Persistent Compute Objects and the Fabric of Cyberspace

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Subject vs Service Orientation

Service-Oriented Clouds

cloud cloud cloud cloud cloud

Me

via Johannes Ernst

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Subject vs Service Orientation

Subject-Oriented Clouds

via Johannes Ernst

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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

Persistent Compute Object

- event channel
- event channel
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- Sky Cloud API
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API Handler

- salience filter
- rule selection & scheduling
- rules
- libraries & modules
- rulesets

- rules
- libraries & modules
- entity-level persistence
- Other APIs
- Other APIs
- Other APIs

- directives
- events
Picos Are Part of Stack

Applications
User Space
Services & Libraries

Persistant Compute Object
Kynetix Rules Engine

APIs
Other Data Sources
Web Services
Rulesets
Persistent Data
Picos Are Decentralized & Networked

Diagram showing decentralized and networked pico space with hosting companies A and B, and self-hosted options.
OOP for the Cloud
Mirror Worlds

- Blogs
- Cloud Index
- Fuse
- Potholes

{ David Gelernter in Berlin’s Renaissance Theater }
Web 2.0 Business Models
A New Model

Browser

User Data

Web Application

Application Data
A New Model

Browser

Web Application

Application Data

Subscription & Cloud Services

Notification Service

User Data
A New Model

Browser

Web Application

Application Data

User Data

Personal Cloud

Subscription & Cloud Services

Notification Service
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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