

# **ALERT** in Open World Forum 2012



Paris October 12, 2012

**ΔALERT**

How **Automation & Notifications** can help software development teams focus on building **beautiful code**



# Agenda

#AlertOWF12

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**Overview of ALERT Project**

**ALERT Project Value**

**Real Use Cases of ALERT' s VALUE for:**

**KDE Open Source Community**

**Companies and the Forge market**

**Petals Open Source Community**

**Conclusions and Q&A Debate**



**ΔLERT**

# ALERT Project



Ljiljana Stojanovic  
from FZI





# ALERT Identity

## ALERT

**A**ctive support and real-time coordination based on **E**vent **p**rocessing in open source software development

## FACTS

**Start** 01 October 2010

**Duration** 30 months

**Total Budget** 4,019,835.00 €

**EC Funding** 2,948,856.00 €

**Consortium** 9 Partners

ALERT will improve the **coordination** among developers in Open Source communities by providing **methods and tools** based on **context-aware** notification, **event-driven** processing and **real-time** interactions

# ALERT Partners

**FZI** Germany (Coordinator)

**URJC** Spain

**Atos** Spain

**CIM** Serbia

**Corvinno** Hungary

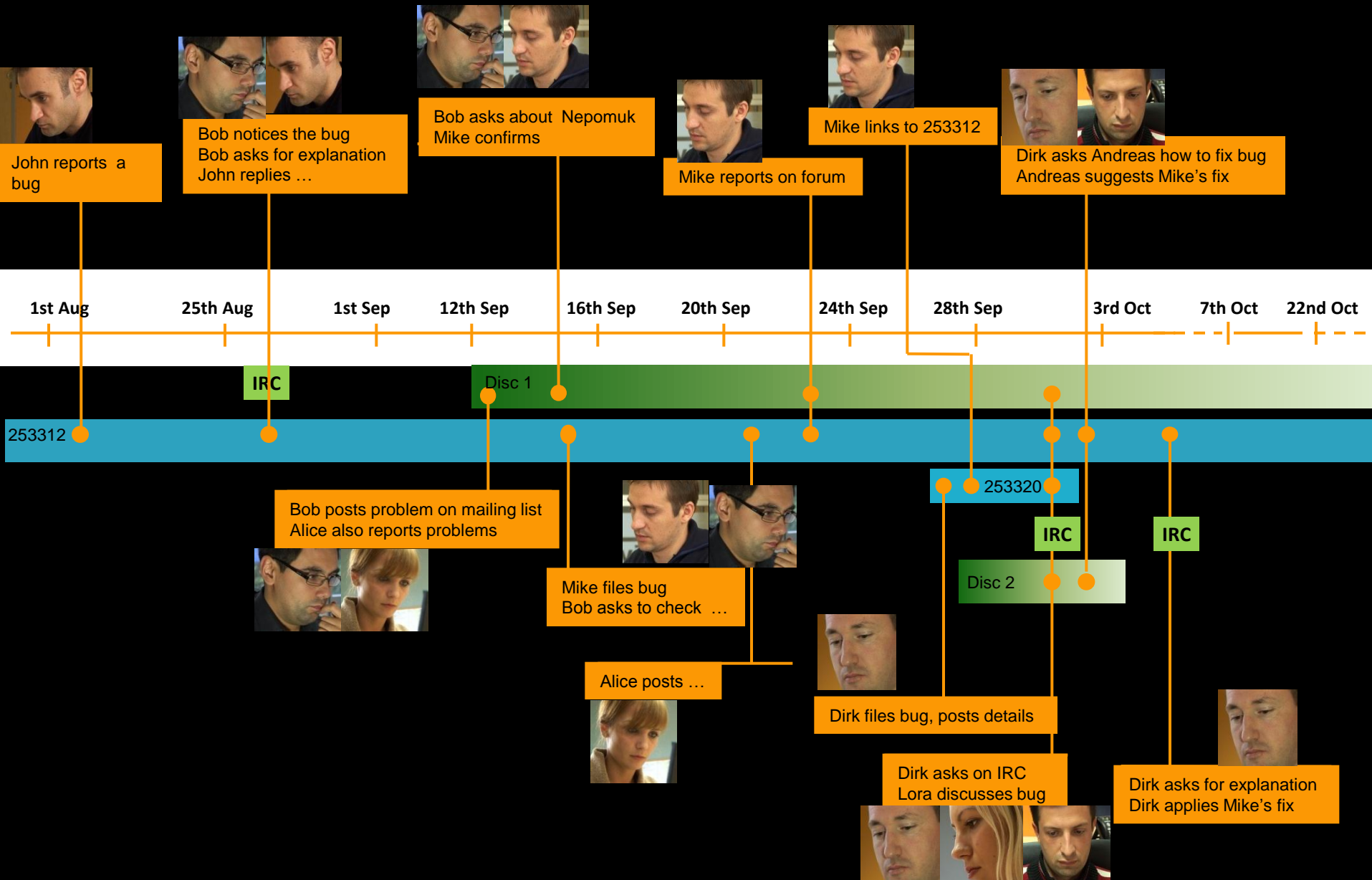
**ICCS** Greece

**IJS** Slovenia

**KDE e.V.** Germany

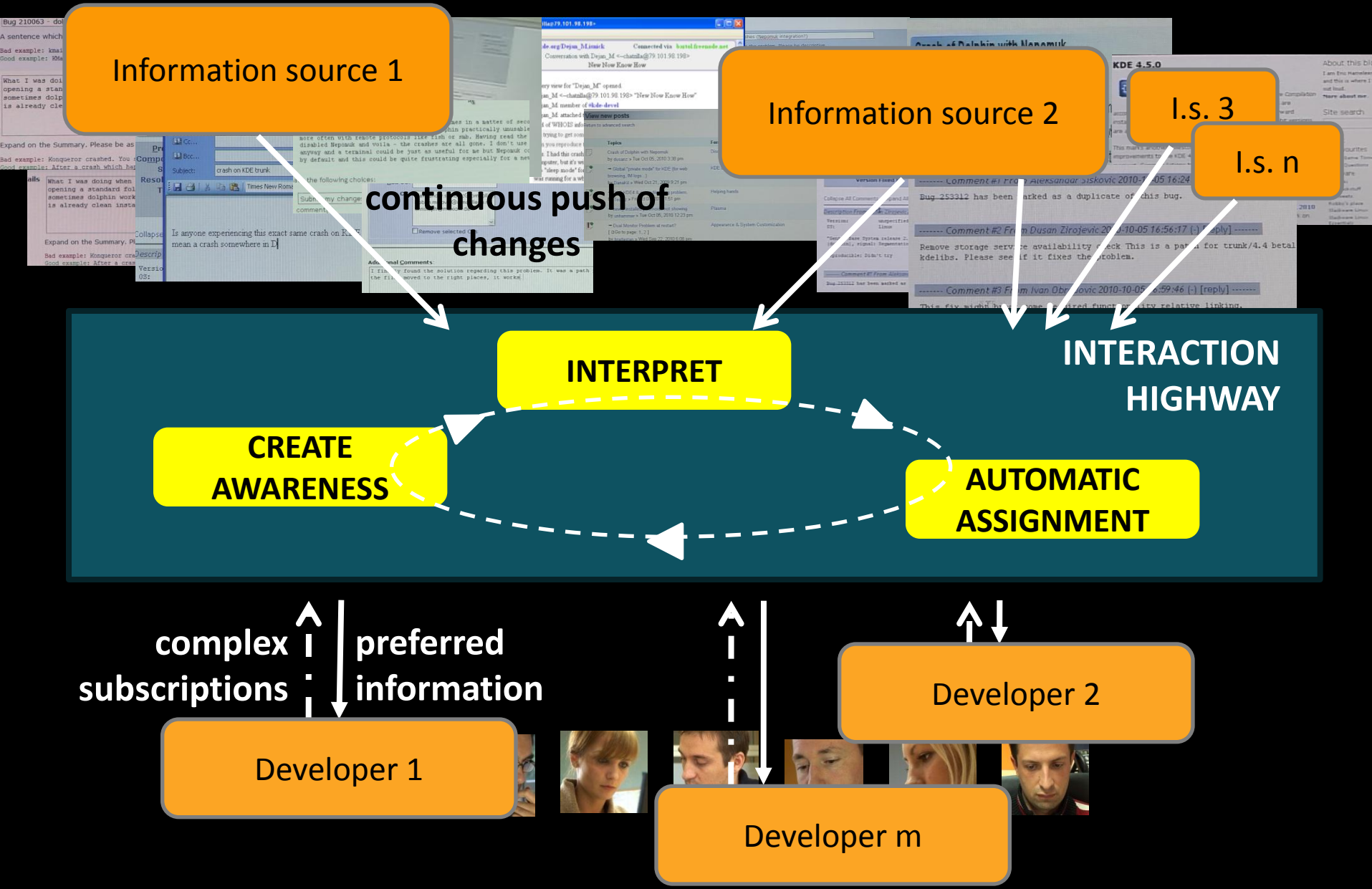
**Linagora** France

# Why ALERT?





# What is ALERT?



# Main Innovations (I)

## **KNOWLEDGE EXTRACTION** (from structured sources)

**Source Code Management**

**Supported Systems** CVS, SVN, GIT, Mercurial, Bazaar

**Bug Tracking Systems**

**Supported Systems** Bugzilla, Mantis, JIRA

## **EXTRACTION OF COMMUNITY KNOWLEDGE**

**Artifacts, community members and cross-linking of them**

**Metadata includes** a) references to code, files, packages, error traces, other bug reports and discussions, and (b) semantic concepts

## **DYNAMIC VISUALIZATION**

**key descriptors of the project evolution**

# Main Innovations (II)

## **KNOWLEDGE EXTRACTION** (from unstructured sources)

### **Semi-automatic construction of ontology**

related to computer science and software development

### **Automatic methods for extending the ontology**

with domain specific terminology

### **Annotation of text**

using Annotation ontology concepts

using information from structured sources (references to bugs, methods, classes, ...)

### **Bug duplicate detection**

based on semantic information and meta data

### **Searching based on various conditions**

e.g., keywords, people, products, classes, methods, time, ...

# Main Innovations (III)

## **EFFICIENT MANAGEMENT OF RELEVANT INFORMATION**

**Automatic Identification of developers**  
across information sources

**Capturing of their competence**  
using metrics of their activity

**Real-Time recommendations**  
of developers, issues and components  
by combining developer competence and extracted

# Main Innovations (IV)

## EFFICIENT MANAGEMENT OF THE AWARENESS OF TEAM MEMBERS

enables interesting parties to be notified

based on their interests/expertise

as soon as something relevant happens

graphical editor and model for specification of notification patterns

enables representing the context during which (re)active behavior is relevant and the situations in which it is required

Intelligent, pattern-based engine

correlates, aggregates, and filters events in order to provide triggers for relevant notifications

Action service

provides different types of real-time notifications

# ALERT Value Proposition



Oliver Barreto  
from ATOS





# ALERT actors

## 1. Users

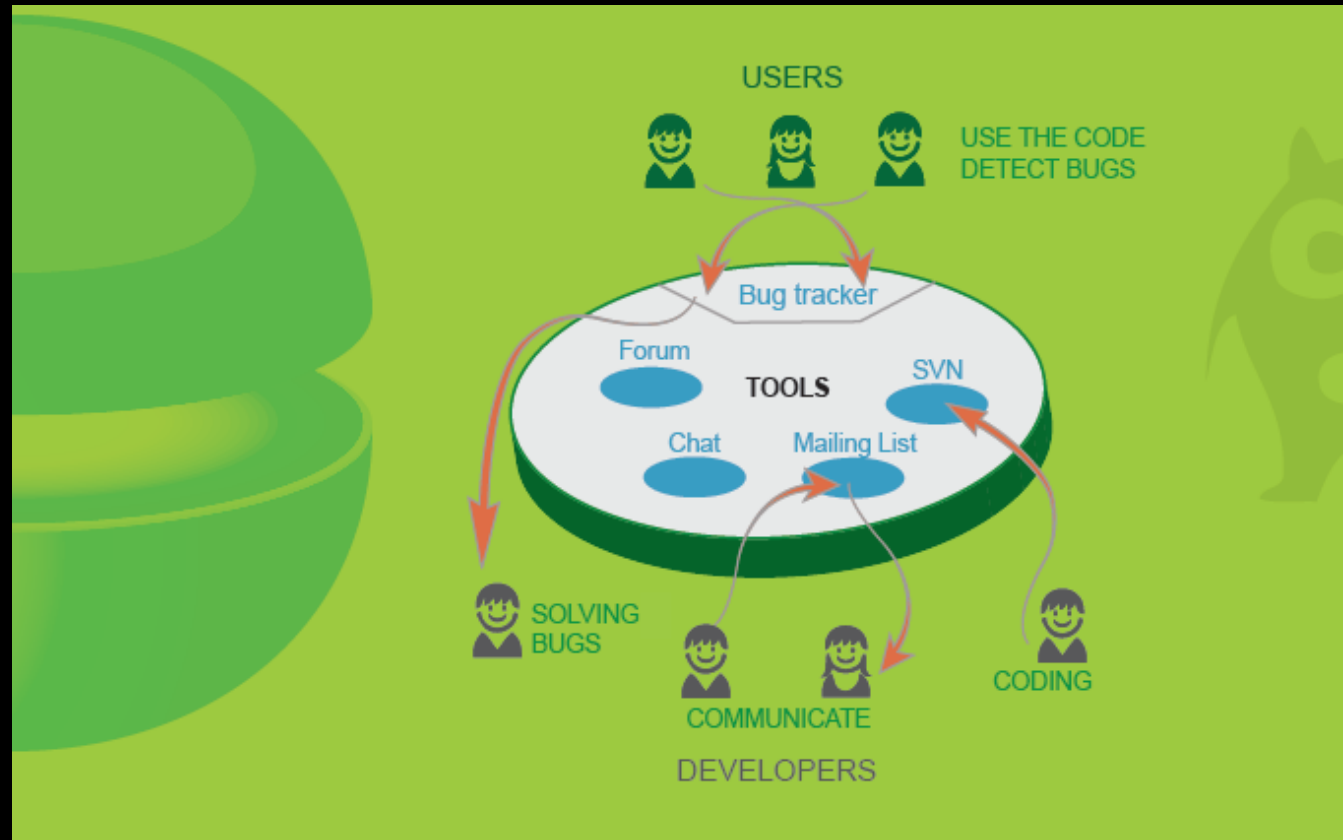
interacting and using applications and systems

## 2. Dev, Comm & Collaboration Tools

allowing interaction, communication, reporting and development processes

## 3. Developers

coding, collaborating and solving bugs



**#FocusedCoding**  
**#CodeTogether**



ALERT is an Open Source project that aims to improve **coordination, knowledge and bug resolution processes** in collaborative or distributed environments by providing methods and tools for Software Development Companies, Open Source Communities and Developers

# Video

## **Automation & Notifications**

to find possible duplicates or related issues and notify relevant facts to developers when they occur

## **Live Project & Team Status**

more realistic picture of projects and participation with info from multiple sources

## **Faster Team Interaction**

with Automation & Notification tools to keep developers updated

## **Development Tools**

integrate sensors & help coders concentrate on development instead of manual repetitive tasks

## **Talent Monitoring**

Improve task assignment & triage processes on OSS Communities: assign developers based on skills , expertise and participation

## **Social Coding**

Automatically Create & Show developers profile

## **Reduce Time solving Bugs**

improve performance solving bugs and searching for possible solutions

## **Multiple Data Sources**

gathers relevant info from multiple data sources (ITS, BTS, code repositories, blogs, forums, portals, eMail, etc.)



# ALERT's Value Proposition



**Significantly reduce the amount of time spent by developers on solving issues, investigating and searching different sources for possible solutions with the automation & notification engine and data-collector sensors...**

**... and create a new environment that help companies reduce corporate legacy collaboration tools and embrace Web 2.0 tools**



# ALERT provides Analysis tools to stay on top of the Project Status and Team's Contribution

... managers, team managers and even developers can have an overview of the project's status



**ALERT provides automated profile  
creation of expertise, skills and project  
contribution**

**... for developers to show off and also for  
management and recruiting purposes**



**Social Coding:** Companies such as Atlassian, Github, Geeknet or MasterBranch (a place for developers to show off their expertise on the social coding trend)

**Talent Recruiting Firms:** Companies such as LinkedIn or Monster, or even software companies (a place for companies that need to hire developers to find real and specialized talent)

**IT Sponsors:** companies sponsoring Open Source Tools such as Oracle, Ubuntu, etc. (integrating ALERT with OSS tools aiming to help teams & developers become more efficient)



# Show a real Use Case: **ALERT** in the **ATOS**



Clara Pezuela  
from ATOS





**We are BIG, but  
we love Open Source !!!**

# Innovation is part of the Atos DNA

- Continuous **improvement of development processes**
- Become **a great place to work** in and help ‘talent’ work on right places and projects
- Embrace automation tools, web 2.0 and social media communication channels, reduce bureaucracy and draft the path to become a **zero email** corporation

**detection of similar bug**

**reports** and improve team's performance when solving bugs and searching for possible solutions

**help development team**

**managers** with more realistic picture of the participation of team members on projects

**provide effective interactions between**

**teams** avoiding duplication of task and reducing communication tools use with automated events and notification tools



**Focused on**  
**Process**  
**Improvement**



## Focused on The Team

**help measure developers' talent** skills and work contributions on projects with no overhead work that can build a more accurate asset resource of skilled developers

**help developers concentrate on development** making more easier the searching of information in projects

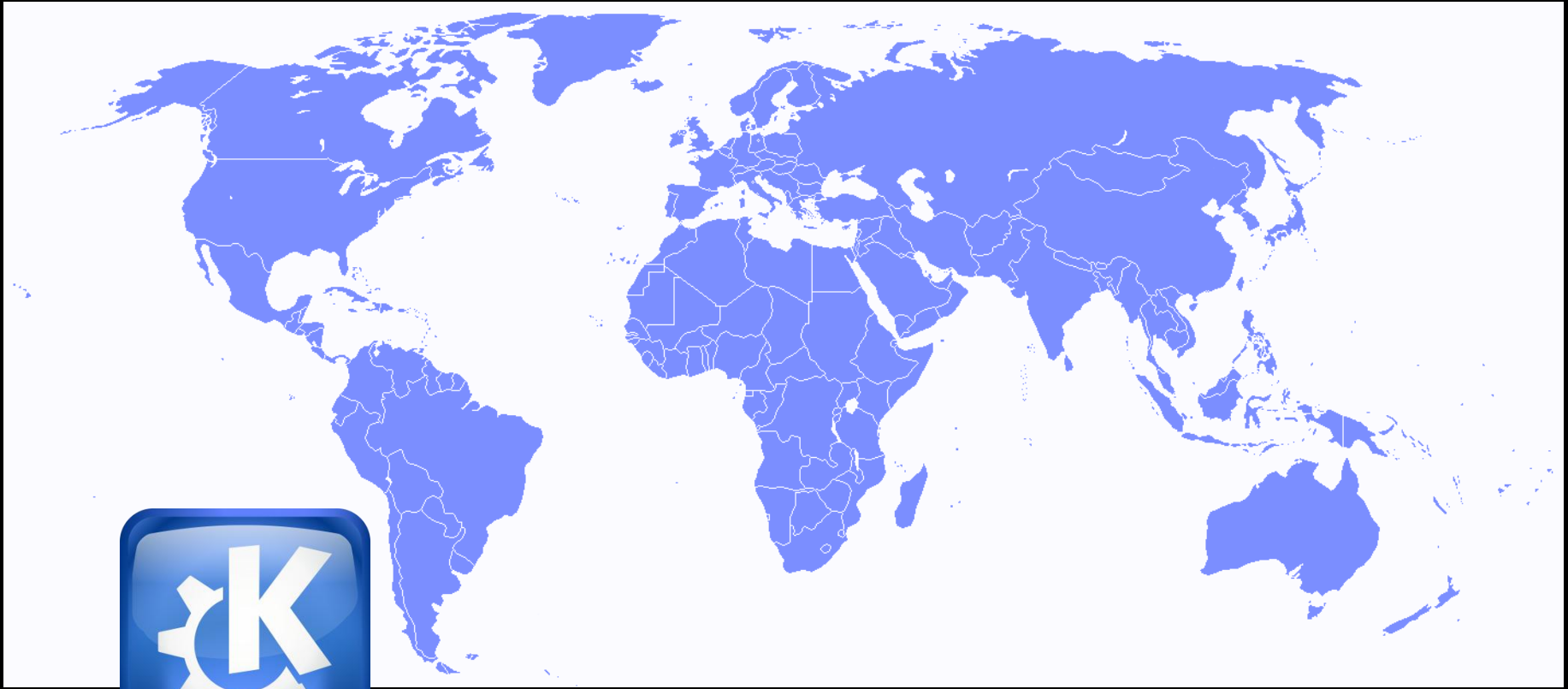
**help developers have access to centralized information sources,** collaboration and notifications tools that reduces time spent on unproductive tasks in a more integrated manner with their current development tools and IDEs.

# Show a real Use Case: **ALERT** in the KDE Open Source Community

Dario Freddi &  
Stuart Jarvis  
from KDE



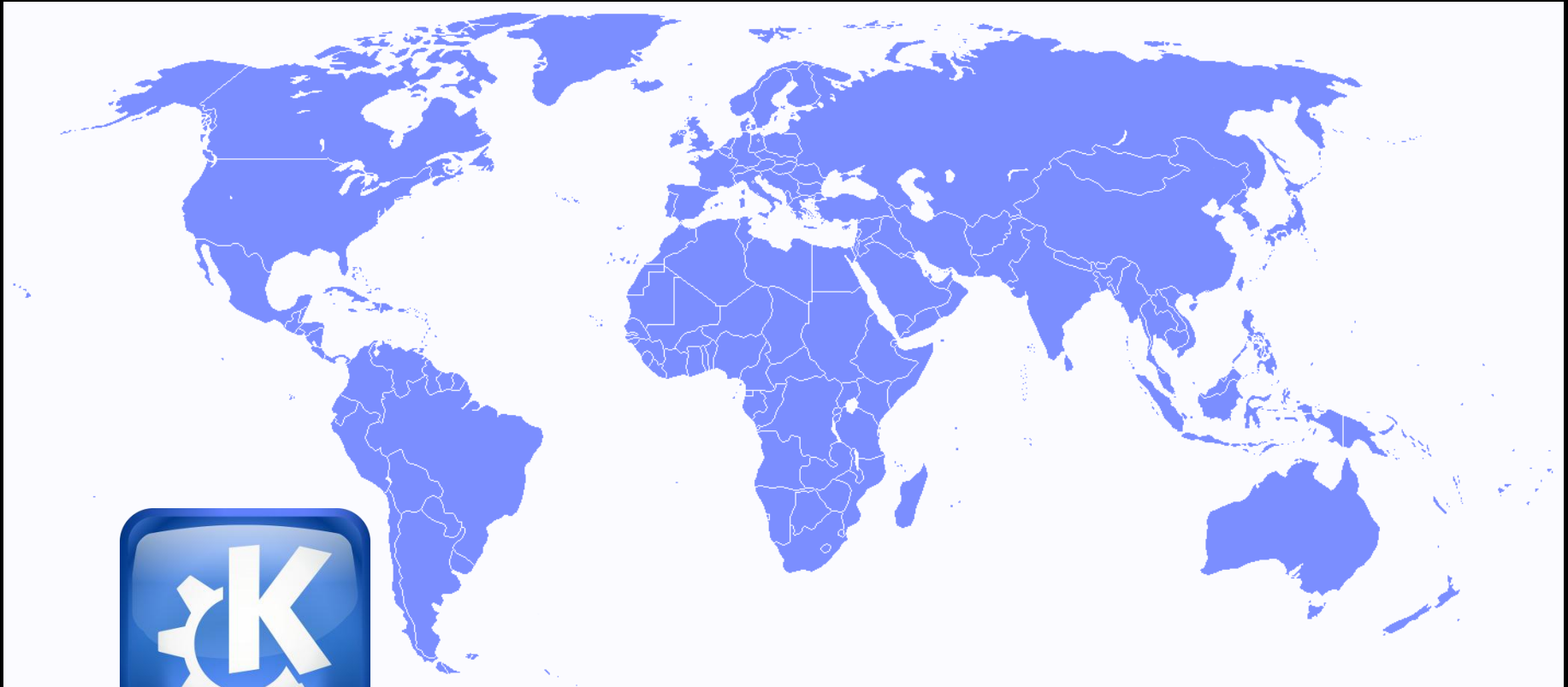
# A Big Community...



KDE software users: **millions**

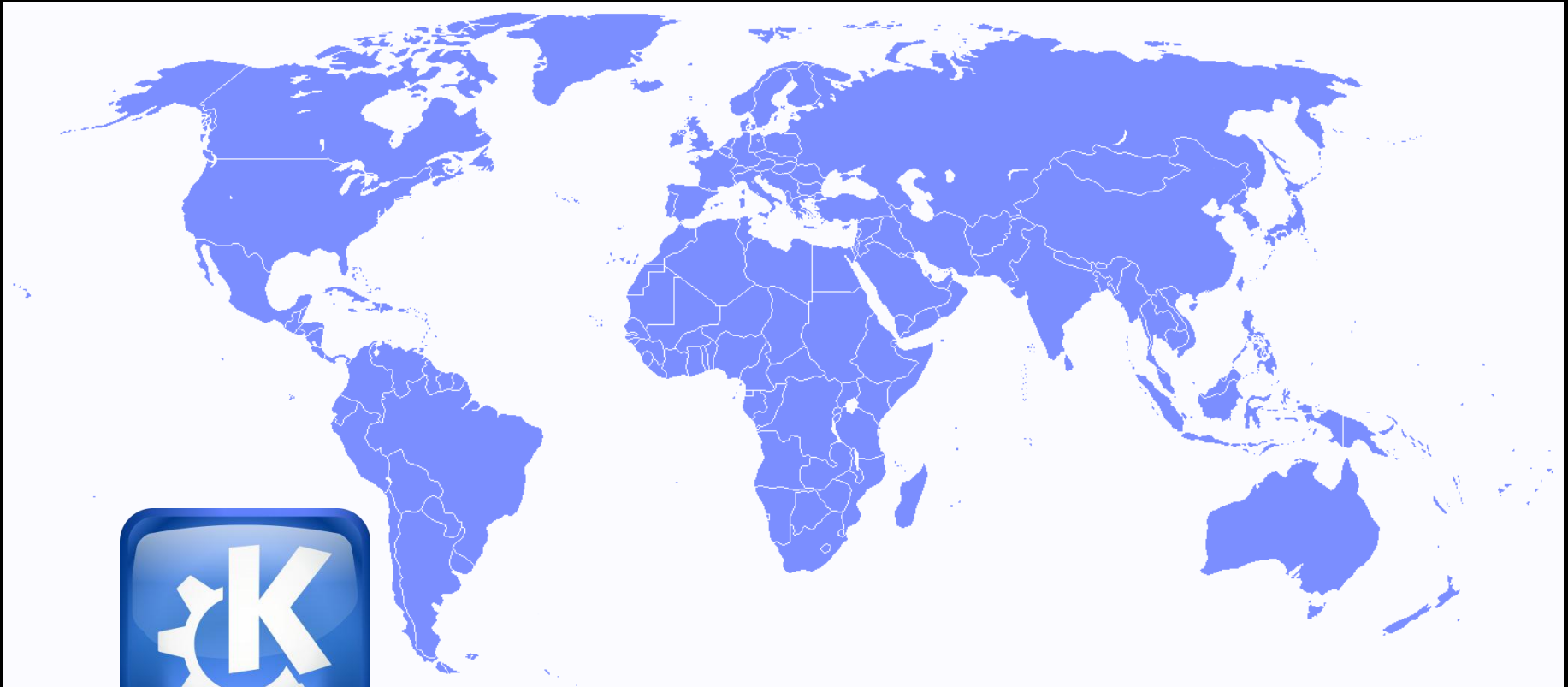


# A Big Community...



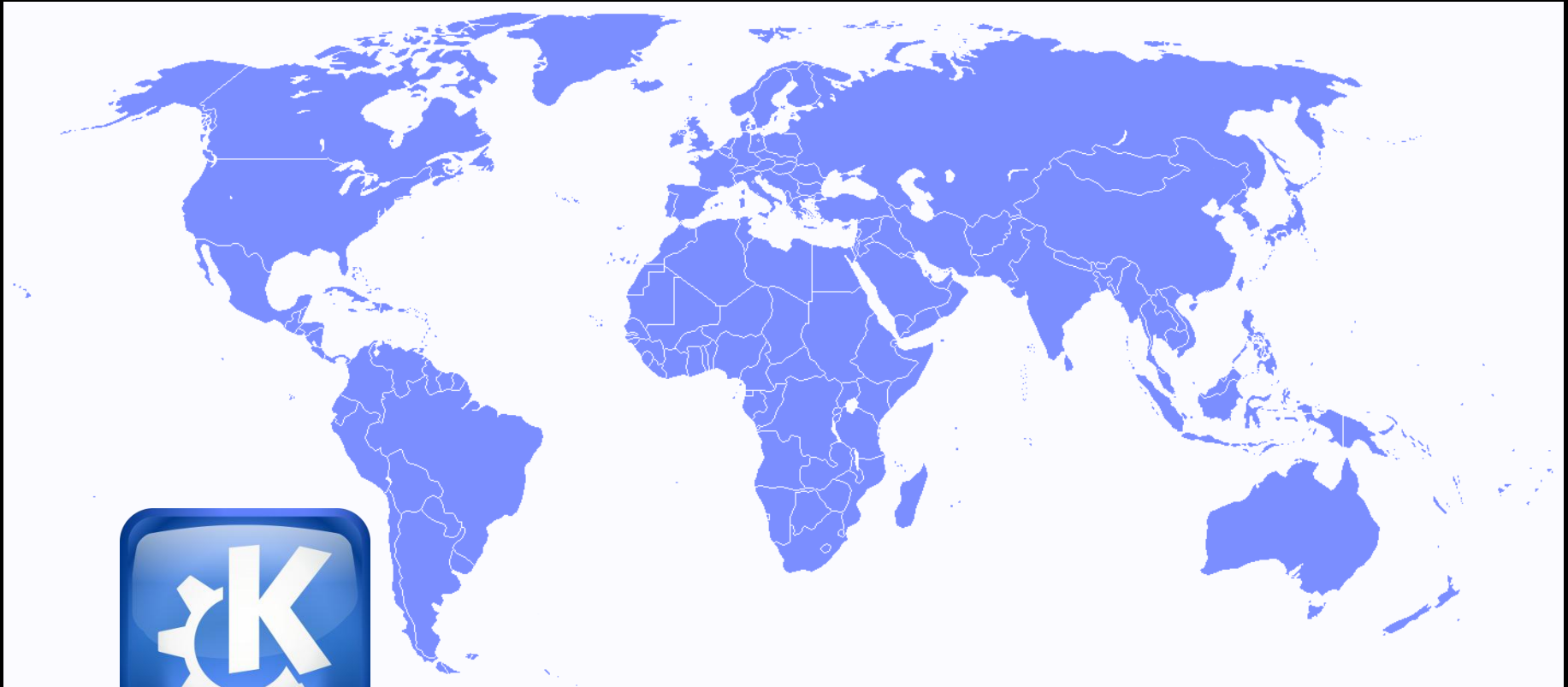
**Commits: 2000-2500 weekly**

# A Big Community...



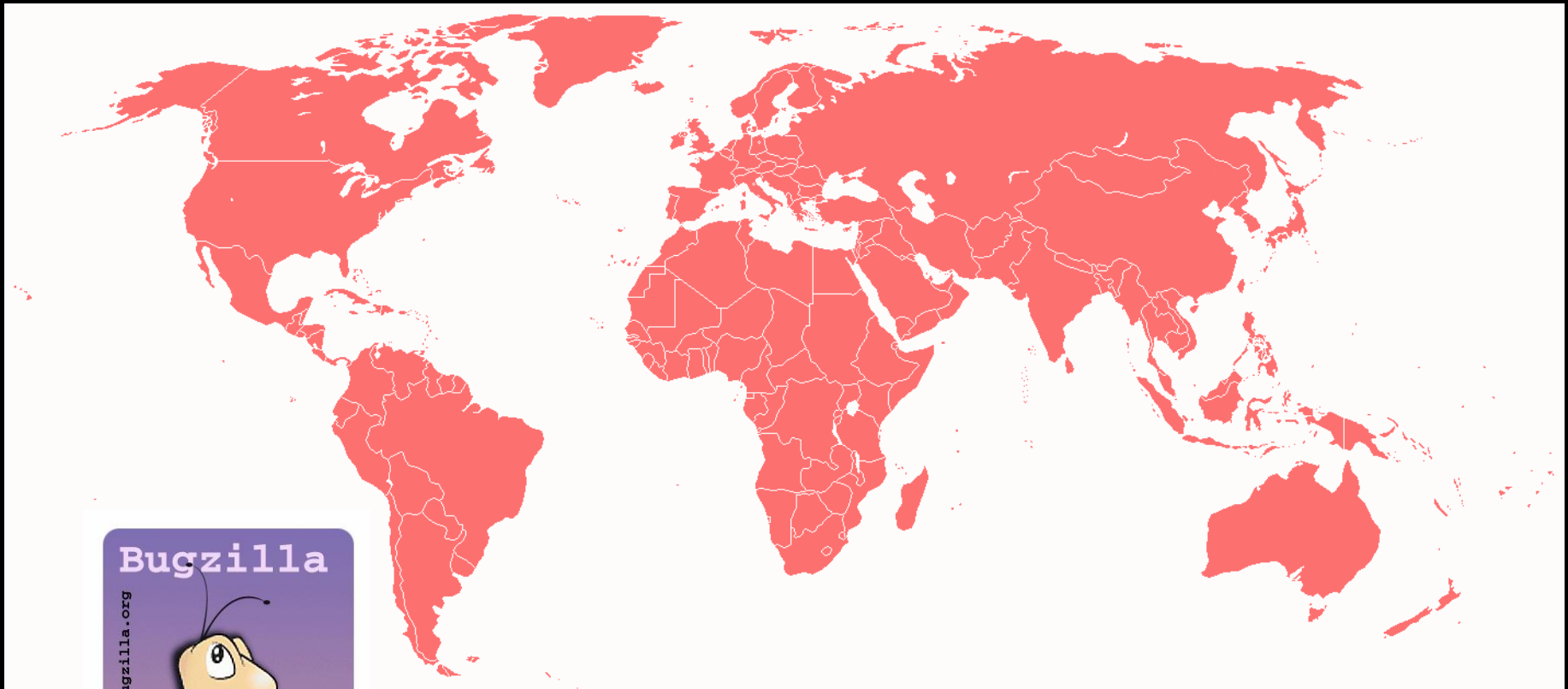
Active developers: **200** weekly

# A Big Community...



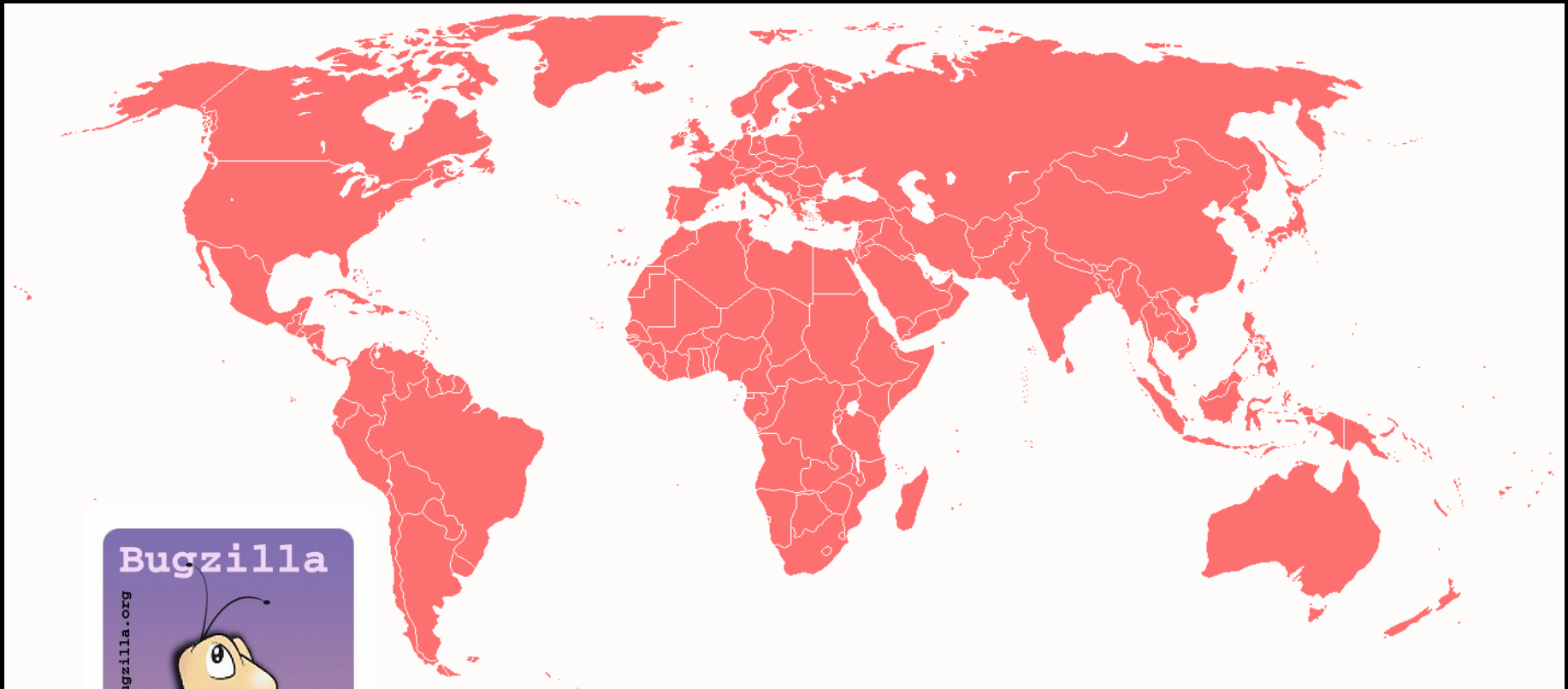
**Commits: Over 100 000 annually**

# ...With Issues



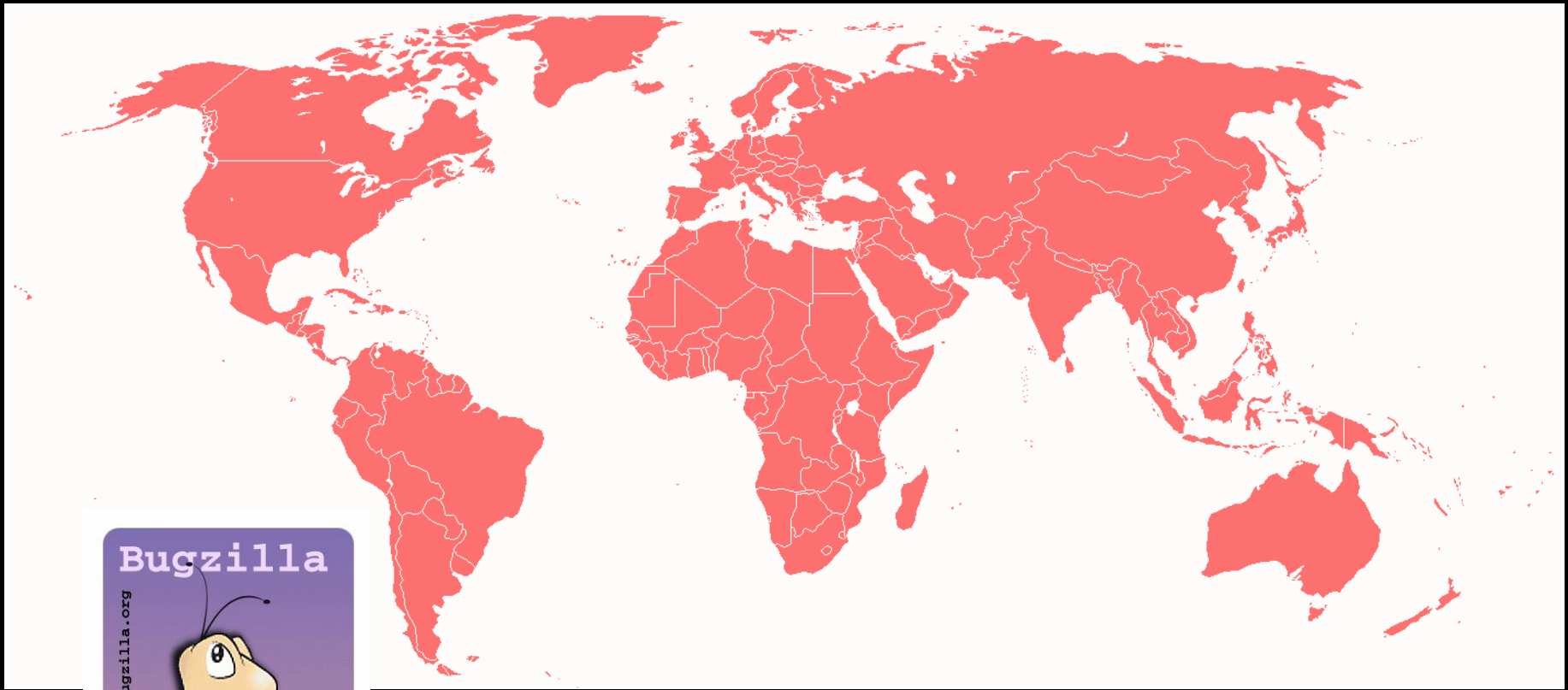
Last week: **274** issues resolved

# ...With Issues



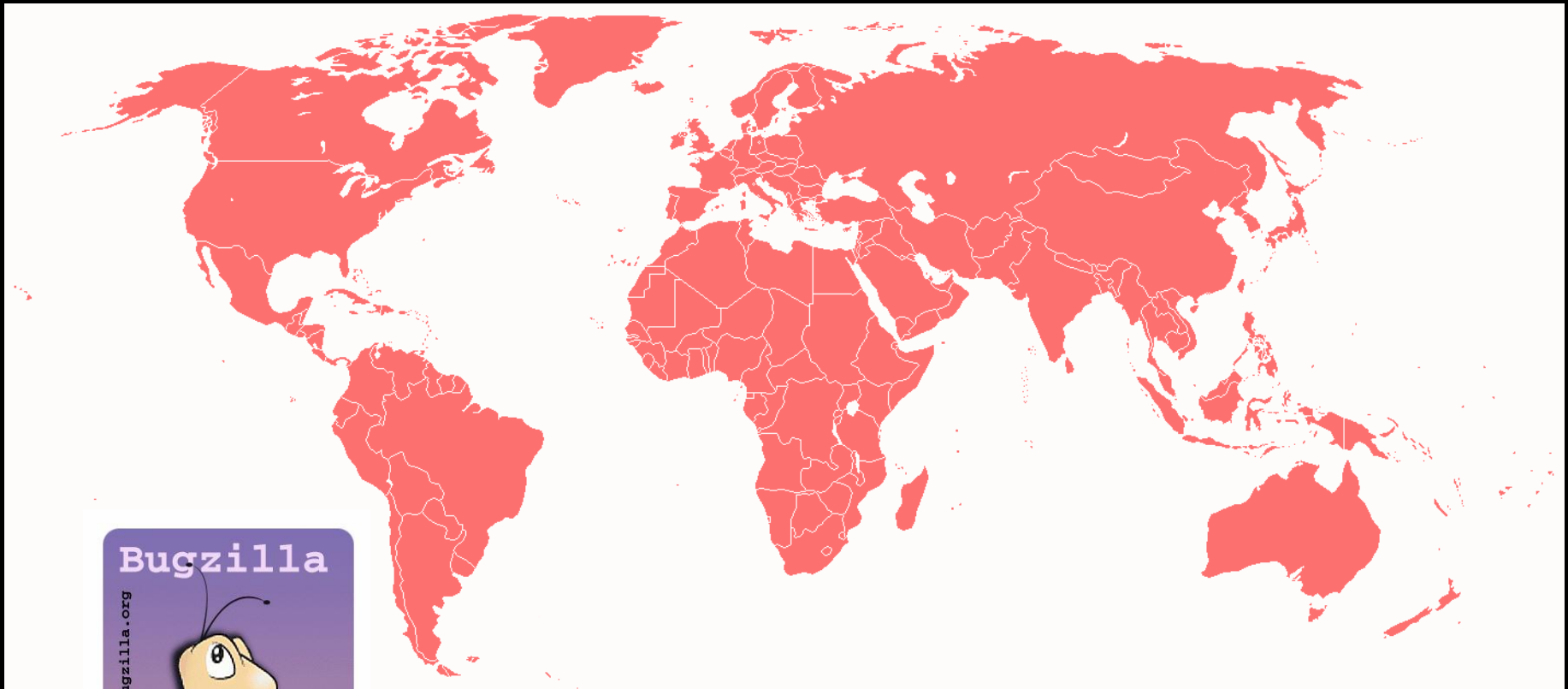
Last week: **284** issues reported

# ...With Issues



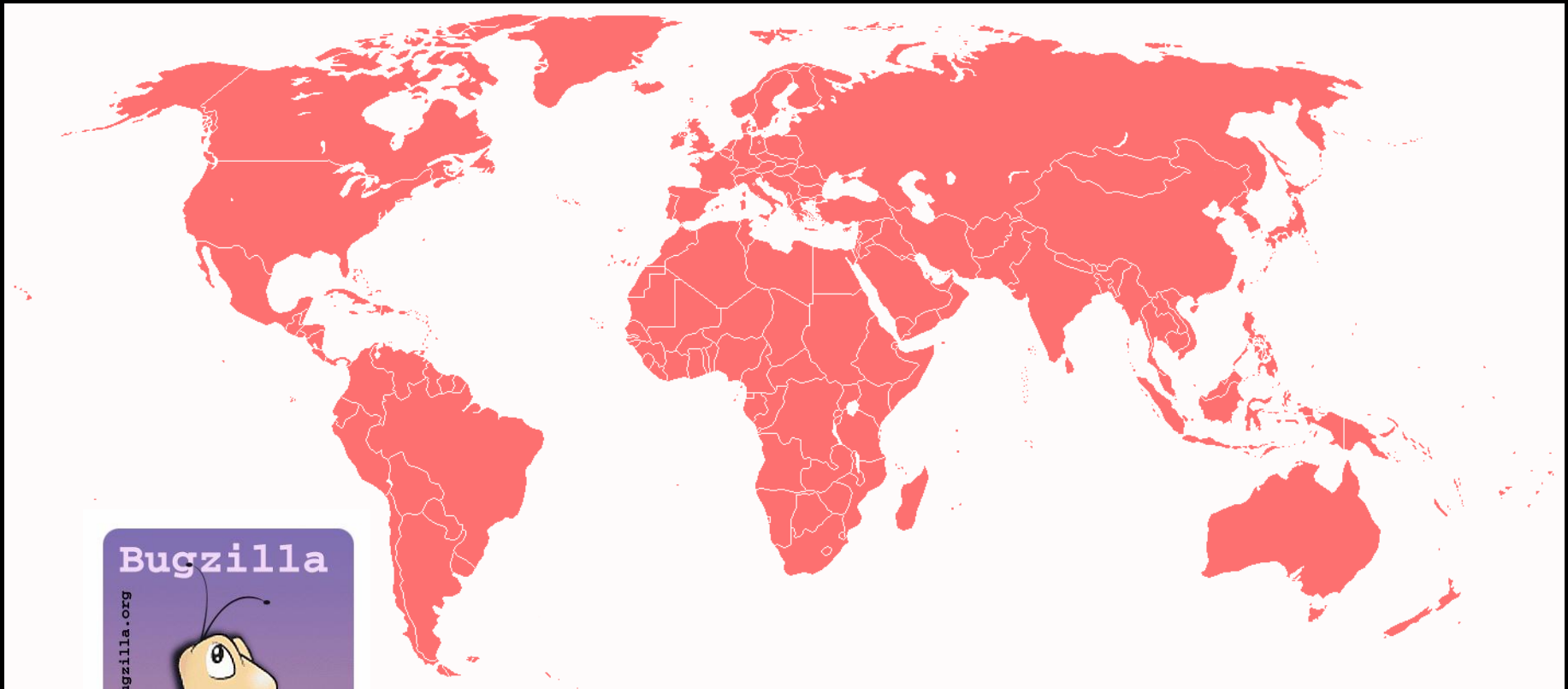
Total issues: **250 000**

# ...With Issues



Open issues: **21 420**

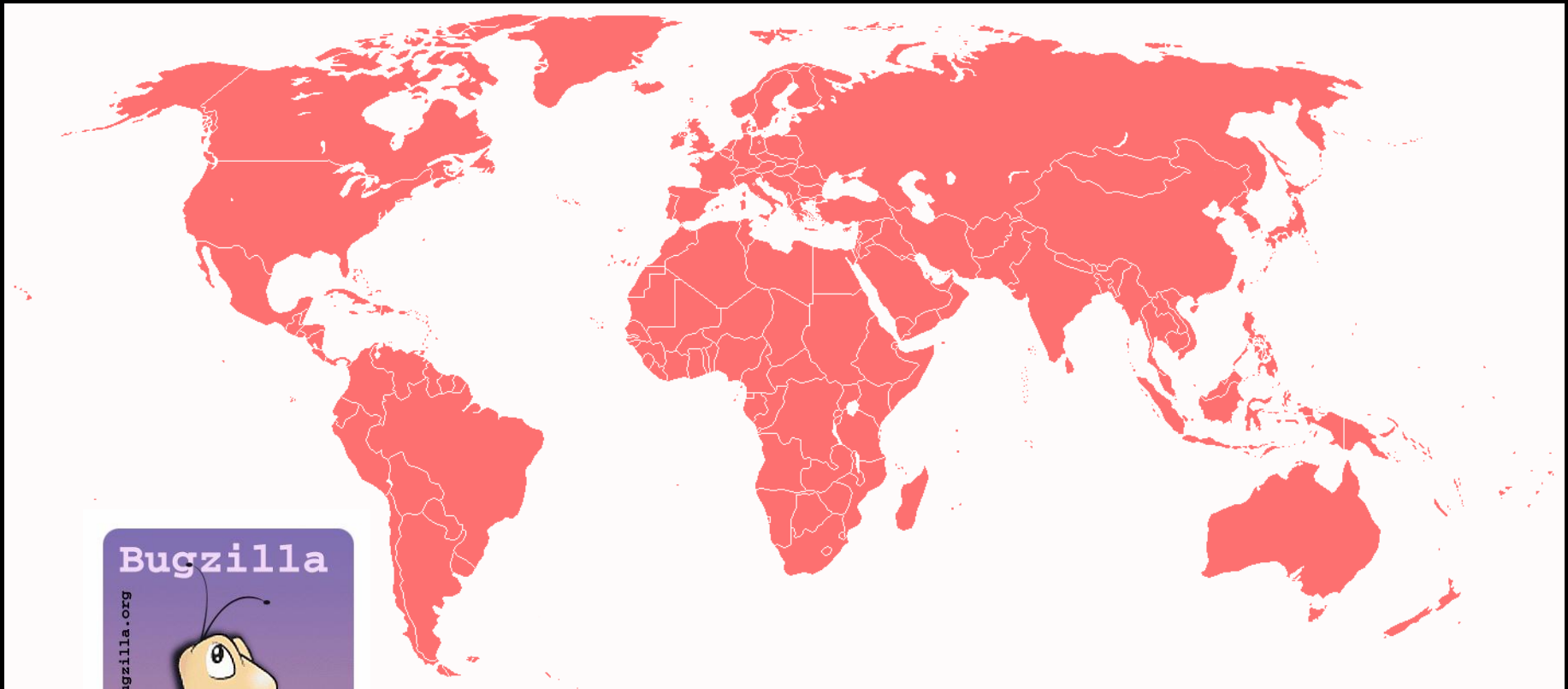
# ...With Issues



Open issues: **107 per developer**



# ...With Issues



**Known duplicate issues: 20%**

# ...And Fragmentation



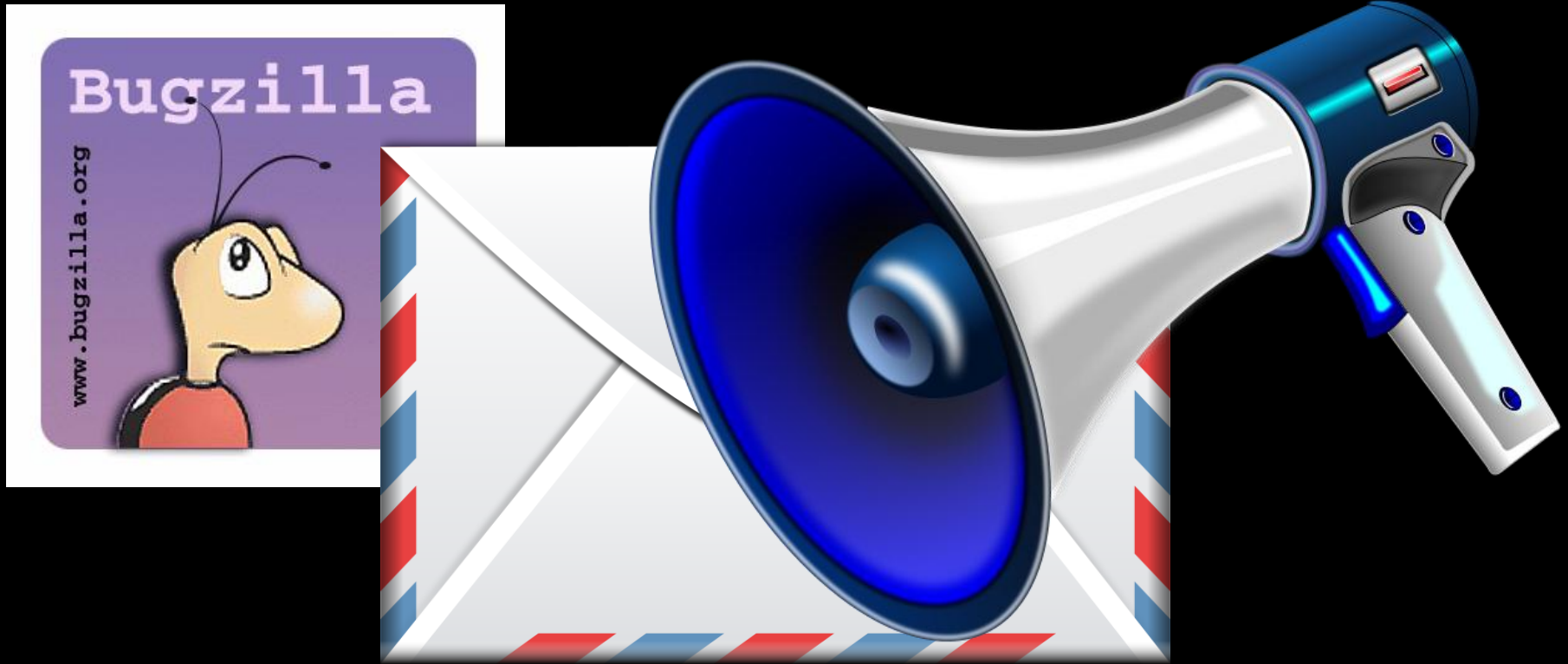
Issue discussion: in **issue tracker**

# ...And Fragmentation



Issue discussion: in **developers' mail lists**

# ...And Fragmentation



Issue discussion: in **users' mail lists**

# ...And Fragmentation



Issue discussion: in **user forum**

# The Big Picture



Do issues go to the **right person**?

# The Big Picture



Can new developers **find a task?**

# The Big Picture



Does our community **grow** or **shrink**?



# The Big Picture



Does a change **cause** issues?

# The Big Picture



Does our software get **better** or **worse**?

# The Developer Perspective



**Dario Freddi**, developer, KDE  
Solid Project



# The Developer Perspective



Solid **abstracts** away  
hardware libraries



# The Developer Perspective



Solid **abstracts** away  
hardware libraries

Used **widely** in KDE software



# Interaction Across Teams



Solid touches **lots** of other areas in KDE

# Interaction Across Teams



How do you know **who** to contact?

# Confused Users

**Not** familiar with the  
underlying technology





# Confused Users

**Not** familiar with the  
underlying technology

Unsure **where** to report  
issues

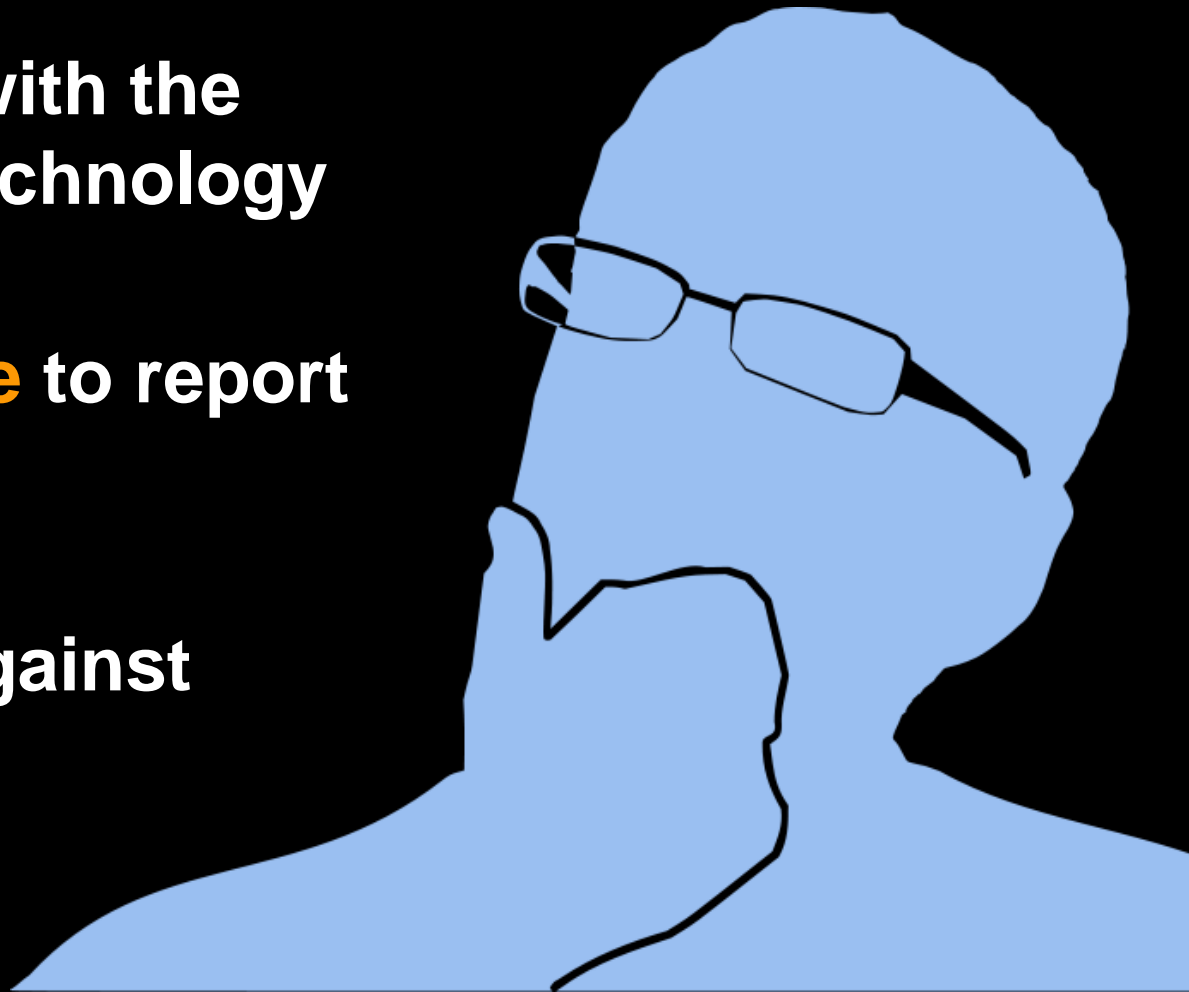


# Confused Users

**Not** familiar with the  
underlying technology

Unsure **where** to report  
issues

May report against  
the **wrong**  
software



# Inefficient Development



How do non-Solid developers get **help**...

# Inefficient Development



...with **Solid** related issues?

# Inefficient Development



How do Solid developers **find** issues...

# Inefficient Development



...reported in the **wrong** place?

# The Solution



**Aided duplicate identification to  
clean up our issue tracker**

# The Solution



Aided **single view** of information on an issue from many sources



# The Solution



Assistance finding the **right developer**  
to help to solve any issue

# The Solution



Help **finding issues** you can fix, even  
when reported in the wrong place

# The Solution



**Overviews and alerts** on trends in  
activity, issue solving and introduction

# The Solution



**A chance to improve the way we work  
and **make KDE software better****

# ALERT as a resource to improve software development



Jesús M. González-Barahona  
from Libresoft/URJC

# **Items to be discussed**

**How can Alert be used**

**Alert as a component**

**Alert complementing a software  
forge**

# How can ALERT be used?

Standalone

(via its own user interface,  
via scripts or APIs)

In combination with forges, IDEs

(linking or embedding)

As a component of larger systems

(in the background,  
in the foreground)

# Standalone (UI)

The screenshot shows a web application interface with a top navigation bar containing a logo and four tabs: BROWSE, SUBSCRIBE, PROJECT OVERVIEW, and ADMINISTRATION. Below this is a search bar with four tabs: General search, Duplicate Issue detection, Issues related to my code (selected), and Suggest issues for a developer. The selected tab shows a search input field with the text 'issue', a second input field with 'people, products, so', and a 'Between:' section with two empty date fields. To the right of these fields are five checkboxes: Issues, Commits, Forums, Mailing lists, and Wiki, all of which are checked. A 'Search' button is located to the right of the checkboxes. Below the search bar, the left sidebar displays two entries for 'avilla at freebsd.org (Albert o Villa) to' dated '2012-09-12'. The first entry includes a subject line '[Kde-hardware-devel] Review Request: Fix removable property in' and a body of text starting with '> On Sept. 12, 2012, 2:20 p.m., Alex Fiestas wrote: > > From where I stand, I see HAL as the official backend f or freeBSD, no modern linux distro (or any distro that wi ll update their libsolid versio'. The right sidebar has three tabs: Item details, Social graph, and Word cloud. The 'Item details' tab is active, showing a large empty area.

**Navigation:** BROWSE, SUBSCRIBE, PROJECT OVERVIEW, ADMINISTRATION

**Search Bar:** General search, Duplicate Issue detection, **Issues related to my code**, Suggest issues for a developer

**Search Input:** issue

**Search Filters:** people, products, so

**Search Range:** Between: [ ] and [ ]

**Search Options:** ☒ Issues, ☒ Commits, ☒ Forums, ☒ Mailing lists, ☒ Wiki

**Search Button:** Search

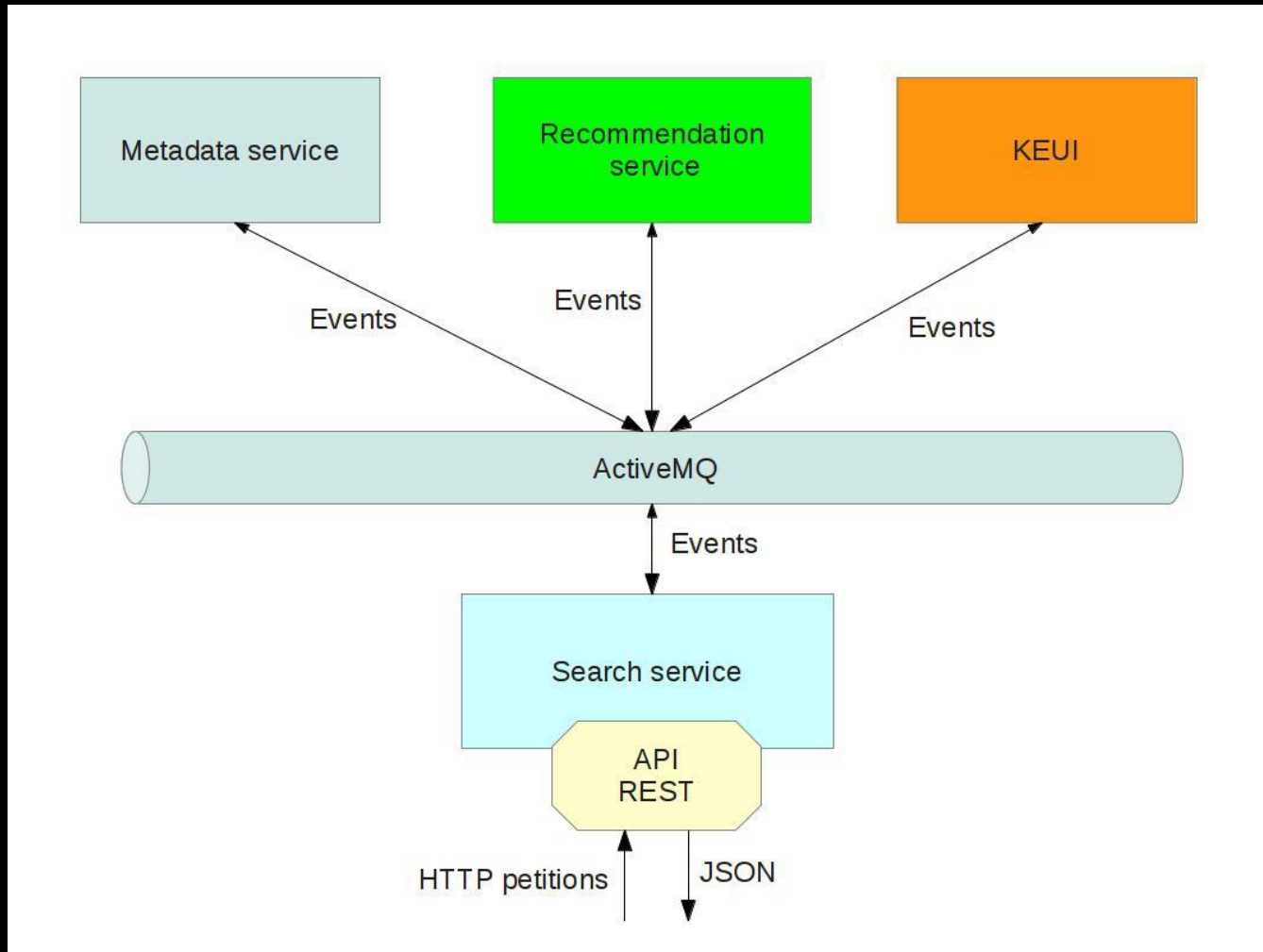
**Left Sidebar:**

- avilla at freebsd.org (Albert o Villa) to** 2012-09-12
- [Kde-hardware-devel] Review Request: Fix removable property in
- > On Sept. 12, 2012, 2:20 p.m., Alex Fiestas wrote: > > From where I stand, I see HAL as the official backend f or freeBSD, no modern linux distro (or any distro that wi ll update their libsolid versio

**Right Sidebar:** Item details, Social graph, Word cloud



# Standalone (REST API)



# In combination (forge, IDE)

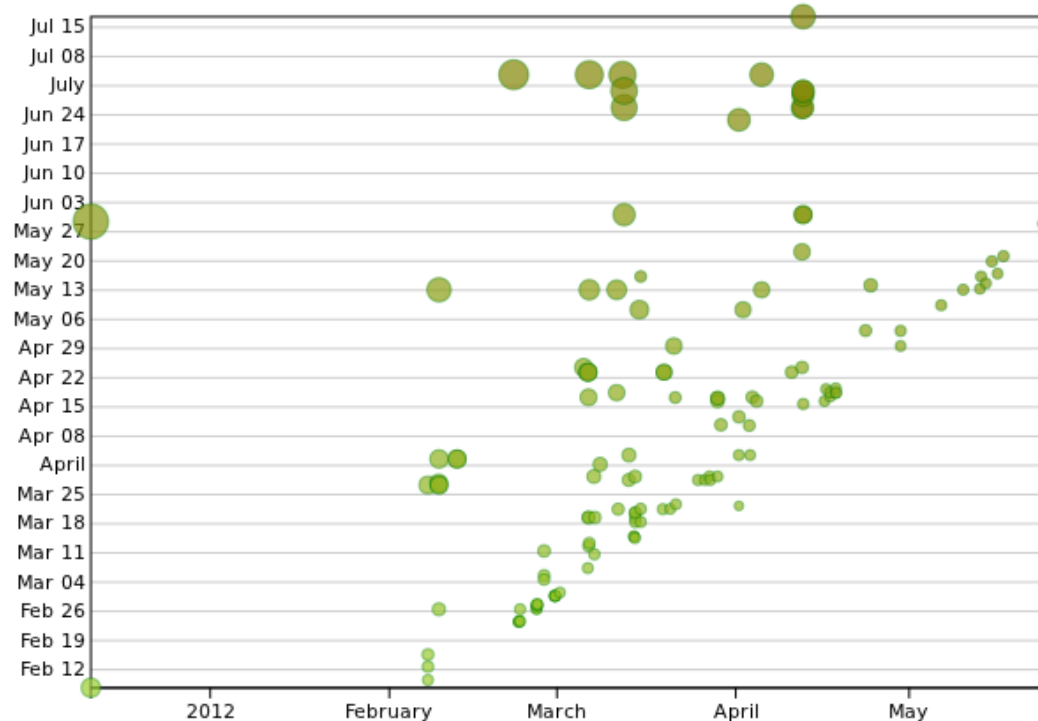
Annotating the forge with:

- links / pop-ups to Alert
- embedded information from Alert
- notifications from Alert

Complementing the IDE with:

- plugin for searching Alert information
- plugin for providing complementary information in the IDE

# As a component



- ☐ Extended information
  - ☐ Related issues
  - ☐ Suggested developers
- Submit

## Static info, 23:1:38.

- Issue id: 172
- Issue: 478
- Time open: Thu Apr 05 2012
- Time closed: Tue Jul 03 2012
- Time closed last: Tue Jul 03 2012
- Ttofix: 89
- Ttofixlast: 89
- Ttofixh: 2139
- Ttofixlasth: 2139
- Ttofixm: 128389
- Ttofixlastm: 128389

# As a component

Imagine a  
debugging  
system  
embedding Alert  
user interface

Imagine a  
dashboard  
integrating  
information from  
many sources  
including Alert...

# Complement to a forge

Annotate every ticket with relevant information

potential duplicates  
tickets suggested for fixing developer  
comment for fixing commit

Notify developers

events of interest  
suggested bugs to fix  
areas of code being changed

## Complement to a forge (ii)

Convert the forge in an active system

Interacting with developers

Providing notifications to stakeholders

Allowing for detailed customization

(e.g.: I'm interested in...)

## Complement to a forge (iii)

Improve developer...

productivity

awareness

knowledge

allocation

# How can Alert be used?

Standalone

(via its own user interface,  
via scripts or APIs)

In combination with forges, IDEs

(linking or embedding)

As a component of larger systems

(in the background,  
in the foreground)



# Show a real Use Case: **ALERT** in the LINAGORA Open Source Community



**LINAGORA**

**Laurent Lacote**  
from Linagora

# ALERT and the open source communities

*What is it good for?*

- 1) The Petals use-case
- 2) From Petals to LINAGORA
- 3) Stay ALERT, you're on a gold mine!

# **Petals use-case**

**General thoughts on communities**

**Specific issues of Petals community**

**Expected benefits of ALERT**

**Evaluation plan**

What are Open Source communities? numerous Bazaar gathering people with **various skills**, who invest **more or less of their time** in a project and use **different methodologies and tools**.

**What could be ALERT useful for?**

The initial case: **Petals**, or  
the difficult life of a  
detective.

- for **Users**

- for **Developers**

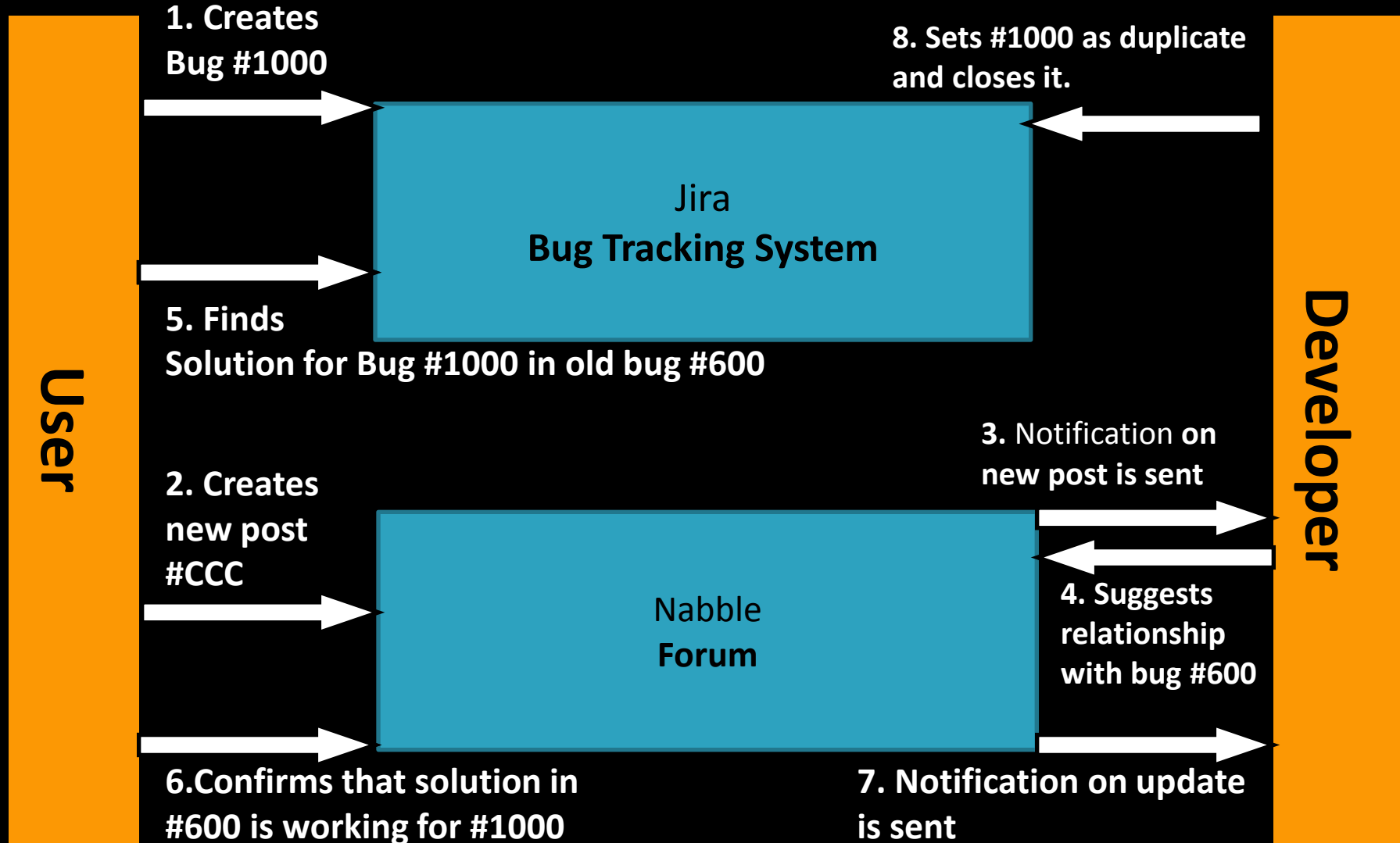
What will it be tomorrow?

*“Don't fret, dear Petals community member, the system stays ALERT for you!”*

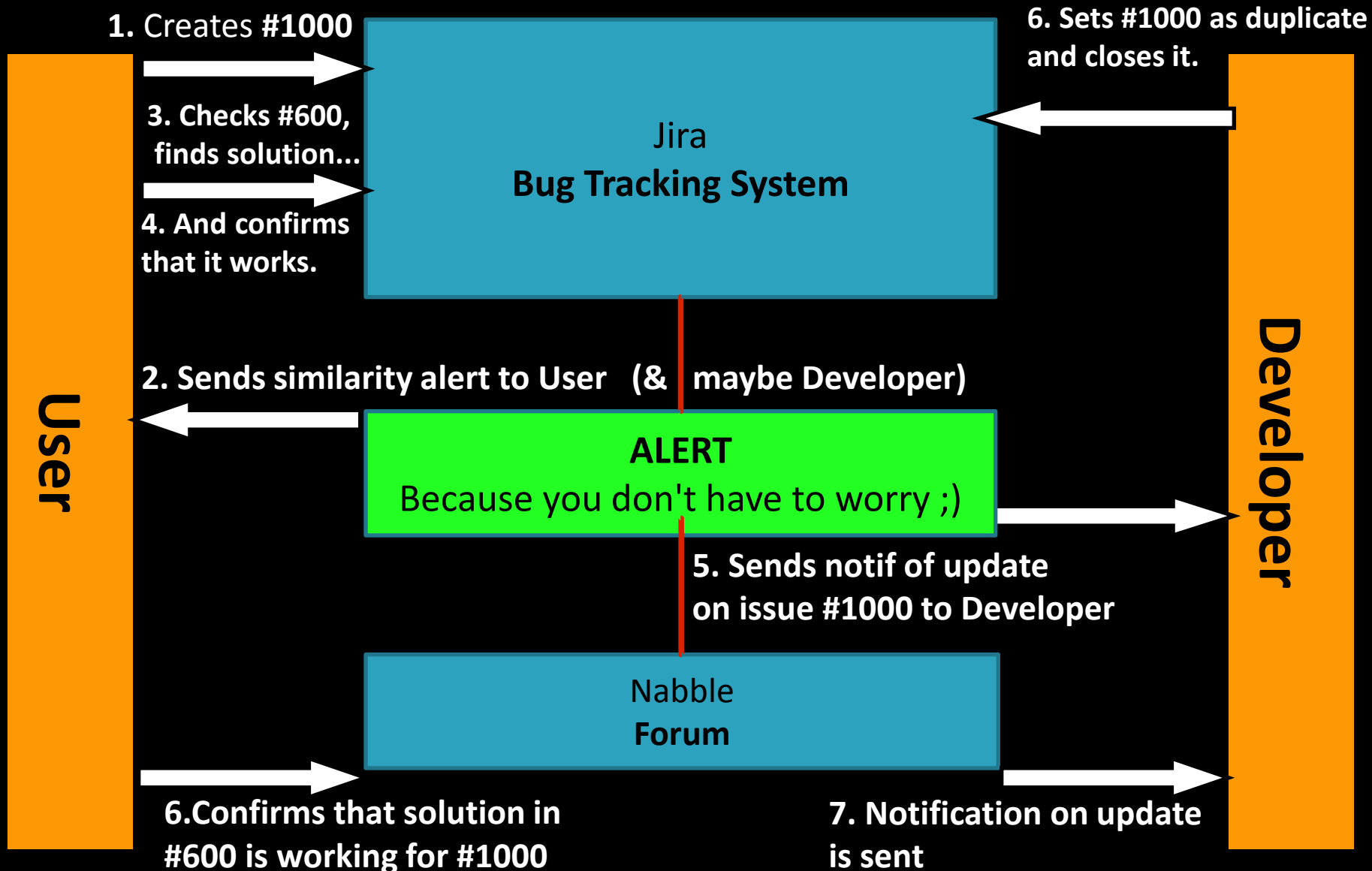
- aggregation system
- notification system

**Let's see how it will change our life!**

# Before ALERT



# With ALERT





*“Hey, what's the deal? Only 2 steps less? It's not worth our time!”*

Really?

- globally faster processing
- significant gain in user's autonomy
- much room for further improvement

**Imagine the power with expanding ALERT  
database and future versions!**

# What's here today:

- custom notification system
- similarity detection post-creation
- developer profiles

# What's here tomorrow:

- notification models
- tight integration with major ITS: tackle the duplicate before it's even actually created!
- ...

*“Ok, it's nice, but are you sure it works?”*

We don't know for sure yet, but eager to set our evaluation plan in motion!

- variety of profiles
- 4 steps testing: hands-on, teaching, use-cases, free use
- predefined tests + feedback form.

**Objective: confirm ALERT's potential, give quality feedback for v2!**

# **From Petals to LINAGORA**

**Linagora activities overview**

**ALERT as development bread-and-butter**

**ALERT as a stepping stone for R&D**

# In one word? Jack-of-all-trades

## - Editor of professional solutions

- OBM, open source equivalent to Exchange.
- LinPKI suite to ensure the security of your system.
- LinShare to collaborate efficiently on documents.
- Petals, to build a decentralized, service-oriented IS.

## - Open Source Software Assurance

- Hundreds of software covered.
- Legal and technical support.
- Redistribution to communities.

## - Training and consulting

- >150 topics, from administration to development.
- Official certifications support.

## A few more infos

- 400 000 OBM users.
- Constant growth since creation.
- Many major public administrations and private industries.

**LINAGORA ensures the success of all your open  
source projects!**

# *“So, how could you use ALERT?”*

## **- Better human resource management**

- very various profiles
- many are contributing individually.
- very flexible task attribution.
- >>> *Allow everyone to be given tasks fitting their attributions, skills and desires.*

## **- Better internal communication**

- >>> *Stay informed only on useful topics for you.*
- >>> *Need help? Know who to ask to!*

## **- Better collaboration with communities**

- >>> *Easier search for information on an issue.*
- >>> *Facilitates the contributions.*

*“I heard about gold mine. Where?”*

- **Internal use**

- as demonstrated before.

- **Extend ALERT**

- develop connectors or new features for a price!
  - help configure it or adapt infrastructure.

- **Teach ALERT**

- how to use ALERT.
  - how to design efficient workflows.
  - how to optimize contributions to the other tools.



*“Ok, I'm interested. What's the next step?”*

- **Try it!**

- First beta release available by end of October in our web site

- **Stay in touch!**

- follow us on Twitter or LinkedIn
- give us feedback!
- keep posted with blog RSS!



# Your Turn for Q&A

**Ask our Team:**

**#AlertOWF12**

# Thank You !!!

ALERT Team

follow us on twitter



**@alertfp7**

visit our website

**[www.alert-project.eu](http://www.alert-project.eu)**

This project is partially funded by EC FP7  
(Project # 258098)

