Past, Present and Future of SAMSUNG Internship

Joseph Chang

SSD TEC Part

What I've learned

SSD	PCIe	Server	DigiTimes	Korean
DRAM *NAND Flash* *Bit Line Control*	*LTSSM* *Protocol Layers* *Specification Study*	*Architecture* *Testing* *Environment* *FIO Testing*	*HPC* *AI Market* *Server Cooling System*	*Vocabulary* *Pronunciation* *Basic Grammar*

Studying

Golden Flexible I/O Test

OS Installation

Red Hat, Ubuntu, VMware, Windows.

Performance

Expected to meet datasheet standard.

Stress

60 hours stress test under 0 ~ 40 °C

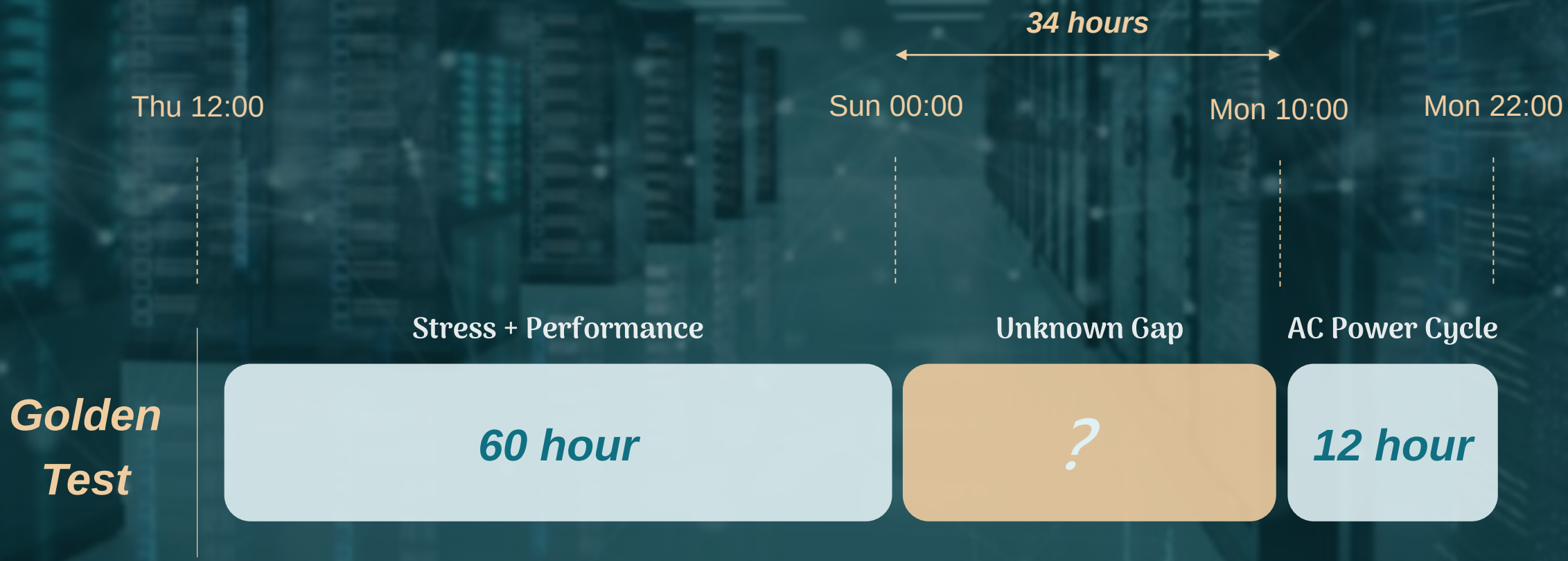
AC Cycle

12 hours of 100 power cycles under 0 ~ 40 °C

DC Cycle

12 hours of cold reboot.

FIO
Testing Time Slots



Python Control Bash Script

- Testing Factors
- FIO - AC Cycle Transition
- Output Result

```
#============================OS Reboot Tool=========================
#
# Description : FIO / AC combination for JQ Golden Test.
# Author : Jing-Hua (Joseph) Chang
# History : released            2023/08/28
#
#===================================================================
import subprocess

#FIO
cmd = ['sh', 'fio.sh']
p = subprocess.run(cmd, input = "2\n          # Delete
                                y\n          # Peformance
                                1\n          # Sequential
                                1\n          # Random
                                y\n          # Stress
                                60h\n        # Time
                                n\n“         # Precondition
                                .encode(), stdout = subprocess.PIPE)
print(p.stdout.decode())
print("FIO Completed")

#AC
cmd2 = ['sh', 'ac.sh']
p2 = subprocess.run(cmd2, input = “172.16.1.1\n        # Public drive IP
                                  root\n               # User name
                                  1\n                  # User password
                                  172.16.100.150\n     # PDU
                                  172.16.248.39\n      # Client IP
                                  4\n                  # Port
                                  1\n                  # NVMe / AHCI
                                  yes\n                # SSD check
                                  300\n“               # Loops
                                  .encode(),stdout = subprocess.PIPE)
print(p2.stdout.decode())
print("AC Completed")
```

Future Prospect

Record
Working Tips

Documents
Orgnizing

Passing
On

My Journey

Company Trip
Yilan

Samsung Internship
2023