

Thai Blockchain Consortium

Validator Node Self-Assessment Checklist

Version 1.2
2022-10-18

Installation Instruction

[Blockchain Infrastructure Installation Instructions](#)

Validator Name	
Wallet ID	

Physical Security Controls

Item	Artifacts	Maker	Checker
Redundant Power		<input type="checkbox"/>	<input type="checkbox"/>
Redundant Cooling		<input type="checkbox"/>	<input type="checkbox"/>
Redundant Networking		<input type="checkbox"/>	<input type="checkbox"/>
Caged/Gated Access		<input type="checkbox"/>	<input type="checkbox"/>
Security Camera		<input type="checkbox"/>	<input type="checkbox"/>

Cloud Access Controls

Item	Artifacts	Maker	Checker
Limit access to VM/VPS		<input type="checkbox"/>	<input type="checkbox"/>

Minimum Hardware Requirements

Item	Artifacts	Maker	Checker
x86-64 CPU >= 2 core	No. of core / vCPU	<input type="checkbox"/>	<input type="checkbox"/>
RAM >= 4 GB	RAM size	<input type="checkbox"/>	<input type="checkbox"/>
SSD >= 250 GB	Storage size	<input type="checkbox"/>	<input type="checkbox"/>
LVM volume	mount point:	<input type="checkbox"/>	<input type="checkbox"/>
NIC >= 100 Mbps	NIC type	<input type="checkbox"/>	<input type="checkbox"/>

Maker: _____
()

Checker: _____
()

System Configurations

Item	Artifacts	Maker	Checker
Official OS image	URL	<input type="checkbox"/>	<input type="checkbox"/>
Latest stable kernel	Kernel version	<input type="checkbox"/>	<input type="checkbox"/>
Auto-update configured		<input type="checkbox"/>	<input type="checkbox"/>
Security Framework	AppArmor, Grsecurity, SELinux	<input type="checkbox"/>	<input type="checkbox"/>
Disable root login		<input type="checkbox"/>	<input type="checkbox"/>
Non-root user created		<input type="checkbox"/>	<input type="checkbox"/>
Use secured password		<input type="checkbox"/>	<input type="checkbox"/>
Add group 'sudo'		<input type="checkbox"/>	<input type="checkbox"/>
Members in group 'sudo'		<input type="checkbox"/>	<input type="checkbox"/>
Enable only public-key authentication for SSH		<input type="checkbox"/>	<input type="checkbox"/>
DNS sources	Name servers	<input type="checkbox"/>	<input type="checkbox"/>
NTP sources	Upstream	<input type="checkbox"/>	<input type="checkbox"/>
Time zone		<input type="checkbox"/>	<input type="checkbox"/>

Container

Item	Artifacts	Maker	Checker
Official Docker binaries	Repo. URL	<input type="checkbox"/>	<input type="checkbox"/>
Add group 'docker'		<input type="checkbox"/>	<input type="checkbox"/>
Members in group 'docker'		<input type="checkbox"/>	<input type="checkbox"/>

Go Ethereum

Item	Artifacts	Maker	Checker
Official Geth binaries	Docker Hub repo.	<input type="checkbox"/>	<input type="checkbox"/>
Node directory		<input type="checkbox"/>	<input type="checkbox"/>
TBI repo. cloned	Github repo.	<input type="checkbox"/>	<input type="checkbox"/>
Password file access		<input type="checkbox"/>	<input type="checkbox"/>
Private key access		<input type="checkbox"/>	<input type="checkbox"/>

Maker: _____
()

Checker: _____
()

For RPC Node Only

Item	Artifacts	Maker	Checker
Not a validator node		<input type="checkbox"/>	<input type="checkbox"/>
HTTPS JSON-RPC		<input type="checkbox"/>	<input type="checkbox"/>
WSS JSON-RPC		<input type="checkbox"/>	<input type="checkbox"/>

Maker: _____
()

Checker: _____
()

Command List

1. Check CPU core

```
$ lscpu
```

Expect result: CPU (s): 4 or more

2. Check RAM size

```
$ lsmem
```

Expect result: Total online memory: 8G or more

3. Check storage size

```
$ parted <storage device> p
```

Expect result: all Disk <storage device> combined is 500GB or more

4. Check LVM volume

```
$ lvs
```

Expect result: list of LVs, the node LV LSize should be 500GB or more

5. Check NIC speed

```
$ ethtool <Ethernet interface>
```

Expect result: Speed: 100Mb/s or more

6. Official OS Image

Expect result: downloaded from the official repository / official mirror of the linux distribution.
Also validate image checksum.

In case of deploying on the cloud, the installed image must be the official image of the cloud provider.

7. Latest stable kernel

```
$ uname -a
```

Expect result: the latest stable of the linux distribution installed.

8. Auto-update configured

Expected result: (ubuntu) unattended-upgrade should be installed, and configured to run automatically.

9. Security Framework

```
$ sudo apparmor_status --enabled | echo $?
```

Expected result: 0

```
$ sudo apparmor_status
```

Expected result: profiles / processes are in enforced mode

10. Disable root login

```
$ sudo grep ^root /etc/shadow
```

Expected result: root:*: or begin with root:!, which means the password login for root is disabled.

11. Group 'sudo'

```
$ grep ^sudo /etc/group
```

Expected result: only non-root user created is listed in the sudo group

12. Sudoers config

```
$ sudo grep -R ALL /etc/sudoers*
```

Expected result: only root, %admin, %sudo should be listed, and can gain root privileges

13. SSH enable only public-key authentication

```
$ grep Authen /etc/ssh/sshd_config | grep -v ^#
```

Expected result:

KbdInteractiveAuthentication no

PubkeyAuthentication yes

PasswordAuthentication no

14. DNS sources

```
$ resolvectl
```

Expected result: DNS Servers should be listed only trusted servers.

15. NTP sources

```
$ systemctl status systemd-timesyncd.service
```

Expected result: synchronization to a trusted time server/NTP pool

16. Time zone

```
$ timedatectl
```

Expected result: Local time: +07 and Time zone: Asia/Bangkok (+07, +0700)

17. Official Docker binaries

```
$ grep -R docker /etc/apt/sources.list*
```

Expected result: <https://download.docker.com/linux/ubuntu>

18. Group 'docker'

```
$ grep ^docker /etc/group
```

Expected result: only non-root user created is listed in the docker group

19. Official Geth binaries

```
$ docker images
```

Expected result: ethereum/client-go:stable

20. TBI repo. cloned

```
$ cat .git/config
```

Expected result:

```
[remote "origin"]
```

```
url = https://github.com/thai-blockchain/mainnet.git
```

21. Password file access

```
$ ls -l password.txt
```

Expected result: owner: the non-root user created, mode: 400

22. Private key file access

```
$ sudo ls -lR node/keystore
```

Expected result: owner: root, mode: 600 (-rw) or 400 (-r—)

23. HTTPS JSON-RPC

```
$ web3 --rpc-url https://<HTTPS endpoint> block 0
```

Expected result: display the genesis block

24. WSS JSON-RPC

```
$ web3 --rpc-url wss://<WSS endpoint> block 0
```

Expected result: display the genesis block

Changelog

Version	Date	Changes / Comments
1.2	2022-10-18	Update hardware requirement to the minimum, am
1.1	2022-10-15	Add validator name, wallet ID
1.0	2022-09-24	Request for comment