

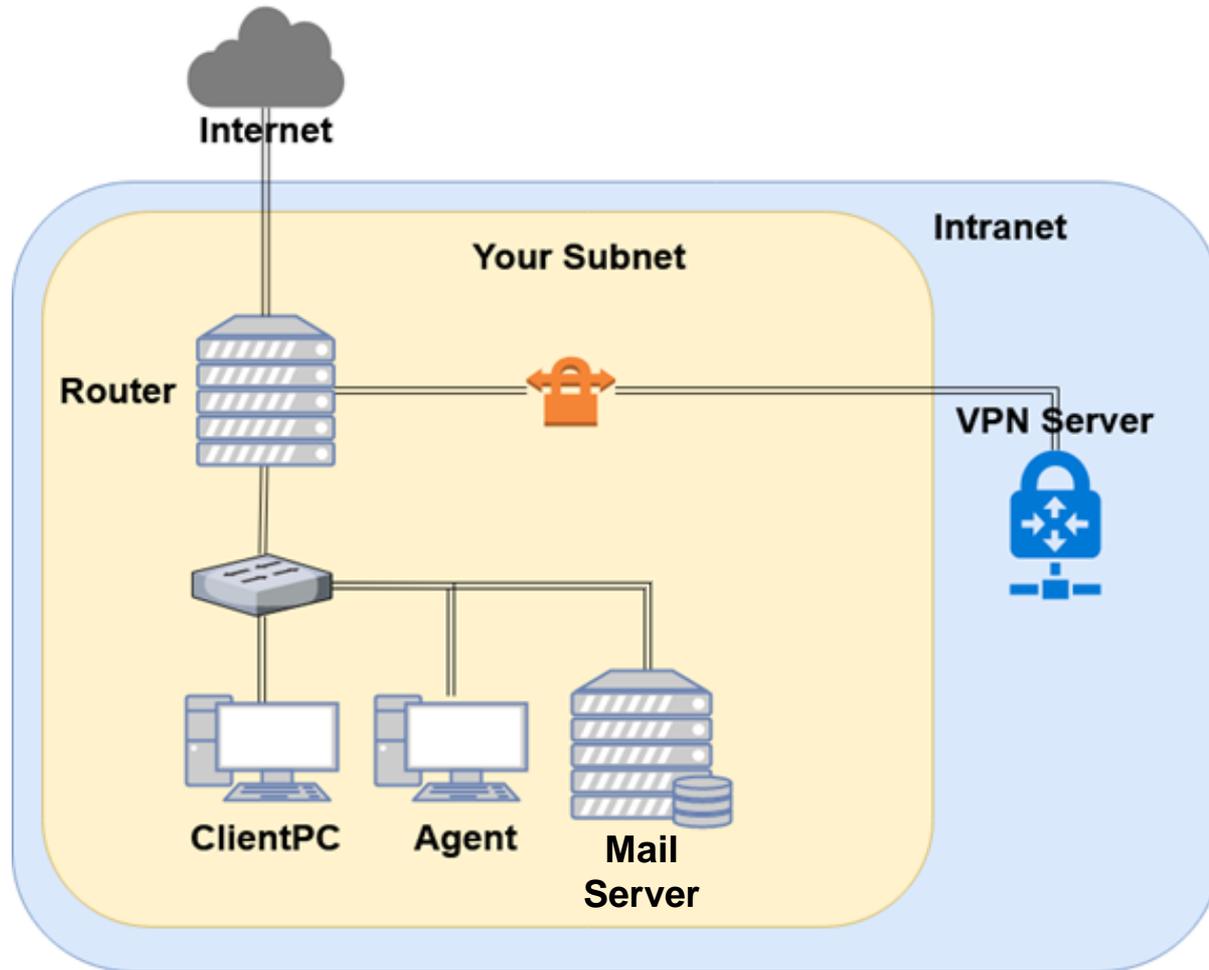
Network Administration HW3

tzute

Purposes

- Build a basic mail service
- Understand how to maintain Postfix service
- Understand how to maintain Dovecot service
- Understand how to protect your mail service

Overview



Overview (cont.)

❑ One **Mail** Server

- Providing IMAP service
- Providing SMTP service
- Scanning virus
- Detecting spam mails

Requirements (1/8)

❑ Mail Server

- IP: 10.113.ID.y/24 with static DHCP
- Hostname: mail.{student_ID}.nasa.
- Mail domain:
 - @{student_ID}.nasa.
 - @mail.{student_ID}.nasa.
- STARTTLS on IMAP/SMTP
 - Use self-signed certificate
- User Authentication on IMAP/SMTP
 - Only send emails with authenticated username@
 - Avoid to fake other users on envelop from
- No Open Relay

Requirements (2/8)

❑ MX record

- Set MX record on your domain
- Sending mail to @ {student_ID}.nasa will go to mail.{student_ID}.nasa

❑ SPF

- DNS TXT and DNS SPF record
 - Allow your server to send mail using your domain
 - Deny other servers from pretending your domain, and drop these invalid mail
- Do SPF policy check on incoming email
 - {student_ID}.nasa. [TTL] IN TXT <SPF-rules>

Requirements (3/8)

❑ DKIM

- Signing your outgoing email with your private key
- A DNS TXT record for DKIM
- DKIM policy check on the incoming email

❑ `<selector>._domainkey.{student_ID}.nasa. IN TXT <DKIM-Information>`

Requirements (4/8)

❑ DMARC

- A DNS TXT record for DMARC
 - Let others drop mails that does not pass DMARC policy check
- Do DMARC policy check to the incoming email

❑ `_dmarc.{student_ID}.nasa. IN TXT <DMARC-Rules>`

Requirements (5/8)

- ❑ Greylisting
 - For incoming mail from new mail server
 - Greylist for 30 seconds

Requirements (6/8)

❑ Specific user TA, TU

- Set password to your **VPN private key (WG_KEY)** in HW1
- Retrieve the key from nasa.nctu.me
- Keep all mails that TA and TU received on your server

❑ Virtual alias

- for any mail to **TO@** alias to **TA@**
- for any mail to **<sth>|<user>@** alias to **<user>@**
 - e.g. i-am-a|TA@ send to TA@

❑ Sender rewrite

- Rewrite @mail.{**student_ID**}.nasa to @**{student_ID}**.nasa
- Rewrite TU@ to TUTU@

Requirements (6/8)

❑ Ingoing mail filter

- Add "*** SPAM ***" in front of the subject if the mail contains virus or spam message
- You can use amavisd-new/rspamd

❑ Test cases

- <http://www.eicar.org/download/eicar.com>
- <https://github.com/apache/spamassassin/blob/trunk/sample-spam.txt>

Requirements (7/8)

❑ Outgoing mail filter

- Reject mails whose subject contains keyword "肺炎" or "wuhan"

Test your email services

❑ IMAP (143) Testing

- <https://wiki.dovecot.org/TestInstallation>
- `openssl s_client -connect mail.{student_ID}.nasa:143 -starttls imap`

❑ SMTP (25) Testing

- <http://www.postfix.org/INSTALL.html>
- `openssl s_client -connect mail.{student_ID}.nasa:25 -starttls smtp`

❑ Or just install a GUI mail client in your client PC

Demo

- ❑ Your work will be tested by our online judge system
 - Submit a judge request when you are ready.
 - You can submit request multiple times. However, **the score of the last submission instead of the submission with the highest score**, will be taken.
 - **Late submissions are not accepted.**
 - Please check your score at OJ after judge completed.
 - Rate-limit: 60 minutes cool-down
- ❑ Scoring start at : 2020/05/15 00:00
 - You can test your works once the judge is prepared. However, **make sure to submit at least once after this time**, otherwise no score will be taken.
- ❑ Deadline: 2020/05/28 23:59

Help!

- ❑ <https://groups.google.com/forum/#!forum/nctunasa>
 - You may send email to ta@nasa.cs.nctu.edu.tw for these reasons:
 - You get a weird result from OJ.
 - You have some personal issues that don't want to post to the public.
 - You are in a special situation that needs to contact us.
 - Your question is not "May I ask TAs a question?"
 - Try to use the google groups first. We regret that we may not be able to reply every email. Thank you for understanding.
 - How To Ask Questions The Smart Way
 - <http://www.catb.org/~esr/faqs/smart-questions.html>
 - <https://github.com/ryanhanwu/How-To-Ask-Questions-The-Smart-Way>
- ❑ Office Hours:
 - 3GH, EC 3F CSCC