



# BUILDING A SCALABLE I18N INITIATIVE

THURSDAY, FEBRUARY 7<sup>TH</sup>, 2013 . BEGINNING AT 10:30 AM MOUNTAIN TIME



Adam Asnes  
CEO  
Lingoport  
[aasnes@lingoport.com](mailto:aasnes@lingoport.com)

Submit questions using the GoToWebinar Q&A interface or through Twitter with hash-tag: [#scalei18n](https://twitter.com/hashtag/scalei18n)

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*2013 i18N & L10n Conference: See [Lingoport.com/events](http://Lingoport.com/events)*

# What we've seen and learned

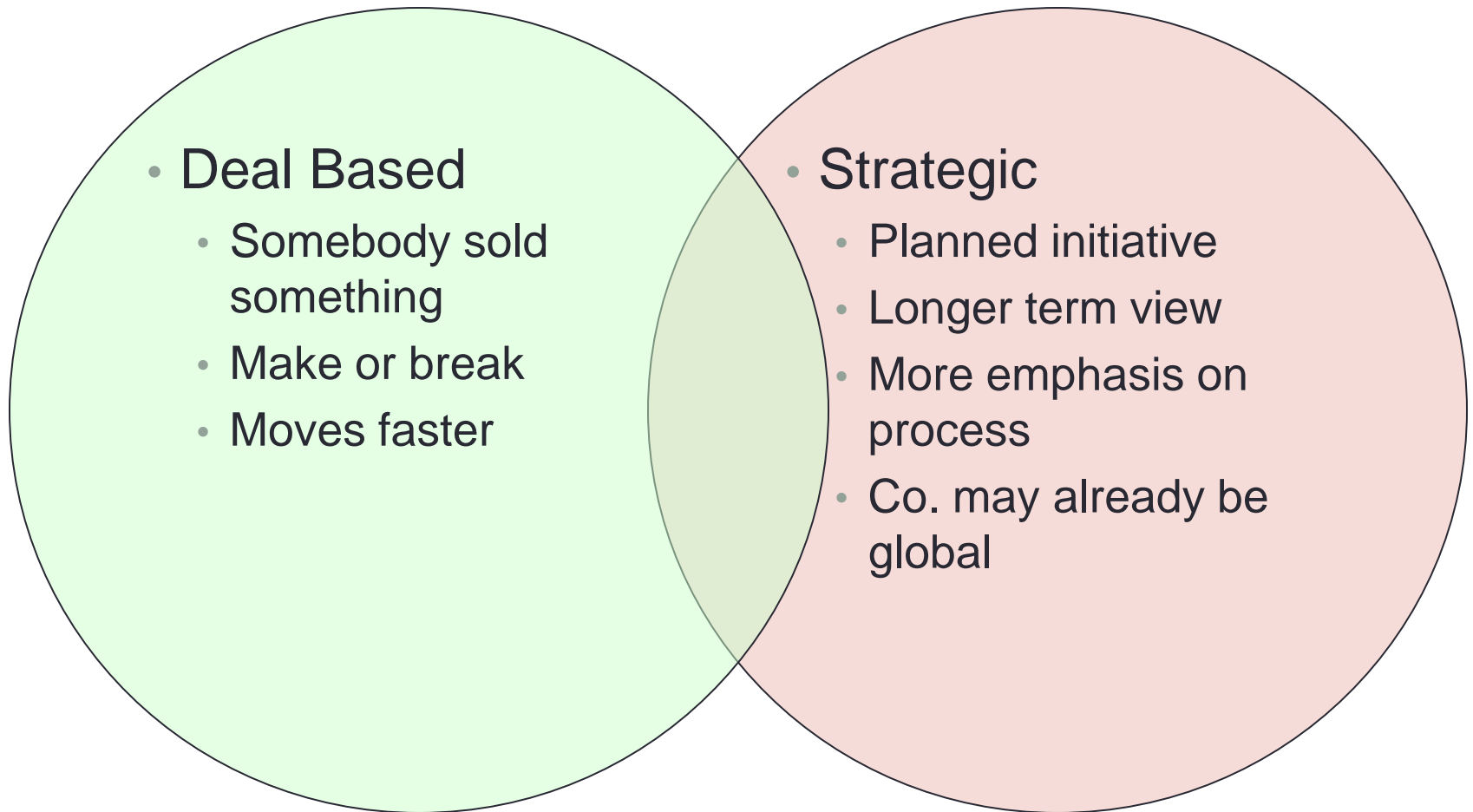
- Lots of internationalization (i18n) services implementations
  - Experience (including pain) since 2001
  - Large and small engineering efforts
  - What it means for work estimations to be correct
- i18n and L10n products
  - Globalyzer
  - LRM
  - Dashboard
- Lots of organizational visibility



# Business case

- All i18n & L10n initiatives are driven by the business case
  - Battle: Release date vs. globalization requirements
  - You must repeat the business case, and repeat it again
  - Be like Twitter
- 
- Failure to Globalize can threaten the survival of your company

# Business case

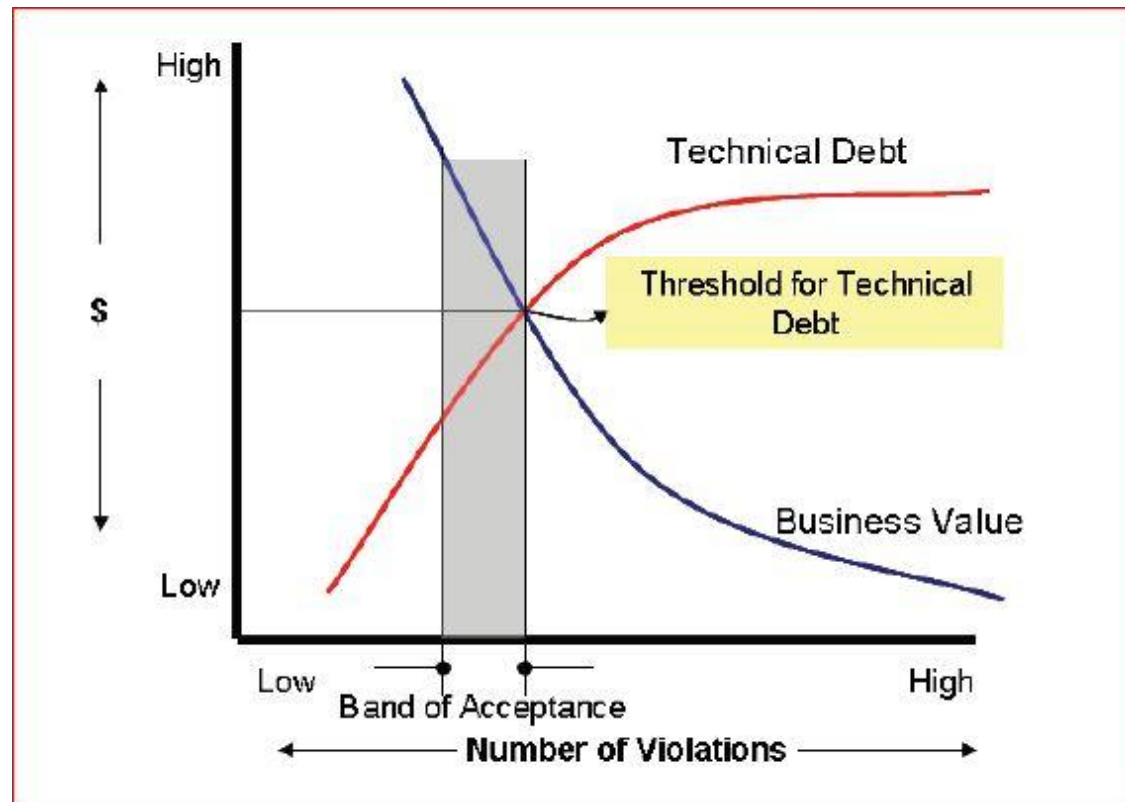


# Cost to be late or lousy

- Delayed or lost revenues
- Higher costs of sale, company infrastructure
- Impact to brand
- Customers/users go elsewhere?
- Lost development cycles

# Technical debt

- How do you commit to the numbers behind the business case, without understanding costs in money, time and resources?



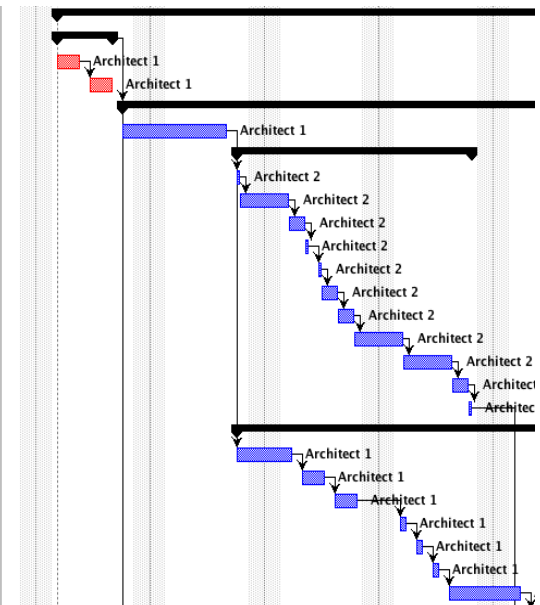
# Technical debt

- Does your team focus on the debt?  
or
- Focus on new features?
- Consider outside help?

# Scoping the work

- Moving from strategic to tactical planning

☐ Sample I18n Plan	111 days	4,525.2 hours	4/23/12 8:00 AM
☐ Requirements, Scanning, Setup	4 days	32 hours	4/23/12 8:00 AM
Finalize I18n Requirements	2 days	16 hours	4/23/12 8:00 AM
Updates to Project Plan based on final Requirements	2 days	16 hours	4/25/12 8:00 AM
☐ I18n Design	73.5 days	716 hours	4/27/12 8:00 AM
Architect setup and code familiarization	5 days	40 hours	4/27/12 8:00 AM
☐ Database Design (MS SQL Server)	11 days	88 hours	5/4/12 8:00 AM
Add supported locales table	0.5 days	4 hours	5/4/12 8:00 AM
Locale support per order, account, contact	1 day	8 hours	5/4/12 1:00 PM
Address and Phone i18n	1 day	8 hours	5/7/12 1:00 PM
UI strings in database based on locale	0.5 days	4 hours	5/8/12 1:00 PM
Templates in database based on locale	0.5 days	4 hours	5/9/12 8:00 AM
Design for multiple-currency support	1 day	8 hours	5/9/12 1:00 PM
Design for metric size and weight	1 day	8 hours	5/10/12 1:00 PM
Design for user time zone support	1 day <td 8 hours	5/11/12 1:00 PM	
Stored Procedure i18n	3 days	24 hours	5/14/12 1:00 PM
Collation support based on locale	1 day	8 hours	5/17/12 1:00 PM
Increase user-entered data column lengths by 100%	0.5 days	4 hours	5/18/12 1:00 PM
☐ C#, VB.NET and VB Classic Middle Tier Design	20 days	160 hours	5/4/12 8:00 AM
C# Culture framework design	2 days	16 hours	5/4/12 8:00 AM
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String externalization and concatenation in .VB	1 day	8 hours	5/14/12 8:00 AM
String externalization and concatenation in .CS	1 day	8 hours	5/15/12 8:00 AM
String externalization and concatenation in VB Classic	1 day	8 hours	5/16/12 8:00 AM
.NET locale-sensitive methods	3 days	24 hours	5/17/12 8:00 AM





# Is it internationalized?

- Tough question for most developers
  - Often under scoped
  - Status not well measured
  - Usually find out how bad it is during or after localization
- Our experience with this question



# How we assess the work

- Requirements
- What's in the code?
- What's missing from the code?

# Requirements

- Discussion
  - Generally a full two days
  - Review architecture
  - Locale requirements
  - Component requirements
  - Flow of data
  - 3<sup>rd</sup> party products

# Code analysis

- Static analysis using Globalyzer
  - Not screen viewing or pseudo-localization
  - Runs on the code and collects metrics on
    - Embedded Strings
    - Locale-limiting methods/functions/classes depending on the programming languages
    - Programming Patterns
    - Static Files

The screenshot displays the Globalyzer Workbench interface. The main editor shows the source code of ExamplePanel.java with the following content:

```
83 public void createButtons() {
84     nextButton_ = new JButton("Next");
85     nextButton_.addActionListener(new ActionListener() {
86         public void actionPerformed(ActionEvent e) {
87             // To be implemented for Sprint 5
88             System.out.println("Next");
89             Debug.log("Next action taken");
90         }
91     });
92     addButton_ = new JButton("Add");
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98     });
99 }
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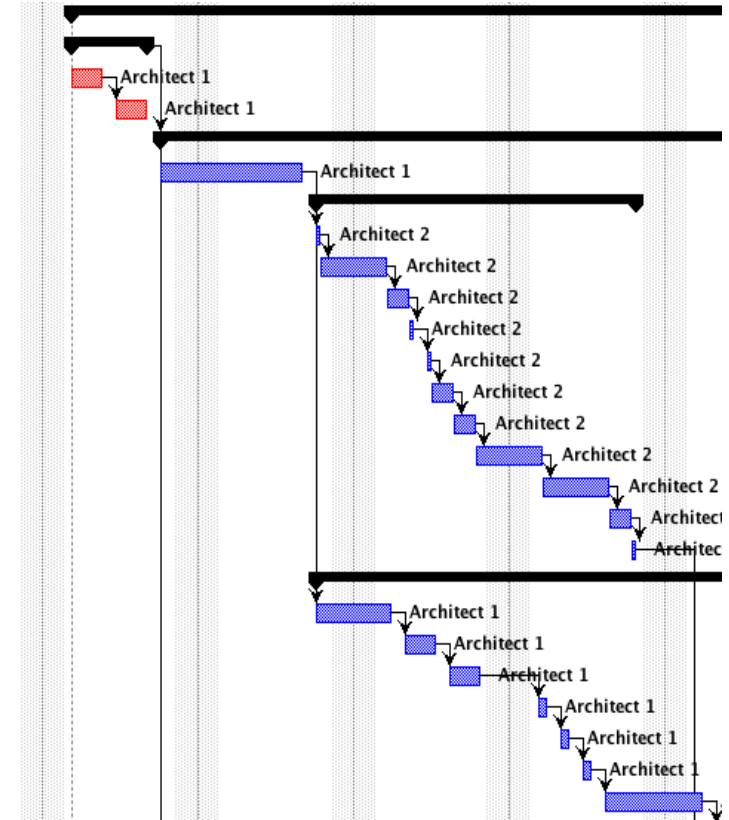
The bottom panel shows the Scan Results for src/com/lingoport/demo/java/ExamplePanel.java. The results are as follows:

S.	File	Line	Issue	Code Line	Reason
	src/com/lingoport/demo/java/ExamplePanel.java	57	"rawtype"	@SuppressWarnings("rawtype")	No dictionary
1	src/com/lingoport/demo/java/ExamplePanel.java	85	"Next"	nextButton_ = new JButton("Next");	String
	src/com/lingoport/demo/java/ExamplePanel.java	90	"Next"	System.out.println("Next");	System.out...
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	src/com/lingoport/demo/java/ExamplePanel.java	99	"Add"	System.out.println("Add");	System.out...
1	src/com/lingoport/demo/java/ExamplePanel.java	100	"Add action taken"	Debug.log("Add action taken");	String

The status bar at the bottom indicates "FINISHED: Scanner finished" and "53 / 62".

# Example Plan

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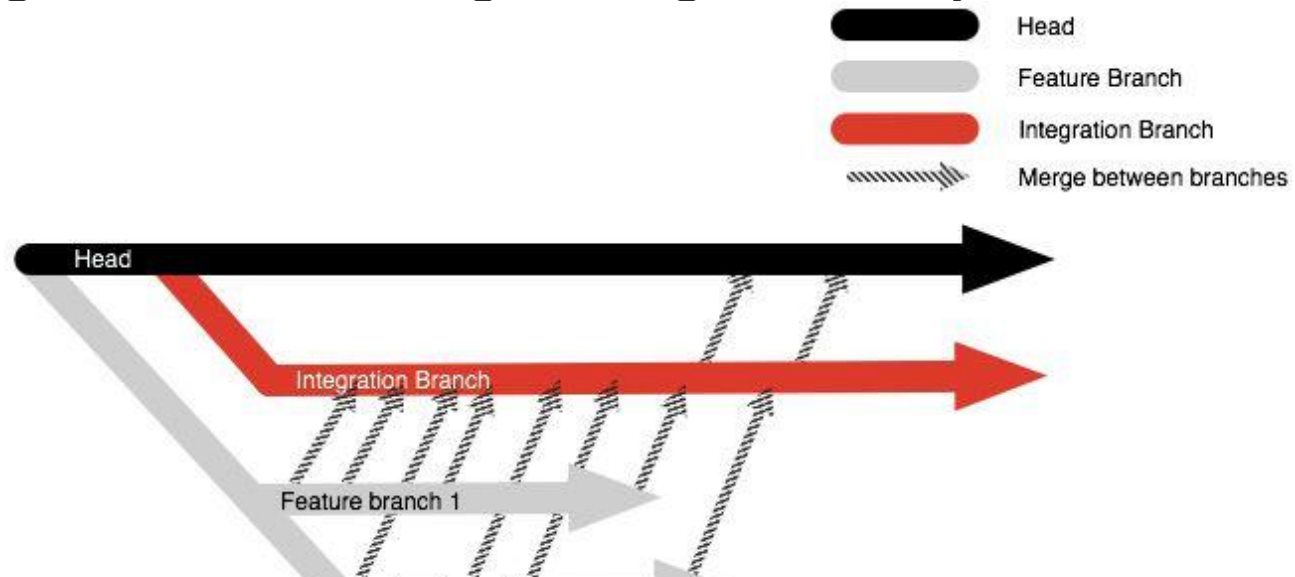
# Actionable reporting

1. Detailed project plan – waterfall to start
2. I18n project requirements documentation
3. Globalyzer scan reports/dashboard



# Concurrent development

- Don't stop developers for technical i18n debt
- Develop a code branching strategy
- i18n activities can affect multiple features
- i18n may not coincide with a concurrent sprint
- Strategic merges and testing along the way

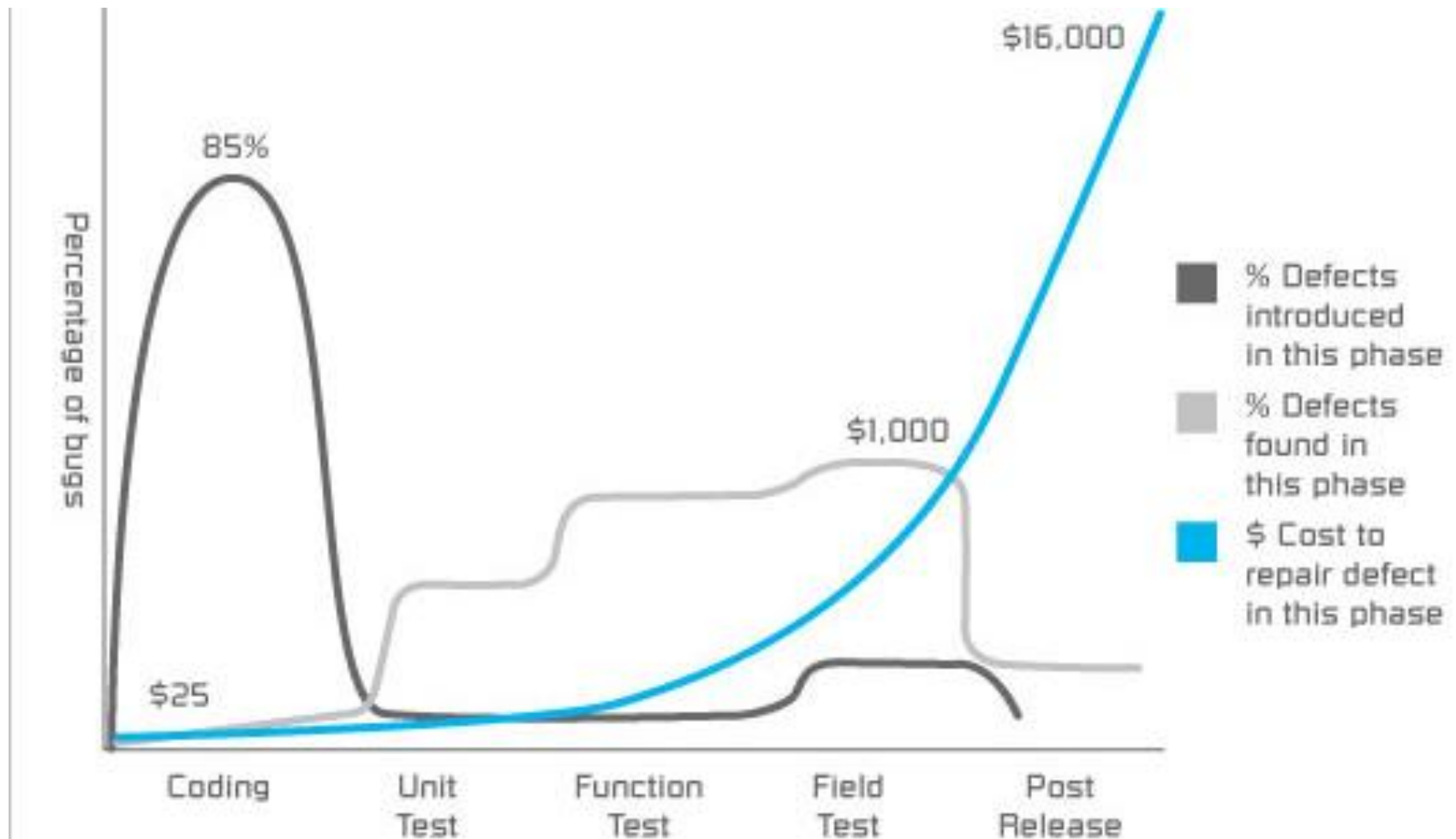


# Ongoing i18n

- Persistent bugs?
- Ongoing feature development – i18n verification?
  - Remember i18n entropy
- Don't wait for testing
- Real-time i18n as part of development



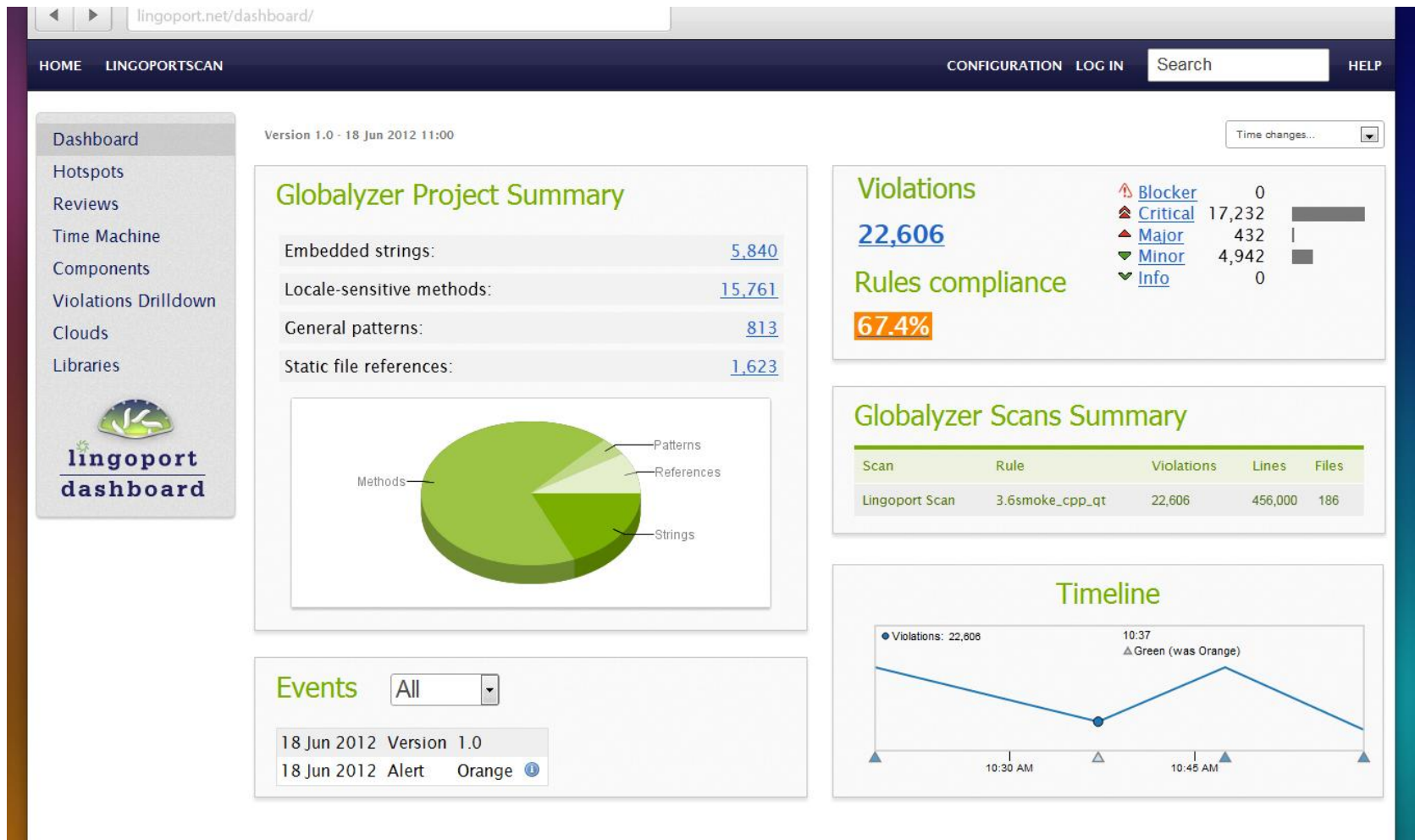
# Cost of bugs



# Measurement and visibility

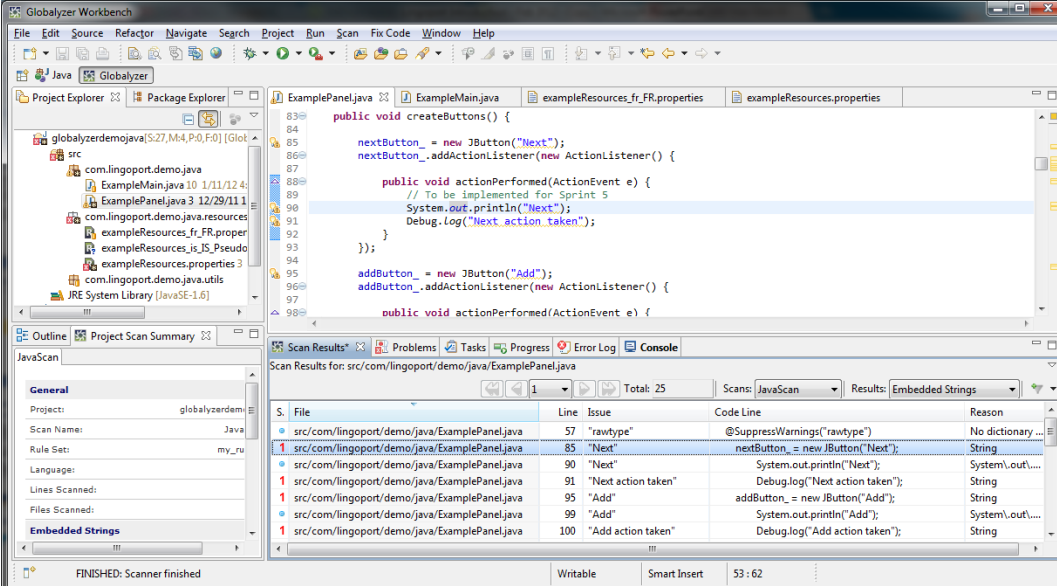
- i18N is built into development metrics - **visibility**
- L10n **visibility** into development at the source level
- Development has **visibility** into L10n

# Dashboard for Visibility & Drilldown



# Testing

- Unit testing
- Functional i18n testing will include your entire product if i18n is new. Leave enough time!
- L10n testing while your are performing i18n testing



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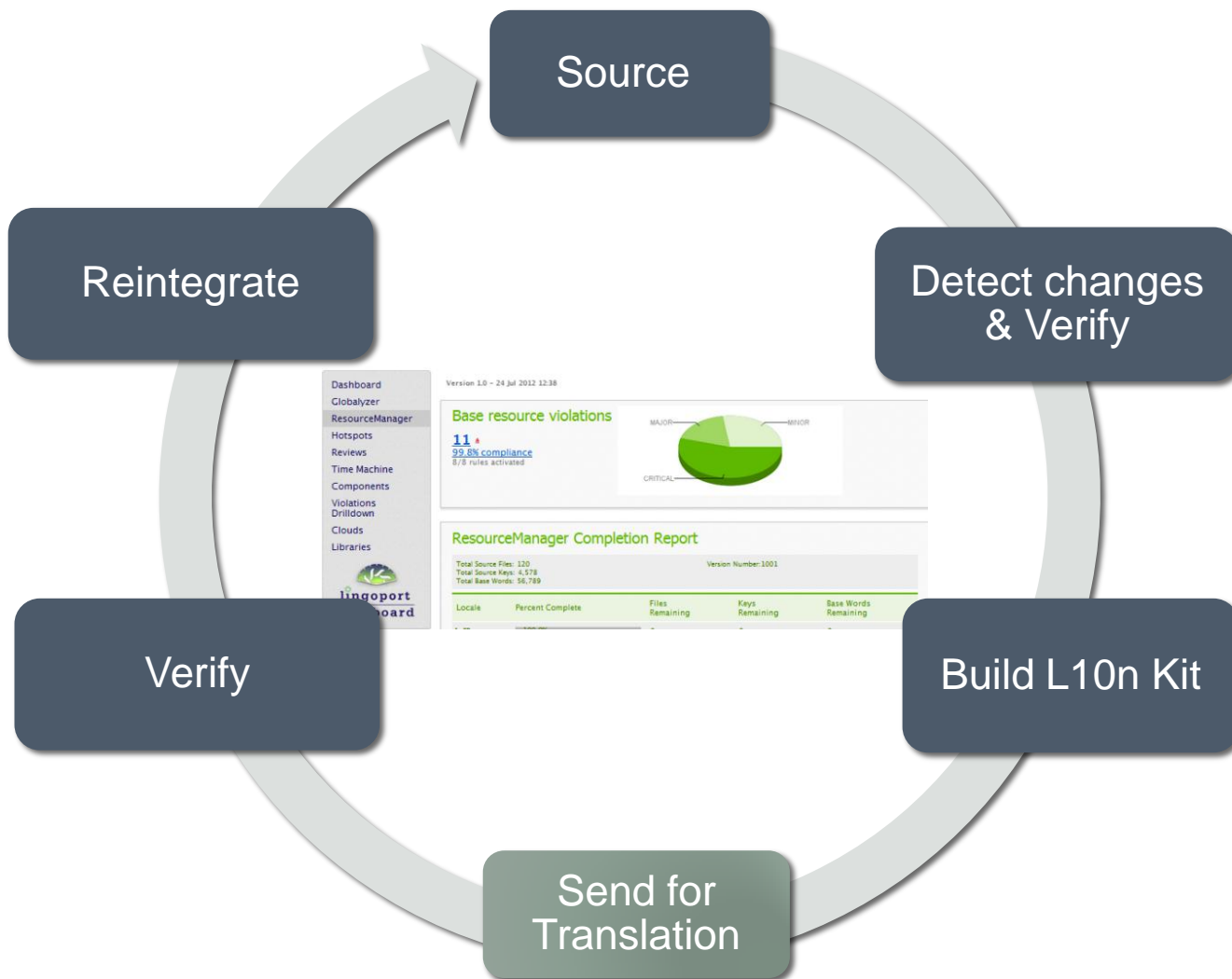
# Training

- i18n and L10n processes are not well understood
- Classes
- Online training





# lingoport resource manager



# Scalable i18n & L10n

1. Business case
2. Mission clear and prioritized in your company
3. Clear requirements – technical docs and plan
4. Parallel i18n for technical debt
5. Integrate i18n into new development
6. Technology for measurement efficiency and completeness - Visibility
7. Training to build skills
8. Keep revisiting the business case – don't take it for granted

# Questions & Answers



Twitter: **#Scalei18n**

Adam Asnes

[\*\*aasnes@lingoport.com\*\*](mailto:aasnes@lingoport.com)

[\*\*@adamasnes\*\*](https://twitter.com/adamasnes)

[\*\*@lingoport\*\*](https://twitter.com/lingoport)

## Upcoming!

VMWare – Collaboration Webinar  
Feb. 20th

2013 i18N and L10n Conference  
& Training  
March 13 & 14  
Santa Clara, CA

Learn more at:

[Lingoport.com/events](http://Lingoport.com/events)