

European Union's Horizon 2020 Programme
European Commission
Directorate General for Communications Networks, Content and Technology
eInfrastructure



Magic

Middleware for collaborative Applications
and Global virtual Communities

Deliverable D4.1
Online training on implementing the NRENum.net
service for global video dialing

Progress Report

MAGIC Deliverable: D4.1 Online training on implementing the NRENum.net service for global video dialing

Document Full Name	Online training on implementing the NRENum.net service for global video dialing
Date	01-09-2015
Activity	Agreements for real-time communications
Lead Partner	RENATA (Colombian NREN)
Document status	FINAL
Classification Attribute	Public
Document link	

Abstract: In this document we present the learning material developed to support the expansion of the NRENum.net standard. The course has been developed using the OpenEDX MOOC Platform and is available in English and Spanish. Future versions in other languages are under way.



COPYRIGHT NOTICE

Copyright © Members of the MAGIC Project, October 2016.

MAGIC (Middleware for collaborative Applications and Global Virtual Communities – Project number: 654225) is a project co-funded by the European Commission within the Horizon 2020 Programme (H2020), Directorate General for Communications Networks, Content and Technology - eInfrastructure. MAGIC began on 1st May 2015 and will run for 24 months.

For more information on MAGIC, its partners and contributors please see <http://www.magic-project.eu>.

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 MAGIC Project, 2015".

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 SHALL THE MEMBERS OF THE MAGIC 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.



This project is co-funded by the Horizon 2020
Framework Programme of the European Union



A project implemented by RedCLARA

DELIVERABLE ROUTE

	Name	Member/Activity	Date	Responsible
From	Jader Castaño	RENATA / WP Leader	01-09-2015	RENATA
Revised by	Gustavo García	RedCLARA	02-09-2015	RedCLARA
Revised by	Florencio Utreras	RedCLARA/CEO	15-09-2015	RedCLARA
Revised by	Gustavo Garcia	RedCLARA Technical Manager	30-9-2016	RedCLARA
Revised by				
Revised by				
Approved by	Florencio Utreras	RedCLARA/CEO	14-10-2016	RedCLARA



This project is co-funded by the Horizon 2020 Framework Programme of the European Union



A project implemented by RedCLARA



TABLE OF CONTENTS

COPYRIGHT NOTICE.....	3
DELIVERABLE ROUTE	4
1. Introduction.....	6
1.1. Purpose of the Document	6
1.2. Document Amendment Procedure.....	6
1.3. Glossary.....	6
2. Executive Summary.....	7
3. NRENum.net On Line Training.....	7
3.1. COURSE INTRODUCTION AND GOALS	7
3.2. the On line Course structure	8
3.3. Access to this course	9
4. References	10
5. Conclusions	10



This project is co-funded by the Horizon 2020
Framework Programme of the European Union



A project implemented by RedCLARA

1. INTRODUCTION

1.1. PURPOSE OF THE DOCUMENT

In order to expand the NRENum.net standard, the group shall extend the implementation knowledge to allow new NRENs to adopt it. Having an on-line course is a key element because it can reach a broad audience, in a global basis, at low costs. The on-line course will explain how to implement a DNS system for NRENum.net. All the material will be focused on facilitating the deployment for the NRENs, and set ready the elements for unified communications. The course has been done with visual and written materials to support the learning process, using a MOOC methodology.

This document provides information about the online training material to guide NRENs in the process of delegation of NRENum.net zone, and setup their DNS services to register NRENum.NET numbers..

1.2. DOCUMENT AMENDMENT PROCEDURE

Requests for amendments to this document must be made to the authors, including Gustavo García, WP4 – Technical Manager (RedCLARA), gustavo.garcia@redclara.net, and copied to the MAGIC WP4 working group magic-wp4@listas.redclara.net.

1.3. GLOSSARY

EC	European Commission
EU	European Union
EU-LAC	Europe, Latin America and the Caribbean
DNS	Domain Name System
E.164	ITU Recommendation for international number
ENUM	E.164 Numbering Mapping
URI	Uniform Resource Identifier



2. EXECUTIVE SUMMARY

In order to expand the NRENum.net standard, the group shall extend the knowledge on practical issues of the implementation to allow new NRENs to adopt it. Having an on-line course is a key element because it can reach a broad audience, in a global basis, at low costs. The on-line course will explain how to implement a DNS system for NRENum.net. All the material will be focused on facilitating the deployment for the NRENs, and set ready the elements for unified communications.

The course is at present in English and Spanish, plans are underway to include a French version.

The course is intended to be a tool for self instruction and was developed in the OpenEDX MOOC Platform operational in RedCLARA. This platform allows to provide video support material as well as the self evaluation process allowing the student to evaluate his skills as he advances along the course.

This course is a new version and it comes in addition to the one developed in a Moodle platform that was previously reported which is already translated into French.

3. NRENUM.NET ON LINE TRAINING

3.1. COURSE INTRODUCTION AND GOALS

This course is part of the MAGIC WP4 scope of work, and its purpose is to provide to the NRENs communities the necessary elements to implement the NRENum.NET service in their institutions. The NRENum.NET service is a global dialling standard to translate telephone numbers in the E.164 standard format to uniform service identifiers (URI) that can be used by the video or voice infrastructures to reach the dialled location.

The course explains the main service concepts like the domain name system (DNS), the E.164 and ENUM standards, and shows how to configure and enable these tools. Furthermore, the course makes the indications on how to request the NRENum.NET prefix delegation from GÉANT, so the NRENs can become the root servers for their country.



This project is co-funded by the Horizon 2020
Framework Programme of the European Union



A project implemented by RedCLARA

General Goal:

At the end of the course, the participants will be capable of implementing the NRENum.NET service for their institutions. They will understand all the systems and services involved, and how to operate and request the country code delegation.

Target Audience.

The course is targeted at NREN technicians as well as University technicians who wish to implement NRENum. Basic knowledge in Linux System administration and networking is required.

3.2. THE ON LINE COURSE STRUCTURE

This training material has been developed as a tool for the NRENs that have not implemented the NRENum service for their organizations. The material shows the step by step instructions to enable NRENum in an NREN environment, how to configure it, how to register to the NRENum.net tree, and the general recommendations to configure the terminals, gatekeepers, or SBC to make use of it.

The Course is divided in three sections, documentation and self evaluation tests. In the end, a list of references for further study is provided.

The list of sections and subsections and their goals are as follows:

1. Service concepts and protocols

This section explains the concepts and general theory about the NRENum.NET service, its components, how they work, and the standards used. The unit also describes the typical NRENum.NET services work, and how they related each other, including service message and flows.

Goal: The unit goal is to have the participant to learn and understand the components and protocols to implement the service.



2. Implementing the NRENum.NET service

In this chapter, the course contains the process to install, configure and implement the NRENum.NET service. It contains also the description of the zone delegation request process. The participant will have the goal to implement a DNS service, define the zone files and test the number resolution. Furthermore, the process will explain the basics on how to configure an Asterisk, and GNUK servers to use the video and voice traffic with NRENum.NET dialling.

Goal: The unit goal is that the participant finish the course with the capacity to install and operate the NRENum.NET service.

3. Implementing a Secure Domain Name System (DNSsec)

The DNSsec implementation is one of the goals of the MAGIC WP4 project. The protocol allows to secure the DNS zones, and avoid service attacks like the cache poisoning where a hacker can feed fake DNS records that points users to other domains or phishing sites. In this section , the participant will have the DNSsec concepts and will learn how to implement it in their environment.

Goal: The participant will implement a DNSsec for its NRENum:NET domains.

3.3. ACCESS TO THIS COURSE

The online training is accessible to everyone on the following links:

Spanish version

http://clara.fun-campus.net/courses/course-v1:RedCLARA+NRUM01+2016_T4/about

English version

http://clara.fun-campus.net/courses/course-v1:MAGIC+NRENUMen+2016_T4/about



This project is co-funded by the Horizon 2020
Framework Programme of the European Union



A project implemented by RedCLARA



4. REFERENCES

- [R1] MAGIC Website <http://www.magic-project.eu>
- [R2] Web Official NRENum.net <http://nrenum.net>
- [R3] Moodle Online course <http://cursos.redclara.net/course/view.php?id=47>
NRENum

5. CONCLUSIONS

Online training material is now available using MOOC technology to support the training on how to implement the NRENum.net service for global video dialing. This material will be of great use in the deployment of NRENum in the NRENs served by the MAGIC Project.



This project is co-funded by the Horizon 2020
Framework Programme of the European Union



A project implemented by RedCLARA