  - Ticket “In Progress”
  - Are the support units up-to-date?
- **The GGUS ticket will be closed only when the user receives a satisfactory solution**
  - If the solution requires fixing the bug, the ticket will be closed only when the Savannah bug is closed

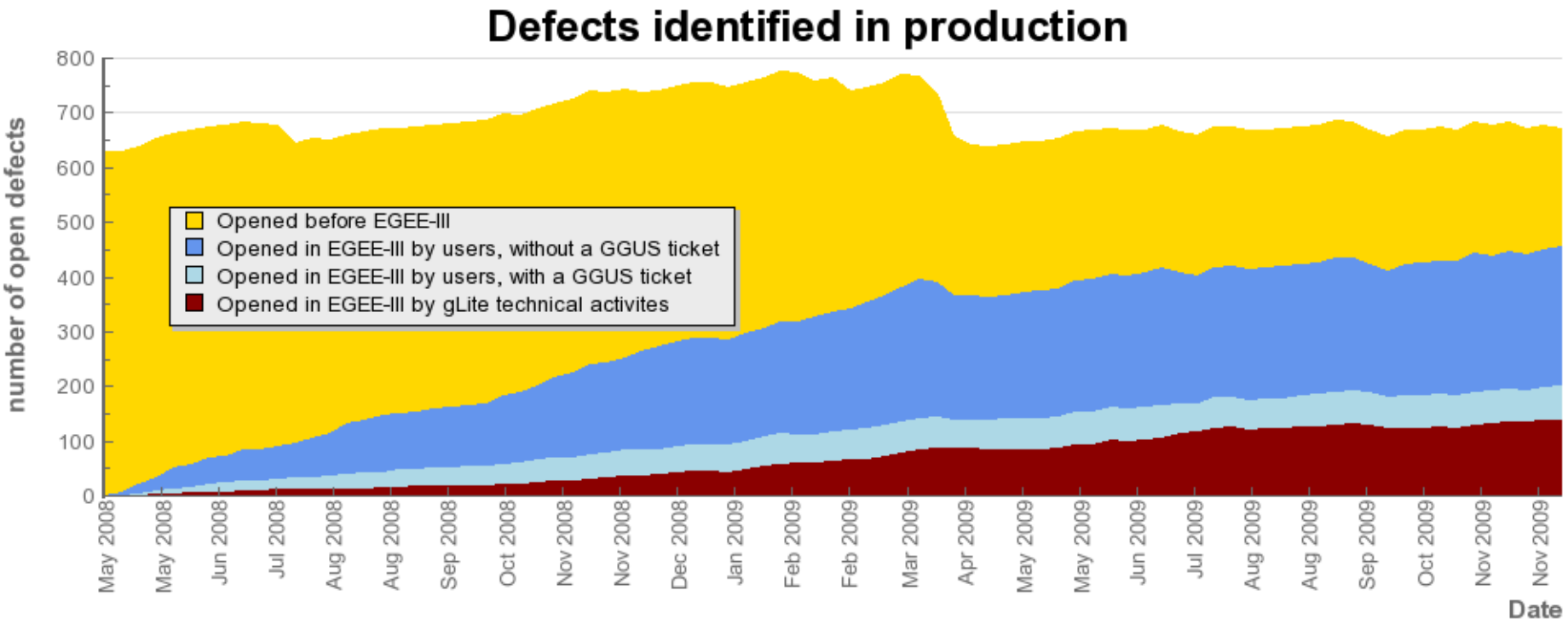
Metrics /1

- **Distribution of defects by detection area**



Metrics /2

- **Distribution of bugs found in production by submitter role: gLite internal (developer, tester, etc.), user (via GGUS), user (via Savannah)**



Metrics /3

- Times to fix and release a bug depending on its priority
- Now based on severity