

NSF/IUCRC CAC PROJECT

INTEGRATED VISUALIZING, MONITORING, AND MANAGING HPC SYSTEMS

Jie Li

Doctoral Student, TTU

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Advisors:

Mr. Jon Hass, SW Architect, Dell Inc.

Dr. Alan Sill, Managing Director, HPCC, TTU

Dr. Yong Chen, Associate Professor, CS Dept, TTU

Dr. Tommy Dang, Assistant Professor, CS Dept, TTU

TELEMETRY REPORTS CONFIGURATION

- Not all telemetry metrics report valid data
 - “When a report is enabled but the device hardware is not present, no report is generated” – FPGASensor does not provide data on a CPU node
 - Some metrics reports provide empty value – SerialLog, CPURegisters, etc.
- To avoid building tables for invalid telemetry reports, need a tool that helps define what metrics reports are valid and disables those invalid reports.

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+=====+ Auto-configure Telemetry Reports +=====+
+=====+
```

```
--> 13 reports are ENABLED: ['PowerStatistics', 'PowerMetrics', 'SystemUsage', 'CPUMemMetrics', 'AggregationMetrics', 'ThermalSensor', 'ThermalMetrics', 'Sensor', 'NICStatistics', 'NICSensor', 'MemorySensor', 'CPUSensor', 'FanSensor']
--> 11 reports are DISABLED: ['PSUMetrics', 'StorageSensor', 'StorageDiskSMARTData', 'FCPortStatistics', 'FCSensor', 'SerialLog', 'CPURegisters', 'GPUStatistics', 'NVMeSMARTData', 'GPUMetrics', 'FPGASensor']
```

TELEMETRY REPORTS

```
{  
  "Source": "Sensor",  
  "Labels": [  
    "System_Board_CPU_Usage_CPUUsagePctReading",  
    "FAN1A_RPMReading",  
    "FAN1B_RPMReading",  
    "FAN4A_RPMReading",  
    "CPU1_VCORE_VR_VoltageReading",  
    "FAN2B_RPMReading",  
    "PS2_Voltage_2_VoltageReading",  
    "CPU1_MEM_VR_VoltageReading",  
    "CPU2_MEM_VR_VoltageReading",  
    "PS1_Current_1_AmpsReading",  
    "PS2_Current_2_AmpsReading",  
    "FAN2A_RPMReading",  
  ]  
}
```

```
{  
  "Source": "PowerStatistics",  
  "Labels": [  
    "PowerStatistics_LastDayAvgPower",  
    "PowerStatistics_LastDayMaxPower",  
    "PowerStatistics_LastDayMaxPowerTime",  
    "PowerStatistics_LastDayMinPower",  
    "PowerStatistics_LastDayMinPowerTime",  
    "PowerStatistics_LastHourAvgPower",  
    "PowerStatistics_LastHourMaxPower",  
    "PowerStatistics_LastHourMaxPowerTime",  
    "PowerStatistics_LastHourMinPower",  
    "PowerStatistics_LastHourMinPowerTime",  
    "PowerStatistics_LastMinuteAvgPower",  
    "PowerStatistics_LastMinuteMaxPower",  
  ]  
}
```

Demo