XWiki Development Practices seen by XWiki SAS

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Agenda

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- Roadmap Process
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Versioning and Cycles

- Yearly cycles: XWiki 7.x, XWiki 8.x
- 4 major releases per year: N.1 till N.4
- Bugfix releases possible (e.g. 7.4.3)
- A major release is split into 4 releases: M1, M2, RC1 and Final
- A major release spans 2.5 months (3w for M1 and M2, 2w for RC1 and Final)
- When RC1 is released only bugfixes are supposed to be allowed till the Final
- Roadmap decides what XWiki SAS employees work on for each release
- LTS = last version from the previous cycle
- Support of 3 branches on xwiki.org: dev, stable, LTS
- Time boxing!

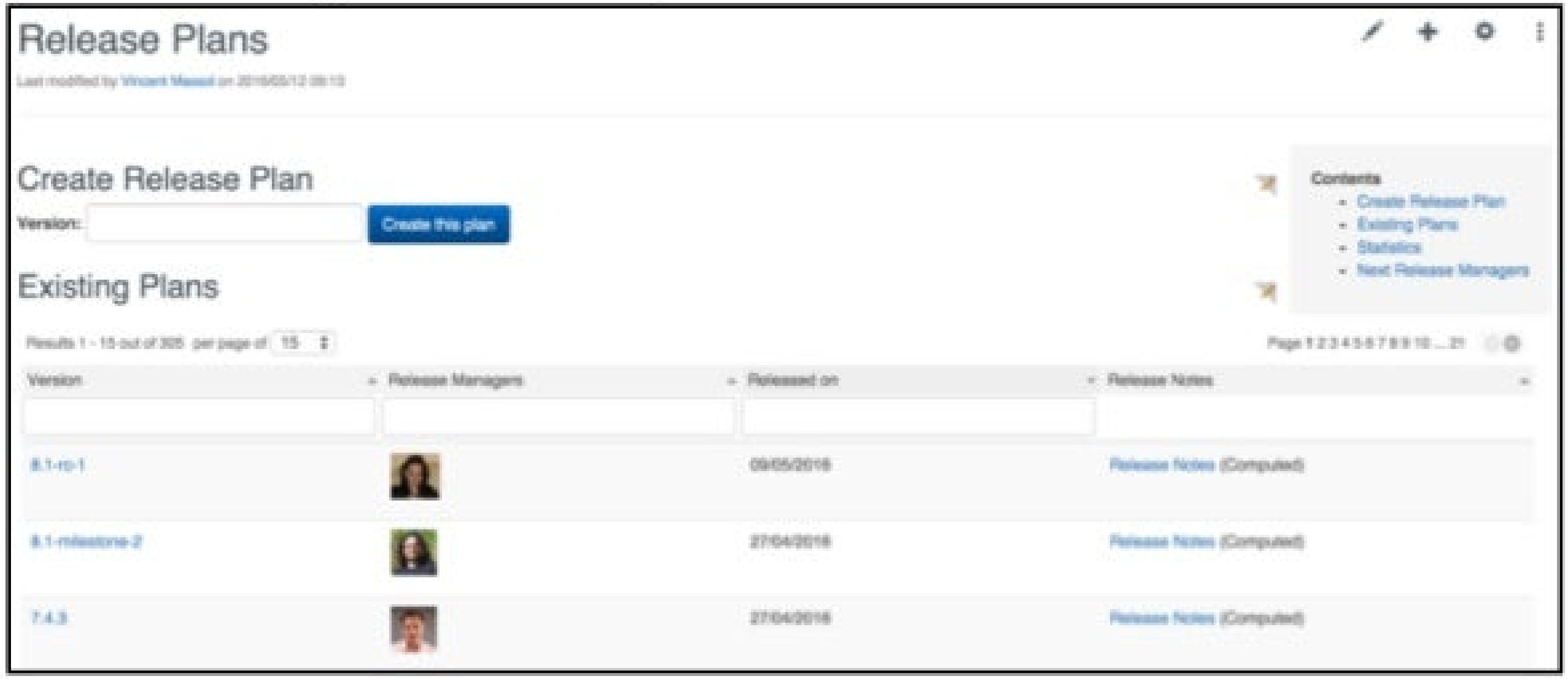
Source: http://dev.xwiki.org/xwiki/bin/view/Community/VersioningAndReleasePractices

Roadmap Process

- After RC1 is released, internal meeting organized inside XWiki SAS, then proposed on devs list
- With one representative of each XWiki SAS domain
  - Client Architects + Devs: Anca
  - Client PMs: Nicolas
  - XCS: Iustin
  - Sales & Marketing: Guillaume + Benjamin
  - Infra: Fabio
  - Support & QA: Silvia + Oana
  - Strategy: Ludovic
  - Research: Caleb
  - Product: Vincent
  - Usability: Caty
- At the same time as other product roadmap: all products are developed by the XWiki SAS Product team
- VOTE on features + Important small JIRA issues
- Communications: roadmap@xwiki.com

Release Manager

- In charge of doing the release for a major version (from M1 to Final)
- In charge of making sure everyone converges on the date (time boxing!) + monitors that CI passes
- Rolling Release Managers across all XWiki SAS Product team members
  - Defined at http://dev.xwiki.org/xwiki/bin/view/ReleasePlans/#HNextReleaseManagers
- Release Plan Application at http://dev.xwiki.org/xwiki/bin/view/ReleasePlans



Release Plans

Last modified by Vincent Massol on 2016/05/12 09:13

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- Create Release Plan
- Existing Plans
- Statistics
- Next Release Managers

Create Release Plan

Version: Create this plan

Existing Plans

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Version	Release Managers	Released on	Release Notes
8.1-rc-1		09/05/2016	Release Notes (Computed)
8.1-milestone-2		27/04/2016	Release Notes (Computed)
7.4.3		27/04/2016	Release Notes (Computed)

Source: http://dev.xwiki.org/xwiki/bin/view/Community/DevelopmentPractices#HReleaseManagerRole

Developing a feature (1/2)

1. Meeting with Stakeholders to gather use cases & priorities
    - Create full list of JIRA tasks (at least one JIRA per use case)
    - Update http://www.xwiki.org/xwiki/bin/view/Roadmaps/
    - Set fix versions for M1, M2, RC1
2. Develop use case by use case (JIRA issue per JIRA issue)
    - With automated tests
    - Commit as much as possible and at least once a use case is finished
        - CI (Jenkins on ci.xwiki.org) executes and proves it doesn't break anything
    - Document: add to release notes + reference documentation
    - Close JIRA issue
3. Repeat 2

Developing a feature (2/2)

1. If risk somewhere, send mail to roadmap@xwiki.com to warn/ask what to do
2. At cycle stabilization release time (*.3+), meeting with stakeholders to validate feature can be considered "finished"
3. After each release, stakeholders should validate the implementation done and verify it matches the needs

Committing

- Commit as frequently as possible
  - Allows code reviews
  - Allows integration (CI)
  - But working code ofc, hence automated tests
- Lazy commit rule: allow to commit but be prepared to revert if someone asks
- For complex things, not sure of yourself, best is to allow make a proposal on the devs list
- For very important things: VOTE
  - 72 hours
  - +1, 0, -1
  - Need no veto to pass

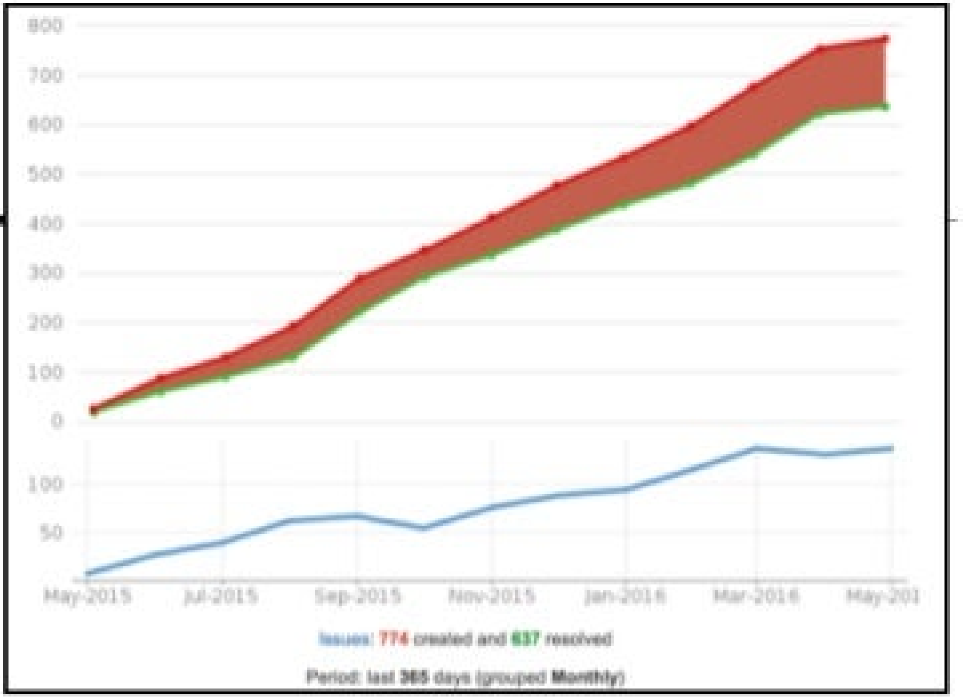
Backward Compatibility

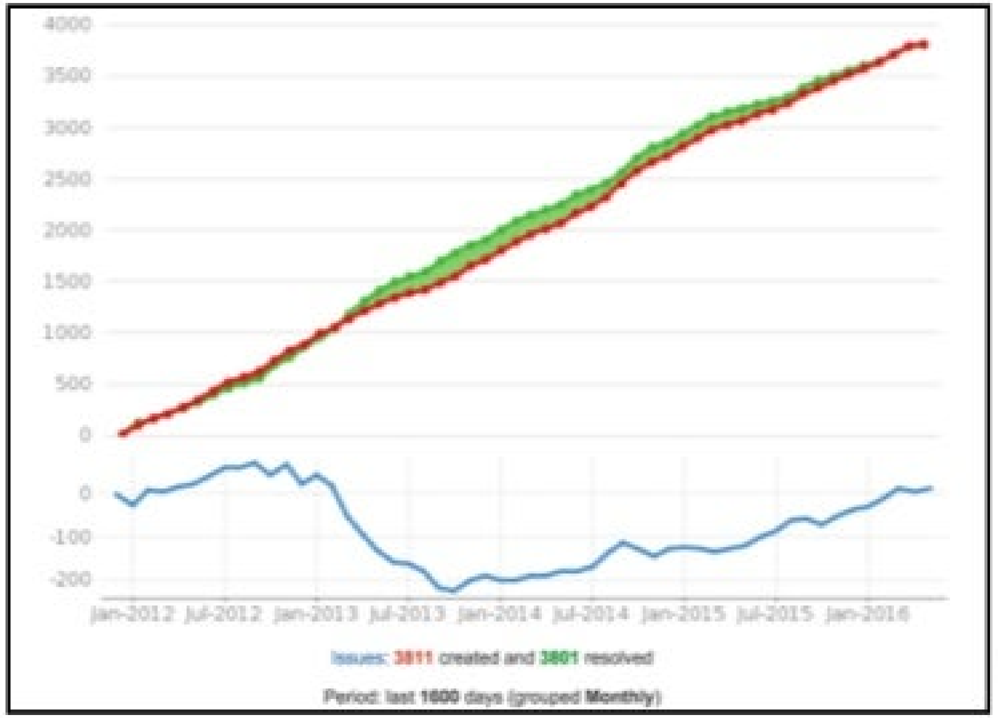
- Extremely important: XWiki is a platform. Same as a programming language!
  - Old extensions need to continue working
- We don’t remove ~~anything~~ much
  - And certainly not scripting APIs
- Instead we deprecate and move to Legacy modules
- Use @Unstable annotations for Java APIs to signify a new API that can be modified
- @Unstable can only stay for 1 full cycle

Source: http://dev.xwiki.org/xwiki/bin/view/Community/DevelopmentPractices#HBackwardCompatibility

XWiki Days

- BFD = Bug Closing Day
- BFD Goals
  - Have more bugs closed than created over 1600 days & 365 days
  - Close issues, not especially fix them (duplicates, won’t fix, etc)
  - Take low hanging fruits
- 101 BFDs so far!
- Others done:
  - Deprecation Fixing Day
  - DocHour Day
  - Pull Request Day





Source: http://dev.xwiki.org/xwiki/bin/view/Community/XWikiDays

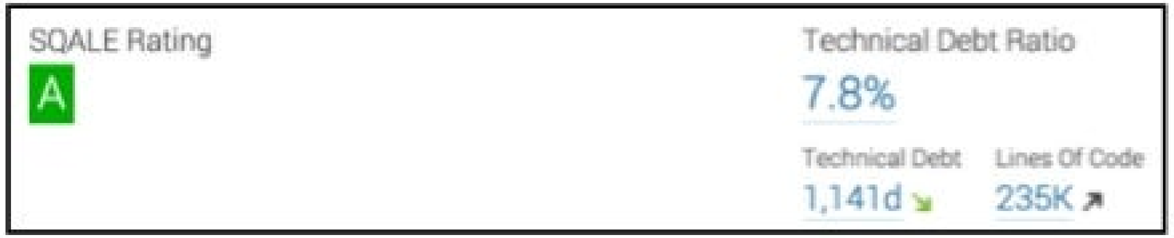
Automated Checks (1/2)

- Part of the Build
  - Style checks with Checkstyle
  - Verify that components.txt contains all Components
  - Verify that Unstable annotation don't stay too long
  - Verify that Script Services are not located in the internal package
  - Verify header licenses
  - Backward compatibility checks with revapi
  - Verify that all plugins have versions specified
  - Verify that we don't use Commons Lang < 3
  - Verify the correct JUnit artifact is used (junit-dep and not junit)
  - Verify we don't use Commons Logging or Log4j (since we use SLF4J)

Source: http://dev.xwiki.org/xwiki/bin/view/Community/Building#HAutomaticChecks

Automated Checks (2/2)

- Part of the Build
  - Verify that the Java version used to release XWiki is correct (e.g. Java 8 starting with XWiki 8.1, Java 7 for XWiki 6.0 and Java 6 before)
  - Verify that Javadoc exist (in the release profile, this is a Maven Central requirement)
  - In Commons: Verify that Commons modules don't have a dependency on Rendering and Platform modules
  - In Rendering:Verify that Rendering modules don't have a dependency on Platform modules
  - For XARs, verify format and content using the XAR Plugin
  - Verify that Test Percentage Coverage don't go down
- More checks on Sonar but not enforced at this time



SQALE Rating
A

Technical Debt Ratio
7.8%

Technical Debt
1,141d ↘

Lines Of Code
235K ↗

Coding Best Practices

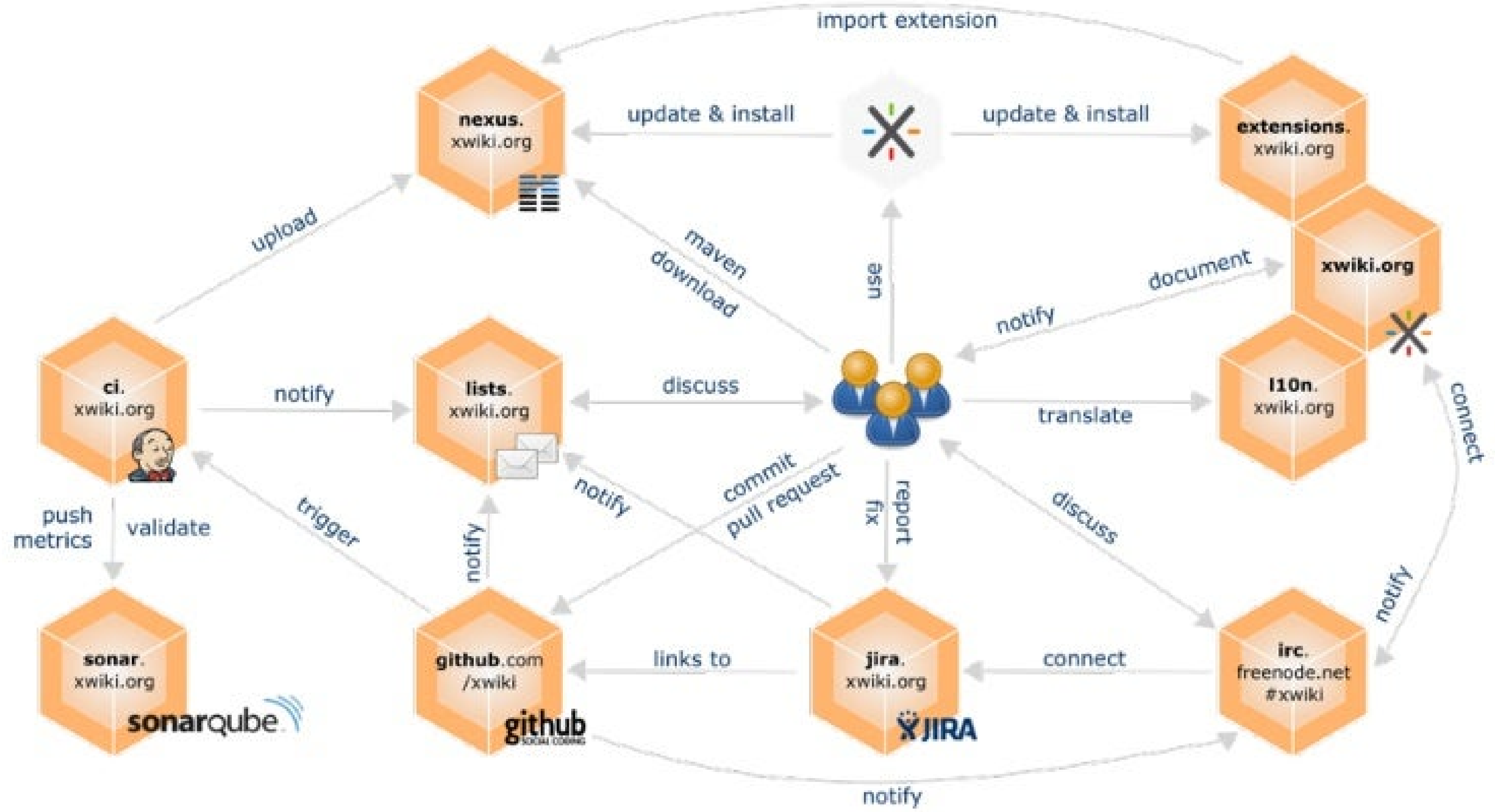
- Some defined in Checkstyle
- Others defined on http://dev.xwiki.org/xwiki/bin/view/Community/CodeStyle & http://dev.xwiki.org/xwiki/bin/view/Community/DevelopmentPractices
- Applications Best Practices at http://dev.xwiki.org/xwiki/bin/view/Community/ApplicationDevelopmentBestPractices
  - Work in progress
  - For example: location of Data and Code pages in discussion ATM
- Validated by build for Checkstyle and manual code reviews
  - Diff emails sent on commits
  - Committers duty is to review commits, see http://dev.xwiki.org/xwiki/bin/view/Community/Committership
- Anyone can propose new ways by sending proposal on devs mailing list

Testing

- Unit tests with JUnit
- Custom framework to easily test Components with @Rule MockitoComponentMockingRule
- Some other JUnit Rules such as @Rule AllLogRule
- Unit tests must not output logs during test. Verification in build but need to be activated more and more on modules
- JS testing with Jasmine
- Functional UI tests with Selenium2 + custom DSL/API
    - Using Page Object strategy
- New: XAR Testing (ie XML page testing in a unit way), with PageTest

Source: http://dev.xwiki.org/xwiki/bin/view/Community/Testing

Servers Overview



Source: http://dev.xwiki.org/xwiki/bin/view/Community/DevelopmentPractices

Contrib Extension (1/2)

- Send a mail on devs list to request a repo
  - You get GitHub repo, JIRA, Sonar, CI
- Use Maven to build your extension
- Proposal in progress: use same practices as XE dev practices
- Important: contrib is about developing code collaboratively.
  - Not a place to do solo dev
- Release with Maven
- Import on e.x.o + write good documentation (screenshots, screenshots, screenshots!)

Source: http://contrib.xwiki.org/xwiki/bin/view/Main/WebHome

Contrib Extension (2/2)

- Make sure to respect minimal XWiki version the extension should work with.
  - Defined in the README.md
  - See http://contrib.xwiki.org/xwiki/bin/view/Main/WebHome#HREADME.mdTemplate
- Send an [ANN] mail to users/devs list when releasing an extension

Source: http://contrib.xwiki.org/xwiki/bin/view/Main/WebHome

Q&A
cc BY SA