

## IBM\_CertifyMe\_000-237\_HACMP for AIX 5L

Number: 000-237

Passing Score: 800

Time Limit: 120 min

File Version: 2011-04-18

Exam : 000-237

Version : 2011-04-18

温室小花... 中间件... 数据库  
<http://www.evanjiang.net>

## Exam A

### QUESTION 1

During Certkiller .com planning session, the network administrator discusses the requirements of having a persistent MAC address associated with the IP Service address. How can this be accomplished using HACMP?

- A. Enable routed to handle dynamic route creation.
- B. Use IPAT via IP aliasing and define the required MAC address.
- C. Add the Service IP Label to the /etc/cluster/ping\_client\_list.
- D. Use IPAT via IP replacement and define the required MAC address.

**Answer:** D

### QUESTION 2

During a planning session, it is determined that both nodes in a mutual takeover cluster will provide NFS mounts to a variety of Unix hosts. What is the first consideration that must be taken into account when using NFS with HACMP?

- A. AIX Connections will need to be installed to provide the NFS shares.
- B. Mutual takeover cluster cannot provide NFS services from both nodes.
- C. The major number for the volume groups needs to be the same on both nodes.
- D. The no option tic 1323 must be set to 1 and the number of biods need to be adjusted to provide reasonable response times.

**Answer:** C

### QUESTION 3

A database administrator wants a unique IP address for each of three instances of a database. Normally, all instances run on a large production node, but they may failover to different standby nodes according to the dynamic node priority configuration. What is the best way to obtain unique addresses for each of the three database instances?

- A. There is no way since this cannot be configured with HACMP.

- B. Use IP Replacement address takeover and define all service addresses on the same NIC.
- C. Use IP Aliasing for address takeover and define each alias in a separate resource group.
- D. Use EtherChannel to map the three alias IP addresses to the common service address defined to HACMP.

**Answer: C**

#### QUESTION 4

Certkiller .com has several network adapters configured as backup paths using the Virtual IP addressing and dynamic routing of AIX. A second node needs to be added to the environment to create a cluster. What considerations must be addressed during the planning session?

- A. HACMP supports most types of networks, including Virtual IP Addressing by AIX.
- B. If HACMP IP aliasing is used, the devices may be the Virtual IP type used by AIX.
- C. Using the AIX Virtual IP Addressing scheme HACMP can provide near fault tolerant availability of the network.
- D. The AIX Virtual Addressing mechanism is not supported by HACMP, but a similar configuration can be created in HACMP.

**Answer: D**

#### QUESTION 5

Certkiller .com has a new computer room that will be used to house a new HACMP cluster. One of the outstanding features of the new computer room was the new large air conditioner. This unit has enough excess capacity for more than double the planned amount of equipment. Another feature of this computer room was the dual electric supplies to the room housed in two separate power panels. How would this impact the overall availability of the environment?

- A. Dual power feeds will make the installation difficult to manage and less high available.
- B. The single air conditioner is a single point of failure and the customer should be made aware of the issue.

- C. The single air conditioner is a single point of failure and HACMP should be customized to compensate for the issue.
- D. A single power feed should be used to avoid ground loops in the computer room causing premature failure of the systems.

**Answer: B**

### QUESTION 6

Certkiller .com has an application that requires a serial connection for Electronic Data Interchange. What must be done to integrate the serial connection into an HACMP cluster?

- A. Use an RS3232/422 serial Y cable.
- B. Alter the device settings to 9600 8/n/1 xon/xoff.
- C. Use a network based terminal server for the serial connection.
- D. Nothing because HACMP does not support native serial connection failovers.

**Answer: C**

### QUESTION 7

During a planning session, Certkiller .com expresses concern about the behavior of the nodes when HACMP is installed. One department is reliant on an older piece of equipment that is critical to operations and must communicate to the database server. Previous network changes indicated that this piece of equipment does not support gratuitous ARP. How can HACMP best incorporate this restriction into the cluster design?

- A. The administrator must use Hardware Address Take over with HACMP.
- B. The clsmuxpd process and the contents of the /etc/cluster/ping\_client\_list can address the issue.
- C. HACMP does not have any facility to be compatible with older devices that have limited capabilities.
- D. HACMP can use either hardware address take over, or clinfo can update the arp cache of the clients when an adapter event occurs.

**Answer: D**

### QUESTION 8

An enterprise has three nodes: -Node 'A' is a production database, -Node 'B' is a production application server, and -Node 'C' is a test and development node. Node 'C' is used by six programmers to develop and the production application as business critical and would like to make it highly available with HACMP. Application development and testing is not business critical. Which of the following describes the best solution?

- A. There is not an adequate solution because HACMP should not be configured in this environment without a dedicated standby node.
- B. Nodes 'A' and 'B' should be configured in a cluster with mutual fallover of two cascading resource groups to provide both nodes will deliver acceptable response time with both resource groups.
- C. Nodes 'A' and 'C' should be configured in one cluster, and Nodes 'B' and 'C' in another cluster to prevent both the database and application server from falling over to Node 'C' at the same time.
- D. Nodes 'A', 'B', and 'C' should be configured in a cluster with Node 'C' the hot standby for both the database and application server resource groups. Workload Manager (WLM) must be configured on database and application developers from over utilizing the CPU resources.

**Answer: B**

### QUESTION 9

Certkiller .com wishes to use IPAT via IP replacement in a two-node mutual cluster. Each node has two Ethernet 10/100/1000 adapters. Throughout the planning session, the customer has asked questions about subnet and VLAN requirements for the intended network topology. Which of the following best describes the network requirements?

- A. The service IP addresses must be on a separate subnet and VLAN.
- B. The non-service and service IP addresses must be on the same subnet and on the same VLAN.
- C. All interfaces on a node must be in different subnets. All subnets must be on the same VLAN.
- D. One non-service and one service IP address must be on the same logical subnet. All interfaces must be on the same VLAN.

**Answer: D**

### QUESTION 10

Continuous availability is required for an application in a two-node cluster. There is one rotating resource group in the cluster, and the nodes are identical machines. Client telnet connections to the application cannot be broken because it takes 20 to 30 minutes to recycle the client workstations and transactions will be lost. What configuration best provides continuous connectivity to the application?

- A. IPAT using IP Replacement without MAC address takeover.
- B. IPAT using IP Aliasing and hardware MAC address takeover.
- C. None because continuous telnet connectivity cannot be provided with HACMP.
- D. Shared service IP address assigned to multiple network interface cards on each node.

**Answer: C**

### QUESTION 11

Certkiller .com with an EtherChannel implementation is considering an HACMP solution. What considerations must be addressed in planning this configuration?

- A. Hardware address takeover must be configured.
- B. IPAT via IP aliasing is required for EtherChannel.
- C. EtherChannel must be defined as a separate network.
- D. HACMP does not support the failover of EtherChannel.

**Answer: D**

### QUESTION 12

Certkiller .com is migrating from a third party managed disk subsystem to an IBM TotalStorage Enterprise Storage Server. Connection of the new storage server is complete, and it has been tested on all of the nodes in the three node HACMP cluster. How does the customer migrate to the new storage server with minimum down time?

- A. Shut down one node at a time and let the other node serve the application.
- B. Stop HACMP with the forced option and perform migration of the disks on one node, then restart HACMP.
- C. Stop both nodes and perform the migration all at once using standard AIX commands in parallel, then restart the cluster.
- D. Use C-SPOC to add the new disks to the cluster and migrate the information off the existing disks, then remove the old disks with C-SPOC.

**Answer: D**

### QUESTION 13

An existing cluster has an application node and database node. Changes in the application require both nodes to have access to the other's data all of the time. Which facility managed by HACMP can be implemented with the least amount of impact?

- A. NFS
- B. AFS
- C. DFS
- D. GPFS

**Answer: A**

### QUESTION 14

Certkiller .com has installed HACMP and is configuring a three-node cluster. One of the applications uses the AIX hostname as a key for authorization to execute on the specific computer. The application vendor was contacted and consented to having multiple copies of the application but required that only one application be active at any one point in time. How can the AIX host name dependency be managed in an HACMP environment.

- A. It cannot be managed because the application will not work properly with HACMP.
- B. The application start and stop script for the application can manage the hostname.
- C. HACMP will require customization to correctly manage a change in the hostname since it is tied to the primary network adapter.
- D. HACMP will have to be restarted if the hostname is changed. This can be done with customization in the node\_up and node\_down event scripts.

**Answer: B**

### QUESTION 15

Which of the following statements is true about IPAT via IP replacement?

- A. Configuration of Hardware Address Takeover is supported.
- B. Fewer physical network interface cards are required in the cluster.
- C. It is the default for keeping a service IP labels highly available.

D. None-service ip labels must use different subnets than service IP labels.

**Answer: A**

#### QUESTION 16

Certkiller .com has an application that has a hard-coded hostname in the startup routines. The application is being made highly available using HACMP. During testing, the application does not start on the standby node because the hostname was not what the application expected. What can be done to fix this problem?

- A. Manage the hostname in the application server start and stop scripts.
- B. Nothing, because this application cannot be controlled by HACMP and should be started with /etc/inittab.
- C. Change the hard-coded hostname in the application startup routines to use the uname rather than the hostname.
- D. Override the default ha\_hostname in the cluster configuration to reflect the shared hostname rather than the default ha\_hostname.

**Answer: A**

#### QUESTION 17

While an electrician was adding additional circuits for the Data Center, the system running the database inadvertently powered down. The failover of the service IP labels and volume groups to the hot standby node completed as expected; however, the database did not start. The database log file indicated that the database was already started. What is the most likely cause of this problem?

- A. The shared logical volumes and filesystems did not have database permissions.
- B. There was a test instance running on the standby system that must be shutdown.
- C. The tablespaces had an indicator indicating that the database had not shutdown properly.
- D. The startup script for the highly available instance did not first perform cleanup operations.

**Answer: D**

#### QUESTION 18

On an existing two-node cluster, the system is configured with RAID5 SSA as the shared disk. When adding a new node to the cluster, what must be taken into consideration?

- A. Nothing, SSA can support a maximum of 8 initiators per loop.
- B. The RAID5 implementation on SSA will only support two initiators per loop.
- C. SSA can only support four initiators per loop when using the fast write option.
- D. The RAID implementation can be used with three initiators only if the fast write cache option is used on all adapters.

**Answer: B**

### QUESTION 19

An administrator mistakenly shutdown production after a failover because the service IP address was shifted from the normal production node to the standby node. What can be done to avoid this type of mistake in the future?

- A. Include the service IP address in the administrator's PS1 prompt.
- B. Alias the service IP address to the hostname in the /etc/host file.
- C. Define a persistent IP address with HACMP and make it a practice to use the persistent address for administration work.
- D. Add a DNS entry to map the standby node name to the service IP address so telnet connections will be to the correct node.

**Answer: C**

### QUESTION 20

Due to a recent change in government regulations, Certkiller .com needs to create two independent but synchronized copies of their data. These copies must be contained in separate storage device a minimum of 100 km apart. The customer has capacity in two systems that meet the criteria, one with SSA disk and the other is FASTT. What facility can be used to manage this issue?

- A. Two independent copies of the data can be created and synchronized using the "HACMP/XD:HAGeo".
- B. The existing disks can be incorporated a single storage unit using the optional product "HACMP/XD:PPRC".
- C. AIX can create a mirrored logical volume across the two systems that would be accessible from either system.
- D. AIX can use the multi path IO subsystem to spread the information across the devices and keep the copies separated.

**Answer: A**

#### QUESTION 21

Certkiller .com moved their application start routines from the inittab and place them under HACMP control. During testing, the applications did not always start as desired. What is the best practice for the application start routines.

- A. Assume the system was stopped by a failure.
- B. Ensure the hostname parameters is set correctly.
- C. Assume the system was stopped by a graceful shutdown.
- D. Mount all volumes and file systems before running the application.

**Answer: A**

#### QUESTION 22

Certkiller .com has decided to implement VPN for all network traffic. How might this might affect HACMP?

- A. Only the heartbeat IP network can exist in a VPN style network.
- B. HACMP must have separate VPN's for all 'non-service' and 'service' adapter networks.
- C. If a VPN is used for IP traffic the heartbeating must be done over disk connections.
- D. HACMP can exist in a VPN network environment, but special considerations must be addressed.

**Answer: D**

#### QUESTION 23

Certkiller .com environment consists of 10 volume groups and 4 physical networks. The customer desires the fastest possible fallover for a two-node cluster. Which of the following configuration alternatives will provide the fastest fallover?

- A. IPAT via IP Aliasing, default shared volume groups
- B. IPAT via IP Replacement default shared volume groups
- C. IPAT via IP Aliasing, enhanced concurrent volume groups
- D. IPAT via IP Replacement, enhanced concurrent volume groups

**Answer: C**

#### QUESTION 24

During a planning session, it is determined that a three node cluster (Node 'A', Node 'B', and Node 'C') will meet the customer's application needs. Node 'B' will be a hot-standby fallover node for both Node 'A' and Node 'C' resource groups. A serial network for this cluster will require which connections?

- A. A single serial network between Node 'A' and Node 'B' and Node 'C'
- B. A point-to-point link between Node 'A' and Node 'C', and Node 'B' and Node 'C'
- C. A serial network between Node 'A' and Node 'C', and a serial network between Node 'B' and Node 'C'
- D. A point-to-point link between Node 'A' and Node 'B' Node 'B' and Node 'C' and Node 'A' and Node 'C'

**Answer: D**

#### QUESTION 25

Certkiller .com has decided to implement the "Fast Disk Takeover" and "Disk Heart Beat" features of HACMP. What IBM distribution media will be required for a default installation?

- A. AIX media only
- B. HACMP media only
- C. AIX and HACMP media
- D. HACMP and Concurrent Resource Manager media

**Answer: C**

#### QUESTION 26

During routine examination of the log files, a message similar to "TS\_DMS\_WRNING\_ST" was discovered. To avoid future problems, change the Network Module failure detection rate to:

- A. a faster value on the fastest heartbeat network.
- B. a slower value on the slowest heartbeat network.

- C. a faster value on the slowest heartbeat network.
- D. a slower value on the fastest heartbeat network.

**Answer: B**

#### QUESTION 27

When defining resources for a concurrent resource group, which of the following is NOT supported?

- A. Application Servers using disk
- B. Definition of Multiple IP aliases
- C. Volume Groups using raw logical volumes
- D. Volume Groups supporting concurrent access

**Answer: B**

#### QUESTION 28

A cluster administrator is trying to configure tmssa for the non-IP network. Having installed the devices.ssa.tm.rte fileset, what is the next step that must be performed to create the target mode devices?

- A. Reboot each cluster node.
- B. Change the ssa node number to a non-zero value.
- C. Change the SSAR device state from defined to available.
- D. Run the cfgmgr process on each node to create the target mode devices.

**Answer: B**

#### QUESTION 29

A two-node cluster has both a single TCP/IP heartbeat and a single non-IP serial heartbeat. The Service Level Agreement regarding the speed of cluster failover has been updated, and

Fast Disk Takeover will be implemented to meet the new Service Level Agreement. Which of the following should be implemented to increase the reliability of Fast Disk Takeover?

- A. Disk should be mirrored across separate storage enclosures.
- B. Disk heartbeats should be added over multiple disk adapters.
- C. Disk major and minor numbers should be set as unique across nodes.
- D. Disk adapter queue\_depth should be increased from the default values.

**Answer: B**

### QUESTION 30

Certkiller .com has a four-node cluster (nodes 'A', 'B', 'C', and 'D'). The nodes are set up in resource group pairs. Node 'A' falls over to Node 'B', and Node 'C' falls over to Node 'C'. During a maintenance windows, it was discovered that the six resource groups on Node 'A' are too much to be adequately handled by Node 'B'. What could be done to better utilize the available resources during fallover?

- A. Implement Work Load manager so that the application monitors for additional resource requirements.
- B. Add a fifth node to function as a load leveler in order to control the dispatching of the resource jobs.
- C. Implement Dynamic Node Priorities in the resource groups in order to find a node with suitable system resources.
- D. Reduce the number of resource groups on Node 'A' to 1 in order to ensure faster and more robust fallover to a single system.

**Answer: C**

### QUESTION 31

Certkiller .com is considering converting from IPAT via replacement to IPAT via IP aliasing. What condition of IPAT via IP aliasing must be taken into consideration?

- A. The clients must support gratuitous ARP.
- B. The network type must support gratuitous ARP.
- C. Additional TCP/IP interfaces must be allocated for backup in case of failure.
- D. Using IPAT via IP aliasing will reduce the number of rotating resource groups that can be used.

**Answer: B**

### QUESTION 32

Defining an HACMP cluster using the Initialization and Standard Configuration menu is limited to the use of:

- A. IPAT via IP aliasing
- B. Custom Resource Groups
- C. Heartbeating over IP Aliases
- D. Concurrent Capable Volume Groups

**Answer: A**

### QUESTION 33

While adding the forced varyon volume group option, it is decided to create a disk heartbeat network over the disk paths. Which HACMP function is used to create disk heartbeat devices?

- A. The Disk heartbeat facility is initialized when creating enhanced concurrent mode volume groups through HACMP.
- B. HACMP does not create the disk heartbeat area directly; RSCT facility creates the area used for the disk heartbeat when the device is started by Group Services.
- C. The 'Chdev -v-C <vg-name>' command creates an enhanced Volume Group from an ordinarily Volume Group. This creates the heartbeat region on the vfirst disk in the chain.
- D. The disk heartbeat area on the disk is created and initialized when the device is created in HACMP "Extended Configuration -> Extended Topology -> Disk heartbeat facility" smit path.

**Answer: A**

#### QUESTION 34

A two-node cluster is attached via SAN to shared disk. The customer has requested that one of the nodes be moved to another room 300 feet away. However, this distance exceeds the length specified by the RS232 specifications. What solution would resolve the RS232 specification issue with the fewest additional components?

- A. Target mode fiber channel can be used with a SAN solution.
- B. The heartbeat could be established by using a disk heartbeat.
- C. An RS232 line driver can be used to extend the existing serial connection.
- D. The NIM for the serial connection can be altered to compensate for the additional delay caused by the increased distance.

**Answer: B**

#### QUESTION 35

Certkiller .com complains that an outage is required when adding a new filesystem to cluster. The system management function of HACMP (C-SPOC) functions in which manner when adding filesystems to a cluster?

- A. Adds to all nodes with the cluster running.
- B. Adds to all nodes with the cluster stopped.
- C. Adds with the cluster running, uses "Lazy Update" to perform the logical volume synchronization.
- D. Adds to all nodes with the cluster running but requires the volume groups to be exported and imported after.

**Answer: A**

#### QUESTION 36

Node 'A' and 'B' have two network adapters connected to different networks. Adapter 1 is assigned the address 192.168.0.10 with a subnet mask of 255.255.255.0. Adapter 2 is assigned the address 24.76.1.200 with a subnet mask of 255.255.240.0. What is the minimum number of additional adapters per node required to eliminate a network adapter as a single point of failure?

- A. One adapter per node
- B. Two adapters per node
- C. Four adapters per node
- D. No additional adapters per node

**Answer: B**

### QUESTION 37

Using the C-SPOC utilities, an administrator has created a new volume group and filesystems. The administrator performs an `lsvg -l` command on the volume group and notices that the log logical volume created in C-SPOC is closed/synced and `loglv01` has been created and is in use. What step was required in order for the logfile created by C-SPOC to be used.

- A. Perform the C-SPOC `logform` utility option prior to creating any filesystems.
- B. Manually perform a `logform` outside of C-SPOC prior to creating any filesystems.
- C. Run a `logredo` command and select log logical volume created in C-SPOC as the preferred `jfslog`.
- D. Use C-SPOC to delete and recreate the log logical volume, set the `perform logform` option to true.

**Answer: B**

### QUESTION 38

A cluster administrator is concerned about using the forced varyon resource group function. Although the function provides increased data availability if it is enabled for a cluster resource group, management is concerned about data integrity. If a `varyonvg` command fails, an HACMP forced varyon will only occur if which of the following is true?

- A. A loss of quorum has occurred on one of the disks in the failed volume group.

- B. Selective fallover caused by an application moves a resource group to a takeover node.
- C. A check is made to ensure at least one complete copy of all data is available in the volume group.
- D. The MISSING\_PV=TRUE environment variable has been set causing the volume group to be forced online.

**Answer: C**

### QUESTION 39

In order to successfully install HACMP, which non-default AIX top is a requirement?

- A. bos.mp64
- B. bos.data
- C. bos.net.tcp.server
- D. rsct.compact.clients.sp

**Answer: B**

### QUESTION 40

Following a successful migration, it is highly recommended that concurrent Volume Groups be converted to enhanced concurrent capable Volume Groups. In order to follow this recommendation, what step must be completed first?

- A. The Volume Groups must be changed with chvg -E vname.
- B. The Volume Groups must be a member of a resource group and must be varied on all nodes of the cluster.
- C. The Volume Groups must be a member of a resource group and must be varied off all nodes of the cluster.
- D. The Volume Grups cannot be changed to enhanced concurrent capable because they must be recreated with mkvg -C vname.

**Answer: C**

#### QUESTION 41

A node in a three-node cluster was started, and it acquired the following three cascading resource groups: 'rg1', 'rg12', and 'rg3'. The cluster design is to have 'rg1' normally on Node 'A', 'rg2' normally on Node 'B', and 'rg3' normally on Node 'C'. How can the administrator reposition the resource groups and correct the problem?

- A. Change the cluster resource group definitions from cascading to rotating, synchronize the cluster, and restart HACMP.
- B. Edit the /etc/hosts file to reflect the desired node-to-resource group relationships and restart HACMP.
- C. Use the clRGMove utility move rg2 to Node 'B' and rg3 to Node 'C', then start the cluster manager on Nodes 'B' and 'C' with the clstart utility.
- D. Disable Inactive Node Takeover, check the node priority list in the resource groups definitions, synchronize the cluster, and start HACMP on Nodes 'B' and 'C'.

**Answer:** D

#### QUESTION 42

The first step documented in Certkiller.com's HACMP test plan is to start the cluster manager on the normal service node and verify that HACMP daemons have started with the 'lssrc -g cluster" command. What daemons MUST show as active in the 'lssrc -g cluster" command to have an operational cluster?

- A. clstrmgrES, clsmuxpdES
- B. topsvcsd, grpsvcsd, exaiox
- C. topsvcsd, grpsvcsd, clinfoES, grglsmd
- D. clstrmgrES, clsmuxpdES, topsvcsd, grpsvcsd

**Answer:** A

#### QUESTION 43

In order to eliminate single points of failure before installing HACMP, the rootvg should be mirrored. What command needs to be performed in order to verify the rootvg is mirrored and syncd?

- A. lslv -M hd5
- B. lspv rootvg
- C. lsvg -l rootvg
- D. bootlist -m normal hdisk#

**Answer: C**

#### QUESTION 44

An administrator has had a request from the data center for method to monitor the status of an HACMP cluster. The monitoring software environment currently used is not compatible with SNMP at this time, and there is not time to create a new tool. There is also a restriction that the data center personnel not be allowed to login to the HACMP cluster nodes. What method will provide the solution for customer?

- A. The clstat.cgi program will provide a solution.
- B. The customer must install Tivoli with the HACMP plugin for monitoring the cluster.
- C. The clinfo program included in the HACMP distribution will solve the monitoring issues.
- D. Customize the cluster to send error notifications for every event to an email at the network control center.

**Answer: A**

#### QUESTION 45

Certkiller .com has created a process application monitor for an application that is initiated by a "c" shell script. The application monitor is not functioning as designed. What could be the issue with eh application monitor?

- A. A process monitor cannot monitor an application started by a shell.
- B. For process monitors to function correctly, they must use the "korn" shell.
- C. A custom monitor cannot determine the status of applications started by shell scripts.

- D. The process monitor script is not existing with a zero return code after checking the status of the application.

**Answer: A**

#### QUESTION 46

During the process of fallover testing, a client/server database needs to be tested. On the AIX Server, start/stop/cleanup scripts and server application functionality have been tested. Before moving onto the next step of fallover testing, what action must be completed?

- A. Run who -a and validate that client connections are restored.
- B. Verify that the client side application is functioning properly.
- C. Check hacmp.out log file to validate that the application server started.
- D. Verify that the application will successfully stop and restart on the fallover node.

**Answer: B**

#### QUESTION 47

During a cluster functionality test, an administrator performs a graceful stop for Node 'B' in a three-node cluster. What is the expected state of the cluster after Node 'B' successfully completes?

- A. All cluster resources halt on Node 'B', and one or both surviving nodes will gracefully acquire the resources.
- B. All cluster processes halt on Node 'B', the cluster resources remain active, and the remaining nodes take no action.
- C. All cluster processes stay active on Node 'B', cluster resources are halted, and the remaining nodes take no action.

- D. All cluster resources will stop, cluster processes halt on Node 'B', and the remaining cluster nodes take no action.

**Answer: D**

#### QUESTION 48

Certkiller .com with a newly installed cluster has been checking the logfiles to determine if the cluster has had any recent activity. The non-IP RS232 heartbeat connection seems to be having a difficulty. The serial network goes down, and then a couple of minutes later comes back up again. This pattern is repeated many times in the log. If this system was installed without regard to best practices, what is the most likely problem with the serial network?

- A. The serial port is malfunctioning and needs to be repaired.
- B. The baud rate is incorrectly specified in the AIX devices configuration.
- C. The serial port is not a port approved to support HACMP heartbeat traffic.
- D. The baud rate is incorrectly specified in the HACMP interface configuration.

**Answer: C**

#### QUESTION 49

A new administrator is performing fallover testing on a two-node cluster and is concerned that the cascading resource group belonging to Node 'A' did not reintegrate properly after the cluster was restarted on Node 'A'. A stable cluster is reported by clstat, and clRGinfo reports the resource group online on Node 'B'. What type of configuration would cause this type of behavior?

- A. The resource group DNP has been configured.
- B. The resource group option CWOFF has been enabled.
- C. The resource group option Inactive Takeover is set.

D. A resource group fallback timer has been configured.

**Answer: B**

#### QUESTION 50

A two-node cluster provides NFS exports to a variety of UNIX clients. During fallover testing, it is determined that some clients are unable to mount the exported filesystems after fallover, and before node reintegration. It is verified that the filesystems belong to a resource group and are correct in `/usr/es/sbin/cluster/etc/exports`. Which of the following may provide a possible solution to this problem?

- A. Use HWAT for IPAT to provide more reliable NFS serving.
- B. Use AIX Fast Connect to provide more robust NFS serving.
- C. Use NFS Cross Mounting to allow both nodes to export NFS properly.
- D. Use the "Filesystem Mounted before IP Configured" flag to provide more predictable NFS serving.

**Answer: D**

#### QUESTION 51

During normal cluster processing in a five-node cluster, one of the nodes unexpectedly crashes. A review of the system dump indicates that a DMS timeout has occurred. The cluster is configured to use disk heartbeats as a Point-to-Point network. What should be done to address the problem with this configuration?

- A. More disk should be added to the disk heartbeat network, allowing more paths for heartbeats.
- B. An RS232 network is required to supply a more robust non-IP network when disk heartbeating is implemented.
- C. The network tunable parameters should be changed to allow more missed heartbeats since the disks may be heavily used.
- D. An error notification method is required to determine the action to take in response to a failure of the disk heartbeat.

**Answer: C**

#### QUESTION 52

A cluster administrator is performing fallover testing during a scheduled system outage. Node 'A' was forced down and eventually rebooted. When Node 'A' reintegrates into the cluster, the resource group state is offline. No errors are found in reviewing the hacmp.out file. What could have been done to ensure the resource group was acquired when cluster processing was restarted on Node 'A'?

- A. Nothing, HACMP does not require them automatically.
- B. Force the remaining nodes down, then reintegrate them all.
- C. Select reacquire resources after forced down on start menu.
- D. Create a setting timer to bring the resource group online.

**Answer: C**

#### QUESTION 53

A cluster using IPAT via IP aliasing has four adapters. Normally there are several resource groups that have a total of four service IP labels. When two of the adapters fail, what happens?

- A. The resource group containing the IP labels changes to an "offline" state.
- B. The IP service labels of the failed adapters relocate the surviving adapters.
- C. Nothing because the resource groups wait for the adapters to become active again.
- D. The resource groups containing the IP labels of the failed adapters migrate to a backup node.

**Answer: B**

#### QUESTION 54

A cluster administrator has defined a custom error notification method that will email and administrator when a temp error is detected on an individual hdisk. What method should be used to test this functionality?

- A. sendmail -bi
- B. yes >/dev/kmem
- C. emulate errlog entry
- D. reducevg vgname hdisk#

**Answer: C**

#### QUESTION 55

A cluster indicates that a remote site has failed. What facilities exist in HACMP/XD:HAGeo to ensure that the failure is not just a TCP/IP communication failure?

- A. Electronic Service Agent software provides a redundant heartbeat between sites.
- B. A non-IP network and Dial Back Fail Safe provide redundant heartbeats between sites.
- C. The GeoMirror Devices provide a link validation facility that guarantees the validity between sites.
- D. The Site Notification Daemon maintains a heartbeat between sites via short haul modems/line drivers and dark fibre.

**Answer: B**

#### QUESTION 56

Following a successful cluster failover, clstat returns no status, the snmpinfo command hangs. All cluster resources appear to be active. What should be done to resolve this problem?

- A. Restart all cluster nodes.
- B. Verify that cluster.es.client.rte is installed on all nodes.

- C. Use `chssys -a -d -p -s clcomdES` to enable cluster communication.
- D. Use the `/usr/sbin/snmpv3_ssw-1` command to revert SNMP from version 3 to version 1.

**Answer: D**

#### QUESTION 57

The IP subsystem failover behavior of a two-node cluster is being testing in a large client organization. One of the tests is to simulate a network\_down event and verify that HACMP moves the single resource group to the standby node. What is the best way to simulate a network down condition?

- A. Turn off the IP core switch connecting the two nodes.
- B. Issue the command `"stopsrc -g inetd"` on the node that has the resource group.
- C. Issue the command `"sh /etc/rc.tcpclean"` on the node that has the resource group.
- D. Simultaneously unplug all network cables from the node that has the resource group.

**Answer: D**

#### QUESTION 58

While reviewing the `hacmp.out` after a node failure, an administrator realizes that the custom event `queue_down` did not execute. The `queue_down` event shows up when a list of custom events is displayed. What would be the next logical step to resolve this problem?

- A. Delete the custom event and add a pre event and synchronize.
- B. Synchronize the cluster and recheck the cluster custom events.
- C. Create an application server that will stop and start the queues.
- D. Add a pre or post event to appropriate cluster events and synchronize.

**Answer: D**

#### QUESTION 59

Automatic error notification can be configured to manage which type of disk error?

- A. Hard errors
- B. Media errors
- C. Temporary errors
- D. All disk error types

**Answer:** A

#### QUESTION 60

During cluster failover testing, the administrator determines that additional work is required to stop existing test applications on the standby node, prior to starting the production applications on the surviving node. To manage this type of requirement, which step should be performed first?

- A. Create a custom pre/post event.
- B. Add a custom user defined event.
- C. Define custom error notification.
- D. Modify the test application server.

**Answer:** B

#### QUESTION 61

During implementation of a two-node cluster, it is determined that error notification for the shared disk subsystem would be beneficial. Which of the following is a pre-requisite for implementing automatic error notification?

- A. The cluster must not be running.
- B. The cluster.es.server.utils lpp must be installed.
- C. The error notification module must be enabled in RSCT.
- D. The permissions on /tmp/hacmp.out need to be changed to 774.

**Answer: A**

#### QUESTION 62

Suspending an application monitor with the cluster running will have what effect on the application?

- A. After a cluster is restarted pending reactivation via C-SPOC, the application monitoring suspension persists.
- B. If a node is stopped gracefully without takeover and then restarted, monitoring will resume automatically.
- C. If a cluster event occurs that effects the application, the monitor method is restarted to handle the event.
- D. If an application monitor is suspended while the application is active, the monitor method reverts to default settings.

**Answer: B**

#### QUESTION 63

One service IP label and one volume group are assigned to a resource group in a cluster. An additional service IP label and volume group need to be added to the resource group. How can this be done with the minimum disruption of the cluster?

- A. Make the changes in HACMP and synchronize the cluster.
- B. It cannot, because changes like this cannot be made while the cluster is running.
- C. Make the changes in HACMP and wait until the next failure for the changes to take affect.
- D. Use the forced option to stop the cluster, make the changes, and restart cluster services.

**Answer: A**

#### QUESTION 64

The user base of a three-node cluster has increased. In order to add clustered users to all nodes, which of the following steps should be performed?

- A. On one of the nodes, add the users via C-SPOC 'Add a User to the Cluster' smit menu.
- B. Use C-SPOC to synchronize the password files between cluster nodes.
- C. On all of the nodes, add the users to the /etc/passwd and system security files, and then synchronize the cluster.
- D. On one of the nodes, add the users to the /etc/passwd and system security files, add home directories, and use cron to automate the movement of system security files between nodes.

**Answer: A**

#### QUESTION 65

When the clverify utility is run, verification checks use ODM data provided by the common communication infrastructure. This provides efficient access to configuration ODMs from the other nodes. The utility manages these files by storing the copies in various directories depending on the success or failure of the verification pass. By default, this directory is "/var/hacmp/clverify/current/nodename/" if the 'current' directory still exists when clverify stops running, this indicates which of the following?

- A. A successful completion of clverify
- B. A problem with the clverify utility
- C. All nodes agree on active configuration
- D. Configuration differences between current and last successful clverify

**Answer: B**

#### QUESTION 66

During a cluster synchronization, an administrator inadvertently performs a ctrl 'C' causing the synchronization to fail. After restarting the resynchronization, the administrator notices a message stating that a previous dare operation has been detected.

What is the best way to resolve this problem?

- A. Perform a 'Recover from HACMP Script Failure'.
- B. Perform a 'Release Lock Set By Dynamic Reconfiguration'.
- C. Perform a graceful stop and start of all cluster processing.
- D. Perform a 'Restore HACMP Configuration Database from Active Configuration'.

**Answer:** B

#### QUESTION 67

An administrator runs clstat on a cluster node and receives the following response: 'Can not get Cluster Information.' Which of the following daemons may need to be started in order to correct this problem?

- A. topsvcs
- B. clinfoES
- C. snmpinfo
- D. clsmuxpdES

**Answer:** B

#### QUESTION 68

An Enhanced Journaled File System that is in a shared non-concurrent Volume Group is growing at an unexpected rate. It is the administrator's task to enlarge the filesystem without interrupting service. What method should be used to achieve this goal?

- A. Use HACMP C-SPOC to increase the size of the JFS2 filesystem.
- B. Use the smitty jfs2 fastpath to increase the size of the JFS2 filesystem.
- C. Use HACMP C-SPOC to increase the size of the JFS2 filesystem and inline JFS2 logs.

- D. Use `mkivcopy hdisk# 2 jfs2lvname` to increase the size of the JFS2 filesystem, then use `splitlvcopy jfs2lvname 1 -y newjfs2lvname hdisk#` to present the increased JFS2 filesystem to HACMP.

**Answer: A**

#### QUESTION 69

Certkiller .com recently updated the programs used in an HACMP pre-event. The procedure involved copying the new code over the old code in the appropriate directory on one of the nodes as indicated by the HACMP event entry. The cluster was synchronized. During a fallover test, the backup system did not behave as expected. What is the most likely problem?

- A. The new pre-event program was node locked to a hostname  
B. The new pre-event program was not made executable on all nodes.  
C. The new pre-event program was not compatible with the backup machine.  
D. The new pre-event program was not propagated to all the nodes in the cluster.

**Answer: D**

#### QUESTION 70

If a `kill -9` is performed on the `clstrmgrES` process, the default action is to halt the system. To change the default action to do something other than halting the system, which of the following files must be modified?

- A. `/usr/es/sbin/cluster/etc/clexit.rc`  
B. `/usr/es/sbin/cluster/etc/hacmp.term`  
C. `/usr/es/sbin/cluster/etc/rc.cluster`  
D. `/usr/es/sbin/cluster/etc/rc.shutdown`

**Answer: B**

### QUESTION 71

An administrator attends a management meeting to further explain a problem that occurred several weeks ago. A quick review of existing log files reveals that all logs from that period are gone. Which logfile may be reviewed for specific event detail at this late date?

- A. clcornd.log
- B. clverify.log
- C. clstrhist.log
- D. cluster.mmddyyyy

**Answer: D**

### QUESTION 72

The snmpinfo command can be used to obtain information about the current state of a running cluster. Which of the following will provide an administrator with a complete list of information from the cluster MIB?

- A. snmpinfo -m get -o /usr/es/sbin/cluster/hacmp.defs -v cluster
- B. snmpinfo -m dump -o /usr/es/sbin/cluster/hacmp.defs -v cluster
- C. snmpinfo -m get -o /usr/es/sbin/cluster/hacmp.defs -v clusterState.0
- D. snmpinfo -m dump -o /usr/es/sbin/cluster/hacmp.defs -v clusterState.0

**Answer: B**

### QUESTION 73

Certkiller .com performs cluster verification every Sunday night with a cron job. The systems administrator reviews the /var/hacmp/clverify/clverify.log on Monday morning and notice that cluster verification posted a message about inconsistent filesystem names in one of the shared volume groups. What should the administrator do?

- A. Cause a failover to occur on the resource group.
- B. Export the volume groups and re-import them on all nodes.
- C. Run an importvg -L <vgname> command on all the nodes in the cluster.

- D. Investiage recent changes to the shared volume group and use C-SPOC to correct inconsistencies.

**Answer:** D

#### QUESTION 74

Certkiller .com has a cluster with nodes that support "hot swap" adapters. During an upgrade of the network infrastructure, an additional network adapter has been added to the nodes and configured in AIX. What is the next step required to add this adapter to HACMP?

- A. Stop the node.  
B. Stop the cluster.  
C. Run autodiscovery.  
D. Configure the IP adapter.

**Answer:** C

#### QUESTION 75

A cluster node has been started and has not acquired the resources in the resource groups. Which log file will show the details of any event script processing that has occurred?

- A. /tmp/hacmp.out  
B. /tmp/clstrmgr.debug  
C. /usr/es/adm/cluster.log  
D. /var/adm/hacmp/hacmp.out

**Answer:** A

#### QUESTION 76

An administrator has added an additional network adapter to each cluster node. The adapters have been configured and tested, and the /etc/hosts file has been updated. However, the adapters do not appear in the pick list when the administrator tries to define the adapters to HACMP. What would be required to correct this problem?

- A. Rerun autodiscovery.

- B. Synchronize the cluster.
- C. Restart cluster services.
- D. Delete and recreate the adapters.

**Answer: A**

#### QUESTION 77

During an HACMP migration, two nodes of a four-node cluster have been migrated. The existing hardware of the remaining two nodes do not meet the pre-requisites of the HACMP level that is being installed. Which of the following is the best method for resolving this issue?

- A. Upgrade the unsupported hardware and continue with the migration.
- B. Restore the two nodes that have been migrated with a cluster snapshot.
- C. Restore the two nodes that have not been migrated with a cluster snapshot.
- D. Synchronize the cluster to allow the nodes that didn't migrate to join the cluster.

**Answer: B**

#### QUESTION 78

Certkiller .com has a three-node cluster with six resource groups. There are two resource groups for each node. A new hardware component will be added to one of the nodes. The customer wants to move the resource groups to other nodes, but not necessarily in the normal fallover order. Also, the resource groups must be moved at night when there is no one in the computer center. What can be done so that the resource group is moved at the most convenient normal fallover order. Also, the resource groups must be moved at night when there is no one in the computer center. What can be done so that the resource group is moved at the most convenient time for the customer?

- A. Create a custom resource group with a custom fallback timer to cause the system shutdown at the appropriate time.
- B. Set the system to stop with "shutdown" command at the appropriate time and allow HACMP to relocate the resources.
- C. Use a script that calls the clRGmove command and place it in the cron or a queue to execute at the appropriate time.

- D. Change the existing resource groups to a custom type and add a timer to perform a "shutdown -h" command at the appropriate time.

**Answer: C**

#### QUESTION 79

An administrator is evaluating an application for application monitoring. What command should be used to determine if the application can be monitored with a process monitor?

- A. pa aux
- B. ps -el
- C. ps -ef
- D. ps -pl

**Answer: C**

#### QUESTION 80

A recommended PTF is released to resolve reliability issues with bos .net.tcp.server. A maintenance windows has been scheduled to install the PTF on all nodes. In order to complete the maintenance, what are the next logical steps to be completed after the install of the PTF on all nodes?

- A. Test Ethernet fallover and bring all of the resource groups online.
- B. Upgrade the firmware on all Ethernet adapters and bring all of the resource groups online.
- C. Verify all necessary applications and resource groups are functioning properly and test Ethernet fallover on all nodes.
- D. Verify all necessary applications and resource groups are functioning properly and bring all of the resource groups online.

**Answer: C**

### QUESTION 81

A cluster script failed because it was unable to set the hostname, and the Cluster Manager reported the event failure. What must be done prior to sue the "HACMP Problem Determination Tools" -> "Recover From Script Failure" to have the Cluster Manager resume cluster processing?

- A. Nothing, the "Recover From Script Failure" will correct the issue.
- B. Disable and re-enable the effected Ethernet adapter by using ifconfig.
- C. Correct the error by setting the hostname on the effected node from the command line.
- D. Verify that the clinfo daemon is running prior to executing the "recover from scriptfailure".

**Answer: C**

### QUESTION 82

Certkiller .com has a three-node cluster (Node 'A', Node 'B', and Node 'C') with three resource groups (rg1, rg2, and rg3). Node 'A' has twice as many CPUs and twice as much memory as the two test add development Nodes 'B' and 'C'. During normal production processing, all resource groups are active on Node 'A'. What is most efficient way to configure the cluster to manage the workload?

- A. Use thee cascading resource groups where 'rg1' and 'rg2' fallover to Node 'B' and 'rg3' falls over to Node 'C'.
- B. Use Dynamic Node Priority resource groups with a priority chain consisting of Node 'A' then Node 'B' then Node 'C'.
- C. Use three rotating resource groups with 'rg1' and 'rg2' falling over to node 'B' and 'rg3' falling over to Node 'C'.
- D. Upgrade Nodes 'B' and 'C' to be equal to Node 'A' in CPU and memory resources to enable the cluster to synchronize three resource groups.

**Answer: A**

### QUESTION 83

An enterprise has two nodes: -Node 'A' runs a large relational database and has six CPUs and 32GB of memory. -Node 'B' is an application server with three CPU's and 16GB of memory. During peak production periods, the CPU load for Node 'A' is normally between 30% and 40%. For Node 'B', the CPU load is 10% to 20% during peak production periods. Which of the following describes the best solution for an HACMP cluster?

- A. Two clusters with two resource groups in a mutual takeover configuration.
- B. One cluster with two cascading resource groups in a mutual takeover configuration.
- C. One cluster with two rotating resource groups in a one-sided hot standby configuration.
- D. Two clusters with two resource groups in a hot-standby configuration with a newly acquired third node.

**Answer: B**

### QUESTION 84

Certkiller .com is implementing an HACMP solution. The application has a license key based on the hostname. The hostname is also the name used for one of the TCP/IP interfaces. The application vendor has worked with HACMP systems before and is aware of the issue. The preferred method for resolving this issue is to:

- A. include the hostname in the resource group definition.
- B. include the license key in the resource group definition.
- C. obtain a second license key for a "standby" system from the application vendor.
- D. Set the hostname to be one of the TCP/IP interface included in a resource group.

**Answer: C**

### QUESTION 85

To enhance the availability of an application running under HACMP, a decision was made to use the application monitoring facility. The application consists of several components and

can take several minutes to initialize. The components use socket communication and can be initialized in any order as long as it is a serial order. The customer's concern is that if the application stop and start scripts are used during application monitoring recovery, it may take an extraordinary length of time to reset all of the application components. What can be done to ensure the best recover time?

- A. Use a process monitor that restarts the named processes in the original start order.
- B. Use the defined application start and stop scripts to control the application if there is a failure.
- C. Use multiple application monitors for this resource group to enable the monitoring of the specific components of the resource group.
- D. Use application cleanup and restart scripts designed to determine the state of the various components of the application and start only the parts required.

**Answer:** D

#### QUESTION 86

During initial cluster planning session, a requirement is mandated that application monitoring will be used to monitor the production database and three application servers. Since all the application servers rely on the database being active, only one resource group has been planned to manage the starting/stopping of the cluster resources. How ill the initial design impact the use of application monitoring?

- A. Only one application server per resource group can be monitored.
- B. Process monitoring is part of RSCT and requires no special scripts.
- C. Any application can be monitored as long as it has an application server.
- D. Having all application servers in one resource group improves recovery time.

**Answer:** A

### QUESTION 87

What must be done to make a shared tape drive highly available?

- A. Ensure the rmt numbers are unique per node.
- B. Nothing, because HACMP manages the state of the tape drive.
- C. Nothing, because highly available tape devices are not supported.
- D. Ensure that the tape device is in a defined state after system startup.

**Answer: D**

### QUESTION 88

An HACMP cluster is planned for two logical partitions on IBM p690 servers. Both partitions have three network interface adapters: two service adapters on a production network connected to an IP switch, and an administration adapter on a stand-alone hub that is connected to the p690 server's HMC. Non-IP heartbeat paths cannot be configured due to the available hardware in the p690 servers. Given the resources available, what is the best configuration for this cluster?

- A. Add hardware to provide either serial heartbeats or shared disk heartbeats.
- B. Define the administration network so HACMP will send heartbeats over the non-routed network.
- C. Add the administration network adapters to the production resource groups with IPAT via IP replacement selections.
- D. Configure the IP Network Interface Module in HACMP with an increased heartbeat detection rate to prevent node isolation confutations.

**Answer: B**

### QUESTION 89

During Certkiller .com planning session, Certkiller .com presents the details of the current network design. The network design serves four separate company facilities, each on as separate subnet. As part of a disaster recovery plan, the customer is evaluating the use of

HACMP. Specifically, they have reviewed IPAT via IP aliasing and are questioning the number of IP subnets required. Given the customer's current configuration, what is the recommended minimum number of IP subnets that would be required?

- A. 4
- B. 5
- C. 6
- D. 8

**Answer: C**

#### QUESTION 90

Certkiller .com has two sites that are 3072 kilometers apart and wants to implement HACMP between the two locations. The nodes at each location must be capable of running the application in the event of a failure. Currently the customer's disk technology is SCSI. How can HACMP be used in this environment?

- A. HACMP cannot span sites; the environment must be contained in a single site.
- B. HACMP/XD:HAGeo has unlimited distance mirroring that may be appropriate for this environment.
- C. HACMP cannot be split into two sites that exceed the limitations of the storage cable length.
- D. HACMP/XD:PPRC that is included with the base HACMP distribution will enable site-to-site communications in HACMP.

**Answer: B**

#### QUESTION 91

During the initial cluster design, a disk heartbeat, Point-to-Point non-IP network is being planned as part of a three-node cluster implementation. The disk environment will use LVM mirroring for disk redundancy. The volume groups will be created as Enhanced Concurrent Capable. To facilitate disk heartbeating, how many disks per node and how many networks will be required?

- A. One disk per node, one network.
- B. Two disks per node, one network
- C. Two disks per node, six networks

D. Two disks per node, three networks

**Answer: C**

#### QUESTION 92

During a planning session, the customer indicates that they intend to build two independent two-node clusters (cluster 'A' and 'B') that will be provided shared storage from an IBM TotalStorage FASTT900 server. The customer intends to present 2 LUNs to cluster 'A', and 2 LUNs to cluster 'B'. All hosts will be dual attached via fibre. What additional hardware or software is necessary to make this a valid configuration?

- A. SAN switches
- B. Fibre channel Hub(s)
- C. IBM Storage Manager Agents
- D. IBM Subsystem Device Driver

**Answer: A**

#### QUESTION 93

During Certkiller .com planning session, the discussion focuses on how the IP connections are managed after a cluster node failure. This is critical for the business since their production application is a Lotus Domino solution requiring multiple IP addresses and recovery time is critical. What type of IPAT implementation would best address these requirements?

- A. IPAT via IP aliasing
- B. IPAT via IP replacement
- C. IPAT via IP aliasing using HWAT
- D. IPAT via IP replacement using HWAT

**Answer: A**

#### QUESTION 94

During Certkiller .com planning session, the LVM requirements for HACMP are provided. The administrator explains that there are five volume groups in the current production environment because filesystems constantly change due to the nature of the business. Maintenance outages are limited to one Saturday per month. There is some concern about the amount of time that will be required for outages once HACMP is installed. With HACMP, what will be the

simplest methods of managing LVM changes while minimizing required downtime.

- A. Make changes and allows Lazy Update to sync the changes later.
- B. Use the Cluster Single Point Of Control to manage LVM changes.
- C. Use exportvg on the primary node and improtvg on the second node.
- D. Set up a local NFS cross-mount, and use the local filesystem until the outage.

**Answer: B**

#### QUESTION 95

Certkiller .com has I/O slot constraints on two nodes that are going to be configured in an HACMP cluster. There is room for only one Network Interface Card in each node, in addition to the built-in Ethernet port on the system planel. The best HACMP configuration for these servers is to implement:

- A. A single adapter network using the Network Interface Card in each node
- B. A single adapter network using persistent addresses on the Network Interface Card in each node
- C. A dual adapter network using the internal Ethernet adapters as an non-service interface with IPAT via IP Replacement
- D. EtherChannel high availability for the network connections with HACMP cascading resource groups for data and application fallover

**Answer: C**

#### QUESTION 96

The administration staff of a large computer complex is resisting the installation of HACMP. There are concerns about the difficulty of managing and administering an HACMP cluster without an "administration only" network. Adding adapters to create an administration network is not possible due to limitations on the number of open IO slots in the servers. What can be done to address this issue?

- A. Create HACMP persistent IP labels for administration purposes.
- B. Use HWAT to ensure the correct MAC address is available at all times.
- C. Nothing can be done because RPAT is a characteristic of HACMP that cannot be changed.
- D. Use IP aliasing within HACMP to allow the administrators constant access to the nodes.

**Answer: A**

#### QUESTION 97

Certkiller .com wishes to use HACMP on two IBM eServer pSeries servers. During the planning session, it was decided to use the native serial ports s1 or s2 for a non-IP heartbeat network. What should be done to ensure the serial network will function with HACMP heartbeats?

- A. Use either s1 or s2 port configured as a TTY interface with a NULL Modem cable.
- B. Use the s2 serial port on each system configured as a TTY interface with a NULL modem cable.
- C. Use the s1 port on each system configured as a TTY interface with a standard serial modem cable.
- D. Verify with IBM support which native serial ports for the server model can be used for HACMP heartbeats.

**Answer: D**

#### QUESTION 98

An HACMP cluster has three nodes of unequal size. The largest node is Node 'A'. The primary application on Node 'A' has two components. One component is memory intensive, the other is IO intensive. Nodes 'B' and 'C' are running web servers and databases that access information produced by applications on Node 'A'. The customer requires the most performance from the primary application and wants all nodes available for fallover processing. Which of the following is the best solution for meeting the customer requirements?

- A. Use nodes of equal size.
- B. Create multiple resource groups and use loadlever.
- C. Use dynamic node priority to manage resource groups.
- D. Use an ordered list to manage resource group fallover.

**Answer: C**

### QUESTION 99

While performing a site survey to document the existing environment before implementing a new HACMP cluster, it was discovered that a port filtering firewall was being used to protect the production system. The plan is to continue using the firewall and add a second firewall to avoid a single point of failure. Each node in the two-node cluster will have all of its network adapters connected to the firewalls, and all connections to the nodes will pass through these firewalls. What must be considered about HACMP in a firewall environment?

- A. Firewalls are not supported in a HACMP environment.
- B. HACMP uses only TCP/IP so firewalls are not relevant.
- C. Specific ports must be open for HACMP communications.
- D. Dynamic routing must be used to properly route packets in a firewall-protected environment.

**Answer: C**

### QUESTION 100

During a planning session, the customer indicates the need to provide high availability between a node attached to an IBM TotalStorage Enterprise Storage Server and a remote node attached to a IBM TotalStorage FASTT server with automatic fallover in the event of a disaster. Which of the following HACMP options will provide this functionality?

- A. GeoRM
- B. HACMP/XD:PPRC
- C. HACMP/XD:GPFS

D. HACMP/XD:HAGEO

**Answer: D**

#### QUESTION 101

During a planning meeting, Certkiller .com indicates that they intend to make a relational database highly available. The application has a pre-requisite that a kernel extension be loaded from /etc/inittab. How would this be managed in an HACMP environment?

- A. It can be started with a crontab entry.
- B. It can be created as an Application Server.
- C. It can be added to a resource group as a dependency.
- D. It cannot be done because HACMP provides no method to order application start/stop scripts.

**Answer: B**

#### QUESTION 102

While installing the equipment for a new two-node cluster, it is discovered that the disk subsystem rack has one connection to the power mains. The explanation given was that the disks are to be mirrored between the two disk drawers in the rack and that a failure in either of the disk drawers would simply result in half of the disk being lost. What can be done to avoid a single point of failure?

- A. Customize HACMP to overcome quorum issues.
- B. Add a second PDU to separate the power connections.
- C. Use RAID5 when implementing two IO racks in a HACMP environment.
- D. Add another shared disk to each volume group to avoid quorum issues during fallover.

**Answer: B**

### QUESTION 103

Certkiller .com is planning for an HACMP cluster and wants to know more about the network requirements. The plan is to use IPAT via IP aliasing and heartbeating via IP aliasing to preserve the corporate IP addresses. Currently the customer uses a separate VLAN for each individual subnet. Which statement best describes how HACMP co-exists with VLAN's in this configuration?

- A. All subnets in use by HACMP must be in the same VLAN.
- B. All subnets in sue by HACMP must be in a different VLAN.
- C. HACMP does not support multiple subnets when using heartbeating via IP aliasing.
- D. HACMP does not support the use of VLAN.

**Answer:** A

### QUESTION 104

A Volume Group appvg has been converted to enhanced concurrent volume mode using C-SPOC. How should the Volume Group be brought online?

- A. Using varyonvg appvg.
- B. Using varyonvg -f appvg.
- C. Under the control of resource group management.
- D. Automatically at boot time using chvg -ay appvg.

**Answer:** C

### QUESTION 105

An install of cluster .es software failed. Output from the failure indicates missing system requisites. Every subsequent attempt to install the software abended. In order for the cluster to install, the most likely way for the administrator to resolve this problem is to install the "bos.data" and which other fileset(s)?

- A. "rsct.\*"
- B. "xlc.\*" and "rsct.\*"
- C. "bos.adt.\*" and "rsct.\*"
- D. "csm.\*.rte" and "rsct.\*"

**Answer: C**

#### QUESTION 106

During the installation of a cluster, the non-IP network failed. The cause was a connector that was not properly secured. The customer wants a better notification method in the event that the non-IP network fails in the future. How could customization of the cluster be accomplished?

- A. Customize the node up event script to send an email to the operator.
- B. Have HACMP send mail when the non-IP network fails by customizing the RG\_MMOVE event script.
- C. Change the network module to be slower so that a temporary failure of the non-IP network would not report an error.
- D. Use snmp or clinfo to monitor the status of the non-IP network and dispatch some type of warning message.

**Answer: D**

#### QUESTION 107

After an HACMP migration, which included a large number of shared disks, cluster testing is performed. During testing, it becomes apparent that Fast Disk Takeover is not working properly. Which of the following is the most likely cause of the problem?

- A. The shared volume groups have not been converted to Big VGs.
- B. The "t factor" needs to be set on the volume group using chvg -t 2 vname.
- C. The shared volume groups have not been converted to enhanced concurrent mode.
- D. The shared volume groups need to be varied on using the passive varyon option on all nodes.

**Answer: C**

### QUESTION 108

Certkiller .com has a six-node concurrent resource group with an application that is accessed by a web connection to the cluster nodes. How is the workload moved to another cluster node during a node failure?

- A. The concurrent application must control the web interface through application monitoring.
- B. A second resource group will be required to move the web application and IP label to a new node during a node failure.
- C. The concurrent resource group can support multiple IP labels through IP aliasing so all IP labels are defined in the concurrent resource group.
- D. The dynamic node priority facility in HACMP will relocate the web application and the IP label, if it is correctly defined in the application start and stop script.

**Answer: B**

### QUESTION 109

During an HACMP installation, it is discovered that the customer is using the 802.3 frame type on the Ethernet adapters. How will this affect HACMP?

- A. HACMP will support all Ethernet frame types except EtherChannel.
- B. HACMP will not complete autodiscovery if an adapter of type of 802.3 is discovered.
- C. HACMP does not support 802.3 frame types and will ignore any adapters that are that type.
- D. HACMP does not support 802.3 frame type but will attempt to add them to HACMP networks during the discovery process.

**Answer: D**

### QUESTION 110

An administrator has just imported a shred Volume Group that had been created on another system in the cluster. In order for the shred volume to be used in the cluster, what is the most important step for the administrator to take first?

- A. Change the quorum required to false.
- B. Change the Volume Group auto vary on to yes, and then vary off the Volume Group.
- C. Change the auto vary on value of the Volume Group to no, and then vary off the volume group.
- D. Set the Volume Group major number to the same value that the Volume Group had on the system on which it was created.

**Answer: C**

### QUESTION 111

Certkiller .com has decided to implement the "Fast Disk Takeover" and "Disk Heart Beat" features of HACMP. What IBM distribution media will be required for a default installation?

- A. AIX media only
- B. HACMP media only
- C. AIX and HACMP media
- D. HACMP and Concurrent Resource Manager media

**Answer: C**

### QUESTION 112

Certkiller .com has a resource group that contains a database that is accessed by a web client based on another system. The communication to the database is TCP/IP. Occasionally after a failure, the end users get unusual error messages that indicate the database server is not available. It has been determined that the web server is trying to access the database server's information before it has completed file system recovery after a failure. How can HACMP affect this problem?

- A. HACMP can resequence the order to the starting of the various resource group elements by utilizing Dynamic Node Priority.

- B. The order of dependency can be controlled though the HACMP resource group configuration if the web server was made to be part of the HACMP cluster.
- C. HACMP can delay making the network label available until after the filesystem checks have completed with the "filesystem mounted before IP is configured".
- D. The IP service label can be in a second resource group allowing the sequential processing of resource groups to control when the IP service label is made available.

**Answer: C**

#### QUESTION 113

Certkiller .com has decided to implement virtual hosts in their web server. The current estimate is to create six virtual hosts with unique URL's and IP addresses. The solution is going to use the IP aliasing faction in HACMP. How many resource groups are required to support this configuration?

- A. 1
- B. 2
- C. 6
- D. 7

**Answer: A**

#### QUESTION 114

Due to recent changes in infrastructure, a four-node cluster has been split into two locations, but is still listed as a single site in HACMP. The location split has proceeded smoothly, the only exception being the serial heartbeats. There are constant errors causing the serial network to go up and down. What is the best solution to resolve this issue?

- A. Install the dialback failsafe optional filesets.
- B. Change the speed parameter in "smitty tty" to be 38400,8,N,1.
- C. Install additional rsct filesets required for non null modem connections.

- D. Change the parameters in the Network Module to stop RSCT from changing the speed of the line.

**Answer: D**

#### QUESTION 115

A cluster with 10 adapters per node is converted to use IPAT address takeover via IP aliasing. During the conversion, the customer ran out of IP subnets in the allocated range. What feature in HACMP can help resolve this issue?

- A. Disk based heartbeats
- B. Heart beating via IP aliasing
- C. IP aliases for the non-service addresses
- D. A single subnet for all non-standby adapters

**Answer: B**

#### QUESTION 116

The Cluster Administrator wants to use disk heartbeats as a non-IP network. What Volume Group consideration must be accounted for prior to configuring disk heartbeats?

- A. The Volume Group major number must be the same on all nodes.
- B. The Shared Volume Group must be created with the Big VG format.
- C. The Volume Group must be created as Enhanced Concurrent Capable.
- D. The "t factor" must be doubled to create the reserved area for disk heartbeats.

**Answer: C**

#### QUESTION 117

While performing LVM maintenance, the volume group datavg1 was exported and re-imported. The volume group is varied online, and the filesystems have been mounted.

However, the database will not start. What action would most likely resolve this problem?

- A. Perform a shown command on the VG device files.
- B. Perform a syncvg to validate VG integrity.
- C. Perform a redfinevg to correct the VGDA state.
- D. Perform a synchlvdsm to correct the LV ownership.

**Answer: A**

#### QUESTION 118

When configuring non-IP point-to-point networks on clusters that are larger than two nodes, which type of configuration should be defined?

- A. A start
- B. A ring
- C. A target mode fc
- D. A target mode scsi

**Answer: B**

#### QUESTION 119

What is required during the initial creation of a cluster?

- A. Nothing, because HACMP will discover the configuration.
- B. The cluster name and a TCP/IP path to each of the nodes.
- C. The cluster name and ID, and a TCP/IP path to each of the nodes
- D. The cluster name and ID, node names, and a TCP/IP path to each of the nodes

**Answer: B**

### QUESTION 120

While reviewing cluster logs, and administrator notice that an event, network\_down rs232a, occurred on the previous day. After verifying the physical network connections and device states, what command can be used to verify the cluster state?

- A. clstat
- B. cllsif
- C. clsnapshotinfo
- D. clcheck\_server

**Answer: A**

### QUESTION 121

A cluster administrator has been asked to install HACMP on two nodes with the following hardware: -two CPUs, - 1GB RAM, - one 1 36GB drive, two 10/100/1000 Ethernet adapters, and -GB Fibre Channel adapters dual attached to SAN storage. In order to eliminate single points of failure, the administrator should first add which of the following.

- A. an additional 1GB RAM to each node
- B. Another bootable mirrored disk drive
- C. A 10/100/1000 GB Ethernet adapter to be attached to a redundant switch.
- D. Nothing, because this is a viable cluster solution with no single points of failure.

**Answer: B**

### QUESTION 122

A three-node cluster experienced a node failure. The resource groups were acquired as expected. The node has been repaired, and HACMP has been restarted. How does the operator determine that the node has successfully re-integrated into the cluster?

- A. Use the clstat command.
- B. Use the clRGinfor command.
- C. Tail the /etc/hacmp.out file and wait for "node\_up\_complete" to finish successfully.
- D. Tail the /usr/es/adm/cluster.log file and wait for "node\_up\_complete" to finish successfully.

**Answer: A**

### QUESTION 123

What is a prerequisite for using the application availability analysis tool in HACMP?

- A. Tivoli is required to generate reports from the data collected.
- B. An application monitor must be associated with the application to monitor.
- C. An "aatd" daemon must be started and added in as a post event to "node\_up\_complete".
- D. Resource group is present on all of the systems in the cluster that have the desired application.

**Answer: B**

### QUESTION 124

An operator just completed a repair to a disk subsystem that contains a disk heartbeat. Before returning the system back into production mode, there is a requirement to verify the disk heartbeat is functioning. How should the operator determine if the disk heartbeat network functioning?

- A. Use the clinfo command to monitor the disk heartbeat.
- B. Use the mail command to check for messages form HACMP.
- C. Use the dhbread command to verify the disk heartbeat link.
- D. Use the clstat command to verify the appropriate network connections are available

**Answer: D**

### QUESTION 125

Node 'C' has just completed reintegration in a three-node cluster. The hacmp.out logfile

displays the event node\_up\_complete for Node 'C'. The cluster administrator wishes to verify that the cluster is stable. In addition to reviewing the cluster log files, what utility should be run to verify the cluster state?

- A. clstat
- B. clinfo
- C. cldiag
- D. clverify

**Answer: A**

### QUESTION 126

Certkiller .com has a five-node cluster running with custom resource groups on all nodes. The customer has determined that there is a window at 03:00 that can be used to restore any resource group to their home or highest priority node. How can HACMP be customized to automate this process?

- A. The delayed fallback feature of the resource group run-time policy in HACMP can automate the process.
- B. The clbare command can be scripted to move a resource group to its home node and placed in the AIX crontab.
- C. The rgmove command can be scripted to move a resource group to its home node and placed in the AIX crontab.
- D. The starting of HACMP on any previously failed node must be delayed until the required time to relocate the resource group.

**Answer: A**

### QUESTION 127

A HACMP/XD:HAGeo cluster has been installed with four nodes, two nodes at each site. The cluster is protected from site isolation by the DBFS facility in HACMP/XD:HAGeo. In the event of a site failure, what happens?

- A. The dominate site will always assume the non-dominate site has failed and continue processing.
- B. The dominate site initiates a call to the non-dominate site to verify if any of the nodes are functional.

- C. The non-dominate site initiates a call to the dominate site to verify if any of the nodes are functional.
- D. The nodes are completely independent and can call each other if they detect a total failure of the Geo\_Primary network.

**Answer: C**

#### QUESTION 128

Following an unsuccessful cluster fallover test, it is determined that the nfsrg1 resource group was the problem causing the cluster to run the config\_too\_long event. The nfsrg1 resource group contains 10 nfs filesystems that are cross-mounted to the other cluster node. Without modifying the time until warning parameters, what can be done to enhance NFS fallover performance?

- A. Increase the number of NFS daemons for increased performance.
- B. Modify the nfsrg1 resource group to use local NFS cross-mounts.
- C. Create a second resource group to manage half the NFS cross-mounts.
- D. Create post events to handle the cross-mounts after fallover processing.

**Answer: B**

#### QUESTION 129

Which of the following must be running on a node for the clstat utility to work properly?

- A. clinfo
- B. clhosts
- C. clsmuxpd
- D. cltopinfo

**Answer: A**

### QUESTION 130

As part of fallover testing of a corporate database server, client application connectivity must be verified. Which of the following would best verify the application functionality?

- A. Perform a ping client verification test.
- B. Review the number of active application processes.
- C. Perform successful reads and writes to the application.
- D. Run `netstat -an` to verify client connections to the listening ports.

**Answer: C**

### QUESTION 131

A step in the HACMP test plan is to gracefully stop the cluster on a node and to verify that the shared resources fallover to the standby node. To prepare for this testing step, both nodes in the two-node cluster are in a stable state with the single resource group active on Node 'A'. Which of the following is the best way to execute this portion of the test plan?

- A. Execute `"lssrc -g cluster stop"` on Node 'A'.
- B. Execute `"cat /etc/motd > /dev/kmem"` on Node 'A'.
- C. Execute `"/usr/es/sbin/cluster/utilities/scstop -gr"` on Node 'A'.
- D. Find the pid of cluster manager daemon on Node 'A' and issue a "kill-9" against the pid.

**Answer: C**

### QUESTION 132

A two-node cluster is configured for mutual takeover with two service IP labels. The cluster is being tested for fallover behavior. Both nodes in the cluster have two network interfaces ('ent0' and 'ent1') configured with IPAT via IP Replacement. When the network cable is removed from the interface card with the service address ('ent0'), the service address is moved to 'ent1', and 'ent0' is reconfigured on its boot address. When the network cable is replaced on 'ent0', the service address does not switch back to 'ent0'. What statement most accurately describes this situation?

- A. EtherChannel is needed to automatically switch the service IP address back to 'ent0'.
- B. This is the default behavior for a network interface failure with this configuration.
- C. Gratuitous ARP support needs to be enabled for the IP Network Interface Module in SMIT.
- D. The Inactive Network Takeover option should be set to "true" to force the service address back to 'ent0'.

**Answer: B**

### QUESTION 133

Certkiller .com has a two-node HACMP cluster with a single cascading resource group. Node 'A' is the normal production node, and Node 'B' is the standby node. One of the first steps in the HACMP test plan is to start the cluster and to verify that all elements for the resource group have been acquired. The administrator who is conducting the HACMP test starts the HACMP daemons on Node 'B' with the 'smitty clstart' command. The administrator notices that Node 'B' acquires the elements of the resource group, including a service IP labels, a shared volume group, and an application server that has been started. The expectation was that Node 'B' would enter the cluster in a standby status, rather than acquiring production resources. What should the administrator do to correct this problem?

- A. Change the cluster to a rotating design.
- B. Change the Cascading without Fallback flag to true.
- C. Change the Inactive Takeover field to false in the cluster configuration.
- D. Nothing should be done. This is the default behavior for cascading resource groups, and node 'A' should have been started first.

**Answer: C**

### QUESTION 134

When an emulated error notification method is complete, an administrator can view the error log by typing the errpt command to be sure the emulation took place. To verify that the error log entry is the result of the emulated event, the log entry resource name is set to EMULATOR, or which of the following?

- A. A user defined Resource Name
- B. A cluster defined Resource Name
- C. An error daemon specific Resource Name
- D. A Resource Name generated by Automatic Error Notification

**Answer: A**

### QUESTION 135

A cluster node has three network interfaces that support three resource groups with three service IP labels. Each IP label uses IPAT via IP aliasing. One of the adapters fails, and all of the IP labels on it are moved to other interfaces as expected. The system supports the "hot swap" replacement of the network interfaces, and the system engineer has corrected the problem. What will happen to the service IP lab3els when the repaired adapter is noticed by HACMP?

- A. They will migrate back to the repaired interface.
- B. They will not move, the interface will join the pool of available resources.
- C. They will not move; the interface will join the cluster as an available non-service adapter.
- D. They will migrate to the repaired interface to create an equal number of service IP labels per interface.

**Answer: C**

### QUESTION 136

The customer has implemented an SNMPP based network monitoring tool and wishes to monitor changes in the cluster. The general status of the cluster is gathered via SNMP but the polling time to retrieve the status is too slow for immediate reaction to serious issues. There is a technical reason why the polling time cannot be changed. How can HACMP report changes in its status on a more timely basis?

- A. Create a pre/post event script to report errors more rapidly.
- B. Edit SNMP configuration file to send traps for cluster state changes.
- C. Change the option in "SRC" to enable trap mode for the "clinfo" process.

- D. Use the "monitor" pre-event facility in HACMP to send information to the monitoring device.

**Answer: B**

### QUESTION 137

Certkiller .com has a non-IBM disk storage unit connected by two Fibre channel connections. The nodes have multiple connections to the storage device that allow load balancing. A failure with one Fibre adapter or connection will not be noticed by the application, but it needs to be addressed. How can HACMP help make this environment more robust?

- A. Customize disk heartbeat methods to detect disk adapter failures.
- B. Customize an error notification method that monitors for volume group quorum loss.
- C. Customize an error notification facility to act on the event when reported to the error log.
- D. Customize a HACMP event script to monitor the disk connections and cause a fallover if there is a failure.

**Answer: C**

### QUESTION 138

Certkiller .com has non-IBM fibre attached storage. The storage is connected to a node in the cluster that has multiple adapters and virtual paths. There is a concern about detecting the loss of one of the fibre adapters since there is no indication to the administrator that one has failed. What feature of HACMP can be used to assist with this issue?

- A. Disk heartbeat
- B. Error notification
- C. Event notification
- D. Application monitor

**Answer: B**

### QUESTION 139

An administrator is reviewing the /tmp/hacmp.out after an unsuccessful fallover and notice that the event stop\_server PROD\_DB failed. Besides manually intervening, what step must be performed to return the cluster to a stable state?

- A. Recover From HACMP Script Failure.
- B. Release Locks Set By Dynamic Reconfiguration.
- C. Rerun HACMP cluster verification and synchronization.
- D. Restore HACMP configuration Database From Active Configuration.

**Answer: A**

### QUESTION 140

When a problem occurs in an HACMP cluster, which log file will show the high level overview of the cluster operation?

- A. /tmp/hacmp.out
- B. /tmp/clstrmgr.debug
- C. /usr/es/adm/cluster.log
- D. /var/hacmp/clverify/clverify.log

**Answer: C**

### QUESTION 141

A Cluster Administrator is implementing a custom resource group for a new web application. The goal is to ensure the resource group is always active. Preference should be given to the priority node at startup time, but fallback to the priority node should be scheduled during a nonbusy time. Using custom resource group options, what combination best achieve the desired resource group behavior?

- A. Online On All Available Nodes, using a setting timer
- B. Online On Home Node Only, using a fallback timer

- C. Online On Home Node Only, using both setting and fallback timers
- D. Online On First Available Node, using both settling and fallback timers

**Answer: D**

#### QUESTION 142

Which log contains the output generated when starting and stopping a cluster?

- A. tmp/cspoc.log
- B. /tmp/hacmp.out
- C. /var/adm/ras/hacmp.error
- D. /var/hacmp/clcomd/clcomddiag.log

**Answer: B**

#### QUESTION 143

A cluster administrator has decided to add a cluster verification to the weekly maintenance scripts that are run from cron. When a cluster verification is performed, which of the following will require a custom verification method?

- A. HACMP ODM object classes
- B. HACMP Error Notification
- C. HACMP Topology & Resources
- D. HACMP Application Server Start/Stop scripts

**Answer: B**

#### QUESTION 144

Which of the following is a good choice to use a process application monitor?

- A. A process stated by cron
- B. A shell script owned by a non-root user

- C. A process with a specific name and owner
- D. An application defined to SRC without the restart (-O) flag

**Answer:** C

#### QUESTION 145

Certkiller .com needs to add a new file system to an existing volume group that is being made highly available by HACMP? What is the best procedure that minimizes down time of the applications?

- A. Use C-SPOC to add the file system while the cluster is running.
- B. Add the file system, and then perform the exportvg and importvg on the required nodes.
- C. Stop the cluster, add the new file system, and synchronize the cluster then restart HACMP.
- D. Break the reservation locks on the disk drives while the cluster is active and add the file system.

**Answer:** A

#### QUESTION 146

In the past several months, manual intervention has been required to correct improper cluster configuration changes. The administrator received a directive from management to create a more effective strategy for making the changes required fro month-end processing. How can HACMP be used to meet the requirements of management's directive?

- A. Create a snapshot for each of the required cluster configurations.
- B. Create a custom snapshot method to handle the configuration changes.
- C. Create a custom verification method to verify configuration changes.
- D. Create a cluster custom event to mange required configuration changes.

**Answer: A**

#### QUESTION 147

While reviewing the HACMP log file, a warning message appears stating that a custom event script could not be found. A check of the current path settings indicates that all required paths are present. What step can be taken to correct the missing paths issues during cluster event processing?

- A. Move the custom script to a different location such as /usr/sbin.
- B. Include required paths at the start of the custom script.
- C. Synchronize and verify the cluster to ensure both nodes are the same.
- D. Create a pre event that sets the correct paths and executes the script.

**Answer: B**

#### QUESTION 148

A new HACMP maintenance level has recently been released. An administrator is creating a project plan that is required for applying the updates for a three-node production cluster. To minimize downtime, what is the best way to accomplish the updates on all cluster nodes?

- A. Perform a graceful takeover one node at a time and apply the updates.
- B. Perform the updates on all nodes simultaneously using C-SPOC utilities.
- C. Perform the updates on node at a time with the cluster software active.
- D. Perform a graceful stop of all cluster nodes and apply updates to all nodes.

**Answer: A**

#### QUESTION 149

A cluster administrator decides to implement application monitoring in order to monitor both a web application and its supporting database. The plan is to use a single resource group `prod_rg` and to configure one monitor method for the web app and one monitor method for the database. Which of the following statements best describes the need for custom resource monitor?

- A. Multiple application servers must be in a single resource group.
- B. Multiple application servers per resource group may be monitored.
- C. Multiple resource groups must each contain a single application server.
- D. Multiple application servers in a cluster cannot use process monitoring.

**Answer: B**

#### QUESTION 150

A cluster node has a failed fibre adapter requiring the node to be halted to replace it. To minimize downtime, what is the appropriate method of performing this repair?

- A. Perform the `clRGmove` command to move the node's resources to another cluster node.
- B. Perform a graceful stop of the cluster, replace the adapter, and restart the cluster.
- C. Perform a force stop of the cluster node, replace the adapter, and restart the cluster.
- D. Perform a graceful takeover of the cluster, replace the adapter, and restart the cluster.

**Answer: D**

#### QUESTION 151

After an unsuccessful synchronization or DARE update, which copy of the HACMP ODM remains to prevent further changes from being made?

- A. The 'Default' configuration directory

- B. The 'Active' configuration directory
- C. The 'Staging' configuration directory
- D. The 'Snapshot' configuration directory

**Answer: C**

#### QUESTION 152

During an internal IT organization planning session, it is decided that a new cluster node would enhance the performance of a distributed corporate application. Planning details have been assigned to the administrator. System outages are limited to one weekend per month; therefore, availability will be a key issue in the planning process. How much cluster downtime will need to be allocated for adding a new node?

- A. None, everything can be done with the cluster active
- B. Minimal downtime will be required to import the volume groups.
- C. Several hours are required for testing before final synchronization.
- D. Minimal downtime will be required to connect and test the serial network.

**Answer: A**

#### QUESTION 153

Certkiller .com performs a cluster verification on a regular basis. Cluster verification is successful but the cluster sometimes fails to start the applications during a fallover. Investigation of the issue has revealed that the non-shared component of the application configuration information is not being kept up to date on the secondary nodes. What can be used to help resolve this issue?

- A. A pre-event
- B. Error notification
- C. Application monitoring
- D. Custom verification methods

**Answer: D**

#### QUESTION 154

While executing a Cluster Test Plan, the administrators realize that they will need to email the operations and network on-call staff in the event of a network outage. What can be done to alert the on-call staff of network failures?

- A. Customize clstat to send a mail message.
- B. Customize an Event Notification method.
- C. Customize an Error Notification method.
- D. Customize clinfo to send an SNMP trap.

**Answer:** B

#### QUESTION 155

An administrator uses C-SPOC to change the user password for all nodes that belong to a resource group. The administrator must perform this operation on a node that is:

- A. included in the resource group.
- B. currently managing the resource group.
- C. not part of an application resource group.
- D. included in a cluster\_admin resource group.

**Answer:** A

#### QUESTION 156

What affect will a shutdown -F command have on the resource groups on a cluster node?

- A. They will be placed in an error state.
- B. They will be released and not acquired by another node.
- C. They will migrate to the next node in the priority list.
- D. They will migrate to the next node and be reacquired by the first node on system restart.

**Answer:** B

#### QUESTION 157

To perform SNMP Monitoring of cluster, what daemon must be running?

- A. /usr/sbin/rsct/bin/hagsd
- B. /usr/sbin/rsct/bin/clinfo
- C. /usr/sbin/rsct/bin/clsmuxpd
- D. /usr/sbin/rsct/bin/clssnmpstatd

**Answer: C**

#### QUESTION 158

When the rc.cluster script is executed, cluster processes are started in what orde?

- A. topsvcs, clstrmgr, clsmuxpd, grpsvcs, emsvcs, clinfo
- B. topsvcs, grpsvcs, emsvcs, clstrmgr, clsmuxpd, clinfo
- C. clstrmgr, clsmuxpd, clinfo, topsvcs, grpsvcs, emsvcs
- D. clstrmgr, topsvcs, clsmuxpd, clinfo, grpsvcs, emsvcs

**Answer: B**

#### QUESTION 159

An HACMP setting timer may used to allow:

- A. The setting or fallback of a cluster custom resource group.
- B. The cluster time to stabilize before starting a custom resource group.
- C. A priority node time to acquire custom resource group at cluster start
- D. A fallover node time to process custom resource states to be monitored

**Answer: C**

#### QUESTION 160

Certkiller .com is dependent on static routing to make connections from the nodes to the user community. What feature of HACMP can be used to address this issue?

- A. Dynamic routing
- B. Pre and post events
- C. Error notification
- D. Custom resource groups

**Answer: B**

#### QUESTION 161

Certkiller .com has a large network control center with an SNMP based monitoring tool running on a non-IBM Unix like system. It has become desirable for the network control center to monitor the activity of an HACMP cluster. What feature in HACMP can assist with this?

- A. hacmp.my
- B. hacmp.mib
- C. hacmp.defs
- D. hacmp.snmp

**Answer: A**

#### QUESTION 162

Certkiller .com is adding HACMP to an existing pair of nodes. One node is using EtherChannel with only one adapter. The other node is using regular Ethernet connection to the switch. The customer is going to increase the number of network interfaces to two for each node. What other considerations need to be addressed in a HACMP environment?

- A. All interfaces used for HACMP heartbeats must be identical. Differences in the interfaces will cause heartbeat failure.

- B. The network interfaces should all be configured with the same frame type. The use of regular Ethernet frames is mandatory.
- C. Network interfaces for HACMP must be all the same, Ethernet or 802.3. It does not matter which, as long as they are all the same.
- D. HACMP can use any network interface supported by AIX. The options on the various interfaces are masked by the Ethernet switch and do not affect HACMP.

**Answer: B**

#### QUESTION 163

Certkiller .com with an EtherChannel implementation is considering an HACMP solution. What considerations must be addressed in planning this configuration?

- A. Hardware address takeover must be configured.
- B. IPAT via IP aliasing is required for EtherChannel.
- C. EtherChannel must be defined as a separate network.
- D. HACMP does not support the fallover of EtherChannel.

**Answer: D**

#### QUESTION 164

Certkiller .com has a new computer room that will be used to house a new HACMP cluster. Once of the outstanding features of the new computer room was the new large air conditioner. This unit has enough excess capacity for more than double the planned amount of equipment. Another feature of this computer room was the dual electric supplies to the room housed in two separate power panels. How would this impact the overall availability of the environment?

- A. Dual power feeds will make the installation difficult to manage and less high available.
- B. The single air conditioner is a single point of failure and the customer should be made aware of the issue.

- C. The single air conditioner is a single point of failure and HACMP should be customized to compensate for the issue.
- D. A single power feed should be used to avoid ground loops in the computer room causing premature failure of the systems.

**Answer: B**

### QUESTION 165

An HACMP setting timer may used to allow:

- A. The setting or fallback of a cluster custom resource group.
- B. The cluster time to stabilize before starting a custom resource group.
- C. A priority node time to acquire custom resource group at cluster start
- D. A fallover node time to process custom resource states to be monitored

**Answer: C**

### QUESTION 166

Certkiller .com wishes to use IPAT via IP replacement in a two-node mutual cluster. Each node has two Ethernet 10/100/1000 adapters. Throughout the planning session, the customer has asked questions about subnet and VLAN requirements for the intended network topology. Which of the following best describes the network requirements?

- A. The service IP addresses must be on a separate subnet and VLAN.
- B. The non-service and service IP addresses must be on the same subnet and on the same VLAN.
- C. All interfaces on a node must be in different subnets. All subnets must be on the same VLAN.
- D. One non-service and one service IP address must be on the same logical subnet. All interfaces must be on the same VLAN.

**Answer: D**

#### QUESTION 167

Certkiller .com has a three-node cluster with six resource groups. There are two resource groups for each node. A new hardware component will be added to one of the nodes. The customer wants to move the resource groups to other nodes, but not necessarily in the normal failover order. Also, the resource groups must be moved at night when there is no one in the computer center. What can be done so that the resource group is moved at the most convenient normal failover order. Also, the resource groups must be moved at night when there is no one in the computer center. What can be done so that the resource group is moved at the most convenient time for the customer?

- A. Create a custom resource group with a custom fallback timer to cause the system shutdown at the appropriate time.
- B. Set the system to stop with "shutdown" command at the appropriate time and allow HACMP to relocate the resources.
- C. Use a script that calls the clRGmove command and place it in the cron or a queue to execute at the appropriate time.
- D. Change the existing resource groups to a custom type and add a timer to perform a "shutdown -h" command at the appropriate time.

**Answer: C**

#### QUESTION 168

Which of the following is a good choice to use a process application monitor?

- A. A process started by cron
- B. A shell script owned by a non-root user
- C. A process with a specific name and owner
- D. An application defined to SRC without the restart (-O) flag

**Answer: C**

### QUESTION 169

During a planning session, Certkiller .com expresses concern about the behavior of the nodes when HACMP is installed. Once department is reliant on an older piece of equipment that is critical to operations and must communicate to the database server. Previous network changes indicated that this piece of equipment does not support gratuitous ARP. How can HACMP best incorporate this restriction into the cluster design?

- A. The administrator must use Hardware Address Take over with HACMP.
- B. The clsmuxpd process and the contents of the /etc/cluster/ping\_client\_list can address the issue.
- C. HACMP does not have any facility to be compatible with older devices that have limited capabilities.
- D. HACMP can use either hardware address take over, or clinfo can update the arp cache of the clients when an adapter event occurs.

**Answer:** D

### QUESTION 170

Certkiller .com has installed HACMP and is configuring a three-node cluster. One of the applications uses the AIX hostname as a key for authorization to execute on the specific computer. The application vendor was contacted and consented to having multiple copies of the application but required that only one application be active at any one point in time. How can the AIX host name dependency be managed in an HACMP environment.

- A. It cannot be managed because the application will not work properly with HACMP.
- B. The application start and stop script for the application can manage the hostname.
- C. HACMP will require customization to correctly manage a change in the hostname since it is tied to the primary network adapter.
- D. HACMP will have to be restarted if the hostname is changed. This can be done with customization in the node\_up and node\_down event scripts.

**Answer: B**

#### QUESTION 171

An administrator mistakenly shutdown production after a fallover because the service IP address was shifted from the normal production node to the standby node. What can be done to avoid this type of mistake in the future?

- A. Include the service IP address in the administrator's PS1 prompt.
- B. Alias the service IP address to the hostname in the /etc/host file.
- C. Define a persistent IP address with HACMP and make it a practice to use the persistent address for administration work.
- D. Add a DNS entry to map the standby node name to the service IP address so telnet connections will be to the correct node.

**Answer: C**

#### QUESTION 172

Certkiller .com has decided to implement the "Fast Disk Takeover" and "Disk Heart Beat" features of HACMP. What IBM distribution media will be required for a default installation?

- A. AIX media only
- B. HACMP media only
- C. AIX and HACMP media
- D. HACMP and Concurrent Resource Manager media

**Answer: C**

#### QUESTION 173

Certkiller .com is considering converting from IPAT via replacement to IPAT via IP aliasing.

What condition of IPAT via IP aliasing must be taken into consideration?

- A. The clients must support gratuitous ARP.
- B. The network type must support gratuitous ARP.
- C. Additional TCP/IP interfaces must be allocated for backup in case of failure.
- D. Using IPAT via IP aliasing will reduce the number of rotating resource groups that can be used.

**Answer:** B

#### QUESTION 174

In order to successfully install HACMP, which non-default AIX lpp is a requirement?

- A. bos.mp64
- B. bos.data
- C. bos.net.tcp.server
- D. rsct.compact.clients.sp

**Answer:** B

#### QUESTION 175

During normal cluster processing in a five-node cluster, one of the nodes unexpectedly crashes. A review of the system dump indicates that a DMS timeout has occurred. The cluster is configured to use disk heartbeats as a Point-to-Point network. What should be done to address the problem with this configuration?

- A. More disk should be added to the disk heartbeat network, allowing more paths for heartbeats.
- B. An RS232 network is required to supply a more robust non-IP network when disk heartbeating is implemented.
- C. The network tunable parameters should be changed to allow more missed heartbeats since the disks may be heavily used.
- D. An error notification method is required to determine the action to take in response to a failure of the disk heartbeat.

**Answer: C**

#### QUESTION 176

A cluster administrator is performing fallover testing during a scheduled system outage. Node 'A' was forced down and eventually rebooted. When Node 'A' reintegrates into the cluster, the resource group state is offline. No errors are found in reviewing the hacmp.out file. What could have been done to ensure the resource group was acquired when cluster processing was restarted on Node 'A'?

- A. Nothing, HACMP does not require them automatically.
- B. Force the remaining nodes down, then reintegrate them all.
- C. Select reacquire resources after forced down on start menu.
- D. Create a setting timer to bring the resource group online.

**Answer: C**

#### QUESTION 177

A cluster indicates that a remote site has failed. What facilities exist in HACMP/XD:HAGeo to ensure that the failure is not just a TCP/IP communication failure?

- A. Electronic Service Agent software provides a redundant heartbeat between sites.
- B. A non-IP network and Dial Back Fail Safe provide redundant heartbeats between sites.
- C. The GeoMirror Devices provide a link validation facility that guarantees the validity between sites.
- D. The Site Notification Daemon maintains a heartbeat between sites via short haul modems/line drivers and dark fibre.

**Answer: B**

### QUESTION 178

While reviewing the hacmp.out after a node failure, an administrator realizes that the custom event queue\_down did not execute. The queue\_down event shows up when a list of custom events is displayed. What would be the next logical step to resolve this problem?

- A. Delete the custom event and add a pre event and synchronize.
- B. Synchronize the cluster and recheck the cluster custom events.
- C. Create an application server that will stop and start the queues.
- D. Add a pre or post event to appropriate cluster events and synchronize.

**Answer: D**

### QUESTION 179

When the clverify utility is run, verification checks use QDM data provided by the common communication infrastructure. This provides efficient access to configuration ODMs from the other nodes. The utility manages these files by storing the copies in various directories depending on the success or failure of the verification pass. By default, this directory is "/var/hacmp/clverify/current/nodename/" if the 'current' directory still exists when clverify stops running, this indicates which of the following?

- A. A successful completion of clverify
- B. A problem with the clverify utility
- C. All nodes agree on active configuration
- D. Configuration differences between current and last successful clverify

**Answer: B**

### QUESTION 180

An HACMP cluster has three nodes of unequal size. The largest node is Node 'A'. The primary application on Node 'A' has two components. One component is memory intensive, the other is IO intensive. Nodes 'B' and 'C' are running web servers and databases that access information produced by applications on Node 'A'. The customer requires the most

performance from the primary application and wants all nodes available for fallover processing. Which of the following is the best solution for meeting the customer requirements?

- A. Use nodes of equal size.
- B. Create multiple resource groups and use loadlever.
- C. Use dynamic node priority to manage resource groups.
- D. Use an ordered list to manage resource group fallover.

**Answer: C**

#### QUESTION 181

While installing the equipment for a new two node cluster, it is discovered that the disk subsystem rack has one connection to the power mains. The explanation given was that the disks are to be mirrored between the two disk drawers in the rack and that a failure in either of the disk drawers would simply result in half of the disk being lost. What can be done to avoid a single point of failure?

- A. Customize HACMP to overcome quorum issues.
- B. Add a second PDU to separate the power connections.
- C. Use RAID5 when implementing two IO racks in a HACMP environment.
- D. Add another shared disk to each volume group to avoid quorum issues during fallover.

**Answer: B**

#### QUESTION 182

Certkiller .com has a six-node concurrent resource group with an application that is accessed by a web connection to the cluster nodes. How is the workload moved to another cluster node during a node failure?

- A. The concurrent application must control the web interface through application monitoring.
- B. A second resource group will be required to move the web application and IP label to a new node during a node failure.
- C. The concurrent resource group can support multiple IP labels through IP aliasing so all IP labels are defined in the concurrent resource group.
- D. The dynamic node priority facility in HACMP will relocate the web application and the IP label, if it is correctly defined in the application start and stop script.

**Answer: B**

#### QUESTION 183

Certkiller .com has a non-IBM disk storage unit connected by two Fibre channel connections. The nodes have multiple connections to the storage device that allow load balancing. A failure with one Fibre adapter or connection will not be noticed by the application, but it needs to be addressed. How can HACMP help make this environment more robust?

- A. Customize disk heartbeat methods to detect disk adapter failures.
- B. Customize an error notification method that monitors for volume group quorum loss.
- C. Customize an error notification facility to act on the event when reported to the error log.
- D. Customize a HACMP event script to monitor the disk connections and cause a fallover if there is a failure.

**Answer: C**

#### QUESTION 184

When a problem occurs in an HACMP cluster, which log file will show the high level overview of the cluster operation?

- A. /tmp/hacmp.out

- B. /tmp/clstrmgr.debug
- C. /usr/es/adm/cluster.log
- D. /var/hacmp/clverify/clverify.log

**Answer: C**

#### QUESTION 185

Certkiller .com needs to add a new file system to an existing volume group that is being made highly available by HACMP? What is the best procedure that minimizes down time of the applications?

- A. Use C-SPOC to add the file system while the cluster is running.
- B. Add the file system, and then perform the exporting and importing on the required nodes.
- C. Stop the cluster, add the new file system, and synchronize the cluster then restart HACMP.
- D. Break the reservation locks on the disk drives while the cluster is active and add the file system.

**Answer: A**

#### QUESTION 186

A new HACMP maintenance level has recently been released. An administrator is creating a project plan that is required for applying the updates for a three-node production cluster. To minimize downtime, what is the best way to accomplish the updates on all cluster nodes?

- A. Perform a graceful takeover one node at a time and apply the updates.
- B. Perform the updates on all nodes simultaneously using C-SPOC utilities.
- C. Perform the updates on node at a time with the cluster software active.

D. Perform a graceful stop of all cluster nodes and apply updates to all nodes.

**Answer:** A

**QUESTION 187**

An administrator uses C-SPOC to change the user password for all nodes that belong to a resource group. The administrator must perform this operation on a node that is:

- A. included in the resource group.
- B. currently managing the resource group.
- C. not part of an application resource group.
- D. included in a cluster\_admin resource group.

**Answer:** A

温室小花... 中间件... 数据库  
<http://www.evanjiang.net>