



JVO use of Globus Toolkit

Masahiro Tanaka
(NAOJ)



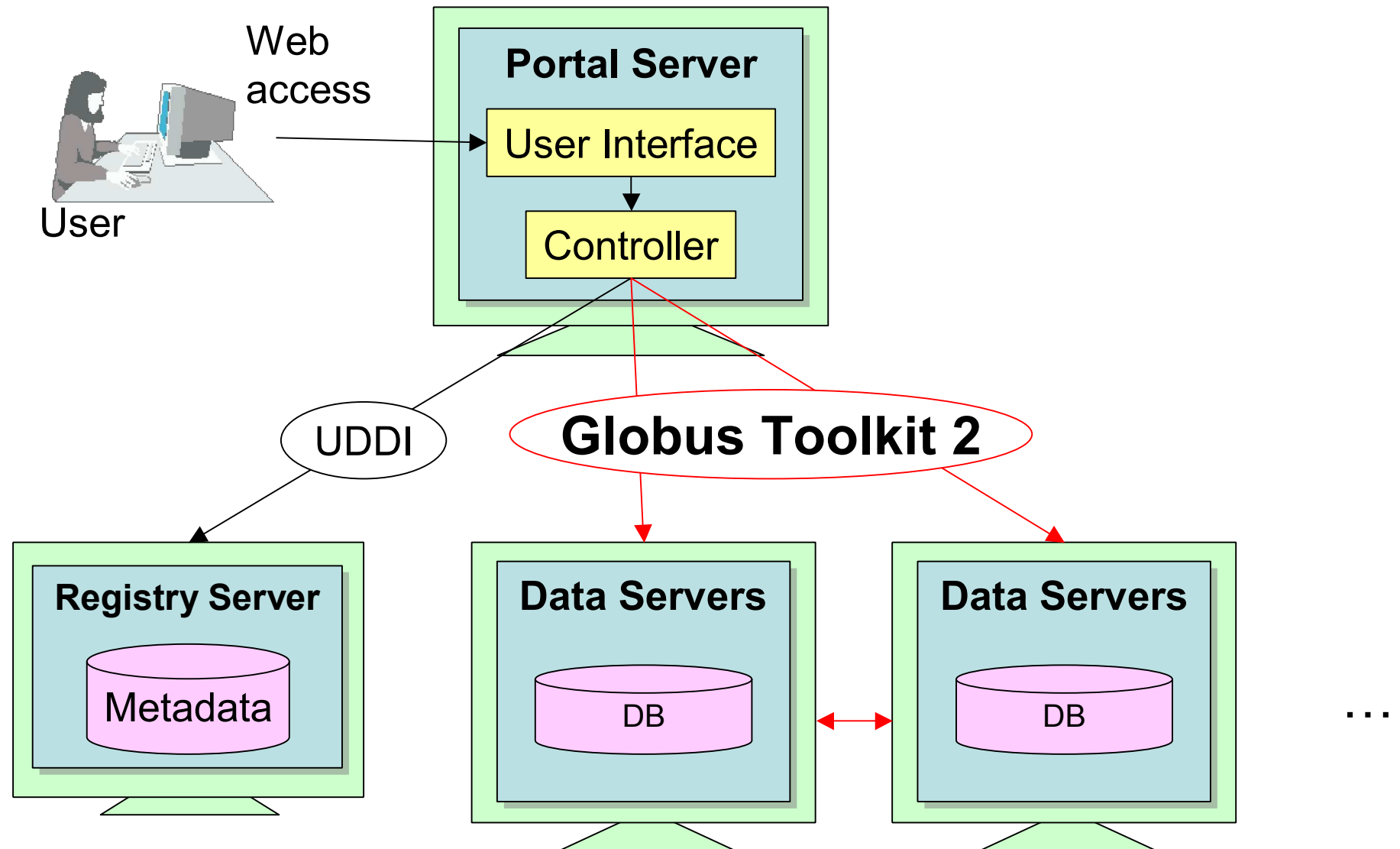
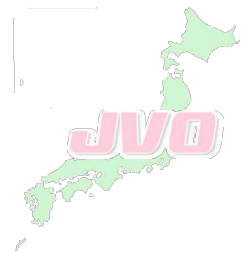
Development of JVO prototypes

- Prototype 1
 - Globus toolkit ver. 2

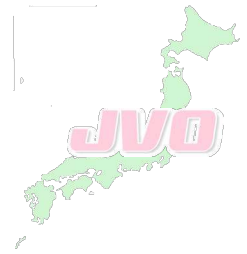
- Prototype 2
 - Globus toolkit ver. 3

- Prototype 3
 - Web Service

JVO Prototype 1



Use of Globus toolkit 2



- Remote Execution
 - **GRAM** (Globus Resource Allocation Manager)
 - “`globus-job-run`” command
- File Transfer
 - **GridFTP**

Problem in using Globus toolkit 2



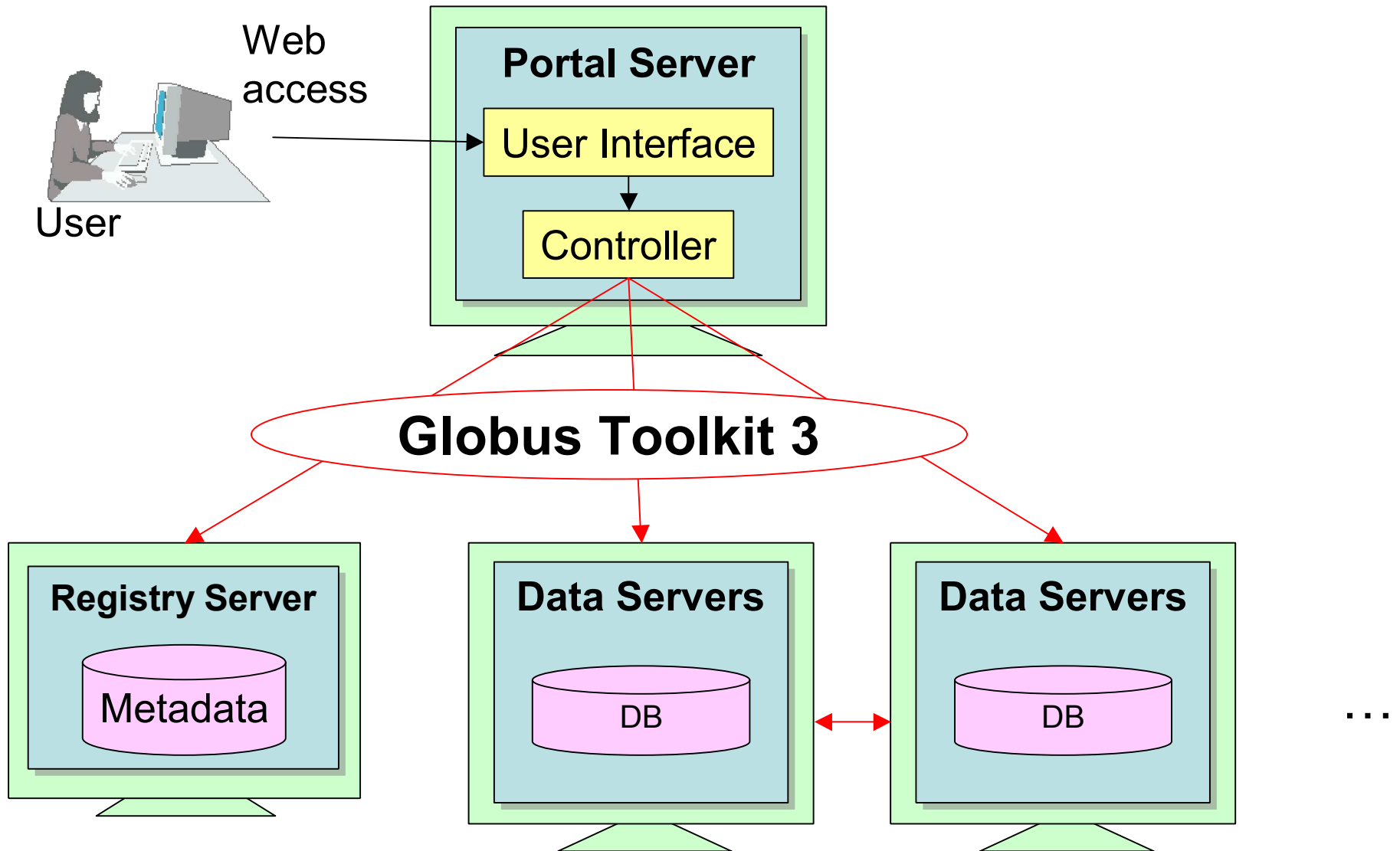
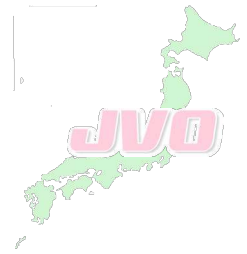
- Very slow
 - One query took > 10 min
- Why?: in GRAM:
 - *Polling interval* is hard-coded as **30** sec!
 - Reduced by modifying source codes.

```
--- globus_gram_job_manager_script.c.bak    Wed Feb  5 07:41:06 2003
+++ globus_gram_job_manager_script.c       Mon Apr 21 14:23:09 2003
@@ -374,7 +374,7 @@
     globus_gram_job_manager_request_log(request,
         "JMI: in globus_gram_job_manager_submit()¥n" );

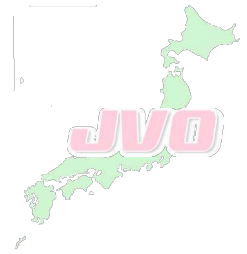
-   request->poll_frequency = 30;
+   request->poll_frequency = 3;

/*
 * create a file that will be used to pass all parameters to and
```

JVO Prototype 2

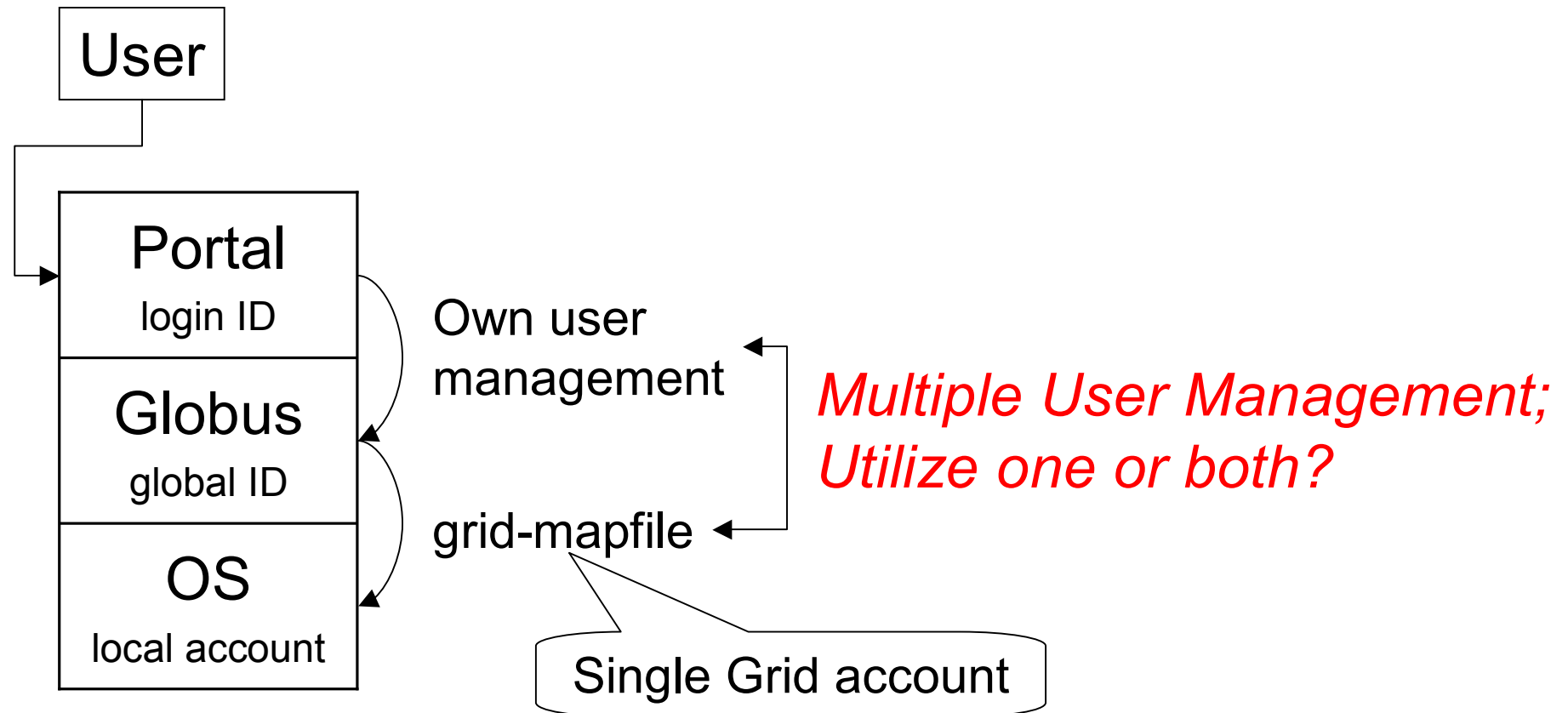
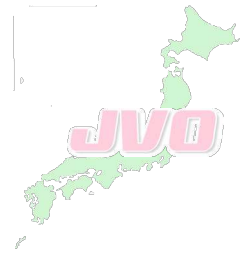


Use of Globus toolkit 3



- Remote Execution
 - **Grid Service**
 - Polling latency was eliminated.
→ Performance was improved.
- File Transfer
 - **RFT** (Reliable File Transfer)
 - Recoverable GridFTP

User Management

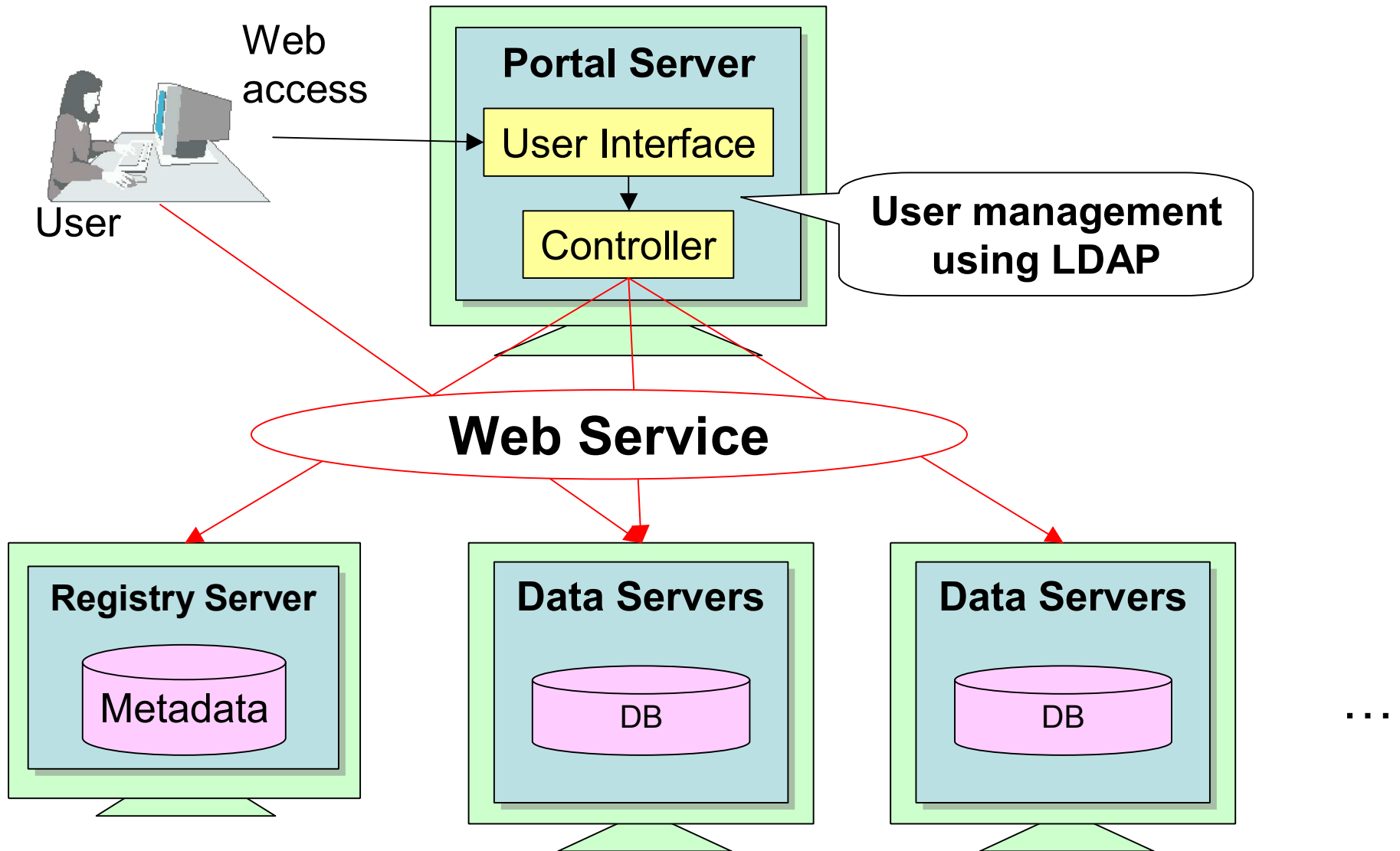
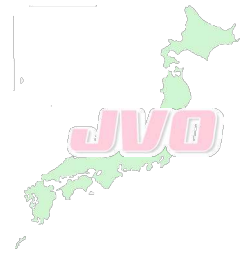


Still use Globus toolkit?

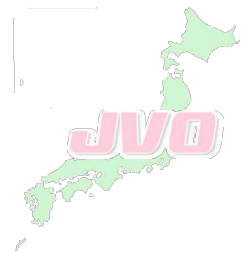


- Prototype 1&2 did not always make good use of Globus toolkit security features.
- Moreover, Globus toolkit was unstable.
 - Troubles in development
- Prototype 3 is based on Web Service.

JVO Prototype 3



Summary



- Globus security features did not always fit to JVO use.
- So the latest version of JVO employs Web Service.