# BITUG AUTUMN 2020

NEWSLETTER

This year's Little SIG will be held virtually/online, on the morning of 4th December. Visit the BITUG website to book a place.
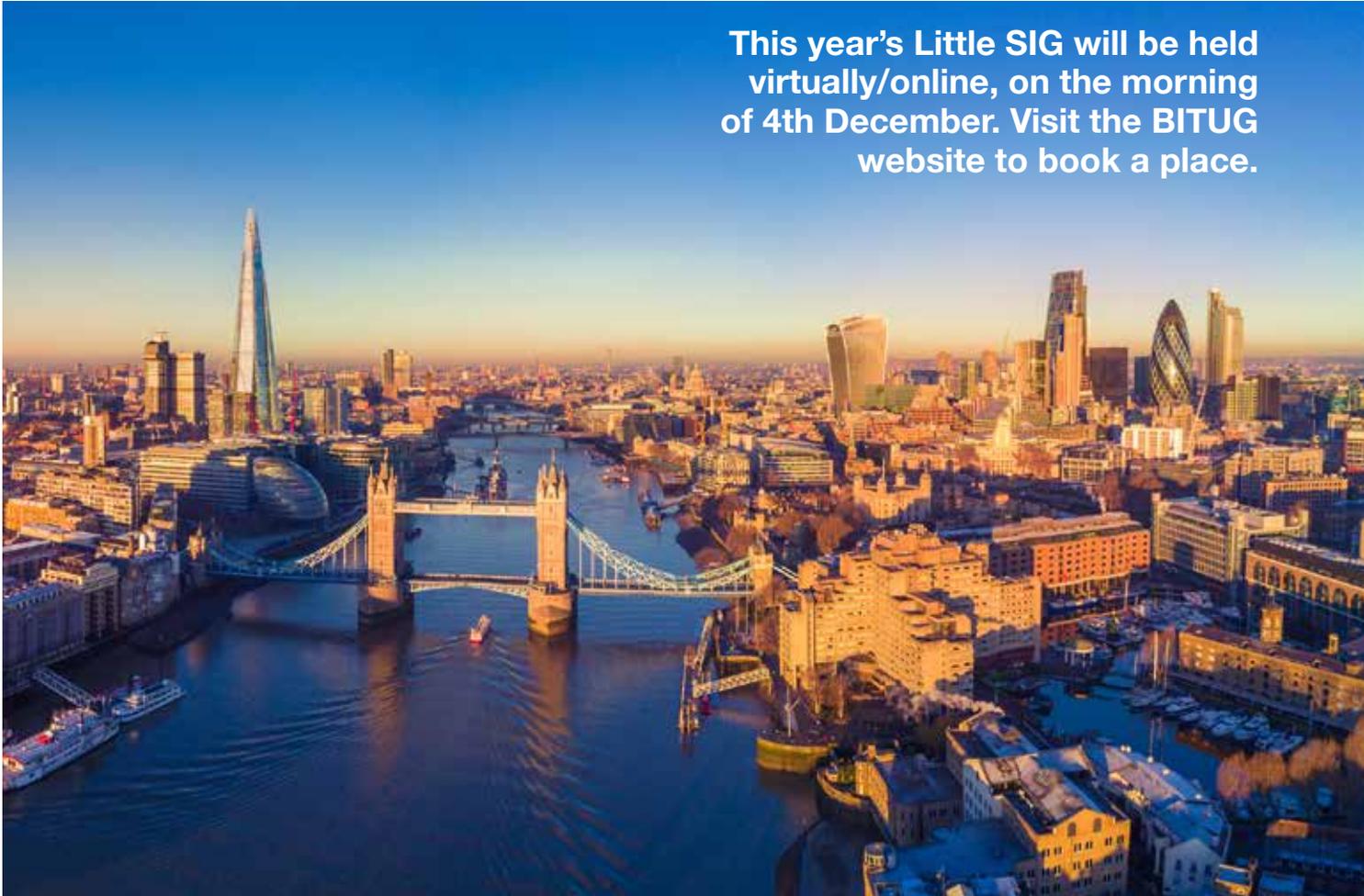
CHAIR CHAT
Welcome to the Autumn 2020 BITUG Newsletter

Hi everyone, I was hopeful when writing the last Chairman's chat that Covid-19 was looking as though we were nearing the end, but with a second wave starting (hopefully less severe than the first one) we, as well as all the other user groups, have been looking at our plans for the next two years. With the current restrictions we don't see that we can run any face to face meetings for at least the next nine months.

So we have decided to make this year's Little SIG, in December, a virtual one. You will still need to book yourself a place via Eventbrite so that we can send you details about how to connect to this event. Details of how to book can be found on the BITUG website www.BITUG.com under the events tab.

We'll be following the trend set by some other one-day virtual events and

have decided to run a shortened Little SIG. It will run from 9.00 in the morning until 13:00 - with short break in the middle. HPE's Neil Davis has agreed to do a 'state of the nation' talk and we'll be getting a presentation from TBC, as well as continuing the discussion from last year on how to rebuild a virus-infected HPE NonStop Server. There will also be an education session, plus one or two more! The agenda is available on the BITUG website.

You've probably seen that Connect will be running the Technical Boot Camp virtually as well, Please make sure you sign up as these sessions are highly informative and are also FREE (it's usually around $1,200 to attend in person). There will also be sessions which will be in European time zones, rather than West coast American time. I also understand

that if you sign up you will also be able to play all the sessions back at a later stage.

We've been talking to the German user group, GTUG, which was due to be running a large European event this year, followed by BITUG next year. Instead, we've agreed 2021 will be a 'fallow year', then GTUG will run the large European NonStop event in 2022 and BITUG's next turn for a European event will be 2023.

We're planning our Big SIG for the second half of next Year. Again the date will be announced on the BITUG website.

Hopefully speak to you all in December; keep yourselves safe and well in the meantime.

Neil Barnes
Lloyds Banking Group
2020 BITUG Chairman
Email: chair@bitug.com

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CSP NEWS

TOP THREE CONCERNS WITH FILE INTEGRITY MONITORING AND HOW TO ADDRESS THEM

GRAVIC NEWS

Extract Database Changes or Initial Load Data into Flat Files with the HPE Shadowbase ETL Toolkit

The HPE Shadowbase ETL Toolkit is used to extract database changes or initial load data into flat files for subsequent ETL loading into a target environment using:
• comma-separated value (CSV),
• fixed-position,
• variable length, and
• tab-delimited formats.

It can feed high-volume data quantities into a data warehouse, and row-based data into columnar databases. When coupled with HPE Shadowbase Online Loading (SOLV), the Toolkit can: extract select data from a source database; transform/cleanse it into the proper format; save it into flat files understood by the ETL utility; and load the files into a target database environment not directly supported by Shadowbase replication.

Using the Toolkit, source database change data can be periodically extracted from its audit trail, and processed into a flat file format for incremental loading into the target environment using a micro-batch update approach to keep the target synchronized with the source.

The Toolkit can also be used to extend the SOLV loading capabilities to allow for reading and injecting events from flat files into the Shadowbase replication engine for processing. For more information, read the solution brief: https://bit.ly/3mOe3aP

File Integrity Monitoring (FIM) is an important requirement of the PCI data security standard for maintaining confidential (e.g., cardholder) information. It is considered a vital requirement for security compliance frameworks to help identify unexpected or malicious activity across critical system files and protect business assets. The ubiquity of payment cards for personal electronic transactions has changed the security equation in a fundamental way. Especially now, when COVID-19 has exponentially increased online payment transactions and changed the workforce landscape to a remote one. Any compromise in system security is likely to have far-reaching consequences, both in terms of financial loss and the damage to an organization's reputation. Protecting personal cardholder information is of paramount importance.

In this context, File Integrity Monitoring should be considered an essential security requirement, not just for PCI compliance, but to preserve the integrity of all NonStop systems.

TOP THREE CONCERNS WITH FIM:

Detecting suspicious activity and malicious attacks. The key concern for monitoring files is to quickly discover any external threats that might cause damage to your critical systems and applications. This is the most important reason to have FIM in place.

Identifying inadvertent or unwanted changes. Let's face it, human error is inevitable, accidents happen, and users can unintentionally make changes that will detrimentally affect files. This is another great reason to ensure that you are monitoring your files.

Complying with regulations. Of course, you must also check your files to comply with regulations such as PCI DSS, SOX, and GDPR. You must also have the ability to provide any reports requested by regulators.

Learn more about Verify Elite here:
https://bit.ly/3mRf4yH

Verify Elite®
File Integrity Monitoring & Compliance Reporting

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COMPUTER SECURITY PRODUCTS, INC.

THE ABCs OF AN AFFORDABLE BUSINESS CRITICAL COMPUTE

WHEN IT COMES TO TCO, HPE MISSION CRITICAL SYSTEMS' NONSTOP CONTINUES TO SURPRISE!

By Richard Buckle, NonStop Insider

We have always heard the role of NonStop described as being best-suited platform where 100% uptime is mandatory; where the customer's business cannot tolerate any exceptions; where nothing can be allowed to interrupt the works of the solution and where the application's failure means the customer's business fails.

There is a cost when a Business Critical application fails, especially when the failure affects publically used and very visible applications like ATMs or POS devices. An outage or even a brownout – the failure to accommodate transaction peaks – can cost a company more than just the loss of transactions in progress, but also customer confidence, expensive SLA fines or wasted staff time mitigating the failures and responding to the press.

There is a growing sense too that perhaps cloud service providers will make the need for business critical compute unnecessary, at least within the walls of a traditional data center. However, even here there are warning signs appearing that perhaps clouds have begun losing momentum within the enterprise. Perhaps too the hybrid IT model is here to stay: *"Every day, one comes across statements or truisms that people take as common knowledge but that are actually wrong. Darth Vader never says 'Luke, I am your father' and no one in Casablanca ever says 'Play it again, Sam.' And it looks like we can now add to that list the misconception that all workloads are moving to the public cloud."* THE MYTH OF THE 100% CLOUD WORLD: MANY BUSINESSES ARE INSTEAD BOOSTING ON-PREMISES WORKLOADS May 2020, Jim Rapoza Research Director, IT, Aberdeen Research (as published on HPE.com)

Even more telling were the findings of IDC as published in its updated July 2020 Availability report: *"Mission- and business-critical workloads are growing, and business support functions that previously could be run on a low availability tier are increasingly deemed business critical.*

"Even as availability and security in the public cloud have greatly improved, true fault tolerance continues to be seen as an on-premises or hybrid cloud capability, not as a public cloud capability. IDC research shows that 38.5% of businesses hosts the highest availability tier on on-premises infrastructure, whereas only 2% of businesses host this tier in a public cloud." Worldwide AL4 Server Market Shares, 2019: Fault-Tolerant systems become Digital Transformation (DX) platforms. Paul Maguranis Peter Rutten

Cloud computing just like Client/Server computing before it, will become ubiquitous in time leading us to acknowledge that the cloud experience is everywhere and the very prospect of delineating any business-critical application as cloud resident or not will be a moot point. Enterprise hybrid IT will be with us for yet another technology lifecycle that appears not to be ending any time soon. New systems will continue to be evaluated on the basis of meeting business objectives at affordable price points and the need for systems running 24 X 7 is becoming more widely appreciated.

The move away from assessing these business critical systems' purchases in terms of Price / Performance to giving greater attention to a customer's Total Cost of Ownership (TCO) has been hard to ignore. Such a move has helped shift IT professionals' perceptions about the true cost of NonStop. This past decade has helped illustrate that there are two very different sides to costs and to the value any system provides, but the most important value proposition of NonStop systems remain. It's all about uptime, surviving failures and delivering the industry best levels of availability.

A is for Availability
When it comes to NonStop its availability and scale-out attributes have made it one of the first out-of-the-box systems satisfying IDC's (International Data Corp's) Availability Level Four (AL4). Recently reviewed and renewed in this category for 2020 by the IDC, NonStop outages

are transparent to the user where total downtime is measured in seconds per year. Often described as a cluster in a box, NonStop systems are delivered with a software and hardware configuration that work together to prevent any single point of failure from affecting the Mission Critical workload running on the system.

Outages represent cost to a business. A 2019 – 2020 Outage Impact Study conducted by the vendor LogicMonitor concluded that: *"Availability has become our most valuable commodity, yet high-profile outages and brownouts are occurring at an alarming rate."*

Summarizing the results of its most recent survey LogicMonitor confirms what the HPE NonStop team and HPE's NonStop partners have known for some time; availability is of paramount importance. *"80% of respondents indicated that performance and availability were important issues. Downtime is rampant. 96% of global IT decision makers have experienced at least one outage in the past three years."*

Furthermore, the survey revealed, *"Downtime is expensive. Companies with frequent outages and brownouts experience 16 times higher costs than companies with fewer instances of downtime."* System failures these days can also lead to embarrassing public situations for different businesses, especially those in the Finance or Banking industry.

In this context, brownouts are viewed as those conditions where a sudden transaction spike leads to a degradation of response times to where it is concluded to be inoperable and well below any acceptable Service Level Agreement (SLA) metrics. A failure to scale-out in times of crisis can be even more unacceptable than a total stoppage as it may take time before the brownout condition is recognized. Scalability matters just as much as availability and no conversation about TCO can ignore that there is a price to be paid and a risk to a company's brand whenever a system fails to meet end-user expectations.

The importance of availability to enterprise IT was referenced by IDC in its update on the AL4 marketplace: *"The end of 'regular business hours,' with businesses' applications required to be available to customers at all*

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THE ABCs CONTINUED...

times, has put tremendous pressure on the infrastructure that supports those applications, allowing for little if any scheduled or unscheduled downtime."

And in an update to its findings reported in 2014, IDC provided the following: *"The cost of downtime is increasing as businesses become more and more dependent on their infrastructure for daily operations. For 20.7% of organizations, the cost of downtime is $5,000- 10,000 per hour; for 18.4%, it is $10,000-25,000 per hour; for 17%, it is $25,000-100,000 per hour; and for some businesses (1.4%), it is $500,000."*

Irrespective of where your business may fall within this delineation, availability and with it the cost of downtime is arguably the primary reason why enterprises continue to evaluate systems on their propensity for uptime. No business can afford the fallout of disenchanted customers and business partners following an outage of any kind.

B is for Bandwidth

Consideration of bandwidth is a reference to the ability of a system to handle devices, transaction volumes and database access in a manner that is readily scalable without the need for any downtime. Most important of all, when it comes to expanding any aspect of NonStop, by planning ahead this expansion can be achieved without significant downtime.

Everything needed to run a business critical application could be selected to create an operational environment on a NonStop system, out of the box. HPE resells many NonStop partner software packages that can be added to the deal for the customer's convenience. But at the basic level NonStop scales. And it scales massively. From a small 2 processor system, to a large 16 processor system that can be clustered into large systems of 4080 processors for a total of 24,480 cores with the same system image and application environment.

When compared to the market share of vendors like IBM and Oracle, IDC in its AL4 marketplace findings, reported: *"In 2019, the worldwide AL4 server market declined 5.6% compared with 2018 from $3.68 billion to $3.5 billion in large part because of lower average selling prices (ASPs) for the platforms included.*

"IBM's share has declined somewhat; HPE, on the other hand, has picked up share; and Oracle has remained relatively steady.

"As businesses continue to shift

away from the proprietary Itanium-based Integrity NonStop to the more affordable x86-based NonStop X, ASPs have declined significantly, resulting in savings for their customers and allowing HPE to capture some market share.

"This is indicative that the new platform is much more affordable and becoming a strong driver of DX growth for their consumer base."

When contemplating why NonStop systems today are becoming affordable and acquiring a growing market share, it's important to recognize that it's still the NonStop architecture that has served enterprises so well for decades. For the NonStop community this doesn't come as a surprise but to the broader IT industry, it is material to know that NonStop has the bandwidth of compute, communications and confidence (in security) that they now need.

C is for Cost

Once we have come to better understand the benefits of availability, scalability and the overall bandwidth NonStop delivers and realize the contribution NonStop can make to business critical applications, the cost of NonStop enters the conversation. This is not unexpected and yet, even with the shift to commodity hardware and open systems there is still considerable misunderstanding of the affordability of NonStop systems today.

In calculating TCO, there are many models being promoted that can help rationalize a system purchase. What are the constant reference metrics that appear in these TCO models? You will always find reference to purchase prices, migration costs, access to skillsets (in support of implementation and then ongoing management of the system), data center infrastructure costs (including data center space, power and cooling), and all software costs associated with the complete software stack together with the cost of the application that runs on top of everything.

This is where cost of downtime begins to become extremely relevant as most models summarize the above in terms of TCO being the sum of initial costs, operating costs (including premise infrastructure, cost of staff and all software), maintenance, downtime and the ability to satisfy SLA terms and of lesser importance in today's world of technology breakthroughs, any residual value. Simply stated, this could be represented as TCO being the sum of initial costs plus

operating and maintenance costs less residual value around the effort required to keep the system running 100% of the time.

HPE's NonStop team is delivering systems today where the initial purchase price is considerably lower than the competition. When it comes to traditional purchases of NonStop systems, a recent example best illustrates the glaring disparity in initial pricing. Comparing a NonStop X NS3 system with NonStop SQL/MX against an Oracle system, the numbers tell their own story. Configured with Oracle RAC for improved availability and deployed on just two Linux servers, each with 4 cores (for a total of 8 cores spanning the pair), comes with a hefty price tag just for Oracle. In the US, expect to pay approximately US $35K per core per year just for Oracle/RAC for a total of US $280K per year for the system. The hardware and Operating System (OS) in support of Oracle/RAC still require payment.

Meanwhile a four processor, two core (with a total of 8 cores), NonStop X NS3 system with NonStop SQL can be purchased for the surprising total of US $201K per year, including maintenance (based on a five year term license). Unlike Oracle/RAC purchases, single core NonStop X NS3 can be purchased for a lesser amount just as NonStop SQL can be optional. Figures referenced here are based on recent sales and there may be some additional costs to do with final memory configurations and unique services selected by the customer. The difference in the cases however will not be material. HPE's NonStop' offering generally ends up being a third less than the cost of an Oracle/RAC solution.

Surprised? In the past, it has not always been an apples to apples comparison. NonStop systems come with all the software layers provided on the system, so the total system cost needs to be compared, not just the price of a Linux server with a barebones Linux system with only the OS running on it. On a Linux system, the OS layer, Security layer, Database, Manageability tools, Replication/DR tools, application etc. all have to be purchased separately. On NonStop everything needed to run the application can be included to create the customer's environment for the system out of the box.

Read the full article at the NonStop Insider website: https://bit.ly/32bLuMw

TAND-SOFT NEWS

THE PASSIONS OF TANDSOFT'S JACK DI GIACOMO

Amanda comes first among Jack Di Giacomo's passions. Jack introduced himself to "this beautiful woman" taking a squash lesson at his gym and married her in 1991. Twenty-nine years later, it remains the ultimate collaboration.

After Amanda comes Jack's passion for the Tandem computer. He met his first Tandem as a young college graduate, worked for others as a developer, then lept into entrepreneurship by starting TANDsoft Consultants Inc. Jack oversees the company's technical arm, and Amanda runs administration and finance. They attribute the success of their company not only to TANDsoft's HPE NonStop-specific solutions but also to their many networking and collaboration opportunities within the close-knit NonStop community. Jack

asserts that some of his best product ideas came from the suggestions of customers and partners.

TANDsoft's newest solutions are FS Compare and Repair and FS Backup and Restore. Both had their origins at or right after the 2019 Boot Camp. FS Compare and Repair identifies, reports, and resolves inconsistencies in live and offline databases and is the most rapid compare/repair solution for use in the NonStop environment. FS Backup and Restore detects file data-block modifications and archives only the changes. The result? Hours-long backup times are reduced to minutes. It then retrieves the saved modifications and applies the changes to rebuild the original file.

Read more about Jack's passions and products at https://bit.ly/3ilYm93, or visit www.tandsoft.com

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A CLICK BACK IN TIME

We hope you put the latest BITUG mouse mat (this time with added coasters) to good use. Hands up anyone who remembers the previous six!

INSIDER TECHNOLOGIES NEWS

IT'S TIME TO LOOK AGAIN AT MULTIBATCH 9.5

Just as HPE NonStop X redefines continuous availability and scalability on industry standard hardware, Insider Technologies continues to invest heavily in MultiBatch to ensure it remains relevant in ever more demanding environments. MultiBatch is no longer just an overnight batch scheduler. The use case is anything from scheduling a regular file transfer to automating a site swap. So, as MultiBatch has quietly and effectively continued its journey, here are some key features in 9.5 you may have missed.

Disaster Recovery; recover your running schedule on another node and continue processing from the point of failure. If required, configuration can be dynamically changed to match the new node as part of the recover process. All major components of MultiBatch are designed to be fault tolerant. Traditional passive NonStop process pairs are used to ensure continuous availability.

Capable Auto Deployment; utilise a control node to maintain your schedules ready for deploying to testing, trialling and production. MultiBatch simply extracts a schedule from one environment and inserts it into a target environment; no configuration changes needed. Simple and effective migration, dynamically changing node name, volumes, sub volumes, parameters, defines and assigns.

Flexible Time-Based Scheduling; simple set up to allow your jobs to be run by calendar, time and interval. Recently added CRONTAB provides additional flexibility to set up complex scheduling from a single screen. Calendar scheduling allows groups of jobs to be run on selected dates.

A Deeply Parameterised configuration; allows the use of tokens at all levels. These are substituted at the command interface to provide ultimate flexibility in setting up your schedule. By request of a customer, a development to increase parameter value length has been recently completed.

Unique Horizontal Job Segmentation; to make best use of HPE NonStop parallel processing our customers run multiple copies of their programs across key ranges using MultiBatch job, segments and units.

One-time setup of Assign and Param Classes; these can include value tokens and be associated with any number of jobs with substitution by job or group of jobs.

Highly configurable Run Time Prompting; sometimes human intervention is required to confirm a value or give permission for a job to continue. MultiBatch provides a controlled screen-based environment with EMS alerting to ensure the integrity of your schedule.

MultiBatch 9.5 is now Running on NonStop X at major financial institutions in the UK. Further investment will ensure it continues to deliver in a world that is moving away from rigid timetables into anytime flexible scheduling.

With a continuously evolving roadmap that is built around customer needs, it's time to look again at MultiBatch.

Read more at www.insidertech.co.uk

NUWAVE NEWS

A HOW TO GET THE BEST OUT OF THE LIGHTWAVE SOLUTIONS, PATHWAY, AND NONSTOP

One of the questions we at NuWave are often asked about our products is "What is the performance like?". While our own internal benchmarking shows that LightWave Server and LightWave Client can process thousands of transactions per second with minimal impact on CPU utilization, the answer to that question is generally a little more complicated.

Any product's performance in any given NonStop environment will be based on many factors, including:
• Capabilities of the platform it is running on (CPU, disk etc)
• Priority of the process relative to the other processes on the system
• Type of work being done by the product (i.e is it I/O bound or CPU bound?)

In the case of products like LightWave Server and LIght Wave Client, you can add to this list the following:

• Size of messages being parsed
• Complexity of messages being parsed
• Network capabilities
• Any security implications, e.g TLS sessions being established or signatures being generated as part of the measured period
And there likely will be other specific issues to consider in your environment. Having said all that, LightWave products include a range of features to help you determine how well your implementation is performing in your own environment. When combined with standard tools available on the NonStop and elsewhere, it's not too difficult to get an accurate idea of how well your entire solution is performing, and even improve performance, often by addressing some low-hanging fruit. The complete article, (found at https://bit.ly/32c9Tl8), will give you some guidance on how you might setup a performance benchmarking test that takes into account all of your specific application and environmental requirements.

Next Gen Service Monitoring for NSX

- Real-time view of all your critical services
- Breach of SLA warnings
- Custom alerts to support teams
- Automated problem solving

NETWORKS
HARDWARE
SUBSYSTEMS
APPLICATIONS
FILES
[PROACTIVE] SYSTEM MANAGEMENT
[REACTIVE] EMS ALERT + RESPONSE

End to End Service Monitoring. Reflex can monitor a bespoke service view of your business consisting of disparate components which, when used in tandem, form your critical functionality. This provides a complete picture of your service monitoring components such as your applications, queues, transactions, databases, including the associated NonStop infrastructure.

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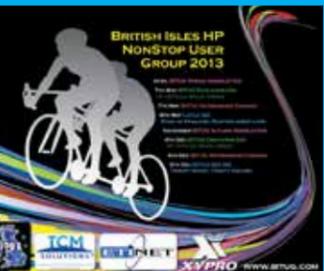
Hewlett Packard Enterprise

HPE NONSTOP NEWS

The last few months have seen the World adapt to a new situation with a global pandemic. Face-to-face meetings have virtually disappeared and our community has become used to working from home and communicating over a collaboration platform. In terms of conferences and exhibitions then many have been cancelled (GTUG Hotspot and BITUG BIG SIG for example) but both HPE and the NonStop community has been deeply involved in trialling a new "digital experience" for conferences with the HPE Discover Virtual Experience and also three Virtu-NUG meetings in the USA.

It is clear that the new style of conferencing can be extremely successful. The platforms allow for live talks, pre-recorded sessions and also on-demand replays as well as virtual "meeting rooms" and Q&A for talks. The attendees for both the HPE Discover Virtual Experience and the Virtu-NUGs demonstrated a reach far beyond face-to-face conferencing and also recorded delegates who had never attended any previous conferences in the past. These conferences are still seeing

delegates access the repositories for replays. Whatever happens when the World emerges from this pandemic we can be sure that virtual experiences in conferences will be here to stay in one form or another.

Many of you will know that the 2020 Connect NonStop Technical Boot Camp will now be a digital experience conference. HPE is intimately involved with the Connect-Community in planning some of the sessions and the current delegate registration is already ahead of recent TBC numbers. There will be live talks in multiple time zones and an ability to do an "on-demand" catch-up of these sessions making consumption of material accessible to each delegates needs. There will also be some great customer sessions including Virtualised NonStop and also the use of DevOps with NonStop. The last day will see multiple education offerings delivered via the NonStop Academy. Look out for some of the HPE Futures sessions as there are sure to be exiting announcements delivered at TBC 2020 Digital Experience!

BITUG members should also note that the NonStop Academy has been holding

technical webinars every few months. Registration is free and topics have included Migrating Base24 to NonStop X, Updating NonStop X System Firmware and also the new NonStop HTTP 2.4 Secure Webserver. Bookmark the page for the schedule of upcoming calls here:

www.nonstop-academy.com/upcoming-calls/

or opt-in for notifications by email here:

www.nonstop-academy.com/webinair-opt-in/