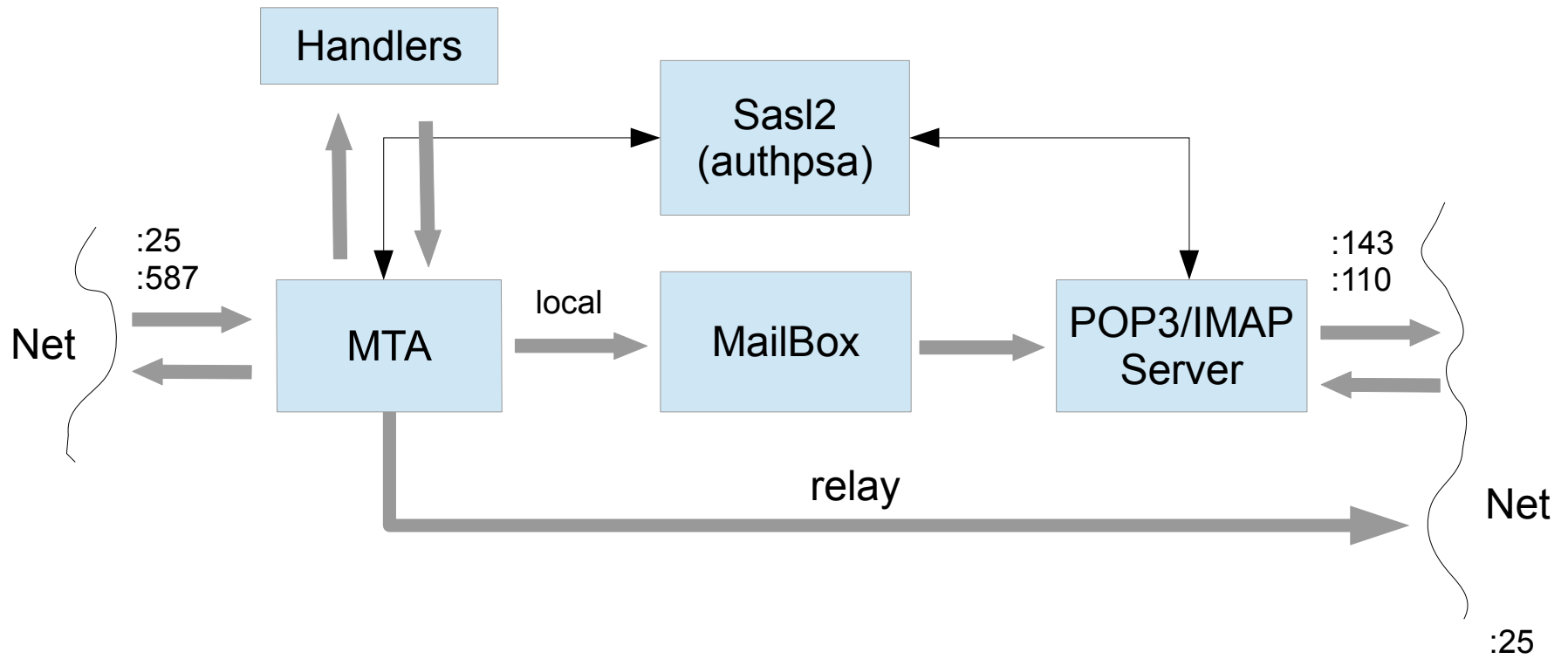


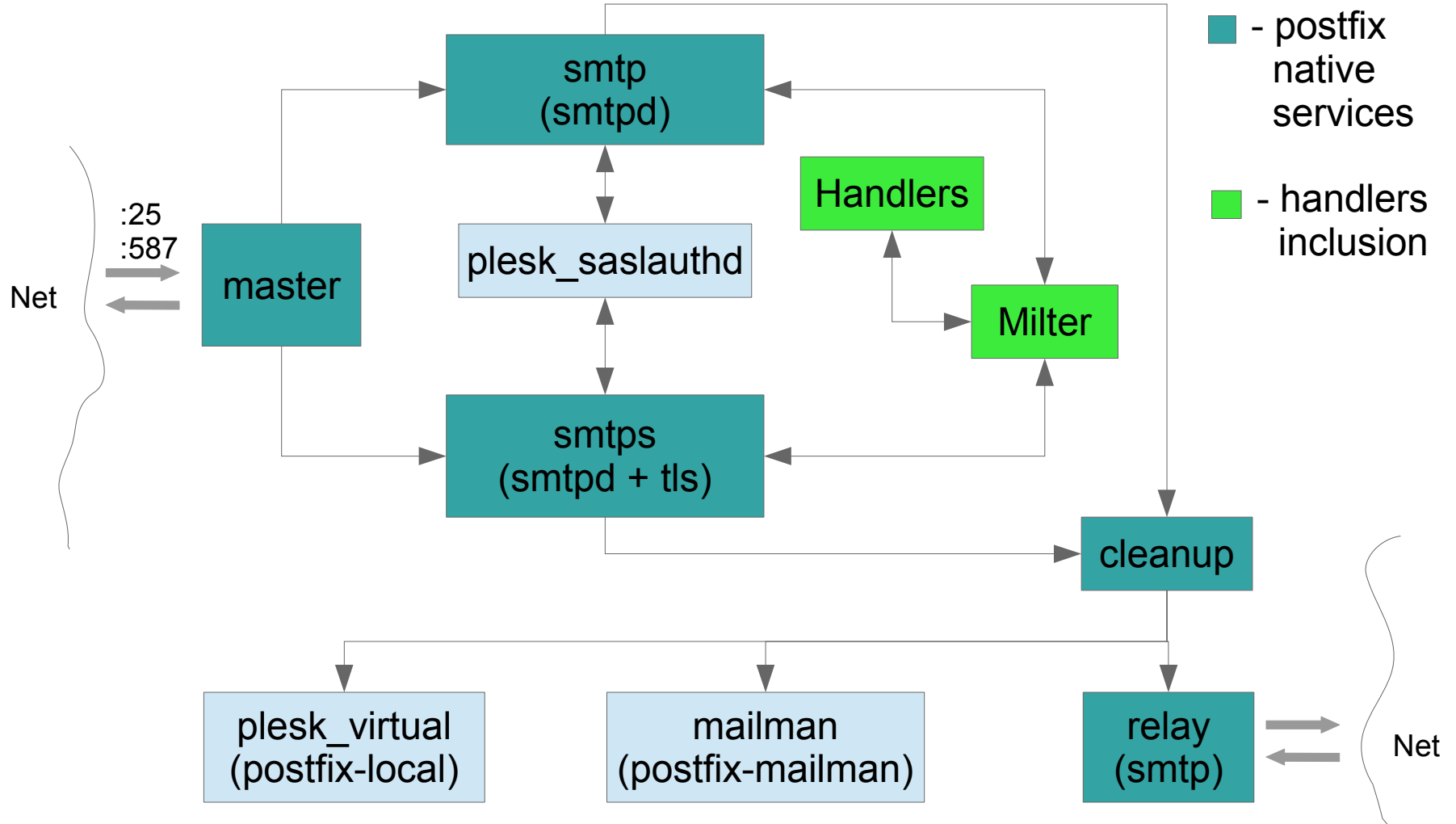
Architecture



MTA

- Postfix
- Qmail
- MSMTTP(since 11.5)

Postfix



Postfix configuration paths

- Main configs(/etc/postfix):
 - main.cf
 - master.cf
- Additional configs(/var/spool/postfix/plesk:)
 - transport.db
 - virtual.db
 - virtual_domains.db
 - vmailbox.db

master.cf

```
# =====
# service type private unpriv chroot wakeup maxproc command + args
#          (yes)   (yes)   (yes)   (never) (100)
# =====
smtp      inet  n       -       n       -       -       smtpd
smtps    inet  n       -       n       -       -       smtpd
         -o smtpd_tls_wrappermode=yes

pickup   fifo  n       -       n       60      1       pickup
cleanup  unix  n       -       n       -       0       cleanup
rewrite  unix  -       -       n       -       -       trivial-rewrite
smtp     unix  -       -       n       -       -       smtp
relay    unix  -       -       n       -       -       smtp
         -o smtp_fallback_relay=
virtual  unix  -       n       n       -       -       virtual

plesk_virtual unix - n n - - pipe
         flags=DORhu user=popuser:popuser
         argv=/usr/lib64/plesk-9.0/postfix-local
         -f ${sender} -d ${recipient} -p /var/qmail/mailnames

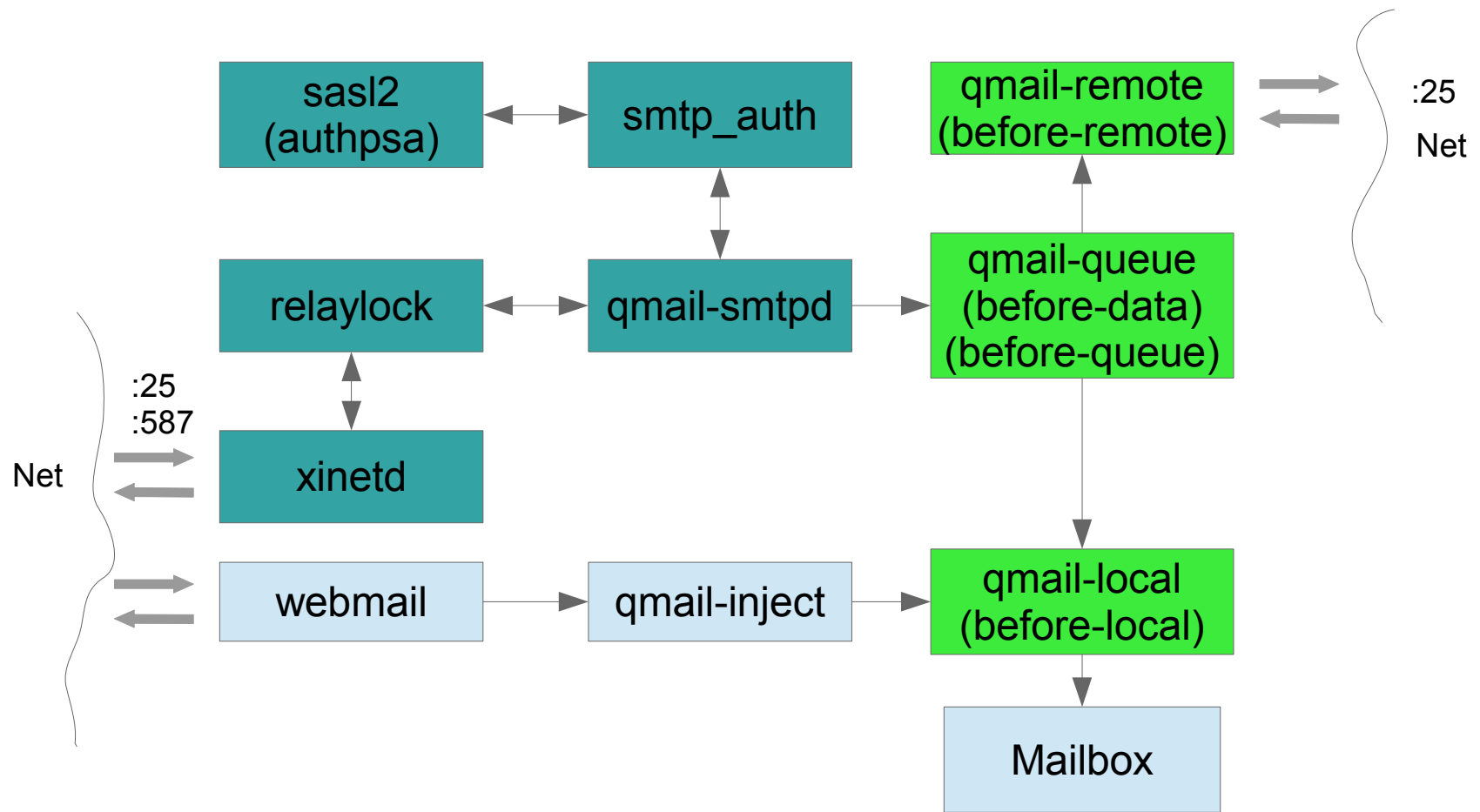
mailman  unix  - n n - - pipe
         flags=R user=mailman:mailman
         argv=/usr/lib64/plesk-9.0/postfix-mailman ${nexthop} ${user} ${recipient}

plesk_saslauthd unix y y n - 1 plesk_saslauthd
         status=5 listen=6 dbpath=/var/spool/postfix/plesk/passwd.db
```

main.cf

```
[root@a10-52-71-160 ~]# tail -n 12 /etc/postfix/main.cf
smtpd_milters = inet:localhost:12768
non_smtpd_milters = inet:localhost:12768
sender_dependent_default_transport_maps = hash:/var/spool/postfix/plesk/sdd_transport_maps
virtual_transport = plesk_virtual
virtual_mailbox_domains = $virtual_mailbox_maps, hash:/var/spool/postfix/plesk/virtual_domains
virtual_alias_maps = $virtual_maps, hash:/var/spool/postfix/plesk/virtual
virtual_mailbox_maps = hash:/var/spool/postfix/plesk/vmailbox
transport_maps = hash:/var/spool/postfix/plesk/transport
mynetworks = 127.0.0.0/8 [::1]/128 10.52.71.160/32 [2002:5bcc:18fd:c:5054:ebff:fece:6ee1]/128
smtpd_sender_restrictions = check_sender_access hash:/var/spool/postfix/plesk/blacklists, permit_sasl_authenticated
smtpd_recipient_restrictions = permit_mynetworks, permit_sasl_authenticated, reject_unauth_destination
virtual_mailbox_base = /var/qmail/mailnames
```

Qmail



Qmail configuration paths

- `/var/qmail/control`
- `/var/qmail/users`
- `.qmail` files in `/var/qmail/mailnames[/domain[/name]]`

Mail handlers

- before-data(since 10.4.4, postfix)
- before-queue
- before-local
- before-remote

Mail handlers inclusion

- Postfix:
 - psa-pc-remote process(milter)
 - postfix-local(plesk_virtual)(before-local)
- Qmail:
 - Replace native binaries for:
 - qmail-queue(before-data, before-queue)
 - qmail-local(before-local)
 - qmail-remote(before-remote)

Mail handlers inclusion for Qmail

<code>/var/qmail/bin/qmail-queue</code>	← mail handlers layer
<code>/var/qmail/bin/qmail-queue.moved</code>	← original binary
<code>/var/qmail/bin/qmail-local</code>	← mail handlers layer
<code>/var/qmail/bin/qmail-local.moved</code>	← original binary
<code>/var/qmail/bin/qmail-remote</code>	← mail handlers layer
<code>/var/qmail/bin/qmail-remote.moved</code>	← original binary

SMTP session example

```
< 220 a10-52-71-160.qa.plesk.ru ESMTP Postfix
> EHLO test1.domain.com
< 250-a10-52-71-160.qa.plesk.ru
< 250-PIPELINING
< 250-SIZE 10240000
< 250-STARTTLS
< 250-AUTH DIGEST-MD5 PLAIN LOGIN CRAM-MD5
< 250-8BITMIME
< 250 DSN
> AUTH LOGIN XXXXXX
< 334 UGFzc3dvcmQ6
> XXXXXXXX <--- plesk_saslauthd
< 235 2.7.0 Authentication successful
> MAIL FROM: me@domain.com
< 250 ok
> RCPT TO: you@another.domain
< 250 ok
> DATA <--- before-data
< 354 go ahead <--- status from before-data
> Adsfadfasdfa
> . <--- before-queue
< 250 ok 1380607704 qp 44397 <--- status from before-queue
> QUIT
< 221 a10-52-71-160.qa.plesk.ru <--- before-local, before-remote
```

Handlers processing sequence by handler types

Before-data	Before-queue, Before-local, Before-remote
Global	Sender
Sender	Recipient
Recipient	Sender Domain
Sender Domain	Recipient Domain
Recipient Domain	Global

Accessible mail handlers

Handler Name	Handler Queue	Handler Type
GreyListing	before-data	global
SPF	before-queue	global
quota-check	before-queue	global
Kaspersky Antivirus	before-queue	recipient
Dr.Web	before-queue	recipient
Autoresponder	before-local	recipient
SpamAssassin	before-local	recipient
dk_check	before-local	global
Kaspersky Antivirus	before-remote	sender
Dr.Web	before-remote	sender
dk_sign	before-remote	sender-domain

Mail handlers utility

- `/usr/local/psa/admin/sbin/mail_handlers_control`

```
[root@a10-52-71-160 ~]# /usr/local/psa/admin/sbin/mail_handlers_control --list
```

E	prior	address	name	type	queue
X	90	admin@test.domain.com	autoresponder	recipient	before-local
	20	admin@test.domain.com	drweb	sender	before-remote
X	10	admin@test.domain.com	spam	recipient	before-local
X	5	all	grey	global	before-data
X	10	all	check-quota	global	before-queue
X	10	all	spf	global	before-queue

Mail handlers utility

```
[root@a10-52-71-160 ~]# /usr/local/psa/admin/sbin/mail_handlers_control --list --extent
-----
| name | address | context |
-----
| autoresponder | admin@test.domain.com | responder |
| Exec: | /usr/local/psa/handlers/hooks/autoresponder |
-----
| drweb | admin@test.domain.com |
| Exec: | /usr/local/psa/handlers/hooks/drweb |
-----
| spam | admin@test.domain.com | text |
| Exec: | /usr/local/psa/handlers/hooks/spam |
-----
| grey | all | none |
| Exec: | /usr/local/psa/handlers/hooks/grey |
-----
| check-quota | all | none |
| Exec: | /usr/local/psa/handlers/hooks/check-quota |
-----
| spf | all | none |
| Exec: | /usr/local/psa/handlers/hooks/spf |
-----
```


Mail control utilities

- /usr/lib[64]/plesk-9.0/mail_restore
- In /usr/local/psa/admin/bin/
 - mailmng(spf, dk_*, black/white lists, autoresponder)
 - mail_handlers_control
 - mail_auth_view
 - glmng
 - drwebmng
 - kavmng
 - mailqueuemng

Logging

- /usr/local/psa/var/log/maillog
- /var/log/messages(drweb)
- /var/log/kav/*
- /var/log/mail.*
- /var/log/*

Maillog

Mail deffering:

```
[root@a10-52-71-160 ~]# Oct  2 13:25:36 a10-52-71-160 postfix/smtpd[94481]: connect from unknown[10.50.1.88]
Oct  2 13:25:36 a10-52-71-160 postfix/smtpd[94481]: CB3141542AD: client=unknown[10.50.1.88]
Oct  2 13:25:36 a10-52-71-160 greylisting filter[94487]: Starting greylisting filter...
Oct  2 13:25:36 a10-52-71-160 /usr/lib64/plesk-9.0/psa-pc-remote[94221]: handlers_stderr: DEFER
Oct  2 13:25:36 a10-52-71-160 /usr/lib64/plesk-9.0/psa-pc-remote[94221]: DEFER during call 'grey' handler
Oct  2 13:25:36 a10-52-71-160 /usr/lib64/plesk-9.0/psa-pc-remote[94221]: Message aborted.
Oct  2 13:25:36 a10-52-71-160 postfix/smtpd[94481]: CB3141542AD: milter-reject: DATA from unknown[10.50.1.88]:
o=<admin@test.domain.com> proto=SMTP helo=<test1.domain.com>
Oct  2 13:25:36 a10-52-71-160 postfix/smtpd[94481]: lost connection after DATA from unknown[10.50.1.88]
Oct  2 13:25:36 a10-52-71-160 postfix/smtpd[94481]: disconnect from unknown[10.50.1.88]
[root@a10-52-71-160 ~]#
```

Maillog

Local delivering:

```
[root@a10-52-71-160 ~]# Oct  2 12:31:39 a10-52-71-160 postfix/smtpd[94548]: connect from unknown[10.50.1.88]
Oct  2 12:31:39 a10-52-71-160 postfix/smtpd[94548]: 186661542AD: client=unknown[10.50.1.88]
Oct  2 12:31:39 a10-52-71-160 greylisting filter[94553]: Starting greylisting filter...
Oct  2 12:31:39 a10-52-71-160 greylisting filter[94553]: Timeout finished
Oct  2 12:31:39 a10-52-71-160 /usr/lib64/plesk-9.0/psa-pc-remote[94221]: handlers_stderr: SKIP
Oct  2 12:31:39 a10-52-71-160 /usr/lib64/plesk-9.0/psa-pc-remote[94221]: SKIP during call 'grey
' handler
Oct  2 12:31:39 a10-52-71-160 postfix/cleanup[94552]: 186661542AD: message-id=<>
Oct  2 12:31:39 a10-52-71-160 /usr/lib64/plesk-9.0/psa-pc-remote[94221]: handlers_stderr: SKIP
Oct  2 12:31:39 a10-52-71-160 /usr/lib64/plesk-9.0/psa-pc-remote[94221]: SKIP during call 'check-quota' handler
Oct  2 12:31:39 a10-52-71-160 spf filter[94555]: Starting spf filter...
Oct  2 12:31:40 a10-52-71-160 spf filter[94555]: SPF result: neutral
Oct  2 12:31:40 a10-52-71-160 spf filter[94555]: SPF status: PASS
Oct  2 12:31:40 a10-52-71-160 /usr/lib64/plesk-9.0/psa-pc-remote[94221]: handlers_stderr: PASS
Oct  2 12:31:40 a10-52-71-160 /usr/lib64/plesk-9.0/psa-pc-remote[94221]: PASS during call 'spf' handler
Oct  2 12:31:40 a10-52-71-160 postfix/qmgr[94111]: 186661542AD: from=<arubtsov@parallels.com>, size=492, nrcpt=1 (queue active)
Oct  2 12:31:40 a10-52-71-160 postfix/smtpd[94548]: disconnect from unknown[10.50.1.88]
Oct  2 12:31:40 a10-52-71-160 postfix-local[94557]: postfix-local: from=arubtsov@parallels.com, to=admin@test.domain.com, dirname=/var/qmail/mailnames
Oct  2 12:31:41 a10-52-71-160 autoresponder filter[94558]: Exiting. No need to respond.
Oct  2 12:31:41 a10-52-71-160 postfix-local[94557]: handlers_stderr: PASS
Oct  2 12:31:41 a10-52-71-160 postfix-local[94557]: PASS during call 'autoresponder' handler
Oct  2 12:31:41 a10-52-71-160 postfix/pipe[94556]: 186661542AD: to=<admin@test.domain.com>, relay=plesk_virtual, delay=1.9, delays=1.9/0.01/0/0.05, dsn=2.0.0, status=sent (delivered via plesk_virtual service)
Oct  2 12:31:41 a10-52-71-160 postfix/qmgr[94111]: 186661542AD: removed
```

Debug

- Use maillog
- Use mail_restore
- Care about Commtouch and MagicSpam
- Check mail handlers enabled(mail_handlers_control)
- Strace mail handlers
- Verbose logging for MTA and some mail handlers
 - SPF — write «debug» in handler context.

Debug postfix

- Check `/usr/local/psa/var/log/maillog`
- Check `/etc/postfix/{main,master}.cf`
- `postmap -s /var/spool/postfix/plesk/*.db`
- `postconf -a`
- Use verbose flags for postfix processes:

```
# =====  
# service type private unpriv chroot wakeup maxproc command + args  
#          (yes)   (yes)   (yes)   (never) (100)  
# =====  
smtp      inet  n       -       n       -       -       smtpd -v  
smtps     inet  n       -       n       -       -       smtpd -o smtpd_tls_wrappermode=yes -v  
pickup    fifo  n       -       n       60      1       pickup -v  
cleanup   unix  n       -       n       -       0       cleanup -v
```

Commtouch integration

Postfix:

```
[root@a10-52-71-160 ~]# cat /etc/postfix/main.cf |grep milters  
smtpd_milters = , inet:127.0.0.1:12768 unix:/var/spool/postfix/ctmilter/ctmilter.sock  
non_smtpd_milters = , inet:127.0.0.1:12768 unix:/var/spool/postfix/ctmilter/ctmilter.sock
```

Qmail:

```
[root@a10-52-71-160 ~]# ls -lb /var/qmail/bin/qmail-queue*  
/var/qmail/bin/qmail-queue  
/var/qmail/bin/qmail-queue.moved  
/var/qmail/bin/qmail-queue.plesk.ctch
```

MagicSpam integration

Postfix:

```
[root@a10-52-71-160 ~]# cat /etc/postfix/main.cf |grep milters  
smtpd_milters = ,, inet:127.0.0.1:12768 inet:127.0.0.1:12345  
non_smtpd_milters = ,, inet:127.0.0.1:12768
```

Qmail:

```
[root@a10-52-71-160 ~]# cat /var/qmail/control/smtpplugins  
[rcpt]  
plugins/chkrcptto  
plugins/magicspam-plesk
```


Links

- <http://www.postfix.org/documentation.html>
- <http://www.postfix.org/overview.html>
- http://www.postfix.org/DEBUG_README.html
- <http://home.parallels.com/wiki/Postfix%20MailServer>