

OVNM & OVNPM – HPE NonStop Manageability Products

DataEdge for HPE NonStop

Streaming Analytics & Monitoring for Financial Transactions



Paul Davies – Product Manager (ESQ)

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VNUG -25th Oct 2023

What is OVNМ ?

OVNM (NonStop Management Agent) is an integrated set of modules running on the Nonstop.

It will manage HPE NonStop servers and will provide direct integration into various Enterprise Management solutions should they be available.

The Modules Provide:



 There is no requirement to have an Enterprise Solution in place for deployment of OVNМ.

11/1/2023

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OVNM - Object Configuration Client (OCC)

Easily Maintained Monitoring Thresholds

Tailored EMS Alert Messages

Controlled Monitoring

EMS Subsystem and User Application Management and Automation

Automated Recovery Actions

E-mail Escalations

Group and Subgroup Management of Objects

Auto Maintenance Facility

Check Device / Application Status after any Reload – ensuring what should be up and available....
Actually is.

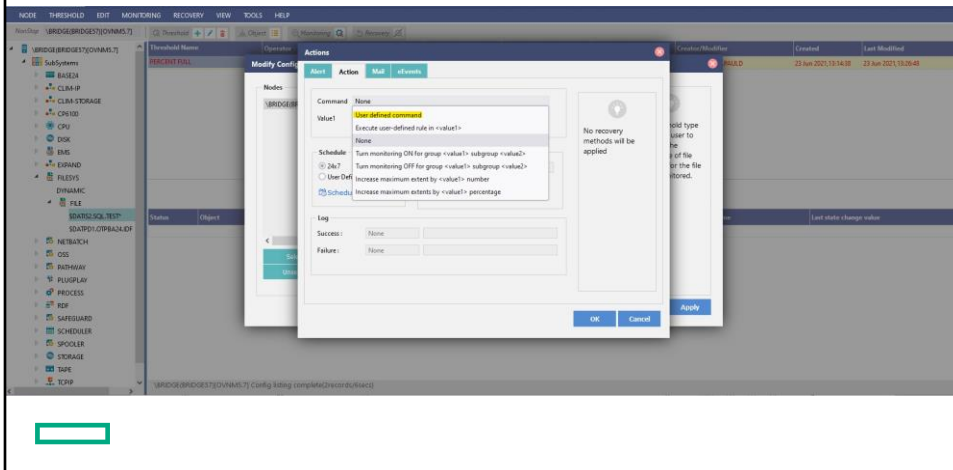
Typical OVNM Monitoring Threshold

The screenshot displays three overlapping windows from the OVNM monitoring configuration tool:

- Threshold Window:** Shows configuration for a threshold named "POTENTIAL ERROR 43". The object is "E3A30N_TUPPLE" of type "Manager". The threshold is set to "is" with "value 1" and "value 2" fields. The monitoring status is "ACTIVE".
- Schedule Window:** Configures the polling interval to 5 minutes, with a start time of 00:00 and a stop time of 23:59. The days of the week are selected for All, M, T, W, T, F, S, and Su. The "Next Scheduled Day" option is unchecked.
- eEvents Window:** Configures the event status to "ACTIVE" and severity to "CRITICAL". The event name is "File %S% - Next Extent Size Created will cause an Error 43 - Advise Capacity Management Team." The event text replacement is set to "File %S% - Next Extent Size Created will cause an Error 43 - Advise Capacity Management Team." A green box highlights the "Event Text Replacement" field.

This Threshold will check for any file where the next extent created may cause a Disk Full condition.

Pre-Defined Actions inclusive of Actions against a defined Group/Subgroup of Objects.



User defined commands or the user can switch off a Group/SubGroup of Objects, for example Base24 is closing – switch off monitoring for Base24.

Actions could also be based upon the number of times a specific event has been seen.

ObjectMap - Objects in Violation at Subsystem or Service Level

Normal 71 Total Objects
Managed Subsystems Legend Help

Severity	Node	Subsystem	Object Type	Threshold	Object	Manager
Critical	BRIDGE(BRIDGE0)	DISK	DISK	PERCENT FULL	SA001	0
Normal	BRIDGE(BRIDGE0)	DISK	DISK	PERCENT FULL	SYSTEM	0
Normal	BRIDGE(BRIDGE0)	DISK	DISK	PERCENT FULL	SDSR	0
Normal	BRIDGE(BRIDGE0)	DISK	DISK	PERCENT FULL	SDSRB	0
Normal	BRIDGE(BRIDGE0)	DISK	DISK	PERCENT FULL	SDA	0
Normal	BRIDGE(BRIDGE0)	DISK	DISK	PERCENT FULL	SDSS	0
Normal	BRIDGE(BRIDGE0)	DISK	DISK	PERCENT FULL	SDSRDGM	0
Normal	BRIDGE(BRIDGE0)	DISK	DISK	PERCENT FULL	SDCV	0

```

show SAGST, short
PAGE 1 SAGP ...
Date: 2012/02/23 Program: TRS4LE1 (313618)
Copyright 2014-2015 Hewlett-Packard Enterprise Development LP
Free Space Short Report
Value (M) Capacity (Mb) Free Free Pages
SAGST 9899 1028.02 19 27 1124.56

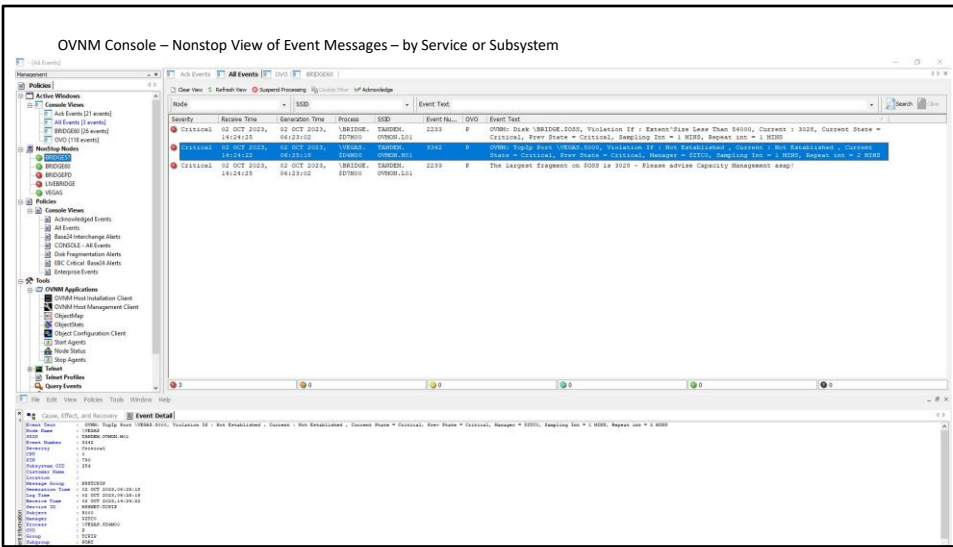
```

ObjectMap Legend:

- DATA-INT: INT STATUS IS DOWN, INT STATUS IS UP, LINK PULSE STATUS IS NOT AVAILABLE, LINK PULSE STATUS IS NOT UP
- CPU: CPU IS DOWN, CPU IS UP, CPU PERCENT BUSY, CPU QUEUE LENGTH, CPU PROCESS IN USE, CAPACITY, CPU ABANDONED, DISK IS DOWN, DISK IS UP, NUMBER OF FRAGMENTS, PERCENT FULL
- EVENT: I/O STATUS-OK TRUE, EVENT MESSAGE, EXECUTE-DEFERRED ACTIONS
- LINE: NOT STARTED
- PATH: NOT STARTED
- DYNAMIC: FILE EXISTS, PERCENT FULL
- FILESYS: ALIBITED, FILE EXISTS, FILE NOT EXISTS, LOGGED, PERCENT FULL, PROCD
- FILE: ALIBITED, FILE EXISTS, FILE NOT EXISTS, LOGGED, PERCENT FULL, PROCD
- JOB: JOB EXECUTING TOO LONG
- PATHMON: PATHMON STOPPED
- SERVERS: SERVERS ARE PENDING
- LOOPING: ANY PROCESS IS LOOPING (DYNAMIC)
- PROCESS: PROCESS IS DOWN, PROCESS IS UP, COLLECTOR FILE PERCENT_FULL
- PRINTPROC: PRINT PROCESS ERROR
- YCPD: CPU ABANDONED TO PROCESS, PEST IS IN WAIT STATE, PROCESS IS DOWN
- AUDTDUMP: NOT DUMP IS DISABLED, ALERT DUMP IS INACTIVE
- C-ANALYZE-LOWER

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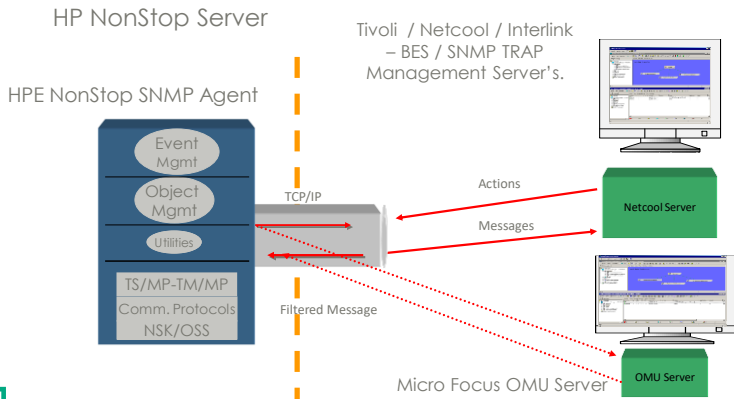
Monitoring Threshold violations at a glance.



Visibility of EMS events across all NonStop systems and highlights which Events are being sent to the Enterprise – should one be connected.

OVNM – Integration with the Enterprise Management Systems.

Direct & Guaranteed delivery of SNMP Traps from NonStop to any Enterprise Management Server.



OVNM can format EMS Events and dispatch these directly from the NonStop as SNMP (Inform) Traps to any Enterprise Server that is available.

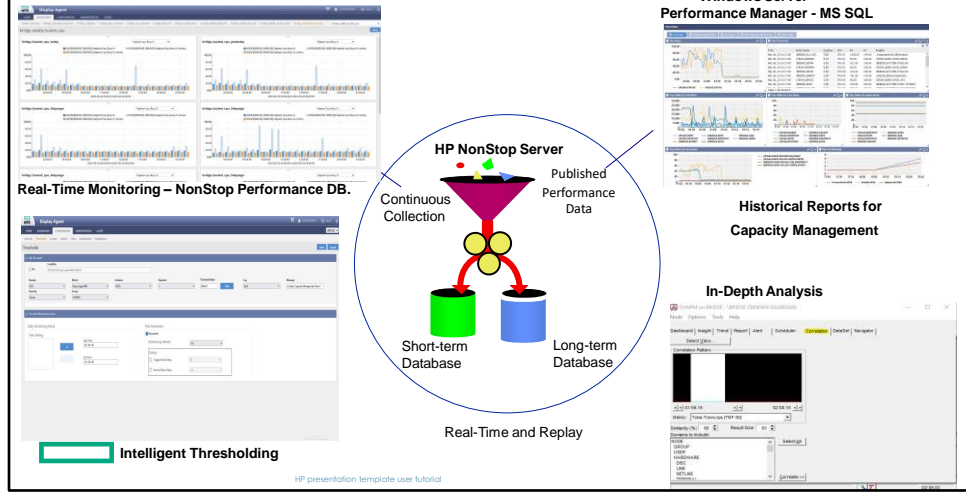
OVNM does not require an Enterprise Server to be available.

OVNPM –**N**on**S**top **P**erformance **M**anagement Agent.



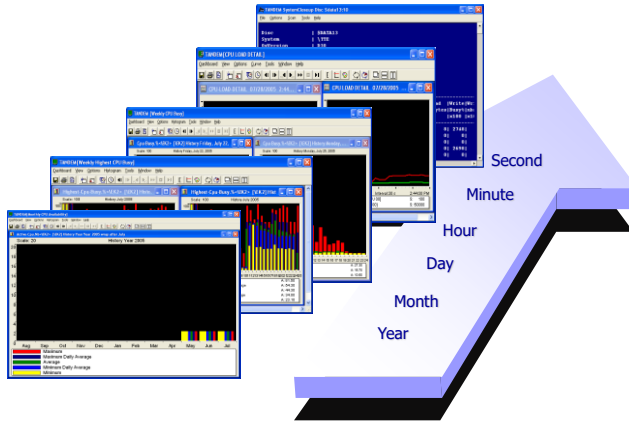
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Overview / Architecture of OVNPM



Historical Performance Data stored on the NonStop and can also be published into a SQL database where it is automatically aggregated and can be graphically displayed with Data Analyser or other business tools like Grafana.

Top-Down Time Analysis



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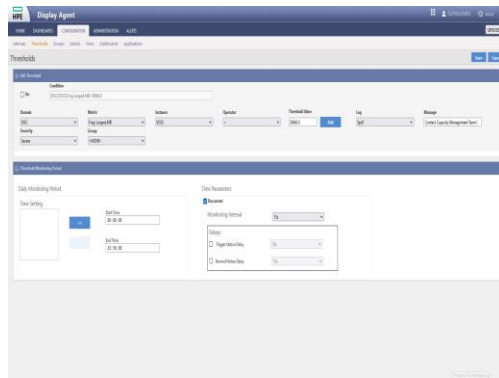
Navigator: Real-Time Web Access

IP	Name	Busy Time%	Peak Busy Time%	Pk Time	Pk	Conn	Msg Sent	Msg Recv	Cur Page	Page Fault	User IP	Program	Hostname	Client Time
BRIDGE.01	125	2.7	7.8	23h:29m	148	0	70	0	8719	0	36.28	/anagaa/jdk1.8.0_101/bin/java		07:54:10h
BRIDGE.01	911	SZFH-p	2.5	3.4	07:01:09h	199	0	768	22799	7776	0	255.215	SSYSTEM.SYS22AG	04:01:17h
BRIDGE.00	414	SZFH-g	2.1	1.7	00:04:09h	199	0	8	22210	2032	0	255.215	SSYSTEM.SYS22AG	19:14:16h
BRIDGE.00	731	SDFHY	1.4	0.9	02h:13m	140	0	612	0	10344	0	35.1	/jdk1.8.0_101/bin/cockpit.java	07:54:16h
BRIDGE.01	376	S055-p	0.9	0.0	18h:34m	220	0	87	9880	3784	0	255.215	SSYSTEM.SYS22SYSP2	19:14:16h
BRIDGE.00	291		0.7	0.3	23h:15m	255	0	0	0	11	0	255.215	SSYSTEM.SYS22TSASGP	19:14:16h
BRIDGE.01	296		0.7	0.8	22h:25m	255	0	0	0	11	0	255.215	SSYSTEM.SYS22TSASGP	19:14:16h
BRIDGE.00	363	SZFM0	0.6	0.2	19h:28m	199	0	1	0	1304	0	255.215	SSYSTEM.SYS22OS3RM	19:14:16h
BRIDGE.00	0	SACMNTOR	0.4	0.3	15h:20m	201	0	102	7086	120	0	255.215	SSYSTEM.SYS22MACHNTOR	19:14:16h
BRIDGE.00	389	SZM0	0.3	0.3	07h:05m	140	0	5787	3	38787	0	36.28	/jdk1.8.0_101/bin/cockpit.java	07:54:16h
BRIDGE.01	0	SACMNTOR	0.3	0.0	14h:30m	201	0	2	4294	148	0	255.215	SSYSTEM.SYS22MACHNTOR	19:14:16h
BRIDGE.01	264		0.3	0.0	18h:47m	255	0	0	0	11	0	255.215	SSYSTEM.SYS22TSASGP	19:14:16h
BRIDGE.01	376	S2A-p	0.3	0.0	18h:03m	220	0	304	3408	2159	0	255.215	SSYSTEM.SYS22SYSP2	19:14:16h
BRIDGE.01	781	S0400	0.3	0.6	05m:15s	100	0	5438	0	30732	0	35.1	/anagaa/jdk1.8.0_101/bin/cockpit.java	SZHOME 17h:25m
BRIDGE.00	294		0.2	0.5	16h:10m	255	0	0	0	15	0	255.215	SSYSTEM.SYS22TSASGP	19:14:16h
BRIDGE.00	556	SNS00	0.2	0.4	01h:44m	100	0	2989	3	24801	0	6.19	/jdk1.8.0_101/bin/cockpit.java	02:54:27h
BRIDGE.00	717	S5U00	0.2	0.0	04m:15s	100	0	3787	2	30680	0	6.10	/anagaa/jdk1.8.0_101/bin/cockpit.java	SZHOME 20h:07m
BRIDGE.00	797	S0V15	0.2	0.4	04h:37m	100	0	3878	0	62000	0	35.1	/anagaa/jdk1.8.0_101/bin/java	07:54:17h
BRIDGE.00	1011	S3V00	0.2	0.4	35m:15s	100	0	3602	2	34782	0	6.10	/jdk1.8.0_101/bin/cockpit.java	07:08:02h
BRIDGE.00	1007	S0U00	0.2	0.3	03h:40m	100	0	2396	0	18867	0	35.21	/jdk1.8.0_101/bin/cockpit.java	06:19:04h

Real time Web Access to Measure statistics – Drill down on applications to see file opens etc.

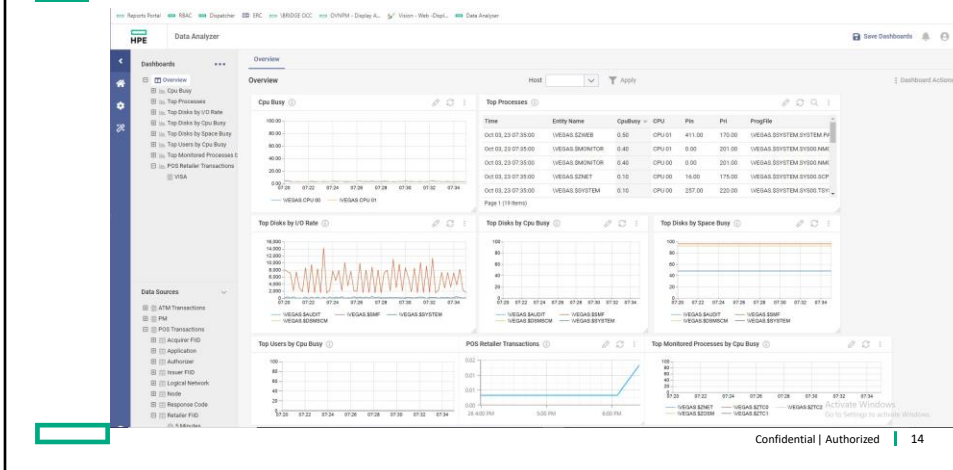
Intelligent Alarms

- Simple and Group Alerts
- Multiple Alerts
- Time and Noise Sensitive
- Severity Levels
- EMS Compliant
- Integrated with OVN



Alerts/ Thresholds can also have 'Trigger delays' , this stops alerts happening when a Cpu may spike for a minute and then resumes to its normal percentage / rate.

Combined Business & Performance Data – Holistic View of overall Business.



Combined data from NonStop Performance to DataEdge Transaction Data – enabling Operations to see whether Transactions are completing okay and whether NonStop Performance is affecting Transaction throughput.

DataEdge - Product Overview



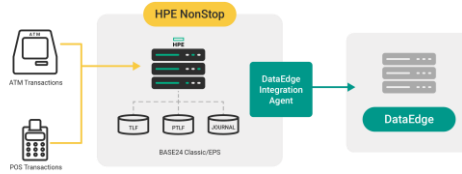
DataEdge for HPE NonStop

- 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
- Responsive User Interface with focus on mobility and different UI form factors
- Packages for ATM and POS financial transactions applications that run on the HPE NonStop (**ACI BASE24 Classic/EPS, FIS Connex, etc.**)
- APIs for integration



Real Time Streaming & Enrichment of Data

- DataEdge ETL layer streams host transaction logs in real-time from the HPE NonStop platform to the DataEdge platform (Wintel server)
- Delivery in correct sequential order of every record with exactly-once processing (E1P)
- Data enriched with reference data for entities coming from other sources
 - Add location data like Latitude/Longitude
 - Additional Merchant Data like Names, Addresses, Store Location, Terminal
- Support for recovery in case of network outages
- Support for Active-Active mode

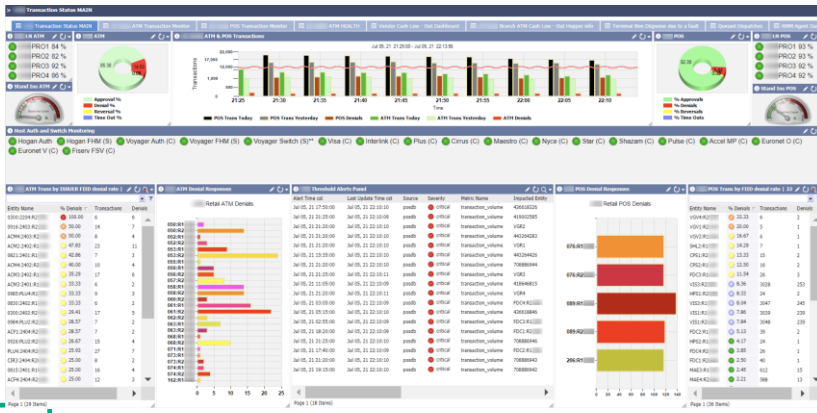


Business KPIs (Base24 application on HPE NonStop)



- Number and percentage of transactions by various entities (Acquirer, Issuer, Network, Retailer)
- Number and percentage of approved/denied transactions
- Number and percentage of timeout transactions
- Response time of transactions
- Interchange response time
- TPS
- Transaction Type Analysis
- Response Code Analysis
- Trends – today vs. yesterday/last week/last month

Multi Channel Summary (ATM, POS, Switch, Authorizer health)



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Data Builder – Flexible Configuration

New Metric [X]

Name of Metric: Interchange Sleep Time Entity Type Name: Network-Wide

Description:

Type of Metric: Sum of column values Choose Source Column: interChangeResponseTime

Track norms for this metric

Apply Filters (Optional)

- reversalReason is not equal to 4021
- transCode is not one of 1420,1421,1430,1440
- interChangeResponseTx is greater than 0

[Add Filter Condition](#)

Filter Logic: All of the conditions are met (AND)

[Show Preview](#) [Cancel](#) [Save](#)

- Centralized user interface to easily configure metrics, formulas, entities, data sources*, and connections*
- Intuitive and user-friendly area that requires minimal technical skills and imposes quick data builds
- Save time by replicating, altering, and even deactivating metrics or entities directly in the user interface
 - Predefined metrics offered out-of-the-box
 - Define custom metrics for different entities
 - Improve operational efficiency by cloning and editing user-defined custom metrics

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Applying filters to ensure that Metrics being monitored are tuned to specific fields required.

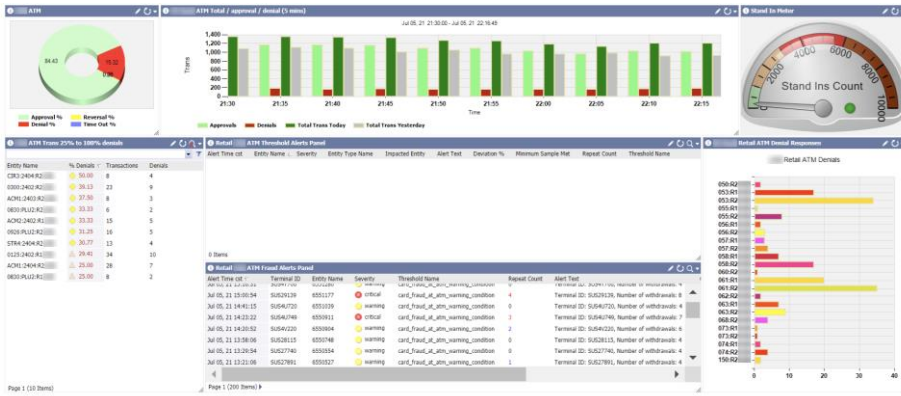
Previews – Examine your Metric definition before Deploying.



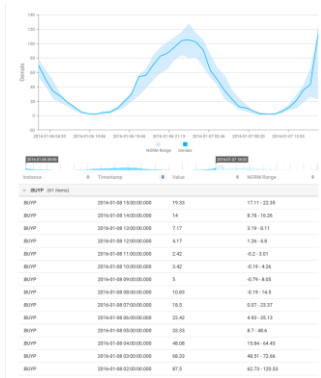
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Define Metrics that you wish to monitor then view the data that will be extrapolated from the incoming Transactions and see if this matches your requirements, then choose to deploy the metric monitoring.

ATM Transaction Monitoring



Anomaly Detection enabled by ML



- Norms are metric normal values based on a set of profiles
- Out-of-the-box norms profiles are based on day of the week and hour of the day to capture cyclic patterns
- Choose metrics to track under norms profiles
- Norms are updated daily to include fresh data in the model
- Anomalous values for a metric can be monitored, detected, and alerted on for percentage or absolute deviations from the norm

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Norms are based on profiles and DataEdge can use the Normal profile to detect any Deviations from the Normal rates, therefore if Friday lunch time TPS rate for a FIID like Visa deviates by a certain percentage then DataEdge will alert to say that TPS rate is not the expected value for a Friday and there is a deviation from the normal rate by X%.

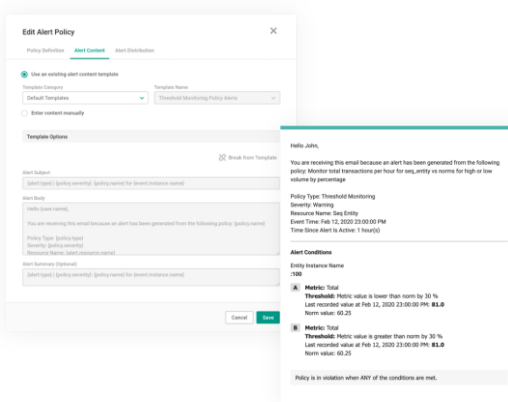
Norms – Deviation from Normal Behavior

Time	Alert ID	Entity Name	Entity Type Name	Threshold Name	Repeat Count	Severity	Metric Name	Metric Value	Norm Value	Deviation %	Minimum Sample Met	Ack Time
Jul 06, 11 01:30:38	655308	CS00 K1	Issuer	approval_norm_validation_30min_state	2	Warning	approval_percentage	79.59	88.95	-18.36	False	
Jul 06, 11 01:30:39	655309	PL12 K2	Issuer	approval_norm_validation_30min_state	1	Critical	approval_percentage	54.55	82.51	-32.96	False	
Jul 06, 11 01:30:37	655305	3784 K2	InterchangeP2D	approval_norm_validation_30min_state	6	Warning	approval_percentage	62.89	83.83	-25.10	False	
Jul 06, 11 01:30:37	655306	ADH1 K2	InterchangeP2D	approval_norm_validation_30min_state	0	Warning	approval_percentage	62.50	82.42	-24.82	False	
Jul 06, 11 01:30:43	655420	PL14 K2	Issuer	volume_norm_validation_30min_state	9	Critical	transaction_volume	2.00	28.50	-92.98	False	
Jul 06, 11 01:30:40	655413	ADH2 K1	Issuer	volume_norm_validation_30min_state	21	Critical	transaction_volume	4.00	41.00	-90.26	False	
Jul 06, 11 01:30:43	655423	ADH2 K1	Issuer	volume_norm_validation_30min_state	16	Critical	transaction_volume	4.00	38.31	-89.56	False	
Jul 06, 11 01:30:32	655434	CSH1 K1	Issuer	volume_norm_validation_30min_state	25	Critical	transaction_volume	5.00	34.56	-85.53	False	
Jul 06, 11 01:30:37	655476	CS00 K1	Issuer	volume_norm_validation_30min_state	11	Info	transaction_volume	17.00	20.27	-16.63	False	
Jul 06, 11 01:30:37	655502	0515 K1	Issuer	volume_norm_validation_30min_state	0	Critical	transaction_volume	16.00	22.54	-29.02	False	
Jul 06, 11 01:30:39	655485	0508 K1	Issuer	volume_norm_validation_30min_state	8	Critical	transaction_volume	16.00	23.25	-31.18	False	
Jul 06, 11 01:30:37	655475	3784 K2	Issuer	volume_norm_validation_30min_state	7	Critical	transaction_volume	20.00	28.83	-30.94	False	
Jul 06, 11 01:30:39	655377	3784 K2	Issuer	volume_norm_validation_30min_state	40	Critical	transaction_volume	9.00	46.50	-77.82	False	
Jul 06, 11 01:30:39	655487	AD71 K2	Issuer	volume_norm_validation_30min_state	8	Critical	transaction_volume	5.00	22.20	-77.47	False	
Jul 06, 11 01:30:35	655454	PL12 K2	Issuer	volume_norm_validation_30min_state	19	Critical	transaction_volume	11.00	24.23	-54.79	False	
Jul 06, 11 01:30:40	655466	CSH1 K1	Issuer	volume_norm_validation_30min_state	17	Critical	transaction_volume	10.00	18.80	-46.27	False	
Jul 06, 11 01:30:42	655490	AD74 K2	Issuer	volume_norm_validation_30min_state	5	Critical	transaction_volume	6.00	24.79	-75.72	False	
Jul 06, 11 01:30:39	655304	PL14 K2	Issuer	volume_norm_validation_30min_state	1	Warning	transaction_volume	22.00	27.00	-18.52	False	
Jul 06, 11 01:30:40	655493	AD71 K2	Issuer	volume_norm_validation_30min_state	6	Critical	transaction_volume	18.00	39.28	-54.16	False	
Jul 06, 11 01:30:45	655495	ADH1 K2	Issuer	volume_norm_validation_30min_state	6	Critical	transaction_volume	20.00	52.15	-61.69	False	
Jul 06, 11 01:30:45	655497	CS08 K2	Issuer	volume_norm_validation_30min_state	3	Critical	transaction_volume	11.00	23.13	-52.27	False	
Jul 06, 11 01:30:39	655375	3784 K2	Issuer	volume_norm_validation_30min_state	64	Critical	transaction_volume	14.00	24.56	-41.05	False	
Jul 06, 11 01:30:37	655472	CS12 K1	Issuer	volume_norm_validation_30min_state	27	Critical	transaction_volume	14.00	22.17	-35.97	False	
Jul 06, 11 01:30:39	655364	0515 K2	Issuer	volume_norm_validation_30min_state	42	Info	transaction_volume	11.00	21.33	-48.44	False	
Jul 06, 11 01:30:38	655470	ADH2 K1	InterchangeP2D	volume_norm_validation_30min_state	22	Critical	transaction_volume	2.00	20.53	-90.20	False	
Jul 06, 11 01:30:43	655424	ADH2 K1	InterchangeP2D	volume_norm_validation_30min_state	8	Critical	transaction_volume	2.00	19.25	-89.24	False	
Jul 06, 11 01:30:40	655411	3784 K2	InterchangeP2D	volume_norm_validation_30min_state	16	Critical	transaction_volume	7.00	20.25	-65.43	False	
Jul 06, 11 01:30:37	655304	AD71 K2	InterchangeP2D	volume_norm_validation_30min_state	0	Critical	transaction_volume	5.00	11.50	-56.54	False	
Jul 06, 11 01:30:39	655308	AD74 K2	InterchangeP2D	volume_norm_validation_30min_state	1	Critical	transaction_volume	3.00	13.39	-77.60	False	



Monitoring via Alert Policies

- 1 Create sophisticated threshold conditions
- 2 Craft custom alert messages
- 3 Distribute alert messages to individuals or groups



Alerts to various adapters, SMS / EMAIL / SNMP / NonStop EMS / Windows Event logs.

Control Data Retention & Aggregation

The screenshot displays a web-based interface for data management. It features three main panels: 1) 'Data Maintenance' at the top left, which lists various data entities and their status. 2) 'Secondary/Repair Process' at the top right, showing a calendar for February 2020 and a table of data repair operations. 3) 'Data Retention' at the bottom center, which provides a table of retention and aggregation intervals for different entity types.

Entity Type	Interval	Retention	Control
Stat	1 min	Indefinite	***
Aggregation Interval	5 min	Indefinite	***
Aggregation Interval	15 min	Indefinite	***
Aggregation Interval	1 hour	Indefinite	***
Aggregation Interval	1 day	Indefinite	***
Aggregation Interval	1 week	Indefinite	***
Aggregation Interval	1 month	Indefinite	***
Aggregation Interval	1 year	Indefinite	***

- Control the data repair process
- Rebuild data at any time with improved on-demand repair capabilities
- Configure aggregation intervals for each entity type
- Manage the retention requirements for your data in the user interface

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Repair is a function to recover transactions possibly due to down time, the Repair engine can read in earlier transactions whilst processing current transactions. The repair process will also adjust statistics if Transactions arrive late and aggregation has already taken place for an interval, so any missed / late transactions will always get included in Statistic periods even if that period had already been aggregated.

Powerful Search Engine

- With Elasticsearch support (optional) for extended raw data storage

ATM Transactions BASE24 | 2023-11-03 19:37:00 - 2020-11-05 19:42:23 | (termLN contains PR01) | Save Filter

100+ Results (0)

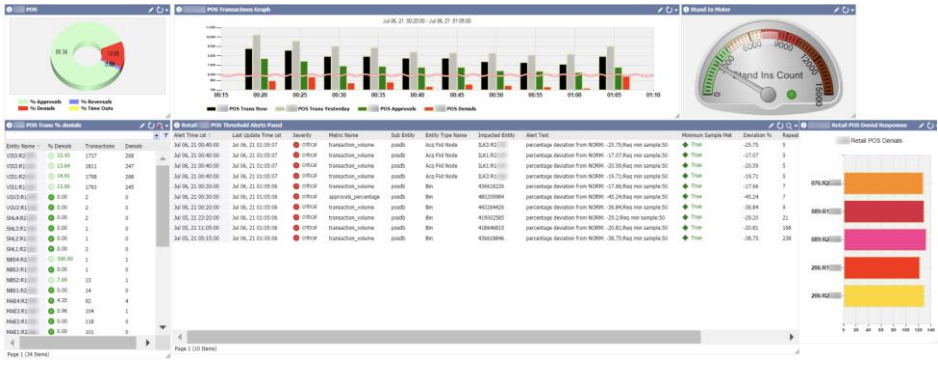
Application Id	termID	termLN	termID	OrigTransDate	acquirerTermC	PINOffset	acquirerTerm
DR3	M002	PR01	S1AP13DH	21214592560025...	BANKUNG		ID
SM	M002	PR01	S1AS13BA	21214592560063...	CRKAMPEK	0000000000000000	ID
SM	M002	PR01	S1AS13BA	21214592560076...	CRKAMPEK	0000000000000000	ID
SM	M002	PR01	S1AS13BA	21214592560076...	CRKAMPEK	0000000000000000	ID
DR3	M009	PR01	S1AM13AD	21214592560041...	CIREBON		ID
TMB	M002	PR01	S1AP13ET	21214592560027...	BEKASI	0000000000000000	ID
TMB	M002	PR01	S1AP13ET	21214592560041...	BEKASI	0000000000000000	ID
DR3	M008	PR01	S1ADJHZ	21214592560048...	JAKARTA		ID
DR3	M002	PR01	S1AM10I	21214592560050...	BATAM		ID
DR3	M009	PR01	S1AD10GA	21214592560054...	SURABAYA		ID
DR3	M002	PR01	S1AP00FA	21214592560048...	JAKARTA		ID
DR3	M008	PR01	S1AD1ETE	21214592560048...	BOGOR		ID
DR3	M008	PR01	S1AD1CIB	21214592560079...	SUKABUMI		ID
DR3	M009	PR01	S1AP10BU	21214592560084...	PEKANBARU		ID
DR3	M002	PR01	S1AD42SY	21214592560066...	JAKARTA		ID



Dashboard & KPI Samples



POS Dashboard with Norms



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Here the normal rate is displayed along with the current rate.

POS Transaction Research Panels – Search by Bin, Issuer, Acquirer

Bin List						Issuer FID List						Acquirer FID List						
Entry Name	FPS	Transactions	Approvals	Denials	% Approvals	Entry Name	FPS	Transactions	Approvals	Denials	% Approvals	Entry Name	FPS	Transactions	Approvals	Denials	% Approvals	
43171901	0.01	2	0	0	0.00	9124	0.08	23	11	11	47.93	1051	0.00	2000	2000	0	100.00	
43171908	0.01	4	0	4	0.00	9535	0.13	38	26	11	68.42	1052	0.08	2004	2000	381	85.17	
43171939	0.01	2	0	2	0.00	9422	0.47	141	113	26	67.72	1061	0.33	89	85	2	94.20	
43172022	0.01	3	1	1	33.33	9440	0.01	20	24	3	60.00	1062	0.32	95	85	2	94.74	
43900224	0.08	23	11	12	47.83	9424	0.33	99	81	18	81.82	1064	0.30	89	87	0	97.75	
48020923	0.03	4	2	2	50.00	9520	0.33	49	38	6	81.63	1063	0.34	103	102	1	99.02	
48020964	0.22	67	37	20	55.22	9288	1.07	221	287	49	62.50	1065	0.44	131	130	1	99.24	
43900355	0.08	24	15	8	62.50	9885	0.05	286	237	46	82.87	1066	0.44	133	132	1	99.25	
49015007	0.04	11	7	1	63.64	9536	1.43	429	360	62	81.00	1067	0.09	14	14	0	100.00	
43900240	0.04	18	12	0	66.67	9823	0.27	172	149	24	86.36	1068	0.02	3	3	0	100.00	
43900260	0.04	11	8	1	72.72	9844	2.23	688	565	82	84.58	1069	0.02	2	2	0	100.00	
48020700	0.01	4	3	0	75.00	9453	0.57	172	146	11	84.88	1070	0.02	2	2	0	100.00	
43904902	0.01	4	3	1	75.00	9432	0.50	149	127	22	85.23	1071	0.02	4	4	0	100.00	
43902744	0.11	33	23	8	70.78	9647	0.26	87	70	17	85.21	1072	0.02	2	2	0	100.00	
48020963	0.21	62	47	12	75.81	9819	1.40	431	368	43	84.94	1073	0.02	2	2	0	100.00	
43902622	0.40	126	108	24	79.44	9830	0.72	235	187	23	80.00	1074	0.02	6	6	0	100.00	
43902223	0.20	60	48	12	80.00	9200	1.04	404	403	0	97.13	1075	0.02	14	14	0	100.00	
44204413	0.39	39	24	3	60.00	9125	1.00	339	278	38	87.13	1076	0.00	1	1	0	100.00	
43902020	0.14	42	25	6	62.40	9883	0.88	24	21	3	87.50							
43902424	0.33	99	81	16	81.82	9916	0.51	154	135	15	87.66							
44204403	0.48	145	119	24	82.07													
44204402	0.60	188	135	29	82.45													
43941895	0.95	200	237	45	83.18													
43902200	0.02	4	5	1	83.33													
43902208	0.06	257	234	34	84.05													
43902423	0.42	127	107	18	84.25													
43902046	0.04	102	102	23	84.90													
43902250	0.13	40	34	6	85.00													



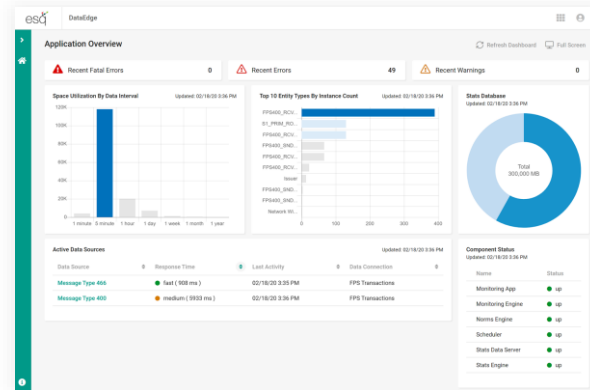
Retail/POS Transaction KPIs



esq

Application Health Monitoring

- Troubleshooting & diagnostics made easy

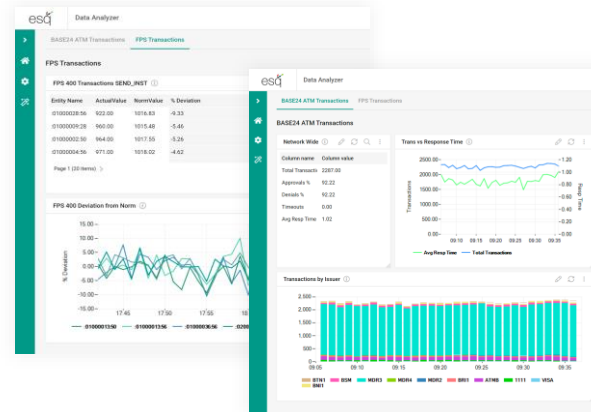


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DataEdge can monitor its own performance and alert, taking into consideration things like database capacity, insertion rates and component status.

Data Analyzer

- Purpose built for DataEdge
- Hundreds of chart types and widgets
- Highly flexible configuration
- Replay data
- Visual thresholds
- Adapts to mobile devices



Deliver Stats via API

The screenshot displays a REST client interface with a POST request to `https://demo-or24-vpn28471rta-data-server/metricdatabase/metricdata/`. The request body is a JSON object containing a `dataLevel` of "hour", a `dateRange` with `dateFormat` "yyyy-MM-dd HH:mm:ss.SSS", `timezone` "2023-11-24 00:00:00.000", and `timeEnd` "2023-11-24 23:00:00.000". The request also includes a `headers` section with `Content-Type: "application/json"` and a `requestParams` section with `format: "raw"`.

The response is a JSON object with the following structure:

```
{
  "page": {
    "pageSize": 10,
    "page": 1,
    "totalAvailablePages": 7,
    "maxPageSizeAllowed": 2000
  },
  "totalRecordsReturned": 69,
  "dataRows": [
    [
      1574661600000,
      149374,
      "0.01",
      "Response Time",
      4213.0
    ],
    [
      67.699974,
      67.699974,
      0.0,
      "Response Time",
      4213.0
    ],
    [
      1574661600000,
      149374,
      "0.000000",
      "Response Time",
      4213.0
    ]
  ]
}
```

Search Transactions API

The screenshot displays a REST client interface with two tabs. The top tab shows a request to the endpoint `https://api.us-east-1.amazonaws.com/2018-05-01/transaction-search`. The request body is a JSON array of transaction objects, each containing fields like `transaction_id`, `amount`, `timestamp`, and `merchant`. The bottom tab shows the corresponding response, which is a JSON array of objects containing transaction details such as `transaction_id`, `amount`, `timestamp`, `merchant`, and `status`.

Q&A

Thank you

Paul.Davies@ESQ.Com



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