



# Title: Intranet messaging

## Authors: ALARCON-ALVAREZ, Jorge, FLORES-SEDANO, Juan José y RUIZ-JAIMES, Miguel Angel

Editorial label ECORFAN: 607-8695  
BCONIMI Control Number: 2020-38  
BCONIMI Classification (2020): 120320-0038

Pages: 29  
RNA: 03-2010-032610115700-14

ECORFAN-México, S.C.  
143 – 50 Itzopan Street  
La Florida, Ecatepec Municipality  
Mexico State, 55120 Zipcode  
Phone: +52 1 55 6159 2296  
Skype: ecorfan-mexico.s.c.  
E-mail: contacto@ecorfan.org  
Facebook: ECORFAN-México S. C.  
Twitter: @EcorfanC

[www.ecorfan.org](http://www.ecorfan.org)

### Holdings

Mexico	Colombia	Guatemala
Bolivia	Cameroon	Democratic
Spain	El Salvador	Republic
Ecuador	Taiwan	of Congo
Peru	Paraguay	Nicaragua

# PRESENTATION OUTLINE

**TOPICS TO DISCUSS**

Introduction  
Related works  
Main problems  
Chosen options  
BPMN charts of some process of the project  
User application  
Drawbacks of the solutions  
Further work  
Summary  
Contact Us

INTRANET MESSAGING



**Upemor**  
Universidad **Politécnica**

August, 2019

**Introduction**



**Introduction**

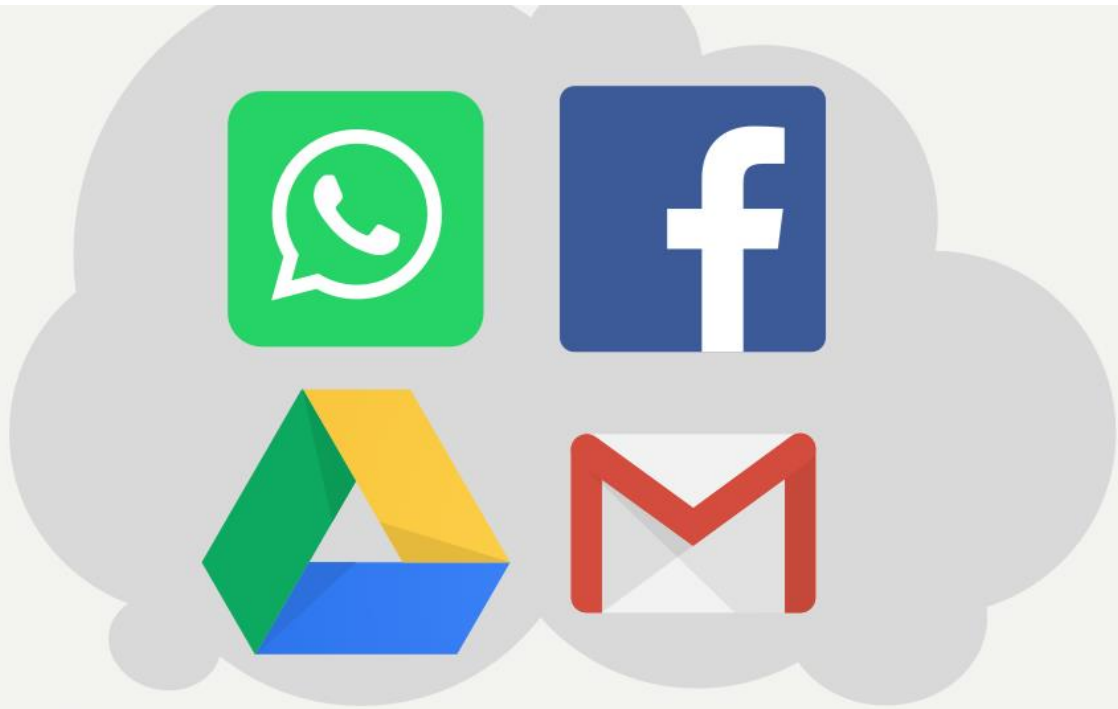


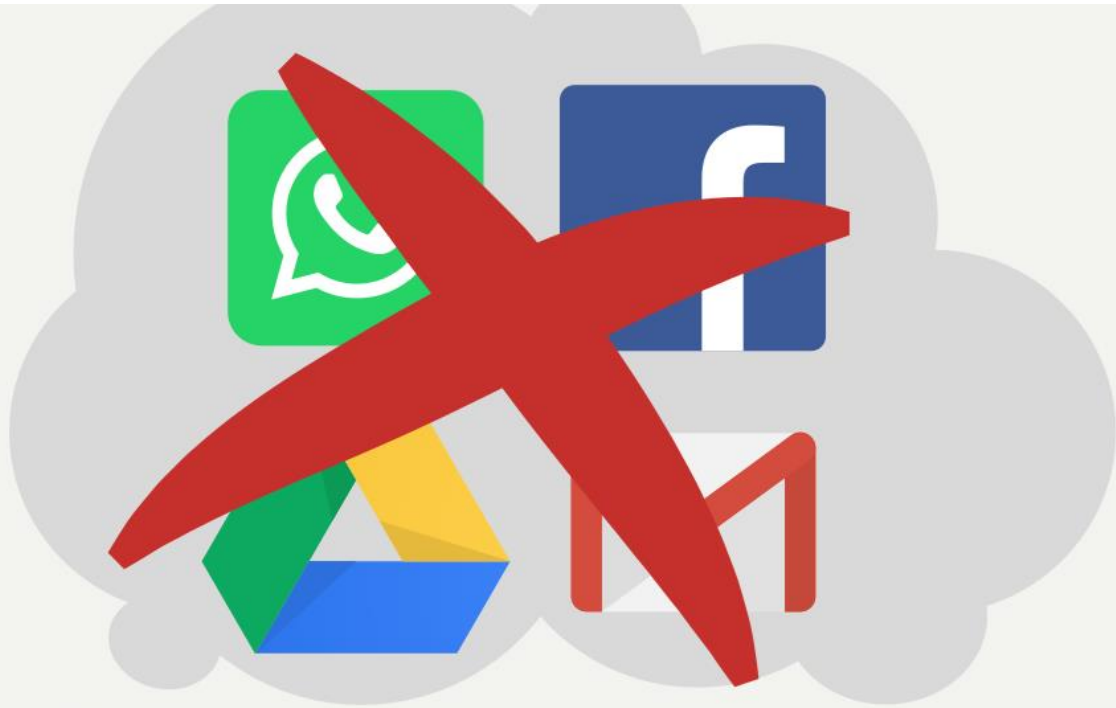
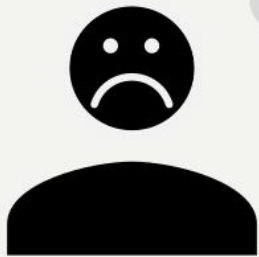


## Introduction



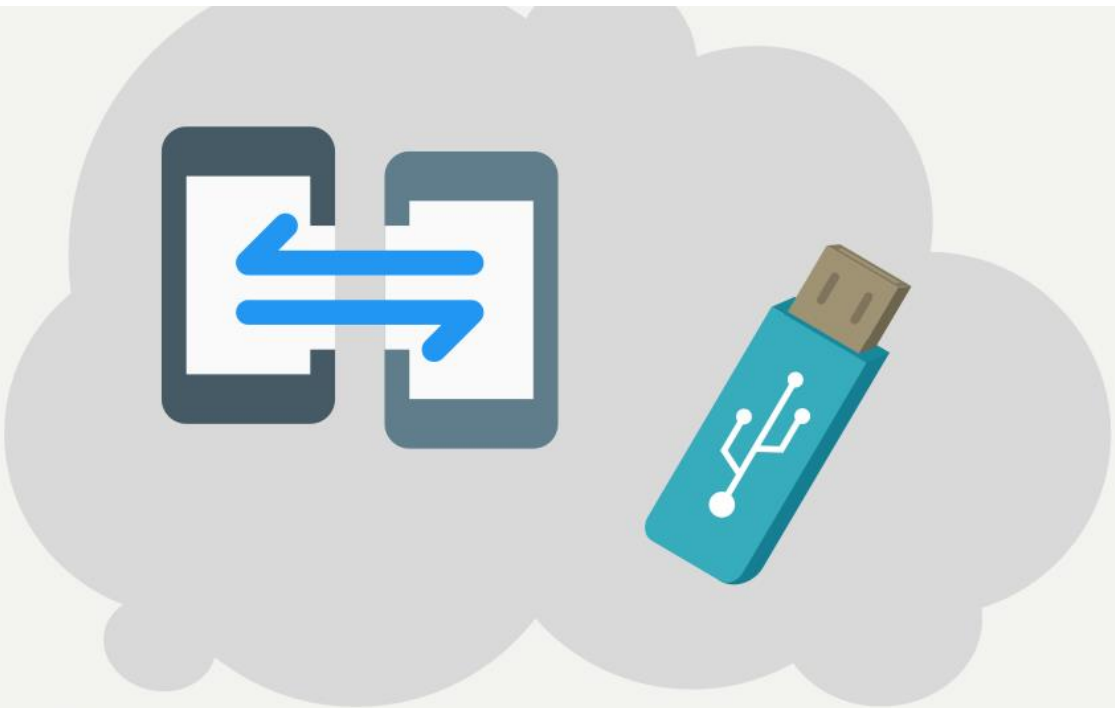
**Introduction**





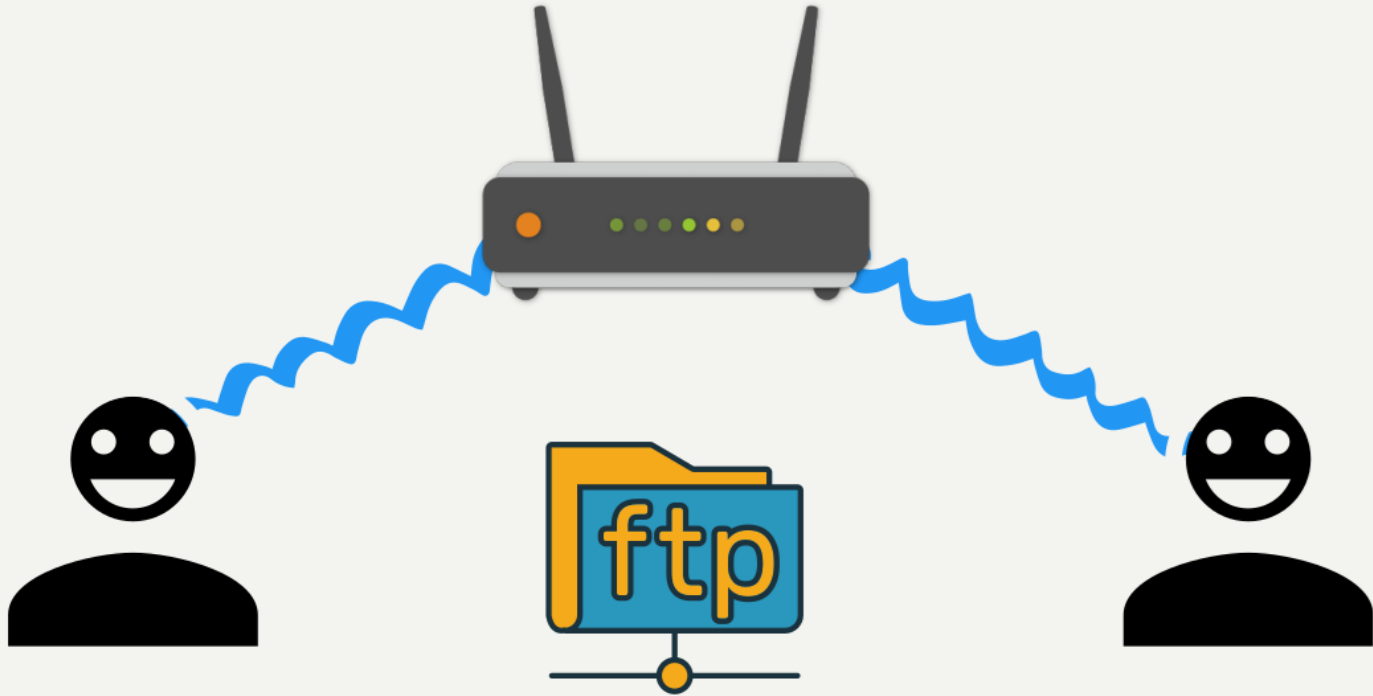
**Introduction**





**Introduction**





## Introduction



## FTP

The File Transfer Protocol

Filezilla, VSFTPD

## LAN CHATS

To chat with other users in the same LAN

CD Messenger, Squiggle

# OPERATION

---

A sends a message/file to B. To do this, A must know the IP address of B.



# MAIN PROBLEMS

## DHCP

The IP address of a user  
will never be the same

## ESTABLISHING THE CONNECTION

## NETWORK SEGMENTATION

Users from different  
vlans without the ability  
to communicate

## MEANING

Dynamic Host Configuration Protocol

## USAGE

A DHCP server dynamically assigns an IP address and other network configuration parameters to each device on a network

## PROBLEM

User IP addresses are constantly changing

## SOLUTION **13**

- Address server
- IPv6 EUI - 64
- UDP Broadcast
- Scan every host in the network

# DHCP

# MORE PROBLEMS

SCANNING EACH HOST IS  
INSANE

Class C, B or A networks.

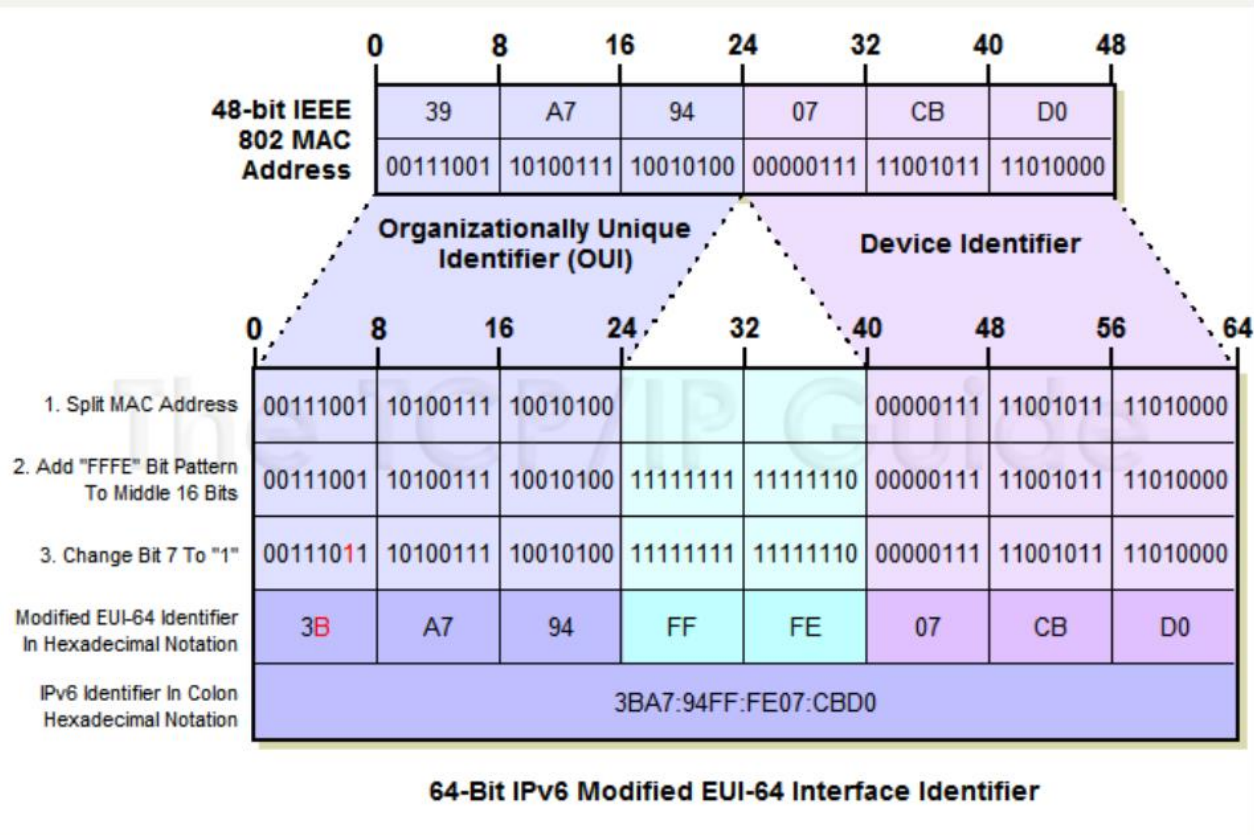
UDP IS NOT RELIABLE

Broadcast storm

ADDRESS SERVER

What if the server is down?





```
revert database truncation of the database...
puts "The Rails environment is ready!"
require 'spec_helper'
require 'rspec/rails'

require 'capybara/rspec'
require 'capybara/rails'

Capybara.javascript_driver = :webkit
Category.delete_all; Category.create
Shoulda::Matchers.configure do |config|
  config.integrate do |with|
    with.test_framework :rspec
    with.library :rails
  end
end

# Add additional requires below this line.

# Requires supporting ruby files with support/
# spec/support/ and its subdirectories. Files matching
# in *_spec.rb files by default. The way to
# run twice. It is recommended that you
# end with _spec.rb. You can configure
# option on the command line.

results found for 'mongoid'
```

## ADDRESS SERVER

16

Presentations are communication tools.

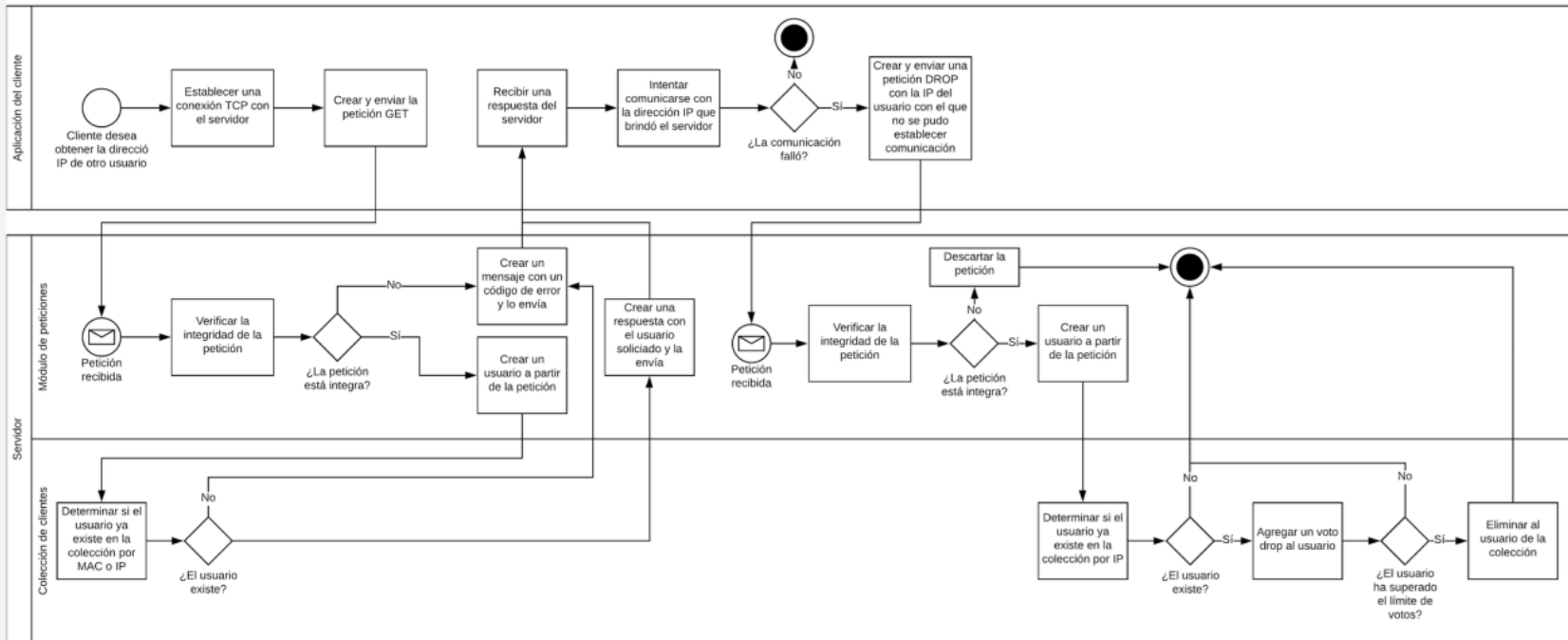
## IPV6 EUI-64

Presentations are communication tools.

CHOSEN OPTIONS

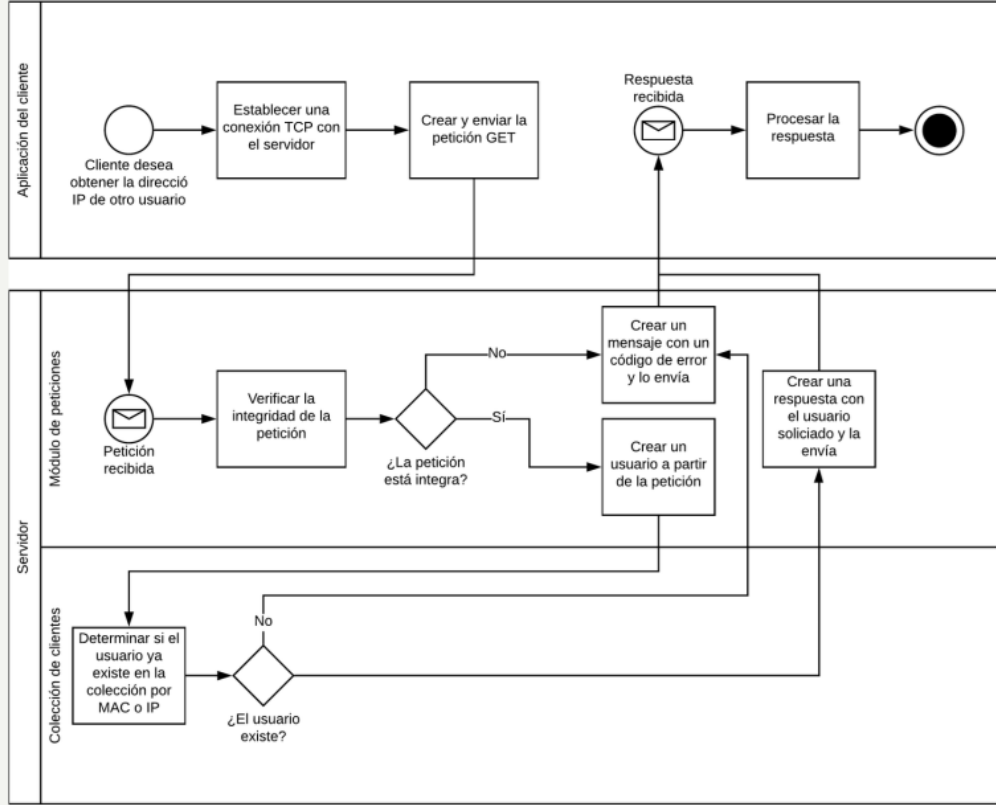
# DROP REQUEST

17

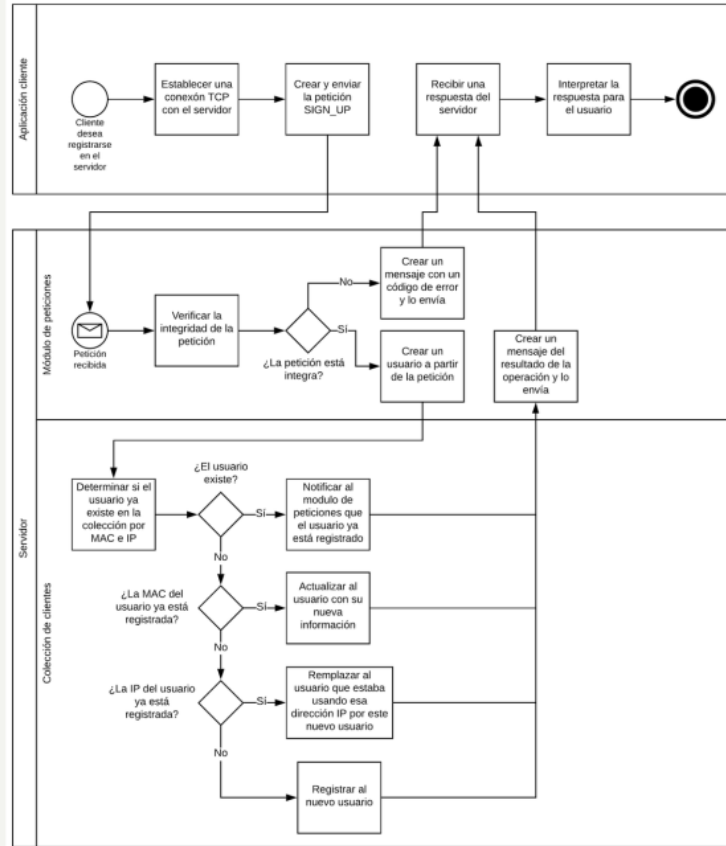


**BPMN charts of some process of the project**

# GET REQUEST



# SIGN-UP REQUEST



# USER APPLICATION

## TO ESTABLISH COMMUNICATION

If the server is down, try  
with IPv6 Link Local  
EUI - 64

## SEND TEXT MESSAGES

As in any other chat

## SHARE FILES AS FTP SERVER

Visit your contacts  
directories

## DRAWBACKS

Someone can impersonate you

Who came up with the idea of mixing layer 2 and layer 7 of the OSI model?



We have not solved the problem of inter-vlan communication



AND YOU ARE SHARING YOUR MAC ADDRESS WITH EVERYONE

# HTTP: THE NEXT ITERATION

- Encrypt information without reinventing the wheel (HTTPS)
- No need to write code for each platform (Responsive design)
- No need to install anything on your device

IMPROVING THE SECURITY



# SUMMARY

# Contact us



**JORGE ALARCON**

aajo170002@upemor.edu.mx



**JUAN JOSE  
FLORES**

fsjo161286@upemor.edu.mx



**MIGUEL RUIZ**

mruiz@upemor.edu.mx

# TRY ME!

## HOTLINE SOURCE CODE

<https://github.com/jorge4larcon/hotline>

## HOTLINE FOR WINDOWS X64

[https://mega.nz/#!IPACHIBC!iPidiJx04bXH5R9EzSRK\\_g0cxt0g3QX  
M0neiay\\_-w7w](https://mega.nz/#!IPACHIBC!iPidiJx04bXH5R9EzSRK_g0cxt0g3QX<br/>M0neiay_-w7w)

# TRY ME!

## CINNACOM SOURCE CODE

<https://github.com/jorge4larcon/cinnamon>

## CINNAMON FOR WINDOWS X64

[https://drive.google.com/open?  
id=1sYVMVMX5YjbHARfgENbbTIW9RaOgDJWxk](https://drive.google.com/open?id=1sYVMVMX5YjbHARfgENbbTIW9RaOgDJWxk)

# TRY ME!

## ADMINT SOURCE CODE

<https://github.com/jorge4larcon/admint>

## ADMINT FOR WINDOWS X64

[https://drive.google.com/open?  
id=1j2wICRY\\_\\_ICGnhwl607jnbnx2Wu\\_9SoRG](https://drive.google.com/open?id=1j2wICRY__ICGnhwl607jnbnx2Wu_9SoRG)

- R. Droms. (1997). **Dynamic Host Configuration Protocol**. Febrero 28, 2020, de IETF, sitio web: <https://tools.ietf.org/html/rfc2131>
- J. Postel & J. Reynolds. (1985). **Protocolo de Transferencia de Ficheros (FTP)**. Febrero 26, 2020, de IETF, sitio web: <https://www.rfc-es.org/rfc/rfc0959-es.txt>
- R. Hinden & S. Deering. (2006). **IP Version 6 Addressing Architecture**. Febrero 25, 2020, de IETF, sitio web: <https://tools.ietf.org/html/rfc4291>
- D. Eastlake & J. Abley. (2013). **IANA Considerations and IETF Protocol and Documentation Usage for IEEE 802 Parameters**. Febrero 26, 2020, de IETF, sitio web: <https://www.rfc-es.org/rfc/rfc0768-es.txt>
- J. Postel. (1980). **User Datagram Protocol**. Febrero 26, 2020, de IETF, sitio web: <https://www.rfc-es.org/rfc/rfc0768-es.txt>
- L. Eggert, G. Fairhurst & G. Shepherd. (2017). **UDP Usage Guidelines**. Febrero 26, 2020, de IETF, sitio web: <https://tools.ietf.org/html/rfc8085>
- Y. Rekhter, B. Moskowitz, D. Karrenberg, G. J. de Groot & E. Lear. (1996). **Address Allocation for Private Internets**. Febrero 27, 2020, de IETF, sitio web: <https://tools.ietf.org/html/rfc1918>
- D. McPherson & B. Dykes. (2001). **VLAN Aggregation for Efficient IP Address Allocation**. Febrero 27, 2020, de IETF Sitio web: <https://tools.ietf.org/html/rfc3069>



**ECORFAN®**

© ECORFAN-Mexico, S.C.

No part of this document covered by the Federal Copyright Law may be reproduced, transmitted or used in any form or medium, whether graphic, electronic or mechanical, including but not limited to the following: Citations in articles and comments Bibliographical, compilation of radio or electronic journalistic data. For the effects of articles 13, 162,163 fraction I, 164 fraction I, 168, 169,209 fraction III and other relative of the Federal Law of Copyright. Violations: Be forced to prosecute under Mexican copyright law. The use of general descriptive names, registered names, trademarks, in this publication do not imply, uniformly in the absence of a specific statement, that such names are exempt from the relevant protector in laws and regulations of Mexico and therefore free for General use of the international scientific community. BCONIMI is part of the media of ECORFAN-Mexico, S.C., E: 94-443.F: 008- ([www.ecorfan.org/](http://www.ecorfan.org/) booklets)