

7 Anexos

7.1 Exim.

7.1.1 Fichero exim4.conf.

```
#####
### CONFIGURACION GENERAL DEL 'MTA' EXIM 4 ###
#####

exim_path = /usr/sbin/exim4
CONFDIR = /etc/exim4

domainlist local_domains = lsearch;/etc/exim4/dominiosESI
#local_interfaces = 0.0.0.0

domainlist relay_to_domains = *
hostlist relay_from_hosts = *

qualify_domain = esi.us.es

acl_smtp_rcpt = acl_check_rcpt
acl_smtp_data = acl_check_data

rfc1413_hosts = *
rfc1413_query_timeout = 0s

ignore_bounce_errors_after = 2d
timeout_frozen_after = 2d
freeze_tell = postmaster

trusted_users = uucp

ldap_default_servers = ldap.esi.us.es

av_scanner = clamd:127.0.0.1 3310

spamd_address = 127.0.0.1 783

system_filter = /etc/exim4/system.filter
message_body_visible = 500000000
log_file_path=:syslog

smtp_accept_max = 0
smtp_accept_queue_per_connection = 0

queue_run_max = 30

message_size_limit = 6M
recipients_max = 70
recipients_max_reject = true

#####
### ACLs ###
#####

begin acl

acl_whitelist_local_deny:
    accept hosts = ${if exists{CONFDIR/local_host_whitelist}\
                    {CONFDIR/local_host_whitelist}\
                    {}}
    accept senders = ${if exists{CONFDIR/local_sender_whitelist}\
                      {CONFDIR/local_sender_whitelist}\
                      {}}

acl_check_data:
    discard message = This message contains virus ($malware_name).
```

```
malware = *
warn    message = X-Spam-Score: $spam_score ($spam_bar)
        condition = ${if <{$message_size}{32k}{1}{0}}
        spam      = ${lookup ldap
{ldap:///dc=esi,dc=us,dc=es?uid?sub?(uid=${lc:${extract{1}{=0}}{$recipients}}{$value}}{
mail}})}}}:true
warn    message = Subject: -SPAM- $h_Subject
        condition = ${if <{$message_size}{32k}{1}{0}}
        spam      = ${lookup ldap
{ldap:///dc=esi,dc=us,dc=es?uid?sub?(uid=${lc:${extract{1}{=0}}{$recipients}}{$value}}{
mail}})}}}
        condition = ${if <{$spam_score_int}{10}{1}{0}}
deny    message = This message scored $spam_score spam points
        spam      = nobody
        condition = ${if >{$spam_score_int}{10}{1}{0}}
accept

acl_check_rcpt:
accept hosts = :
deny     domains      = +local_domains
        local_parts   = ^[.] : ^.*[@%!/|]
        message       = Caracteres restringidos en la direccion
deny     domains      = !+local_domains
        local_parts   = ^[./|] : ^.*[@%!]| : ^.*[\\.\|]./
        message       = Caracteres restringidos en la direccion
accept local_parts = root
        domains      = +local_domains
#deny message = Verificacion de direccion origen erronea
#       !acl = acl_whitelist_local_deny
#       !verify = sender
deny message = La direccion de entrega pertenece a la lista negra del sistema
        !acl = acl_whitelist_local_deny
        hosts = ${if exists{CONFDIR/local_host_blacklist}\
                  {CONFDIR/local_host_blacklist}\
                  {}}
accept domains = +local_domains
endpass
message = Usuario desconocido
verify = recipient
accept domains = +relay_to_domains
endpass
message = Direccion de correo no rutable
verify = recipient
accept hosts = +relay_from_hosts
accept authenticated = *
deny message = Entrega no permitida

#####
### AUTHENTICATORS ###
#####

begin authenticators

#####
### ROUTERS ###
#####

begin routers

#
# externos: Envios a direcciones de correo externas
#
externos:
debug_print = "ROUTER: ESI externos -> $local_part@$domain"
driver = manualroute
domains = !+local_domains
route_list = * correo.us.es
transport = remote_smtp
no_more
```

```
#
# filtros_admin: Aplicacion de los filtros del administrador
#
filtros_admin:
    debug_print = "ROUTER: ESI filtros_admin -> $local_part@$domain"
    driver = redirect
    domains = +local_domains
    user = exim
    allow_filter
    file = /correo/adminfilter
    no_verify
    no_expn
    check_ancestor
    file_transport = address_file
    pipe_transport = address_pipe
    reply_transport = address_reply
    ignore_enotdir

#
# filtros: Aplicacion de los filtros de usuario
#
filtros:
    debug_print = "ROUTER: ESI filtros -> $local_part@$domain"
    driver = redirect
    domains = +local_domains
    user = exim
    allow_filter
    file = = ${lookup ldap
{ldap:///dc=esi,dc=us,dc=es?mailMessageStore?sub?(mail=$local_part@$domain) }}/userfi
lter
    no_verify
    no_expn
    check_ancestor
    file_transport = address_file
    directory_transport = folder_put
    pipe_transport = address_pipe
    reply_transport = address_reply
    ignore_enotdir

#
# entrega: Entrega local
#
entrega:
    debug_print = "ROUTER: ESI entrega -> $local_part@$domain"
    driver = accept
    domains = +local_domains
    condition = ${lookup ldap
{ldap:///dc=esi,dc=us,dc=es?mail?sub?(mail=$local_part@$domain) }}
transport = maildir_home

#
# alternativa: Entrega alternativa
#
alternativa:
    debug_print = "ROUTER: ESI alternativa -> $local_part@$domain"
    driver = accept
    domains = +local_domains
    condition = ${lookup ldap
{ldap:///dc=esi,dc=us,dc=es?mailAlternateAddress?sub?(mailAlternateAddress=$local_pa
rt@$domain) }}
transport = alternativa_home

#####
### TRANSPORTS ###
#####

begin transports

#
# address_file
```

```
#
address_file:
    debug_print = "TRANSPORT: ESI address_file -> $local_part@$domain"
    driver = appendfile
    delivery_date_add
    envelope_to_add
    return_path_add
    create_directory

#
# address_pipe
#
address_pipe:
    debug_print = "TRANSPORT: ESI address_pipe -> $local_part@$domain"
    driver = pipe
    return_output

#
# address_reply
#
address_reply:
    debug_print = "TRANSPORT: ESI address_reply -> $local_part@$domain"
    driver = autoreply
    group = exim
    user = exim

#
# maildir_home
#
maildir_home:
    debug_print = "TRANSPORT: ESI maildir_home -> $local_part@$domain"
    driver = appendfile
    delivery_date_add
    envelope_to_add
    return_path_add
    maildir_format
    maildir_tag = ,S=$message_size
    maildir_use_size_file = true
    maildir_quota_directory_regex = ^(?:cur|new|\.*)$
    quota_size_regex = ,S=(\d+)
    quota = = ${lookup ldap
{ldap:///dc=esi,dc=us,dc=es?mailQuotaSize?sub?(mail=$local_part@$domain)}}
    quota_warn_threshold = 90%
    quota_warn_message = "\
To: $local_part@$domain\n\
Subject: Su buzón de correo esta al limite de su capacidad\n\n\
Este mensaje ha sido creado automáticamente \
por el sistema de Correo de la ESI.\n\n\
La capacidad de su buzón de correo está llegando al límite \
establecido por su administrador de correo.\n\n \
Si se alcanza este límite no podrá recibir nuevos correos hasta \n \
que libere espacio en su buzón.\n\n"
    directory = = ${lookup ldap
{ldap:///dc=esi,dc=us,dc=es?mailMessageStore?sub?(mail=$local_part@$domain)}}/Maildi
r
    create_directory
    mode = 0600

#
# alternativa_home
#
alternativa_home:
    debug_print = "TRANSPORT: ESI alternativa_home -> $local_part@$domain"
    driver = appendfile
    delivery_date_add
    envelope_to_add
    return_path_add
    maildir_format
    maildir_tag = ,S=$message_size
    maildir_use_size_file = true
    maildir_quota_directory_regex = ^(?:cur|new|\.*)$
    quota_size_regex = ,S=(\d+)
```

```
quota                                =                                ${lookup                                ldap
{ldap:///dc=esi,dc=us,dc=es?mailQuotaSize?sub?(mailAlternateAddress=$local_part@$dom
ain)}}
quota_warn_threshold = 90%
quota_warn_message = "\
To: $local_part@$domain\n\
Subject: Su buzón de correo esta al límite de su capacidad\n\n\
Este mensaje ha sido creado automáticamente \
por el sistema de Correo de la ESI.\n\n\
La capacidad de su buzón de correo está llegando al límite \
establecido por su administrador de correo.\n\n\
Si se alcanza este límite no podrá recibir nuevos correos hasta \n \
que libere espacio en su buzón.\n\n"
directory                                =                                ${lookup                                ldap
{ldap:///dc=esi,dc=us,dc=es?mailMessageStore?sub?(mailAlternateAddress=$local_part@$
domain)}}/Maildir
create_directory
mode = 0600

#
# remote_smtp
#
remote_smtp:
    debug_print = "TRANSPORT: ESI remote_smtp -> $local_part@$domain"
    driver = smtp

#####
### RETRY ###
#####

begin retry

*                                *                                F,2h,15m; G,16h,1h,1.5; F,4d,6h
```

7.2 Courier.

7.2.1 Fichero imapd.conf.

```
##VERSION: $Id: imapd.dist.in,v 1.29 2004/04/18 15:54:39 mrsam Exp $
#
# imapd created from imapd.dist by sysconftool
#
# Do not alter lines that begin with ##, they are used when upgrading
# this configuration.
#
# Copyright 1998 - 2004 Double Precision, Inc. See COPYING for
# distribution information.
#
# This configuration file sets various options for the Courier-IMAP server
# when used with the couriertcpd server.
# A lot of the stuff here is documented in the manual page for couriertcpd.
#
# NOTE - do not use \ to split long variable contents on multiple lines.
# This will break the default imapd.rc script, which parses this file.
#

ADDRESS=0

PORT=143

MAXDAEMONS=4000

MAXPERIP=20000

PIDFILE=/var/run/imapd.pid

TCPDOPTS="-nodnslookup -noidentlookup"
```

```
AUTHMODULES="authdaemon"

AUTHMODULES_ORIG="authdaemon"

DEBUG_LOGIN=0

IMAP_CAPABILITY="IMAP4rev1 UIDPLUS CHILDREN NAMESPACE THREAD=ORDEREDSUBJECT
THREAD=REFERENCES SORT QUOTA IDLE"

IMAP_KEYWORDS=1

IMAP_CAPABILITY_ORIG="IMAP4rev1 UIDPLUS CHILDREN NAMESPACE THREAD=ORDEREDSUBJECT
THREAD=REFERENCES SORT QUOTA AUTH=CRAM-MD5 AUTH=CRAM-SHA1 IDLE"

IMAP_IDLE_TIMEOUT=60

IMAP_CAPABILITY_TLS="$IMAP_CAPABILITY AUTH=PLAIN"

IMAP_CAPABILITY_TLS_ORIG="$IMAP_CAPABILITY_ORIG AUTH=PLAIN"

IMAP_DISABLETHREADSORT=0

IMAP_CHECK_ALL_FOLDERS=0

IMAP_OBSOLETE_CLIENT=0

IMAP_ULIMITD=65536

IMAP_USELOCKS=1

IMAP_SHAREDINDEXFILE=/usr/lib/courier-imap/etc/shared/index

IMAP_ENHANCEDIDLE=0

IMAP_TRASHFOLDERNAME=Trash

IMAP_EMPTYTRASH=Trash:7

IMAP_MOVE_EXPUNGE_TO_TRASH=0

SENDMAIL=/usr/sbin/sendmailHEADERFROM=X-IMAP-Sender

IMAPDSTART=YES

MAILDIRPATH=Maildir
```

7.2.2 Fichero pop3d.conf.

```
##VERSION: $Id: pop3d.dist.in,v 1.9 2004/04/18 15:54:39 mrsam Exp $
#
# pop3d created from pop3d.dist by sysconftool
#
# Do not alter lines that begin with ##, they are used when upgrading
# this configuration.
#
# Copyright 1998 - 2002 Double Precision, Inc. See COPYING for
# distribution information.
#
# Courier POP3 daemon configuration
#

PIDFILE=/var/run/pop3d.pid

MAXDAEMONS=40

MAXPERIP=4
```

```
AUTHMODULES="authdaemon"  
AUTHMODULES_ORIG="authdaemon"  
DEBUG_LOGIN=0  
POP3AUTH=""  
POP3AUTH_ORIG="LOGIN CRAM-MD5 CRAM-SHA1"  
POP3AUTH_TLS=""  
POP3AUTH_TLS_ORIG="LOGIN PLAIN"  
PORT=110  
ADDRESS=0  
TCPDOPTS="-nodnslookup -noidentlookup"  
POP3DSTART=NO  
MAILDIRPATH=Maildir
```

7.2.3 Fichero authdaemonrc.

```
##VERSION: $Id: authdaemonrc.in,v 1.8 2001/10/07 02:16:22 mrsam Exp $  
#  
# Copyright 2000-2001 Double Precision, Inc. See COPYING for  
# distribution information.  
#  
# authdaemonrc created from authdaemonrc.dist by sysconftool  
#  
# Do not alter lines that begin with ##, they are used when upgrading  
# this configuration.  
#  
# This file configures authdaemond, the resident authentication daemon.  
#  
# Comments in this file are ignored. Although this file is intended to  
# be sourced as a shell script, authdaemond parses it manually, so  
# the acceptable syntax is a bit limited. Multiline variable contents,  
# with the \ continuation character, are not allowed. Everything must  
# fit on one line. Do not use any additional whitespace for indentation,  
# or anything else.  
  
authmodulelist="authldap"  
  
authmodulelistorig="authcustom authcram authuserdb authldap authpgsql authmysql  
authpam"  
  
daemons=5  
  
version=""  
  
authdaemonvar=/var/run/authdaemon.courier-imap
```

7.2.4 Fichero authldaprc.

```
##VERSION: $Id: authldaprc,v 1.21 2004/04/20 01:38:17 mrsam Exp $  
#  
# Copyright 2000-2004 Double Precision, Inc. See COPYING for  
# distribution information.  
#  
# Do not alter lines that begin with ##, they are used when upgrading
```

```
# this configuration.
#
# authldaprc created from authldaprc.dist by sysconftool
#
# DO NOT INSTALL THIS FILE with world read permissions.  This file
# might contain the LDAP admin password!
#
# This configuration file specifies LDAP authentication parameters
#
# The format of this file must be as follows:
#
# field[spaces|tabs]value
#
# That is, the name of the field, followed by spaces or tabs, followed by
# field value.  No trailing spaces.
#
# Here are the fields:

LDAP_SERVER      10.236.1.40
LDAP_PORT        389

LDAP_PROTOCOL_VERSION 3

LDAP_BASEDN      dc=rtva,dc=es

LDAP_TIMEOUT     30
LDAP_AUTHBIND    1

LDAP_MAIL        uid

LDAP_GLOB_UID     exim
LDAP_GLOB_GID     exim

LDAP_HOMEDIR     mailMessageStore
LDAP_DEFAULTDELIVERY defaultDelivery
LDAP_MAILDIRQUOTA mailQuotaSize
LDAP_FULLNAME    cn
LDAP_CLEARPW     clearPassword
LDAP_CRYPTPW     userPassword

LDAP_DEREF       never
LDAP_TLS         0
```

7.3 Clamav.

7.3.1 Fichero clamd.conf.

```
##
## Example config file for the Clam AV daemon
## Please read the clamd.conf(5) manual before editing this file.
##

LogFile /var/log/clamd.log
LogFileMaxSize 2M
LogTime
LogClean
LogSyslog
LogVerbose

PidFile /var/run/clamd.pid

TemporaryDirectory /var/tmp
DatabaseDirectory /var/lib/clamav

TCPSocket 3310

StreamMaxLength 6M
```

7.3.2 Fichero freshclam.conf.

```
##
## Example config file for freshclam
## Please read the freshclam.conf(5) manual before editing this file.
## This file may be optionally merged with clamd.conf.
##

DatabaseDirectory /var/lib/clamav

UpdateLogFile /var/log/clamav/freshclam.log

LogVerbose

LogSyslog

PidFile /var/run/freshclam.pid

DatabaseOwner clamav

AllowSupplementaryGroups

DNSDatabaseInfo current.cvd.clamav.net

DatabaseMirror database.clamav.net

MaxAttempts 5

Checks 24

NotifyClamd
```

7.4 Spamassassin.

7.4.1 Fichero user_pref.

```
# SpamAssassin user preferences file. See 'perldoc Mail::SpamAssassin::Conf'
# for details of what can be tweaked.
#*
#* Note: this file is not read by SpamAssassin until copied into the user
#* directory. At runtime, if a user has no preferences in their home directory
#* already, it will be copied for them, allowing them to perform personalised
#* customisation. If you want to make changes to the site-wide defaults,
#* create a file in /etc/spamassassin or /etc/mail/spamassassin instead.
#####

# How many points before a mail is considered spam.
required_score 5

# Whitelist and blacklist addresses are now file-glob-style patterns, so
# "friend@somewhere.com", "*@isp.com", or "*.domain.net" will all work.
whitelist_from *@*.us.es

# Add your own customised scores for some tests below. The default scores are
# read from the installed spamassassin rules files, but you can override them
# here. To see the list of tests and their default scores, go to
# http://spamassassin.apache.org/tests.html .
#
# score SYMBOLIC_TEST_NAME n.nn

# Speakers of Asian languages, like Chinese, Japanese and Korean, will almost
# definitely want to uncomment the following lines. They will switch off some
# rules that detect 8-bit characters, which commonly trigger on mails using CJK
# character sets, or that assume a western-style charset is in use.
#
# score HTML_COMMENT_8BITS 0
```

```
# score UPPERCASE_25_50          0
# score UPPERCASE_50_75          0
# score UPPERCASE_75_100        0
# score OBSCURED_EMAIL          0

# Speakers of any language that uses non-English, accented characters may wish
# to uncomment the following lines.  They turn off rules that fire on
# misformatted messages generated by common mail apps in contravention of the
# email RFCs.

# score SUBJ_ILLEGAL_CHARS      0
```

7.4.2 Fichero local.cf

```
# This is the right place to customize your installation of SpamAssassin.
#
# See 'perldoc Mail::SpamAssassin::Conf' for details of what can be
# tweaked.
#
# Only a small subset of options are listed below
#
#####

#   Add *****SPAM***** to the Subject header of spam e-mails
#
# rewrite_header Subject *****SPAM*****

#   Save spam messages as a message/rfc822 MIME attachment instead of
#   modifying the original message (0: off, 2: use text/plain instead)
#
# report_safe 1

#   Set which networks or hosts are considered 'trusted' by your mail
#   server (i.e. not spammers)
#
# trusted_networks 212.17.35.

#   Set file-locking method (flock is not safe over NFS, but is faster)
#
# lock_method flock

#   Set the threshold at which a message is considered spam (default: 5.0)
#
# required_score 5.0

#   Use Bayesian classifier (default: 1)
#
# use_bayes 1

#   Bayesian classifier auto-learning (default: 1)
#
# bayes_auto_learn 1

#   Set headers which may provide inappropriate cues to the Bayesian
#   classifier
#
# bayes_ignore_header X-Bogosity
# bayes_ignore_header X-Spam-Flag
# bayes_ignore_header X-Spam-Status
```

7.5 Squirrelmail.

7.5.1 Fichero config.php

```
<?php

/**
 * Default SquirrelMail configuration file
 */

/* Do not change this value. */
global $version;
global $username;
global $config_version;
$config_version = '1.4.0';

$org_name = "ESI";
$org_logo = SM_PATH . 'images/logoesi.gif';
$org_logo_width = '110';
$org_logo_height = '79';
$org_title = "ESI - WebMail";

$signout_page = '';
$squirrelmail_default_language = 'es_ES';
$frame_top = '_top';

$provider_name = 'ESI';
$provider_uri = 'http://correo.esi.us.es';
$domain = 'esi.us.es';

$invert_time = false;
$useSendmail = false;

$smtpServerAddress = 'smtp.correo.esi.us.es';
$smtpPort = 25;
$sendmail_path = '/usr/sbin/sendmail';

$imapServerAddress = 'imap.correo.esi.us.es';
$imapPort = 143;
$imap_server_type = 'courier';
$use_imap_tls = false;

$use_smtp_tls = false;
$smtp_auth_mech = 'none';
$imap_auth_mech = 'login';

$optional_delimiter = 'detect';
$pop_before_smtp = false;
$default_folder_prefix = '';
$show_prefix_option = false;

$default_move_to_trash = true;
$default_move_to_sent = true;
$default_save_as_draft = true;
$trash_folder = 'INBOX.Papelera';
$sent_folder = 'INBOX.Enviados';
$draft_folder = 'INBOX.Borradores';
$auto_expunge = true;
$delete_folder = false;

$use_special_folder_color = true;
$auto_create_special = true;
$list_special_folders_first = true;
$default_sub_of_inbox = true;
$show_contain_subfolders_option = false;
$default_unseen_notify = 2;
$default_unseen_type = 1;
$noselect_fix_enable = false;
$default_charset = 'iso-8859-1';
```

```
$data_dir = '/correo/squirrelmail/data/';
$attachment_dir = '/correo/squirrelmail/attach/';
$dir_hash_level = 0;
$default_left_size = '150';
$force_username_lowercase = false;

$default_use_priority = true;
$hide_sm_attributions = false;
$default_use_mdn = true;
$edit_identity = false;
$edit_name = true;
$allow_thread_sort = true;
$allow_server_sort = true;
$allow_charset_search = false;
$uid_support = true;
$session_name = 'SQMSESSID';

$theme_default = 1;
$theme_css = '';

$theme[0]['PATH'] = SM_PATH . 'themes/default_theme.php';
$theme[0]['NAME'] = 'Default';

$theme[1]['PATH'] = SM_PATH . 'themes/esi_theme.php';
$theme[1]['NAME'] = 'ESI';

$ldap_server[0] = Array(
    'host' => '10.236.1.40',
    'base' => 'dc=rtva,dc=es',
    'name' => 'Directorio Corporativo de RTVA'
);

$default_use_javascript_addr_book = false;

$motd = "";

$plugins[0] = 'compatibility';
$plugins[1] = 'addgraphics';
$plugins[2] = 'username';
$plugins[3] = 'quota_usage';
$plugins[4] = 'image_buttons';
$plugins[5] = 'abook_import_export';
$plugins[6] = 'avelsieve';
$plugins[7] = 'ldapquery';
$plugins[8] = 'msg_flags';
$plugins[9] = 'spam_buttons';
$plugins[10] = 'change_ldappass';

$addrbook_dsn = '';
$addrbook_table = 'address';
$prefs_dsn = '';
$prefs_table = 'userprefs';
$prefs_key_field = 'prefkey';
$prefs_user_field = 'user';
$prefs_val_field = 'prefval';

$no_list_for_subscribe = false;

$config_use_color = 2;

@include SM_PATH . 'config/config_local.php';

?>
```

7.6 LDAP.

7.6.1 Fichero slapd.conf (maestro).

```
include          /etc/ldap/schema/core.schema
include          /etc/ldap/schema/cosine.schema
include          /etc/ldap/schema/nis.schema
include          /etc/ldap/schema/inetorgperson.schema
include          /etc/ldap/schema/qmail.schema

loglevel         7

database         bdb

suffix           "dc=esi,dc=us,dc=es"

directory        "/var/lib/ldap"

index    objectClass eq
index    uid eq
index    uidNumber eq
index    cn pres,sub,eq
index    mail pres,sub,eq
index    mailAlternateAddress pres,sub,eq

repllogfile      /var/tmp/ldap/slurp.log
replica uri=ldap://ldap02.esi.us.es:389
binddn="cn=Manager,dc=esi,dc=us,dc=es"
bindmethod=simple credentials=esi

rootdn "cn=Manager,o=administradores,dc=esi,dc=us,dc=es"
rootpw esi
updatedn "cn=Manager,o=administradores,dc=esi,dc=us,dc=es"

access to attrs=userPassword
    by dn="cn=Manager,o=administradores,dc=esi,dc=us,dc=es" write
    by sockname=127.0.0.1 read
    by peername=127.0.0.1 read
    by anonymous auth
    by self write
    by * none

access to dn.base="" by * read

access to *
    by dn="cn=Manager,o=administradores,dc=esi,dc=us,dc=es" write
    by * read
```

7.6.2 Fichero slapd.conf (esclavo).

```
include          /etc/ldap/schema/core.schema
include          /etc/ldap/schema/cosine.schema
include          /etc/ldap/schema/nis.schema
include          /etc/ldap/schema/inetorgperson.schema
include          /etc/ldap/schema/qmail.schema

loglevel         7

database         bdb

suffix           "dc=esi,dc=us,dc=es"

directory        "/var/lib/ldap"

index    objectClass eq
index    uid eq
```

```

index uidNumber eq
index cn pres,sub,eq
index mail pres,sub,eq
index mailAlternateAddress pres,sub,eq

rootdn "cn=Manager,o=administradores,dc=esi,dc=us,dc=es"
rootpw esi
updatedn "cn=Manager,o=administradores,dc=esi,dc=us,dc=es"

access to attrs=userPassword
    by dn="cn=Manager,o=administradores,dc=esi,dc=us,dc=es" write
    by sockname=127.0.0.1 read
    by peername=127.0.0.1 read
    by anonymous auth
    by self write
    by * none

access to dn.base="" by * read

access to *
    by dn="cn=Manager,o=administradores,dc=esi,dc=us,dc=es" write
    by * read

```

7.6.3 Comandos ldap-utils.

ldapsearch

La herramienta de línea de comando ldapsearch busca entradas específica en el directorio. La sintaxis de ldapsearch es:

```
# ldapsearch [opciones] filter [parametros]
```

Se entiende por filtro la condición que se debe cumplir para la búsqueda de entradas.

Parámetros obligatorios	Descripción
-b basedn	Especifica el DN base para las búsquedas.
-s scope	Alcance de la búsqueda: base, one ó sub.

Tabla 9: Parámetros obligatorios ldapsearch.

Parámetros opcionales	Descripción
-A	Solo muestra los nombres de los atributos (no los valores).
-a deref	Referencias a los alias: never, always, search, or find.
-B	Permite imprimir valores no-ASCII.
-D binddn	Cuando se autentica con un directorio, permite especificar la entrada binddn. Usar con la opción -w password.
-d debug level	Nivel de debug.
-E "character_set"	Especifica la página de codificación de caracteres.
-f file	Ejecuta la sentencia de búsquedas archivadas en el archivo file.
-h ldaphost	Conecta al servidor LDAP en la dirección ldaphost. El valor por defecto es localhost.
-L	Muestra la entradas en formato LDIF.
-l timelimit	Timeout en segundos antes de abandonar una búsqueda.
-p ldapport	Conecta al servidor en el puerto TCP especificado en ldapport. Por defecto conecta en el puerto 389.

-S attr attr	Ordena los resultados por el atributo
-v	Modo extendido
-w passwd	Especifica la contraseña para hacer el bind (para autenticación simple).
-z sizelimit	Especifica el número máximo de entradas que pueden ser mostradas.

Tabla 10: Parámetros opcionales ldapsearch.

Se puede usar el comodín * para las búsquedas pero no es aconsejable si se espera un número muy alto de atributos.

ldapmodify

La herramienta de línea de comando ldapmodify permite cambiar, añadir o borrar atributos. La sintaxis de ldapmodify es:

```
ldapmodify [opciones] -f archivo
```

ldapdelete

La herramienta de línea de comando ldapdelete permite borrar entradas. La sintaxis de ldapdelete es:

```
ldapdelete [opciones] "DN_de_la_entrada"
```

ldapadd

Abre una conexión a un servidor LDAP, enlaza y añade entradas. La sintaxis de ldapadd es:

```
ldapadd [opciones]
```

7.6.4 JXplorer.

JXplorer es una herramienta Java de código abierto que permite mostrar y realizar búsquedas en un directorio LDAP. Está soportada en sistemas operativos Windows, Solaris, Linux y Mac OS X, puede ejecutarse en cualquier plataforma con soporte Java 1.4.2 ó superior.

JXplorer nos proporciona una interfaz para, entre otras cosas:

- Conectarse a un directorio LDAP. Navegar, buscar y modificar el directorio.
- Acceder a los "schema" del directorio de forma directa.
- Cortar, copiar y pegar entradas y subdirectorios, con el método "drag & drop" en el caso de Windows.
- Importar y exportar ficheros LDIF.
- Configurar múltiples vistas en el navegador de directorio.

Para ello, JXplorer cumple con las siguientes especificaciones:

- [RFC 2251](#): Core LDAP description
- [RFC 2252](#): Attribute syntax

- [RFC 2253](#): UTF-8 distinguished names
- [RFC 2254](#): Search Filters
- [RFC 2255](#): LDAP URLs
- [RFC 2256](#): Default LDAP user schema
- [RFC 2849](#): LDIF file format

En la vista principal, muestra los datos del directorio en forma de árbol en el panel izquierdo, y los atributos de cualquier entrada seleccionada en el panel derecho.

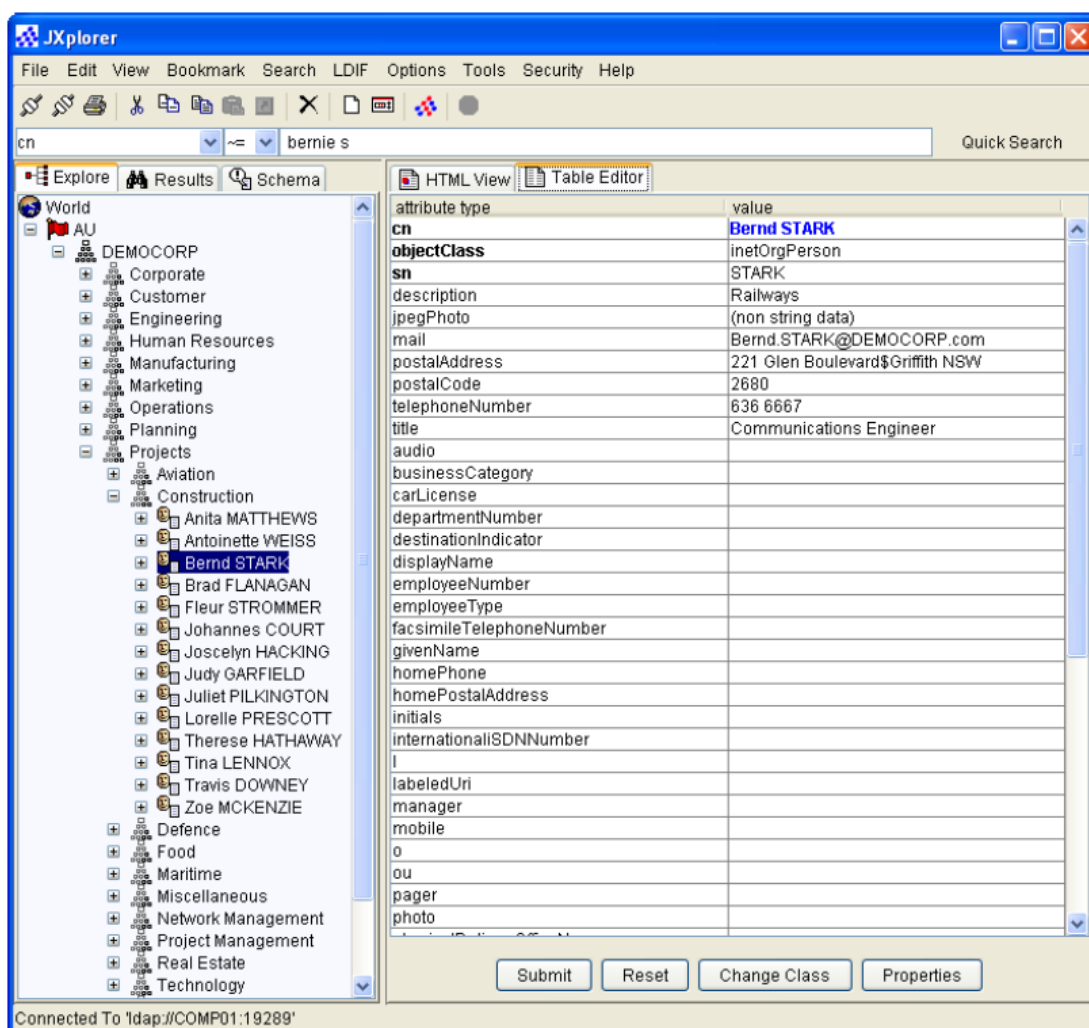


Ilustración 46: JXplorer

7.7 Balanceadores.

7.7.1 Fichero ldirectord.cf

```
# Virtual Server for SMTP
virtual=1.1.1.11:25
real=1.1.1.12:25 gate
real=1.1.1.13:25 gate
```

```
service=smtp
scheduler=rr
protocol=tcp
checktype=negotiate
persistent=0

# Virtual Server for POP
virtual=1.1.1.11:110
real=1.1.1.12:110 gate
real=1.1.1.13:110 gate
service=pop3
scheduler=rr
protocol=tcp
checktype=negotiate
persistent=0

# Virtual Server for IMAP
virtual=1.1.1.11:143
real=1.1.1.12:143 gate
real=1.1.1.13:143 gate
service=imap
scheduler=rr
protocol=tcp
checktype=negotiate
persistent=0

# Virtual Server for HTTPS
virtual=1.1.1.11:443
real=1.1.1.12:443 gate
real=1.1.1.13:443 gate
service=https
scheduler=rr
protocol=tcp
checktype=negotiate
persistent=300

# Virtual Server for LDAP
virtual=1.1.1.21:389
real=1.1.1.22:389 gate
real=1.1.1.23:389 gate
service=ldap
scheduler=rr
protocol=tcp
checktype=negotiate
persistent=0
```

7.8 Almacenes.

7.8.1 Fichero drddb.conf.

```
resource0 {
    protocol C;
    incon-degr-cmd "halt -f";
    startup {
        degr-wfc-timeout 120;    # 2 minutos.
    }
    disk {
        on-io-error detach;
    }
    net {
    }
    syncer {
        rate 10M;
        group 1;
        al-extents 257;
    }
}
```

```

on almacen01 {
    device      /dev/drbd0;
    disk        /dev/sda8;
    address     192.168.1.253:7788;
    meta-disk   /dev/sda7[0];
}
on almacen02 {
    device      /dev/drbd0;
    disk        /dev/sda8;
    address     192.168.1.254:7788;
    meta-disk   /dev/sda7[0];
}
}

```

7.9 Pruebas.

7.9.1 Tabla completa de pruebas de disponibilidad. Fallo hardware.

Prueba	buzon	ldap	lvs	almacen
1	0	0	0	1
2	0	0	0	2
3	0	0	1	0
4	0	0	1	1
5	0	0	1	2
6	0	0	2	0
7	0	0	2	1
8	0	0	2	2
9	0	1	0	0
10	0	1	0	1
11	0	1	0	2
12	0	1	1	0
13	0	1	1	1
14	0	1	1	2
15	0	1	2	0
16	0	1	2	1
17	0	1	2	2
18	0	2	0	0
19	0	2	0	1
20	0	2	0	2
21	0	2	1	0
22	0	2	1	1
23	0	2	1	2
24	0	2	2	0
25	0	2	2	1
26	0	2	2	2
27	1	0	0	0
28	1	0	0	1
29	1	0	0	2
30	1	0	1	0
31	1	0	1	1
32	1	0	1	2
33	1	0	2	0
34	1	0	2	1
35	1	0	2	2

36	1	1	0	0
37	1	1	0	1
38	1	1	0	2
39	1	1	1	0
40	1	1	1	1
41	1	1	1	2
42	1	1	2	0
43	1	1	2	1
44	1	1	2	2
45	1	2	0	0
46	1	2	0	1
47	1	2	0	2
48	1	2	1	0
49	1	2	1	1
50	1	2	1	2
51	1	2	2	0
52	1	2	2	1
53	1	2	2	2
54	2	0	0	0
55	2	0	0	1
56	2	0	0	2
57	2	0	1	0
58	2	0	1	1
59	2	0	1	2
60	2	0	2	0
61	2	0	2	1
62	2	0	2	2
63	2	1	0	0
64	2	1	0	1
65	2	1	0	2
66	2	1	1	0
67	2	1	1	1
68	2	1	1	2
69	2	1	2	0
70	2	1	2	1
71	2	1	2	2
72	2	2	0	0
73	2	2	0	1
74	2	2	0	2
75	2	2	1	0
76	2	2	1	1
77	2	2	1	2
78	2	2	2	0
79	2	2	2	1
80	2	2	2	2

Tabla 11: Pruebas de disponibilidad.