JCP EC meeting



Java at Fujitsu

2016.9.16 Kenji Kazumura Fujitsu Limited

Agenda



Interstage and History

Fujitsu Cloud and Java

About me



- Java VM developer
- Working for Fujitsu
 - Interstage Application Server
- JCP (Java Community Process)
 - JSR 204 Expert Group
- Author of On-line Java Learning Courses

https://directshop.fom.fujitsu.com/shop/commodity_param/ctc/el_middleit/shc/0/cmc/ASP03737 https://directshop.fom.fujitsu.com/shop/commodity_param/ctc/el_middleit/shc/0/cmc/ASP03738

Agenda



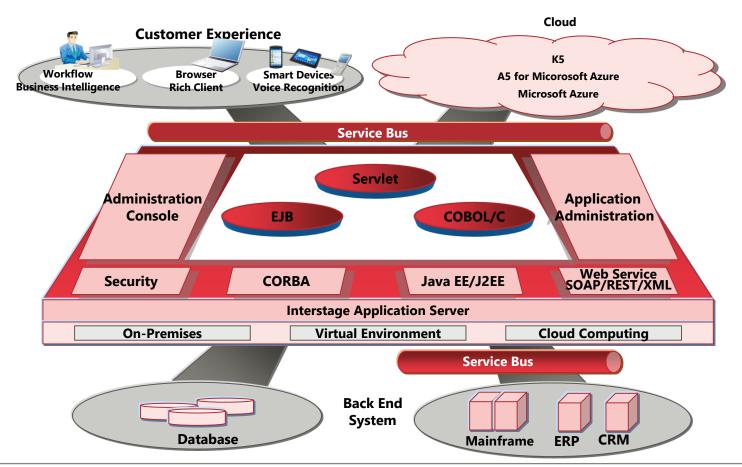
Interstage and History

Fujitsu Cloud and Java

Interstage Application Server Fujitsu

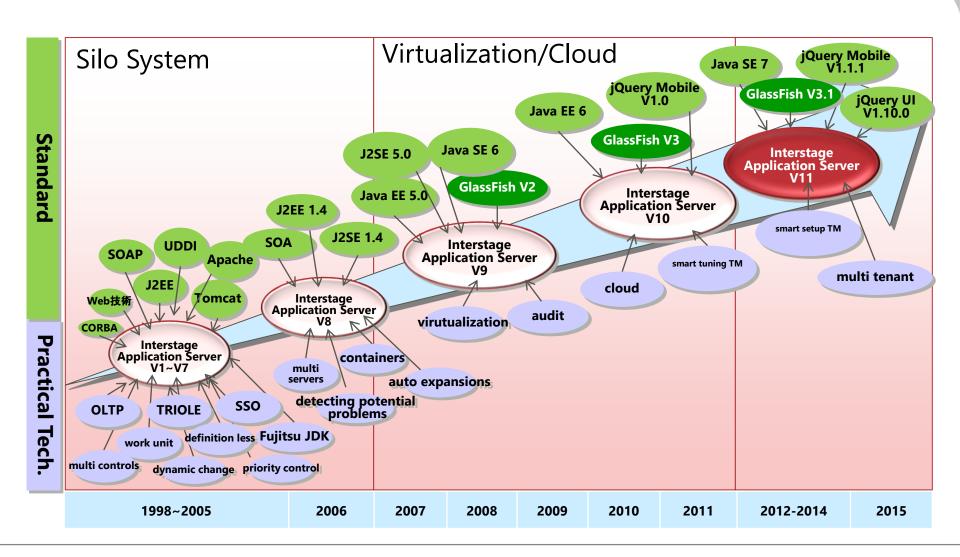


- Java EE certified application server
- GlassFish based
- J2EE and CORBA are also available



Interstage History





GlassFish



- GlassFish is RI for Java EE
- Fujitsu reports more than 100 issues for GlassFish, but ...

After RI released, the community is not so active.

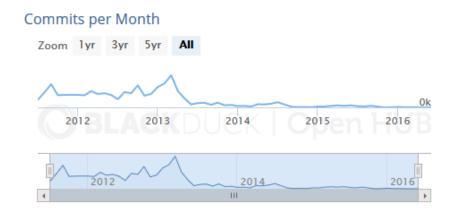
GlassFish activity



https://www.openhub.net/p/glassfish

Activity





Community





SPECjbb benchmark



Fujitsu achieved world-record several times.

SPECjbb2005

Date		bops
2006/2	PRIMEPOWER 2500	1,157,619
2013/7	M10-4S	35,912,688

SPECjbb2013/2015

Date		max-jOPS	critical-jOPS
2013/7	M10-4S/SPARC64X	83,909	50,562
2014/4	M10-4S/SPARC64X+	119,521	67,698
2016/2	M10-4S/SPARC64X+	450,467	278,958

http://www.finanznachrichten.de/nachrichten-2013-07/27476567-fujitsu-m10-achieves-world-record-performance-running-java-application-011.htm http://www.fujitsu.com/jp/products/computing/servers/unix/sparc/concept/performance/m10-4s-specjbb2013-4cpu/

http://jp.fujitsu.com/platform/server/sparc/concept/performance/m10-4s-specjbb2013-4cpu-2.html

http://www.fujitsu.com/jp/products/computing/servers/unix/sparc/concept/performance/m10-4s-specjbb2015/index.html

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Interstage and History

Fujitsu Cloud and Java

Fujitsu Cloud Services



	Customer	Data Center					
Implement Operation	Cloud Integration Service (Multi-Vender, Hybrid, Integrated Operation, Industry Specialization)						
SaaS		SaaS (approx. 100 types)					
	FUJITSU Software	Multi Cloud Service Management					
PaaS	Multi Cloud Service Management						
	Big Data Platform						
	Business Application Platform Interstage	Mobile Application Development Platform[MobileSUITE]	IoT Data Utilization Platform	O2O Service Integration Platf [Smart Biz Conn	orm Inte		
	Integrated Operation Management Systemwalker	Trationii[wobile3011L]		[Smart Biz Connec	iectj [iv	turiwyr rocess ₁	
	Cloud management software	Public Cloud Service					
laaS	FUJITSU Integrated System	K5					
	Dynamic Integrated Cloud [PRIMEFLEX for Cloud]	Private Hosted	Trusted Public S5	A5 for Microsoft Azure	NIFTY Cloud	HyConnect/ Open Public	
		Physical Dedicated Virtual Private	ical Dedicated Virtual Private Virtual Shared				
Data Center /Security	Data Center/ FUJITSU Security Solution						
Network	FUJITSU Managed Infrastructure Service FENICS / Cloud Network Connection Service						
Device	PC/ Tablet/ Smart phone						

K5 Services



Operation management platform

System of Record

System of Engagement

Specific business type/ Common service

Component/Service/Template for particular work and industry

Inventory/Order management etc.

Web-API management

Publication and management of Web-API

Common service

Business/operation management

ID/Charging/Authentication management, Backup, Log

Extensions functionality

RDB, message, mail, IDS/IPS, DNS, CDN

Development infrastructure

Business application development platform

Integrated management of processes, rule. & data

CF Service (Cloud Foundry)

Development and execution environment of Cloud Foundry

Workload management infrastructure

Workload Management platform

Design and construct system configuration and operation as a package

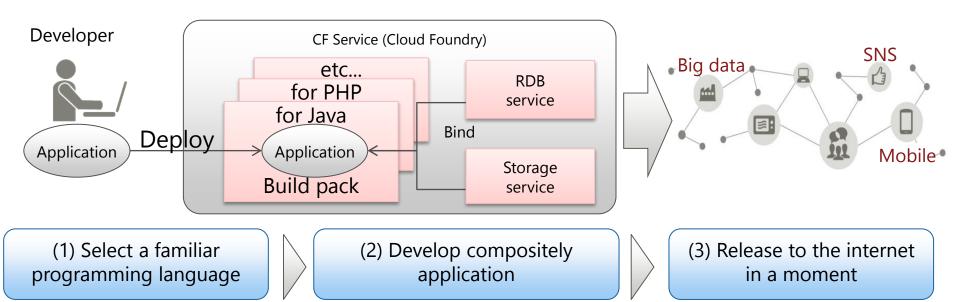
System resource (virtual / physical, shared / dedicated)

PaaS

CF Service



- Developer can choose his/her familiar programming language
 - The latest programming languages(Java, PHP, Node.js, Ruby, Python, Go)
- Develop compositely application with different services
 - Prepares service used frequently by applications (RDB, MQ, Storage, Back link etc.)
- Release developed application to the internet in a moment
 - Providing with the DNS, SSL and Load balancer configured



Fujitsu Java Buildpack



- Java Buildpack already exists
 - Based on Tomcat
 - Play and Spring also available
- Why we need GlassFish?
 - Standardized framework on which WebSocket, JAX-RS, JPA, etc is available
 - Enterprise system like this
 - Help migrating from on-premise to cloud

GlassFish Buildpack



Based on GlassFish 4.1 WebProfile

APIs

Servlet 3.1

JavaServer Pages(JSP) 2.3

Unified Expression Language(EL) 3

Debugging Support for Other Languages (JSR-45) 1

JavaServer Pages Standard Tag Library(JSTL) 1.2

JavaServer Faces(JSF) 2.2

Java API for RESTful Web Services(JAX-RS) 2

Java API for WebSocket(WebSocket) 1

Java API for JSON Processing(JSON-P) 1

Common Annotations for the Java Platform (JSR-250) 1.2

Enterprise JavaBeans(EJB) 3.2 Lite

Java Transaction API(JTA) 1.2

Java Persistence API(JPA) 2.1

Bean Validation 1.1

Managed Beans 1

Interceptors 1.2

Contexts and Dependency Injection for the Java EE Platform 1.1

Dependency Injection for Java

Logging



- Local storage should not be used on Cloud Foundry
- GlassFish supposes local storage
 - http access logs
 - logs of GlassFish itself

Change all output to standard out

Relational Database Service



- On-Premise
- Tightly coupled with JDBC
- Describe JDBC information at config file
- Cloud
- Should couple loosely with JDBC
- How do you do that ?

Usually get info from environment vars

Example 1



```
public class DBAccess extends HttpServlet {
  Connection getConnection() {
    String env = System.getenv("VCAP_SERVICES");
    if ( env != null ) {
     try {
      JsonReader reader = Json.createReader(new StringReader(env));
      JsonObject servicesObject = jsonReader.readObject();
      reader.close();
      JsonObject rdsObject = servicesObject.getJsonObject("fujitsurds");
      String uri = rdsObject.getString("uri");
      Connection connection = DriverManager.getConnection(uri);
      return connection;
    } catch ( Exception e ) {
      return null;
```

Example2



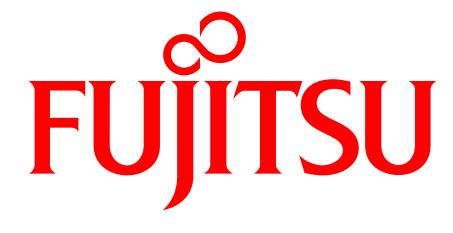
 Fujitsu Java Buildpack provides auto binding feature

```
public class DBAccess extends HttpServlet {
    @Resource (name = "jdbc/porstresqlService")
    private DataSource ds;
```

• • •

'postgresqlService' is the name of the service bound to your app i.e.

% cf bind-service myApp postgresqlService



shaping tomorrow with you



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