# HPE NonStop Manageability Update

Iain Liston-Brown & Prashanth Kamath

May 2023

# Forward-looking statements
## This is a rolling (up to three year) Roadmap and is subject to change without notice

This document contains forward looking statements regarding future operations, product development, product capabilities and availability dates. This information is subject to substantial uncertainties and is subject to change at any time without prior notification. Statements contained in this document concerning these matters only reflect Hewlett Packard Enterprise's predictions and / or expectations as of the date of this document and actual results and future plans of Hewlett Packard Enterprise may differ significantly as a result of, among other things, changes in product strategy resulting from technological, internal corporate, market and other changes. This is not a commitment to deliver any material, code or functionality and should not be relied upon in making purchasing decisions.

# NonStop manageability strategy

- Modernise & make it easy to manage NonStop systems
- Minimize training
- Centralise & integrate into Enterprise Management frameworks
- Support new platform and capabilities
- Provide business and system analytic metrics
- Provide customers with choices that match the skills of their IT Staff
  - from deep NonStop knowledge, to solutions that require a very little NonStop syntax knowledge
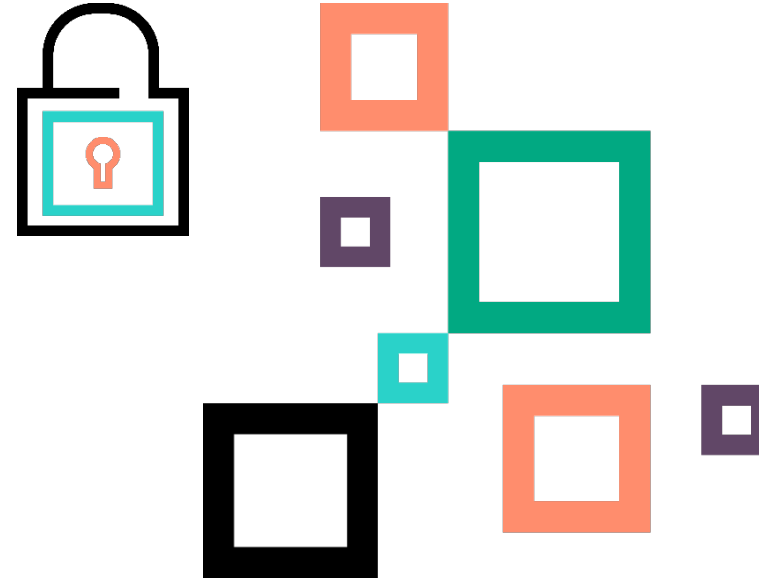
# Manageability product portfolio

## Serviceability

- HPE Insight RS
- HPE iLO
- NonStop System Console
- OSM Suite of Tools

## Enhanced Management

- ATM/POS Trans. Analyzers
- **DataEdge for HPE NonStop**    *New*
- C-Deep for HPE NonStop
- SNMPv3 Agent for HPE NonStop
- MQGate for HPE NonStop
- Operations Agent for NonStop (OVNM)
- **Sentinel for HPE NonStop**    *New*
- Web ViewPoint Enterprise
  - **Base24 and Connex plug-ins**    *New*

## Expert Management

- ASAP
- Capacity Manager (TCM)
- Enform Optimizer (EFO)
- EMS Analyzer (EMSA)
- Real-Time Proc. Monitor (RPM)
- Seeview
- Viewsys

## Performance Management

- Measure
- Local Analyst (LA)
- Performance Agent for NonStop (OVNPM)
- Performance Mgmt. Bundles
- Remote Analyst (RA)

# New features introduced

## Serviceability

- **NSC Software Installer**
  - Updates 39 and 40
  - New tool for updating all firmware on NS8/NS4 processor nodes *in parallel*

- **OSM**
  - Support for Event Viewer in *MS Edge*
  - Support for iLO-5 2.71 firmware for Gen10 CLIMs
  - Detection of power supply temperature sensor issues within D3700 and D3710
  - *MFA support* for OSM SC and OSM console tools
  - *Restricting non-Super users* to non-privileged access
  - *NIST 800-88 compatible disk sanitization*
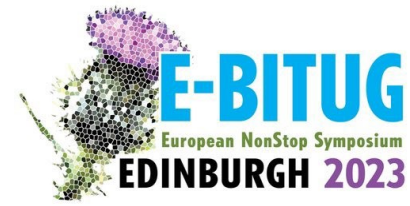
## Enhanced Management

- **OVNM 1.7.2**
  - The system accounting disc to support *Enscribe file format 2*, SQL, and OSS; new functions and queries added in the Legacy Display Agent
  - Restore of the correlation feature in Legacy Display Agent

- **Web ViewPoint Enterprise**
  - Enhanced Dashboard Visualizations - Support for multiple axes, pie chart, column charts, etc.
  - Ability to change how much data to query and retain on dashboard for all graph widgets
  - Ability to view live alert logs
  - Ability to define user access for Admin, Manager and Staff
  - Support for Composite Metric to define metrics using arithmetic expressions

## Performance Management

- **Remote and Local Analyst**
  - Application analytic monitoring
  - Solution recommendations
  - Automated analytics generation
  - Click drilldowns for discoveries

# Future plans

## Serviceability

- **NSC Software Installer**
  - Windows OS upgrade
  - Hardware refresh
  - TLS 1.2 support for connecting to iLO Web Interface

- **OSM**
  - Standalone Event Viewer
  - Support for backup and restore of $SYSTEM disk

## Enhanced Management

- OVNM
  - Replacement of Event Console Desktop Client with a web based application
  - NonStop Splunk adapter to forward EMS and OSS/Guardian logs
  - Java Monitoring Gateway for monitoring of NonStop OSS Java application
  - Composite thresholds based on 2 or more different subsystems like CPU, PROCESS and DISK

## Performance Management

- **Local and Remote Analyst**
  - Smart scanners
  - Automated exception detections
  - Enhanced UI and user experience
  - Seamless product upgrades

- OVNPM
  - Dynamic Instance Discovery based on Configuration in System Report - new instances to be discovered matching the criteria without manual intervention
  - Enhanced Correlation Features for automatic impact analysis

# $SYSTEM backup and recovery
Future feature

- Creates an online backup of $SYSTEM disk on a tape or disk drive through OSM guided procedures
  - Backup $SYSTEM by stopping the mirror disk
  - Backup $SYSTEM when both primary and mirror disks are in the started state

- Restores $SYSTEM disk using the backed-up contents from a tape or disk
  - Uses **System Disk Restore Tool** while the NonStop system is down to restore $SYSTEM

- Supported on L-series systems

# Latest OSM serviceability enhancements

# OSM now detects power supply temp. sensor issues within D3700 and D3710

- OSM will listen for SNMP traps #8030 and #8031 for the D3700 or D3710 SAS Disk Enclosures to determine whether or not any of the power supplies within the SAS Disk Enclosure has a temperature sensor issue that needs to be addressed

Alarm Detail - \RATCHET

| Resource Name: | SAS Disk Enclosure 2M281706RK |
| Dials Out: | Yes |
| Creation Time: | Oct 18, 2022 01:20:46 AM PDT |
| Alarm Type: | Environmental Alert |
| Suppression Type: | |
| Severity: | Major |
| Probable Cause: | Temperature Unacceptable |
| Description: | Power Supply Temperature Out of Limits |

Repair Actions

```
Problem: One or more power supplies within the SAS
disk enclosure have exceeded their normal temperature
operating range.

Repair Actions:

1. Ensure that all the fans within the SAS disk enclosure
 are operating properly. Replace them, if necessary.
2. Ensure that the SAS disk enclosure does not have
 anything obstructing proper air ventilation.
3. Ensure that the external environment temperature
 of the SAS disk enclosure is within the normal operating
 range.
4. Contact support to review logs on SAS disk enclosure
 to identify which power supply to replace.
5. Manually delete this alarm.
```
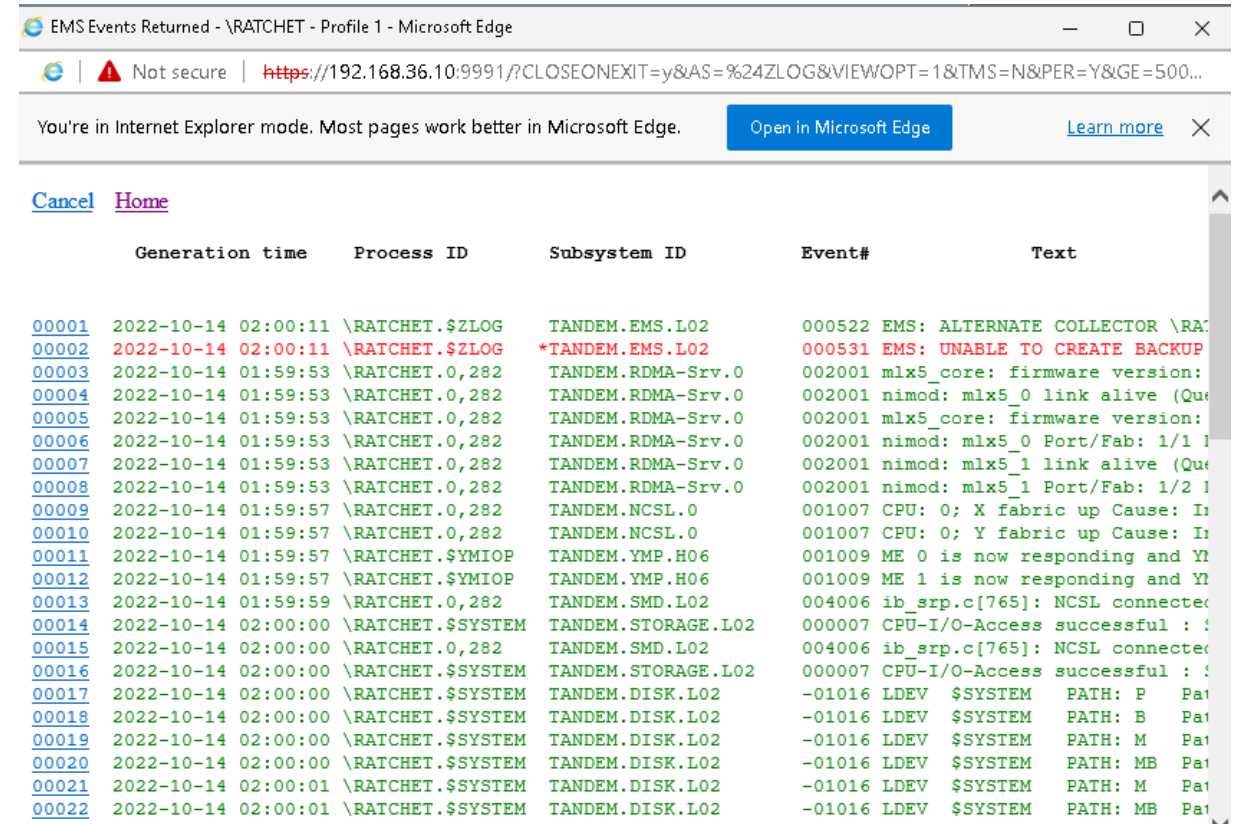
Save...    Close    Help

| Attributes | ⚠ Alarms | | | |
|---|---|---|---|---|
| Alarm Suppression Type | Severity | Creation Time | Description | Dials Out |
| | ⚠ Major | Oct 18, 2022 01:20:46 AM PDT | Power Supply Temperature Out of Limits | Yes |

# OSM supports Event Viewer in Microsoft Edge

- OSM Service Connection will now open Event Viewer in Microsoft Edge if Internet Explorer is not installed or is disabled.

# OSM supports iLO-5 2.71 firmware for Gen10 CLIMs

- iLO-5 2.71 is package under T0848L02^ABL

- In order to install iLO-5 2.71, you must have the following minimum SPRs installed:
  - T0634H06^ACR - OSM Console Tools
  - T0682L02^BBJ  - OSM Service Connection
  - T0853L03^DBF - CLIM DVD Installation Software

---

Attributes | Alarms

**CLIM $ZZCIP.SCLIM001**
**Innovation Engine (IE)**
| | |
|---|---|
| Compare State | Same |
| Default File Name | $SYSTEM.SYS00.fw0848d |
| Default File Version | 0.2.3.0 (T0848L02_27SEP2022_29JUL2022_ABL) |
| Version | 0.2.3.0 |

**Logical**
| | |
|---|---|
| CIP Software Version | T0853L03_02DEC2022_27SEP2022_DCN |
| Configured Operation Mode | Storage |
| Connection Status | Correctly Configured |
| Device State | Started |
| Down Physical Network Interfaces | None |
| Last Time SNMP Test Trap Received | Oct 18, 2022 12:50:21 AM PDT |
| Linux Version | Linux 4.19.197-clim-5-amd64 #1 SMP Debian 4.19.197-clim-5 (2022-09-20) |
| Maintenance Interface IPv4 Address | 192.168.37.1 |
| Registered with Key Managers | Yes |
| Temperature Status | Normal |
| Up Physical Network Interfaces | eth0, eth1 |
| X Fabric Connection State | Correctly Connected |
| Y Fabric Connection State | Correctly Connected |
| eth1 Interface IPv4 Address | 10.93.204.191 |
| iLO DNS Name | RATCHET-SCLIM001-ilo.private.lan.com |
| iLO IPv4 Address | 192.168.33.1 |
| iLO Link Pulse State | Up |

**Physical**
| | |
|---|---|
| Model | ProLiant DL380 Gen10 |
| Part Number | P19720-B21 |
| Serial Number | 2M2940028C |

**Physical Location**
| | |
|---|---|
| Rack Name | 1 |
| Rack Offset | 27 |

**ROM**
| | |
|---|---|
| Compare State | Same |
| Default File Name | $SYSTEM.SYS00.rom0848e |
| Default File Version | 05.17.2022 (T0848L02_27SEP2022_29JUL2022_ABL) |
| Version | 05.17.2022 |

**Server Platform Services (SPS)**
| | |
|---|---|
| Compare State | Same |
| Default File Name | $SYSTEM.SYS00.fw0848e |
| Default File Version | 4.1.4.601 (T0848L02_27SEP2022_29JUL2022_ABL) |
| Version | 4.1.4.601 |

**iLO**
| | |
|---|---|
| Compare State | Same |
| Default File Name | $SYSTEM.SYS00.fw0848c |
| Default File Version | 2.71 (T0848L02_27SEP2022_29JUL2022_ABL) |
| Version | 2.71 |

# NS8 and NS4 processor node firmware update using SPP

- Overview
  - NS8 and NS4 processor node firmware components
  - NS8 and NS4 processor node firmware update – prior to L22.09
  - NS8 and NS4 processor node firmware update – L22.09
  - Firmware update using custom Service Pack for ProLiant (SPP)
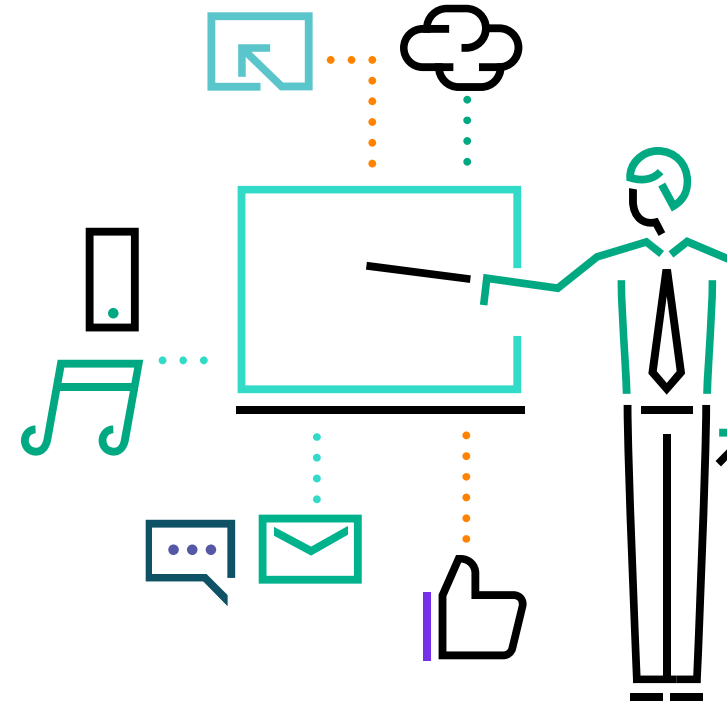
# NS8 and NS4 processor node firmware components

- NS8 and NS4 processor node hardware
  - HPE ProLiant DL360 Gen10 server
  - HPE InfiniBand HDR100 2-port 940QSFP56 adapter
  - HPE Ethernet 1Gb 4-port 331FLR adapter

- NS8 and NS4 processor node firmware components
  - iLO 5
  - System ROM (BIOS)
  - InfiniBand adapter
  - Ethernet adapter
  - SPS (Server Platform Services) – not used in NonStop system
  - IE (Innovation Engine) – not used in NonStop system

# NS8 and NS4 processor node firmware update
## *Prior* to L22.09

- Firmware update tools and scripts for Windows and Linux not applicable to NS8 and NS4 processor nodes which run NonStop OS

- Multiple firmware update procedures
  - Each firmware component has a separate procedure
  - Each procedure has several manual steps
  - Each processor node is updated separately

- NS8 system with more than 4 processor nodes can take over 4 hours to update all firmware components

# NS8 and NS4 processor node firmware update
## L22.09+

- Custom Service Pack for ProLiant (SPP)

- Single firmware update procedure
  - Updates all firmware components in a processor node
  - Reduces number of manual steps
  - Updates all processor nodes in a NonStop system

- NS8 system with 16 processor nodes can be updated in less than 2 hours
  Recommend 2.5 hour service window

# Firmware update using custom Service Pack for ProLiant (SPP)
## SPP overview

- Uses SPP .iso to update all firmware components in all HPE ProLiant servers
- Uses HPE Smart Update Manager (SUM) tool for firmware update
- Online or offline operation
- Web user interface or command line interface (CLI) operation
- Two releases per year
- >10 GB file size for HPE ProLiant Gen10 and Gen10 Plus servers
- Custom SPP
    - .zip file to update firmware components in NS8 and NS4 processor nodes only
    - Release with firmware versions for NonStop RVU
    - ~1 GB file size

# New manageabilty Showcase products

# DataEdge for HPE NonStop

- Data Integration and Streaming Analytics platform
  - Ingest, clean, enrich a variety of data
  - Perform analytics
  - Provide operational business intelligence to make real time decisions
- Support for ingestion of disparate data streams with statistics calculations at high volumes, velocity and variety
- Modern service oriented architecture, highly available
- Responsive user interface with focus on mobility (different devices) and different UI form factors
- Support for ATM and POS financial transactions applications that run on the HPE NonStop (ACI BASE24 Classic/EPS, FIS Connex, etc.)
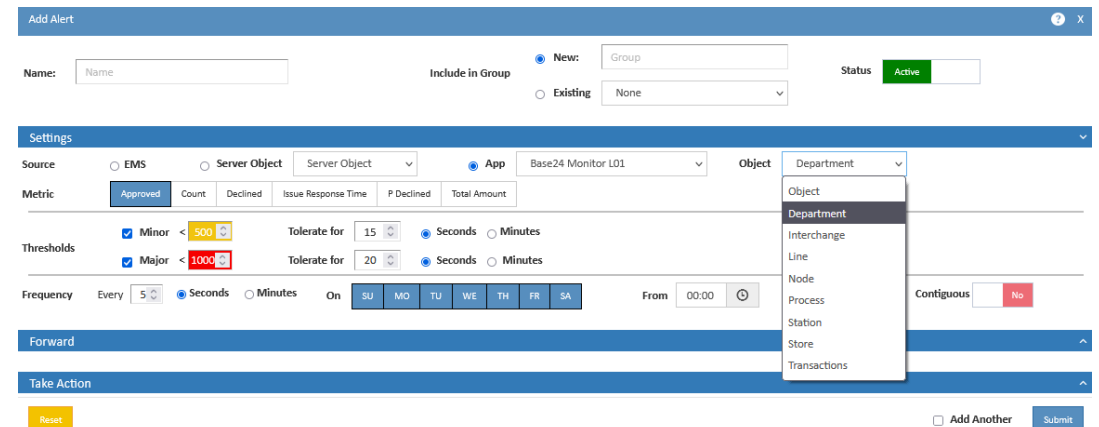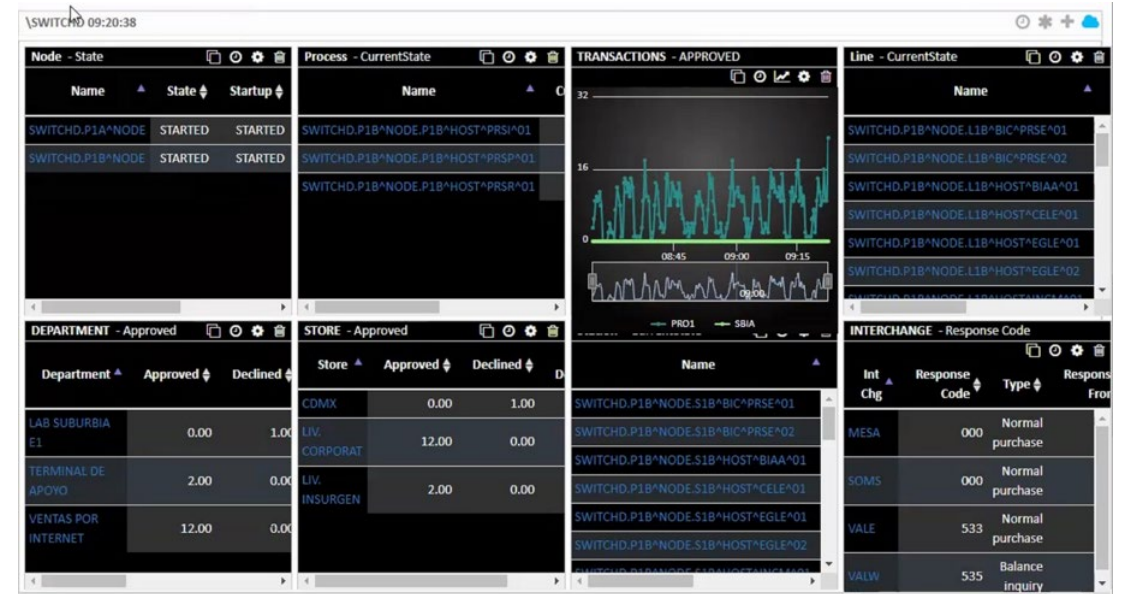- Strategic replacement for ATM & POS Transaction Analyser
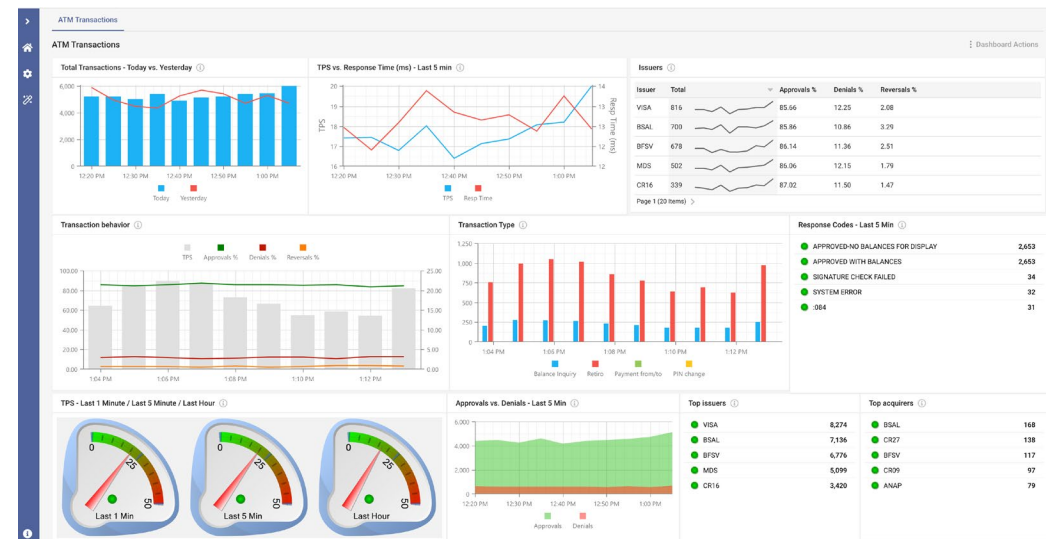
# Sentinel for HPE NonStop

- Dynamic operations and service management software for HPE NonStop systems

- Built on a highly advanced architecture that is object-based and provides monitoring of systems, networks, hardware, subsystems, processes, files, events and even 3rd party applications.

- Condenses a large amount of active monitoring into a single collection of screen objects, allowing users to diagnose an issue in more depth and in real time via context-sensitive drill-down screens.

- Enables you to
  - Correct faults automatically, using the context of the original event
  - Escalate alert conditions via a local graphical console or email
  - Enable legacy applications if they are required to participate in a centralised strategy
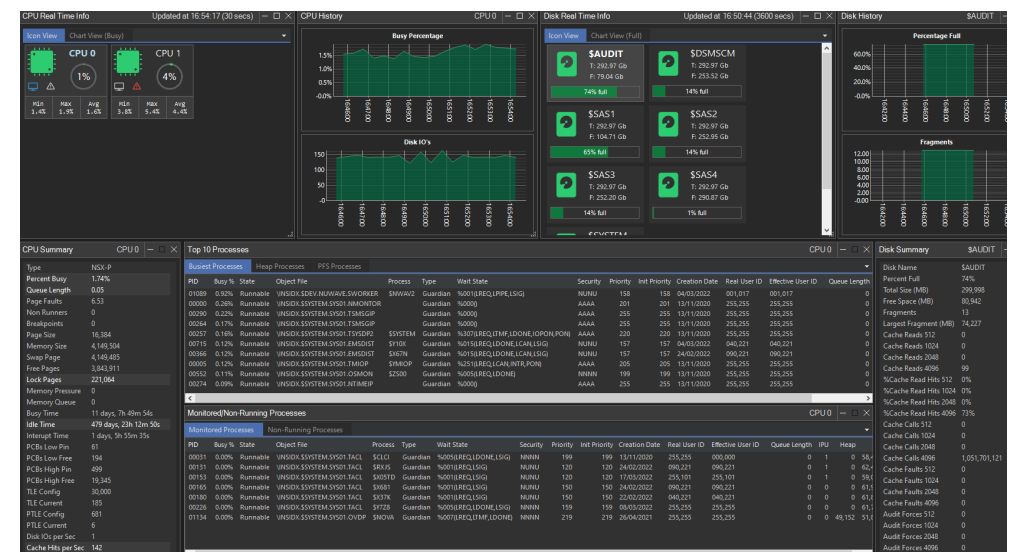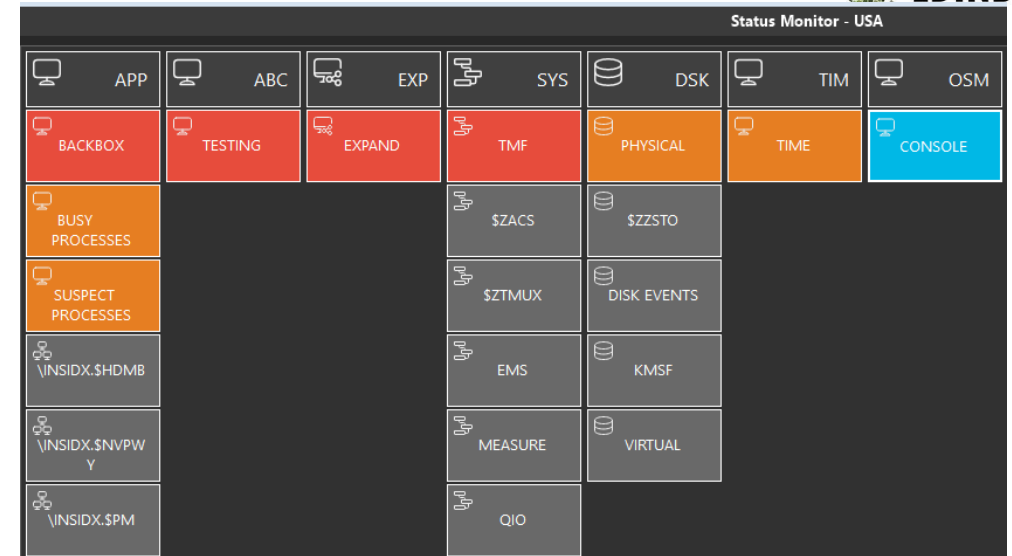
# Base24 and Connex Plug-ins for Web ViewPoint Enterprise

- Fully integrates with Web ViewPoint Enterprise, where:
  - Payment Apps from one or more servers can be displayed on one screen
  - Alert conditions can be defined on any of the available metrics
  - Output to Splunk, Kibana, ServiceNow etc
  - When issues are encountered:
    - Staff can be notified via text and email
    - Details can be exported out to central solutions (e.g., ServiceNow)
    - Automated actions can be taken to recover
- Extensible Configurable and dynamic:
  - Users can create their own profile of Payment metrics and how they want to view them
  - Profiles can be shared across the organization
  - Future new metrics can easily be adopted
  - Each user can dynamically modify, select, and choose their own dashboard

# Questions?

# THANK YOU

Iain.liston-brown@hpe.com