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IBM C4040-250

Power Systems with POWER8 Sales Skills V1

Version: 5.0
Topic 1, General Product Knowledge (26%)

Exam A

QUESTION 1

A customer is migrating from a POWER6 570 to a POWER8 S824. Which technology will have to be replaced?

- A. FCoE
- B. SAS
- C. Fibre Channel
- D. SCSI

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation: POWER6 560/570/770 CEC drawers and up to three POWER6 560/570/770 drawers in the same server. With proper cabling and configuration, multiple wide ports are used to provide redundant paths to each dual port SAS disk or SSD. The adapter manages SAS path redundancy and path switching should a SAS drive failure occur.

Reference:

http://www-01.ibm.com/common/ssi/cgi-bin/ssialias?infotype=dd&subtype=sm&appname=pseries&htmlfid=897/ENUS9117-_h02

QUESTION 2

A customer offers mobile phone plans via a secure website. They requested a meeting to evaluate what IBM has to offer in terms of a hybrid cloud infrastructure and data analytics solution, which will allow them to increase sales of mobile phone plans.

What solution can be proposed to satisfy the requirements?

- A. S814. PowerVM, PowerHA, Worklite, and IBM Cloud Orchestrator
- B. S824. Cognos, IBM Cloud Orchestrator PowerSC, and PowerVM
- C. S822. ProtecTIERWebsphere and IBM Cloud Manager with OpenStack
- D. S822. PowerKVMPowerHA and Cloud Toolkit

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation: With availability beginning June 10, the new scale-out S Class servers include two systems that run Linux exclusively the Power Systems S812L and S822L servers. The three additional offerings, the Power Systems S814, S822 and S824 servers, provide clients the choice of running multiple operating systems including Linux, AIX and IBM i. Available in 1 and 2 socket and 2U and 4U configurations, the starting price of the new servers

Reference:

<https://www-03.ibm.com/press/us/en/pressrelease/43702.wss>

QUESTION 3

A small retailer has a 4-core S814 with one processor license to run the production workload. During the busy holiday season in November and December, the average daily workload is doubled.

Which solution will provide the required processing capacity for the busy season?

- A. Purchase an additional processor license.
- B. Implement Elastic Capacity on Demand
- C. Enable Active Memory Expansion
- D. Purchase additional processor activation

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Active Memory Expansion is an innovative POWER7 technology that allows the effective maximum memory capacity to be up to 100% larger than the true physical memory maximum for AIX 6.1 partitions.

Active Memory Expansion relies on compression of in-memory data to increase the amount of data that can be placed into memory and thus expand the effective memory capacity of a POWER7 system. The in-memory data compression is managed by the system, and this compression is transparent to applications and users.

Active Memory Expansion is configurable on a per-logical partition (LPAR) basis. Thus, Active

Memory Expansion can be selectively enabled for one or more LPAR's on a system. When Active Memory Expansion is enabled for a LPAR, the operating system will compress a portion of the LPAR's memory and leave the remaining portion of memory uncompressed. This results in memory effectively being broken up into two pools a compressed pool and an uncompressed pool. The operating system will dynamically vary the amount of memory that is compressed based on the workload and the configuration of the LPAR.

Because Active Memory Expansion relies on memory compression, some additional CPU utilization will be consumed when Active Memory Expansion is in-use. The amount of additional CPU utilization needed for Active Memory Expansion will vary based on the workload and the level of memory expansion being used.

Reference:

[https://www.ibm.com/developerworks/mydeveloperworks/wikis/home/wiki/Power+Systems/page/Active+Memory+Expansion+\(AME\)](https://www.ibm.com/developerworks/mydeveloperworks/wikis/home/wiki/Power+Systems/page/Active+Memory+Expansion+(AME))

QUESTION 4

A customer has 40 Power 520 servers and is concerned about the ongoing operational cost, space, and high availability.

Which solution should be discussed in order to satisfy the requirements?

- A. Purchase one S824 with PowerVM and PowerHA.
- B. Purchase two S824 servers with PowerVM and PowerHA
- C. Purchase one E870 with PowerVM and PowerHA.
- D. Purchase four S812L servers with PowerVM and PowerHA

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Reference:<http://www-03.ibm.com/systems/power/hardware/s824/>

QUESTION 5

A customer asks why they should investigate Open Source solutions as opposed to single vendor proprietary solutions.

Which statement best summarizes the benefit of the solutions?

- A. Open Source solutions are not susceptible to security flaws due to peer review process.
- B. The open community develops to all operating systems standards.
- C. Open Source solutions are certified to execute on all operating systems since they are developed in Java
- D. The open community development model provides greater flexibility for application functional expansion.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation: we look to provide ongoing and increasing support for complex competency based curricular models, for clinical and experiential learning modalities, and provide ever greater flexibility for interprofessional education.

Reference:<https://www.iliosproject.org/timeline>

QUESTION 6

A POWERS customer with disk expansion drawers needs a non-disruptive solution to improve the disk performance at the lowest cost.

What should be proposed to satisfy the customer's requirement?

- A. V7000 SAN Disk
- B. 840 Flash Storage
- C. DS5000 SAN Disk
- D. SSD drives

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Non-disruptive migration from, or virtualization of, existing disk

Reference:[http://www-](http://www-05.ibm.com/cz/events/xtraining2012/presentace/02_IBM_Storwize_V7000.pdf)

[05.ibm.com/cz/events/xtraining2012/presentace/02_IBM_Storwize_V7000.pdf](http://www-05.ibm.com/cz/events/xtraining2012/presentace/02_IBM_Storwize_V7000.pdf)

QUESTION 7

A customer has a BladeCenter S (BCS) with an 8-core POWER6 blade, 1 5TB of storage and an external LTO tape drive installed. They want to upgrade to a POWER8.

Which of the following is the lowest cost recommendation to satisfy their requirement?

- A. Flex System and POWER8 node
- B. S824
- C. POWER8 blade in the current BCS
- D. S814

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

With new innovations, Power Systems provide the ability to:

Reference:<http://www-03.ibm.com/systems/power/hardware/s824/>

QUESTION 8

A credit card company is going to implement a new application for which security is a major requirement. The company has been quoted a solution running in Windows.

Why should the company consider a Power Systems solution?

- A. IBM has superior firewalls.
- B. IBM AIX and IBM i have security check points that make it nearly impossible to be hacked.
- C. Starting with POWER8 security is built into the processor.
- D. PowerSC includes templates for PCI compliance

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

POWER8's secure-key cryptographic accelerator and cryptographic coprocessor functions combined with FlashSystems' enterprise ready extreme performance and application latency reductions capability provides an infrastructure that is critical to the success of today's core banking application environments."

Reference:<http://www-03.ibm.com/press/us/en/pressrelease/43702.wss>

QUESTION 9

A customer has 4U remaining in their rack Adding a second rack is not an option They will run a number of small instances of WebSphere Application Servers. It has been determined that the application will require a total of 38 cores and 1TB of memory.

What is the lowest cost Linux option that will satisfy the requirement?

- A. Two S822s
- B. Two S824s
- C. OneS824L
- D. TwoS812Ls

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

With new innovations, Power Systems provide the ability to:

Reference:<http://public.dhe.ibm.com/common/ssi/ecm/po/en/pod03097usen/POD03097USEN.PDF>

QUESTION 10

Customers benefit from the OpenPOWER Foundation because:

- A. OpenPOWER Foundation-developed solutions run on all POWER6, POWER7, and POWER8.
- B. OpenPOWER-developed solutions by the Foundation are provided at no charge
- C. OpenPOWER Foundation-development teams creating new solutions for Power architecture
- D. OpenPOWER Foundation-developed solutions are all developed to utilize CAPI for optimal performance.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

IBM's POWER architecture is the cornerstone of innovation for the OpenPOWER Foundation, creating a computing platform available to all
Reference:

<http://openpowerfoundation.org/press-releases/openpower-foundation-technology-leaders-unveil-hardware-solutions-to-deliver-new-server-alternatives/>

QUESTION 11

A customer has an application that requires the following:

- 21 cores
- 24 by 7 operation
- High I/O bandwidth
- Lowest TCO

Which solution will satisfy the requirements?

- A. TwoS822s
- B. TwoS814s
- C. TwoS824s
- D. One E870 with two client partitions

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Reference:<http://www-03.ibm.com/systems/power/hardware/e870/specs.html>

QUESTION 12

What is a competitive advantage of a Power System compared to an Oracle Exadata system?

- A. Granularity of cores and memory
- B. Integration of processors and storage
- C. Availability of SSD drives
- D. Number of available cores

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation: system is the perfect integration of compute and storage in a single two-rack unit (2U) enclosure for clustered database and virtualized business applications. It is the industry's unique a

Reference:<http://www.oracle.com/us/products/servers-storage/servers/x86/x4-2l-faq-2008606.pdf>

QUESTION 13

You are proposing a PowerHA solution to your customer who wants installation assistance.

What resource can be proposed to perform the installation?

- A. IBM Development team
- B. Advanced TechnicalSupport
- C. Lab Services
- D. Local Field Technical Sales Support

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation: This information is for technical consultants, technical support staff, IT architects, and IT specialists who are responsible for providing high availability and support for the IBM PowerHA SystemMirror Standard and Enterprise Editions on IBM POWER® systems.

Reference:<http://www.redbooks.ibm.com/redbooks/pdfs/sg248167.pdf>

QUESTION 14

A customer has an E870 installed in one location and is going to upgrade a Power 770 to an E870 in a second location

Which option describes whether a Technical Delivery Assessment (TDA) is required on the Power 770 to E870 upgrade?

- A. A TDA is only required on the first POWER 770 to E870 upgrade at a customer location.
- B. Since the customer already has an E870 installed in the enterprise, a TDA is not required.
- C. A TDA is not required on a POWER 770 to E870 upgrade.
- D. A TDA is required on all POWER 770 to E870 upgrades.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation: POWER7 processor-based servers, a TDA is required for the Power 770 and above.

Reference:

<http://www-03.ibm.com/systems/power/hardware/770/>

QUESTION 15

A department chain IT manager stated that their E870 processing requirements can experience unexpected short peaks throughout the day. They need to automatically activate cores and give them back when the processing requirements decrease.

Which Capacity on Demand offering will satisfy the customer's requirements?

- A. Capacity Upgrade on Demand
- B. Utility
- C. Trial
- D. Elastic

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Utility Capacity on Demand

Utility CoD is used when you have unpredictable, short workload spikes.

Reference:<http://www.unixmantra.com/2014/03/power-systems-capacity-on-demand-cod.html>

QUESTION 16

Why is OpenPOWER strategically important for Power Systems customers?

- A. To support IBM i solutions for hybrid clouds

- B. To help integrate IBM Cloud with OpenStack for private cloud.
- C. To collaborate with companies and develop new Power solutions
- D. To enable community development of AIX and PowerVM.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation: The connection between the OpenPower Alliance and IBM i is more indirect than direct, but do not miscalculate the significance of OpenPower, IBM's most critical, most ambitious, and most risky strategic move of the 21st century. Although this is all about scale out Linux, the cloud market, and attacking Intel, the IBM i community should be watching closely. It is a business model shift for the Power brand. From a hardware perspective, this is a trip to another galaxy.

Reference:

<http://www-03.ibm.com/systems/power/>

QUESTION 17

What is a performance monitoring product that is available on the E880?

- A. PowerSC
- B. PowerVP
- C. PowerVC
- D. PowerVM

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

The dynamic pace of change that is encountered with today's virtualized environments and workloads require flexible infrastructure. This flexible infrastructure allows virtual workloads to be mobile and to dynamically contract and expand within the virtual data center as needed by the business.

Performance is key to the benefit of this new flexibility introduced by server virtualization and cloud deployments which yields the benefit of consolidation, flexibility and reduction of risk.

The ability to manage and monitor the performance of both the virtualized workloads as well as the

- A. HortonWorks on a Linux on Power cluster
- B. Veristorm on a Linux on Power cluster
- C. Cloudera on a POWER8 IFLonanE870
- D. Netezza on an S824

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

IBM Power Systems, built on thePOWER8 processor and architecture,are specifically designed for optimumBig Data and cloud performance.

Combined with VeristormData Hub™ (VDH), you can deploya robust, open-source distribution ofApache™ Hadoop® that is optimizedfor Linux on Power Systems. Thiscombination brings you the best ofboth worlds: The innovation of thevibrant Hadoop ecosystem, and theperformance and cost advantages ofPOWER8.

With Veristorm Data Hub, Hadoopon Power Systems, you can deliverself-service analytics with more intelligence,leveraging data volumesthat exceed traditional systems.

Reference:http://www.veristorm.com/sites/g/files/g960391/f/collateral/ds_VDHforPower_20150218b.pdf

QUESTION 20

A customer wants to run multiple workloads, and is considering an S824 or an E870.

Under which condition would the E870 be more appropriate?

- A. If the customer needs hot plug PCIe adapters.
- B. If the customer expects to grow beyond 2TB of memory and more than 24 cores.
- C. If the customer needs to support more than 1TB of memory.
- D. If the customer needs to run AIX, IBM i, and Linux using internal disk.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

The Power S814 and Power S824 are ideal for mid-sized business customers consolidating AIX, IBM i, and Linux workloads and for virtualized application servers. The database can run on the same server. Gain faster insights with the IBM POWER8 processor and smart acceleration that is enabled by CAPI technologies, and reduce energy consumption by using advanced energy control.

Reference:<http://www.redbooks.ibm.com/redpapers/pdfs/redp5097.pdf>

QUESTION 21

A customer has a fully virtualized scale out Linux environment with 25 x86 servers, each with 16 cores. You are proposing to move all Linux partitions to eight Power S824 servers, each with 24 cores.

What cost reduction should be included in the TCO documentation?

- A. Linux patching
- B. Partition monitoring
- C. Application maintenance
- D. Network infrastructure

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Hardware and software costs: costs associated with storage and network infrastructure; costs associated with server migrations; and costs associated with hardware and software for high availability and disaster recovery

Reference:<https://www.vmware.com/pdf/TCO.pdf>

QUESTION 22

A customer states that they require N_Port ID Virtualization (NPIV) for storage attachment. Which adapter will satisfy their requirement?

- A. 4Gb Fibre Channel adapter
- B. 8Gb Fibre Channel adapter
- C. 40GbE Infiniband adapter
- D. 12Gb Cache RAID SAS quad-port 6Gb adapter

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

The storage installed for this report was two 4 Gb Fibre Channel storage systems (a Sun ZFS Storage Appliance and a Sun Storage 6180 Array).

Reference:<http://www.oracle.com/technetwork/server-storage/networking/o11-085-stor-net-cisco-fcoe-1914006.pdf>

QUESTION 23

A customer wants to simplify virtualization management and specifically wants the ability to capture and deploy virtual images.

In addition to PowerVM, which software product will satisfy the requirement?

- A. PowerVP
- B. PowerKVM
- C. PowerVC
- D. PowerHA

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

IBM® PowerVC Virtualization Center is an advanced virtualization management offering, built on OpenStack, that provides simplified virtualization management for IBM AIX®, IBM i and Linux virtual machines (VMs) running on IBM Power Systems™

Reference:<http://www-03.ibm.com/systems/power/software/virtualization-management/>

QUESTION 24

A customer with an AS/400 running S/36 code needs to migrate to a new POWER8 system. They require a deskside solution.

Which solution will satisfy the customer's requirements?

- A. S812L running IBM i 6.2
- B. S814 running IBM i 7.1
- C. S822 running IBM i 7.2
- D. S814running IBM i 6.1

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation: IBM Power System S822 and IBM Power System S822Lare deskside solutions.

:http://www.arbsol.com/marketing/POWER8_Facts_and_Features.PDF

QUESTION 25

A client is looking for a high availability solution for their existing Power environment. They have two locations each with an E870 and DS8800.

What solution provides the best TCO?

- A. IBMPowerHA
- B. Vision Solutions MIMIX
- C. IBMPowerVP
- D. IBM Tivoli Manager for HA

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Reference:http://www.rocketsoftware.com/sites/default/files/resource_files/IBM%20Systems%20iCluster%20Solution%20Brief.pdf?flag=meta&product=rocket-icluster-business-continuity-software&family=rocket-icluster&solution=archive-and-backup-management&resourcetype=datasheet&resourcebn=rocket-software-and-ibm-i-solution-editions-protect-data-and-complement-powerha&resourcefbn=IBM%20Systems%20iCluster%20Solution%20Brief.pdf(see highlights, second last bullet)

QUESTION 26

An application has a high availability requirement and is implemented with two local partitioned POWER8 servers and one remote partitioned POWER8 server. One local server runs production and replicates data to the backup local server. The backup local server replicates data to backup remote server.

What is the minimum number of HMCs required to support the sites?

- A. 4
- B. 2
- C. 3
- D. 1

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

You need 4 HMCs for backup local server to replicate data to backup remote server.

QUESTION 27

A customer needs to support an HPC cluster, and needs the maximum number of cores in a standard 19 inch rack. The customer can run either AIX or Linux.

Which POWER8 server best satisfies the requirement?

- A. S824
- B. S822
- C. S822L
- D. S824L

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Reference:

<http://www.redbooks.ibm.com/redbooks/pdfs/sg248171.pdf>

QUESTION 28

A customer has a 6TB database that needs a very high performance solution at the lowest cost.

Which system is the more cost effective solution?

- A. The S824 with attached FlashSystem 840.
- B. The S824 with integrated SSDs and V5000.
- C. An E870 with internal disk drives and SSDs.
- D. The S824 with internal disk drives and SSDs with Easy Tier.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Reference:

<http://www.slideshare.net/JuanRebes/ideal-storage-for-ibm-power-systems>

QUESTION 29

What is a limitation of the 4-core S814 model once installed?

Inability to change the:

- A. disk controller from non-cache to cache
- B. operating system from AIX to Linux.
- C. attached tape drive from LTO-5 to LTO-6.
- D. rack mount to desk side covers

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Reference:<http://www-03.ibm.com/systems/power/hardware/s814/specs.html>

QUESTION 30

Which resource is used to determine if an adapter can move from the 570 to the S824?

- A. Workload Estimator
- B. Sales Manual
- C. Alinean Tool
- D. Fix Central

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

The sales manual provides details and resource that can help determine if the technician can move an adapter on 570 to IBM S824. The compatibility matrix helps in determining the choice and the transfer of hardware from one model to another.

Reference:

http://www-01.ibm.com/common/ssi/ShowDoc.wss?docURL=/common/ssi/rep_sm/2/760/ENUS8286-_h02/index.html&lang=en&request_locale=en

QUESTION 31

A client running Oracle databases is considering a Power solution. They want the highest level of reliability, performance, and support.

Which operating system on Power should be recommended?

- A. Red Hat
- B. IBMi
- C. AIX
- D. SUSE

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Businesses today need to maximize the return on investment in information technology. Their IT infrastructure should have the flexibility to quickly adjust to changing business computing requirements and scale to handle ever expanding workloads--without adding complexity. But just providing flexibility and performance isn't enough; the IT infrastructure also needs to provide rock-solid security and near-continuous availability and while managing energy and cooling costs.

These are just some of the reasons why more and more businesses are choosing the AIX operating system (OS) running on IBM systems designed with Power Architecture® technology. With its proven scalability, advanced virtualization, security, manageability and reliability features, the AIX OS is an excellent choice for building an IT infrastructure. And, AIX is the only operating system that leverages decades of IBM technology innovation designed to provide the highest level of performance and reliability of any UNIX operating system.

Reference:<http://www-03.ibm.com/systems/power/software/aix/v71/>

QUESTION 32

A customer plans to implement a web-based solution that requires 34 Power cores. They want to acquire a POWER8 solution with the best TCA.

Assuming all other configuration requirements are equal, which solution provides the best TCA?

- A. OneE870
- B. TwoS824s
- C. Three S814s
- D. OneS822

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Thirty-four 2-socket Power S822L servers do the job of 1002-socket x86 (HP DL380) servers running equal virtualized capacity.

Reference:http://ibm.azlan.nl/html/stream_file.php?key=885tgf2sx

QUESTION 33

What POWER8 availability feature is unique to the E870 and E880 models?

- A. Redundant service processors
- B. Hot swap I/O adapters
- C. First failure data capture
- D. PowerVM Live Partition Mobility

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

The system control unit provides redundant system master clocks and redundant system master service processors (FSPs). Additionally, it contains the Operator Panel, the System VPD, and the Base DVD.

Reference:<http://www-01.ibm.com/common/ssi/cgi-bin/ssialias?infotype=an&subtype=ca&apname=gpatem&supplier=877&letternum=ENUSZG14->

QUESTION 34

A customer is concerned about Power Systems security in a virtualized environment. They want real time monitoring and a trusted firewall between LPARs.

Which IBM product should be proposed?

- A. PowerVM
- B. PowerSC
- C. Tivoli Security Policy Manager
- D. IBM Security Access Manager for Enterprise Single Sign-On

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

PowerSC pass packets securely between LPARs without an external firewall.

Reference:ftp://public.dhe.ibm.com/systems/power/community/aix/Switzerland_VUG/7_PowerSC_Overview.pdf(page 1)

QUESTION 35

In addition to one System Node, what is (are) the minimum E880 hardware feature(s)?

- A. One System Control Unit and two I/O drawers
- B. One System Control Unit
- C. One I/O drawer
- D. Two I/O drawers and one disk expansion drawer

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

The IBM Power System E880 with POWER8 system node uses 8-core symmetric multiprocessing (SMP) processor chips with 512 KB of L2 and 8 MB of L3 cache per core, DDR3 CDIMM memory, dual memory controllers, and an industry-standard Gen3 PCIe I/O bus designed to use 32 lanes organized in two sets of x16. The peak memory and I/O bandwidths per system node have increased over 300% compared to POWER7+TM servers. The two primary system building blocks are one system control unit and one or more system nodes. Additional I/O support is provided with a 19-inch PCIe Gen3 I/O expansion drawer and an EXP24S SFFGen2 expansion drawer. The processors, memory, and base I/O are packaged within the system nodes. The system nodes are rack based.

New POWER8 processor single chip modules (SCM) are provided in each system node. Processors are interconnected by two sets of system buses. Each SCM contains two memory controllers per processor module. Four 4.35 GHz 8-core SCMs are used in each system node, providing 32 cores (#EPBB). As few as eight cores in the system can be activated or up to 100% of the cores in the system can be activated. Incrementing one core at a time is available through built-in capacity on demand (CoD) functions to the full capacity of the system.

The Power E880 can have up to four system nodes per system. With 32-core nodes, the maximum is a 128-core system. In 2014, up to two system nodes per server are supported or a maximum of 64 cores.

The system control unit provides redundant system master clocks and redundant system master service processors (FSPs). Additionally, it contains the Operator Panel, the System VPD, and the Base DVD.

Reference:

<http://www-01.ibm.com/common/ssi/cgi-bin/ssialias?infotype=an&subtype=ca&appname=gpatteam&supplier=877&letternum=ENUSZG14->

QUESTION 36

A customer is considering the purchase of three IBM POWER8 Scale-out systems to run their AIX and IBM i applications. Their main concern is application uptime.

What feature of the POWER8 Scale-out systems should the IBM reseller discuss?

- A. RAS features eliminate disk and memory failures
- B. Live Partition Mobility
- C. PowerVC
- D. Hot swap memory and cores

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Demands for system uptime have consistently risen over the years, and while technology features such as high availability have largely minimized unplanned downtime, servers still have to come down for routine maintenance to keep operations running smoothly. This is one of the key benefits of Live Partition Mobility for IBM i, which allows IT to migrate a partition from one physical machine to another.

QUESTION 37

A customer is evaluating POWER8 and competitive servers to run multiple workloads in a dynamic environment.

What should be emphasized in the Executive Summary of a proposal?

- A. Energy consumption report details
- B. Faster processors reduce software licensing expenses
- C. Ability to run AIX, LINUX, and IBM i applications concurrently.
- D. Acquisition cost details

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

If the customer is looking for multiple workloads being run in a dynamic environment, you can emphasize the ability of Power8 to run AIX, Linux and IBM I application concurrently.

QUESTION 38

A customer believes that virtualized x86 solutions offer a lower TCA than Power solutions.

Which of the following Power solutions generally has the lowest TCA?

- A. S824
- B. S824L
- C. S812L
- D. S822

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Reference:<https://www.ibm.com/developerworks/community/wikis/form/anonymous/api/wiki/61ad9cf2-c6a3-4d2c-b779-61ff0266d32a/page/1cb956e8-4160-4bea-a956-e51490c2b920/attachment/cb2d4737-e8f5-4f96-9a74-71573b34b96d/media/VUG%20Why%20POWER8%20is%20the%20platform%20of%20choice%20for%20Linux%20v1.4%20CLEAN.pdf>

Topic 2, Competition (11%)

QUESTION 39

A customer is running an Oracle database on Solaris and needs to replace their systems. They are considering offerings from both Oracle and IBM. Oracle is leading with M5.

What advantage should the IBM reseller discuss to demonstrate the value of POWER8?

- A. Total cores on a single systems
- B. License cost per core
- C. Number of threads per core
- D. Core performance

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation: These organizations rely on the maximum scalability that is achieved when multi-core servers and highly threaded operating systems host middleware and applications that are tuned to take advantage of these capabilities

Reference:<http://www.oracle.com/us/products/servers-storage/solaris/solaris11/solaris-sparc-final-5-1931785.pdf>

QUESTION 40

An installed HP Superdome / Oracle database customer is consider migrating to POWER8 . The customer has significant financial concerns because of the multiple partitions and high Oracle licensing cost of their HP solution.

What features / capability of POWERS should be discussed with this customer?

- A. Processor pooling and high performance cores
- B. PowerVP and PowerSC
- C. CUoDandCAPI
- D. Shared Storage and Processor roadmap

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Reference:

http://www-05.ibm.com/cz/events/febannouncement2012/pdf/power_architecture.pdf

QUESTION 41

In a competitive situation, a customer wants to compare virtualization capabilities of POWER8 systems and x86 systems.

Which response describes a competitive advantage of PowerVM compared to VMware?

- A. PowerVM runs in a secure address space while VMware runs in application state
- B. PowerVM can run dual VIO servers to provide higher availability
- C. PowerVM provide higher system utilization because it is implemented in the processor logic.
- D. PowerVM has the ability to virtualize memory while VMware does not.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Recent innovations include Active Memory Sharing, which allows for the exchange of memory between inrunning partitions. This increases optimization of physical resources similar to how CPUs are shared with Shared Processor logical partitions. It enables the sharing of a pool of physical memory among the logical partitions. One of the key benefits is that it provides the ability to configure systems with less physical memory. When a system needs more physical memory, it can be configured to grab the memory from the shared pool. Basically, this shifts memory dynamically from idle LPARs to active ones. This feature is available on AIX V6.1 and SLES 11. A VIO server must also be deployed for partitions that use Active Memory Sharing, and all I/O access needs to be virtualized by using these partitions.

Reference:

<https://www.ibm.com/developerworks/aix/library/au-aixhvirtualization/>

QUESTION 42

As a virtualization host, what is an advantage of VIOS compared to IBM i?

- A. Virtual SCSI
- B. Virtual Ethernet
- C. Dual (redundant) management partitions
- D. V3700 external disk virtualization

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

As a client of VIOS, with VIOS connecting to a storage subsystem through the SAN fabric. VIOS sees the LUNs and then maps them as virtual SCSI (VSCSI) LUNs to the IBM i client

partition.

Reference:

http://www-03.ibm.com/systems/resources/systems_i_Virtualization_Open_Storage.pdf

QUESTION 43

IBM is competing with Cisco for a large Oracle database opportunity.

What advantage of POWER8 systems should an IBM Power reseller emphasize?

- A. They can be virtualized.
- B. They are managed by a single pane of glass.
- C. They run Linux.
- D. They offer greater scalability.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

IBM Cloud Manager with OpenStack for Power, V4.2 delivers full access to the OpenStack Juno APIs, backed with IBM support. New hybrid support for IBM Cloud Manager with OpenStack enables multiple regions to be managed from a "single pane of glass."

Reference:

http://www-01.ibm.com/common/ssi/ShowDoc.wss?docURL=/common/ssi/rep_ca/7/897/ENUS214-377/index.html&lang=en&request_locale=en

QUESTION 44

An IT manager has several POWER5 servers and wants to consolidate them into a new POWER8 server. The CFO (Chief Financial Officer) is asking for a financial justification for the project.

Which resource can be used to provide a rapid high-level financial data overview?

- A. IBM Global Financing
- B. Scorpion study
- C. Alineantool

D. Eagle study

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

One of the biggest challenges customers face these days when searching for the right IT solution is accurately predicting the costs/benefits to their business. With the IT landscape constantly shifting due to the explosion of data from fields like mobile and social networking, the amount of data businesses must process has grown exponentially. Finding the right approach has never been more critical.

The Alinean tool, developed by IBM, is designed to help customers get an accurate picture of what their business would look like with an IT solution from IBM PureSystems. The customer can fill in as much or as little information as they like and the tool will use industry standards, averages, and assumptions to create an analysis of what their organization would save by shifting to PureSystems.

The customer has complete control at all times over the level of detail they submit a report can be generated by answering as little as three basic questions such as company name, location and industry. If they want a more detailed report however, they can choose to enter information such as data servers, types of application software, and their storage requirements. With this additional information the tool can generate a richly detailed view of the specific savings an IBM PureSystems solution would provide.

Reference: <http://expertintegratedsystemsblog.com/2012/07/alinean-tool-get-an-accurate-picture-of-the-benefits-of-expert-integrated-systems/#sthash.9yaC7Ej.dpuf>

QUESTION 45

A customer is running a large application on x86 Linux with an Oracle Enterprise database.

Which of the following can be used to financially justify migrating the application to POWER8 and DB2?

- A. POWER8 requires fewer cores to run the same workload.
- B. POWER8 Active Memory Expansion reduces the cost of memory.
- C. POWER8 cores exploit SMT6.
- D. POWER8 hardware and software maintenance costs are lower.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Comparing performance, the 740D 3.6ghz 16 core is rated at 197.7 rPerf (SMT4) whereas the S822 3.89ghz 12 core is rated at 220.1 rPerf (SMT4) or 235.6 rPerf (SMT8).

So you can get 11 to 19 percent more performance, more memory, more disk bays and PCIe slots for about 40 percent less cost. Another point to note is that the memory and I/O bandwidth for the POWER8 servers (scale out and enterprise) is significantly higher than all of the previous architectures. And there are additional follow-on savings for software licensing--for our 740D versus S822, we need four fewer cores on the POWER8, which allows for additional savings on software licensing.

Reference:<http://www.ibm-systemsmag.com/linuxonpower/Trends/What-s-New/power8-time-is-now/>

QUESTION 46

A customer needs to purchase a server to run their large Tivoli Storage Manager environment. What POWER8 capability should they consider compared to an x86 solution?

- A. Dual FSPs ensure system availability
- B. Active Memory Expansion
- C. Chipkill memory reduces program errors
- D. Higher system bandwidth

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Large Tivoli storage manager requires higher system bandwidth for data transmission. IBM Power8 is the best processor to utilize the technology and provide higher system bandwidth compared to x86 solution.

Topic 3, Value Proposition (29%)

QUESTION 47

When implementing a 40TB NoSQL in-memory database on an x86 platform, a customer needs 24 servers. The same database requirement can be satisfied on POWER with a CAPI connected FlashSystem 840.

How many Power S822L(s) is (are) needed?

- A. 8
- B. 16
- C. 24
- D. 1

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation: 16 GB/512 GB (S812L) 32 GB/1 TB (S822L)

Reference:<http://www-03.ibm.com/systems/power/hardware/s812l-s822l/specs.html>

QUESTION 48

What is a major differentiator with the IBM Solution for Hadoop - Power Systems Edition, compared to Hadoop on x86?

- A. The IBM solution provides fixed configurations for hardware and software for easy deployment.
- B. The IBM solution uses MapReduce for scalability to thousands of servers.
- C. The IBM solution uses SSDs and faster interconnects.
- D. IBM hardware and software components are customizable for best price/performance

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Advanced technology for performance and robustness. The hardware and software components in this infrastructure are customizable to allow the best performance or the best price/performance ratio.

Reference:

<http://www-03.ibm.com/systems/power/solutions/bigdata-analytics/hadoop/>

QUESTION 49

A client wants a proposal for a POWER8 server to support deployment of a new mobile application. What information is most valuable to configure the new server?

- A. Programming language
- B. Types of mobile devices
- C. Expected transaction volume
- D. Security requirements

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

The information that is useful for Power8 server deployment for mobile applications is the transaction volume that uses processor power of a server.

QUESTION 50

A customer needing an analytics solution is comparing POWER8 with x86 servers for their infrastructure.

What makes Power Systems a better value than the x86 solution?

- A. More supported analytic solutions providing more choices
- B. Higher performance and faster response times
- C. Greater storage capacity with encrypted data.
- D. Stronger encryption capabilities and proprietary analytics algorithms

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

X86 solutions cannot provide high performance and faster response times during to their architecture. Power8 processor is much faster and provide consistent performance throughout the service lifecycle.

QUESTION 51

Which POWER8 technology features contribute the most to lower TCO?

- A. CAPI and transactional memory
- B. High performance cores and SMT
- C. PCIe Gen3 support and Hot Plug adapters
- D. First Failure Data Capture and Thermal Power Management Device

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation: Coherent accelerator processor interface and transactional memory provides better performance at reduced costs. Therefore, CAPI and transactional memory lowers total cost of operation.

Reference:

<https://www.ibm.com/developerworks/community/wikis/form/anonymous/api/wiki/61ad9cf2-c6a3-4d2c-b779-61ff0266d32a/page/f1abe75a-a2b2-43dd-9d75-7dae28f5bc5f/attachment/0b9be9c6-1d2b-44dc-9630-384f47734c94/media/2014-01%20Intro%20to%20POWER8%20Processor%20%28JM%20Tendler%20to%20GA%20Power%20User%20Group,%202014-01-16%29.pdf>

QUESTION 52

Which tool can be used to determine the three-year TCO of a an S824 system compared to an HP DL580?

- A. Power Systems Speed Sheets
- B. TCO Cost Estimator
- C. Quick Pricer
- D. Alinean TCO tool

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

QUESTION 53

A customer is close to maximum energy consumption in their data center and wants to measure and predict energy use.

Which POWER8 feature will provide the required function?

- A. Power capping
- B. Power saver mode
- C. Power core nap mode
- D. Power trending

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

On a different level, power budgeting (or "capping") a single server will become important for power-limited data centers. Power capping is a key element for implementing power shifting, which is the dynamic setting of power budgets for individual servers such that a global power cap for the cluster is maintained. This allows the available power capacity to flow on demand to the servers with the highest priority workload by reducing the power budget of servers with lower priority. Robust power shifting solutions will depend on reliable power capping mechanisms to avoid overloading circuit breakers and power distribution units.

QUESTION 54

A customer told the IBM reseller that they are reviewing proposals from several different computer manufacturers.

What should the IBM reseller emphasize as a Power Systems infrastructure advantage?

- A. IBM owns and validates the entire hardware and system software stack.
- B. IBM offers a lower price than their competitors.
- C. IBM systems scales to a greater number of cores and memory.
- D. IBM integrates their systems at the factory to minimize start up time.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

IBM will help you configure, validate hardware and software stack (OS, General Parallel File System (GPFS), and SAP), configure networking, provide basic skills transfer and post-install documentation on IBM System x hardware. IBM also offers ongoing managed services for this solution or periodic on site health checks to maintain your current system environment, assistance with updating your configuration, and sharing best practices for optimal performance and reliability.

QUESTION 55

A customer is evaluating infrastructure options in order to deploy IBM DB2 BLU. What is a benefit of running DB2 BLU on POWER8?

- A. It exploits large caches and memory bandwidth, delivering better performance
- B. It takes full advantage of 16 threads per core, delivering better performance.
- C. It can be managed with PowerVP to simplify deployment of new images.
- D. It minimizes the number of support contracts that the customer needs.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Moving data from memory to disk and back again impacts query performance. But if data stays in memory, the response time is much faster. DB2 10.5 introduces BLU Acceleration for next generation in-memory computing. BLU Acceleration provides breakthrough performance by delivering instant insight from operational data and historical data. IBM Power Systems, with the new POWER8 processor, provides industry-leading capability to keep high volumes of data in memory because of its large cache sizes and memory bandwidth. Power Systems are designed to optimize analytics performance for big data.

Reference:<http://www-01.ibm.com/software/data/db2/power-systems/>

QUESTION 56

A customer has a critical invoice application for which the system is mostly underutilized. During the last week of the month, response times become unacceptable due to growth. The customer does not want to pay for a system that is idle most of the time.

What should be proposed?

- A. Capacity Upgrade On Demand

- B. Elastic Capacity On Demand
- C. Power Enterprise Pools
- D. Active Memory Expansion

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

IBM's POWER8™ systems with AIX® feature Active Memory™ Expansion, a new technology for expanding a system's effective memory capacity. Active Memory Expansion employs memory compression technology to transparently compress in-memory data, allowing more data to be placed into memory and thus expanding the memory capacity of POWER8 systems. Utilizing Active Memory Expansion can improve system utilization and increase a system's throughput.

Topic 4, High Level Solution Design (34%)

QUESTION 57

What is an advantage of a POWER8 system compared to an x86 solution?

- A. Supports PCIe Gen
- B. More cores per socket
- C. Lower PVU cost
- D. Greater memory bandwidth

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Reference: [https://www.google.com.pk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CBsQFjAA&url=https%3A%2F%2Fwww.ibm.com%2Fdeveloperworks%2Fcommunity%2Fwikis%2Fform%2Fanonymous%2Fapi%2Fwiki%2F61ad9cf2-c6a3-4d2c-b779-61ff0266d32a%2Fpage%2Ff1abe75a-a2b2-43dd-9d75-7dae28f5bc5f%2Fattachment%2F3d574a4b-b414-42c8-85b0-f941115d569f%2Fmedia%2F2014-06%2520Power%25208%2520Servers%2520June.pdf&ei=17IoVa6GLYHKUISHgcAH&usq=AFQjCNGlgaigZjc7XddWybzRsEyNtcfncg&sig2=_lmFDqISPolG2ek-0PWFhg&bvm=bv.94455598,d.d24\(slide 4\)](https://www.google.com.pk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CBsQFjAA&url=https%3A%2F%2Fwww.ibm.com%2Fdeveloperworks%2Fcommunity%2Fwikis%2Fform%2Fanonymous%2Fapi%2Fwiki%2F61ad9cf2-c6a3-4d2c-b779-61ff0266d32a%2Fpage%2Ff1abe75a-a2b2-43dd-9d75-7dae28f5bc5f%2Fattachment%2F3d574a4b-b414-42c8-85b0-f941115d569f%2Fmedia%2F2014-06%2520Power%25208%2520Servers%2520June.pdf&ei=17IoVa6GLYHKUISHgcAH&usq=AFQjCNGlgaigZjc7XddWybzRsEyNtcfncg&sig2=_lmFDqISPolG2ek-0PWFhg&bvm=bv.94455598,d.d24(slide 4))

QUESTION 58

What are key cost elements that should always be included in a POWER8 proposal?

- A. Rack space and DR
- B. Staffing and energy
- C. Software and hardware
- D. RAS and financing

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Of course, you need to include the software and hardware implications of Power8 in the proposal so the customers can understand the performance of Power8 in hardware and software environment.

Reference:

<http://public.dhe.ibm.com/common/ssi/ecm/po/en/pob03046usen/POB03046USEN.PDF>

QUESTION 59

Which POWER8 RAS feature is available on all Scale-out and Enterprise systems?

- A. Dual System Clocks
- B. Hot Plug PCIe adapters
- C. CoD cores
- D. DualFSPs

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Take a look at the following ras features:

Reference:<http://www-03.ibm.com/systems/power/hardware/s824/specs.html>

QUESTION 60

A customer has an E870 and is installing IBM software products in a Red Hat partition.

What PVU will the customer be charged per core?

- A. 70PVUs
- B. 100PVUS
- C. 120PVUs
- D. 80PVUs

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

You need 120 PVUs per core for Red Hat Partition.

QUESTION 61

PowerVM Enterprise Edition provides which availability function?

- A. High availability failover
- B. Live Application Mobility incase of a system failure
- C. Policy based workload relocation
- D. Live Partition Mobility

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

The Live Partition Mobility function offered on POWER6 technology-based systems is designed to enable the migration of an entire logical partition from one system to another. Live Partition Mobility uses a simple and automated procedure that transfers the configuration from source to destination without disrupting the hosted applications or the setup of the operating system and applications.

Live Partition Mobility provides the administrator a greater control over the usage of resources in the data center. It allows a level of reconfiguration that in the past was not possible because of

complexity or just because of SLAs that do not allow an application to be stopped for an architectural change.

Reference:

<http://www.redbooks.ibm.com/redbooks/pdfs/sg247460.pdf>

QUESTION 62

A customer purchased a new POWER Scale-out server and wants three years of 24 by 7 hardware.

Which option satisfies this request?

- A. Upgrade from one year 9 by 5 to 24 by 7 and one year to a three year warranty extension.
- B. Upgrade from one year 24 by 7 to three years.
- C. The standard 24 by 7 warranty for three years
- D. Upgrade from standard three years 9 by 5 to 24 by 7.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

You can opt for a standard 24/7 hardware service warranty without having to purchase something else and then upgrading it to 3 year service.