



GT-Mconf:

Sistema de multiconferencia para acceso interoperable Web y dispositivos móviles

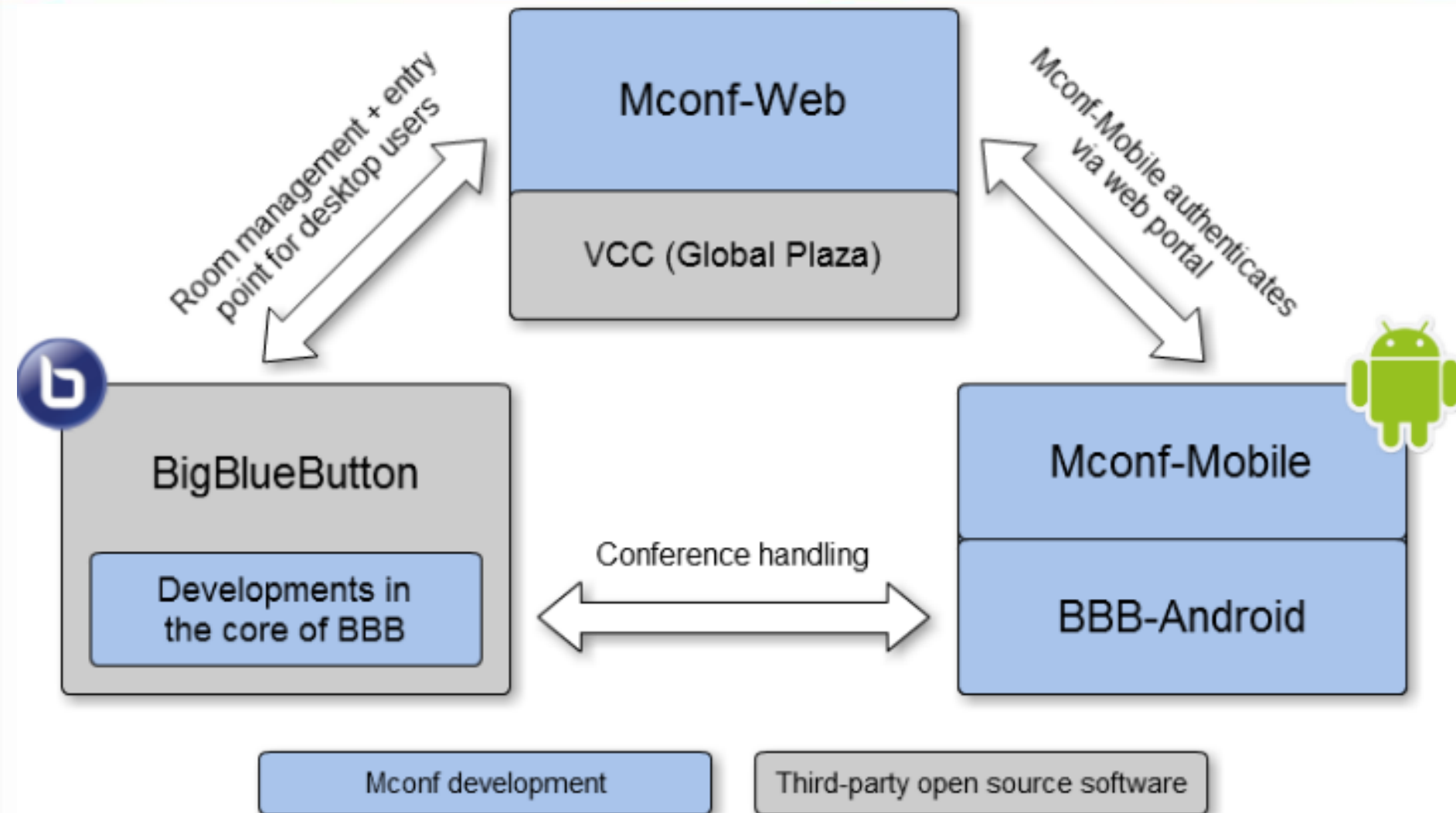
Valter Roesler – roesler@inf.ufrgs.br

<http://mconf.org>

Lima, Peru
2 a 5 de Julio de 2012

- Creation of a global webconference network called Mconf
- Advantages
 - Scalability
 - Load distribution
 - Resilience
 - Availability
 - Collaborative development
 - Open Source

- Valter Roesler , Felipe Cecagno, Leonardo Crauss Daronco, André Marins and Fred Dixon. **Mconf: towards a global webconference system**. In Terena 2012 (Trans-European Research and Education Networking Association), Reykjavik, Iceland. May, 2012.
- Valter Roesler, Felipe Cecagno, Leonardo C. Daronco, André Marins. **Mconf: sistema de multiconferência escalável e interoperável web e dispositivos móveis**. In TICAL 2012 (Tecnologias da Informação e Comunicação na América Latina), Lima, Peru. July, 2012.
- Valter Roesler, Felipe Cecagno, Leonardo Crauss Daronco and Fred Dixon. **Mconf: an open source multiconference system for web and mobile devices**. Intech Publisher. Book Chapter from the book “Multimedia - A Multidisciplinary Approach to Complex Issues”. 257p. March, 2012. Available in <http://www.intechopen.com/books/multimedia-a-multidisciplinary-approach-to-complex-issues>



Mconf: BBB WEB conference



Users: 6

Role	Name	Status
	Alexandre	
	Felipe (you)	
	Fernando Bottin	
	Leonardo	
	Mauricio	
	Valter	

Switch Presenter

Listeners: 6

	Alexandre	
	Felipe	
	Fernando Bottin	
	Leonardo	
	Mauricio	
	Valter	

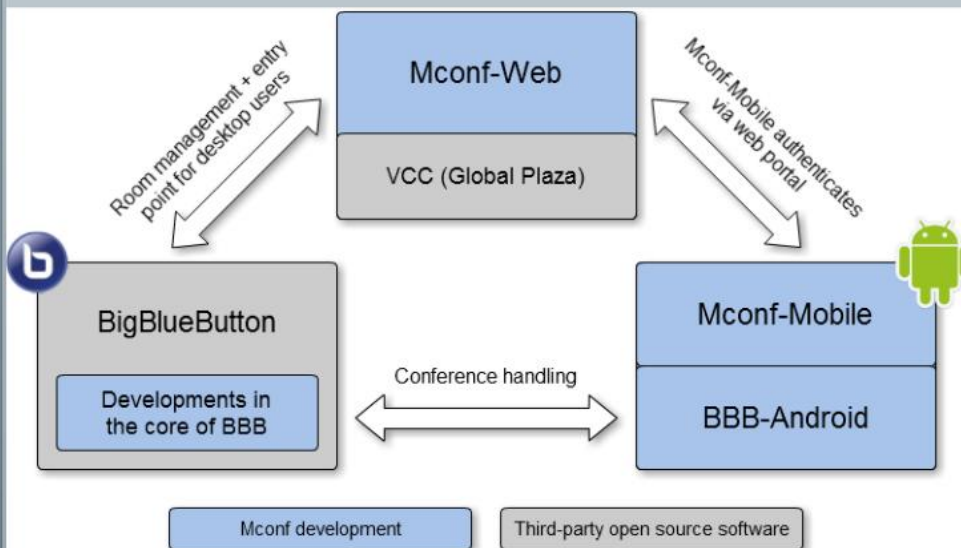
Mute Mute All

Video dock

Valter

Leonar... Fernan... Maurici... Alexan... Felipe (

Mconf—diagram—actual-3_ps



```
graph TD
    BBB[BigBlueButton  
Developments in the core of BBB]
    MW[Mconf-Web  
VCC (Global Plaza)]
    MM[Mconf-Mobile]
    BA[BBB-Android]
    MW -- "Room management + entry point for desktop users" --> BBB
    MM -- "Mconf-Mobile authenticates via web portal" --> MW
    MM <--> |Conference handling| BA
    subgraph Base
        MD[Mconf development]
        TPOSS[Third-party open source software]
    end
    MD --- TPOSS
```

Chat

All

Valter Bom dia 14:09

Leonar... Podemos começar? 14:09

Felipe Estou subindo a imagem 14:09

Fernan... Claro 14:09

Felipe Um momento 14:09

Valter Estou ajustando o microfone 14:10

Leonar... Só um minuto que vou passar o telefone pro Israel 14:10

Valter Está muito boa essa nova versão do sistema! :) 14:10

Fernan... Realmente muito boa Valter! 14:10

Send

Notes

Pauta da reunião:

- Preparativos para o WRNP 2012
- Distribuição de tarefas
- Diagrama de escalabilidade

Transmissão do WRNP 2012

XIII Workshop da Rede Nacional de Ensino e Pesquisa (WRNP)

O WRNP (Workshop da Rede Nacional de Ensino e Pesquisa) de 2012 acontece de 30 de abril à 1 de maio em Ouro Preto (MG), durante o SBRC 2012. Nesta página você pode acessar a transmissão ao vivo do evento e também as gravações realizadas, ambos através do sistema Mconf.

Esta é uma transmissão experimental realizada no contexto do projeto do GT-MCONF2 - Multiconferência WEB e dispositivos móveis. Para esta transmissão, há um limite no número de usuários que podem assistir simultaneamente, para evitar sobrecarga do servidor alocado para o evento.

O sistema desenvolvido pelo GT permite escalabilidade para múltiplos servidores com balanceamento de carga. Espera-se que no final do desenvolvimento do projeto o sistema suporte centenas ou milhares de usuários simultaneamente, bastando adequar o número de servidores, que podem ser físicos ou virtualizados ("na nuvem").

A equipe deste GT atua de maneira colaborativa com o grupo do BigBlueButton, que desenvolveu o software base de webconferência.

O GT-MCONF é um projeto de Fase 2 parte do Programa de GTs da RNP 2011-2012. Para mais informações sobre o GT, acesse: www.inf.ufrgs.br/prav/gtmconf e <http://mconf.org>.

Você já participou da transmissão do WRNP 2012? [Clique aqui](#) para avaliar a experiência de ter acompanhando a transmissão via Mconf.

Acesse a transmissão ao vivo:

Seu nome:

Entrar como:

Participante ▼

Entrar

Entrar com Android

Nota: Para acessar a conferência via Android você precisa ter a aplicação Mconf-Mobile instalada no seu dispositivo. Para instalar a aplicação [clique aqui](#).

Assista às gravações:

- **Dia 01/05/12: Sessão tarde 2ª parte**
 - Introdução: Redes Experimentais para pesquisa em Internet do Futuro
Palestrante(s): Michael Stanton (RNP)
 - Projetos Internacionais: FIBRE, GENI, FIRE
Palestrante(s): Max Ott (NICTA)
 - Project OFELIA
Palestrante(s): Leonardo Bergesio (i2Cat)
- **Dia 01/05/12: Sessão tarde 1ª parte**
 - Relato: Programa Aplicações Avançadas de Visualização Remota
Palestrante(s): Leandro Cluffo (RNP)
 - Dança telemática Brasil-Espanha-Tailândia: Relato da experiência no evento APAN

http://mconf.org: WEB portal



Mconf *beta*

Welcome, Valter Roesler

[Manage](#) | [All spaces](#) | [My Home](#) [Inbox \(0\)](#) [Profile](#) [Account](#) [Logout](#)



[My Home](#)



My webconference room

[Join](#) **Valter Roesler** (not running)

[Invite](#) [View Invite URL](#) [Edit](#)

My Spaces



Coordenação do Pi...
4 members



DownUnder
4 members



GT-Streaming
9 members



MConf Start Page
3 members



Malu Personal
2 members



Mconf Público
7 members



PRAV
17 members



Teste
2 members



WRNP
14 members



ki
2 members

Recent activity...

Create new space

[My Calendar \(GMT+01:00\)](#)

Today You have no events

[My Inbox \(0\)](#)

There are no messages

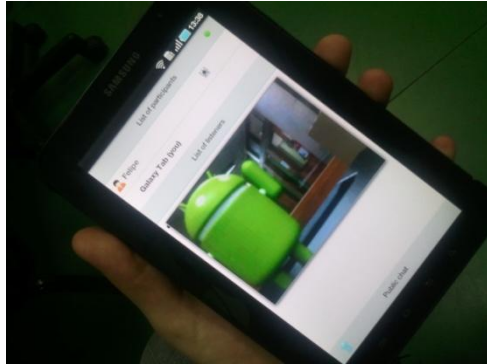
Permanent room

- User
- Community

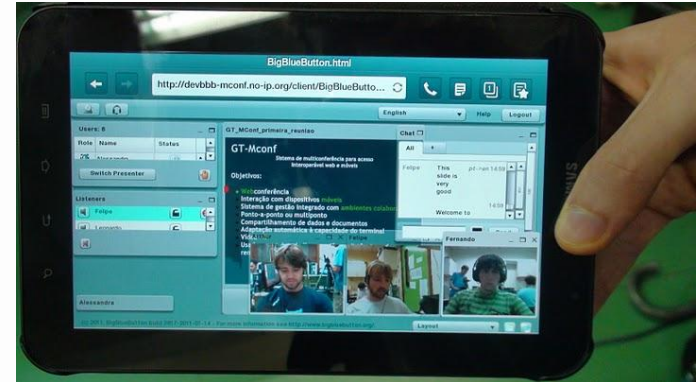
Approximately
650 users and
250 communities

Mconf: Android application

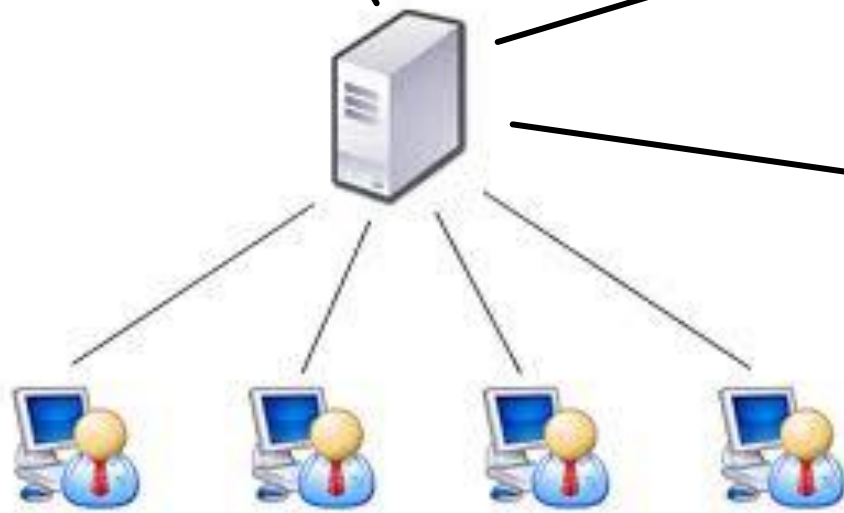
* It is in the Android Market



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

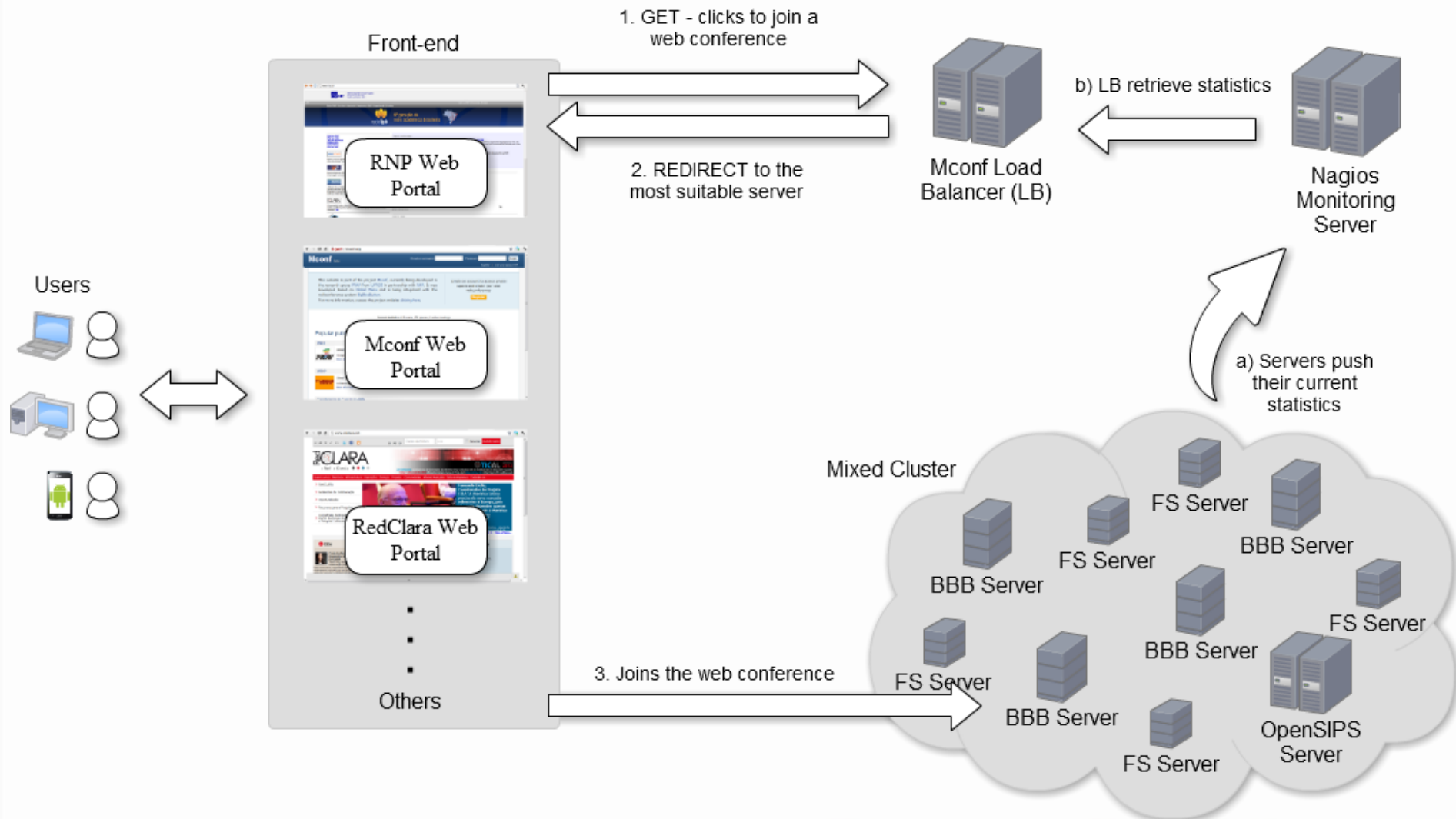


Second problem for webconference systems to reach global scale



Institutions want to keep their Visual Identity

Mconf scalability architecture



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?



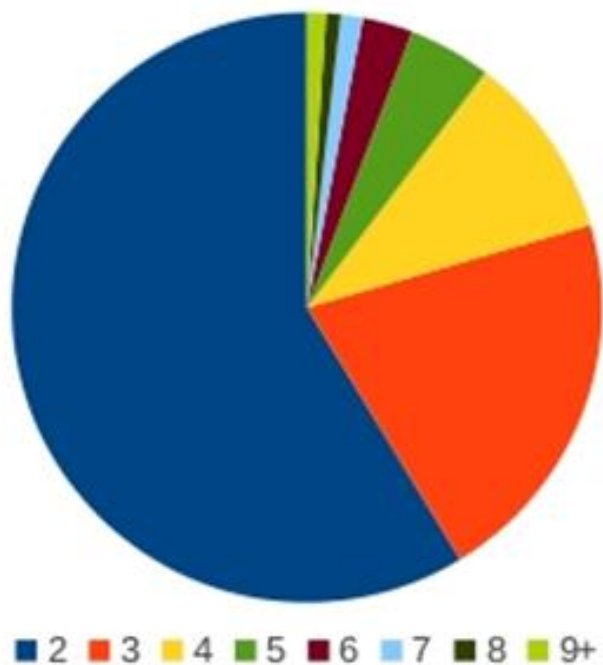
Creation of "bots"

Command line:

```
java -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
```

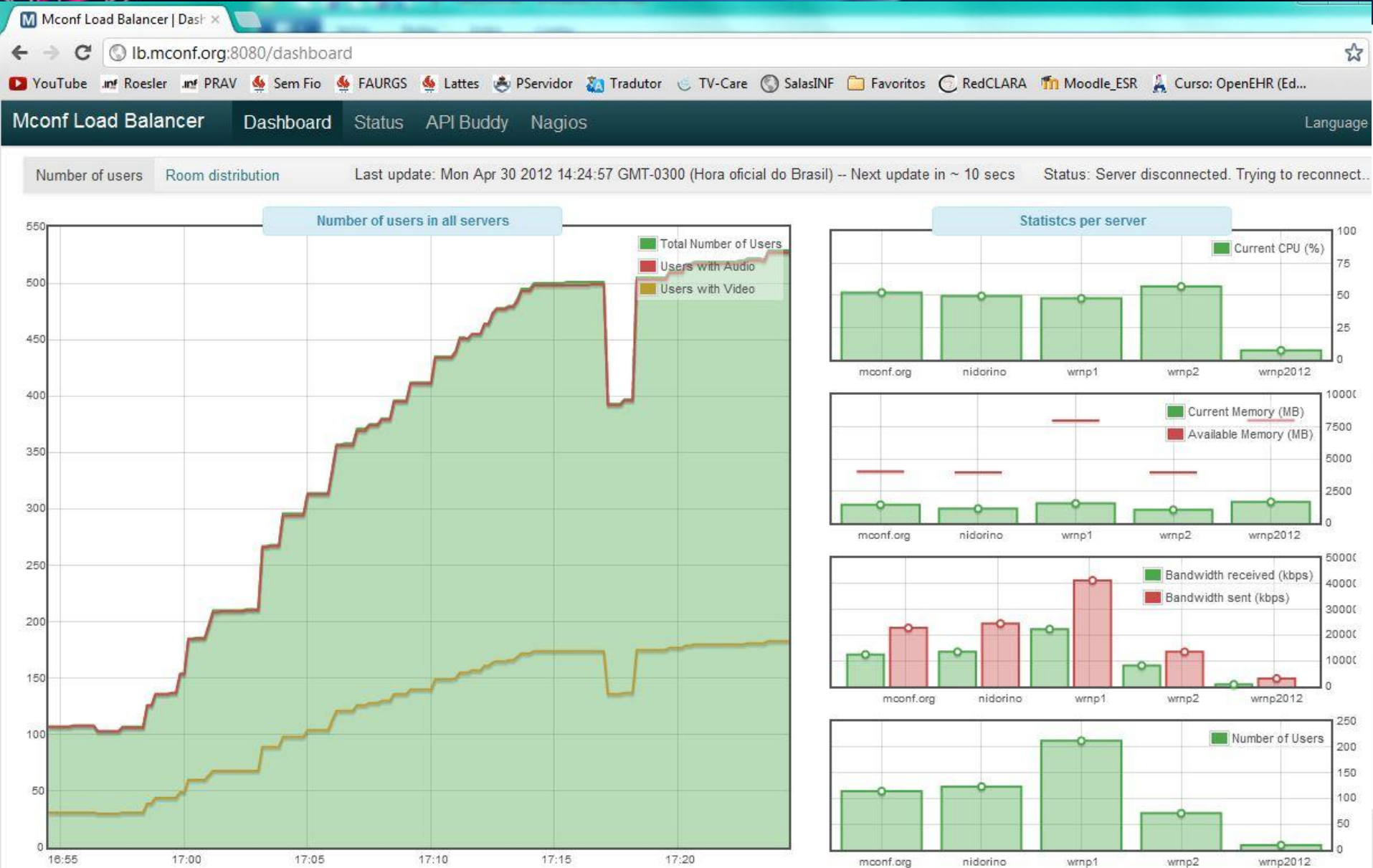
Distribution of rooms / users

Database of brazilian NREN with Adobe Connect
from 2006 to 2012



Room size	Quant	%
2	3.148	58,68%
3	1.117	20,82%
4	544	10,14%
5	245	4,56%
6	147	2,74%
7	65	1,21%
8	43	0,80%
9+	55	1,02%

Dashboard example (may 2012)





Mconf today



- Countries supposedly interested in Europe
 - *Spain (Andaluzia)*
 - *Portugal*
 - *Switzerland (Switch)*
 - *Norway (Nordunet)*
 - *Sweden*


Mconf is ready for Federation

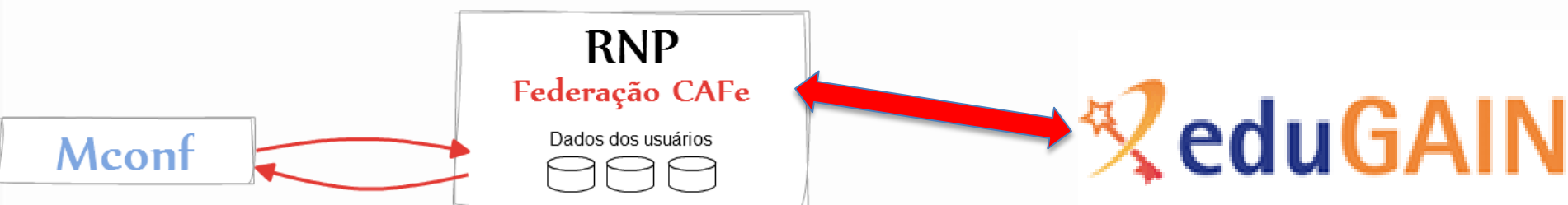


Implementation for CAFe (Academic Community Federated) is ready

Email or username Password

[Lost your password?](#)

Log in using the federation CAFe (part of eduGAIN)  **cafe** comunidade acadêmica federada



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

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?

Questions?



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

mconf.org

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Mconf [mconf@mconf.org]



CLARA

Lista de tareas – red clara



<u>Atv</u>	<u>Fecha ini prevista</u>	<u>Fecha fin prevista</u>	<u>Fecha ini realizada</u>	<u>Fecha fin realizada</u>	Actividades realizadas
1.1	<u>Ago/11</u>	Oct/11	<u>Ago/11</u>	Oct/11	Creación de VM para red Clara
1.2	<u>Ago/11</u>	Jul/13	<u>Ago/11</u>	-	<u>Mantenim. de servidor mconf.org</u>
1.3	<u>Ago/11</u>	Jul/13	<u>Ago/11</u>	-	Sistema de estadísticas
1.4	Abr/12	Jul/13	<u>Jan/12</u>	-	Balanceo de carga
1.5	Feb/12	Abr/12	Feb/12	-	Portal web en Español
1.6	<u>Ago/11</u>	Abr/12	<u>Ago/11</u>	Abr/12	Dispositivos Móviles <u>Android basico</u>
1.7	<u>Ago/12</u>	Jul/13	-	-	Dispositivos Móviles <u>Android total</u>