LFN Mentorship Project Presentation

August 2020
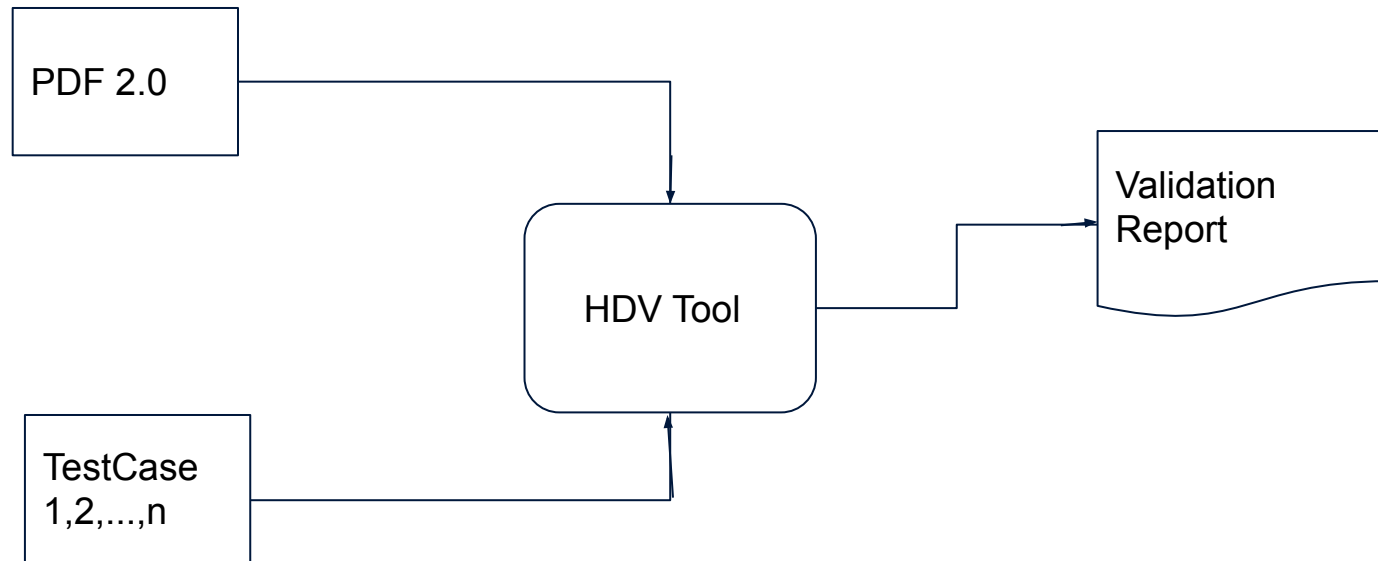
THE **LINUX** FOUNDATION

LF NETWORKING

HDV - Hardware Delivery Validation

› **Introduction**
   › **Name**: Shubham Mishra
   › **Location**: India
   › **University**: Delhi University
   › **Mentor(s)**: Liang Chen
   › **LFN Project:** OPNFV

HDV - Hardware Delivery Validation

› **Project Description:** HDV is a tool to automate the validation or configuration of hardwares underlying NFV infrastructure.

```
┌──────────────┐
│  PDF 2.0     │──────────┐
└──────────────┘          │
                          ▼
                  ╭───────────────╮          ┌──────────────┐
                  │               │          │  Validation  │
                  │   HDV Tool    │─────────▶│  Report      │
                  │               │          └──────────────┘
                  ╰───────────────╯
                          ▲
┌──────────────┐          │
│  TestCase    │──────────┘
│  1,2,...,n   │
└──────────────┘
```

HDV - Hardware Delivery Validation

› **Project Objectives**: HDV tool

  › Open framework to support multi-vendor redfish.

  › To add Support of User-friendly CLI, Result Reporting Format, Logging, TestAPI, Unit tests, etc.

  › Adopt PDF 2.0 and add support for multiple servers.

HDV - Hardware Delivery Validation

› **Project Deliverables:**

  › HDV framework

  › Develop default HP ILO 4 case set supported.

  › Web based GUI for reporting

  › User and Developer Documentation.

  › Unit tests.

HDV - Hardware Delivery Validation

› **Project Execution & Accomplishments**:
› Working with out of band management tool - redfish.
› Networked with professionals.
› Code: merged!
› Documentation: about to merge.

HDV - Hardware Delivery Validation

› **Recommendations for future work**:

› Extend cases file for multiple vendors.

› Find a way to have common test case file for all vendors.

› Use PDF for expected response instead of separate test case file.

HDV - Hardware Delivery Validation

› **Project Output or Results:**

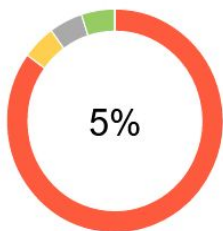› Link - https://gerrit.opnfv.org/gerrit/q/project:cirv-hdv

```
...
case_name: check CPU info
case_sn: 12
enabled: true
expected_code: 200
expected_result:
    count: 2
    Manufacturer: Intel(R) Corporation
    MaxSpeedMHz: 2300
    Model: "Intel(R) Xeon(R) Gold 5218N CPU @ 2.30GHz"
    ProcessorArchitecture: ["x86", "IA-64", "ARM", "MIPS", "OEM"]
    Socket: [1, 2]
    Status:
    Health: OK
    State: Enabled
    TotalCores: 16
    TotalThreads: 32
group: compoment management
header: null
method: GET
request_body: null
url: /redfish/v1/Systems/{system_id}/Processors/{cpu_id}/
...
```

ALLURE REPORT 10/27/2020
19:25:21 - 19:25:29 (8s 253ms)

40
test cases

5%

SUITES 1 item total

hdv.redfish | 34 | 2 | 2 | 2

Show all

ENVIRONMENT

There are no environment variables

FEATURES BY STORIES 40 items total

Show all

TREND

There is nothing to show

CATEGORIES 2 items total

Product defects | 34
Test defects | 2

Show all

EXECUTORS

There is no information about tests executors

Left panel (test list)

❌	#36	http://localhost:8000"_ check memory mount	{'case_name': 'check memory mount', 'case_sn': 13, 'enabled': True, 'exp...	16ms
❌	#16	http://localhost:8000"_ check memory mount	{'case_name': 'check memory mount', 'case_sn': 13, 'enabled': True, 'exp...	22ms
❌	#29	http://localhost:8000"_ check model	{'case_name': 'check model', 'case_sn': 6, 'enabled': True, 'expected_cod...	18ms
❌	#9	http://localhost:8000"_ check model	{'case_name': 'check model', 'case_sn': 6, 'enabled': True, 'expected_code'...	22ms
❌	#39	http://localhost:8000"_ check power amount	{'case_name': 'check power amount', 'case_sn': 21, 'enabled': True, 'expe...	22ms
❌	#19	http://localhost:8000"_ check power amount	{'case_name': 'check power amount', 'case_sn': 21, 'enabled': True, 'expe...	24ms
✅	#30	http://localhost:8000"_ check serial number	{'case_name': 'check serial number', 'case_sn': 7, 'enabled': True, 'expect...	18ms
✅	#10	http://localhost:8000"_ check serial number	{'case_name': 'check serial number', 'case_sn': 7, 'enabled': True, 'expect...	25ms
⊖	#21	http://localhost:8000"_ get asset code	{'case_name': 'get asset code', 'case_sn': 0, 'enabled': False, 'expected_cod...	0s
⊖	#1	http://localhost:8000"_ get asset code	{'case_name': 'get asset code', 'case_sn': 0, 'enabled': False, 'expected_code':...	0s
❌	#25	http://localhost:8000"_ set asset code	{'case_name': 'set asset code', 'case_sn': 1, 'enabled': True, 'expected_co...	19ms
❌	#5	http://localhost:8000"_ set asset code	{'case_name': 'set asset code', 'case_sn': 1, 'enabled': True, 'expected_cod...	26ms
❌	#26	http://localhost:8000"_ set host name	{'case_name': 'set host name', 'case_sn': 3, 'enabled': True, 'expected_co...	20ms
❌	#6	http://localhost:8000"_ set host name	{'case_name': 'set host name', 'case_sn': 3, 'enabled': True, 'expected_cod...	25ms

information

Right panel (detail)

hdv.redfish.hdv_redfish#test_case_yaml_run

Failed http://localhost:8000" _ check model

Overview   History   Retries

AssertionError: {'count': 'N/A for this case', 'info': [{'Model': 'Failure, expect value: UniServer R4900 G3, return value: SX1000', '...': 'Success'}, {'Model': 'Failure, expect value: UniServer R4900 G3, return value: SX1000', 'return_code': 'Success'}]}
assert 4 == 0

Categories: Product defects

Severity: normal

Duration: ⊘ 18ms

Description

case_name : check model
case_sn : 6
enabled : True
expected_code : 200
expected_result : {'Model': 'UniServer R4900 G3'}
group : asset managment
header : None
method : GET
request_body : None
url : /redfish/v1/Systems/{system_id}/
key_flag_dict : {'system_id': 'Members'}
return_code_seq : [200, 200, 200, 200]
final_rst : Failure
details_result : {'count': 'N/A for this case', 'info': [{'return_code': 'Success', 'Model': 'Failure, expect value: UniServer R4900 G3, return value: SX1000'}, {'return_code': 'Success', 'Model': 'Failure, expect value: UniServer R4900 G3, return value: SX1000'}, {'return_code': 'Success', 'Model': 'Failure, expect value: UniServer R4900 G3, return value: SX1000'}, {'return_code': 'Success', 'Model': 'Failure, expect value: UniServer R4900 G3, return value: SX1000'}]}

Parameters

case: {'case_name': 'check model', 'case_sn': 6, 'enabled': True, 'expected_code': 200, 'expected_result': {'Mod...

config_list: {'ip': 'localhost:8000', 'user': 'admin', 'password': 'password'}

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› **Insights Gained:**
› Develops technical skills.
› Meet with other people that can inspire you and help you.

THANK YOU!

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