Interoperable multi conferencing technology as a basis for an open, global web conferencing network

http://mconf.org

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What is Mconf?

• A global scalable opensource multiconference system for web and mobile devices

• Sponsors:
  – RNP, the brazilian NREN (National Research and Education Network) – main sponsor
  – CLARA (Cooperación Latino Americana de Redes Avanzadas)
  – UFRGS (Federal University of Rio Grande do Sul)
WHY Mconf?

- Webconference service for the NREN clients:
  - Universities
  - Academic hospitals
  - ...
Example service 1: streaming classes to hundreds of people simultaneously with recordings.
Example service 2: remote defense of thesis and dissertations
Example service 3: second medical opinion
Example service 4: remote meetings
Mconf desktop clients

- Fork of BigBlueButton
- Partnership with Fred Dixon’s team
Mconf general view
Mconf mobile clients

Galaxy Tab app

Galaxy Tab web

Galaxy S
Mconf Web portal: http://mconf.org

Permanent room
- User
- Community

Approximately 4000 users and 1400 communities
RNP (Brazilian NREN) web portal

http://mconf.rnp.br
Belnet (Belgium) Mconf web portal

This website is part of the project Mconf, currently being developed in the research group PRAV from UFRGS in partnership with RNP. It was developed based on Global Plaza and is being integrated with the webconference system BigBlueButton. For more information, access the project website clicking here.

Contact us: mconf@mconf.org

Current statistics: 6 users, 3 spaces, 0 active meetings

Popular public spaces
No public spaces found.

Last active spaces
No meetings in progress right now.
Web portal of Hololsoft – Egypt
Mconf-Live servers in RNP
Mconf-Live servers – Academic global network

- **23 servers**
  - Latin America: Brazil (12), Colombia
  - North America: USA: California and 2 somewhere (Cloud Amazon)
  - Europe: Belgium – Belnet (2) and Germany
  - Central America: Costa Rica (2)
  - Asia: Thailand and Singapore
Scalability – load test in Jan 2013 (lb.mconf.org)

- **Balancing method**: Geoposition and CPU load
- **Figure**: 709 users in 7 servers
Advantages of Mconf approach

• **Scalable solution**: allow thousands of users (and servers) spread in different regions (cities, countries, continents)

• **Institutions can keep their own use policies and visual identity**: users access the webconference rooms through their institutions portal

• On the top of that, it is *open source*
Managing issues of a big global network
Managing issues

• How to keep all the servers up-to-date and with the same software version, yet at the same time with custom themes and institution-based configurations?

We use a script with opscode chef that updates all servers with a click
Managing issues

• How to generate real-time and historical usage statistics of the entire network and also for individual institutions?

*Executed by the load balancer*
Mconf usage reports

- Filtering by institution, group of institutions, entire network
- Filtering by period of time (month, week, ...)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of meetings</td>
<td>265</td>
</tr>
<tr>
<td>Average meeting duration</td>
<td>23.83 minutes</td>
</tr>
<tr>
<td>Average maximum number of users</td>
<td>1.2516</td>
</tr>
<tr>
<td>Maximum number of simultaneous users</td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Room size (number of users)</th>
<th>Number of meetings</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>190</td>
<td>71.6981 %</td>
</tr>
<tr>
<td>2</td>
<td>52</td>
<td>19.6226 %</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>4.5283 %</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>1.8868 %</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>0.7547 %</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>0.3774 %</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>0.3774 %</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>0.3774 %</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>0.3774 %</td>
</tr>
</tbody>
</table>
Mconf statistics and usage reports

<table>
<thead>
<tr>
<th>Server name</th>
<th>Number of meetings</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>mconf1.ufrgs.br</td>
<td>183</td>
<td>47.5219 %</td>
</tr>
<tr>
<td>150.164.192.113</td>
<td>56</td>
<td>16.3265 %</td>
</tr>
<tr>
<td>mp-bsb.mconf.org</td>
<td>37</td>
<td>10.7872 %</td>
</tr>
<tr>
<td>mconf.org</td>
<td>31</td>
<td>9.0379 %</td>
</tr>
<tr>
<td>mconf2-bbb.belnet.be</td>
<td>24</td>
<td>6.9971 %</td>
</tr>
<tr>
<td>mconf1-bbb.belnet.be</td>
<td>19</td>
<td>5.5394 %</td>
</tr>
<tr>
<td>mconf1.hostbbb.net</td>
<td>13</td>
<td>3.7901 %</td>
</tr>
</tbody>
</table>
Managing issues

• How to guarantee availability in case of a server crash?

• How to cope with surges in web conferencing traffic?

• How to manage web conferencing recordings of such a large number of users and institutions scattered around the world?
Mconf architecture provides that

Cloud of web portals and recording servers

Recording server stays in the institution

Choice based first on geographic localization

Cloud of Mconf-Live servers

Temporarily Unavailable
Proposal of global integration

So, in short!!!

Mconf today is an open source global webconference network with a pool of servers globally distributed providing scalability and availability
Proposal of global academic integration

• How to integrate (terms of use): http://mconf.org/m/about/network/terms

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

• The new versions are updated automatically through Opscode Chef

• Your users can access the webconference using your own web portal

• Cost is practically zero and your institution receives scalability and availability
Why integrate? Benefits to your institution

- **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 the load balancers is performed by the Mconf team. For the partner institution is practically zero cost.
- **Monitoring / statistics / usage reports**: Dashboard and statistics available for everyone.
- **Global collaborative environment**: more programmers improving the same open source tool.
If it is so simple... why not?

Mconf

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http://mconf.org

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