

## **These are questions and answer from the 16th March 2016**

### **Power Systems Virtual User Group Webinar on AIX 7.2**

The answers are the opinions of the author and are not IBM statements or commitments.

#### **Live Kernel Update**

1 Does the spare CPUs and RAM have to be activated?

- Yes but you could be temporarily using your HA resources or in a quiet period you could reduce you LPAR size to free up resources.

2 For Live Update, except LPAR ID will change. Any other things will change? Like adapter ID?

- Yes it is a new LPAR with just the old LPAR name at the end.

#### **POWER Flash Cache**

3 Can we have a report, or any monitoring to have the flash cache statistics?

- Yes - we covered that nearer the end of the webinar

4 Does AIX supports 4k block SSD?

- Yes on POWER8

5 What can be a optimal disk to cache size ratio?

- That depends on so many things like your data size, RAM, access patterns, read write ratio, etc. just like you would expect. We have no magic pixie dust solution.

6 Does AIX 7.1 support 4k SSD disk?

- Yes on POWER8

7 Could we create an LV on SSD on VIOs and assign to LPAR for caching?

- No , no, no - these are specially created for POWER Flash Cache using the cache\_mgt command and uses special device drivers to run the caching.
- Please use the cache\_mgt command - anything else is extremely unlikely to work.

8 Most PowerVM configurations are dual VIOS?

- Yes that is true!

9 What considerations should be taken in to account i.e. redundancy and mutlipathing etc.

- What kind of redundancy for cache device?
- Well this is the first edition of the POWER Flash Cache.
- Thinking about this further there is no support to have the cache on multiple VIOS and frankly IMHO no need.
- One cache is sufficient to provide the performance boost.
- The POWER Flash Cache can just be switched off at any time if there is a problem.

10 What about in the case of FC attached SSD?

- These are likely to be fast disks already but also likely to be shared with many LPARs.
- So there is FC latency (admittedly fairly small), your SAN could be busy or worse and the SSD working on behalf of other LPARs. All these favour a local SSD as being faster and dedicated.
- I would recommend testing to confirm the benefits of further SSD Caching on real workloads.
- I would like to see some benchmark results.

11 How is market on AIX or moving to Linux?

- AIX is a multibillion dollar business to IBM and growing slight if I read the recent reports correctly it is not going away in my life time. Linux on POWER is also growing rapidly.

12 Are there plans on generalizing this so we can do caching of virtual disks for all clients (AIX + iBmi) on VIOS level?

- We don't make adhoc announcements on public Webinars.
- Anything is possible with a computer given enough time and resources.

13 Can you mention the servers that may have the Credit card SSD slot?

- From experience S824 and E850 - ask you local IBM representative.
- The Enterprise E870 and E880 do not any internal disks.
- FC disks are the normal way to attach disk space to them.
- You could have SSDs in a SAS adapters and an EXP24 disk drawer.

14 Is there plan to build AIX on Intel based platform?

- No - why port to much slower and more expensive (because you need to compensate for the slow speed) Intel server platform.

15 AIX5.3 can directly upgrade to AIX 7.2?

- Rather off topic - not sure but I suspect AIX 5.3 to AIX 6 then AIX 7.1 or AIX 7.2.
- Why not try it to find out or as your IBM representative.
- I would recommend a fresh build and move the data over – that way you can avoid all sorts of historic mistakes and errors in your old AIX being carried forward.

16 If you have to roll out a fix across multiple LPARs, do you know if we will be able to do this using NIM and machine groups in the future?

- I have not tried this so I checked back with the developers.
- Yes, you can use NIM to push out LKU updates or even pull the update from the client side.
- Using the geninstall allows this - its one further geninstall option to request LKU in NIM.
- This is already in place.

17 Can the cache device be assigned to a VG instead of a disk?

- No - I am regretting showing you there are VG and LV behind the covers.
- Use the KnowledgeCenter manual pages to see what is possible.

18 Are there any special considerations for using caching from dual VIOS? Other than doing it twice as most people have dual VIOS - so if using NPIV why would you have it only one VIOS.

- You are, I think, seeing this the wrong way.
- There is no data in the cache that is unique and needs protecting
- Or look at it another way the single cache is a partial mirror of the data already ready RAID5 or mirror protected on your FC disks.
- It is like having a 3rd mirror - you don't really need a 4th mirror for RAS.
- So there is not much point for dual path or a need for RAS as the cache is ephemeral.
- Attempting to duplicate the cache into two VIOS would drastically increase complexity, also introduce massive problems with resyning and error correction and so may slow down cache!
- At the moment if anything goes wrong then the cache can simply be turned off at a moment's notice.