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Introducing zembly: An
Extensible Development
Environment in the Cloud,
for the Cloud

zembly

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TS-5428

Agenda

- > Introduction to the Cloud
- > What is zembly?
- > Demos!

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- > What is zembly?
- > Demos!

Introduction to the Cloud

The *aaS stack

> SaaS

- Software delivered as a service

Software as a Service

> PaaS

- Hosted application runtimes
- Middleware services

Platform as a Service

> IaaS

- Hosted compute & blob storage

Infrastructure as a Service

Introduction to the Cloud

The *aaS stack

> SaaS

- Software delivered as a service

Software as a Service

> DaaS

- Hosted development platform

Development as a Service

> PaaS

- Hosted application runtimes
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Platform as a Service

> IaaS

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Infrastructure as a Service

Introduction to the Cloud

Web Oriented Architecture (WOA)

- > WOA ~ (Service orientation) – (WS-*) + REST/HTTP
- > A service-oriented architecture
 - Not **S**ervice **O**riented **A**rchitecture
 - Service orientation as a philosophy
- > Everything interesting is accessible via URI
 - Practically, accessible via HTTP URL
- > Views the web as the ultimate application platform

Introduction to the Cloud

The penultimate question we asked ourselves

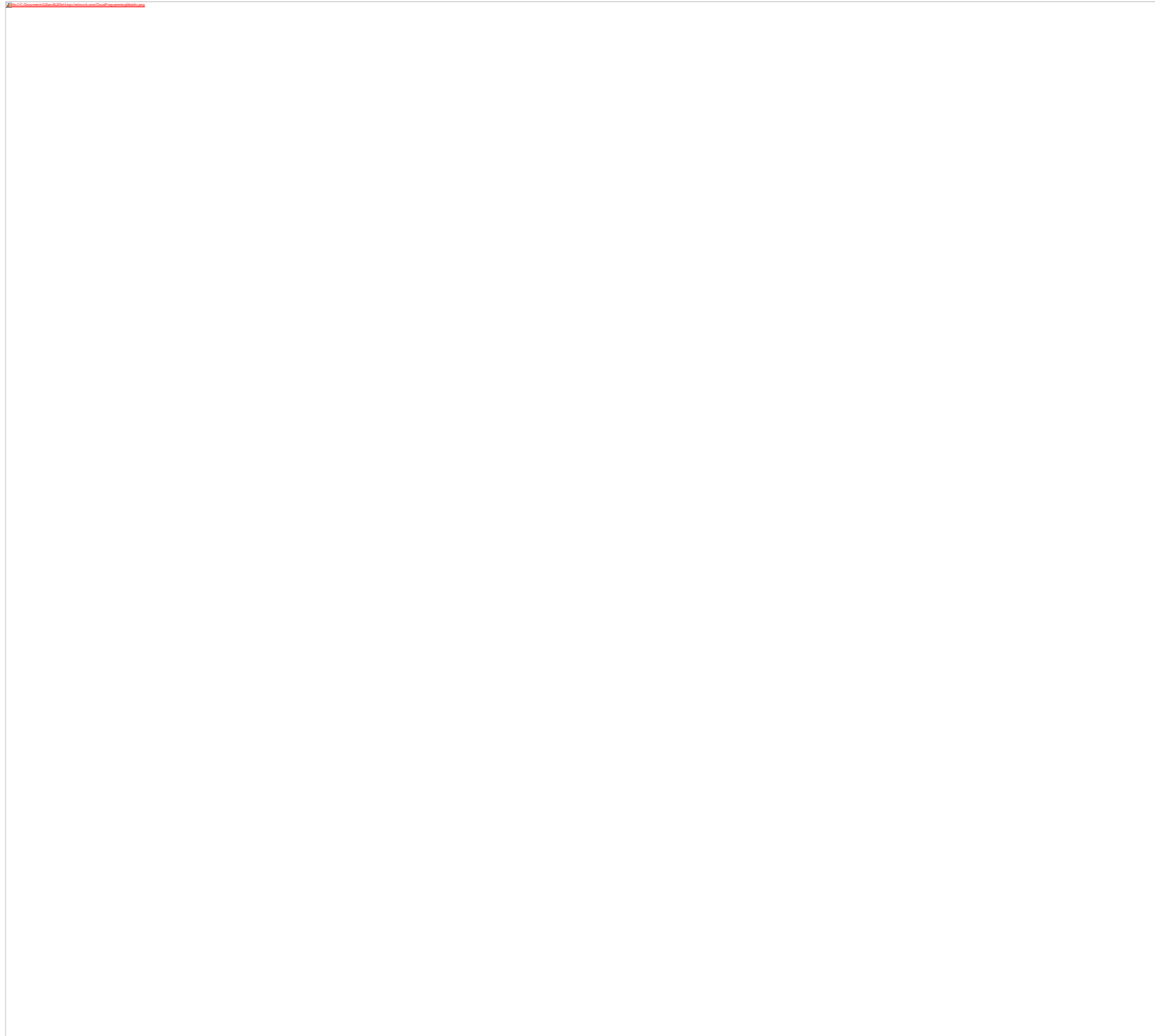
How can application
development be faster, easier,
cheaper, and of higher quality?

Introduction to the Cloud

The ultimate question we asked ourselves

How do you write applications
for the cloud?

Cloud Programming Models



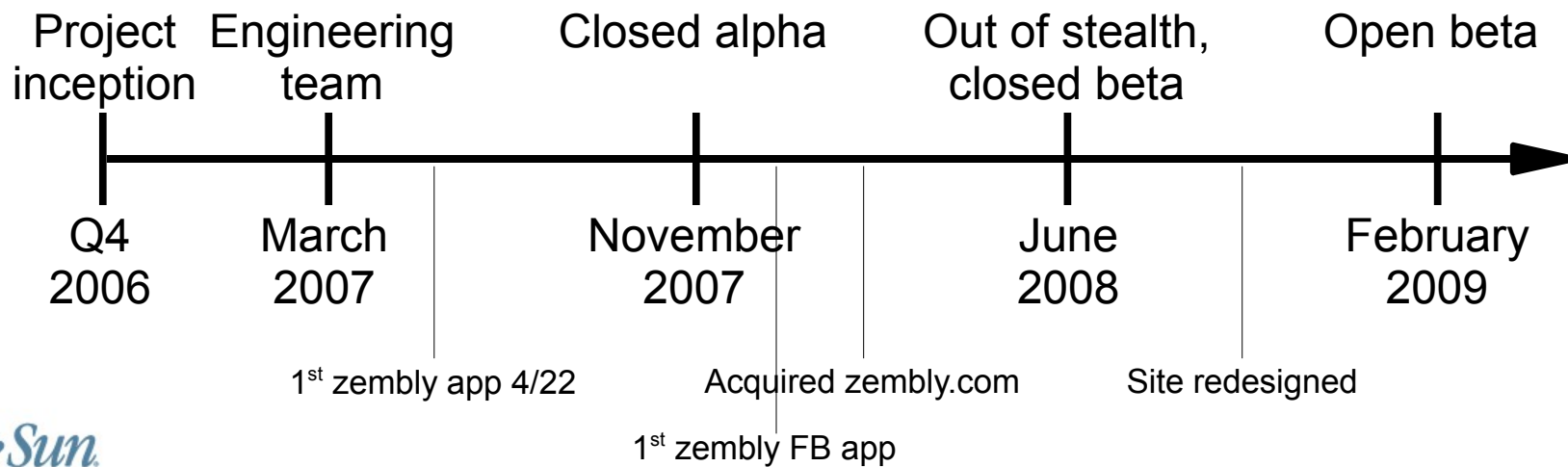
Agenda

- > Introduction to the Cloud
- > What is zembly?
- > Demos!

What is zembly?

History of zembly

- > Started in 2006 at Sun Microsystems
 - Todd Fast, founder / Jiri Kopsa, co-founder
 - Based on much earlier ideas: “Wiki for Web services”
 - Project name: “Web on Web”
 - Motto: “Build the Web using the Web”



What is zembly?

Definition

zembly is...

1. Browser-based, social IDE
2. REST service mashup platform
3. Massively scalable app hosting cloud

(zembly is PaaS + DaaS)

What is zembly?

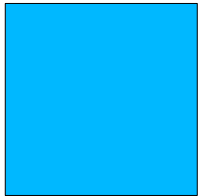
zembly application model

What is zembly?

zembly application model

Front End

Presentation



Widgets/
Pages

Languages

- HTML/CSS/JavaScript
- JavaFX*
- Flash/Flex**

Purpose

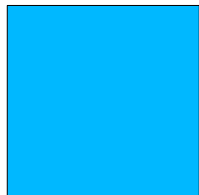
- Present user interface to end user
- Integrate with destination platform

What is zembly?

zembly application model

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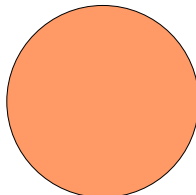
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Purpose

- Present user interface to end user
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Middle Tier

Application Logic



Data
Services

Languages

- JavaScript (server-side)
- PHP*
- Python*
- Ruby**

Purpose

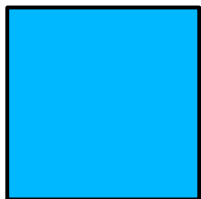
- Perform server-side application logic
- Combine data from multiple services
- Share logic between applications
- Create REST HTTP endpoints
- Call & consume external Web APIs

What is zembly?

zembly application model

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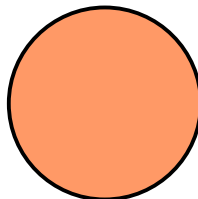
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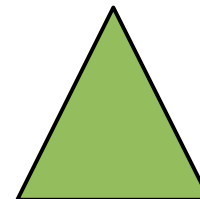
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Purpose

- Perform server-side application logic
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- Create REST HTTP endpoints
- Call & consume external Web APIs

Back End

Additional Functionality



External
Web APIs

Languages

- Any (accessed via HTTP)

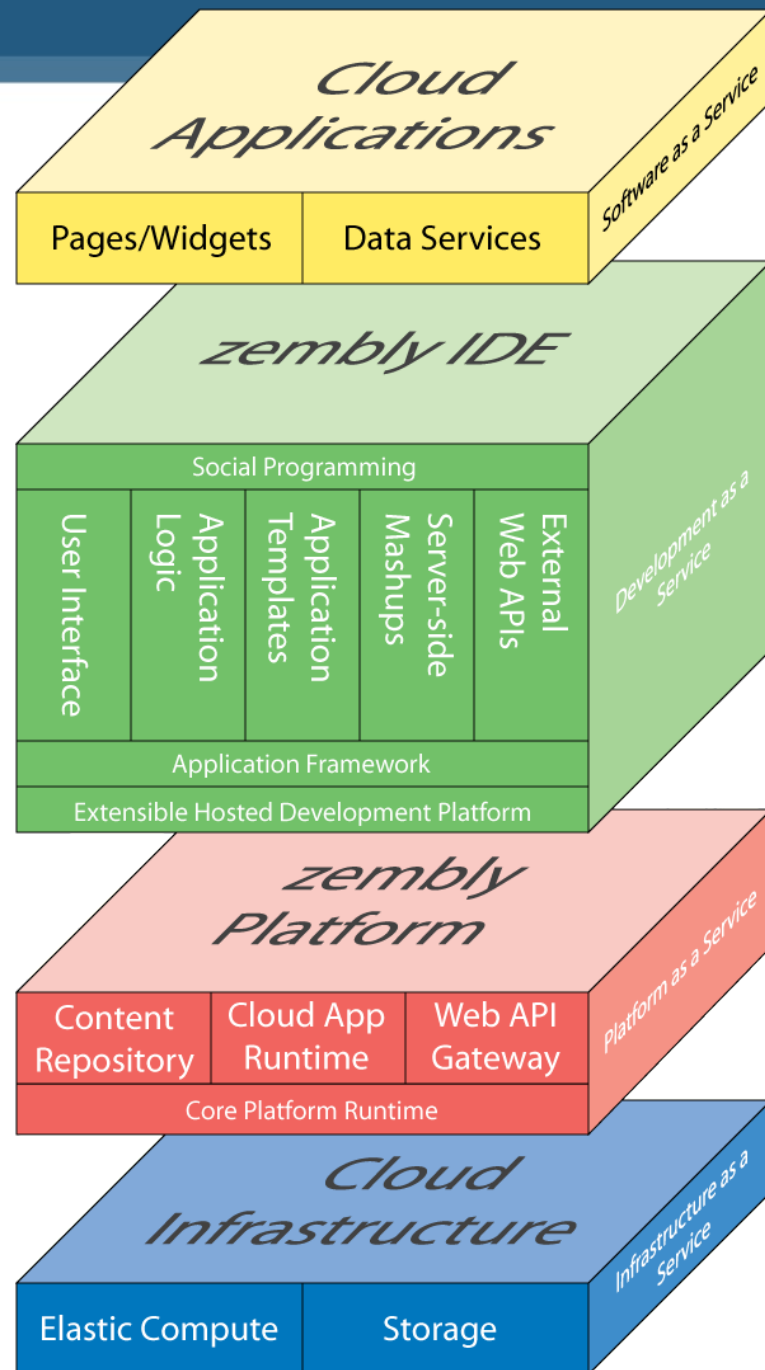
Purpose

- Extend application functionality
- Integrate existing application logic
- “Heavy lifting” processing

What is zembly?

zembly architecture

- > zembly in terms of the *aaS stack
- > zembly is Development as a Service (DaaS)
 - Hosted IDE
 - Developer platform
- > zembly is Platform as a Service (PaaS)
 - Web APIs
 - Multi-tenant runtime



What is zembly?

zembly platform

- Integrated versioning
- Role-based entitlement
- Collaboration
- Metadata
- Extensible language support
- Hot lists
- Search

Application Content Management

- API keychain
- OAuth authentication
- Client language bindings
Java/JavaFX/JavaScript*/PHP*

Application Hosting Runtime

- Multi-tenant
 - High-performance execution
 - Horizontal scalability
 - Shardability
e.g. based on SLA
 - Abuse detection & recovery
 - Extensible language support
 - App execution logging
 - Analytics & metering
- Real-world authentication
 - TLS support
 - Public/private entitlement
 - Analytics & metering

Web API Gateway

What is zembly?

zembly IDE

- > Browser-based IDE, aka “zide”
 - “Real” editor (also Mozilla Bespin)
 - Full syntax highlighting, code completion, etc.
- > Social programming
 - Social networking for app developers
 - Cloning, community provided templates
 - Call developers' services via “code name”
- > BYOAPI – Use and share WADL-desc. Web APIs
- > One-click to host app on cloud

What is zembly?

Web API gateway

- > The “Wikipedia of Web APIs”
- > Use from inside and outside zembly applications
- > Community integrates Web APIs via WADL
- > Benefits to developers
 - Consistency! One-line access to any Web API
 - Searchable
 - Secure use of service keys via keychain
 - OAuth support
 - Client libraries

What is zembly?

Zembly Client Library (ZCL)

- > Open source client libraries for using the Web API gateway in any application
 - zembly JavaScript
 - Java
 - JavaFX
 - Python*
 - Ruby*
- > Integrated OAuth support
- > ZCL website: <http://kenai.com/projects/popzcl>

What is zembly?

Application hosting

- > Applications built in zembly are automatically hosted at zembly
 - Multi-tenant application hosting platform
 - zembly application architecture designed to scale
 - Hosted on Sun hardware/software
 - Nominally supports 10+ million daily active users
- > 10-second rule for server-side execution
- > Billing and metering
 - Free during beta!
 - After beta: based on cloud utilization in seconds



Demos!



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Thank You

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