Mconf: towards a global webconference system

mconf.org

Valter Roesler (roesler@inf.ufrgs.br – presenter)
Felipe Cecagno
Leonardo Crauss Daronco
André Marins
Fred Dixon

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Mconf: BBB WEB conference
http://mconf.org: WEB portal

Permanent room
- User
- Community

Approximately 500 users and 200 communities
Mconf: Android application
* It is in the Android Market

Galaxy Tab app

Galaxy Tab web

Galaxy S
And so what?

OK, yet another webconference system

Why it has potential to reach a global scale?
First problem for webconference systems to reach global scale

Scalability problems to reach thousands of users
Institutions want to keep their Visual Identity
Mconf scalability architecture

1. GET - clicks to join a web conference
2. REDIRECT to the most suitable server
3. Joins the web conference

Users

Front-end

RNP Web Portal

Mconf Web Portal

RedClara Web Portal

Others

Mconf Load Balancer (LB)

Nagios Monitoring Server

Mixed Cluster

BBB Server

FS Server

OpenSIPS Server

Mixed Cluster

BBB Server

FS Server

BBB Server

FS Server

BBB Server

FS Server
Advantages of Mconf approach

- **Solve scalability problem**: allow thousands of users (and servers) spread in different regions (cities, countries, continents)
- **Solve identity problem**: users access the webconference rooms through their own portal
- On the top of that, it is *open source*
How to test with so many users?

Creation of "bots"

Command line:

```java
java -jar bin/bbbot.jar --server <MCONF_LOAD_BALANCER> --key <KEY> --meeting "Demo Meeting" --video etc/video-sample-small.flv --audio etc/audio-sample.flv --interval 500 --probabilities "2:58.68;3:20.82;4:10.14;5:4.56;6:2.74;7:1.21;8:0.8;9:1.05" --numbots 500
```
Database of brazilian NREN with Adobe Connect from 2006 to 2012

Distribution of rooms / users

<table>
<thead>
<tr>
<th>Room size</th>
<th>Quant</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3.148</td>
<td>58.68%</td>
</tr>
<tr>
<td>3</td>
<td>1.117</td>
<td>20.82%</td>
</tr>
<tr>
<td>4</td>
<td>544</td>
<td>10.14%</td>
</tr>
<tr>
<td>5</td>
<td>245</td>
<td>4.56%</td>
</tr>
<tr>
<td>6</td>
<td>147</td>
<td>2.74%</td>
</tr>
<tr>
<td>7</td>
<td>65</td>
<td>1.21%</td>
</tr>
<tr>
<td>8</td>
<td>43</td>
<td>0.80%</td>
</tr>
<tr>
<td>9+</td>
<td>55</td>
<td>1.02%</td>
</tr>
</tbody>
</table>
Mconf today

Map of South America with markers indicating:
- BigBlueButton Server (wrnp2012.mconf.org) in Brasília-DF
- Mconf Load Balancer (lb.mconf.org) in Porto Alegre-RS
- BigBlueButton Server (mconf.org) in Porto Alegre-RS
Implementation for CAFe (Academic Community Federated) is ready
Proposal of global integration

So, in short!!!

Mconf today is a development workgroup in Latin America, with partnership of BBB in Canada, and potential to be used and have servers globally

HOW?
Proposal of global integration

Countries can join the Mconf network
(example scenario)

Distribution of PlanetLab nodes
Proposal of global integration

The “fee” to enter the global webconference network is to offer one server

This server can be administered remotely by the Mconf group

Cost is practically zero
Proposal of global integration

Advantages

- **High availability:** even if a server fails, there would be many others worldwide to host the room
- **Optimization of resources:** the idle servers during the night in one country could be used by other countries, and vice-versa
- **Low maintenance cost:** the maintenance of one or more load balancer is performed by the mconf team. For the country is practically zero cost
- Dashboard and statistics available for everyone
- **Global collaborative environment:** more programmers improving the same tool
If it is so simple... why not?
A global scalable opensource multiconference system for web and mobile devices

mconf.org

Valter Roesler [roesler@inf.ufrgs.br]

Mconf [mconf@mconf.org]