Open Services Cloud

Cloud Today Is Like The iPhone In 2007

Apple Native
iPhone Apps

~~2007 iPhone: **Closed Device**~~

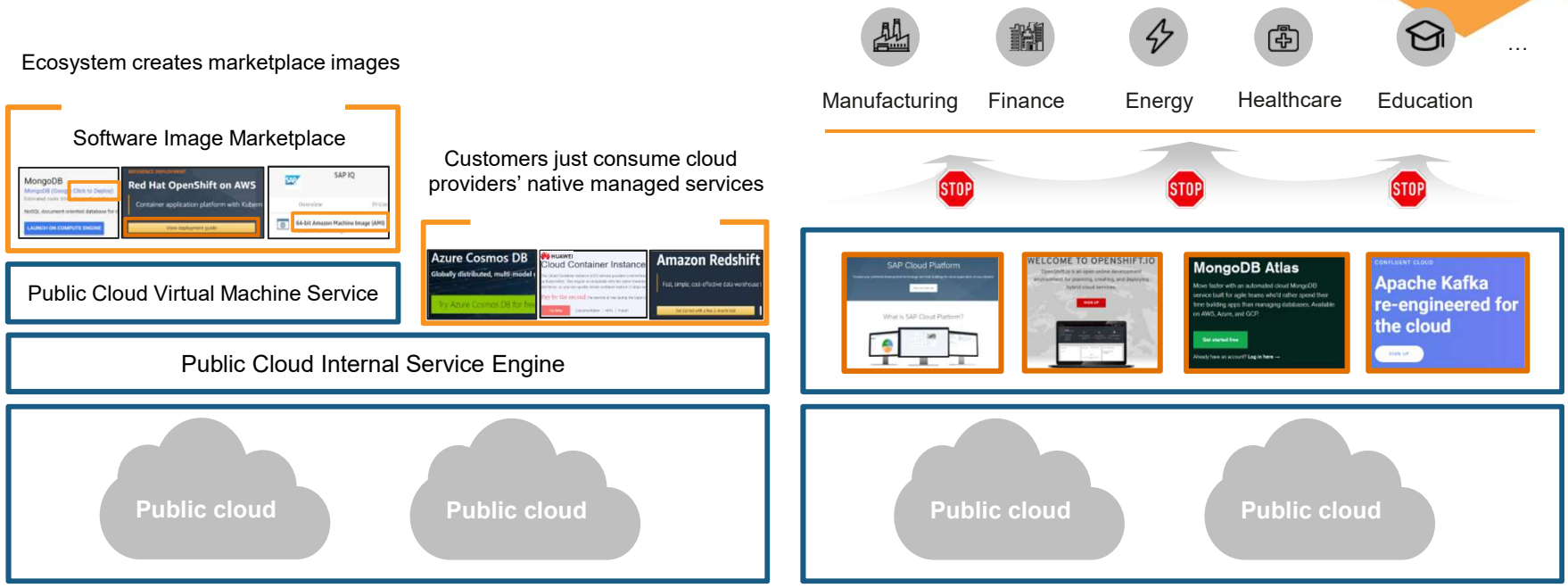
- No App Marketplace – Only Apple-Native Apps
- 3rd Parties **locked out** & limited to Web Apps
- Customers **locked in** to iPhone

3rd Party Web Apps

Part fun. Part function.

Flick through movie times. Tap on a train route. Scroll through sports scores. Web apps and Multi-Touch make it possible.

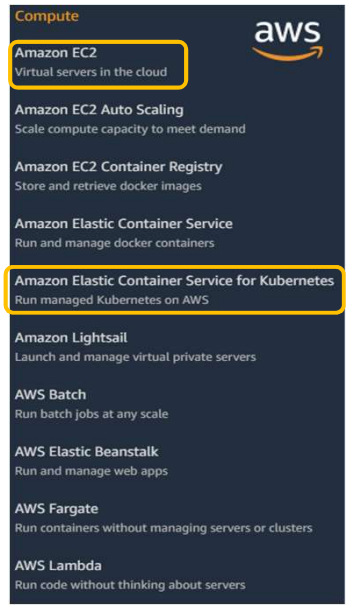
The Ecosystem Is Being Locked Out Of Public Clouds

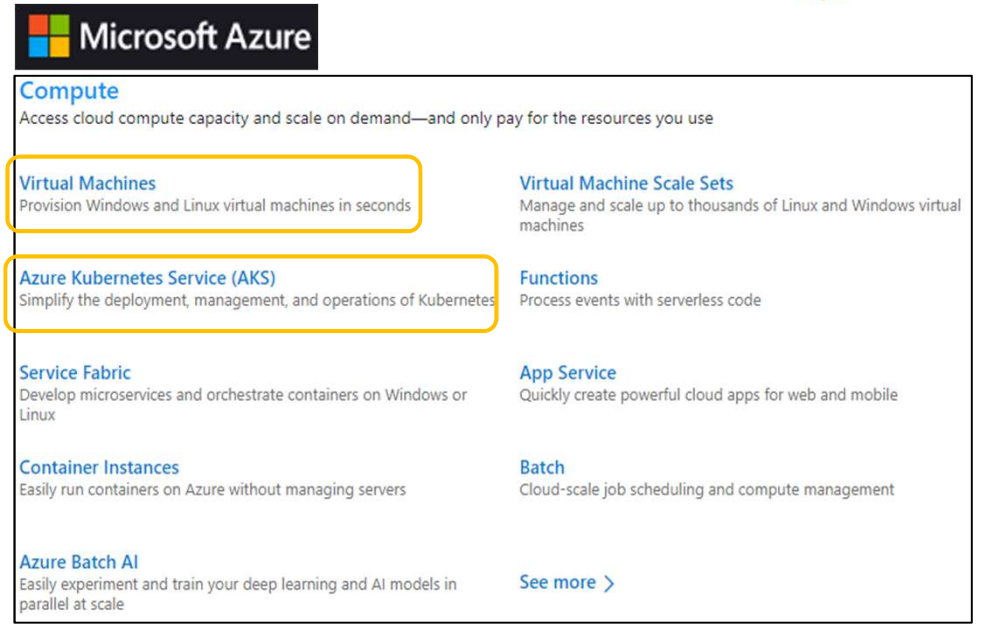


- The Ecosystem Is Being Locked Out of Public Clouds Because They Cannot Create Native Managed Services
- Lockout Effect: Hard to Integrate 3rd Party SaaS Islands

Enterprises Fear Lock-in

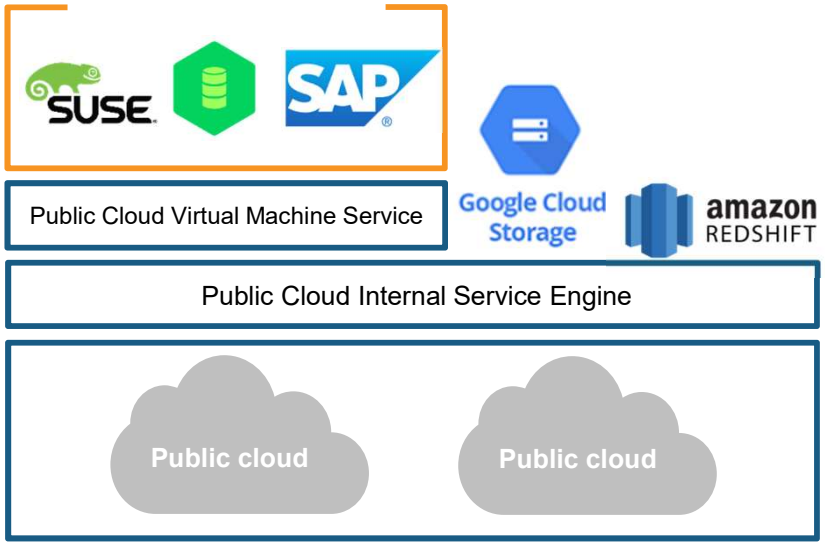
Multi-Cloud Goes To The Least Common Denominator

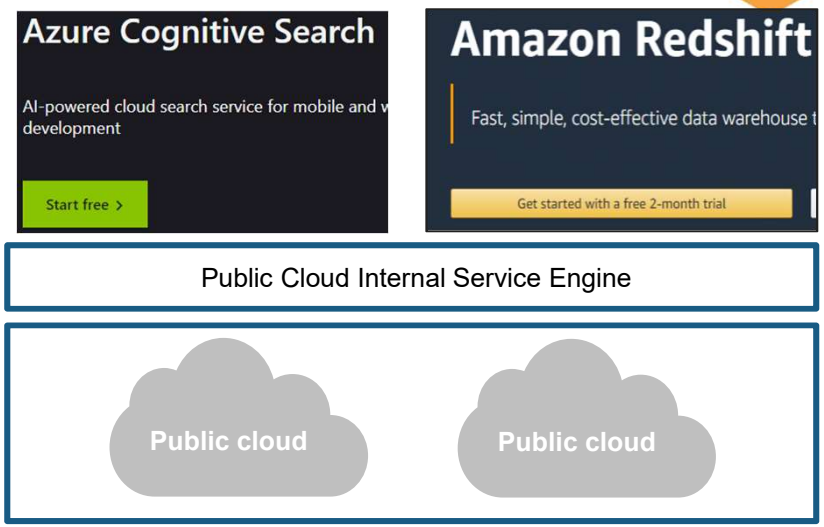




There is no service portability between different clouds!

Cloud Data: The Ultimate Lock-Out and Lock-In





- **Lock-out**: Cloud data storage *software* is inefficient vs cloud data storage *service*
- Layering software storage on a purchased virtual machine is inefficient and expensive compared to native cloud storage services

- **Lock-in:** Cloud data is tightly coupled to proprietary cloud services
- Hard to extract/export raw data from one cloud to another
- Even if cloud data can be exported, it is not useful without accompanying cloud service

ECLIPSE FOUNDATION

What Problems Are We Trying To Solve?

	Goal	Problem to be Solved
Federated	Create an open services ecosystem that works across different clouds	Ecosystem lockout & lack of service portability
Open	Enable customers to choose the services and providers of their choice	Customer lock-in
Data infrastructure based on European values	Enable European cloud providers and ecosystems to meet the needs of Europeans	(Foreign) Hyperscalers control and set the market for cloud and data services in Europe

We Need An Open Market For Cloud Services

Do you want to live in a world where only Apple and Google can provide apps for your smartphone?

2007 iPhone: **Closed Device**

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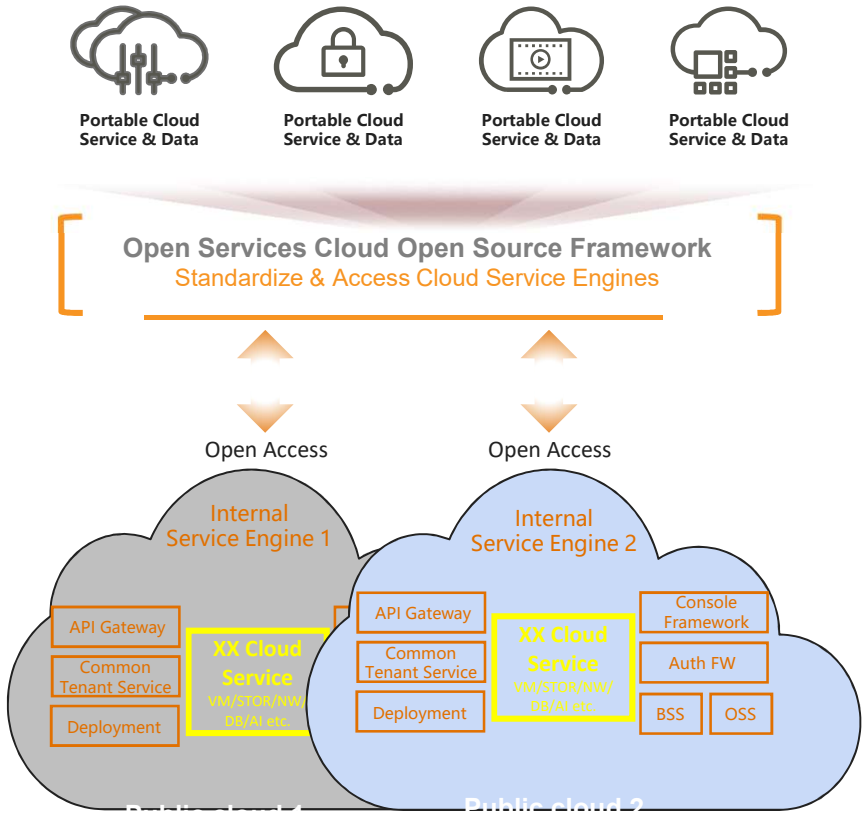
2022 Huawei P50 Pocket: Open Market

- Multiple App Marketplaces Available
- No lock-out: All Apps Equal
- No lock-in: Easily use different phones

Open Services Cloud:
Open Up The Cloud Service Layer & Ecosystem



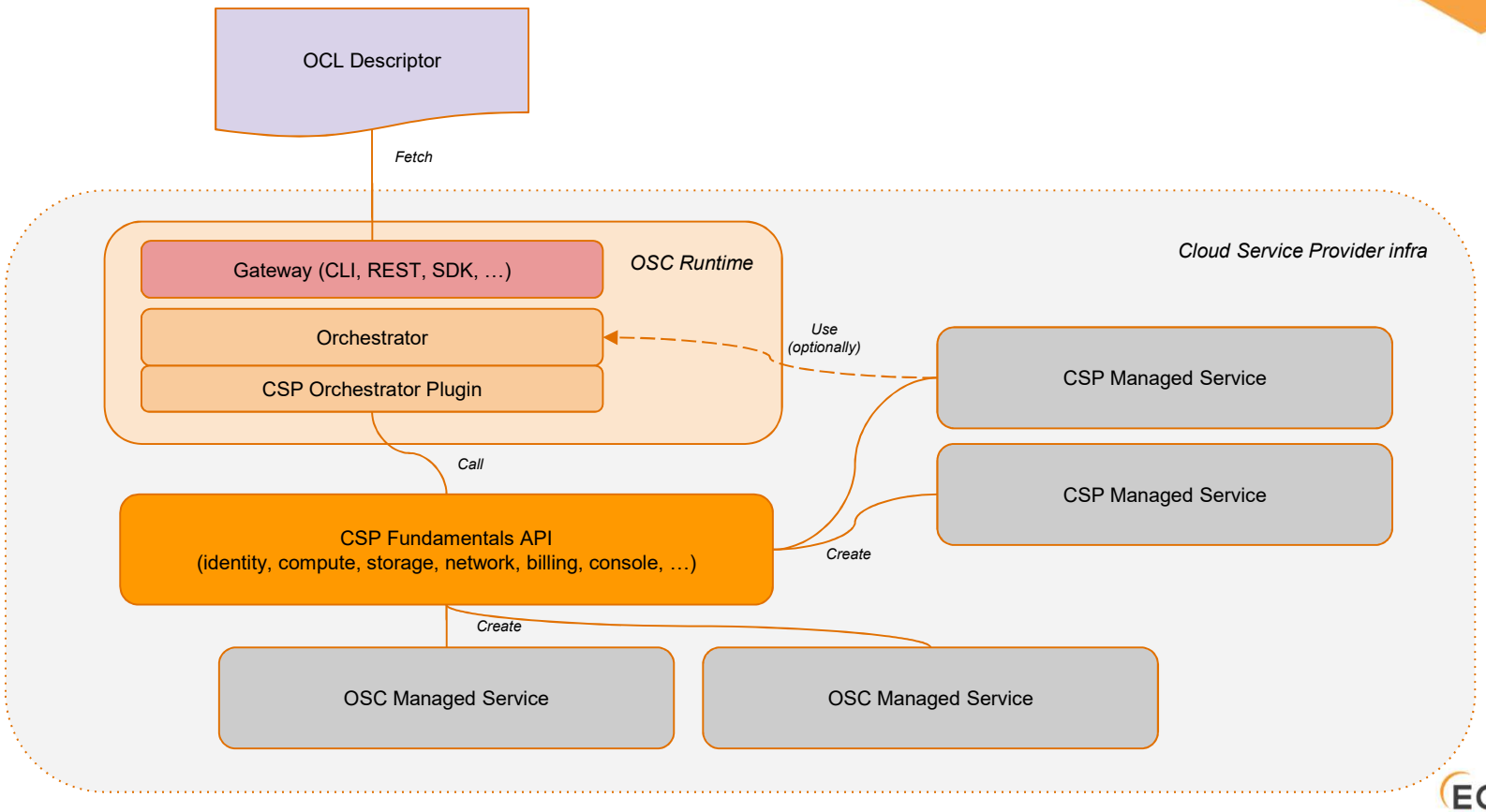
1. No Lock-in: Enable Multi-Cloud Service Portability

- Pure Open Source
- Facilitate access to brokers cloud service engines
- Standardize set of capabilities to create multi-cloud services
- No performance overhead
- Cloud data freed from lock-in to proprietary services

2. No Lock-out: Ecosystem Can Create Native Managed Cloud Services

- Open Access to public clouds' internal service engines
- Give equal, multi-tenant access to 3rd parties as cloud service provider
- Cloud data solution providers not locked out

OSC Architecture



OCL (Open Services Cloud Configuration Language)

- Fully describe a managed service
- OCL interpreted by the Orchestrator plugin to do interact with CSP

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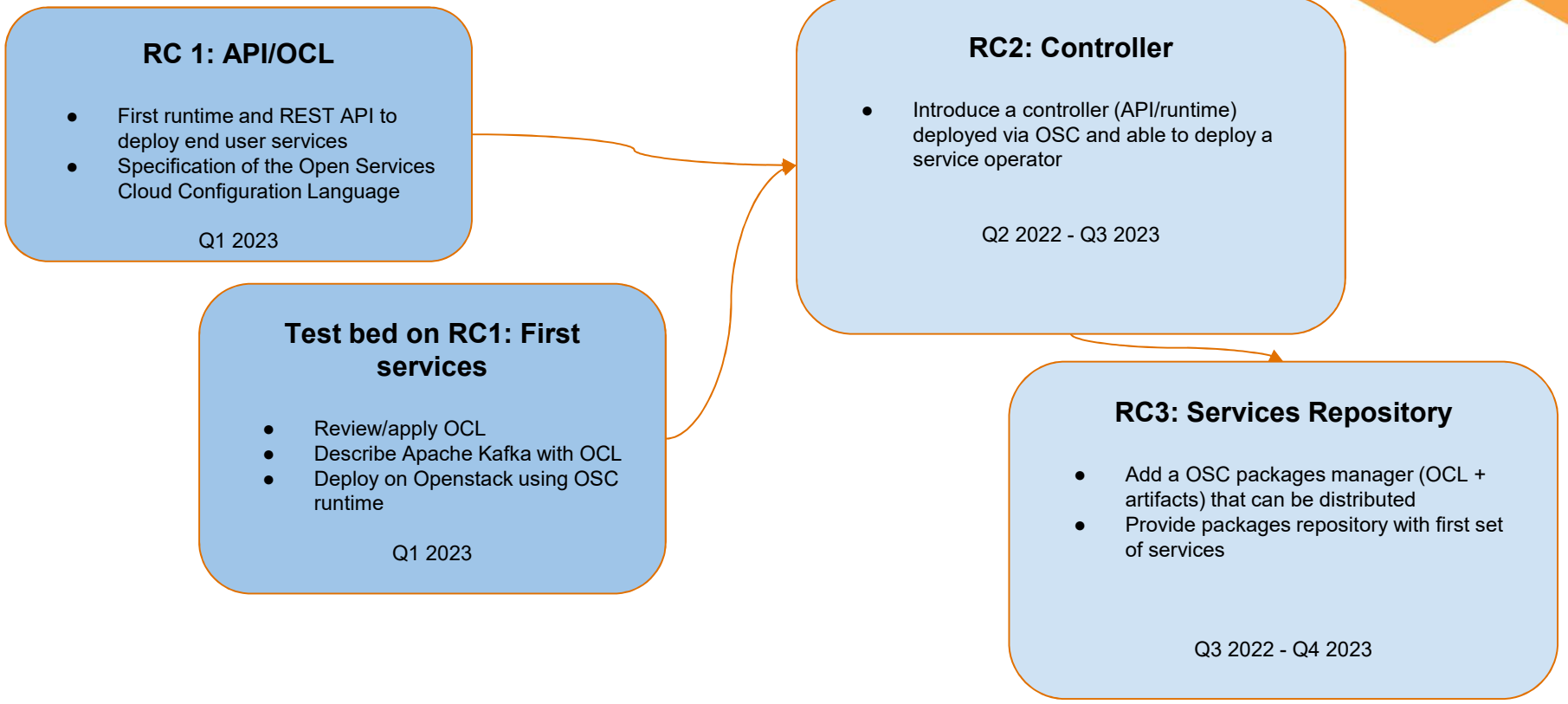
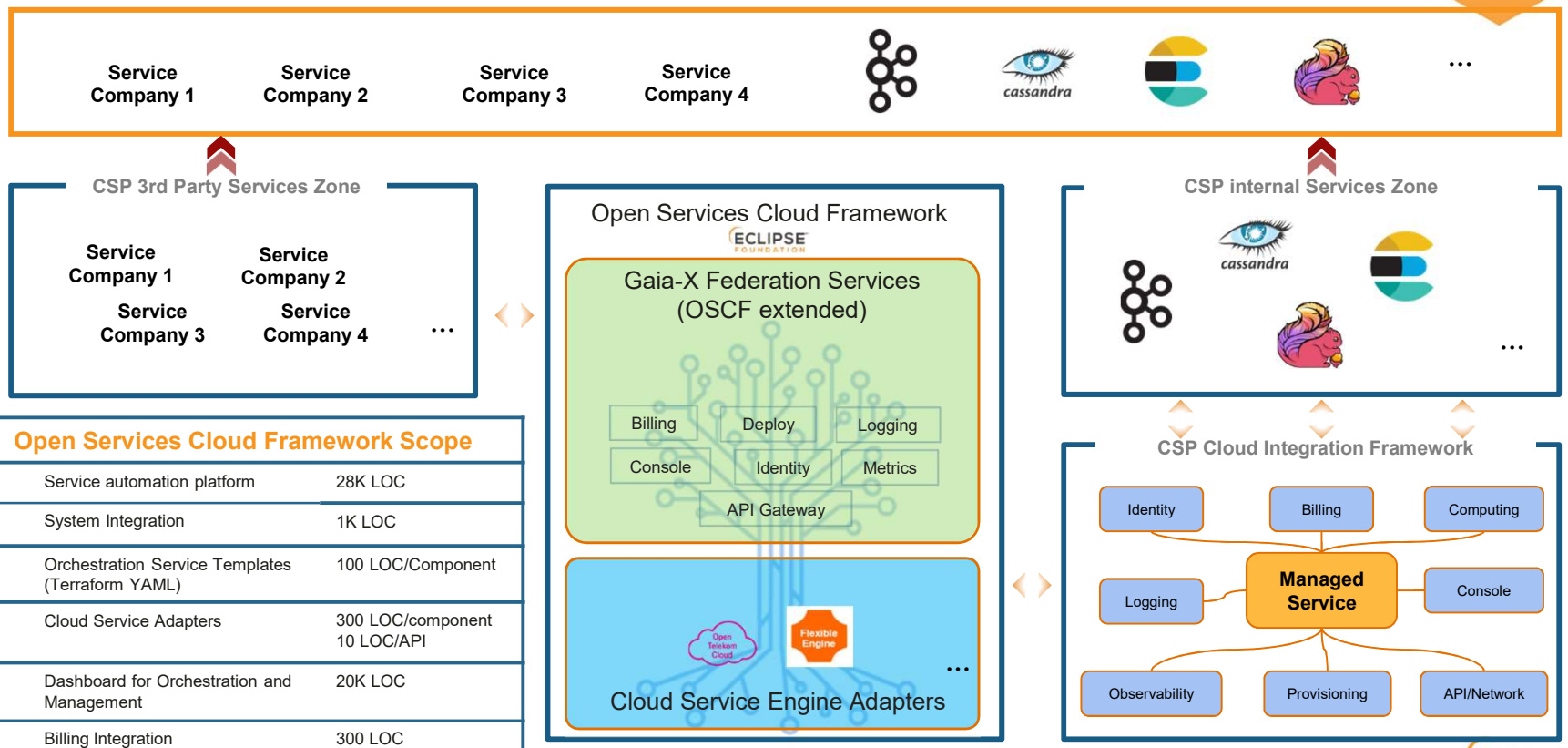
{
  "name": "my-service",
  "category": "compute",
  "namespace": "my-namespace",
  "properties": {
    "meta": "data",
    "other": true
  },
  "artifacts": [
    {
      "name": "my-artifact",
      "type": "jar",
      "url": "mvn:groupId/artifact/1.6",
      "properties": {
        "additional": "property",
        "another": "one"
      }
    },
    {
      "name": "another-artifact",
      "type": "docker",
      "url": "https://path/to/artifact",
      "properties": {
        "one": "property"
      }
    }
  ],
  "billing": {
    "model": "flat",
    "period": "monthly",
    "currency": "euro",
    "fixedPrice": 20,
    "variablePrice": 10,
    "variableItem": "instance",
    "backend": "https://software_provider/billing/backend",
    "properties": {
      "billing_prop": "value"
    }
  },
```

```
  "compute": {
    "vm": [{
      "name": "my-vm",
      "type": "t2.large",
      "platform": "linux-x64",
      "vpc": "my-vpc",
      "subnet": "my-subnet",
      "security": "my-sg",
      "storage": "my-storage",
      "publicly": true
    }]
  },
  "network": {
    "vpc": [{
      "name": "my-vpc",
      "cidrs": "172.31.0.0/16",
      "routes": "",
      "acl": ""
    }],
    "subnet": [{
      "name": "my-subnet",
      "vpc": "my-vpc",
      "table": "",
      "routes": ""
    }],
    "security": [{
      "name": "my-sg",
      "inbound": [ "22->22", "443->443", "80->80" ],
      "outbound": []
    }]
  },
  "storage": [{ "name": "my-storage", "type": "ssd","size": "8GiB" }],
  "console": {
    "backend": "https://...",
    "properties": {
      "one": "two"
    }
  }
}
```

Open Services Cloud Technical Roadmap

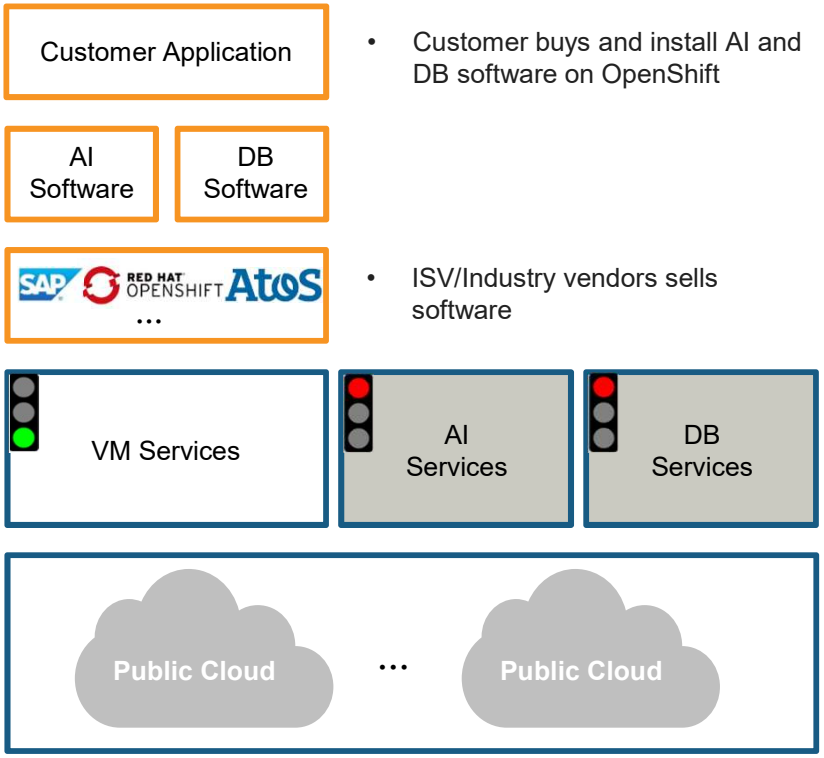


Layout Example: Gaia-X On A Public Cloud



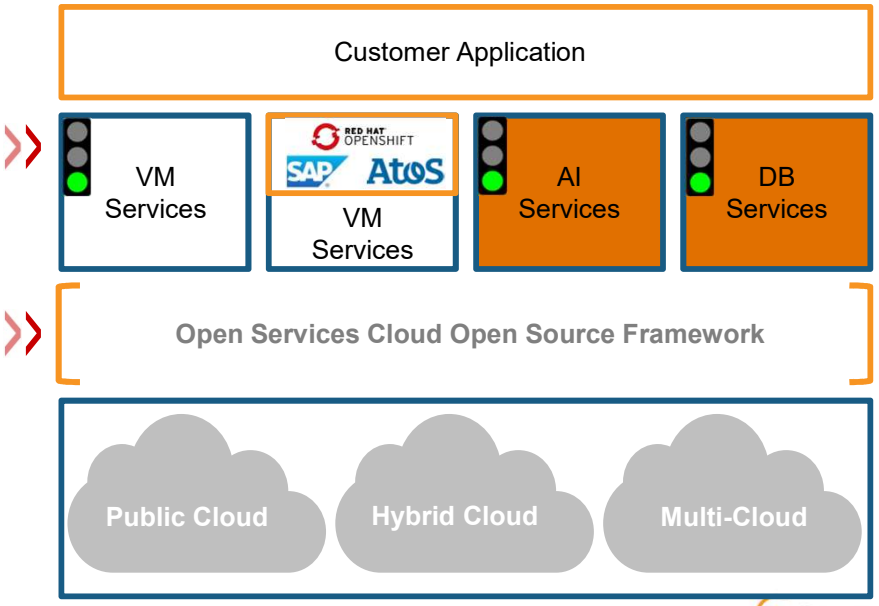
Open Services Cloud Framework Scope		
✔	Service automation platform	28K LOC
✔	System Integration	1K LOC
✔	Orchestration Service Templates (Terraform YAML)	100 LOC/Component
✔	Cloud Service Adapters	300 LOC/component 10 LOC/API
✔	Dashboard for Orchestration and Management	20K LOC
✔	Billing Integration	300 LOC

A Win-Win Business Model:
From Software To Open Services Cloud



- Customer buys and install AI and DB software on OpenShift
- ISV/Industry vendors sells software

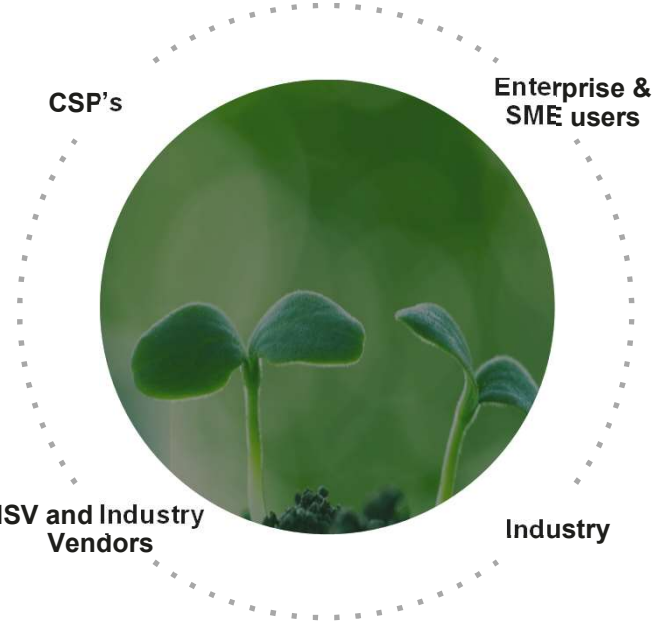
1. **CSPs** go from competing vs their ecosystem to having new selling opportunities with them: cross-sell AI/DB, sell more infrastructure, sell partner services
2. **ISV/Industry vendors** sells native cloud service
3. **Customer** builds true cloud-native apps with all cloud services



An Ecosystem Of Mutual Benefits

- Sell more IaaS
- Cross-sell higher-level services
- Co-sell partner services
- Sell operations to ISV's
- Gain competitive services ecosystem vs hyperscalers

- No lock-in: select cloud services and data providers that best suit needs
- Simpler and faster adoption of cloud: Everything as a managed service



- New cloud services market to sell into
- No lock-out: No unfair competition from cloud providers for cloud services
- No lock-out: Can sell optimized solutions
- SI's can provide operations and migration services to ISV and Industry Vendors.

- Create true industry clouds (e.g. manufacturing, FSI, healthcare, etc.).
- First time open source ecosystem can create open services vs open source software operated as proprietary services
- Science & Research Centers, universities can have a better collaboration and innovation.

The Open Source Foundation of choice in Europe

With a global presence, reach and reputation

Eclipse Foundation AISBL is based in Brussels
Under EU-based laws and regulations, hosting code in Europe

Visit eclipse.org/europe

ECLIPSE FOUNDATION

Eclipse Foundation Strategic Members

The Eclipse Foundation - By the Numbers

400+
Projects

330+
Members

1700+
Committers

260M+
Lines of Code

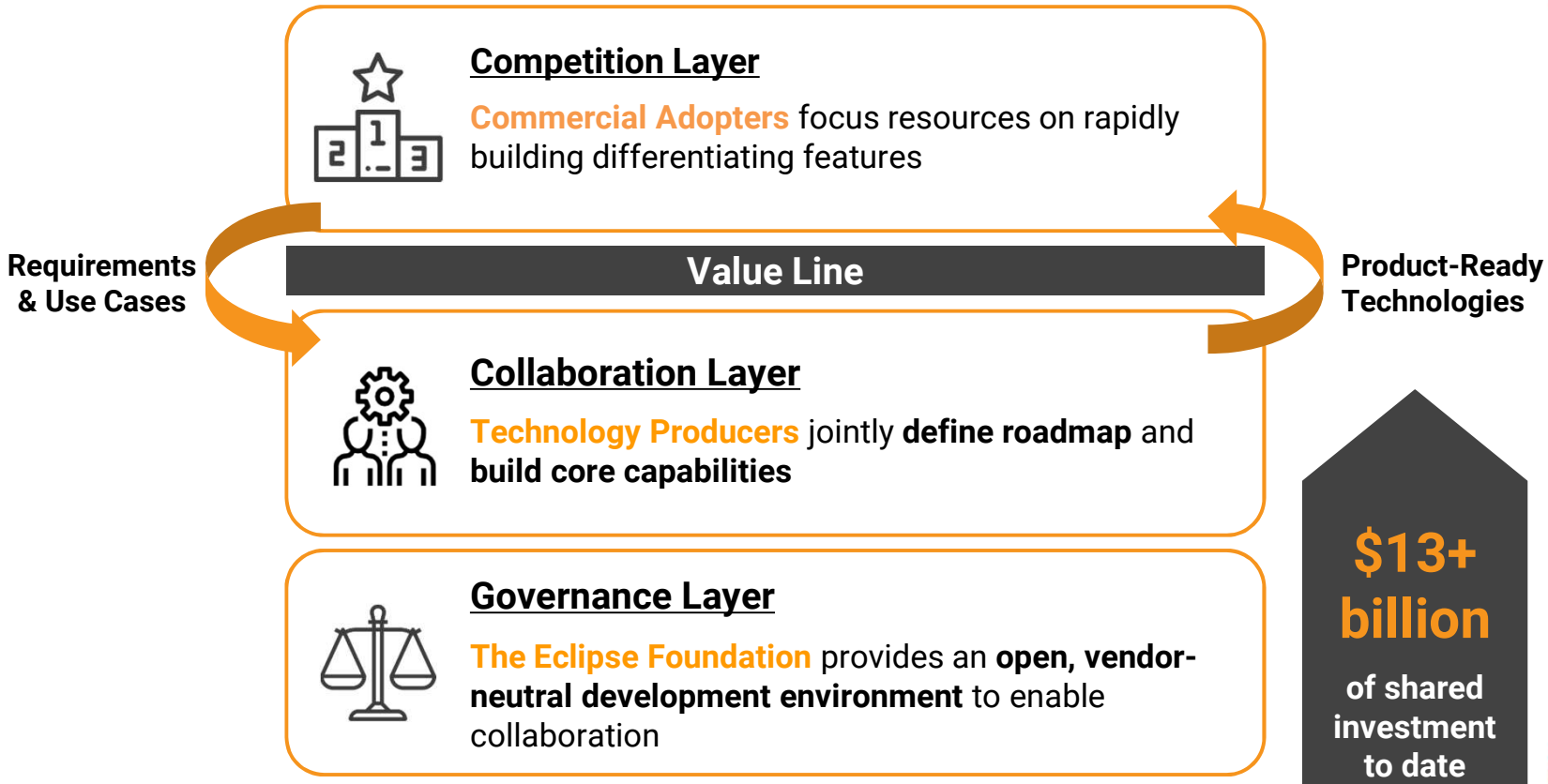
35
Staff Members

17
Working Groups

The Eclipse Foundation and Europe: Shaping The Future of Open Cloud

- Europe is setting key industry standards around cloud services access, data privacy, and digital sovereignty
- Gaia-X and Catena-X are major new initiatives rooted in Europe that will shape global cloud development
  - Gaia-X: 2500+ participants across 500+ institutions
  - Catena-X: 28+ partners from the automotive industry
- Eclipse Foundation is the open source home for global, European-based open source cloud initiatives
  - Strategic open source partner for Gaia-x and Catena-X, hosting their open source development
  - Home to key open source projects, including cloud development platforms, cloud-native Java, DataSpace Connector, edge-native open source, AICE (AI, Cloud, Edge) Open Lab, etc.

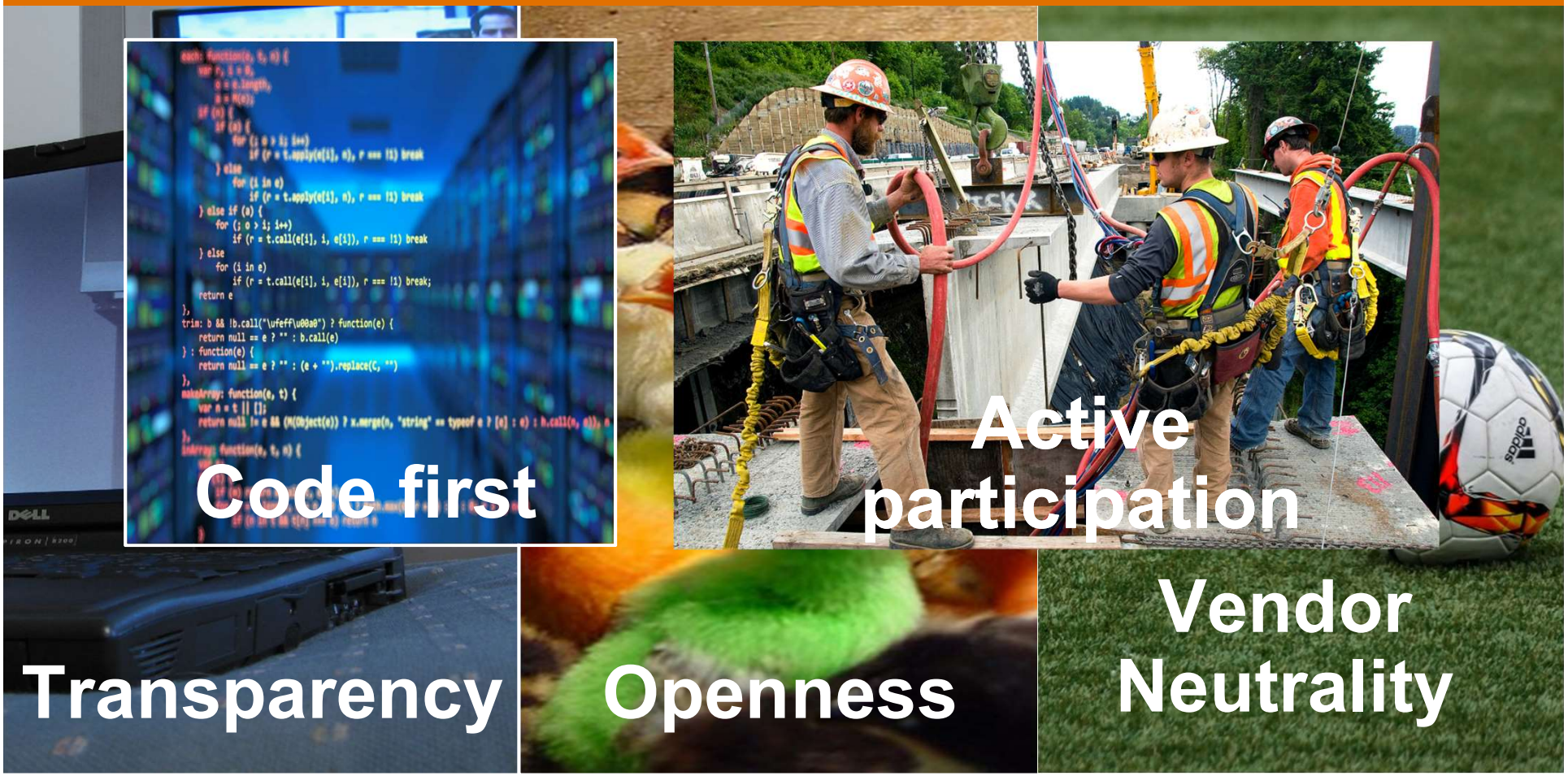
Our Impact: Open Innovation at Industrial Scale



$13+ billion

of shared investment to date

Governance principles



Key Functions of Working Groups

- Requirements gathering across open source projects and organizations
- Creating and committing to long term multi-project roadmaps
- Architectural discussions and collaboration across open source projects
- Testing and certification of industry platforms
- Funding of joint development
- Ecosystem and community development

Guiding Principles

"All Working Groups must operate in an open and transparent manner."

- **Open** - Working Groups provide the same opportunity to all Members to participate in accordance with the Charter. Everyone participates with the same rules; there are no rules to exclude any potential contributors which include, of course, direct competitors in the marketplace.
- **Transparent** - minutes, plans, and other artifacts are open and easily accessible to all.

Working Groups, like all communities associated with Eclipse, must operate in adherence to the Foundation's IP Policy, Antitrust Policy, and Code of Conduct

Eclipse Foundation Working Groups Key Services

Vendor-Neutral Governance
Collaboration under a vendor neutral governance model

Ecosystem Development and Marketing
Eclipse Foundation staff help build a community for collaboration through marketing and community programs

Collaborative Management
Working groups coordinate the efforts of open source projects by providing a shared vision and roadmap

Specification Development
Eclipse Working Groups use the proven Eclipse Specification Development processes that provides a framework for the development of specifications in open source

Branding and Compatibility
Creating branding and compatibility programs to build a trusted ecosystem of implementers and consumers

Research@Eclipse
The Eclipse Foundation participates in many government funded industry research projects

Overall Framework

Roles and Relationship

- Members
- Eclipse Foundation
- Projects

Governance

- Charter
- Committees (Governing Bodies)
- Agreements
- Formal Policies and Processes

Participation Structure

- Strategic Members
- Participating Members
- Committer Members
- Guest Members

Materials

- Recruiting Materials
- Program Plan
- Marketing Plan
- Infrastructure Plan
- Services and Shared Resources

Finance

- Bootstrap Funding
- Participation Fees
- Budget

LifeCycles

- Opportunity
- Proposal
- Incubation
- Operational
- Termination