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Advancements in backup and storage management, monitoring, MQ translation and workload automation.

Karl Gilbank - Director ETI-NET UK

Mirko Buzolitch - Director Business development





Agenda

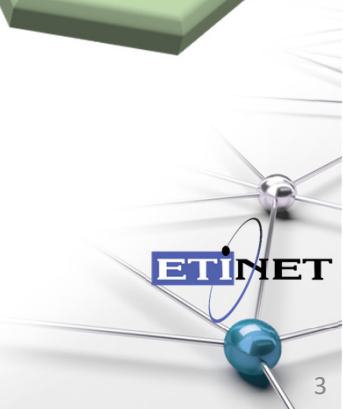
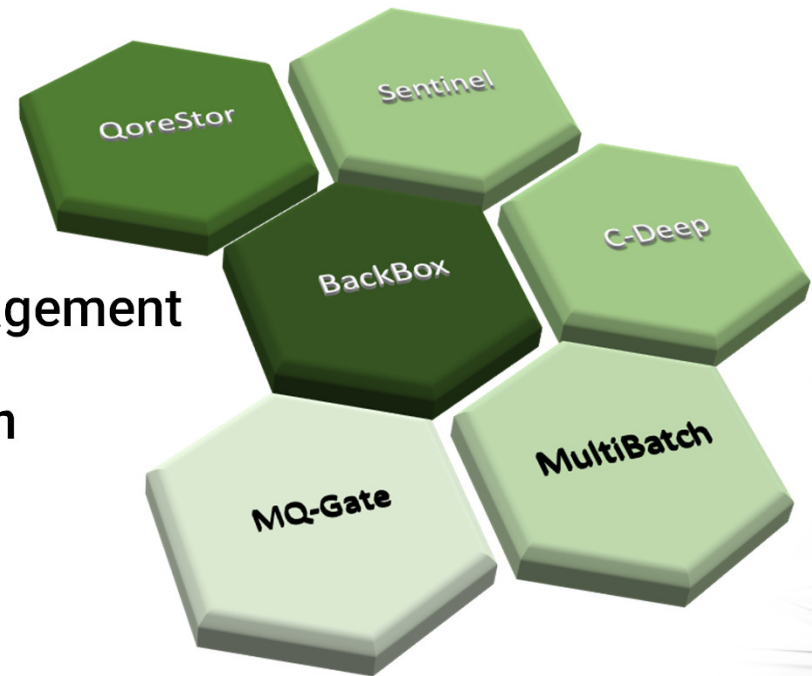
- ETI-NET | Your NonStop Partner
- BackBox Storage Protection, Advancements & QoreStor Success Story
- HPE Management Software
 - Sentinel
 - C-Deep
 - MQ-Gate
- MultiBatch from ETI-NET





Your NonStop Partner.

- **BackBox®: Proven Virtual Tape Solution**
- **QoreStor®: Advanced Storage for BackBox**
- **Sentinel: Dynamic Operations & Service Management**
- **C-Deep: Transaction Monitoring & Automation**
- **MQGate: IBM MQ Translator**
- **MultiBatch: Intelligent Workload Optimization**



Top System Targets by Cyber Criminals

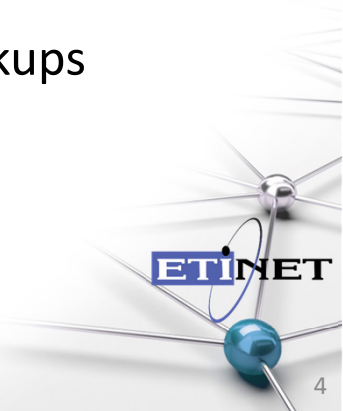
Verizon 2022 Data Breach Investigations Report



“When targeting companies, the criminals proceed to alter the company’s backup so that they continue to run each night but no longer actually backup any data. This is where having those **offline backups** come in handy”

What to do to avoid becoming a target

“Keep a consistent schedule with regard to backups and be sure to **maintain offline backups.**”





Advanced NonStop Backup Storage Solutions

Complementary Backup and Storage tools designed to Secure and Modernize NonStop data backup and data protection.



- Software Defined Storage integrated w/Back Box
- Encryption, deduplication, compression
- 3-2-1-1 best practice data protection adherence
- Decades of NonStop integration
- Multiple fault tolerant options
- Linear expandability

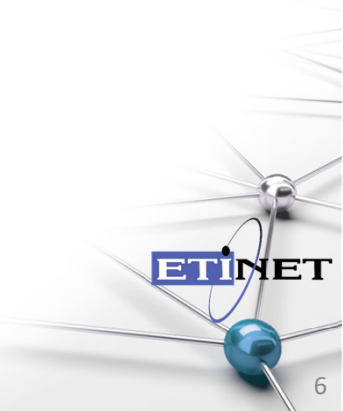




Security features & benefits

Integrated architecture, protecting NonStop backup systems and data by implementing advanced storage technology to deliver best practices.

- **Integrated Storage: Reduces External Data Access**
- **Data Encryption at Rest and in Transit to protect data:**
 - On Primary Storage (1st Copy of Data)
 - Copied to 2nd and 3rd tier storage (2nd Media, and 3rd off-site)
- **Cloud Tier: Enables the benefits of object storage**
 - Immutability
 - Off-Site
 - Off-Line





Advancements: NonStop Bare-metal restoration

Enhancing the ability to reduce the RTO of a complete NonStop system image utilizing standard BackBox functionality to combat ransomware.

- Streamlined rebuild of NonStop system drive from BackBox
- BackBox and BackBox(with QoreStor*) provides
 - Ability to save and restore \$SYSTEM image
 - Act as the NonStop Media target for the \$SYSTEM image
 - *Places the image(s) in accordance corporate w/policy
 - *Restoration capability to select images from optimal location





Success story

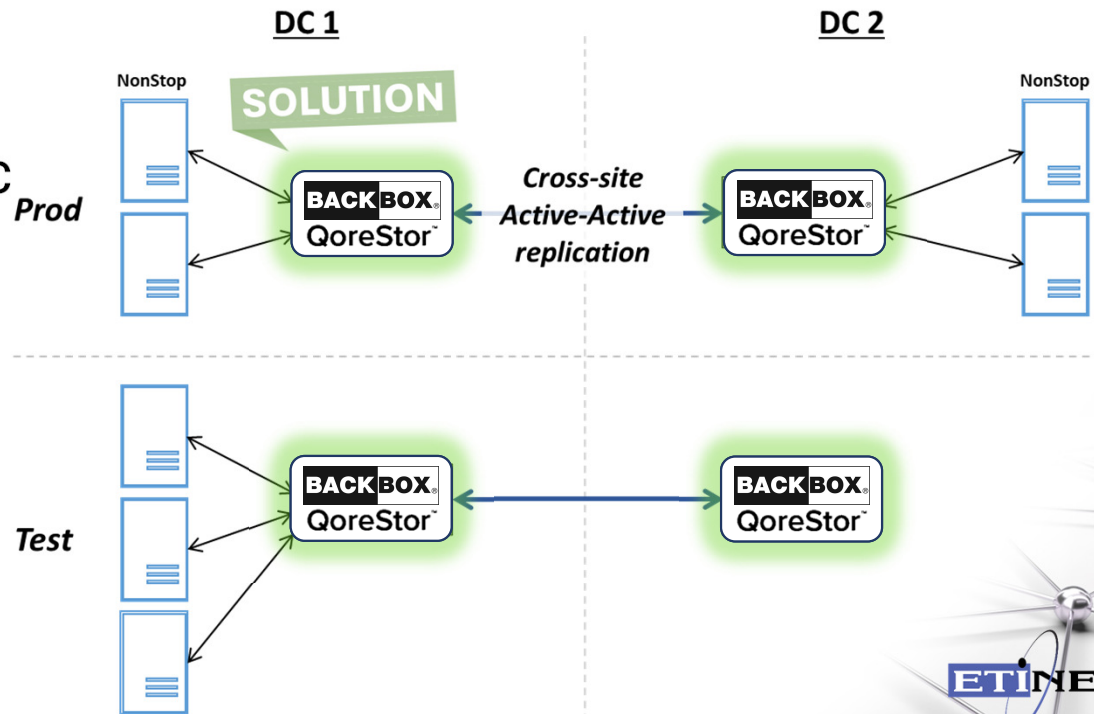


CHALLENGE

Immediate Backup Solution Replacement

Key Requirements:

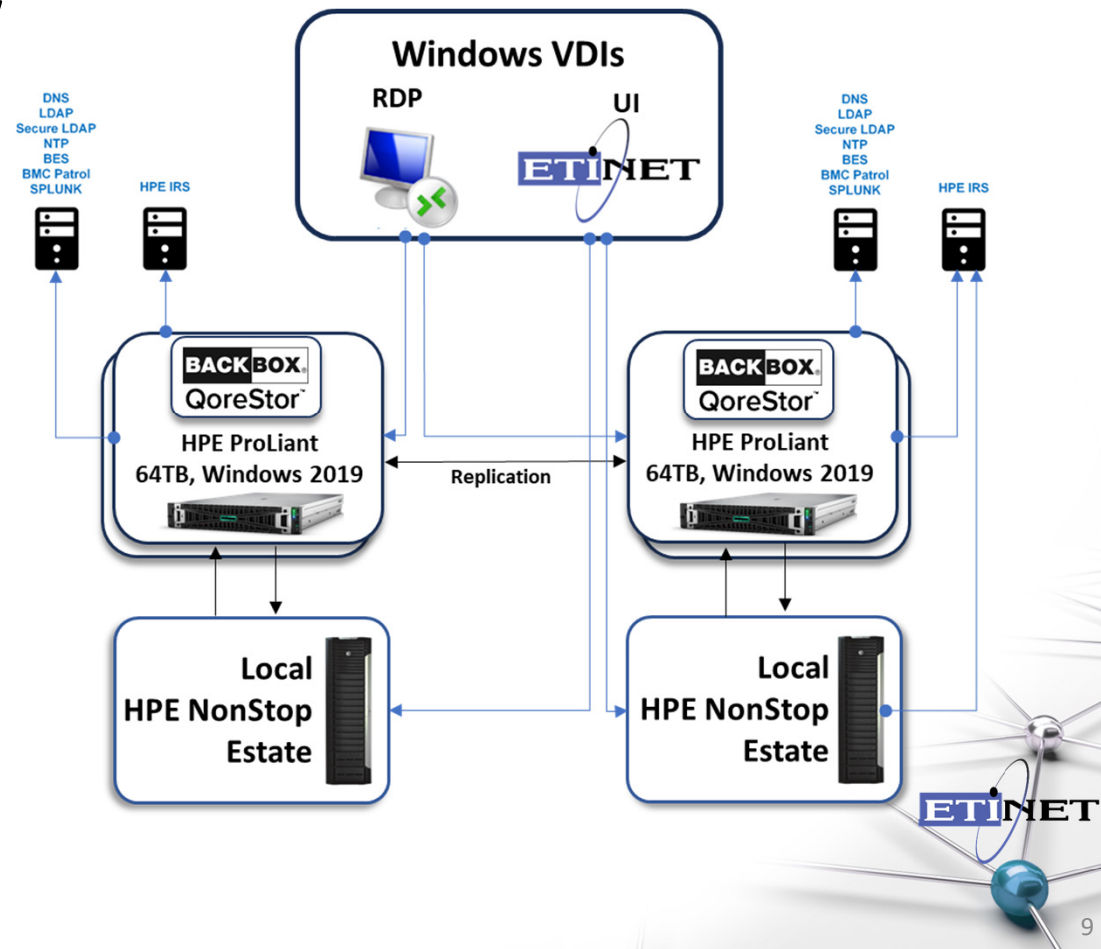
- Robust data replication between sites
- Locally attached storage managed by VTC
- Data encryption at-rest (within the VTC) and in-transit (cross-site)
- Resilient connectivity to multiple NonStop systems via multiple FC
- Scheduling urgency: On-site and sustaining support (preferably from HPE) for installation, configuration, updates, and training



Production Solution Overview

4x VTCs

- **HPE ProLiant Servers**
 - 64TB Storage (locally integrated)
 - Backbox (VTC MC & UI) runs in Windows
 - QoreStor runs as a VM in Hyper-V
 - 6 FC connections (per appliance)
- **Windows VDIs deliver access to BackBox / QoreStor & NonStop**
- **Infrastructure HPE IRS remote monitoring to each VTC**

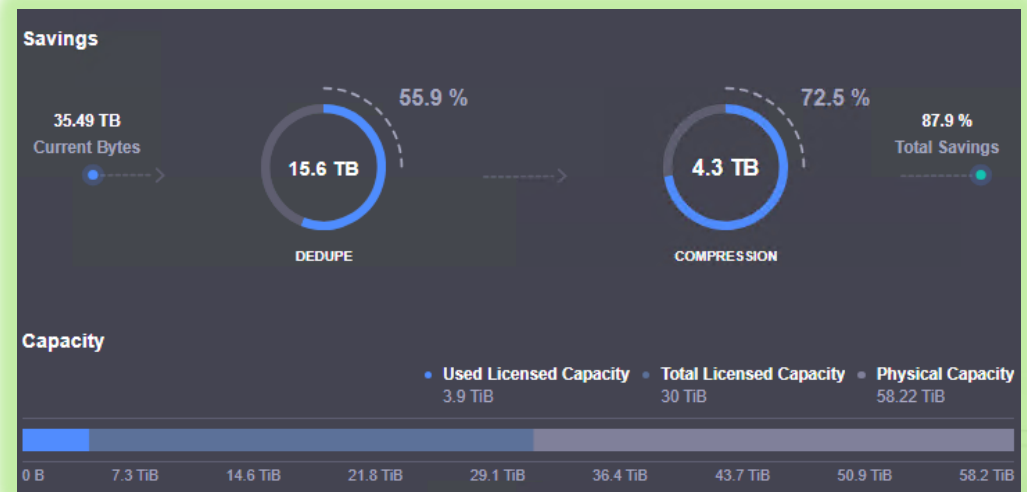




Success Story - Results



- **Simple installation & on-ramp to production**
 - Start to finish under 1 Quarter to select, order, install, and deploy 4x VTC with 12x NonStop Systems into production
- **Substantial Savings**
 - Common Platform for VTC & Storage
 - GUI
 - 88% Reduction in Data (added benefit)
- **Enhanced Security**
 - Encryption at Rest & In Transit
- **Enhanced Support**
 - Streamlined & Faster
 - Common architecture (VTC & Storage)



NonStop Backup Success Story - Quotes

“The results of the project have been very successful; there were minimal issues encountered – very light touch. The BackBox-QoreStor de-duplication and compression delivers significant storage savings”

- Sr. NonStop IT Director

“When my customer had an issue with their Backup vendor going out of business, we knew from experience that the ETI-Net/HPE BackBox solution would be a great fit. The support we had from both ETI-Net and HPE Services Technical Consultants made the transitions to BackBox quick and painless and the benefits of QoreStor surpassed our expectations.”

- Iain Liston-Brown, HPE NonStop Presales



HPE Catalog Manageability Products

ETI-NET's Sentinel, C-Deep and MQGate represent HPE's NonStop **Operations**, **Transaction** and **Messaging** under Enhanced Management solutions.

Serviceability

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

Enhanced Management

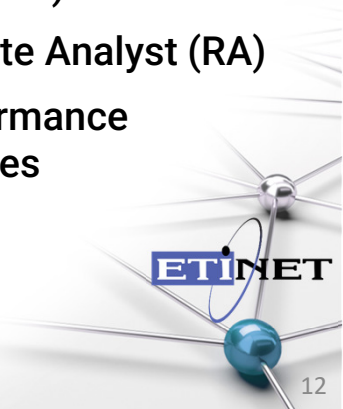
- C-Deep
- Sentinel
- MQ Gate
- Data Edge
- SNMPv5 Agent
- Operations Agent
- Web ViewPoint Enterprise

Expert Management

- ASAP
- Capacity Manager
- Enform Optimizer
- EMS Analyzer
- Real-Time Proc. Monitor
- Seeview
- Viewsys

Performance Management

- Measure
- Local Analyst (LA)
- Performance Agent (OVNPM)
- Remote Analyst (RA)
- Performance Bundles





Advanced NonStop Management Tools

Complementary management solutions designed to modernize and enhance NonStop Operations, Transaction & Messaging Management.

Transaction



- Payment Processor SLA Assurance & Planning
- Real-time & Comprehensive Query Data Insights
- Detailed Data Content & Longevity

Operations



- Intelligent Rationalization of EMS Events
- Advanced Presentation Layer & Architecture
- Automated Escalation & Problem Resolution

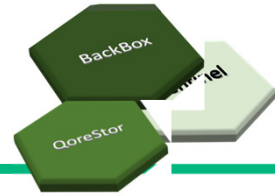
Messaging



- Intelligent Message Management
- Simplified Visualization
- Message Translation

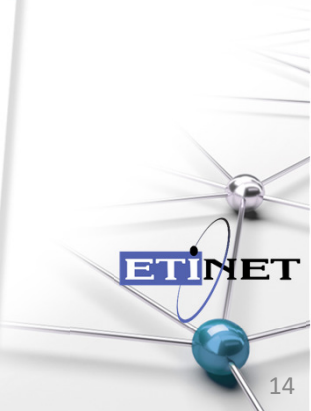


Sentinel for HPE NonStop



Enterprise class NonStop system monitoring designed to simplify, rationalize, and deliver world-class operations and service management.

- Designed for operations to enhance monitoring of the entire NonStop environment and associated applications
 - Consolidation & object rationalization of EMS events
 - Global NonStop nodes, networks, subsystems, files and events
 - 3rd Party application support
- Real-time data rationalization & automation
 - Intelligent presentation of data
 - Automatic problem resolution
- Complementary suite of services
 - Automatic problem resolution
 - Software and Services part of the HPE NonStop Catalog



Sentinel Status Monitor & Drill Down



Status Monitor - USA

CPU	DSK	MQS	CONSOLE
CPUS	PHYSICAL	MQ_SERIES	CONSOLE
CPU EVENTS	\$ZZSTO	MQ_EC	
	DISK EVENTS		
	KMSF		
	VIRTUAL		

CPUS

- CPU00
- CPU01

```
Object Information
DEVICE CPU01
Processor Type.....11
Processor Model.....16
Processor Full Name....HPE Integrity NonStop X NS3 X3 CPU
Processor Name.....NSX-P
System Name.....NS3 X3
Software release ID....L22.09

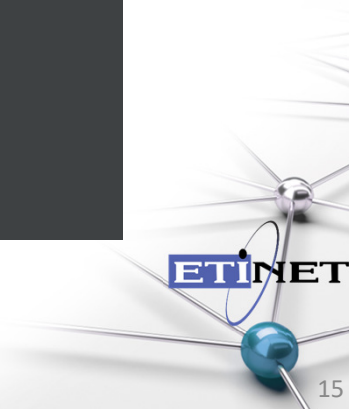
Page Size.....16384
Memory Size.....4149504
Swappable Pages.....4149485
Free Pages.....3791687
Current Locked Memory...291972
Maximum Locked Memory...3760471
High Locked Memory.....293936
Page Faults.....18369534
Pages Created.....0
Segments in Use.....9871
Maximum Segments Used...9871
Memory Pressure.....0
Memory Queue Length....0
CME Events.....0
Processor Queue Length..2
Breakpoints.....0
System Loads.....70
Disk Cache Hits.....56481129
Disk I/Os.....5379980

System Coldload Time...21/07/2023 17:10:56
Elapsed Time.....37 Days 21:36:18
Busy Time.....1 Days 05:29:11
Idle Time.....36 Days 11:59:57
Interrupt Time.....0 Days 04:07:10

Low Pin PCB:  Max Used.....79
              Currently in use...59
              No. Free.....196
              Failed Allocation...0

High Pin PCB:  Max Used.....426
              Currently in use...405
              No. Free.....19439
              Failed Allocation...0

TLE:  Max Used.....228
      Currently in use...205
```





Sentinel Network Monitor & Dashboard

Network Monitor

- OTHER
- UK
- NORTH AMERICA
- USA

CPU Real Time Info

Updated at 16:54:17 (30 secs)

CPU 0 1% **CPU 1** 4%

MIn	Max	Avg	MIn	Max	Avg
1.4%	1.9%	1.6%	3.6%	5.4%	4.4%

CPU History

Busy Percentage

Disk IO's

Disk Real Time Info

Updated at 16:50:44 (3600 secs)

Device	Full %	T: Total	F: Free
\$AUDIT	74%	292.97 Gb	79.04 Gb
\$DSMSCM	14%	292.97 Gb	253.52 Gb
\$SAS1	65%	292.97 Gb	104.71 Gb
\$SAS2	14%	292.97 Gb	252.95 Gb
\$SAS3	14%	292.97 Gb	252.20 Gb
\$SAS4	1%	292.97 Gb	290.87 Gb

CPU Summary

CPU 0

Type	NSX-P
Percent Busy	1.74%
Queue Length	0/05
Page Faults	6/53
Non Runners	0
Breakpoints	0
Page Size	16,384
Memory Size	4,149,504
Swap Page	4,149,485
Free Pages	3,843,911
Lock Pages	221,064
Memory Pressure	0
Memory Queue	0
Busy Time	11 days, 7h 49m 54s
Idle Time	479 days, 23h 12m 50s
Interrupt Time	1 days, 5h 55m 33s
PCBs Low Pin	61
PCBs Low Free	194
PCBs High Pin	499
PCBs High Free	19,345
TLE Config	30,000
TLE Current	185
PTLE Config	681
PTLE Current	6
Disk IO's per Sec	1
Cache Hits per Sec	142

Top 10 Processes

PID	Busy %	State	Object File	Process	Type	Wait State	Security	Priority	Init Priority	Creation Date	Real User ID	Effective User ID	Queue Length
01089	0.92%	Runnable	\\NSIDX.\$DEV.NUWAVE\SWORKER	\$HWAV2	Guardian	%0018REQ\LPPE,LSIG	NUNU	158	158	04/03/2022	001,017	001,017	0
00000	0.26%	Runnable	\\NSIDX.\$SYSTEM.SYS01.AMMONITOR		Guardian	%0000	AAAA	201	201	13/11/2020	255,255	255,255	0
00290	0.22%	Runnable	\\NSIDX.\$SYSTEM.SYS01.TSMSGIP		Guardian	%0000	AAAA	255	255	13/11/2020	255,255	255,255	0
00364	0.17%	Runnable	\\NSIDX.\$SYSTEM.SYS01.TSMSGIP		Guardian	%0000	AAAA	255	255	13/11/2020	255,255	255,255	0
00237	0.16%	Runnable	\\NSIDX.\$SYSTEM.SYS01.TSPSDP2	\$SYSTEM	Guardian	%3078REQ\ITMF,LDONE,JOPOM,POHJ	AAAA	230	230	13/11/2020	255,255	255,255	0
00715	0.12%	Runnable	\\NSIDX.\$SYSTEM.SYS01.EMRDIST	\$Y10K	Guardian	%0158REQ\LDONE.LCAN,LSIG	NUNU	157	157	04/03/2022	040,221	040,221	0
00366	0.12%	Runnable	\\NSIDX.\$SYSTEM.SYS01.EMRDIST	\$X67N	Guardian	%0158REQ\LDONE.LCAN,LSIG	NUNU	157	157	24/02/2022	090,221	090,221	0
00005	0.12%	Runnable	\\NSIDX.\$SYSTEM.SYS01.TMROP	\$YMHOP	Guardian	%2518REQ\LCAN,INTR,POHJ	AAAA	205	205	13/11/2020	255,255	255,255	0
00552	0.11%	Runnable	\\NSIDX.\$SYSTEM.SYS01.OSMON	\$2500	Guardian	%0005REQ\LDONE	NNNN	199	199	13/11/2020	255,255	255,255	0
00274	0.09%	Runnable	\\NSIDX.\$SYSTEM.SYS01.NTIMEIP		Guardian	%0000	AAAA	255	255	13/11/2020	255,255	255,255	0

Disk Summary

\$AUDIT

Disk Name	\$AUDIT
Percent Full	74%
Total Size (MB)	299,998
Free Space (MB)	80,942
Fragments	13
Largest Fragment (MB)	74,227
Cache Reads 512	0
Cache Reads 1024	0
Cache Reads 2048	0
Cache Reads 4096	99
%Cache Read Hits 512	0%
%Cache Read Hits 1024	0%
%Cache Read Hits 2048	0%
%Cache Read Hits 4096	73%
Cache Calls 512	0
Cache Calls 1024	0
Cache Calls 2048	0
Cache Calls 4096	1,051,701,121
Cache Faults 512	0
Cache Faults 1024	0
Cache Faults 2048	0
Cache Faults 4096	0
Audit Forces 512	0
Audit Forces 1024	0
Audit Forces 2048	0
Audit Forces 4096	0

Monitored/Non-Running Processes

PID	Busy %	State	Object File	Process	Type	Wait State	Security	Priority	Init Priority	Creation Date	Real User ID	Effective User ID	Queue Length	IPU	Heap
00031	0.00%	Runnable	\\NSIDX.\$SYSTEM.SYS01.TACL	\$CLCI	Guardian	%0005\REQ\LDONE,LSIG	NNNN	199	199	13/11/2020	255,255	000,000	0	1	0 584
00131	0.00%	Runnable	\\NSIDX.\$SYSTEM.SYS01.TACL	\$RXJS	Guardian	%0001\REQ\LSIG	NUNU	120	120	24/02/2022	090,221	090,221	0	1	0 624
00153	0.00%	Runnable	\\NSIDX.\$SYSTEM.SYS01.TACL	\$X0STD	Guardian	%0001\REQ\LSIG	NUNU	120	120	17/03/2022	255,101	255,101	0	1	0 594
00165	0.00%	Runnable	\\NSIDX.\$SYSTEM.SYS01.TACL	\$X681	Guardian	%0001\REQ\LSIG	NUNU	150	150	24/02/2022	090,221	090,221	0	0	0 614
00180	0.00%	Runnable	\\NSIDX.\$SYSTEM.SYS01.TACL	\$X37K	Guardian	%0001\REQ\LSIG	NUNU	150	150	22/02/2022	040,221	040,221	0	0	0 614
00226	0.00%	Runnable	\\NSIDX.\$SYSTEM.SYS01.TACL	\$Y72B	Guardian	%0005\REQ\LDONE,LSIG	NNNN	159	159	08/03/2022	255,255	255,255	0	0	0 614
01134	0.00%	Runnable	\\NSIDX.\$SYSTEM.SYS01.OVDP	\$NOVA	Guardian	%0007\REQ\ITMF,LDONE	NNNN	219	219	26/04/2021	255,255	255,255	0	0	49,152 514



Sentinel Feature / Benefits & Differentiation



TaskMaster Automation Module

- Correction processing of EMS error events
- Execution of single or multiple Guardian programs
 - Sequentially or Concurrently
 - Standard programs such as DSAP, TAACL Scripts or Applications

Program Configuration

Program Details

Program Name:

Object Code:

Process Name: Enforce:

Parameters

In File:

Out File:

Terminal File:

CPU:

Memory:

Priority:

Run Options

Startup Params:

Parent Name: Program Type:

Failure Task: Run Highpin

Description:

File Assignments

Logical Filename	Physical Filename

Parameter Assignments

Parameter Name	Parameter Value
xpnet	--subject-
path	\$cpm
command	start
type	station

ETI-Partner and Customer

ETI-NET

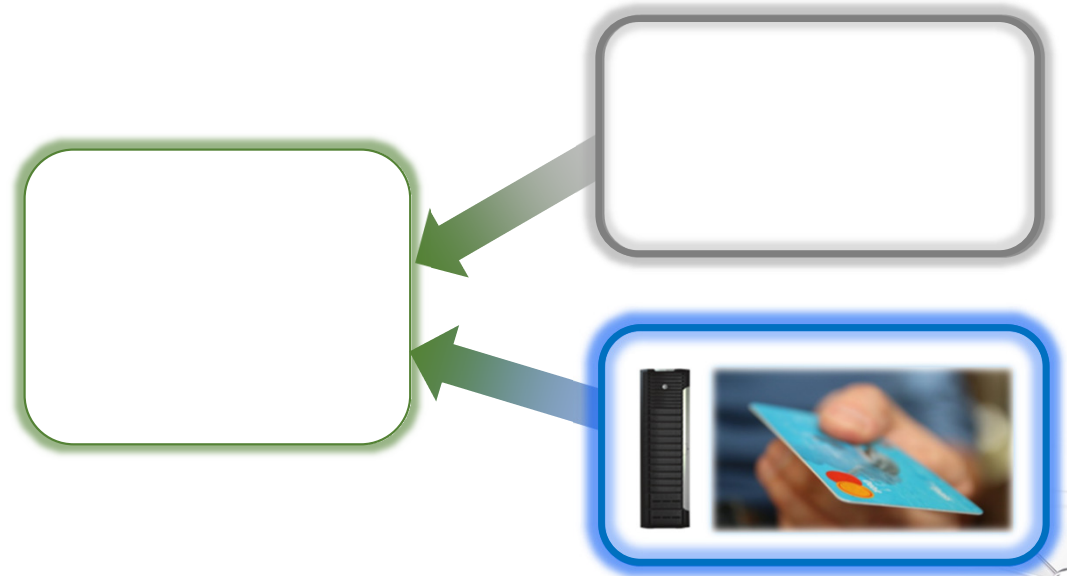


Success Story

CHALLENGE

Requirements:

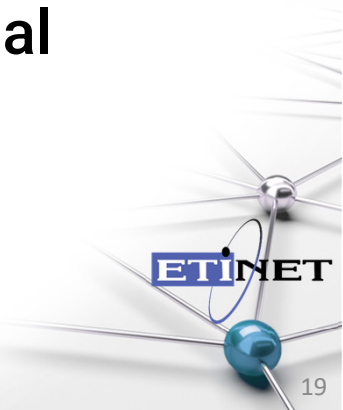
- Real-time



Benefits Summary



- Simplifies and automates operational workflows
- Improves visualization, and ability to identify issues
- Enhances Service Level Agreement (SLA) Attainment
- Helps to enforce Compliance Requirements
- Improves manpower efficiency through automation
- Helps to lower overall costs through licensing and optional GreenLake consumption programs



C-Deep for HPE NonStop



Powerful transaction flow tool allowing monitoring and query of every field and token created by primary payment engine applications.

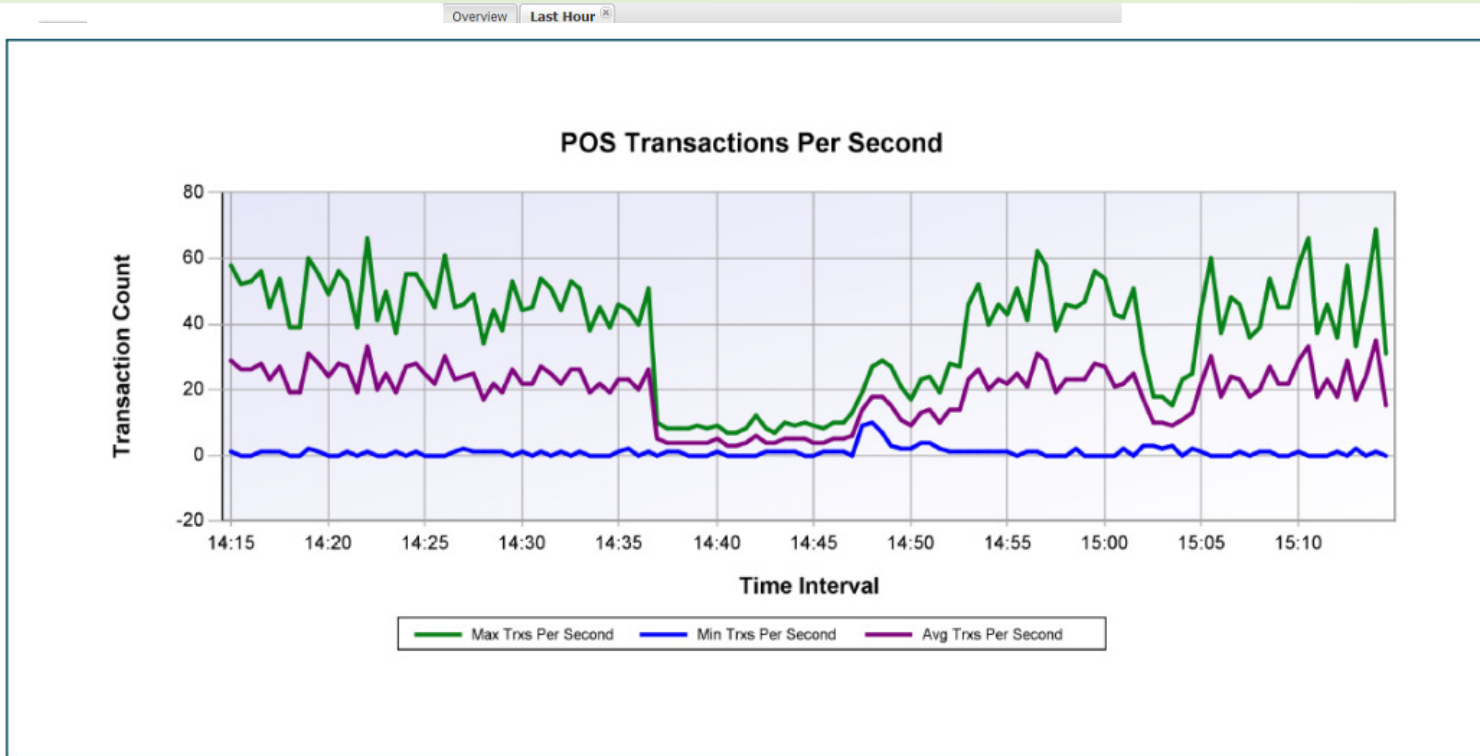
- Built for payment processors operating POS | ATM application environments
- Operators get immediate information on delays in their payment infrastructure
- Monitoring transactions by:
 - Volume
 - Card Type
 - Retailer
 - Response Code
 - Station Group
- Customized rules can be applied against any data source to alert to payment vulnerabilities *to get ahead of the local regulator* and proactively inform of any outages affecting customers



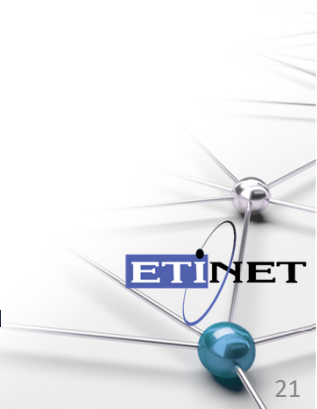
C-Deep Modules



Visuals that deliver differentiation for your client's operations.



Operational Service
Broadband Service



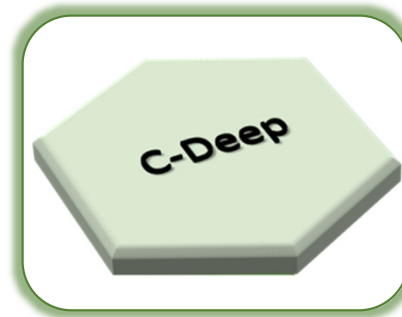
C-Deep Success Story (1 of 2)

CHALLENGE

Regulation Requirement (10Yrs. online transaction history)

Requirements:

- Real-time query of payment transaction data
- Easy to use (graphical)
- Concise search criteria
- Robust transaction data fields
 - Including complete token data
- Non-intrusive to NonStop System
- Able to load archive data into the live data repository



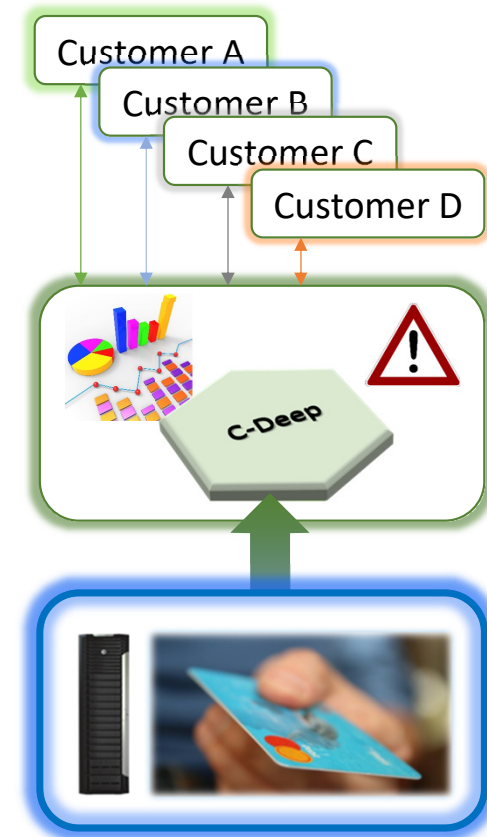
C-Deep Success Story (2 of 2)

CHALLENGE

Customer Satisfaction / SLA Adherence

Requirements:

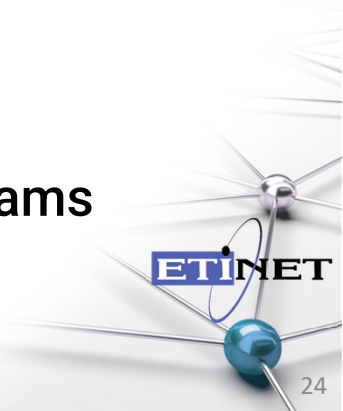
- ❑ Proactive Real-Time Payment Monitoring
- ❑ Customer Specific
- ❑ Graphical Dashboards
- ❑ Alerting
- ❑ Non-intrusive to NonStop System





Benefits Summary

- Modernizes payment processor reporting allowing organizations to utilize new staff, and react faster
- Reduces effort required to report regulatory compliance
- Improves Service Level Agreement (SLA) Attainment
- Improves ability to immediately gain data insights and predict trends
- Eliminates NonStop Database Management Complexity
- Offloads NonStop CPU processing
- Lower licensing costs and optional GreenLake consumption programs

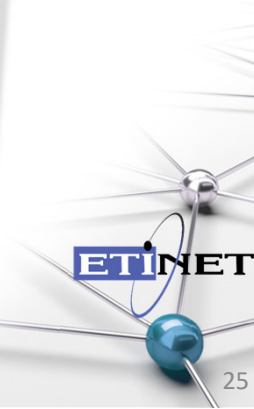




MQGATE for HPE NonStop

Provides advanced management of communications between HPE NonStop applications, IBM and distributed systems.

- Intelligent management of IBM MQ events
- Convert existing MQ EMS events to unique, tokenized EMS events
- Differentiates between “identical” MQ events
- Includes an automated EMS template generator
- Enables the creation of new and discrete MQ events to match your service monitoring requirement





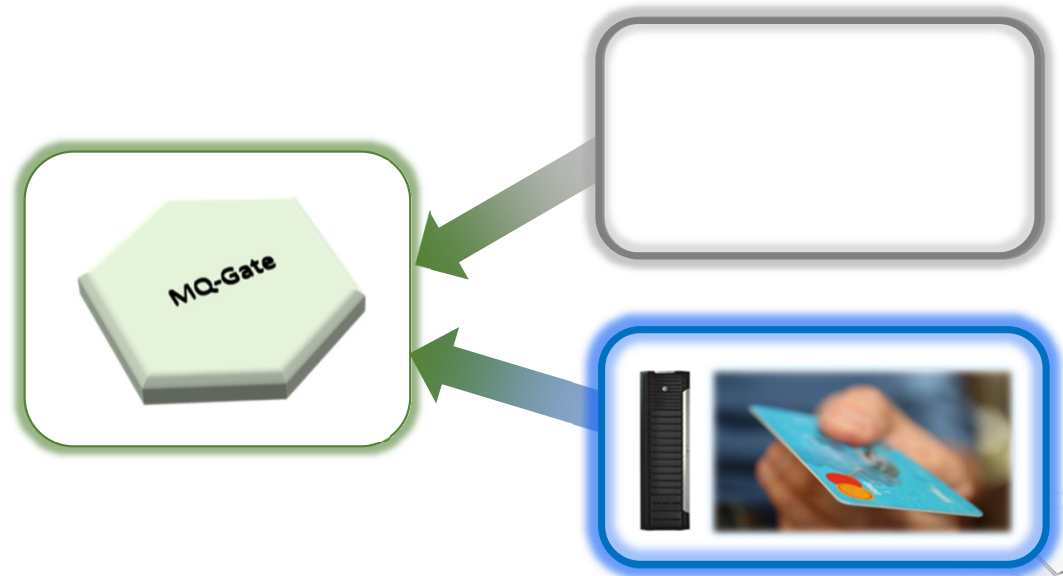
Success Story

CHALLENGE

Regulation Requirement - ?

Requirements:

- Faster
- Connectivity



MultiBatch for HPE NonStop

Modernized workload management designed to protect and simplify your NonStop workload management.

■ Modernization

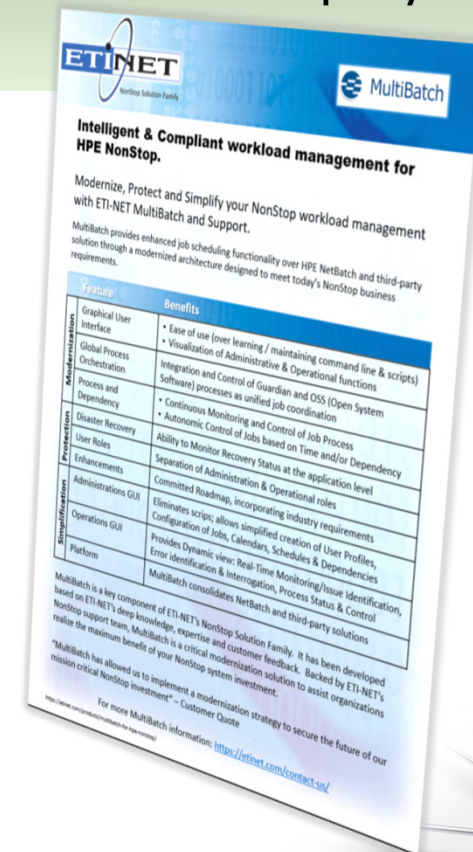
- Graphical User Interface
- Global Process Orchestration
- Continuous Processing & Automatic Control

■ Protection

- Disaster Recovery
- Separation of Administrative & Operational Roles

■ Integration

- Consolidation with NetBatch and 3rd Party Solutions



The image shows a product brochure for MultiBatch. At the top, it features the ETI-NET logo and the MultiBatch logo. The main heading is "Intelligent & Compliant workload management for HPE NonStop." Below this, it states "Modernize, Protect and Simplify your NonStop workload management with ETI-NET MultiBatch and Support." A sub-heading reads "MultiBatch provides enhanced job scheduling functionality over HPE NetBatch and third-party solutions through a modernized architecture designed to meet today's NonStop business requirements." The brochure contains a table with two columns: "Feature" and "Benefits".

Feature	Benefits
Graphical User Interface	• Ease of use (lower learning / maintaining command line & scripts)
Global Process Orchestration	• Visualization of Administrative & Operational functions
Process and Dependency	Integration and Control of Guardian and OSS (Open System Software) processes as unified job coordination
Disaster Recovery	• Continuous Monitoring and Control of Job Process
User Roles	• Autonomic Control of Jobs based on Time and/or Dependency
Enhancements	Ability to Monitor Recovery Status at the application level
Administrations GUI	Separation of Administration & Operational roles
Operations GUI	Committed Roadmap, incorporating industry requirements
Platform	Eliminates scripts; allows simplified creation of User Profiles, Configuration of Jobs, Calendars, Schedules & Dependencies
	Provides Dynamic view: Real-Time Monitoring/Issue Identification, Error Identification & Interrogation, Process Status & Control
	MultiBatch consolidates NetBatch and third-party solutions

MultiBatch is a key component of ETI-NET's NonStop Solution Family. It has been developed based on ETI-NET's deep knowledge, expertise and customer feedback. Backed by ETI-NET's NonStop support team, MultiBatch is a critical modernization solution to assist organizations realize the maximum benefits of your NonStop systems investment.

"MultiBatch has allowed us to implement a modernization strategy to secure the future of our mission critical NonStop investment" - Customer Quote

For more MultiBatch information: <https://eti-net.com/contact-us/>



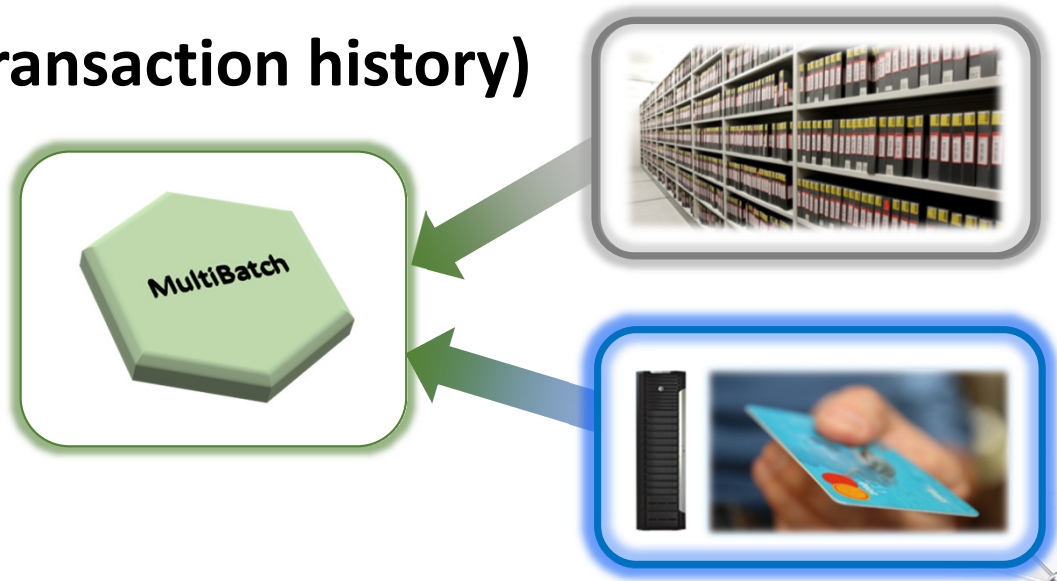
Success Story

CHALLENGE

Requirement: (10Yrs. online transaction history)

Requirements:

- Real-time



ETINET Your NonStop Partner

Thank You

