



European Union's FP7 Programme
DG Connect
Directorate C: Excellence in Science
Unit C1: e-Infrastructure



**Deliverable D3.2 Pilot Test System of a
GDS and Integrated Video-conference
Service**



A project of the Seventh Framework Programme (FP7)



This project is funded by the European Commission



A project implemented by RedCLARA

Periodical Progress Report

*ELCIRA Deliverable: ELCIRA D3.2 Pilot Test System of a GDS and
Integrated VC service*

Document Full Name	ELCIRA D3.2 Pilot Test System of a GDS and Integrated VC service
Date	2012-09-17
Activity	3.1. Determine the scope of a future High Quality Video Conference Service (HQVCS)
Lead Partner	RENATA
Document status	Draft
Classification Attribute	Public
Document link	

Abstract: This document contains the description of the Global Dialling Scheme (GDS) and the integrated videoconference pilot. This pilot system uses the new RedCLARA's gatekeeper system which handles all the numbering and dialling of the video-conference service. The service is integrated to the EduCONF service in Europe, and two NRENS in Latin-America.



A project of the Seventh Framework
Programme (FP7)



This project is funded by the European
Commission



A project implemented by RedCLARA

COPYRIGHT NOTICE

Copyright © Members of the ELCIRA Project, May 2013

ELCIRA (Europe Latin America Collaborative e-Infrastructure for Research Activities – Call (part) identifier: FP7-INFRASTRUCTURES-2012-1 – Project number: 313180) is a project co-funded by the European Commission within the Seventh Framework Programme (FP7), Infrastructures (DG Connect, Directorate C: Excellence in Science, Unit C1: e-Infrastructure). ELCIRA began on 1st June 2012 and will run for 24 months.

For more information on ELCIRA, its partners and contributors please see <http://elcira.redclara.net> (this website will be available in October 1st 2012).

You are permitted to copy and distribute, for non-profit purposes, verbatim copies of this document containing this copyright notice. This includes the right to copy this document in whole or in part, but without modification, into other documents if you attach the following reference to the copied elements: "Copyright © Members of the ELCIRA Project, 2012".

Using this document in a way and/or for purposes not foreseen in the paragraph above, requires the prior written permission of the copyright holders.

The information contained in this document represents the views of the copyright holders as of the date such views were published.

THE INFORMATION CONTAINED IN THIS DOCUMENT IS PROVIDED BY THE COPYRIGHT HOLDERS "AS IT IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT WILL THE MEMBERS OF THE ELCIRA COLLABORATION, INCLUDING THE COPYRIGHT HOLDERS, OR THE EUROPEAN COMMISSION BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THE INFORMATION CONTAINED IN THIS DOCUMENT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.



A project of the Seventh Framework
Programme (FP7)



This project is funded by the European
Commission



A project implemented by RedCLARA

DELIVERABLE ROUTE

	Name	Member/Activity	Date	Responsible
From	Gustavo Garcia	RedCLARA	5/31/2013	RENATA
Revised by	Diego Rincón	RENATA	06/06/2013	RENATA
Revised by				
Aproved by				



A project of the Seventh Framework
Programme (FP7)



This project is funded by the European
Commission



A project implemented by RedCLARA

TABLE OF CONTENTS

COPYRIGHT NOTICE	2
DELIVERABLE ROUTE	3
1.- INTRODUCTION.....	5
2.- EXECUTIVE SUMMARY.....	5
3.- SERVICE ELEMENTS	6
4.- Global dialling scheme numbering (GDS)	7
5.- SYSTEM CONFIGURATION	7
6.- ANNEX I. GNU Gatekeeper FINAL configuration.....	8



A project of the Seventh Framework
Programme (FP7)



This project is funded by the European
Commission



A project implemented by RedCLARA

1.- INTRODUCTION

The ELCIRA work team has as goal to have a pilot of an integrated Global Dialling Scheme (GDS) and integrated video-conference service by month 12. The pilot system has been completed on time, and the work package team handled to deploy the gatekeeper system in Latin-America. The system will handle calls between Europe and Latin-America. Users will only have to know the GDS number where they shall call, and the system will take the necessary translations to connect resources in both sides of the network. The work group also integrated the new Latin-America's continental gatekeeper to EduCONF service in Europe. This document describes this implementation, its elements, and how was done by the group.

2.- EXECUTIVE SUMMARY

An integrated video-conference service requires a common dialling method, and the integration of the service elements (terminals, MCUs, etc) to an infrastructure for call management. The ELCIRA work package 3 has worked on this through the deployment of a gatekeeper system for Latin-America. The gatekeeper system will handle numbering resolution to specific video-conference terminals of Multi-point control units (MCUs). The architecture implemented is described in the following figure:



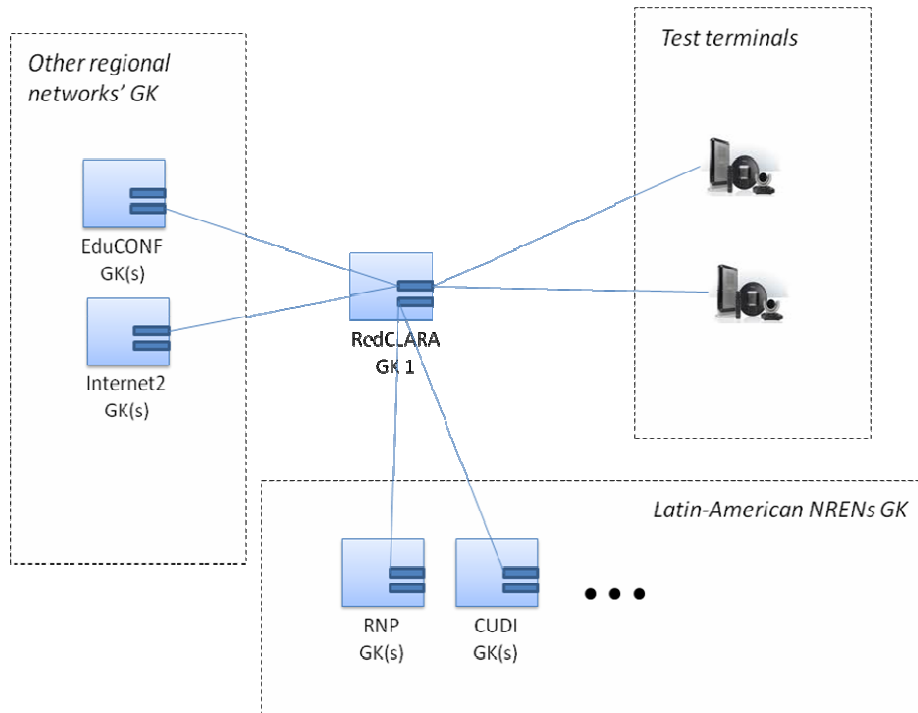
A project of the Seventh Framework
Programme (FP7)



This project is funded by the European
Commission



A project implemented by RedCLARA



In the pilot service, the RedCLARA's regional gatekeeper has been installed, deployed, and integrated to the EduCONF, and the NRENs RNP, and CUDI's gatekeepers. With this implementation, the Latin-American are able to dial a Global Dialling Scheme (GDS) number to access a specific video endpoint in Europe or Latin-America. The above facilitates the use of the service. Furthermore, users can access directly to conferences without steps like entering conference number or password.

3.- SERVICE ELEMENTS

The pilot video-conference service was implemented using the following elements:

- Hardware: Virtual server with 2 Gigabytes RAM, and 1 CPU core
- Software:
 - Ubuntu Linux
 - GNU Gatekeeper
- Test points



A project of the Seventh Framework Programme (FP7)



This project is funded by the European Commission



A project implemented by RedCLARA

- Polycom HDX7000 Endpoint system
- Openphone software based endpoint
- Test MCU: Polycom RMX 1500
- IP address: 200.0.206.181

RedCLARA took the decision to use these elements because they are open source, and the deployment of them is cheap and reliable. Other great benefit is that Latin-American NRENs can copy this implementation for their national gatekeepers at very low implementation costs.

4.- GLOBAL DIALLING SCHEME NUMBERING (GDS)

In this area, the ELCIRA team worked in a document called “HQVS Design Prototype and Network Architecture Elements in Latin-America”. In this document, is explained how RedCLARA plans to handle the numbering across Latin-America, and the elements for the service. In summary, RedCLARA plans to use virtual numbers (not assigned by a Telecom company) with the form: 00 + Country code + 01 + <Device number>. The above because region code 01 is not used in Latin-America up to now. It is worth mentioned that, in most cases, RedCLARA will not handle the numbering scheme on each country. RedCLARA’s continental gatekeepers will only forward NREN defined numbers to the NREN’s gatekeepers. The NREN is the institution that will take the decision on each country numbering, nevertheless, RedCLARA will work for a future agreement between Latin-American NRENs to have some common criteria.

5.- SYSTEM CONFIGURATION

Gatekeeper configuration for the pilot was carried out with the following principles in mind:

- Regional gatekeeper shall be integrated with EduCONF service. Integration with other network like Internet2 will be done if possible.
- Endpoints shall be able to dial using a GDS number or IP addresses. The above to ensure compatibility with systems not integrated to the network.



A project of the Seventh Framework
Programme (FP7)



This project is funded by the European
Commission



A project implemented by RedCLARA

- Initial testing will be done using IPv4, nevertheless the configuration for IPv6 will be done in the initial stage.

The system configuration was carried out with the help of EduCONF staff. They provided a recommended configuration for integrating with EduCONF, and have features like dialling through number, IP address, and allow end-point registering. After some pretty small modifications, and adding RNP and CUDI's gatekeepers, the final configuration is as described in annex I.

6.- TEST NUMBERS

RedCLARA has defined the following test number for testing calls through Latin-America's gatekeeper:

00 57 01 2010020

7.- ANNEX I. GNU GATEKEEPER FINAL CONFIGURATION

```
[Gatekeeper::Main]
Fortytwo=42
Name=RedCLARA
; if you have IPv6 enable this
;EnableIPv6=1
TimeToLive=60
TraceLevel=3
StatusTraceLevel=5
StatusPort=7000
CompareAliasType=0
CompareAliasCase=0

; Status port authentication and IP filtration
```



A project of the Seventh Framework Programme (FP7)



This project is funded by the European Commission



A project implemented by RedCLARA

```
[GkStatus::Auth]
rule=explicit
127.0.0.1=allow
;You should here insert some your local ip address for monitoring
;0.0.0.0=allow
Shutdown=forbid
DelayReject=5

; Log File rotation
[LogFile]
Rotate=Daily
RotateTime=23:59

[RoutedMode]
; If this is your World GK you don't want to overload with NAT / Re - Routing
GKRouted=0
H245Routed=0
CallSignalPort=1720
ENUMservers=enum.redclara.net

[RoutingPolicy]
default=explicit,internal,enum,srv,dns,internal,neighbor

;Temporary CDR file creation - It will enable you to debug calls more easily
[FileAcct]
DetailFile=/var/log/gnugk/cdr.log
StandardCDRFormat=0
CDRString=%g|%n|%d|%c|%s|%u|{%gkip}|{%CallId}|{%ConfId}|{%setup-
time}|{%connect-time}|{%disconnect-time}|{%caller-ip}|{%caller-port}|{%callee-ip}|{%c
allee-port}|{%src-info}|{%dest-info}|{%Calling-Station-Id}|{%Called-Station-Id}|{%Dialed-
Number}
```



A project of the Seventh Framework
Programme (FP7)



This project is funded by the European
Commission



A project implemented by RedCLARA

```
Rotate=daily
RotateTime=23:59

;[Gatekeeper::Auth]
;FileIPAuth=required;Setup

;[FileIPAuth]
;186.113.12.15=allow
;200.0.206.107=allow
;any=reject

;[RasSrv::PermanentEndpoints]
;186.113.12.15:1720=gw1;005622584861:=1;Vox Lucida,3.12.3
;
;[EP::gw1]
;Capacity=60
;GatewayPriority=1
;AddNumbers=0056225848619

;[RasSrv::RRQFeatures]
;OverwriteEPOnSameAddress=1
;SupportDynamicIP=1
;EnableAdditiveRegistration=1

; Neighbor WORLD GK
[RasSrv::Neighbors]
AARNET1=GnuGk
AARNET2=GnuGk
GEANT1=GnuGk
GEANT2=GnuGk
HEANET=GnuGk
JANET1=GnuGk
JANET2=GnuGk
```



A project of the Seventh Framework
Programme (FP7)



This project is funded by the European
Commission



A project implemented by RedCLARA

INTERNET2_1=GnuGk
INTERNET2_2=GnuGk
INTERNET2_3=GnuGk
INTERNET2_4=GnuGk
INTERNET2_5=GnuGk
CUDI_UNAM=GnuGk
RNP_1=Generic
RNP_2=Generic
;HR=GnuGk

;Agregado para probar quitar los prefijos

[RasSrv::GWPrefixes]

GEANT1=00

GEANT2=00

GEANT1=000

GEANT2=000

RNP_1=0055

RNP_2=0055

;

[RasSrv::GWRewriteE164]

;GEANT2=out=00=

;GEANT1=out=00=

;GEANT2=out=000=

;GEANT1=out=000=

RNP_1=out=0055=

RNP_2=out=0055=

[Neighbor::AARNET1]

GatekeeperIdentifier=AARNET1

Host=202.158.196.9

SendPrefixes=00,0061,!000,!0055,!55*

*AcceptPrefixes=**

ForwardLRQ=always



A project of the Seventh Framework
Programme (FP7)



This project is funded by the European
Commission



A project implemented by RedCLARA

```
[Neighbor::AARNET2]
GatekeeperIdentifier=AARNET2
Host=203.22.212.235
SendPrefixes=00*,0061,!000,!0055,!55
AcceptPrefixes=*
ForwardLRQ=always
```

```
[Neighbor::GEANT1]
GatekeeperIdentifier=GEANT1
Host=193.198.203.131
SendPrefixes=00,000,!0055,!55
AcceptPrefixes=*
ForwardLRQ=always
;enable the IPv6 ip address if using IPv6 and disable IPv4
;;Host=[2001:b68:ff:8::131]
```

```
[Neighbor::GEANT2]
GatekeeperIdentifier=GEANT2
Host=150.254.161.50
SendPrefixes=00,000,!0055,!55
AcceptPrefixes=*
ForwardLRQ=always
;enable the IPv6 ip address if using IPv6 and disable IPv4
;Host=[2001:808::20:0:161:50]
```

```
:[RasSrv::LRQFeatures]
;AcceptNonNeighborLRQ=1
;AcceptNonNeighborLCF=1
;SendRIP=3000
```

```
[Neighbor::HEANET]
GatekeeperIdentifier=HEANET
```



A project of the Seventh Framework
Programme (FP7)



This project is funded by the European
Commission



A project implemented by RedCLARA

Host=193.1.31.225
SendPrefixes=00,!000,!0055,!55*
*AcceptPrefixes=**
ForwardLRQ=always

[Neighbor::JANET1]
GatekeeperIdentifier=JANET1
Host=194.80.134.35
SendPrefixes=00,0044,!000,!0055,!55*
*AcceptPrefixes=**
ForwardLRQ=always

[Neighbor::JANET2]
GatekeeperIdentifier=JANET2
Host=194.80.134.68
SendPrefixes=00,0044,!000,!0055,!55*
*AcceptPrefixes=**
ForwardLRQ=always

[Neighbor::INTERNET2_1]
GatekeeperIdentifier=INTERNET2_1
Host=207.75.164.39
SendPrefixes=00,001,!000,!0055,!55*
*AcceptPrefixes=**
ForwardLRQ=always

[Neighbor::INTERNET2_2]
GatekeeperIdentifier=INTERNET2_2
Host=64.57.22.6
SendPrefixes=00,001,!000,!0055,!55*
*AcceptPrefixes=**
ForwardLRQ=always



A project of the Seventh Framework
Programme (FP7)



This project is funded by the European
Commission



A project implemented by RedCLARA

```
[Neighbor::INTERNET2_3]
GatekeeperIdentifier=INTERNET2_3
Host=207.75.164.90
SendPrefixes=00*,001,!000,!0055,!55
AcceptPrefixes=*
ForwardLRQ=always
```

```
[Neighbor::INTERNET2_4]
GatekeeperIdentifier=INTERNET2_4
Host=192.148.244.130
SendPrefixes=00*,001,!000,!0055,!55
AcceptPrefixes=*
ForwardLRQ=always
```

```
[Neighbor::INTERNET2_5]
GatekeeperIdentifier=INTERNET2_5
Host=152.2.17.185
SendPrefixes=00*,001,!000,!0055,!55
AcceptPrefixes=*
ForwardLRQ=always
```

```
[Neighbor::CUDI_UNAM]
GatekeeperIdentifier=CUDI_UNAM
Host=200.23.60.25
SendPrefixes=0052,52,!0055,!55
AcceptPrefixes=*
ForwardLRQ=always
```

```
[Neighbor::RNP_1]
GatekeeperIdentifier=RNP_1
Host=200.130.15.16
SendPrefixes=0055,55
AcceptPrefixes=*
```



A project of the Seventh Framework
Programme (FP7)



This project is funded by the European
Commission



A project implemented by RedCLARA

ForwardLRQ=always

[Neighbor::RNP_2]

GatekeeperIdentifier=RNP_2

Host=200.130.15.17

SendPrefixes=0055,55,90

*AcceptPrefixes=**

ForwardLRQ=always

[Neighbor::HR]

GatekeeperIdentifier=HR

Host=161.53.159.11

SendPrefixes=00385,00,!0055,!55

*AcceptPrefixes=**

ForwardLRQ=always



A project of the Seventh Framework
Programme (FP7)



This project is funded by the European
Commission



A project implemented by RedCLARA