ORACLE

Future<JavaEE>

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The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.

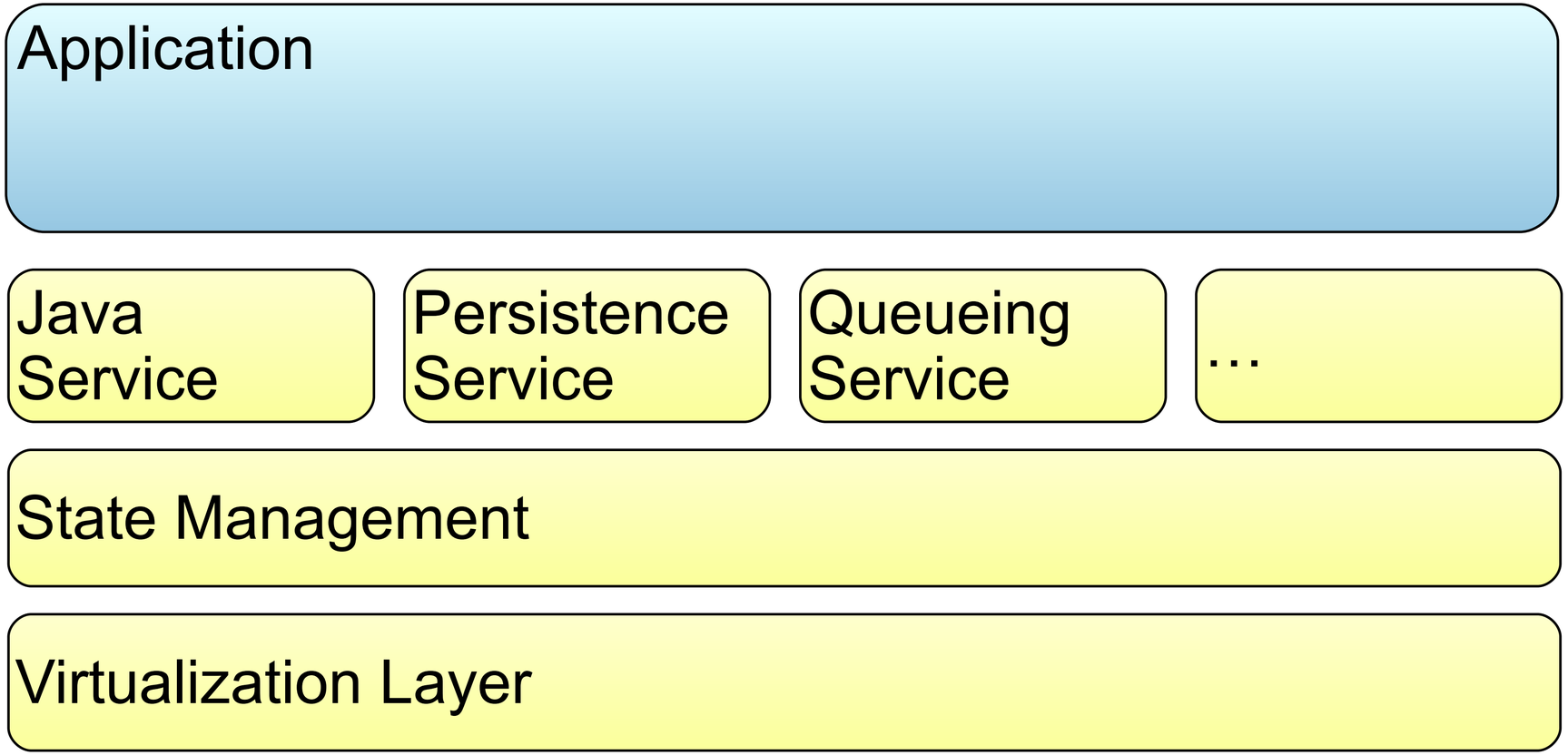
Java EE for the Cloud

- Tighter requirements for resource and state management
- Better isolation between applications
- Potential standard APIs for NRDBMS, caching, other
- Common management and monitoring interfaces
- Evolution, not revolution

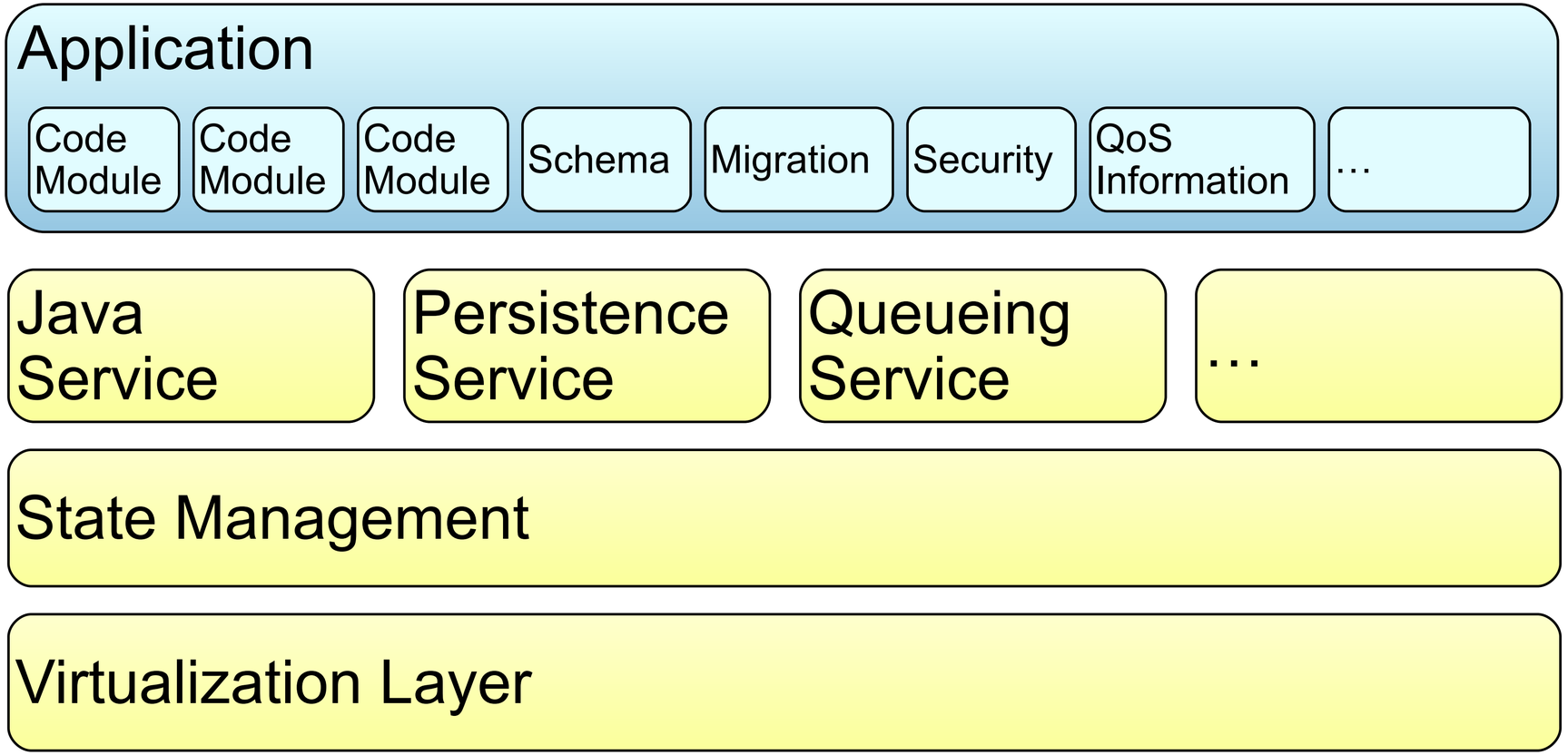
Better Packaging for the Cloud

- Apps are versioned
- Multiple versions can coexist
- Must deal with data versioning, upgrades, etc.
- Need ability to specify QoS properties
- Apps both expose and connect to services

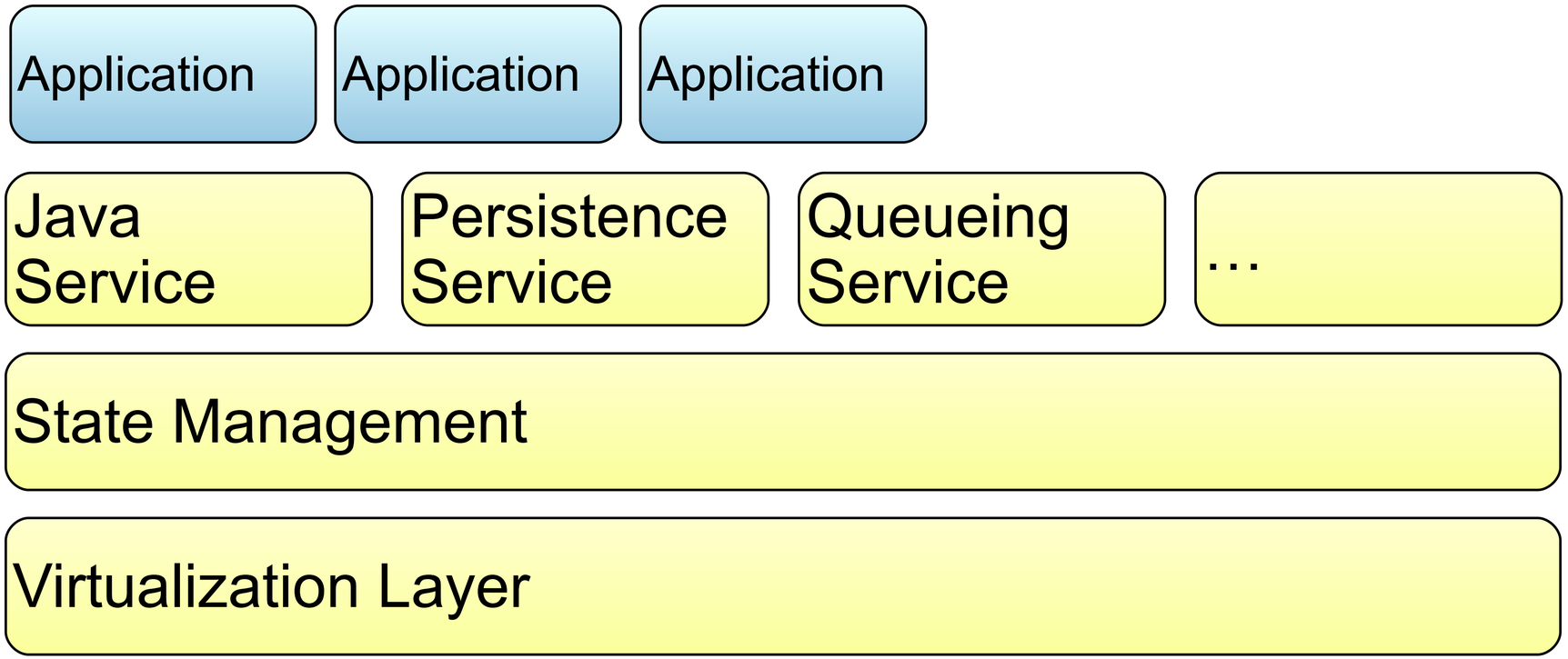
Cloud Platform



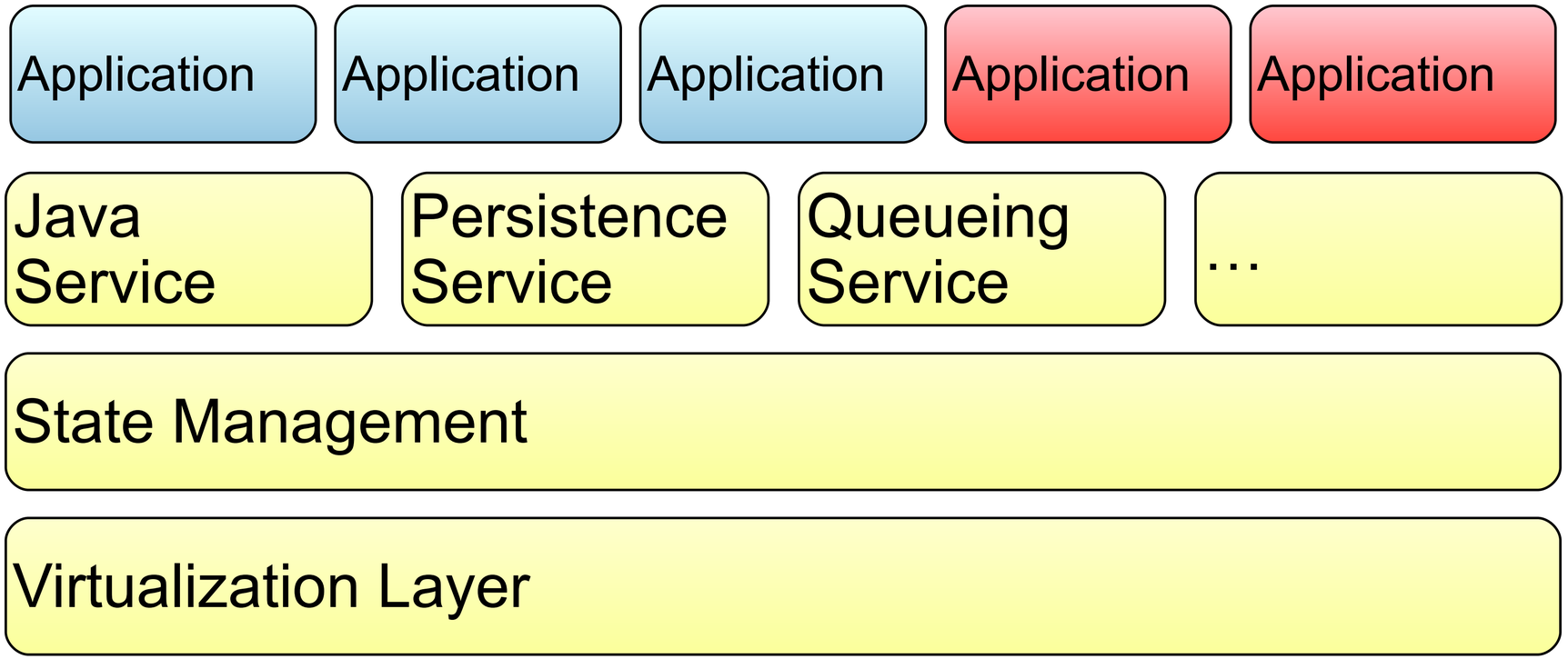
Cloud Platform



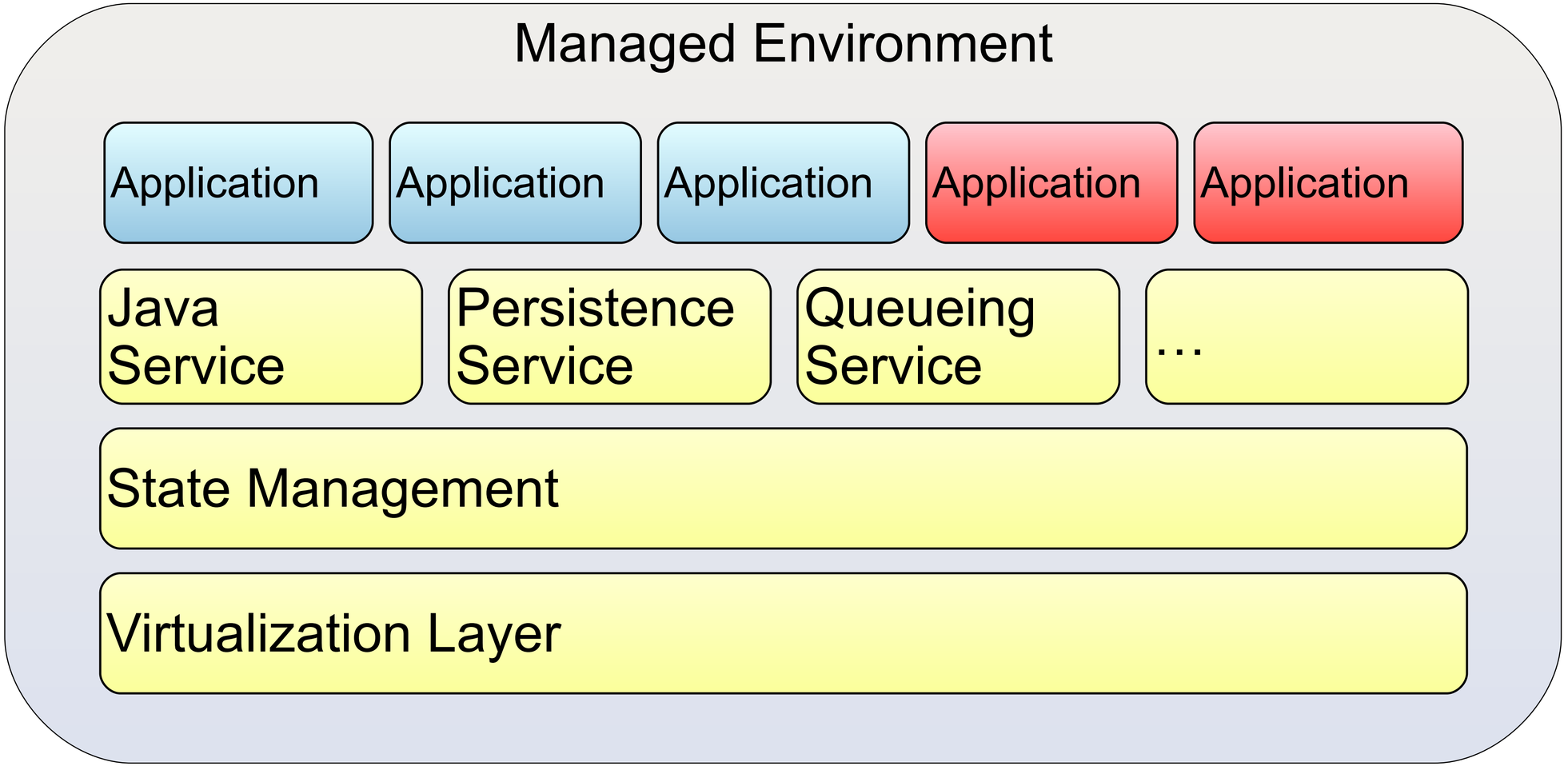
Cloud Platform



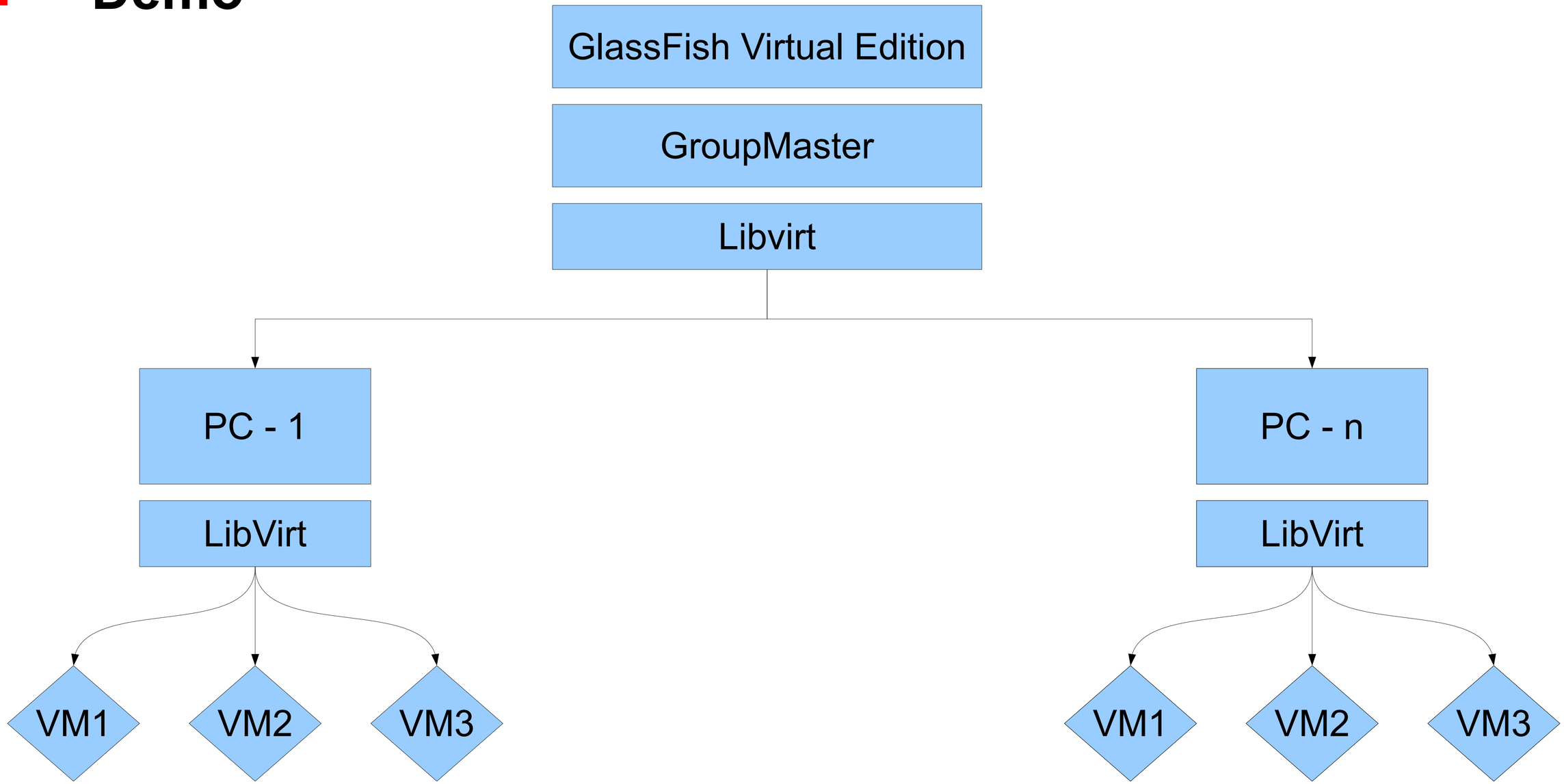
Cloud Platform



Cloud Platform



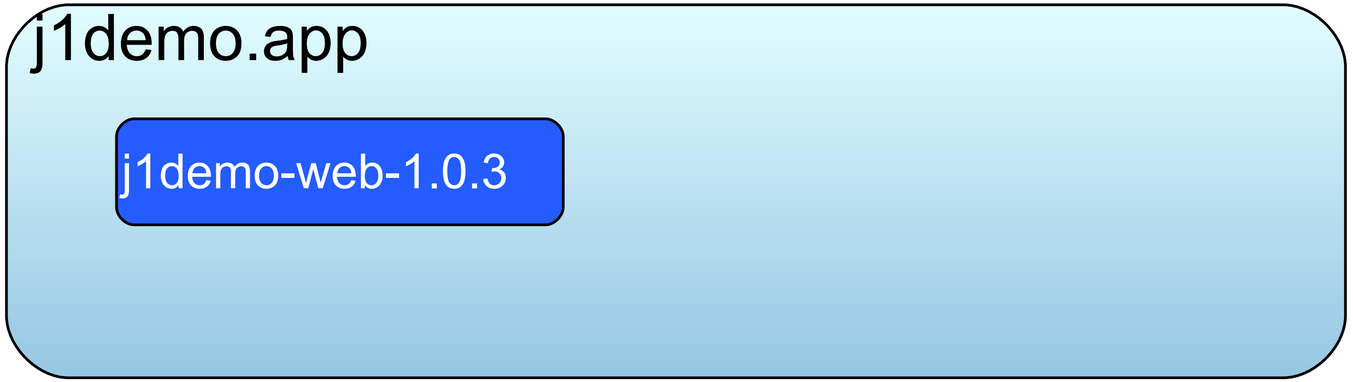
Demo


GlassFish Virtual Edition
GroupMaster
Libvirt
PC - 1
LibVirt
VM1
VM2
VM3
PC - n
LibVirt
VM1
VM2
VM3

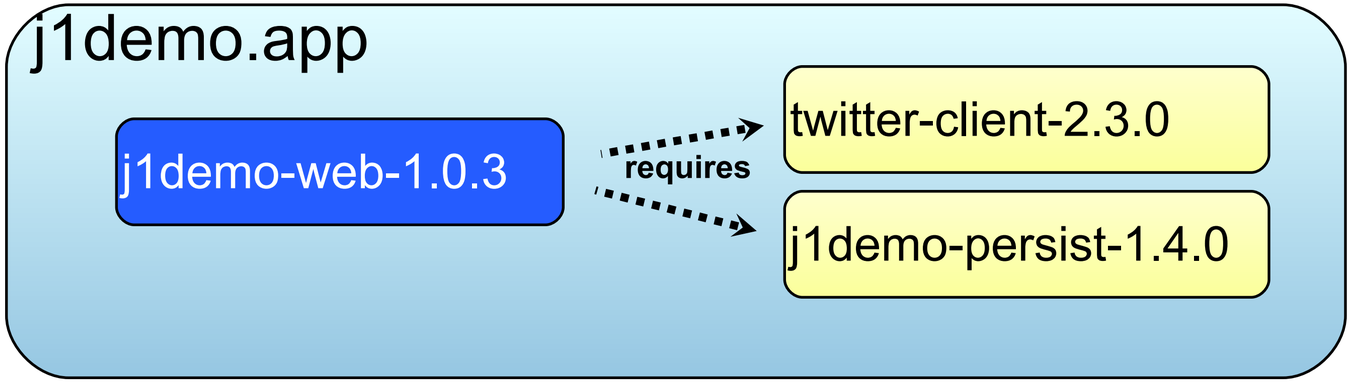
Modularity

- Build on Java SE 8 work
- Applications made of modules
- Dependencies are explicit
- Versioning is built-in
- Classloaders straightened out

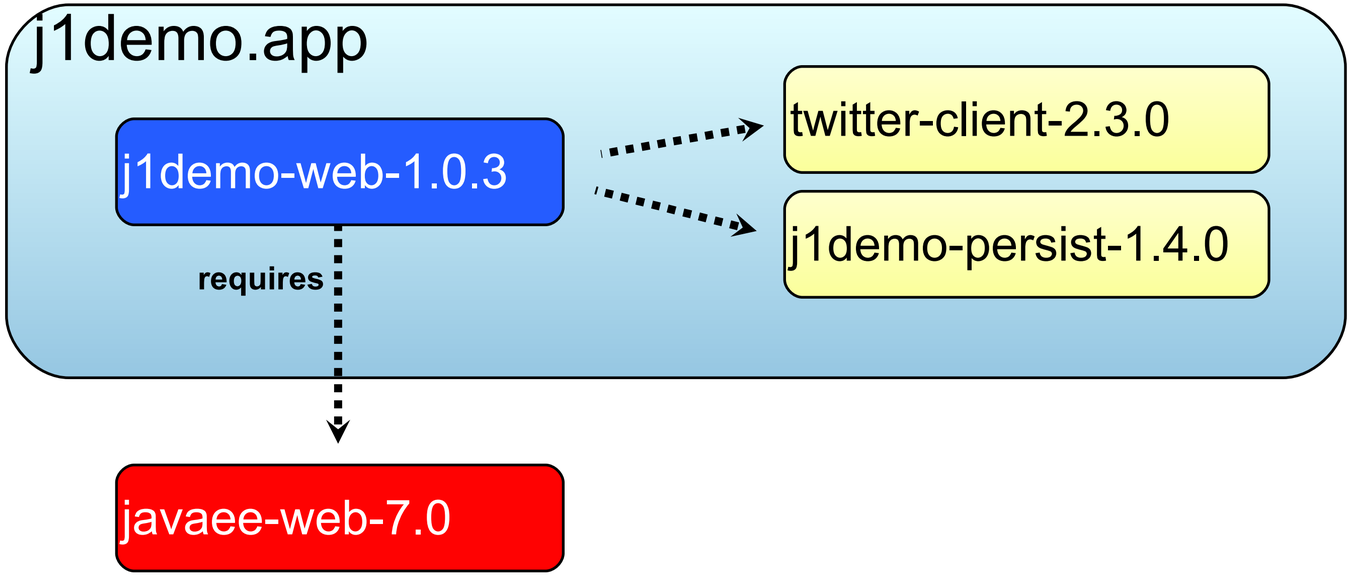
Modular Applications



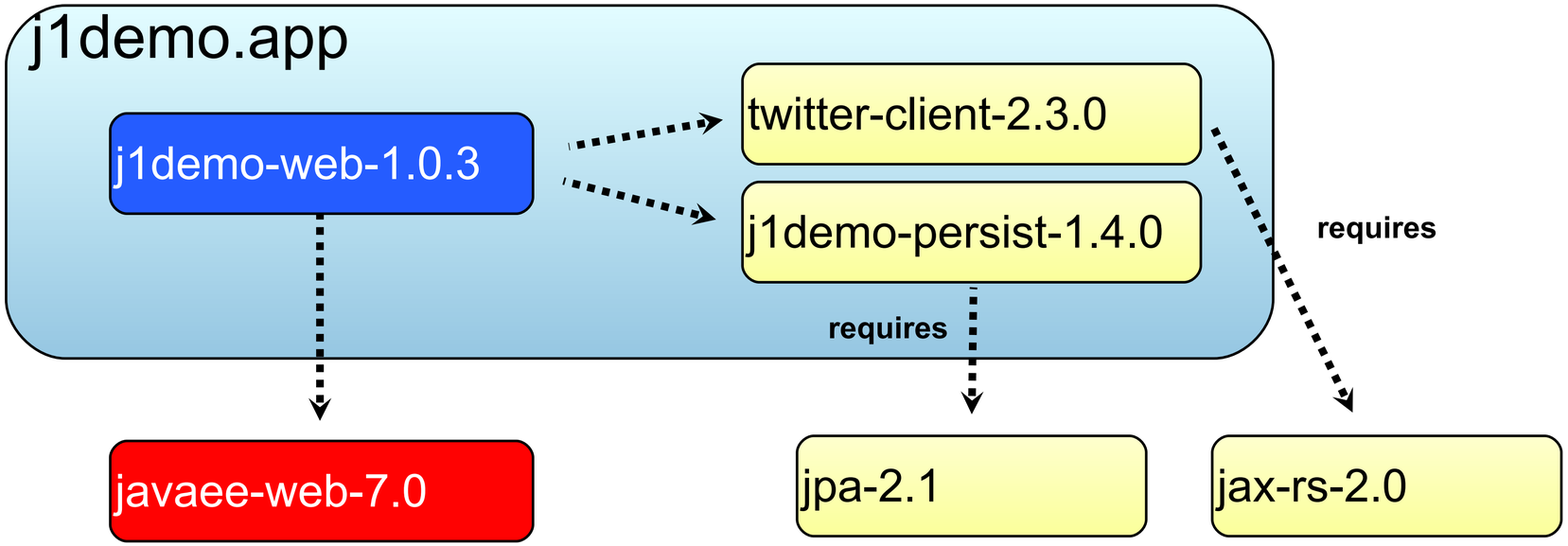
Modular Applications



Modular Applications



Modular Applications



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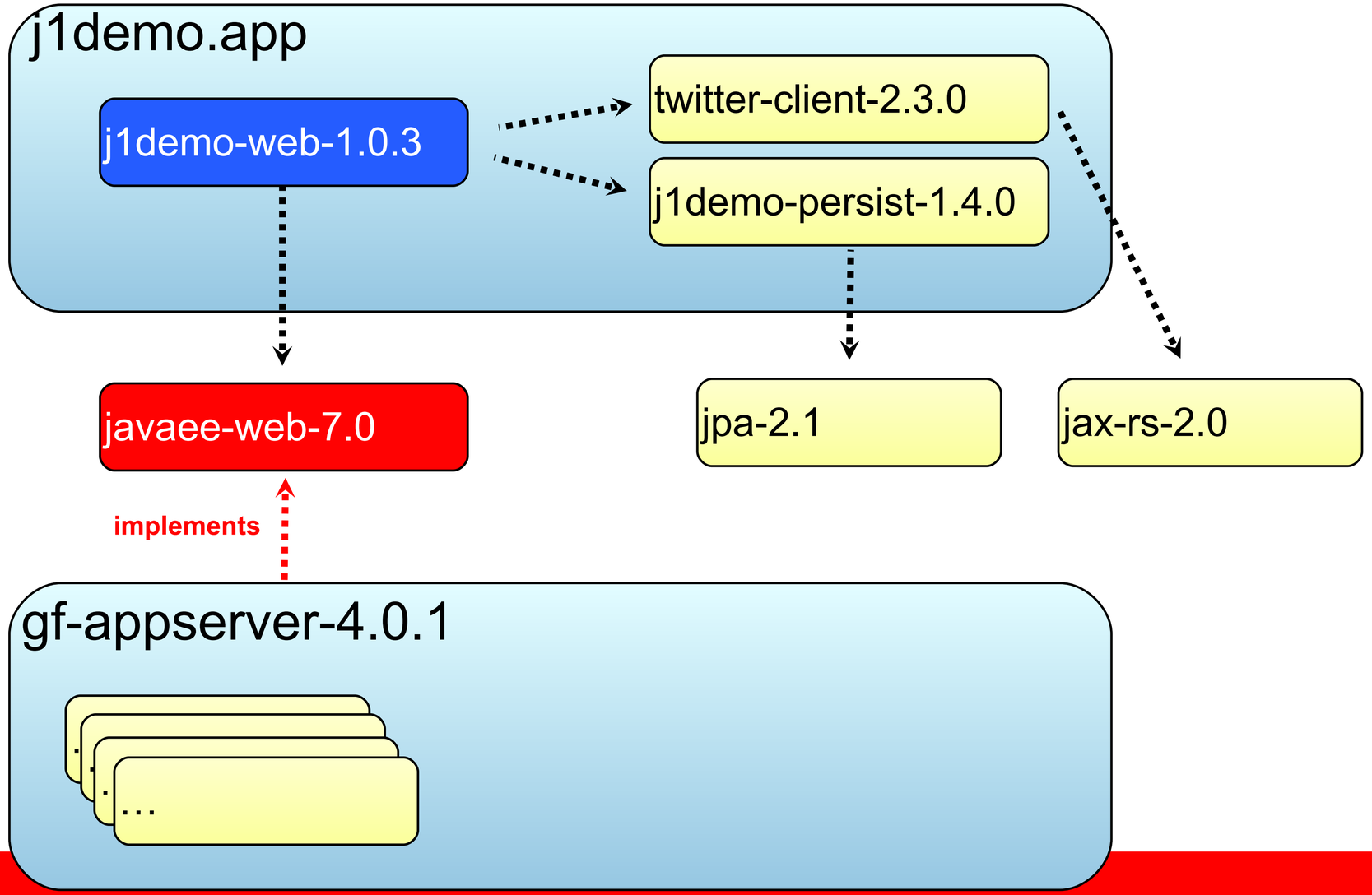

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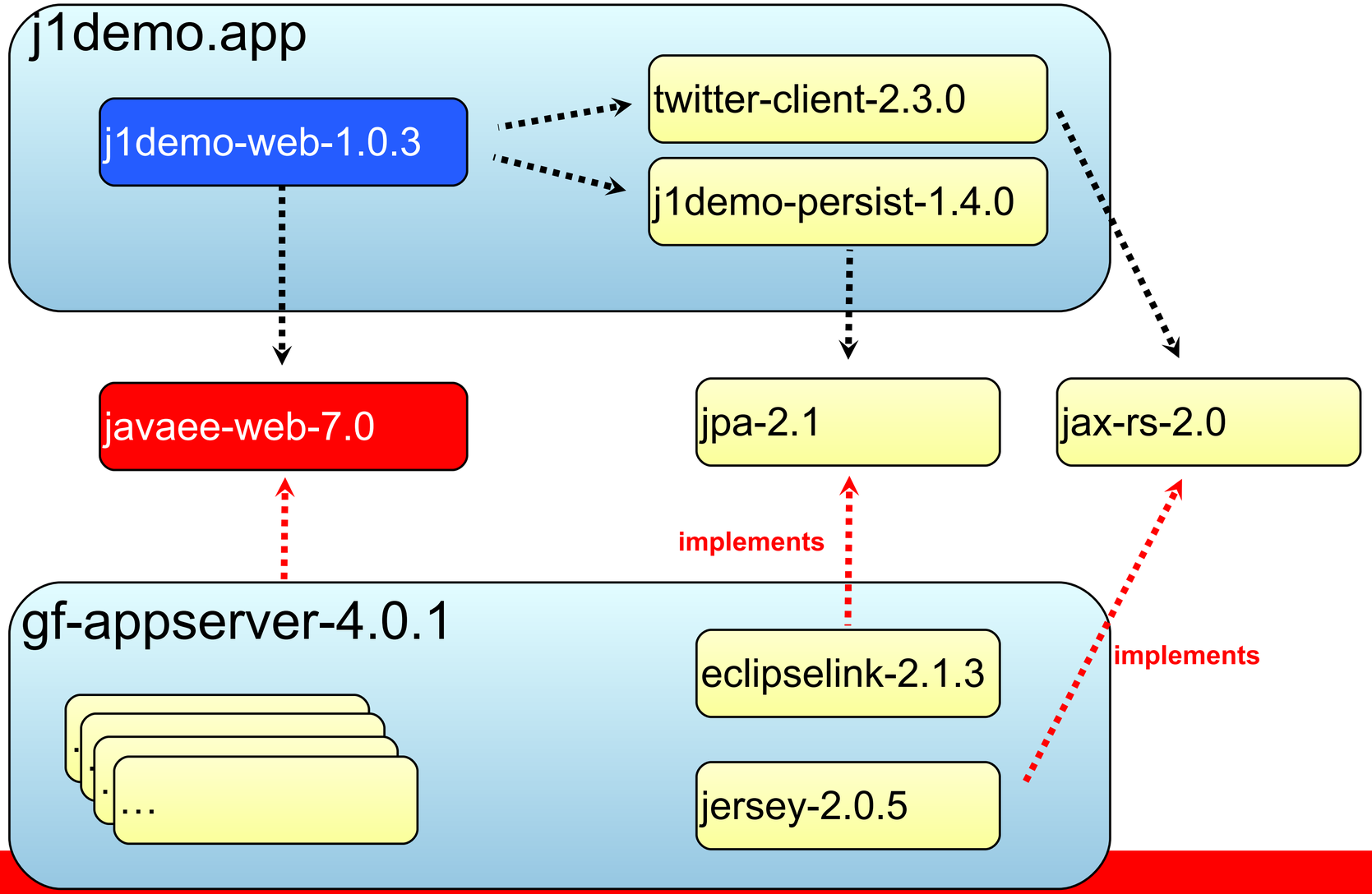
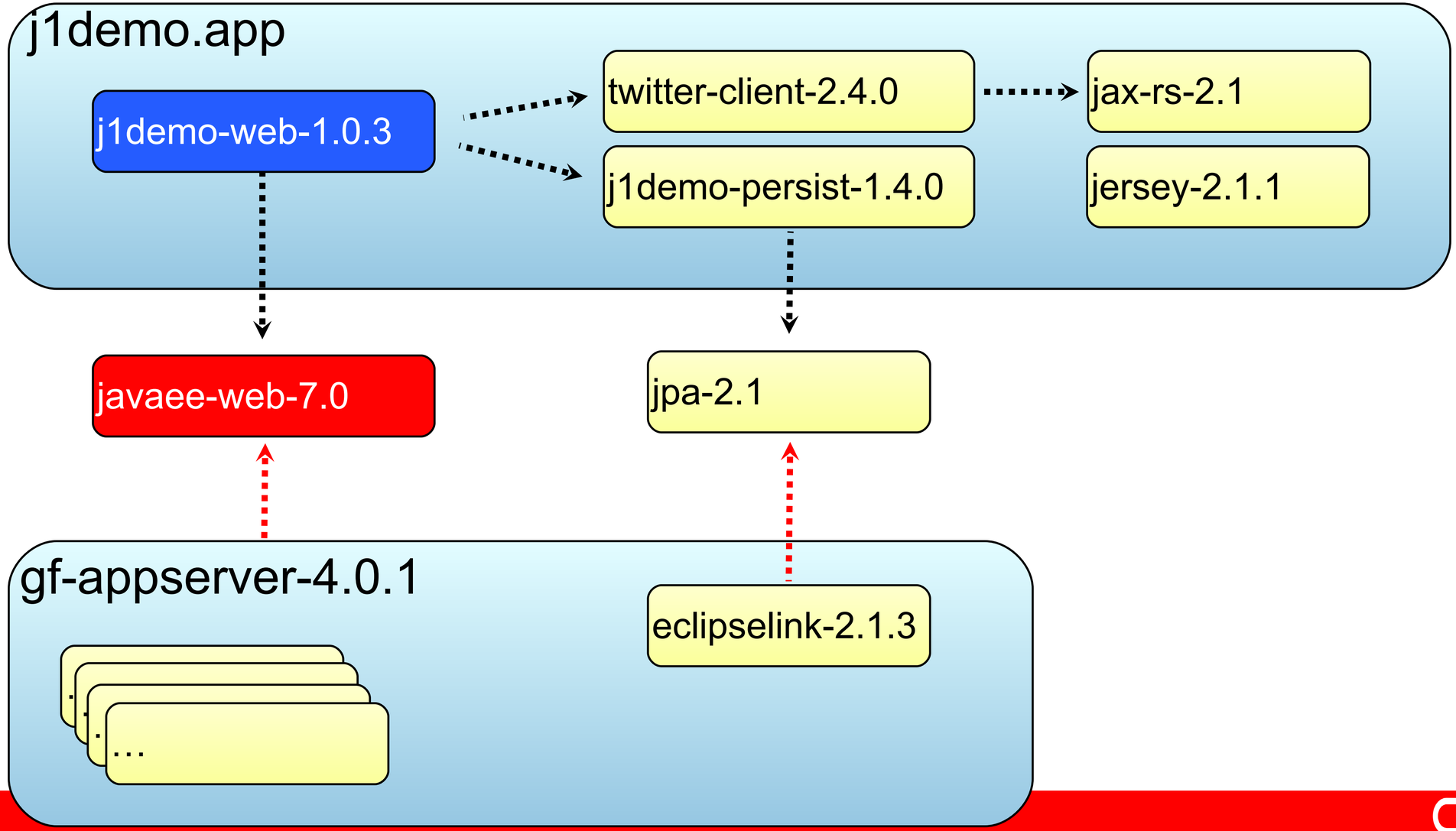


Modular Applications



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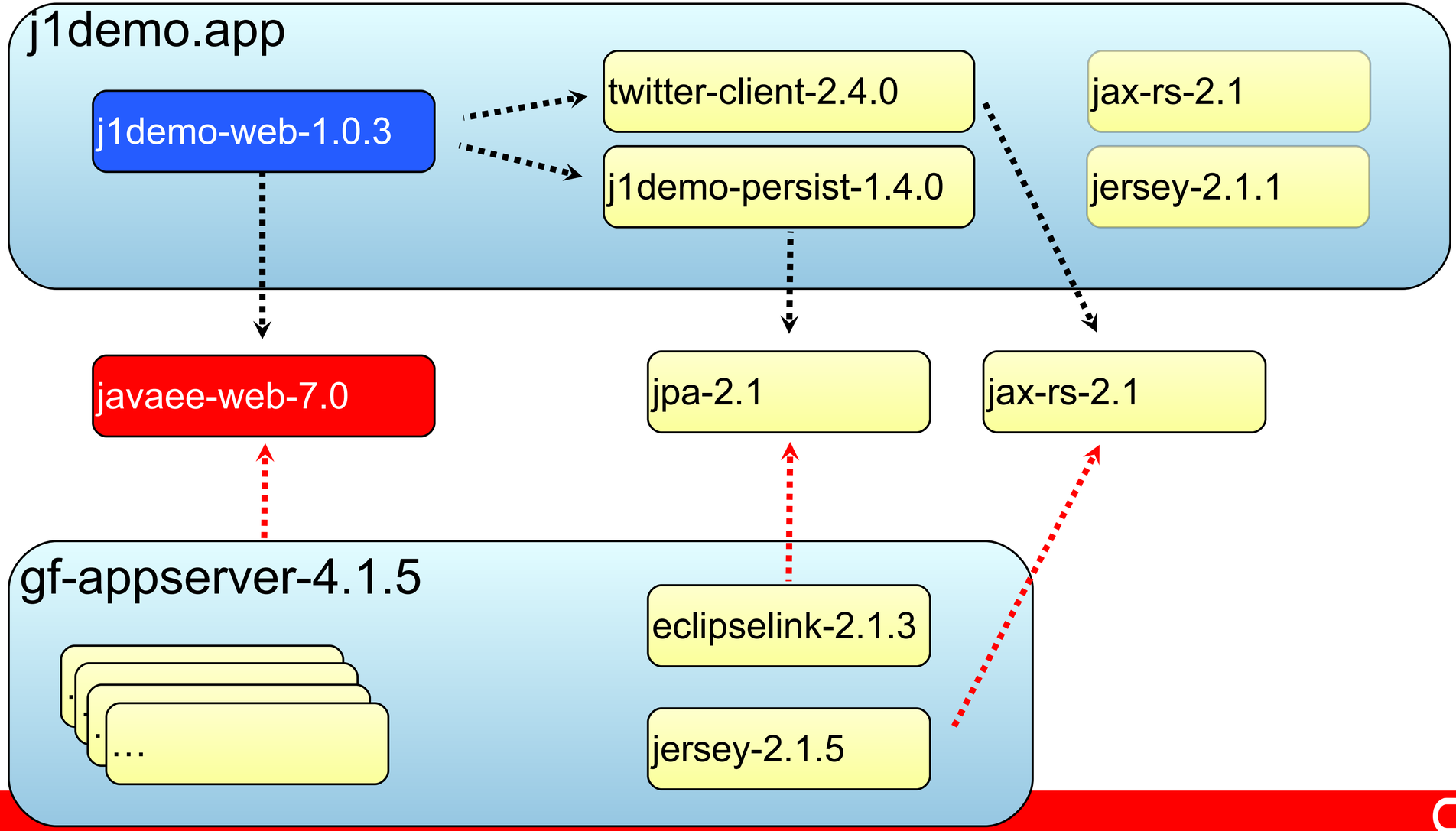

Web Tier

- Web socket support
- Standard JSON API
- HTML5 support
- NIO.2-based web container

Web Socket Sample (w/Grizzly WebSocket API)

```
public class ChatApplication
        extends WebSocketApplication<ChatWebSocket> {

  protected ChatWebSocket createWebSocket(Connection c,
                                          ServerWebSocketMeta m)
    { return new ChatWebSocket(c, m, this); }

  public void onMessage(ChatWebSocket s, DataFrame frame) {
    String msg = frame.getAsText();
    s.sendJson(s.getUser(), msg);
  }

  public void onClose(ChatWebSocket s)
    { s.sendJson("system", s.getUser() + " left the chat"); }
}
```

Async Web Sample (w/Atmosphere)

```
@Path("/{topic}")
@Produces("text/plain;charset=ISO-8859-1")
public class PubSub {
    private @PathParam("topic") Broadcaster topic;

    @GET @Suspend
    public Broadcastable subscribe() {
        return new Broadcastable("",topic); }

    @POST @Broadcast
    @Consumes(MediaType.APPLICATION_FORM_URLENCODED)
    public Broadcastable publish(
                    @FormParam("message") String message) {
         return new Broadcastable(message,topic);
    }
}
```

JAX-RS 2.0 Client API (w/Jersey)

```
WebResource r = Client.create().resource("http://example.com");
WebResource content = r.path("containers").path("quotes");
content.path("1")
       .type(MediaType.TEXT_PLAIN)
       .put("Something is rotten in the state of Denmark");

ClientResponse response = content.path("1")
                  .header("If-Modified-Since", lastModified)
                  .header("If-None-Match", etag)
                  .get(ClientResponse.class);

assertEquals(Response.Status.NOT_MODIFIED,
             response.getResponseStatus());
```

JSF 2.2

- HTML5 support
  - Semantic tags, browser feature detection
  - Use of HTML5 by components
  - Audio and video
- JSR-276 (tool support)
- Mobile renderkits
- Page resolver and application context manager API
- Performance

JMS 2.0

- Much needed update!
- Ease of development makeover
- Better integration with application servers
- Standardize some common vendor extensions

JPA 2.1 Candidate Features

- Converters / custom types
- “Fetch” plans / profiles
- Additional mapping metadata
- User-defined naming strategies
- More flexibility in use of generated values
- Immutable attributes; readonly entities
- More flexible XML descriptors
- Additional event listeners and callbacks
- Improved control of persistence context synchronization
- Support for dynamic definition of persistence unit
- Extension of Metamodel API to ORM
- Methods for dirty detection
- Additional unwrap methods
- Support for stored procedures
- Additional built-in functions
- Database and vendor function invocation support
- Downcasting
- Outer joins with ON conditions
- Update and delete criteria queries
- Mapping between JPQL and criteria queries
- Improved result type mapping for native queries

Java EE 7 Platform Roadmap

- JAX-RS 2.0 and JPA 2.1 filed few months back
- Java EE 7, EJB 3.2 filed last week.
- Target completion in 2012

Java EE 6 Platform

Available Today

http://www.oracle.com/javaee