Introduction to J2EE

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Contents

- **Intro to J2EE**
  - What's J2EE
  - Why J2EE
- **J2EE Container & Component**
- **Critical Technologies of J2EE**
  - Presentation Layer
    - Java Servlet & JSP
  - Business Logic Layer
    - EJB

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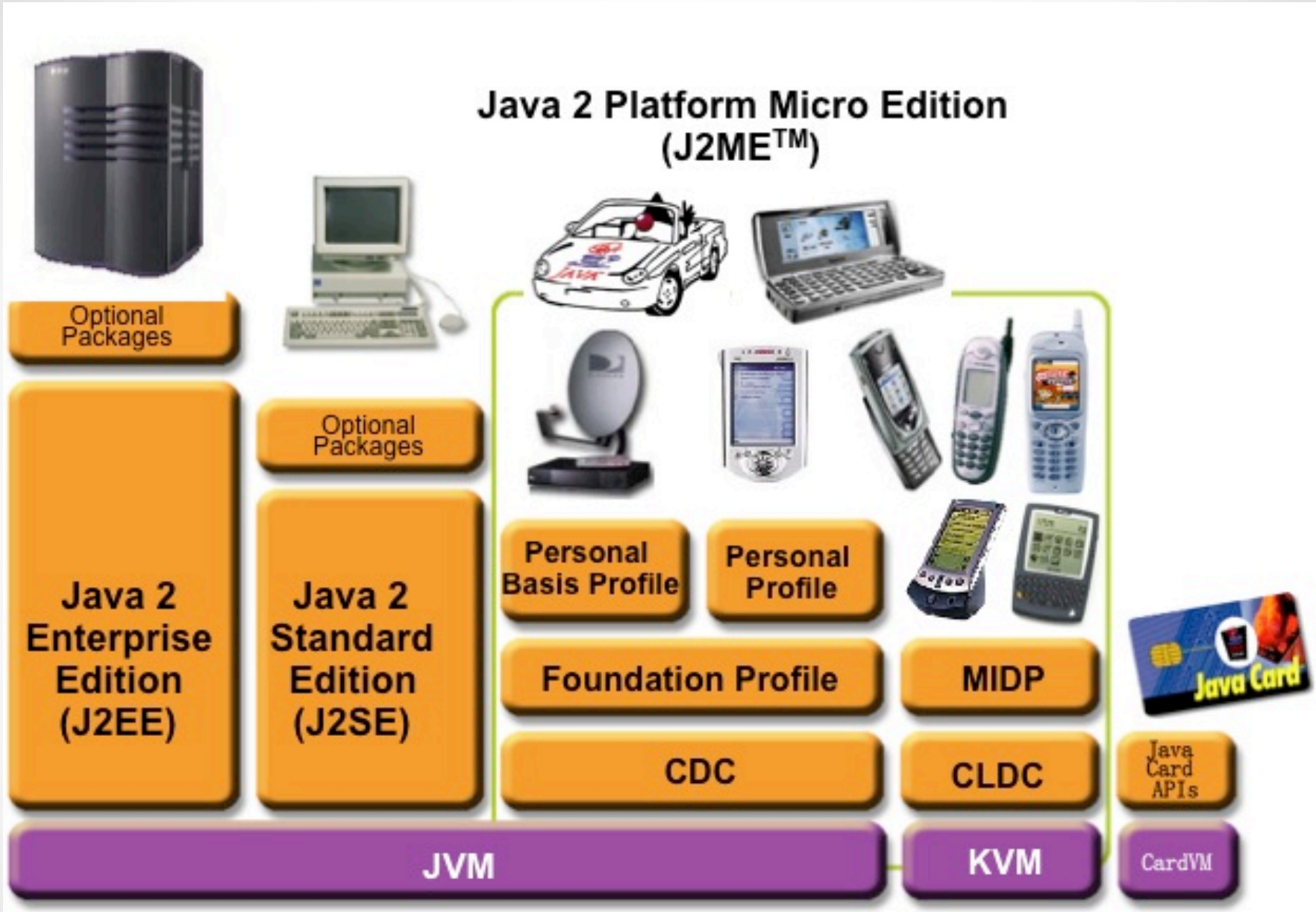
What's J2EE?

Java Platforms

- **J2SE:**
  - JAVA Standard Edition. It's normally **for developing desktop applications.**

- **J2EE:**
  - JAVA Enterprise Edition. It's built on top of the J2SE. It's normally **for developing large-scale, multi-tiered, scalable, reliable, and secure network application.**

- **J2ME:**
  - JAVA Micro Edition. It's normally **for developing applications on small devices**, like mobile phones.


Java 2 Platform Micro Edition
(J2ME™)
Optional Packages
Optional Packages
Java 2 Enterprise Edition (J2EE)
Java 2 Standard Edition (J2SE)
Personal Basis Profile
Personal Profile
Foundation Profile
MIDP
CDC
CLDC
Java Card APIs
JVM
KVM
CardVM
Java Card

Why J2EE?

Characteristics of Enterprise Application

- Large scale
- Multi tiered
- Scalable
- Secure
- Reliable
- ……..

J2EE APIs & Technologies

- J2SE
- JAX-RPC
- Web Service for J2EE
- J2EE Management
- J2EE Deployment
- JMX
- JMS
- JTA
- **Servlet**
- **JSP**
- **EJB**
- JAXR
- Connector
- JACC
- JAXP
- JavaMail
- JAF

Platform Value to Developers

- Can **use any J2EE implementation** for development and deployment
- Vast amount of J2EE **community resources**
- Can **use off-the shelf** 3rd-party business components

Platform Value to Vendors

- Vendors **work together on specifications** and then compete in implementations
- **Freedom to innovate** while maintaining the portability of applications
- **Do not have to create/maintain their own proprietary APIs**

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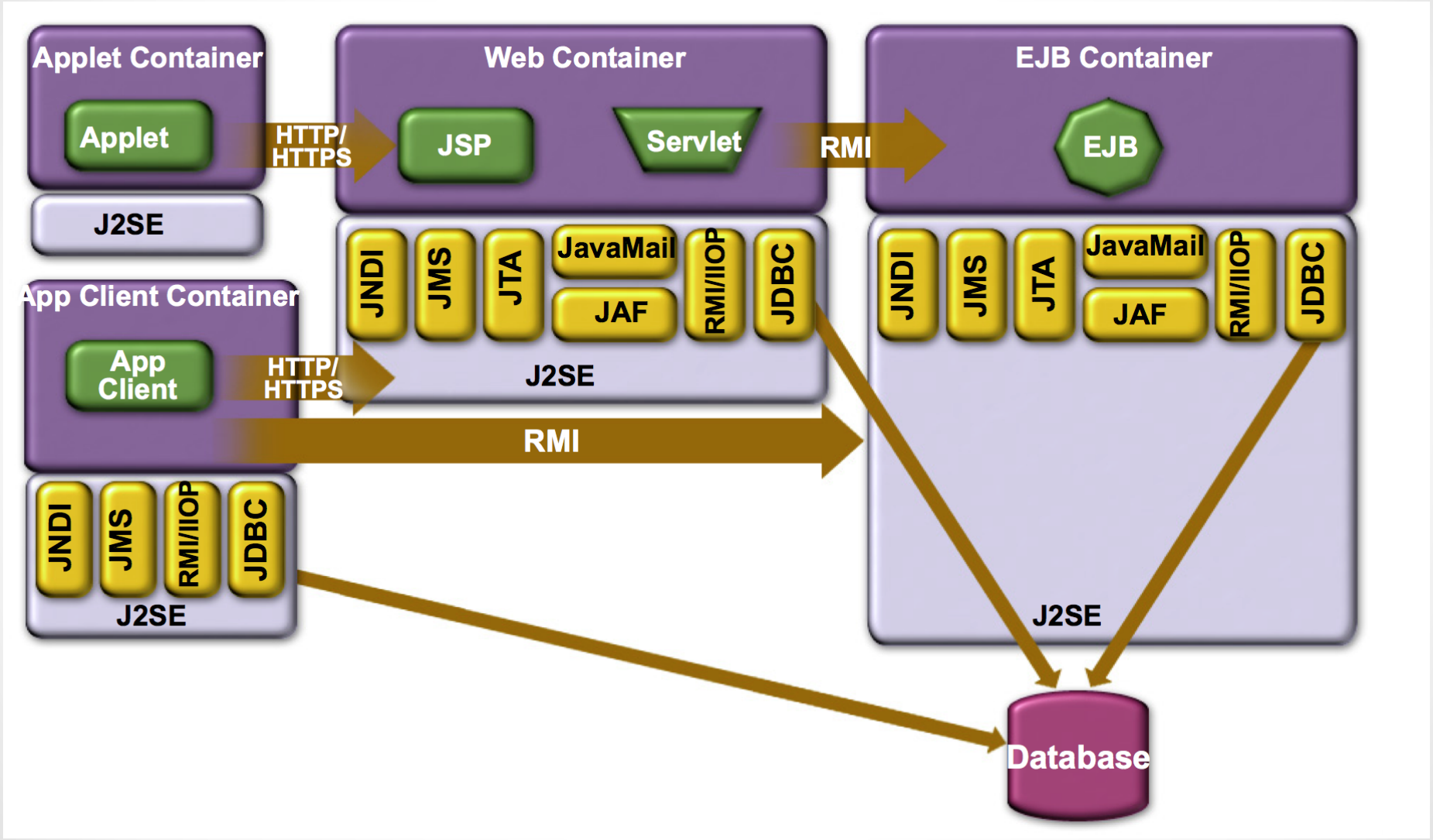
J2EE Container & Component


Applet Container
Applet
J2SE
HTTP/
HTTPS
Web Container
JSP
Servlet
RMI
EJB Container
EJB
JNDI
JMS
JTA
JavaMail
JAF
RMI/IIOP
JDBC
J2SE
App Client Container
App
Client
HTTP/
HTTPS
RMI
J2SE
Database

Container Handle

- Concurrency
- Security
- Availability
- Scalability
- Persistence
- Transaction
- Life-cycle mgt.
- Management

Component Handle

- **Presentation**
- **Business Logic**

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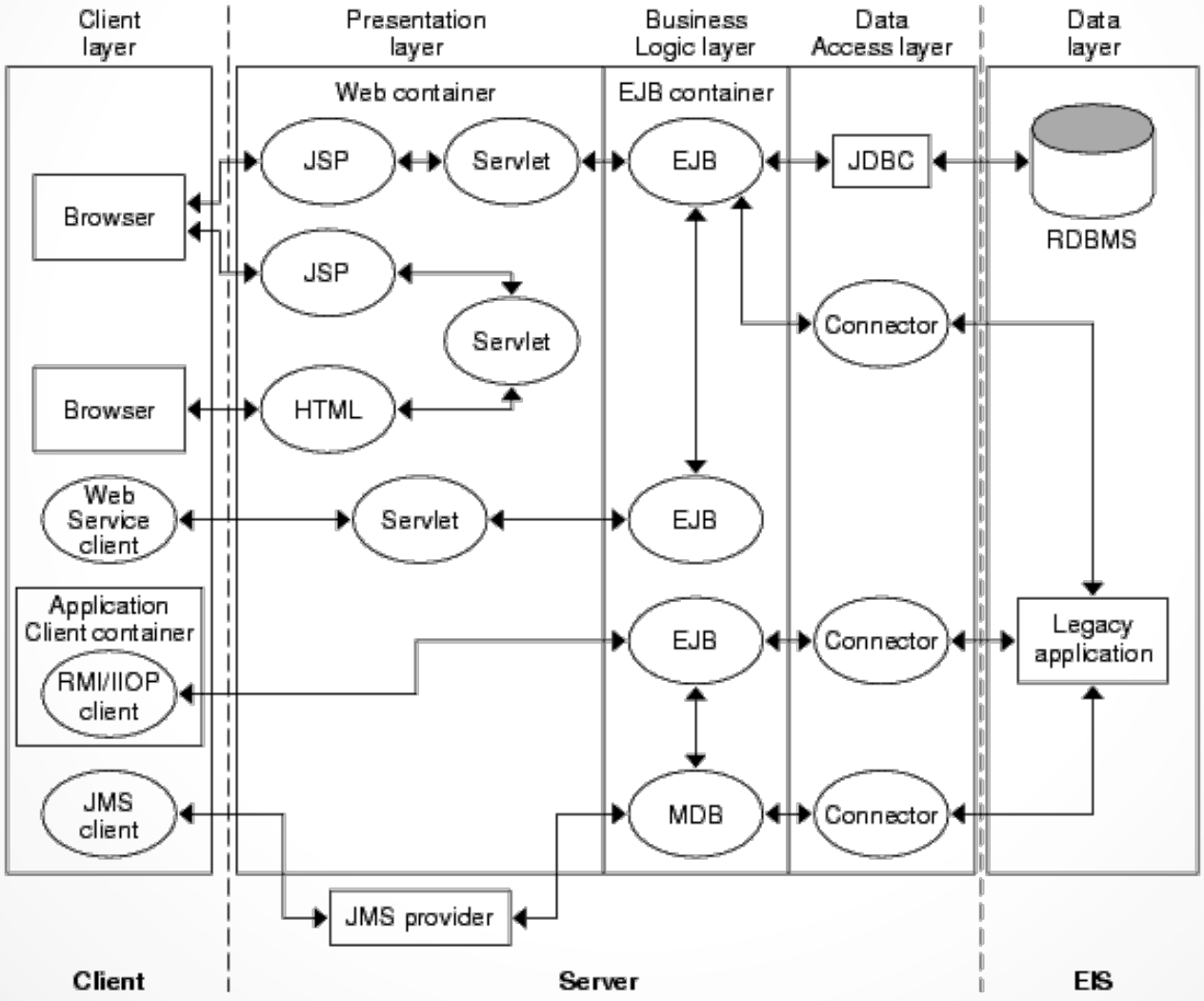
J2EE application layers



Presentation Layer

- Java Servlet
- JavaServer Pages (JSP)

Java Servlet

- Java objects which extend the functionality of HTTP server

1. Process or store data from submitted HTML form
2. Provide dynamic content
3. Maintain state information of a session

JSP

- Helps software developer to create dynamically generated web pages based on html or xml

1. separate presentation from business logic
2. can use JSP compiler to parse JSP into executable Java Servlet

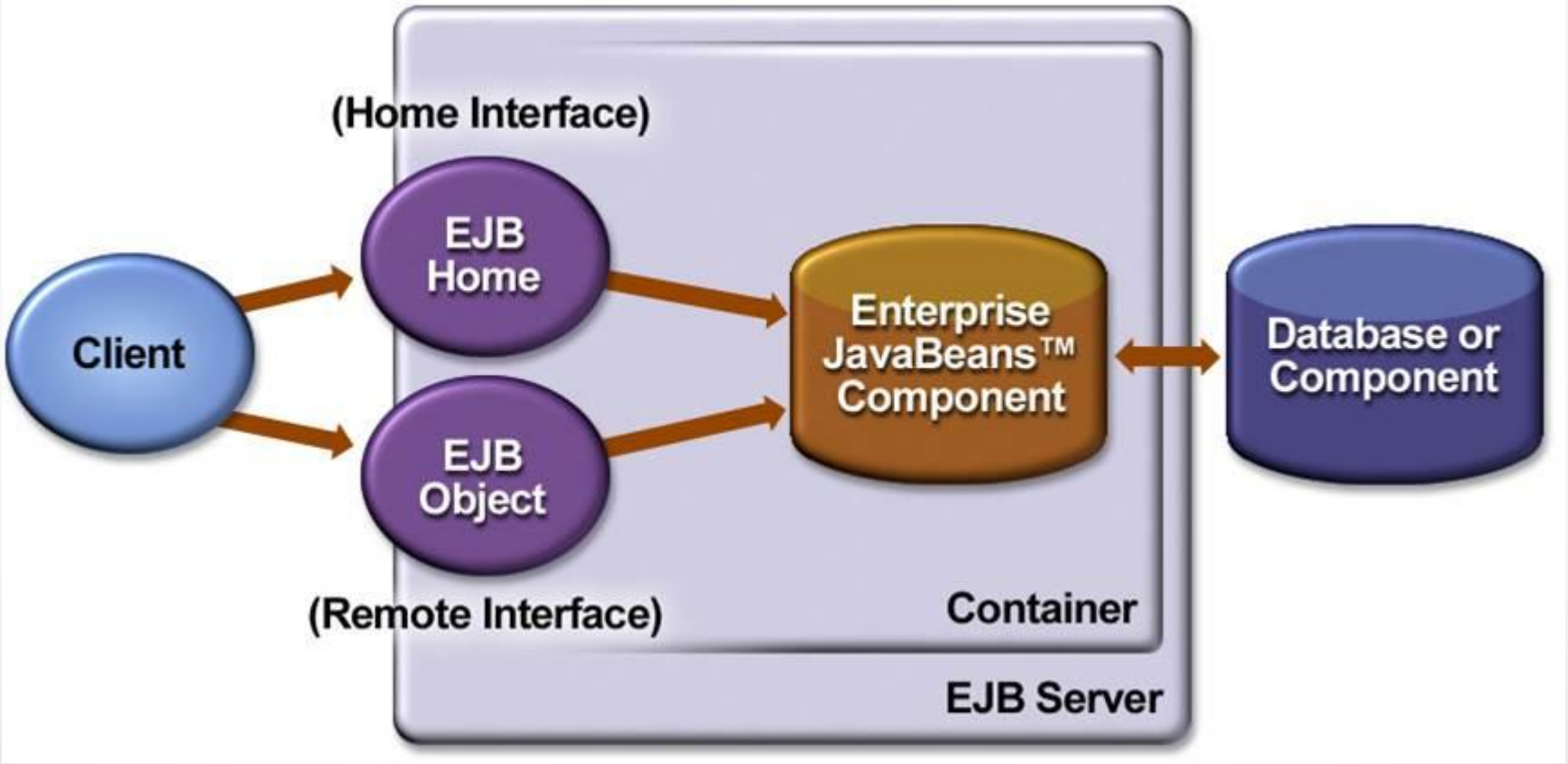
Business Logic Layer

- Enterprise Java Beans (EJB)

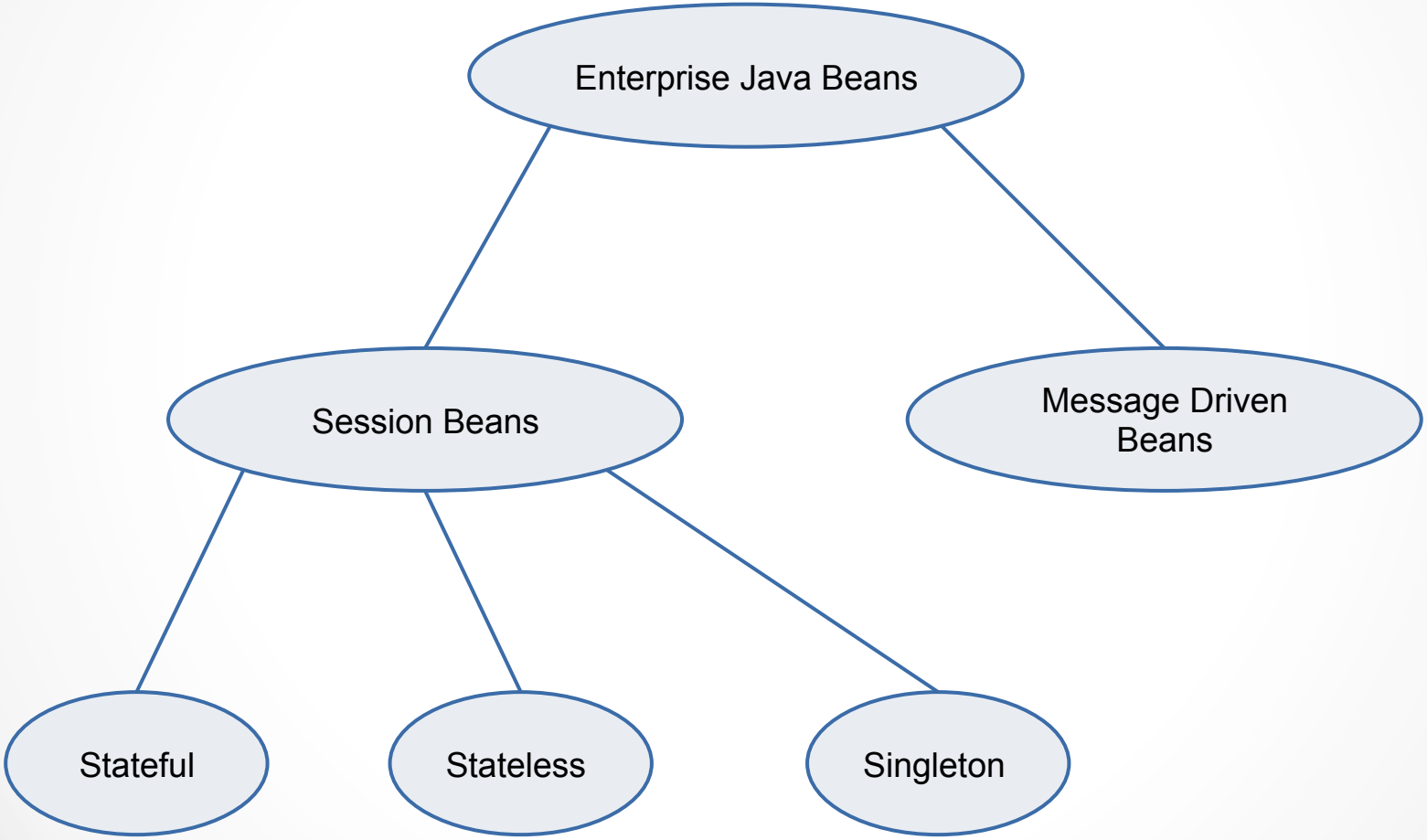
Enterprise Java Beans(EJB)

- A server side technology for modular construction of enterprise application
- provides a standard way to implement common concern in enterprise applications such as Transaction, Security, Persistence, Concurrency, Deployment ...

EJB Architecture



Types of EJB


Enterprise Java Beans
Session Beans
Message Driven Beans
Stateful
Stateless
Singleton

Thank You!