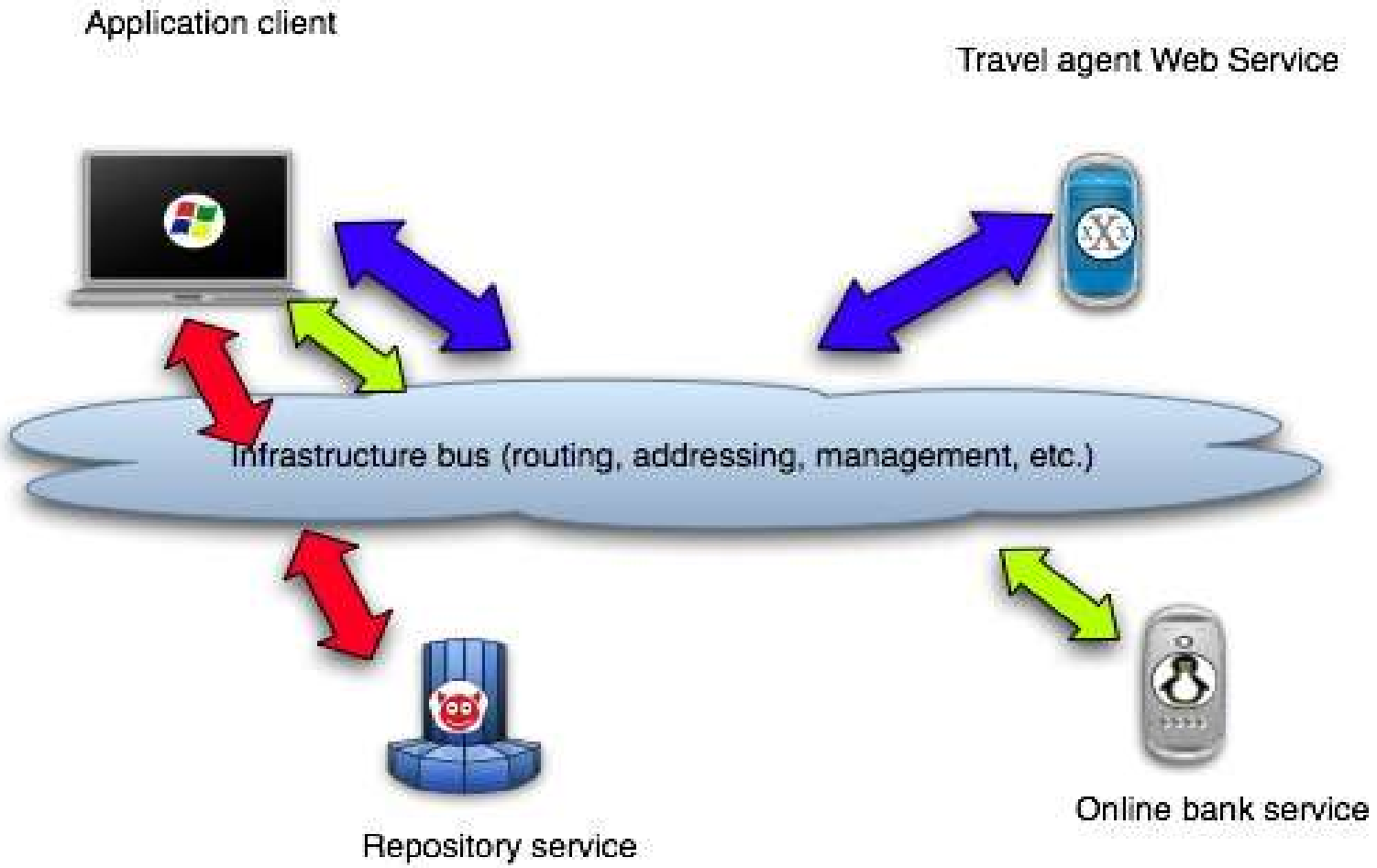
JBossESB

SOA everywhere!

Aims

- To provide the standard OSS infrastructure for SOA
  - ✓ SOA principles first and foremost
- Use SOA principles *internally* as well as *externally*
  - ✓ Everything will (conceptually) be considered as a service
  - ✓ Everything will be replaceable
- Standards compliant
  - ✓ Though requirements live longer

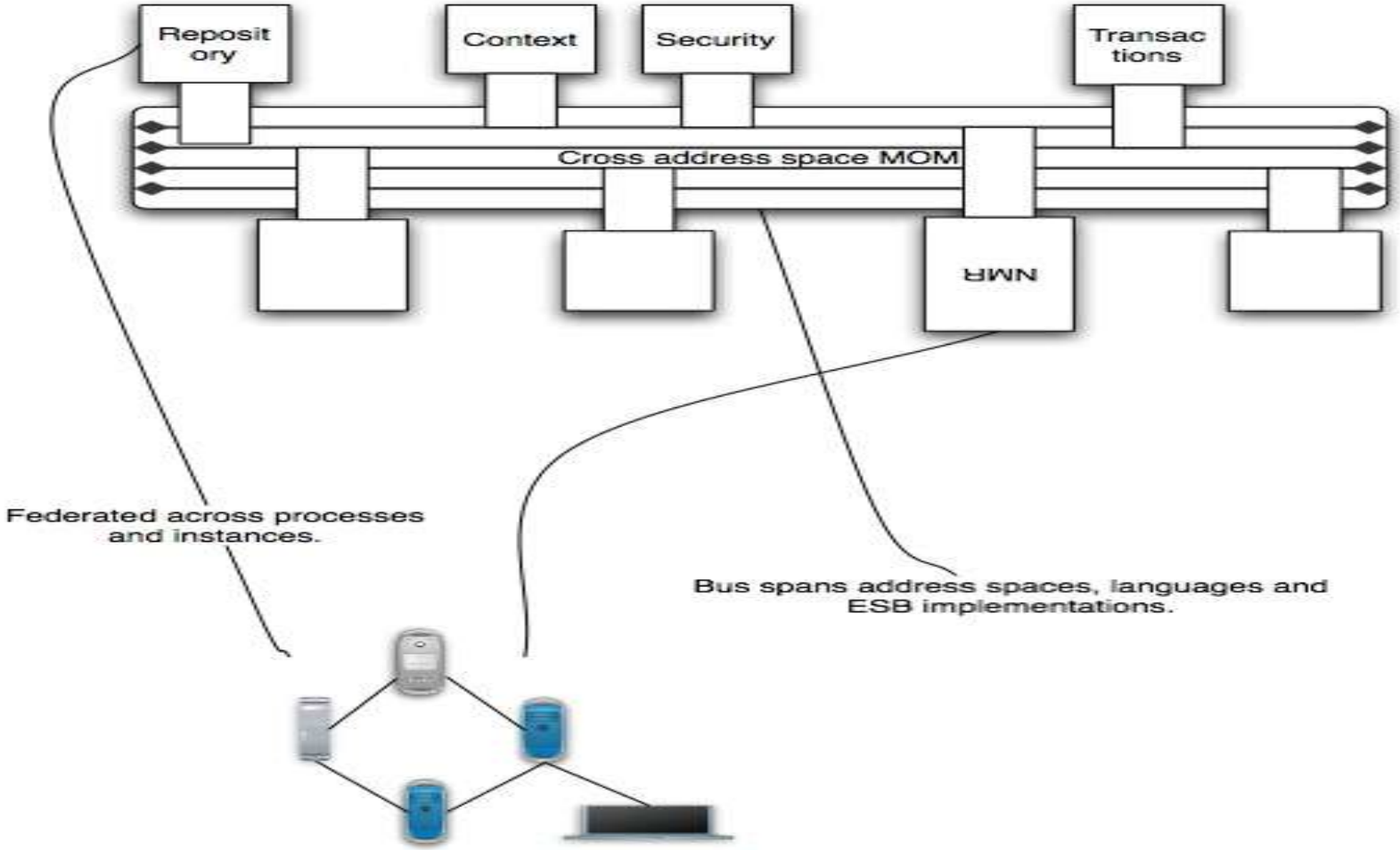
JBossESB = SOA Infrastructure



JBossESB will provide

- Process orchestration
- Protocol translation
- Adapters
- Repositories (e.g., UDDI)
- Change management (hot deployment, versioning, lifecycle management)
- Quality of service (transactions, failover)
- Qualify of protection (message encryption, security)
- Management (versioning of services)

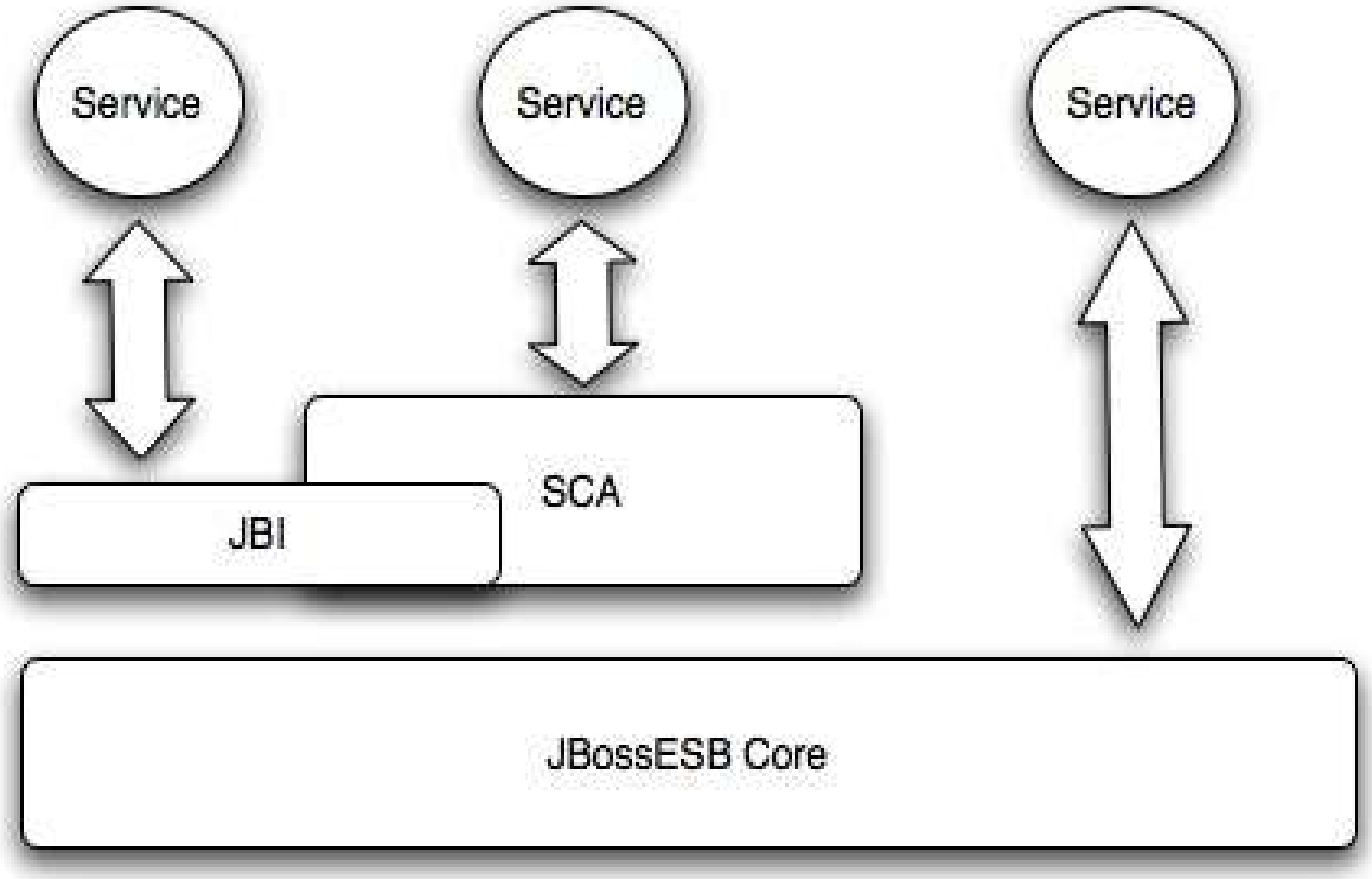
Architecture overview



Requirements

- Cannot mandate specific capability implementations
- *All* capabilities accessed as services
  - ✓ Plug-and-play
  - ✓ Extensibility
- *All* capabilities are message based
  - ✓ Including (conceptually) the container
- Standards are important
  - ✓ JBI
  - ✓ Perhaps SCA

JBossESB and standards



Core message

- Everything is a service, including the bus
  - All services are interacted with via messages.
  - Includes service lifecycles
    - ✓ Containers abstracted within architecture
      - ✓ Services plugged directly into a lifecycle bus
  - Services can be plugged into multiple buses concurrently

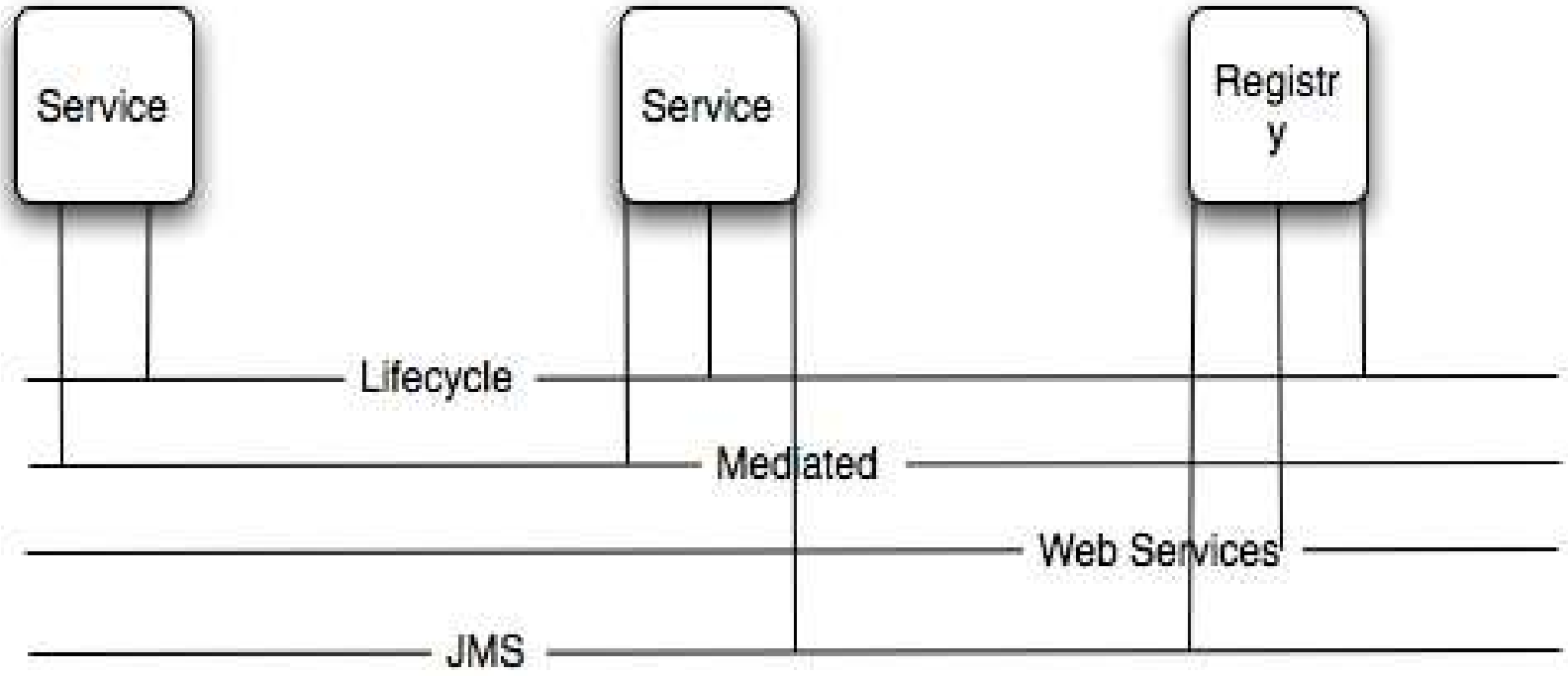
The SOA Bus

- Underlying the ESB is a MOM abstraction
- Does not mandate implementation
  - ✓ JMS, SOAP etc.
    - ESB must be able to support pure-play Web Services deployments
      - ✓ WS-RX
- Capabilities can be provided by multiple implementations
  - ✓ Concurrently
- Support multiple buses
  - ✓ Single bus concept is wrong
    - Counter to SOA and Web Services
    - Biggest problem with old-style EAI

ESB versus SOA versus EDA

- SOA rules take precedence
  - ✓ EDA is a way of implementing SOA
    - JBossESB is a unitary EDA
- ESB is a narrowing of SOA
  - ✓ Mediation not necessary for SOA
  - ✓ Routing not necessary for SOA
- SOA infrastructure first and foremost
  - ✓ ESB veneer

Message view



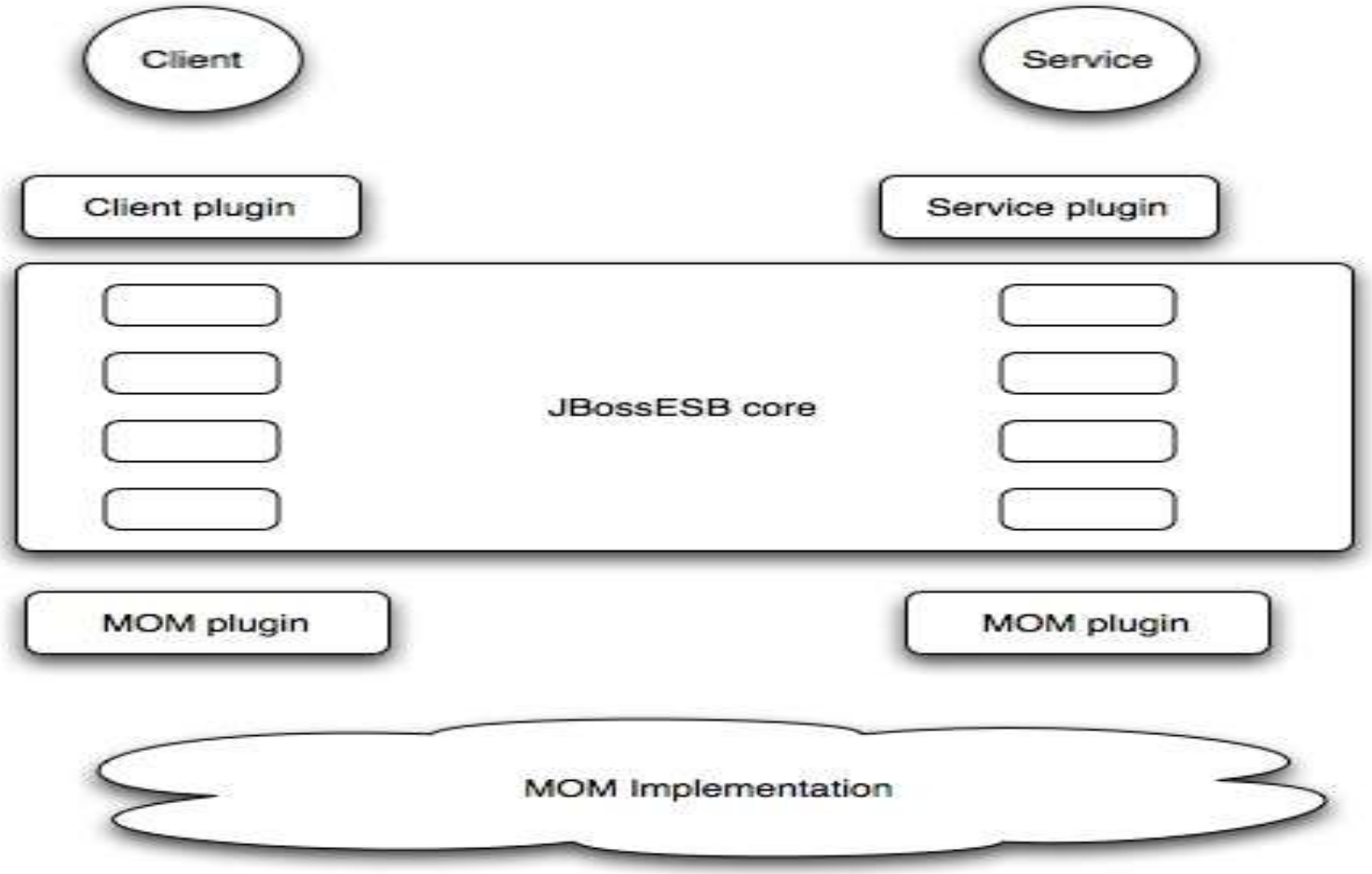
Core service requirements

- Container
  - ✓ JBoss Microcontainer default
- MOM
  - ✓ JBoss Messaging and Web Services
- Transformations
  - ✓ JBoss Rules
- Repository
  - ✓ UDDI
  - ✓ Basic contract definition
    - QoS
    - Service versions

Standards

- Important for interoperability
  - ✓ Web Services
  - ✓ JMS
- Important for portability
  - ✓ JBI
  - ✓ SCA
- But
  - ✓ Requirements are more important
    - Standards change!

JBossESB interfaces



Addressing

- Logical and physical names
  - ✓ Logical requires indirection to lookup
- WS-Addressing based
  - ✓ Not dependant on Web Services
  - ✓ Just capabilities

The Message

- Two levels of message
  - ✓ Seen and used by clients and services
  - ✓ Seen and used by the core ESB
- Latter is a superset of the former

```
interface Message
{
        public Header getHeader ();
        public Context getContext ();
        public Body getBody ();
        public Fault getFault ();
        public Attachment getAttachment ();
}
```

Client plugin

```
interface ClientPlugin
{
        public void send (Address to, Body msg);
        public void sendAsync (Address to, Body msg);
        public void sendAsync (Address to, Body msg, Callback cb);
        public void sendReliable (Address to, Body msg);
}

interface ClientPluginFactory
{
        public ClientPlugin getPlugin (ContractDefinition def);
}
```

Service plugin

```
interface ServicePlugin
{
        public Body receive (Address from);
}

interface ServicePluginFactory
{
        public ServicePlugin getPlugin (ContractDefinition def);
}
```

But …

- Lots to do
- We have many components
- We need to collaborate with partners
  - ✓ SOA-within-and-without should help
  - ✓ Best-of-breed approaches to ESB deployments
    - No single solution
  - ✓ Talking to partners and vendors now
- JBossESB as the unifying infrastructure

JBossESB Needs You!