Persistent Compute Objects and the Fabric of Cyberspace

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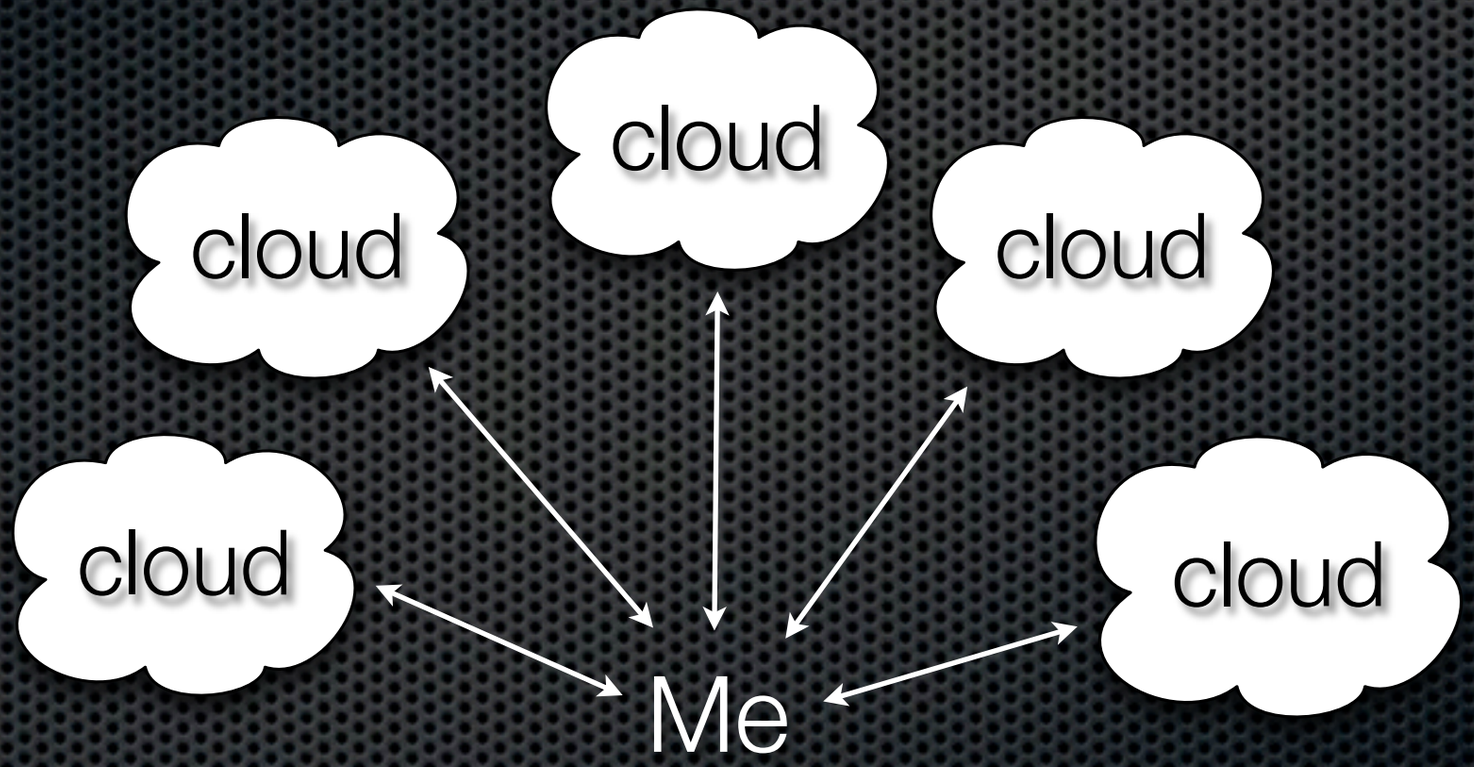
Subject vs Service Orientation

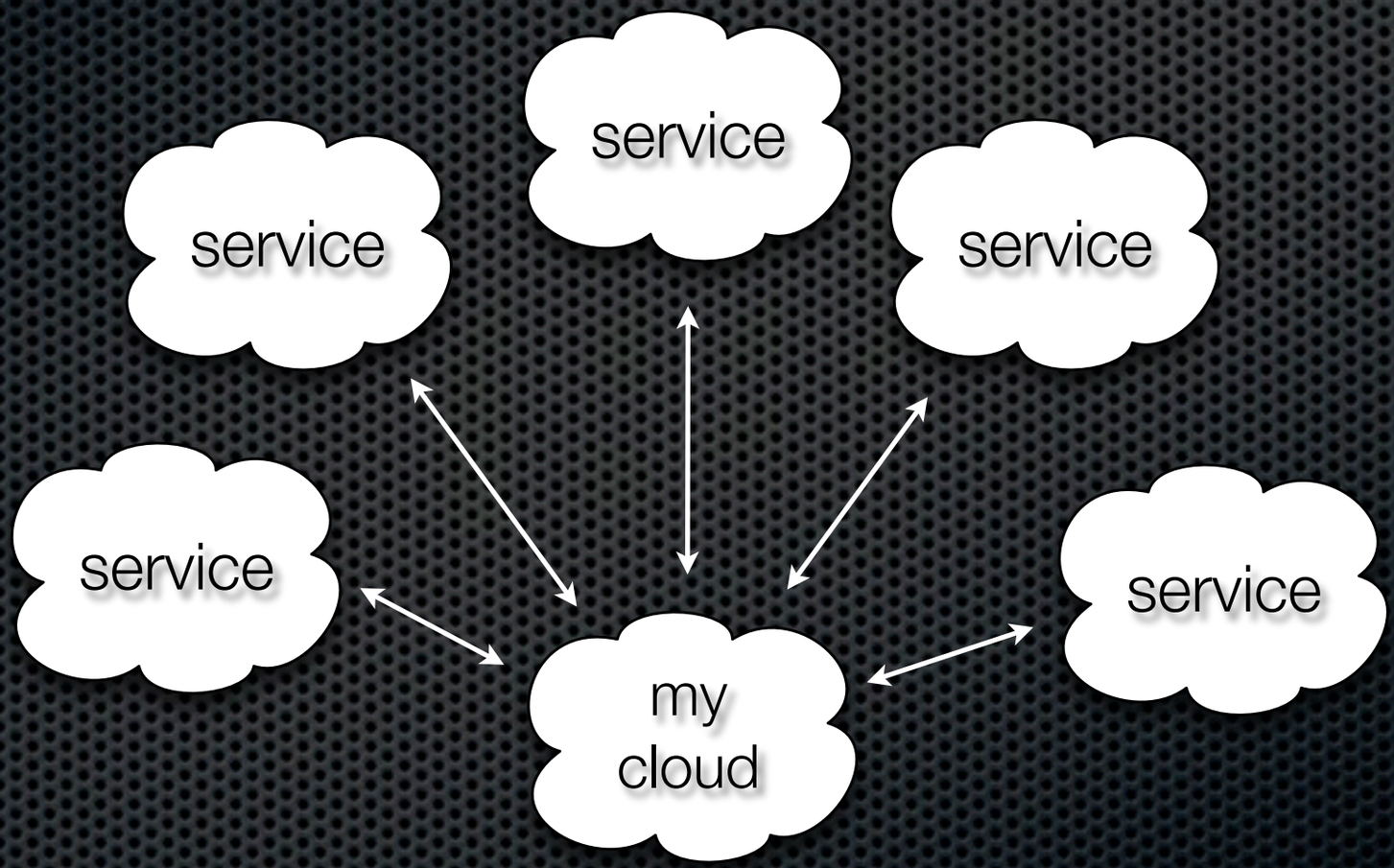
Service-Oriented Clouds



via Johannes Ernst

Subject vs Service Orientation

Subject-Oriented Clouds



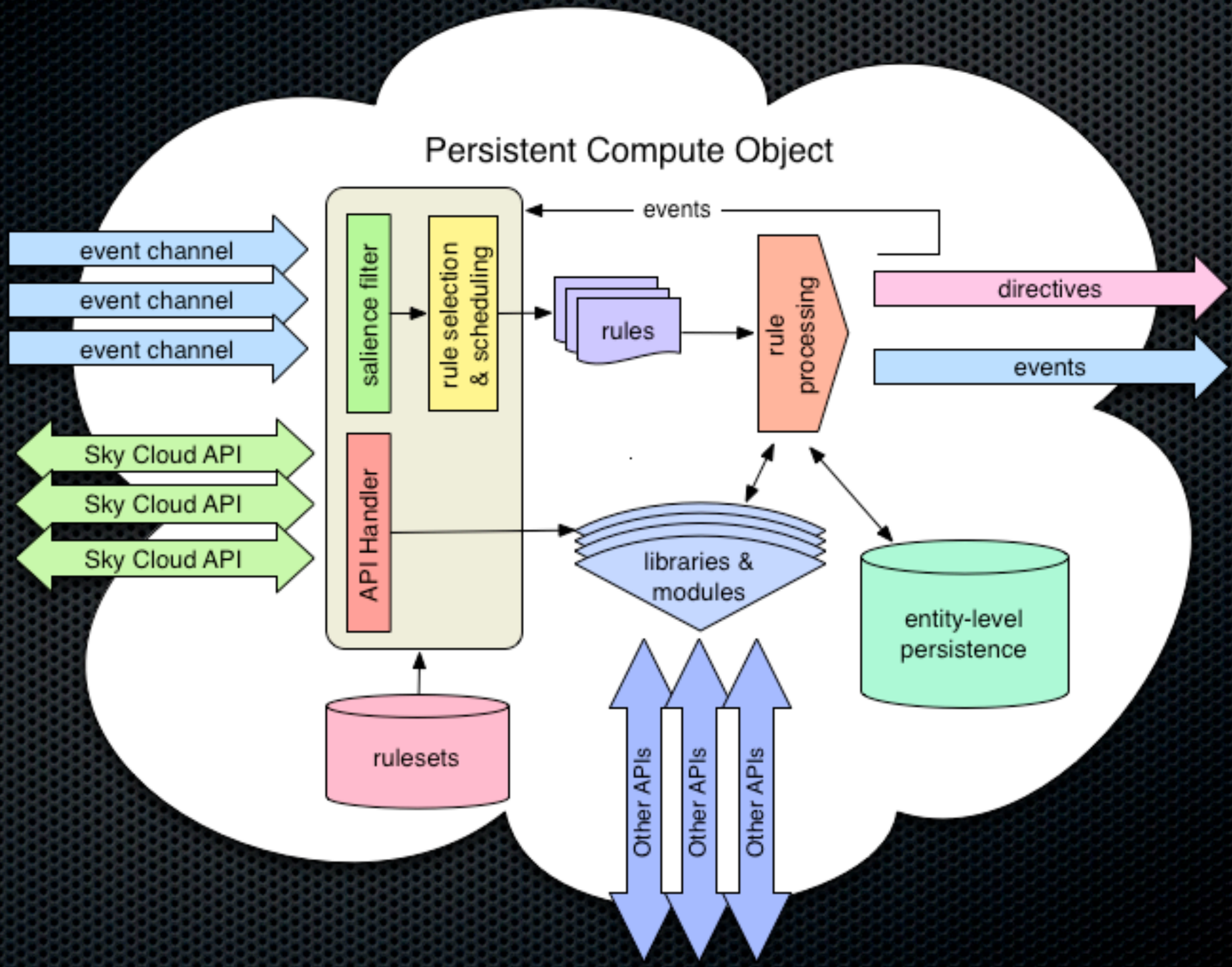
via Johannes Ernst

My personal cloud is formed by a constellation of persistent computational objects -- picos

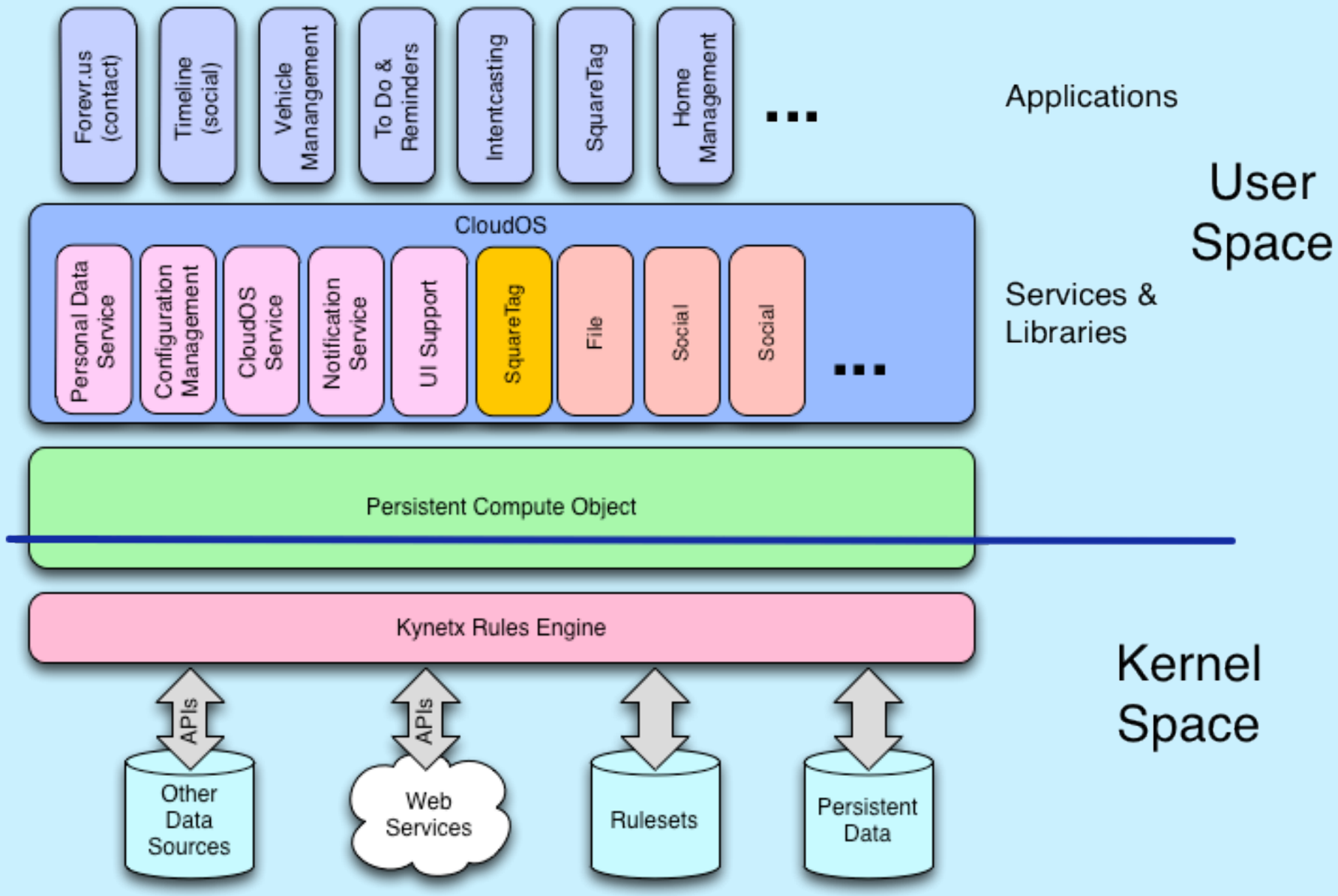
Picos are online computers

- **Identity**—they represent a specific entity
- **Storage**—they persistently encapsulate both structured and unstructured data
- **Open event network**—they respond to events
- **Processing**—they run applications autonomously
- **Event Channels**—they have connections to other picos
- **APIs**—they provide access to and access other online services

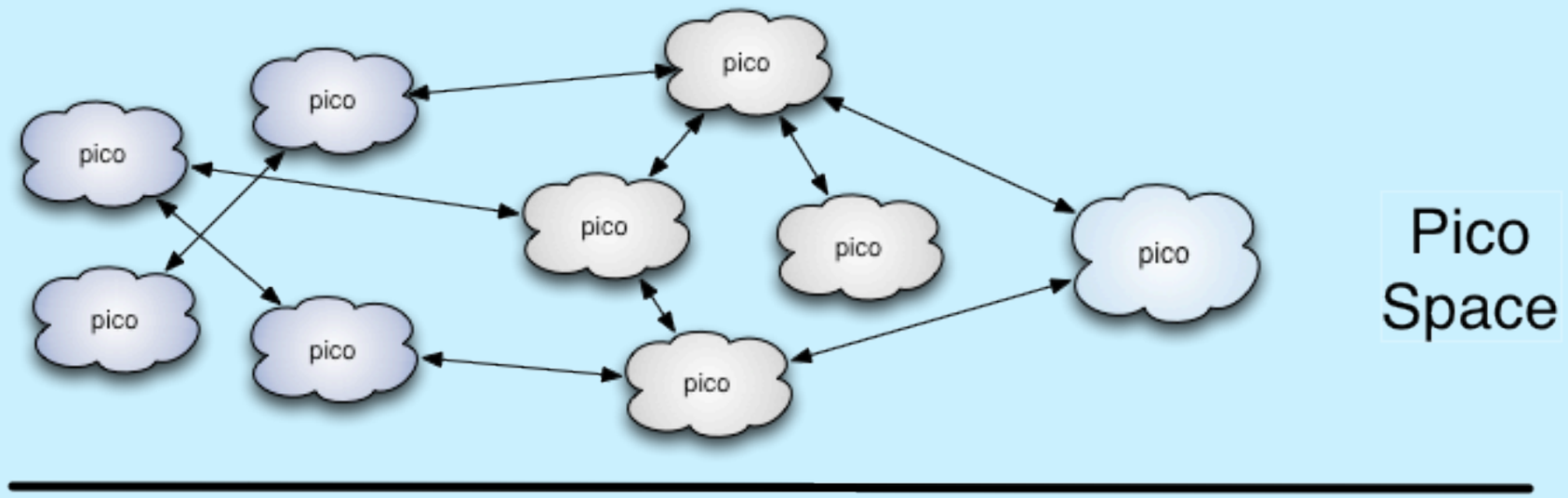
Picos Internals



Picos Are Part of Stack



Picos Are Decentralized & Networked



Hosting
Company A

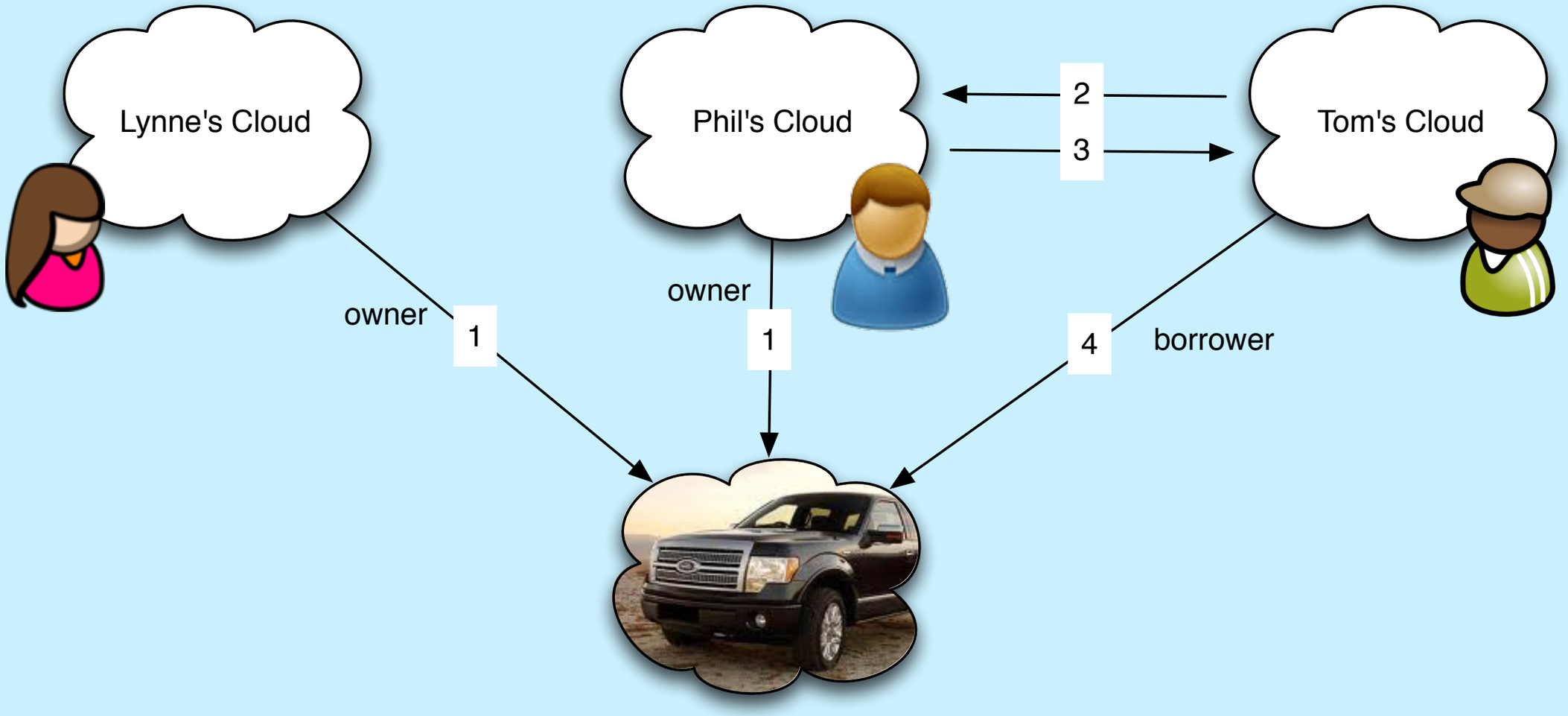
Hosting
Company B

Self
Hosted

Hosting
Space

OOP for the Cloud

Picos Ease Modeling



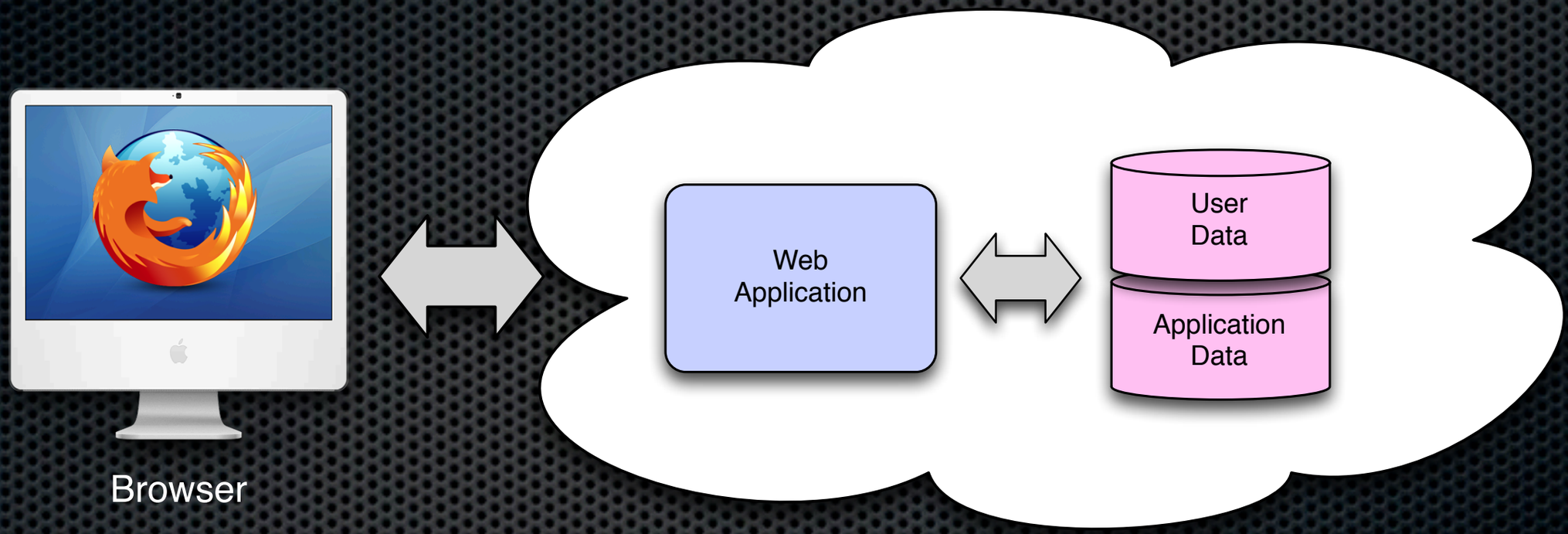
Mirror Worlds

- Blogs
- Cloud Index
- Fuse
- Potholes

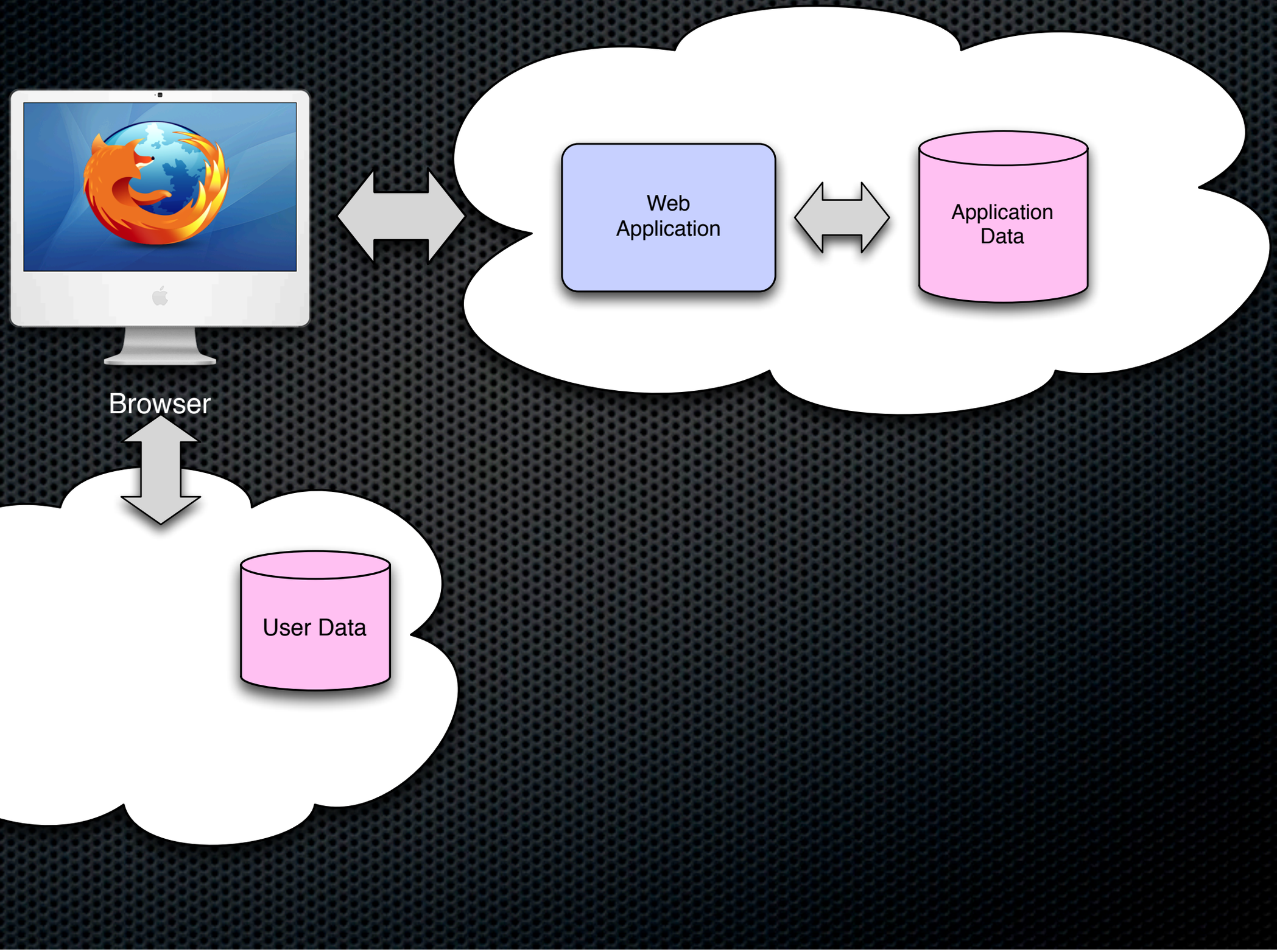
{ David Gelernter in Berlin's Renaissance Theater }

Picos support a brand new programming model

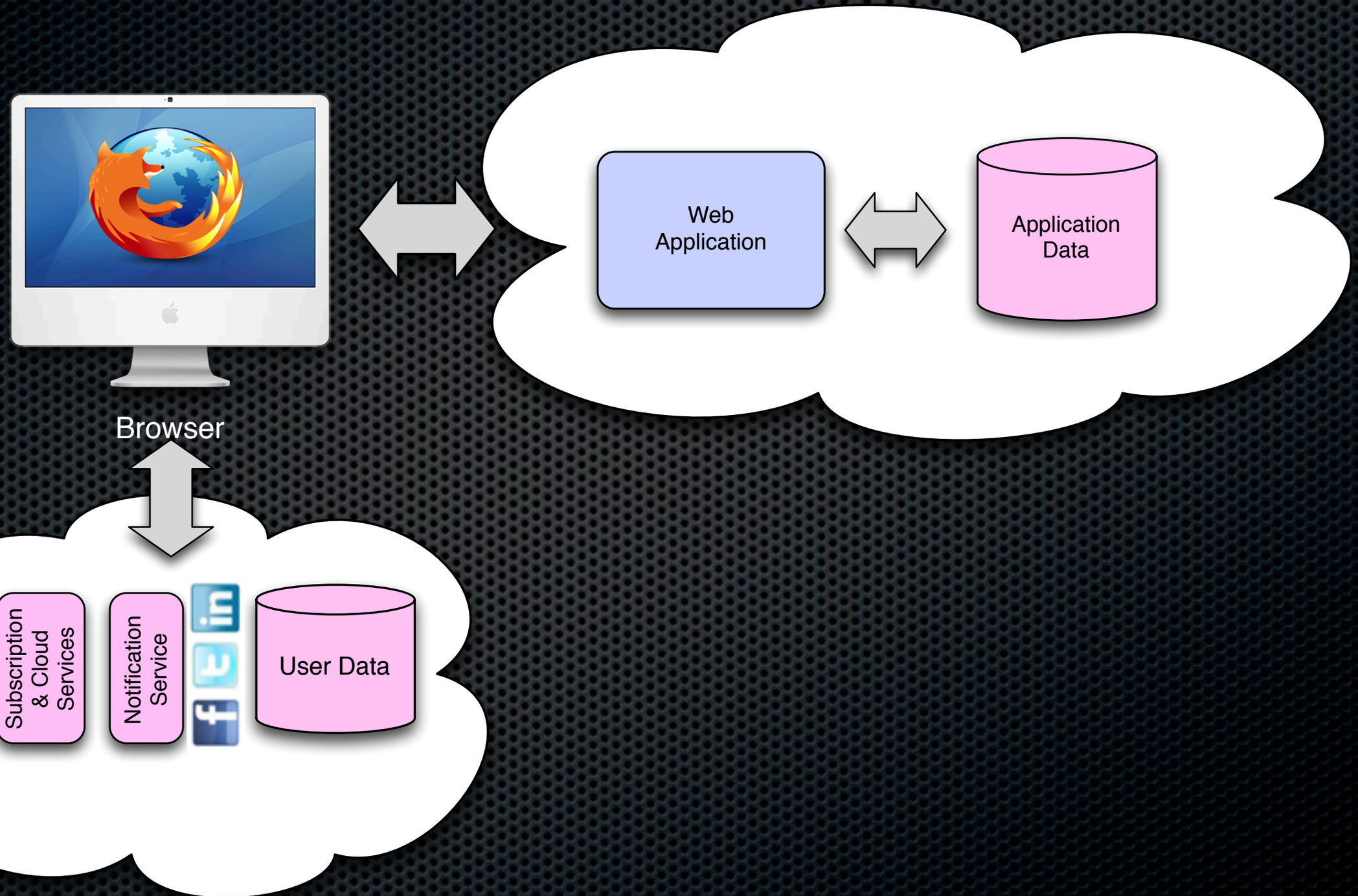
Web 2.0 Business Models



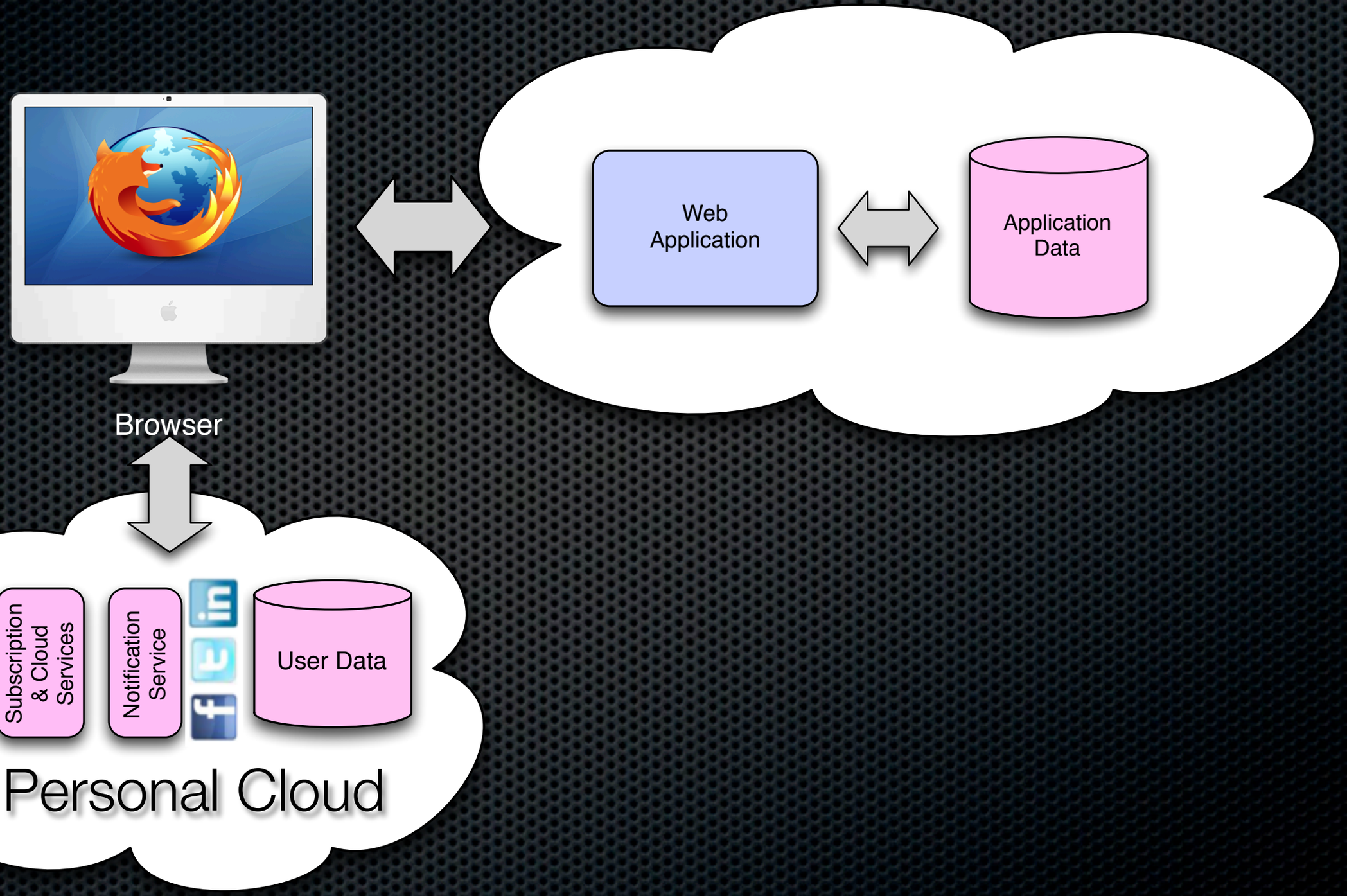
A New Model



A New Model


Browser
Web Application
Application Data
Subscription & Cloud Services
Notification Service
User Data

A New Model


Browser
Web Application
Application Data
Subscription & Cloud Services
Notification Service
User Data
Personal Cloud

Why do this?

- Orthogonality and modularity are powerful: network effects!
- More flexible
- Less work
- Less expensive

Challenges

- Identity
- Trust
- Schemas
- Performance
- Features
- Security

We’re looking for a few hardy developers right now!

http://joinfuse.com

Building Apps for Personal Clouds

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