Network Management Workshop
intERlab at AIT
Thailand
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Basic things that we need to make sure are configured on a Cisco router (and switch) to do proper network management

These apply to other network equipment manufacturers of course, and to servers and workstations
Elements

- Hostname: hostname of the device
- SSH: enable secure shell
- DNS: domain name lookup
- NTP: time synchronization
- Syslog: syslog messages
- SNMP: SNMP configuration
- SNMP traps: and where to send traps
- CDP: Cisco discovery protocol
• Use the FQDN preferably.
• In config mode:

  hostname net-gw.XYZ.domain.name

  or

  hostname net-sw-XYZ.domain.name
DNS configuration

- Config mode:

  ip domain-name mgmt.ait.ac.th
  ip name-server 10.10.10.1
NTP + time configuration

- In config mode:
  
  ntp server pool.ntp.org
  clock timezone ICT 7

- If needed:
  
  clock summer-time XXX recurring last
  Sun Mar 2:00 last Sun Oct 3:00

- Verify:
  
  show clock
SSH

• Only crypto version of IOS/CatOS have support for SSH – there are export restrictions... In config mode:

```
aaa new-model
crypto key generate rsa
username inst secret 0 xxxxxxxxxxx
```

• ... above is required to be allowed to enable SSH. Verify creation with:

```
sh crypto key mypubkey rsa
```

• Use at least 768 bits
Enforce ssh (disabling telnet) on vty lines:

```
host# conf t
host(config)# line vty 0 4
host(config-line)# transport input ssh
^Z
host#
```

SSH is now enabled, and the telnet disabled
In config mode:

logging noc.mgmt.ait.ac.th
logging facility local5
logging trap debugging
In config mode:

```plaintext
snmp-server community xxxxxxxxxx RW
snmp-server community 1nterl4b RO
snmp-server location intERLab, AIT
snmp-server enable traps config
snmp-server enable traps envmon
snmp-server enable traps config-copy
snmp-server enable traps syslog
snmp-server host 10.10.10.1 1nterl4b
```
Cisco Discovery Protocol

Normally enabled by default nowadays

Otherwise, enabled with "cdp enable" or "cdp run"

tcpdump and tools like cdpr will show you CDP announcements

check neighbor announcement with:

```
show cdp neighbors
```
Questions ?