

November Newsletter

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Greetings all,

Trust you all are keeping well and I hope that you managed to get time to visit the TechXchange this week. As the sessions were recorded, they should be available soon and I will distribute the link once it is available. As I mentioned last week, there was a very heavy AI focus, but there were enough sessions where Power was mentioned to keep one's interest.

I was sorry that there were no labs or certification exams, let's see what we can do for next year.

A few updates to share

- While totally unsupported, I have started testing AIX 6.1 running in a AIX 5.3 Version WPAR on AIX 7.2/3 on Power10.. Why you may ask? Well, my rationale is that AIX 6.1 is not supported anyway, so why keep old, expensive Power systems taking up space and energy, when your currently unsupported application **may** run on Power10 in a Version WPAR?? Well worth a test!

Quick bites

Platform Enhancements

IBM PowerVM 4.1, IBM PowerVC 2.2, IBM Power Hardware Management Console V10R3M1050, IBM Cloud Management Console 1.20, and Firmware FW1050

[Link](#)

AIX Security: Correcting trustchk errors

IBM has published a technote helping you resolve *trustchk* errors

For example if you see the following errors:

```
# bosboot -a
trustchk: /sbin/rc.boot: Verification of attributes failed:
hashvalue signature
# trustchk -y /sbin/rc.boot
trustchk: Verification of attributes failed: hash
trustchk: Verification of attributes failed: signature
trustchk: Verification of stanza failed:
```

Solution: to resolve these errors, and allow execution in a trusted environment, update the TSD (/etc/security/tsd/tsd.dat) with a new hash and signature.

[Link](#)

Life in the old dog still

A few AIX updates that you may be interested in:

- The sanitise operation for Non-Volatile Memory Express (NVMe) drives deletes all the namespaces on the specified NVMe drive. The sanitise operation alters all user

data in the NVM subsystem in such a way that the previous user data from any cache or nonvolatile media cannot be recovered.

- Disables the caching algorithm that is used by the getcwd and getwd subroutines to retrieve the path name of the current working directory.
- AIX multi-path IO (MPIO) is enhanced to control the I/O traffic on congested paths when Fabric Performance Impact Notification (FPIN) congestion notifications are received from fabric switches.
- The vfcstat command displays information about virtual Fibre Channel client adapters
- NIM commands modified to use SSL authentication
- The *o commands (vmo, ioo, asoo, schedo, raso) security enhanced for RBAC.
- Because of a limitation on the firmware memory size, only I/O devices in the first 144 I/O slots that are assigned to a logical partition or single system image partition can be used as an IPL (boot) source.
- A minimum current memory requirement for AIX 7.3.2 is 2 GB.

Paging space requirements

- AIX 7.3, and later creates a 512 MB paging space (in the /dev/hd6 directory) for all new and complete overwrite installations.

Boot logical volume size requirement

- Starting with AIX 7.3, the minimum size of the boot logical volume (hd5) is 40 MB.

Disk requirements

- AIX 7.3, and later, requires a minimum of 20 GB of physical disk space for a default installation that includes all devices, the Graphics bundle, and the System Management Client bundle.

OpenSSL version 1.0.2

- OpenSSL 0.9.8 shared objects (libcrypto.so.0.9.8 and libssl.so.0.9.8) are also included in the OpenSSL 1.0.2.2102 fileset libraries for compatibility with earlier versions of OpenSSL.
- OpenSSL versions 0.9.8 and 1.0.1 are no longer supported by IBM. The OpenSSL 0.9.8 shared objects are retained in the libraries as is. Update your applications to use the newer version of the OpenSSL libraries.

[AIX 7.3 what's new](#)

[AIX 7.3 command update](#)

[AIX 7.3.2 release notes](#)

2 important technotes

DNF has errors reporting missing libnss3.so in 73 TL2. The Python version is down-level 3.7. The rpm.rte was updated to version 4.18, with the following significant changes noted in the /usr/opt/rpm/README

[Link](#)

rpm errors missing libcrypto.so.3 after 73 TL2 update. A new FIPS version with OpenSSL 3.0 is in plan. Until this version is available, users can force overwrite rpm.rte with a lower level.

[Link](#)

IBM AIX on Power10 performance topics

A new document that aims to offer guidance and topics for optimising performance for IBM Power10 processor-based servers. It should be noted that this document does not cover all the best practices for PowerVM, AIX, or IBM i, and should be used in conjunction with other relevant documentation.

[Link](#)

IBM Power firmware schedule

The Power8, Power9 and Power10 System Firmware Release Planned Schedule (2023-2024) - updated November 2023

[Link](#)

Only 2 in the top 10?

Sad to see that in the latest Top500 list, IBM Power had only 2 of the top 10 spots (Sierra at #7 and Summit at #10).

[Link](#)

AIX SR-IOV VF and Cisco CDP

Thanks to Chris Gibson for a summary of the latest AIX updates:

IBM released Technology Level (TL) 2 for AIX 7.3. With TL2, a new capability is delivered for AIX systems using native Single Root I/O Virtualisation (SR-IOV) adapters (logical ports). With this update AIX administrators can now display information for Cisco network devices (switches) that are directly connected to their AIX logical partition (LPAR). This is made possible by exploiting the Cisco Discovery Protocol (CDP). AIX provides the cdpd daemon which can receive incoming data packets or messages by using CDP and discovering the physically connected Cisco devices. CDP is a Layer 2 (data link layer) protocol that is media-independent and network-independent. It is used by networking applications that run on Cisco devices to discover other Cisco devices that are directly connected to the device. AIX support for CDP was first introduced in AIX 7.2 TL5, however this was not supported with SR-IOV logical ports. TL2 now supports CDP with SR-IOV logical ports (also known as virtual functions or VFs).

[Link](#)

IBM Hardware withdrawal notices

Effective October 24, 2023, November 10, 2023, and January 12, 2024, IBM will withdraw from marketing a number of products. On or after the effective dates of withdrawal, you can no longer order these products directly from IBM.

[Link](#)

Quick I/O failover for Fibre channel Link failure events with AIX

Yadagiri Rajaboina provided an interesting update covering the quick failover for FC link events with AIX. In AIX when Fibre Channel(FC) SCSI device driver detects a FC link

failure event, driver waits approximately for 15 seconds before flushing (switching) the I/Os to alternative MPIO paths. For example, if the driver receives a Registered State Change Notification (RSCN) from the switch, this could indicate a link loss between a remote storage port and switch. The driver queries to see if the storage port has joined the fabric for 15 seconds. If the storage port does not join the fabric, then driver flushes the I/O's to upper layers. This causes delay in switching I/Os to alternate MPIO paths.

[Link](#)

Virtual I/O Server release notes

The release notes for VIO Server version 4.1.0.10 are now available.

They have updates on:

- VIOS best practice recommendations
- VIOS package terminology
- Read this information before installing VIOS
- VIOS version 4.1.0.10 installation
- Memory requirements
- ROOTVG requirements
- VIOS Version 4.1.0.10 enhancements
- Software Updates in VIOS version 4.1.0.10
- Features removed in VIOS version 4.1.0.10
- Handling existing NFSv4 mounts on VIOS 4.1.0.10
- Software license agreements
- Online documentation for VIOS software

[Link](#)

In case you missed

- **ASEAN Power meetup - Operational Excellence in SAP Environments with SUSE Trento and Monitoring**

In this session Shamsul presented “Achieving Operational Excellence in SAP Environments with SUSE Trento and Monitoring”, discussion the importance of operational excellence in SAP environments and gave an overview of SUSE Trento, its features and benefits for SAP environment.

[Meetup](#)

[IBM Community](#)

IBM alerts and notices

AIX alerts:

- **AIX is affected by a denial of service (CVE-2023-45167) and a security restrictions bypass (CVE-2023-40217) due to Python**

A vulnerability in Python could allow a non-privileged local user to cause a denial of service (CVE-2023-45167) and a remote attacker to cause a security restrictions

bypass (CVE-2023-40217). Python is used by AIX as part of Ansible node management automation.

Vulnerability Details

CVEID: CVE-2023-45167 - IBM AIX's Python implementation could allow a non-privileged local user to exploit a vulnerability to cause a denial of service.

CVEID: CVE-2023-40217 - Python could allow a remote attacker to bypass security restrictions, caused by a race condition in the SSLSocket module. When the socket is closed before the TLS handshake is complete, the data is treated as if it had been encrypted by TLS. An attacker could exploit this vulnerability to bypass the TLS handshake and inject a malicious client certificate into the connection and gain access to the server's resources without being authenticated.

Affected Products and Versions

Affected Product(s)	Version(s)
AIX	7.3
VIOS	4.1

[Link](#)

- **Security Bulletin: Java SE issues disclosed in the Oracle October 2023 Critical Patch Update plus CVE-2023-5676**

This bulletin covers all applicable Java SE CVEs published by Oracle as part of their October 2023 Critical Patch Update plus CVE-2023-5676. For more information please refer to Oracle's October 2023 CPU Advisory and the X-Force database entries referenced below.

Vulnerability Details

CVEID: CVE-2023-22081 - An unspecified vulnerability in Oracle Java SE, Oracle GraalVM for JDK related to the JSSE component could allow a remote attacker to cause no confidentiality impact, no integrity impact, and low availability impact.

CVEID: CVE-2023-22067 - An unspecified vulnerability in Oracle Java SE related to the CORBA component could allow a remote attacker to cause no confidentiality impact, low integrity impact, and no availability impact.

CVEID: CVE-2023-5676 - Eclipse OpenJ9 is vulnerable to a denial of service, caused by a flaw when a shutdown signal (SIGTERM, SIGINT or SIGHUP) is received before the JVM has finished initializing. By sending a specially crafted request, a local authenticated attacker could exploit this vulnerability to cause an infinite busy hang on a spinlock or a segmentation fault.

Affected Products and Versions

Affected Product(s)	Version(s)
IBM SDK, Java Technology Edition	7.1.0.0 - 7.1.5.19 (restricted access)
IBM SDK, Java Technology Edition	8.0.0.0 - 8.0.8.11

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- **Preventative Service Planning:**

AIX Service Pack 7300-02-01-2346

Service Packs contain important fixes delivered between Technology Levels. Service Pack 7300-02-01-2346 is based on Technology Level 7300-02.

[Link](#)

AIX Service Pack 7200-05-07-2346

Service Packs contain important fixes delivered between Technology Levels. Service Pack 7200-05-07-2346 is based on Technology Level 7200-05.

[Link](#)

AIX Technology Level 7300-02

The AIX 7300-02 Technology Level for AIX 7.3 contains preventive maintenance, new software features, and support for new hardware.

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- **OpenSSL 0.9.8 is removed in 7200-05-07**

OpenSSL 0.9.8 shared objects are removed from AIX 7.2 libcrypto.a and libssl.a in 7200-05-07. The compat libraries (libcrypto_compat.a and libssl_compat.a) are also removed.

The command line tools openssl and openssl64 are rebuilt with OpenSSL 3.0 in 7200-05-07.

IBM recommends ensuring the following prior to updating to AIX 7200-05-07:

- applications are not dependent on OpenSSL 0.9.8 shared objects
- No legacy algorithms such as MD2, blowfish are used as arguments for openssl command line.

[Link](#)

- **AIX72 TL05 PTF in Error**

A number of fixes available in 7.2.5.7

[Link](#)

VIO Server alerts:

- **VIO Server fix packs available**

- VIOS 3.1.4.31 Fix Pack

[Link](#)

- VIOS 4.1.0.10 Fix Pack

[Link](#)

ESS/GPFS alerts:

- **IBM Elastic Storage Server Alert : Modifications to the ESS support matrix**

IBM continues to evaluate the best practices in terms of supported ESS configurations and upgrade paths. These changes are based on test coverage and



support considerations. The scenarios below will no longer be officially supported or considered in the normal test cycle.

Recent ESS versions have exposed issues with certain support matrix and upgrade paths. To provide better overall quality and user experience, IBM has decided to make the following changes that they feel this will lead to more successful future upgrades and customer satisfaction.

- Migration from ESS 5.3.x (Legacy, xCAT-based offering) to ESS 6.1.x (container-based offering):
To migrate to the legacy container (ESS 6.1.x.x), which is offered on p8 or p9 EMS (LE only) you must first upgrade to ESS 5.3.7.x. Once you upgrade to this level you must upgrade to ESS 6.1.1.2 or higher. If you are at a level older than ESS 5.3.7.x then you must first get to ESS 5.3.7.x before completing an upgrade to ESS 6.1.1.2 or greater. Please reference the ESS 6.1.1.x Quick Deployment Guide via Appendix S.
- Consolidation of container-based offerings:
In a continued effort to reduce the complexity of various environments we now only support running xCAT or container-based solutions on the p8 EMS. You no longer can mix (for example) ESS 5.3.7.x (ESS Legacy LE) and ESS 6.1.x.x (ESS 3000) on the same p8 EMS. In this example you must convert the Legacy LE offering to the container version. The only exception in this scenario is if the ESS 3000 container version was 6.0.x.x (Scale 5.0.5.x) in this case there does not exist a legacy-based container offering.
If both a P8 and P9 are currently owned by the customer, only the p9 EMS can be used. You must consolidate all containers and management functions to the single p9 EMS.
To help improve our product's quality and remove field confusion, if both a p8 and p9 EMS are in the same environment only the p9 EMS is to be used. All management function (GUI, ESA, container deployment) will be run on the single EMS. This assumes some nodes in the storage cluster are already ESS 6.1.0.0 or higher. Stretch cluster is a unique exception and does not qualify for this statement (Though ideally both sides of the stretch cluster would be served by a p9 EMS). This change will improve the ease of managing the systems and will make upgrades simpler.

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Keep safe and hope you have a quiet run to the end of the year and a peaceful change freeze!
Red, Belisama