1This document provides terminology for documenting the conformance testing of IEC 61850 implementations within a virtual environment. The purpose of documentation is to be able to understand, and potentially recreate, the environment under test.

# Virtualization Platform

A “Virtualization Platform”: is a solution stack that allows the virtualized IEC 61850 implementation to be tested. The solution stack, including optional , may appear as:



It includes:

* Virtualization Technology: This is the type technology that is utilized to provide the virtualization platform and can be either Hypervisor 1, Hypervisor 2, or Container.
  + For any of the technologies, the name of the technology and its version must be recorded.
  + In the instance of a Hypervisor 2, the server hosting the hypervisor will have a host operating system (e.g. Linux, Windows, etc.). The name of the OS and the version needs to be recorded.
* Network Interface Card: The network interface model and version needs to be recorded.
* The virtual ethernet networking technology used by the virtual IEC 61850 application. Examples include, but are not limited to: V-Switch, PCI Passthrough, or SR-IOV.
* Guest OS if applicable: If the Virtual Machine, or Container, includes an OS for operation, it shall be documented including the version.

There is a possibility that the IEC 61850 application could be containerized withing a virtual machine. If so, this will be documented as the Guest Container technology and the name and version shall be provided.

|  |  |
| --- | --- |
| Host Machine | Value |
| Host Hardware : | manufacturer and model |
| Processor (CPU) : | manufacturer, model, number of processors |
| Network Interface Card: | manufacturer, model |
|  |  |
| Virtualization Technology |  |
| Hypervisor/Container Technology : | name and version |
| Type of hypervisor | Type 1, Type 2 or Container Engine |
| Host OS (if type 2) : | name and version |
| vIED Time Sync : | Sync in vIED or Provided by Virtualization Platform |
| Virtual ethernet networking technology : software-based technologies (e.g., SDN, OVN, vSwitch, eBPF) with hardware-accelerated features (e.g., ) | SDN, OVN, vSwitch, eBPF |
| Hardware Accelerated Features: | SR-IOV, PCI passthrough, DPDK |
| Virtual Machine/Component |  |
| Allocated Memory (RAM) : type and capacity |  |
| Number of Allocated CPU/Core |  |
|  |  |
| Virtual IED |  |
| OS: |  |
|  |  |
| Additional Specific Features |  |
|  |  |

Additionally ,the vendor submission form has been modified.