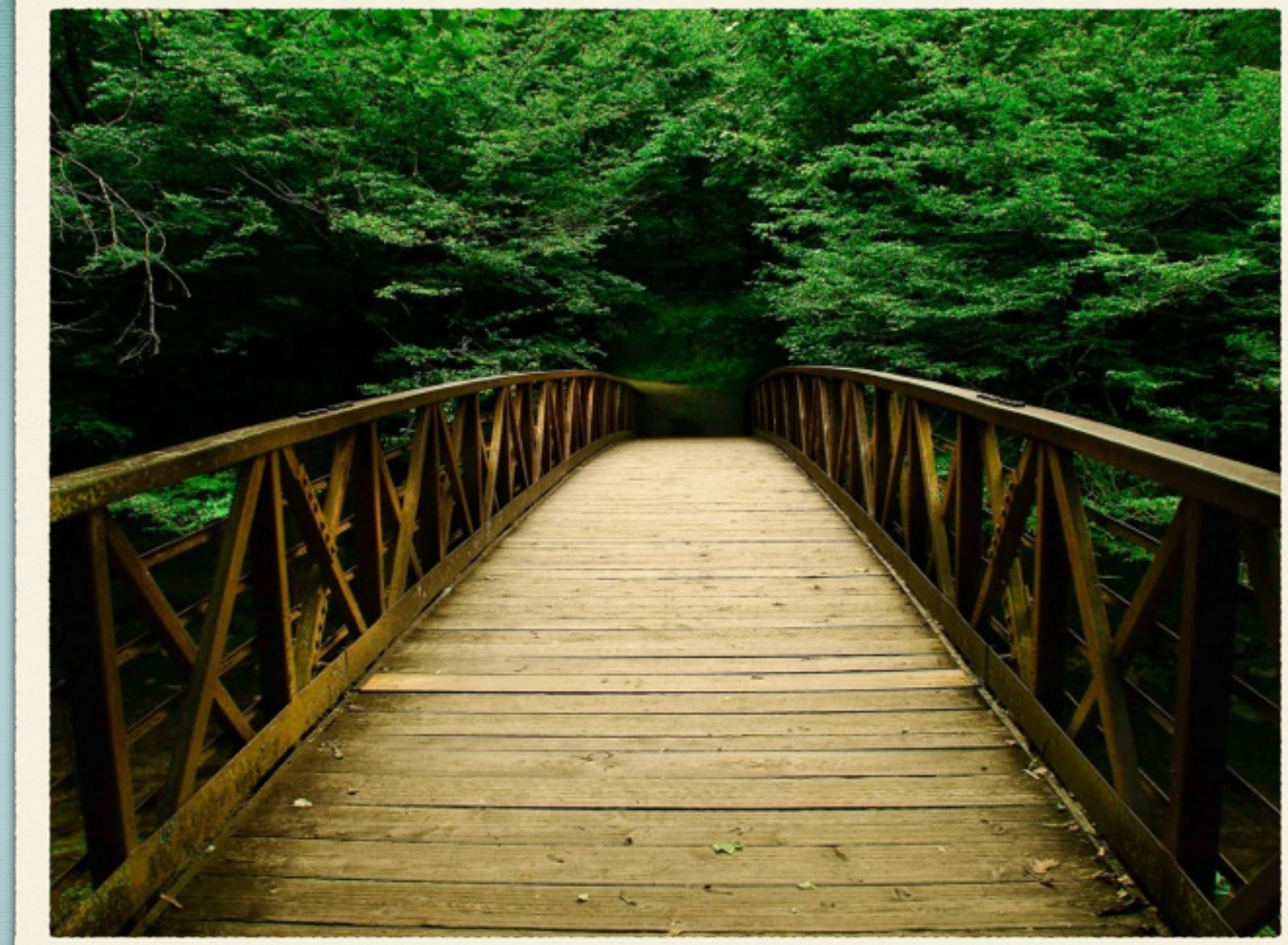

PHP/JAVA Bridge

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Outline

* What is PHP/Java bridge
* Advantages
* Working Schema
* How it works
* Installation guide
* Demo

What is PHP/Java Bridge

* It is a streaming, XML-based network protocol
* Connects a native script engine with a java virtual machine

Advantages

* It is up to 50 times faster than local RPC via SOAP
* Requires less resources on the web server side
* It is faster and more reliable than direct communication via JAVA Native Interface
* Does not require any additional components to invoke Java procedures from PHP

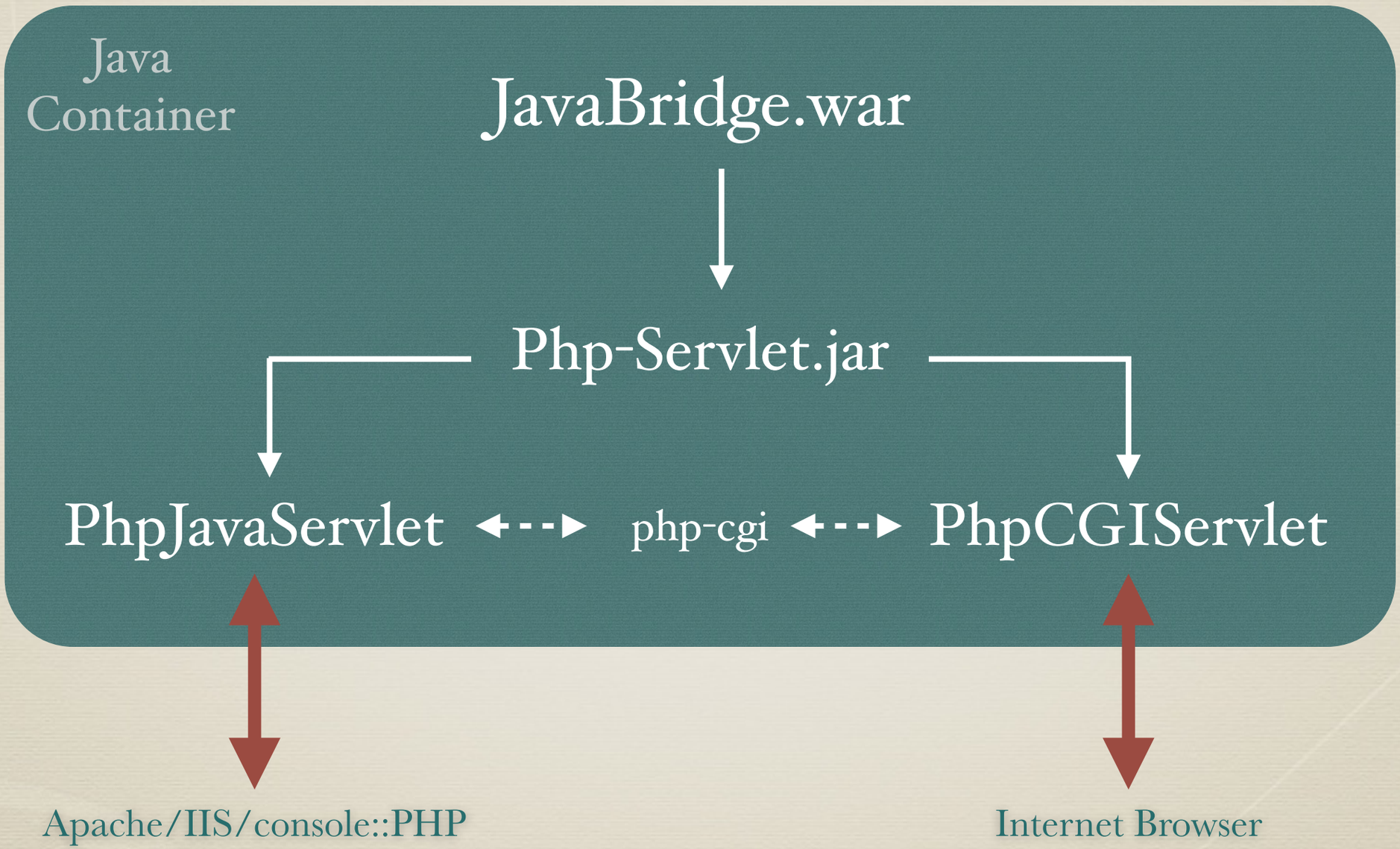
Working Schema

Procedure invocation using
"continuation passing"

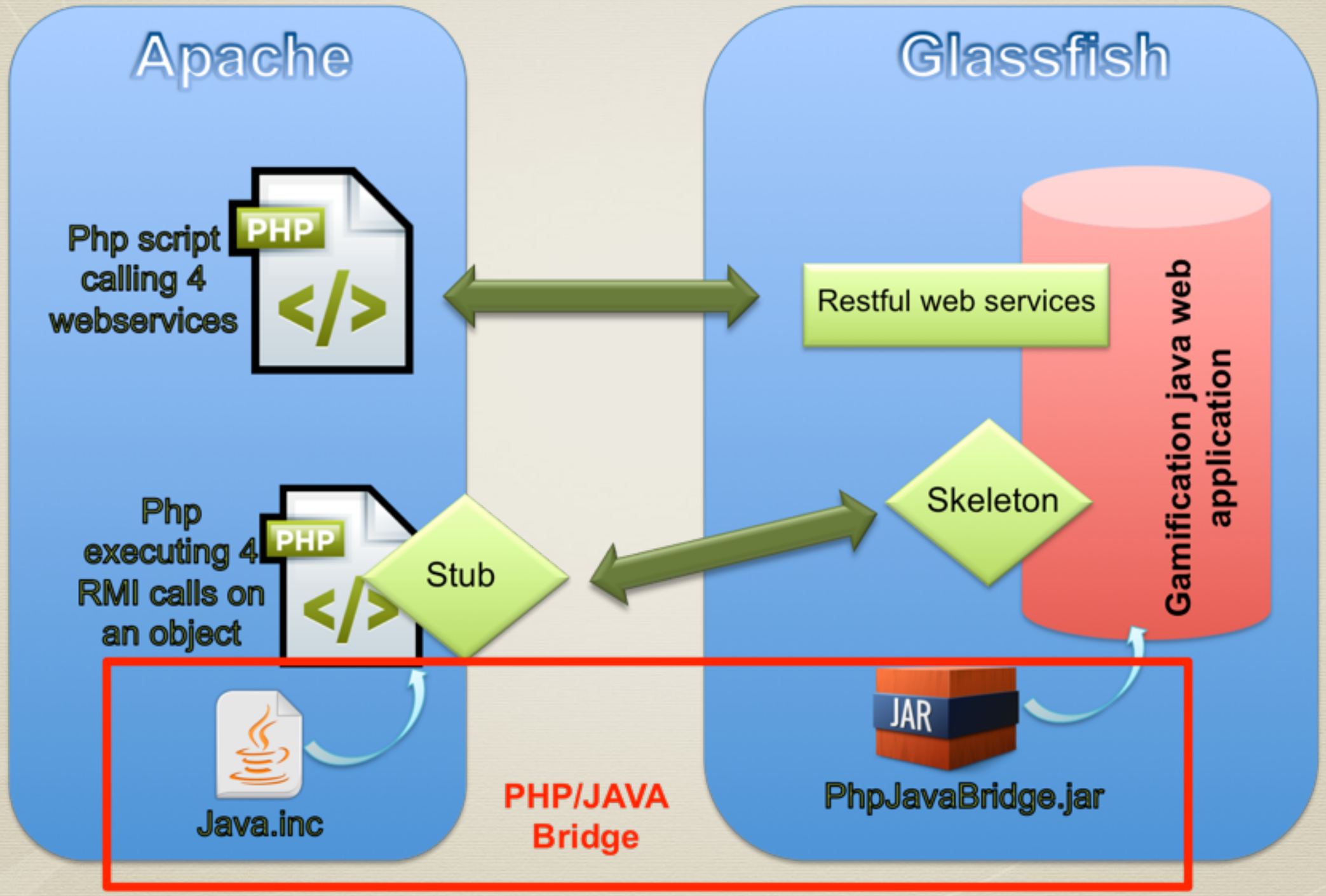
PHP
Script

Java
Web Service

How it works


Java
Container
JavaBridge.war
Php-Servlet.jar
PhpJavaServlet
php-cgi
PhpCGIServlet
Apache/IIS/console::PHP
Internet Browser

Setup


Apache
Glassfish
Php script calling 4 webservices
PHP
Restful web services
Gamification java web application
Skeleton
Php executing 4 RMI calls on an object
PHP
Stub
JAR
Java.inc
PHP/JAVA Bridge
PhpJavaBridge.jar

Installation guide

* Requirements : Java >= 1.4 , standard JEE server or servlet engine.
* Installation
  * add xxxx.jar files to JavaBridge(.war)/WEB_INF/lib
* Deploy JavaBridge.war (eg tomcat, glassfish...)
* Define URL access in PHP script
  * require_once("http://localhost:8080/JavaBridge/java/Java.inc"); PHP scripts out of Java EE container
  * require_once("java/Java.inc"); PHP scripts within the J2EE/Servlet engine

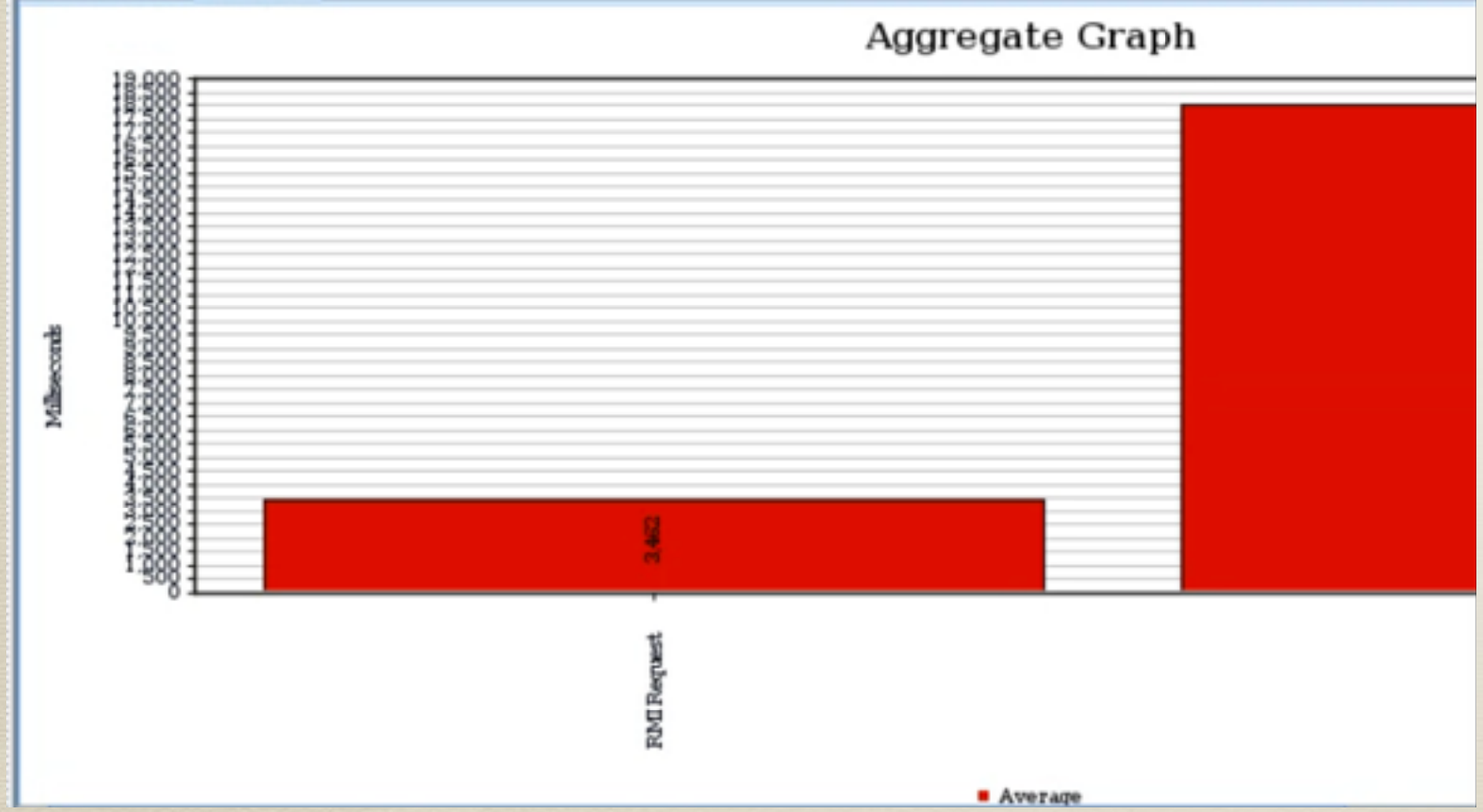
Test Environment

* Two virtual machines (Ubuntu 12.04 - 1024Mb RAM) one with Apache/PHP and the other with Glassfish.
* Tests were done from the first machine using JMeter.
* 100 user simultaneously use each method (REST - Bridge)
* Each user make 4 requests successively to retrieve all users from 4 different applications

Test Results

Label	# Samples	Average	Median	90% Line	Min	Max
RMI Request	100	3462	3518	4785	1917	5099
HTTP Request	100	18018	17950	19416	16210	19719
TOTAL	200	10740	5099	19236	1917	19719

Settings | Graph



* RMI requests have an average of 3.5 s to return
* REST calls respond within 18s
* RMI is 5 time faster than standard REST calls

Questions