



# Apache Streams: Enterprise Social Integration


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# Agenda

- An Activity-Oriented Worldview
- Activities and Activity Streams
- Apache Streams
- Demo
- Summary



# An Activity Oriented World View

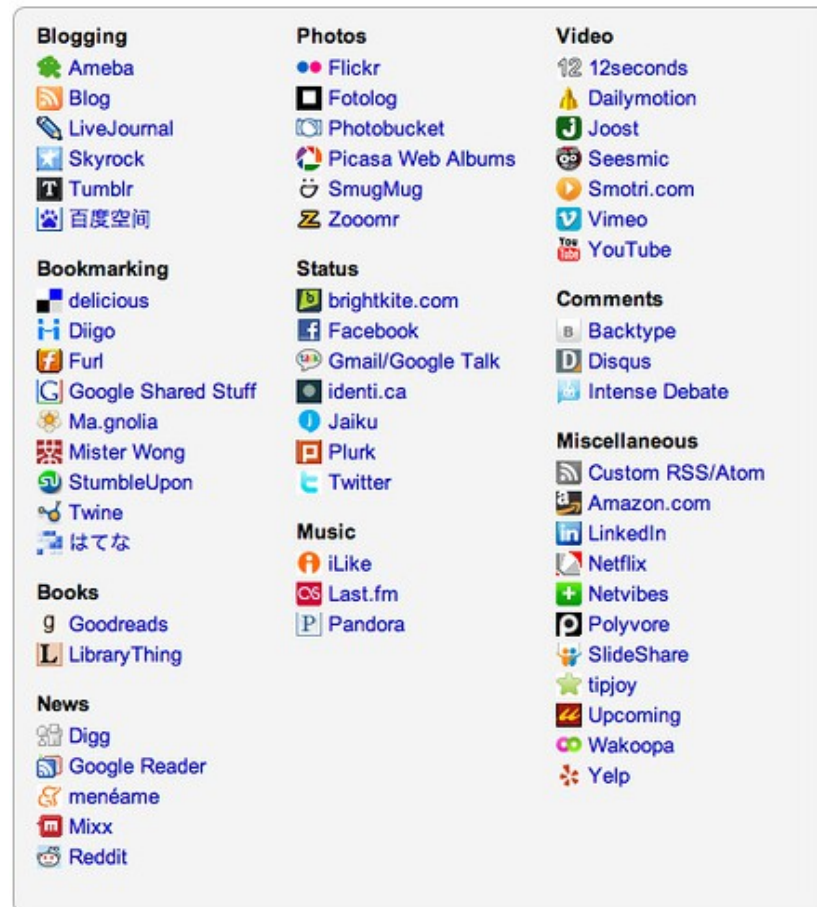
- Activities tell a story (social examples):
    - “Geraldine posted a photo to her album”
    - “John shared a video with Mark
  - “This happened” versus “poll the server to see what changed”
  - Activity streams == chronologically ordered list of activities
  - Introduced into social consciousness by web social networks (Facebook)
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# An Activity Oriented World View

- Concept is popular on many networks
  - Each with similar but different features
- But how do you interoperate?



# The “FriendFeed Problem”



- When FriendFeed was acquired by Twitter, then had to interoperate between 59 different formats.

# An Activity Oriented World View

- But we can be more with a common format
- A semantic model:
  - Describing social and business relevant info
  - In an event based manner
- Adopted by isolated enterprise applications
- Standardization around syntax / semantics
  - <http://activitystrea.ms>
  - JSON and XML (Atom/RSS) Serializations
  - Object types

# Example Activity

```
{
  "published": "2011-02-10T15:04:55Z",
  "actor": {
    "url": "http://example.org/martin",
    "objectType": "person",
    "id": "tag:example.org,2011:martin",
    "image": {
      "url": "http://example.org/martin/image",
      "width": 250,
      "height": 250
    },
    "displayName": "Martin Smith"
  },
  "verb": "post",
  "object": {
    "url": "http://example.org/blog/2011/02/entry",
    "id": "tag:example.org,2011:abc123/xyz"
  },
  "target": {
    "url": "http://example.org/blog/",
    "objectType": "blog",
    "id": "tag:example.org,2011:abc123",
    "displayName": "Martin's Blog"
  }
}
```

# Activity Entry Fields

## Object Fields

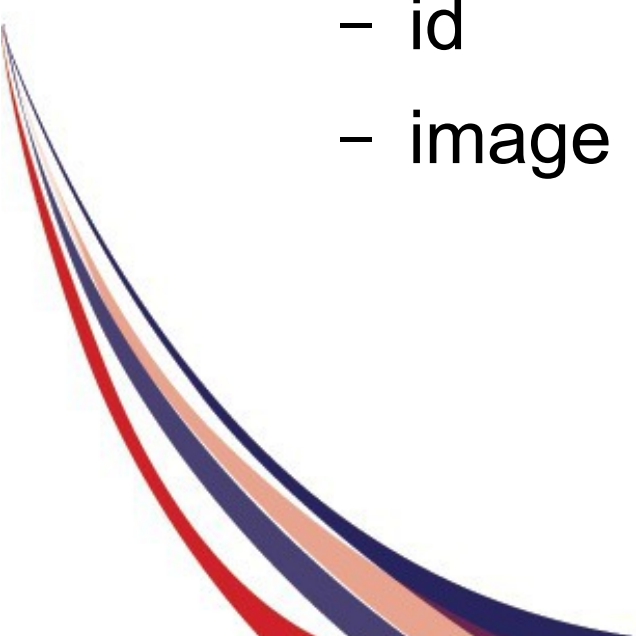
- actor
- generator
- object
- provider
- target

## Simple Fields

- content
- icon
- id
- published
- title
- updated
- verb



# Activity Object Fields

- attachments
  - author
  - content
  - displayName
  - id
  - image
  - objectType
  - published
  - summary
  - updated
  - url
- 

# Example Activity Redux

```
{
  "published": "2011-02-10T15:04:55Z",
  "actor": {
    "url": "http://example.org/martin",
    "objectType": "person",
    "id": "tag:example.org,2011:martin",
    "image": {
      "url": "http://example.org/martin/image",
      "width": 250,
      "height": 250
    },
    "displayName": "Martin Smith"
  },
  "verb": "post",
  "object": {
    "url": "http://example.org/blog/2011/02/entry",
    "id": "tag:example.org,2011:abc123/xyz"
  },
  "target": {
    "url": "http://example.org/blog/",
    "objectType": "blog",
    "id": "tag:example.org,2011:abc123",
    "displayName": "Martin's Blog"
  }
}
```

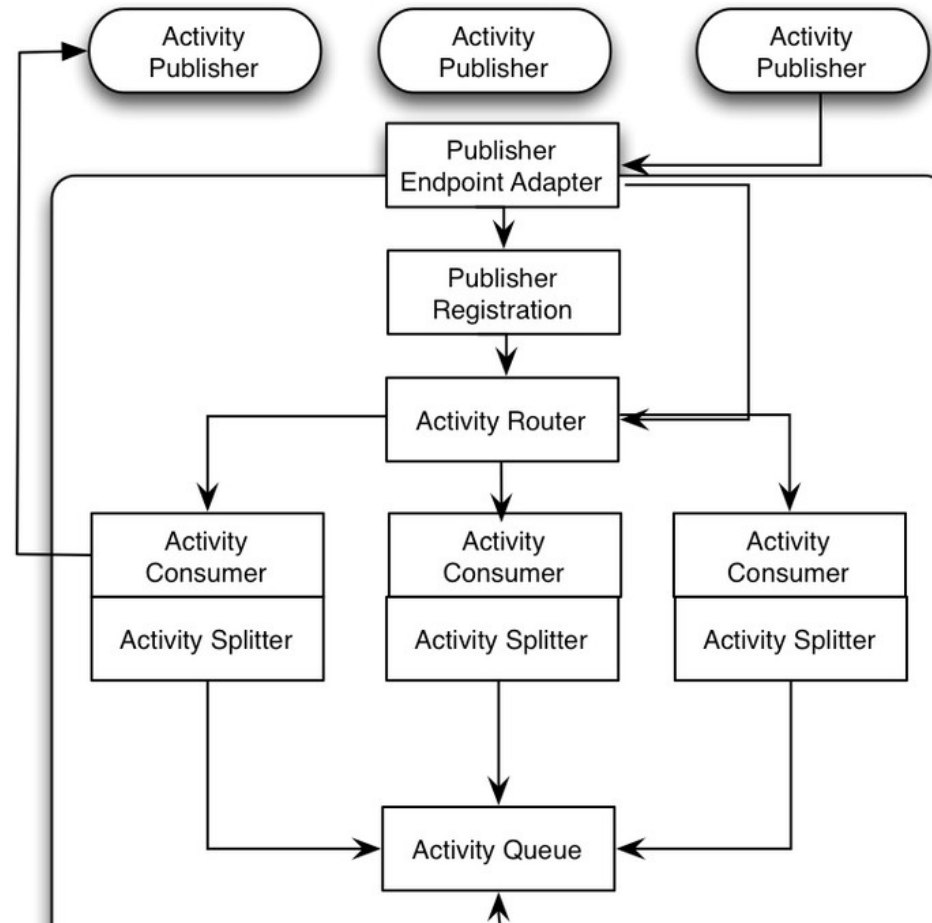
# Ongoing Extension Efforts

- Verbs (examples):
  - acknowledge, agree, attend, cancel, create
  - delete, invite, like, play, read
- Object Types (examples):
  - alert, application, bookmark, comment
  - group, image, note, person, task, video
- Audience Targeting (to, cc, bto, bcc)
- Responses (inReplyTo)

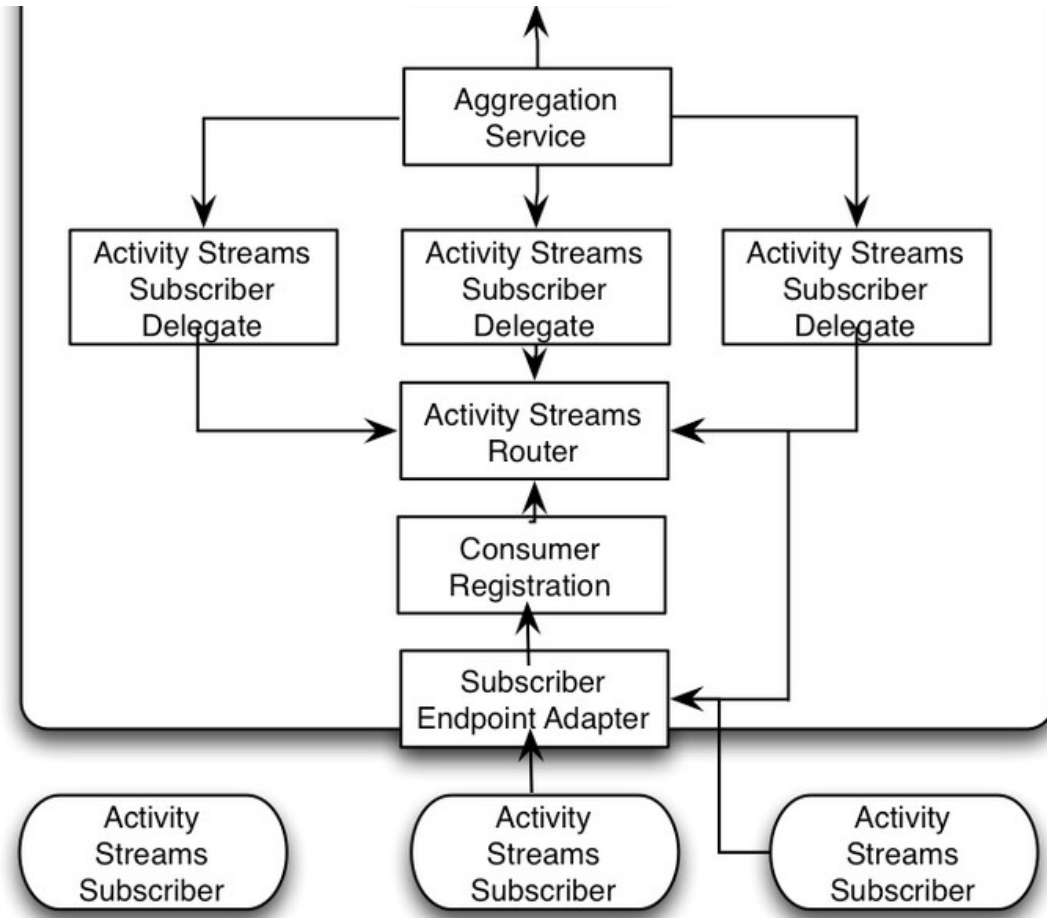
# What Is Apache Streams?

- Lightweight server for activity streams across the enterprise
- Primary capabilities (some conceptual):
  - Aggregation and federation
  - Filtering / noise reduction
  - Querying
  - Data mining
  - Format transliteration

# Apache Streams Architecture (1)



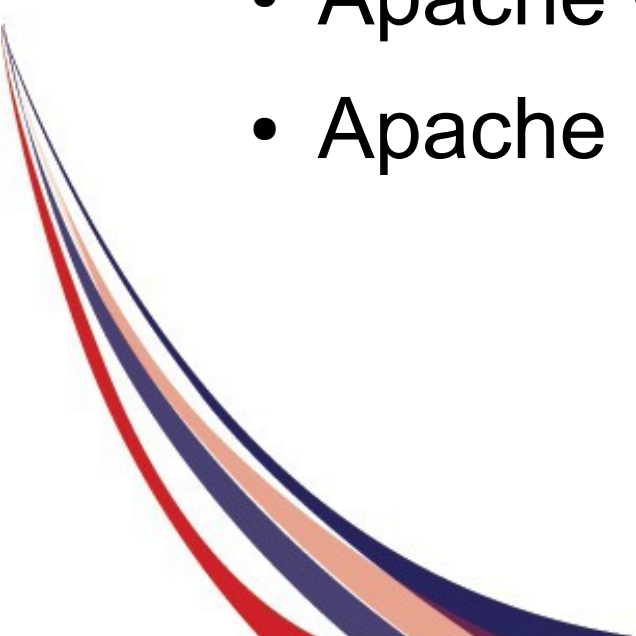
# Apache Streams Architecture (2)



# DEMO



# Internal Components

- Apache ServiceMix (ESB container)
  - Apache ActiveMQ (reliable messaging)
  - Apache Camel (integration patterns)
  - Apache CXF (REST and WS-\* support)
  - Apache ODE (WS-BPEL orchestration)
  - Apache Karaf (OSGI runtime environment)
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# Current State of Apache Streams

- Entered incubation November 2012
- Experienced Apache folks:
  - Ate Douma, Matt Franklin, Andrew Hart, Craig McClanahan
- And additional committers:
  - Ryan Baxter, Jason Letourneau
- Developer mailing list:
  - <mailto:dev-subscribe@streams.incubator.apache.org>  
<http://streams.incubator.apache.org>

# Who Uses Activity Streams?

- Adobe (GraniteDS)
  - Apache Projects:
    - Abdera, Rave, Shindig, Streams
  - Atlassian (Confluence, Jira)
  - IBM (Connections)
  - Jive Software
  - OpenSocial Foundation
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# Questions?



*Apache Streams*<sup>TM</sup>

