Software Process

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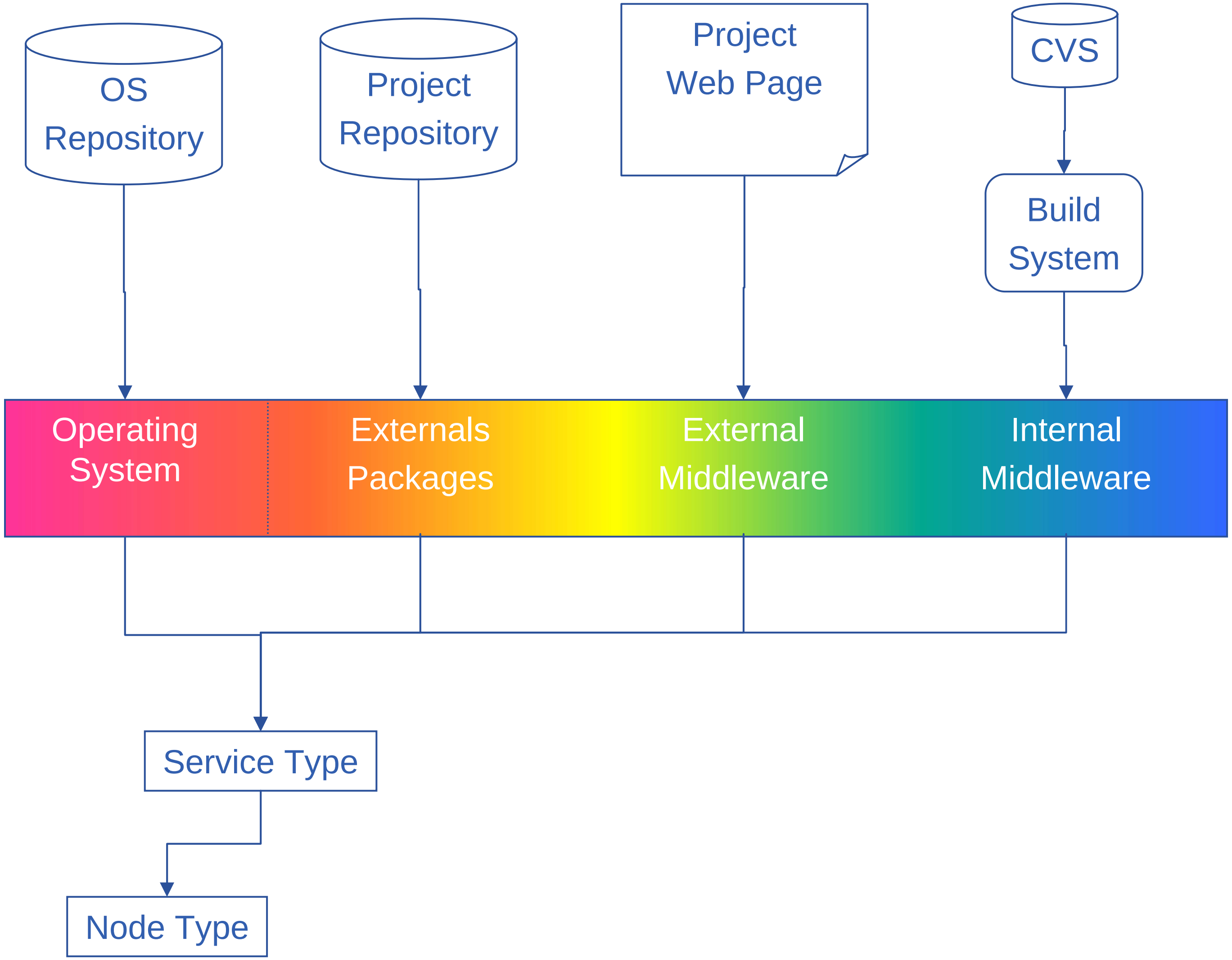
Terminology

- **Component**
  - The smallest self-contained package (e.g. one rpm)
- **Subsystem**
  - A logical group of components (e.g. R-GMA, WMS)
  - Globus, Condor etc considered to be subsystems.

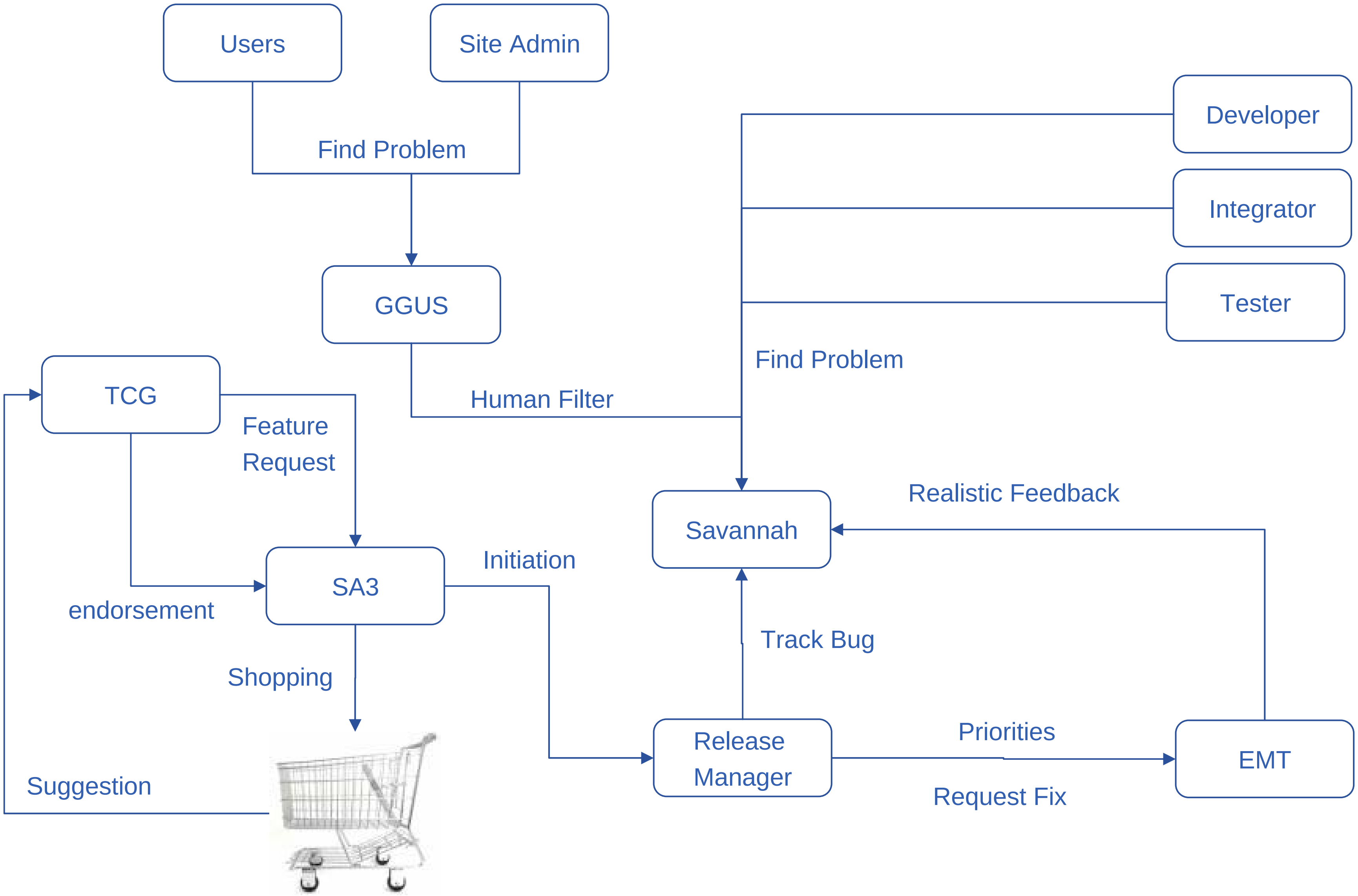
The Software Spectrum



Software Distribution

- **Must integrate at package level**
  - Not everything is available from CVS
- **For internal code**
  - One CVS directory per component
  - Package x_y_z = CVS release tag component_R_x_y_z
- **Require configuration lists per OS for**
  - Repository
    - Baseline packages
  - Service Type configuration-> metapackage
  - Example Node Type configuration-> metapackage
- **Repository structure**
  - OS -> OS dist rep
  - Baseline
  - Updates
  - Security-updates
  - CA
- **Check pointing**
  - Updates move into baseline
  - Negligible impact on sites

Bug Submission



Users

Site Admin

Find Problem

GGUS

Human Filter

Developer

Integrator

Tester

Find Problem

TCG

Feature Request

Savannah

Realistic Feedback

SA3

Initiation

endorsement

Track Bug

Shopping

Release Manager

Priorities

EMT

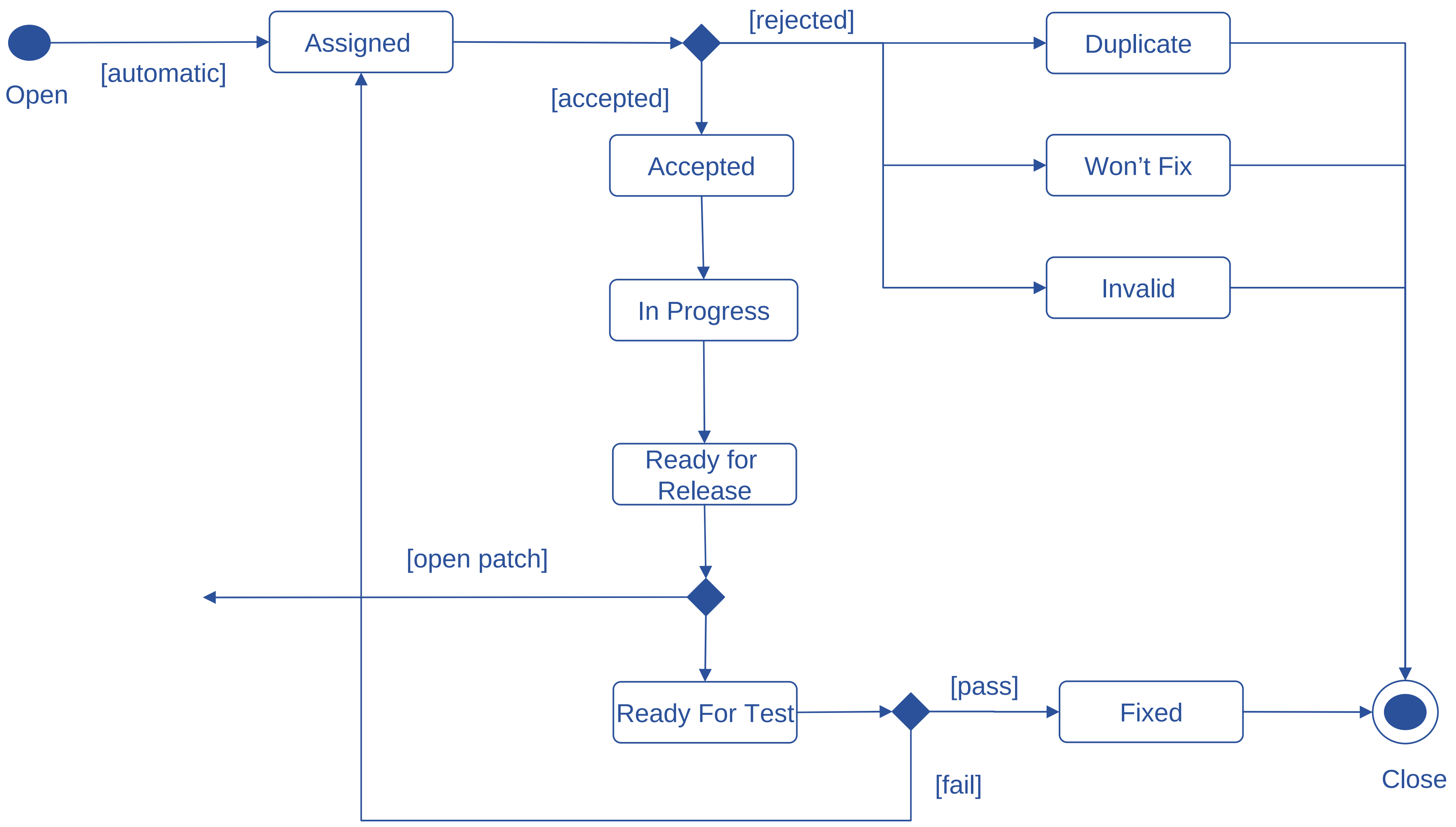
Suggestion

Request Fix

Submission Walkthrough

- **All middleware bugs tracked in Savannah**
  - Including feature requests
- **New bugs from many places**
  - Filtering via GGUS for user and sys admin bugs
- **EMT**
  - Gives realistic feedback on bugs
  - Priorities discussed
    - Criticality of update vs development schedule
    - Timelines assed
- **TCG requests new features**
  - SA3 shops around for solutions
    - Proposal given to TCG to endorse
  - Request given to the release manager to track
- **Coordination by release manager**

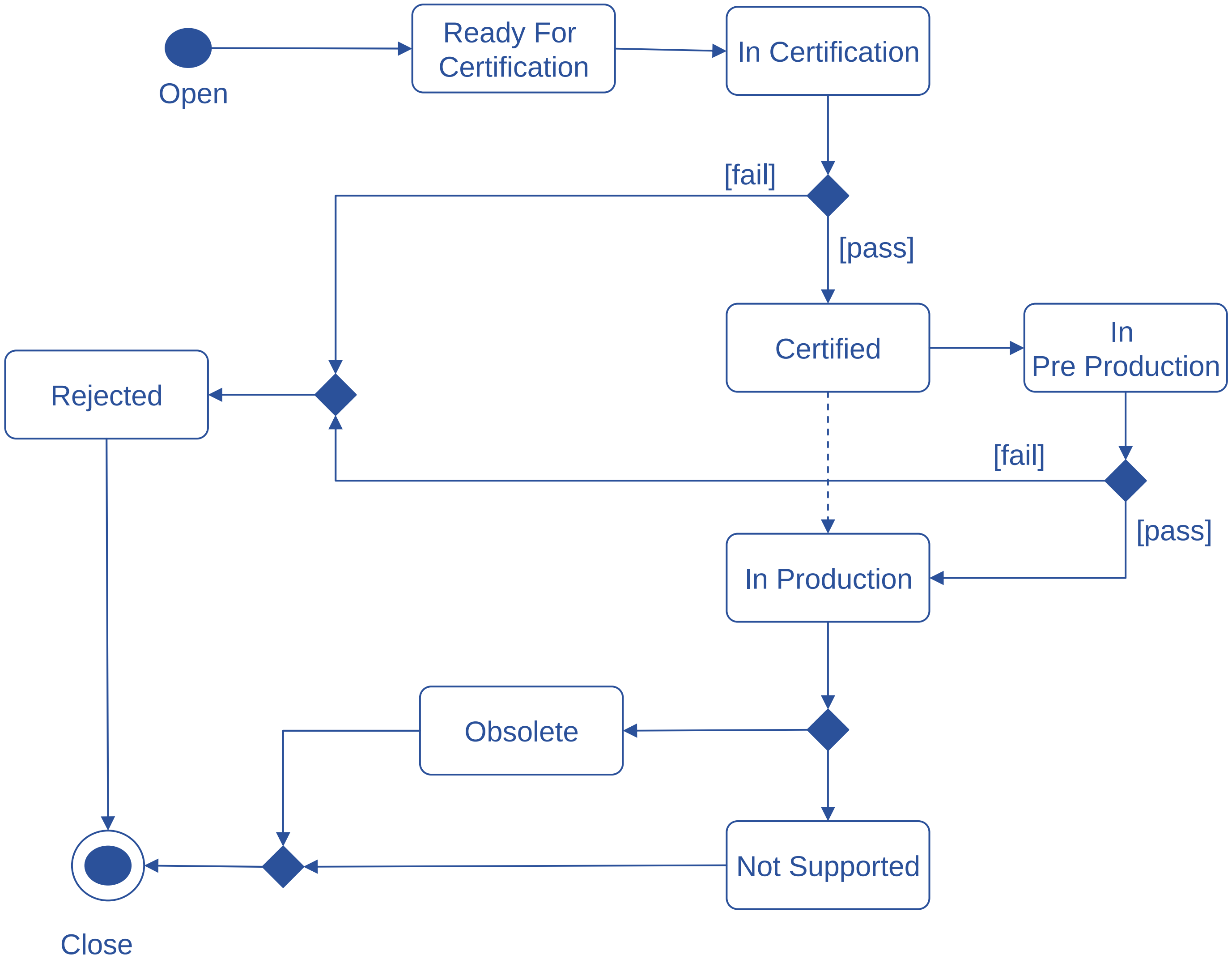
Bug States


[rejected]
Open
[automatic]
Assigned
Duplicate
[accepted]
Accepted
Won’t Fix
Invalid
In Progress
Ready for Release
[open patch]
Ready For Test
[pass]
Fixed
[fail]
Close

Bug Walkthrough

- **Bugs automatically assigned**
  - To subsystem mangers
- **Subsystem manager accepts or rejects bug**
  - and assigns to developer
- **Developer investigates and checks fix into CVS**
  - Developer assigns bug to subsystem integrator.
- **Subsystem integrator releases subsystem/component**
  - Tags CVS with a release tag (component_R_x_y_z)
  - Creates a Patch.
    - Adds all required information
  - Links all the bugs to the patch.
  - Puts Bug into state “Ready for Test”.
- **Monitor “Ready for Test”**
  - Close bug when verified
  - See linked patch for state of fix in the process.

Patch States



Patch Walkthrough

- **Integration team receives new patch.**
  - CVS release tag
  - Baseline to build against
  - Linked bugs
- **Build release tags**
  - Ensure that packages have been created
  - Move patch to “Ready for Certification”
- **Release manager pulls patches.**
  - Repository updated
  - Patch moves to “In Certification”
- **Patch is certified or rejected**
- **Patches can go to straight Production or via PPS.**
  - Production updates must go to PPS in parallel

Final Discussions

- **The Baseline contains a core.**
    - Analogous to the kernel and gcc for linux distribution
- **Changes of the core will require a new release**
    - Only the core should change
        - Don’t add any extra functionality
- **“Developers Playground”**
    - Preview access to next release (core)
- **Certification should be efficient**
    - To enable trivial updates to move through quickly
    - Virtual Machines should help to achieve this
- **Every service should publish its service version**
    - Currently being worked on
        - Submit bugs against services that don’t provide this
- **Meta-package must also be versioned**
    - Version change when dependencies change
        - Meta-package version != service version

Final Discussions

- **Need to define checklist**
  - Add extra things to patch submission
  - Reject patches that do not meet requirements
- **Need to announce the new process**
  - This is the SA3 announcement ☺
  - Update the developers guide
    - Announce update
  - Software Process milestone
    - Points to developers guide