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

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

Silo System

Virtualization/Cloud

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

Activity

30 Day Summary

Jun 1 2016 — Jul 1 2016
0 Commits
0 Contributors

12 Month Summary

Jul 1 2015 — Jul 1 2016

165 Commits
Down -262 (61%) from previous 12 months

21 Contributors
Down -21 (50%) from previous 12 months

Community

Ratings

59 users rate this project:

4.4/5.0

Click to add your rating

Review this Project!

Most Recent Contributors

Lukas Jungmann
oleksiys
jnakata
romain_grecourt
java_re
aribandy

Contributors per Month

75
50
25
0

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Fujitsu achieved world-record several times.

**SPECjbb2005**

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<th>Date</th>
<th>Processor</th>
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<td>2013/7</td>
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**SPECjbb2013/2015**

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Agenda

- Interstage and History
- Fujitsu Cloud and Java
# Fujitsu Cloud Services

<table>
<thead>
<tr>
<th>Implement Operation</th>
<th>Customer</th>
<th>Data Center</th>
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</thead>
</table>
| **SaaS** | **FUJITSU Software** | **Cloud Integration Service**  
(Multi-Vender, Hybrid, Integrated Operation, Industry Specialization) |
| | | **SaaS (approx. 100 types)** |
| | **PaaS** | **Multi Cloud Service Management** |
| | **IaaS** | **Public Cloud Service**  
K5 |
| | **FUJITSU Integrated System** | **Data Center/ FUJITSU Security Solution** |
| | | **Network**  
FUJITSU Managed Infrastructure Service FENICS / Cloud Network Connection Service |
| | | **Device**  
PC/ Tablet/ Smart phone |
| *Physical Dedicated* | *Virtual Private* | *Virtual Shared* |

| **FUJITSU Software** | **Multi Cloud Service Management** | **Public Cloud Service**  
K5 |
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Multi Cloud Service Management</td>
<td>Mobile Application Development Platform[MobileSUITE]</td>
<td>Private Hosted</td>
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<tr>
<td>Big Data Platform</td>
<td>IoT Data Utilization Platform</td>
<td>Trusted Public S5</td>
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<td>Business Application Platform Interstage</td>
<td>O2O Service Integration Platform [Smart Biz Connect]</td>
<td>A5 for Microsoft Azure</td>
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<tr>
<td>Integrated Operation Management Systemwalker</td>
<td>Cloud Coordination/ Integration Service [RunMyProcess]</td>
<td>NIFTY Cloud</td>
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<tr>
<td>Cloud management software</td>
<td></td>
<td>HyConnect/ Open Public</td>
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</tbody>
</table>

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*FUJITSU Managed Infrastructure Service FENICS / Cloud Network Connection Service*

*PC/ Tablet/ Smart phone*

*FUJITSU Security Solution*
K5 Services

System of Record

- Component/Service/Template for particular work and industry
- Inventory/Order management etc.

System of Engagement

- Web-API management
  - Publication and management of Web-API

- Business/operation management
  - ID/Charging/Authentication management, Backup, Log

- Extensions functionality
  - RDB, message, mail, IDS/IPS, DNS, CDN

- Business application development platform
  - Integrated management of processes, rule & data

- CF Service (Cloud Foundry)
  - Development and execution environment of Cloud Foundry

- Workload Management platform
  - Design and construct system configuration and operation as a package

System resource (virtual / physical, shared / dedicated)
**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

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1. Select a familiar programming language
2. Develop compositely application
3. Release to the internet in a moment
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
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;
            }
        }
    }
}
Fujitsu Java Buildpack provides auto binding feature

```java
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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