Working Draft: Swordfish NVMe SMART Metrics for Storage Controllers

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Feedback

- Suggestions for revisions should be directed to http://www.snia.org/feedback
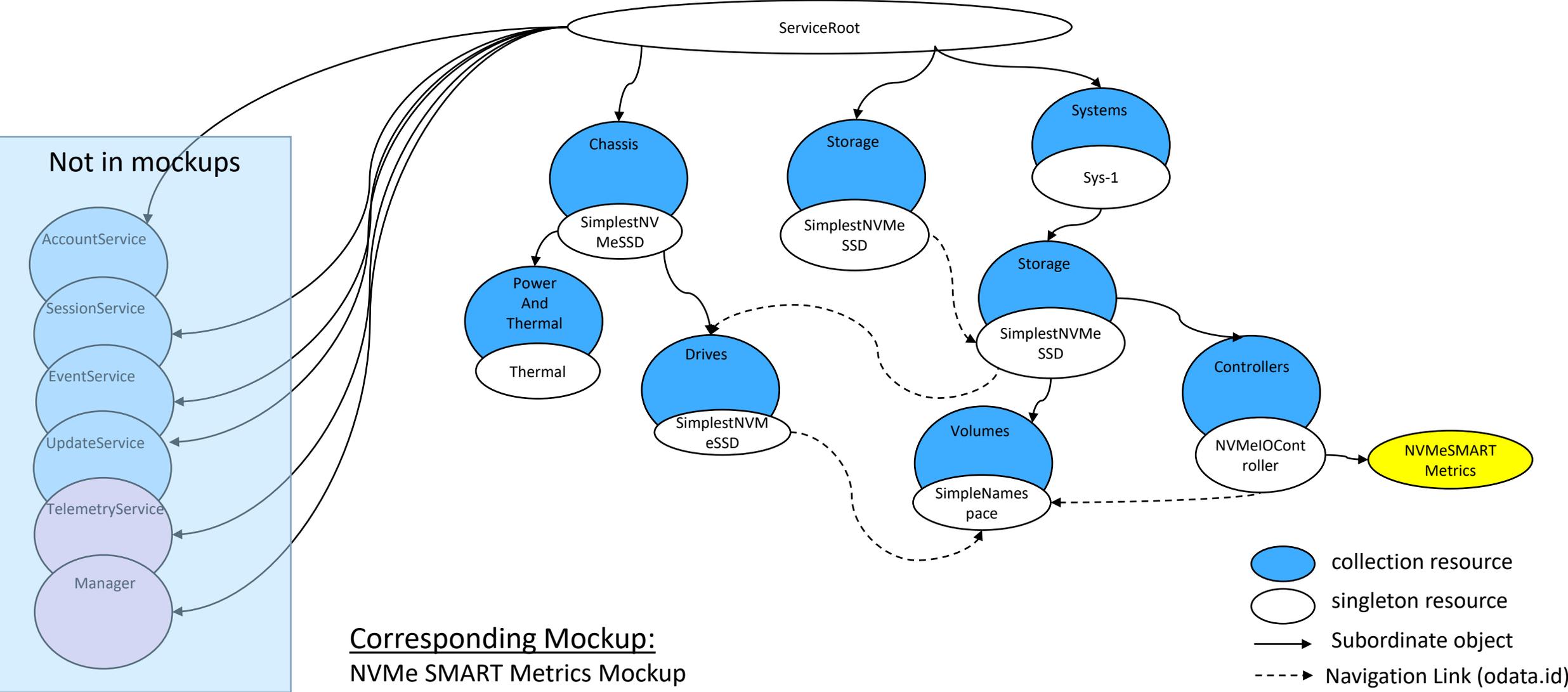
TWG Status Disclaimer

- This proposal is a snapshot of work in progress by the SNIA Scalable Storage Management TWG, developed by the NVMe Task Force.
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Related Materials

- This overview is released in conjunction with:

- NVMe SMART Metrics mockups published on swordfishmockups.com

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Adding NVMe SMART Metrics

Corresponding Mockup:
NVMe SMART Metrics Mockup

```json
{
  "@odata.type": "#NVMeSMARTMetrics.v1_0_0.NVMeSMARTMetrics",
  "Name": "NVMe SMART Metrics",
  "Id": "NVMeSMARTMetrics",

  "NVMeSMARTCriticalWarnings": {
    "PMRUnreliable": false,
    "PowerBackupFailed": false,
    "MediaInReadOnly": false,
    "OverallSubsystemDegraded": false,
    "SpareCapacityWornOut": false,
    "TempOverThreshold": false,
    "TempUnderThreshold": true,
    "SpareCapacityUnderThreshold": false
  },
  "CompositeTempKelvin": 308,
  "CompositeTempThresholdsKelvin": 350,
  "AvailableSparePercent": 50,
  "AvailableSpareThreshold": 30,
  "PercentageUsed": 50,
  "EGCriticalWarningSummary": {
    "NamespacesInReadOnlyMode": false,
    "ReliabilityDegraded": false,
    "SpareCapacityUnderThreshold": false
  },
  "DataUnitsRead": 0,
  "DataUnitsWritten": 0,
  "HostReadCommands": 0,
  "HostWriteCommands": 0,
  "ControllerBusyTime": "PT20M",
  "PowerCycles": 49,
  "PowerOnHours": "PT3H",
  "UnsafeShutdowns": 4,
  "MediaAndDataIntegrityErrors": 0,
  "NumberOfErrorInformationLogEntries": 100,
  "WarningCompositeTempTime": "PT0M",
  "CriticalCompositeTempTime": "PT0M",
  "TempSensorsKelvin": [308, 308, 308, 300, 305, 309, 307, 306],
  "ThermalMgmtTemp1TransitionCount": 10,
  "ThermalMmgtTemp2TransitionCount": 2,
  "ThermalMgmtTemp1TotalTime": "PT20S",
  "ThermalMgmtTemp2TotalTime": "PT42S",

  "Oem": {},
  "@odata.id": "/redfish/v1/Systems/Sys-1/Storage/SimplestNVMeSSD/Controllers/NVMeIOController/NVMeSMARTMetrics",
  "@Redfish.Copyright": "Copyright 2015-2022 SNIA. All rights reserved."
}
```

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