FINOS
Fintech
Open Source
Foundation

Overcoming Compliance Barriers to Open Source Collaboration Infrastructure

Open Source Strategy Forum
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Jamie Jones (Lead)
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Agenda

- Financial Services software development requirements and barriers
- The FinServ Developer Experience (FDX) Program @ FINOS
- The Developer Experience (DX) Working Group
- The Cloud Native Working Group
- The Open Developer Platform (Working Group)
- Final Remarks
Financial Services software development requirements and barriers
Highly regulated

- Financial Services has always been highly regulated
- But since 2009 (GFC) regulation has markedly increased
- Society has decided that unregulated banking (and the boom / bust cycles that that creates) is unacceptable
Information loss is a primary risk

- FinServ is fundamentally an information business
- Preventing information (data, intellectual property) loss is therefore a paramount priority
Ubiquitous surveillance

- As a result of this, surveillance of employee activity is ubiquitous
- This helps ensure compliance with both regulations and policies

Note: this is not a secret or in any way nefarious - all firm employees are fully briefed on their firm’s surveillance policies when they join.
Financial Services Developer Landscape

- Locked down development environments
- Internet services are blocked by default
  - Exceptions involve bureaucratic approval processes
- All internet access is surveilled
  - IP & DLP analysis
  - Fraud, collusion, bribery detection
- Compliance violations are often a fireable offense
- As a result, firm employees:
  - rarely have access to open source infrastructure
  - are reserved when in those arenas
Access to Open Source Infrastructure & Tools

**Goals**

- Lower barriers to participation
- Incremental gains in quality as ideas & fixes are shared and submitted
- Users are more able to solve their own problems and offer solutions
- Shared CI/CD pipelines
- Shared Development Platforms

**Tools**

- Github
- Confluence
- Mailing Lists
  - Gmail, Mailman
- Real-time Chat
  - IRC, Slack...
- CI/CD Pipelines
- Container Registries
- Wikis
- Documentation
- Oauth
The FinServ Developer Experience  🌐 FDX

Program @ FINOS

Jamie Jones  (Lead)
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Brian Ingenito
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FDX Mission

Define high-productivity end-to-end development workflows, tooling, and environments that Foundation members and the community at large can leverage.

This will enable the development of high quality, secure, compliant software, all while delivering results faster and simplifying the evaluation and consumption of that software.

Developer Experience (DX) Working Group
Cloud Native Working Group
Open Developer Platform Working Group
Open Developer Platform landscape

Hosted Platforms

- SYMPHONY (ReST API)
- SYMPHONY (Extension API)
- SYMPHONY (Integration webhooks)
- FINTECH OPEN APIS
- CLOUD OPEN APIS
- FINTECH OPEN DATA

Future partnerships and contributions

High Productivity Turnkey Developer Experience

Development Infrastructure

- OPEN SOURCE DEVELOPER
- CODE HOSTING: Github
- CI: Travis CI
- SECURITY & LEGAL CHECKS: Whitesource
- CD: OpenShift
- RELEASE: Maven central, NPM, NuGet

Biz & Legal Peace Of Mind - We Do The Hard Part!

Collaboration Services

- WIKI: Atlassian Confluence
- MAILING LISTS: Google Groups
- WEB CONFERENCING: WebEx
- METRICS & REPORTING: Bitergia
OSSF Sessions

- **Today (Wednesday 14)**
  - 11am - *Pull what where? Contributing to Open Source, securely, on GitHub* (Jamie Jones)
  - 1.30pm - *Tools, Bots and Automation for better Open Source Projects* (Colin Eberhardt)

- **Tomorrow (Thursday 15)**
  - **9.40am, room 7** - The Goldman Sachs Open Source Program: Presentation/discussion/Q&A (Goldman Sachs)
  - **10am, room 8** - FDX and ODP Program Working Session (FDX PMC)
The Developer Experience (DX) Working Group

Jamie Jones (Chair)
DX Working Group Mission

Support FINOS members, technology vendors, and other community members working together on practical guidance and reference architecture(s) to deepen and enhance the developer workflows and reduce the barriers to secure collaboration, regardless of the venue.

Topics include:
- Technological access
- Regulatory concern and compliance
- On-boarding and training
- Best practices and architecture discussions

Call for Participation

- **FINOS Members** joining/proposing collaboration activities, looking for guidance and tooling
- **FINOS Program participants**, looking for support for their project and working group
- **Financial Services industry**
  - Developers at a financial institution interested in modern or open source development practices
  - Software vendors providing build automation tools and data APIs
DX Status update

- Hosted a focus group with various financial institutions discussing access and capabilities of various cloud-based development tools.
  - Additional questions regarding blocking and restricting access to various SAAS solutions.

- Worked with the FDC3 program on tools and workflow to disseminate their products

- Worked with members on questions of Open Source security and compliance for using GitHub.com

Waiting on YOUR questions
The Cloud Native Working Group

Diane Mueller, Red Hat (Chair)
Cloud Native @ FINOS

- Cloud native computing uses an open source software stack to:
  - segment applications into **microservices**,  
  - packaging each part into its own **container**  
  - and dynamically **orchestrating** those containers to optimize resource utilization
Cloud Native @ FINOS

What have we learned?

- Core Building Block:
  - Servers ➔ Virtual Machines ➔ Containers
- Isolation Units
  - From heavier to lighter weight, in spin-up time and size
- Immutability
  - From pets to cattle
- Provider
  - From closed source, single vendor to open source, cross-vendor
Cloud Native @ FINOS

Building out the FINOS Service Catalog

- Expose and Provision FINOS Services

**ODP SERVICE CATALOG**

**SERVICE BROKERS**

**OPENSHIFT**
- OpenShift Template Broker
- OpenShift Ansible Broker

**ANSIBLE**
- Ansible Playbook Bundles

**AMAZON WEB SERVICES**
- AWS Service Broker

**OTHER COMPATIBLE SERVICES**
- Other Service Brokers

**FINOS** Fintech Open Source Foundation

finos.org
CloudNative Working Group Charter

Define, build and maintain a collection of white papers and use cases that help members adopting containerized architectures.

Curate and promote the FINOS Service Catalog for use with the Open Developer Platform that help members develop, test and collaborate on

Call for Participation

- **FINOS Members** looking for
  - guidance on cloud native technologies
  - sharing best practices and requirements on containerised architectures
- **FINOS Program participants**, looking for
  - Continuous delivery solutions for their FINOS hosted projects
  - A catalog of containers to publish their containerised solutions
The Open Developer Platform (Working Group)

Brian Ingenito (Chair)
ODP Working Group Mission

Advising and prioritizing of the building and managing of FINOS infrastructure that FINOS members are able to access for communication and open source software development, also known as the Open Developer Platform (ODP)

finos.org/odp/docs
fdx-odp+subscribe@finos.org
Call for participation

- **Software vendors** supporting integrations with ODP
- Anyone **interested on activities within ODP backlog**
  - DX and CloudNative Working Group participants
  - FINOS Members
  - FINOS Program Participants

finos.org/odp/docs
fdx-odp+subscribe@finos.org
Final Remarks
Closing the collaboration loop

**Contribution (FDX)**
- Security and license scanning
- Release and documentation automation
- Continuous Integration and Delivery

**Consumption (OSR)**
- Open source policies in place and checked
- Developer activity is approved
- Project consumption is approved
FinServ is a real time business

- Trading is increasingly automated
  - Confers competitive advantage
- Low latency and high throughput are key
  - Market transactions routinely complete in < 10ms
- This is bumping into physics (e.g. light travels a mere 1900 miles in that time!)