

# DUMPS ARENA

## Backup Recovery - Avamar Specialist Exam for Storage Administrators

EMC E20-598

Version Demo

Total Demo Questions: 15

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**QUESTION NO: 1**

An EMC Avamar customer, without premium support, has a requirement to recover from a failed storage node.

What is the minimum number of nodes, of all types, required to support this functionality?

- A. 1
- B. 3
- C. 4
- D. 5

**ANSWER: D**

**QUESTION NO: 2**

In which directory are the Avamar data server log files located in a multi-node Avamar server?

- A. /data01/cur on each storage node
- B. /sysinfo/log on the utility node
- C. /data01/cur on the utility node
- D. /var/log on each storage node

**ANSWER: A**

**QUESTION NO: 3**

Which port does EMC Avamar use to access the Management Console database for reporting?

- A. 5555
- B. 7778
- C. 8443
- D. 8080

**ANSWER: A**

**QUESTION NO: 4**

Which EMC Avamar Management Console navigation screen can be used to check when the last checkpoint and checkpoint validation occurred?

- A. Server
- B. Activity
- C. Administration
- D. Policy

**ANSWER: A****QUESTION NO: 5**

What happens when files fail to find a match in the file cache during a backup of an EMC Avamar client computer?

- A. An "is present" call to the Avamar server
- B. Fewer chunks are compressed
- C. More files are processed for backup
- D. Increased memory swapping

**ANSWER: C****QUESTION NO: 6**

A multi-node EMC Avamar server is backing up clients worldwide. What must the storage administrator keep in mind to help ensure that backup schedules do not conflict with the Avamar server blackout window?

- A. Time basis for a backup schedule is the local time of the Avamar Administrator session
- B. Time basis for clients is the local time where the Avamar server utility node resides
- C. Time basis for the GSAN is the local time zone where the server resides
- D. Time basis for the maintenance schedules is GMT/UTC

**ANSWER: A****QUESTION NO: 7**

When configuring basic networking for the storage nodes in a multi-node EMC Gen4 Avamar, which port is used to perform this operation?

- A. iDRAC
- B. GB1
- C. GB3
- D. GB4

**ANSWER: A**

### QUESTION NO: 8

What is the behavior of an EMC Avamar HFS check when it detects an error in a stripe?

- A. Attempts stripe repair
- B. Aborts checking and restarts
- C. Completes with exceptions
- D. Stops the GSAN

**ANSWER: A**

**Explanation:**

### Automatic stripe repair

HFS check occasionally fails due to data corruption in one or more stripes. If this occurs, the automatic repair task, which runs during the maintenance window, automatically attempts to repair the stripes with available parity data. Automatic repair only occurs in the current version of the stripe, not the checkpointed version.

Automatic repair is equivalent to the **avmaint testintegrity --repair** command and follows these rules:

**Table 7** Rules for automatic repair in HFS check

Condition	Result
Data is corrupted only in the current version of the stripe (not the checkpoint stripe).	Automatic repair task attempts to repair the stripe.
Data is corrupted only in the checkpoint stripe (not the current version).	No repair is required.

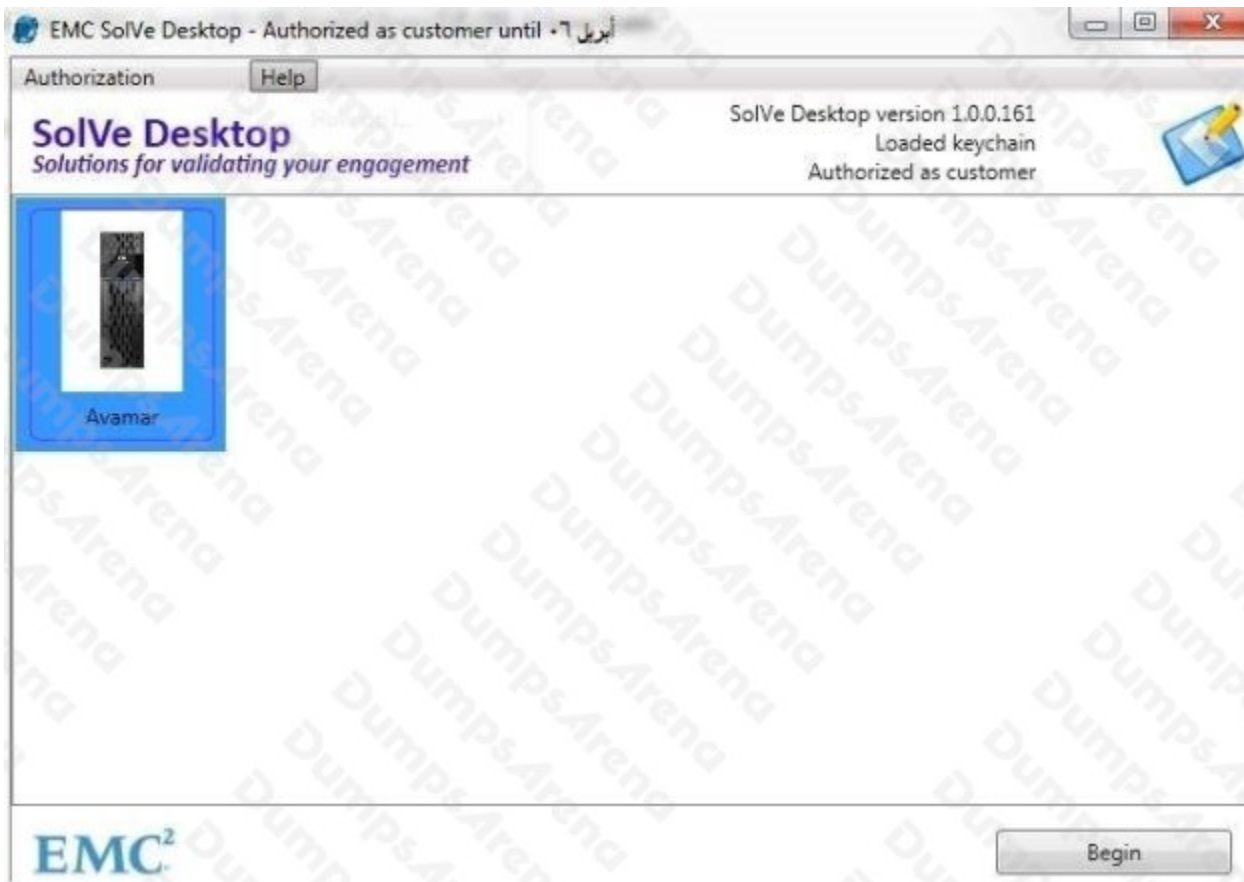
**QUESTION NO: 9**

The EMC Avamar Procedure Generator expires on a periodic basis, requiring connecting to the EMC network for an update. How often does this happen?

- A. Every four days
- B. Every week
- C. Every two weeks
- D. Every four weeks

**ANSWER: C****Explanation:**

Has been replaced by SolVe Desktop this March#

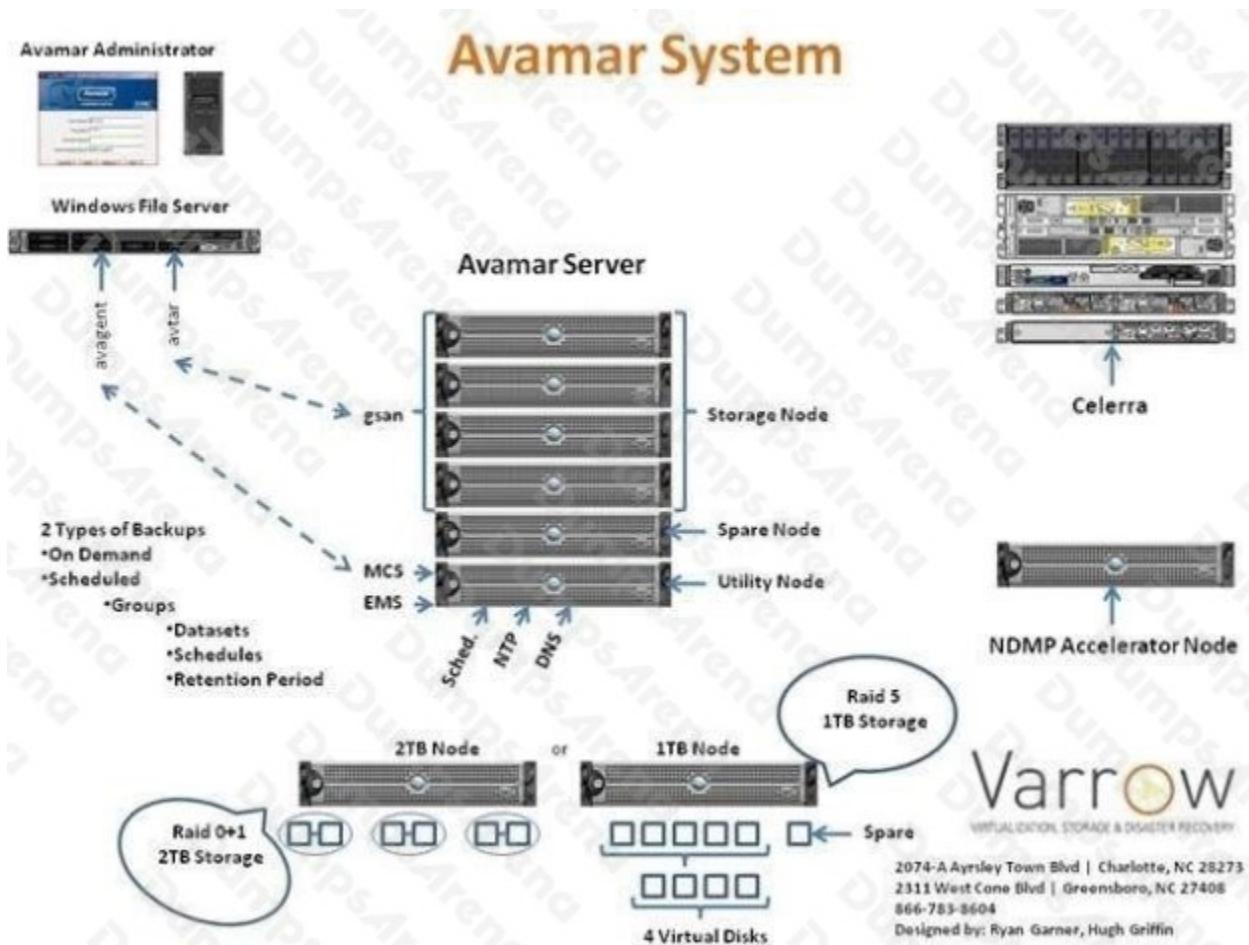


**QUESTION NO: 10**

By default, which process runs on the EMC Avamar utility node?

- A. GSAN
- B. MCS
- C. avsc
- D. SNMP

**ANSWER: B****Explanation:**

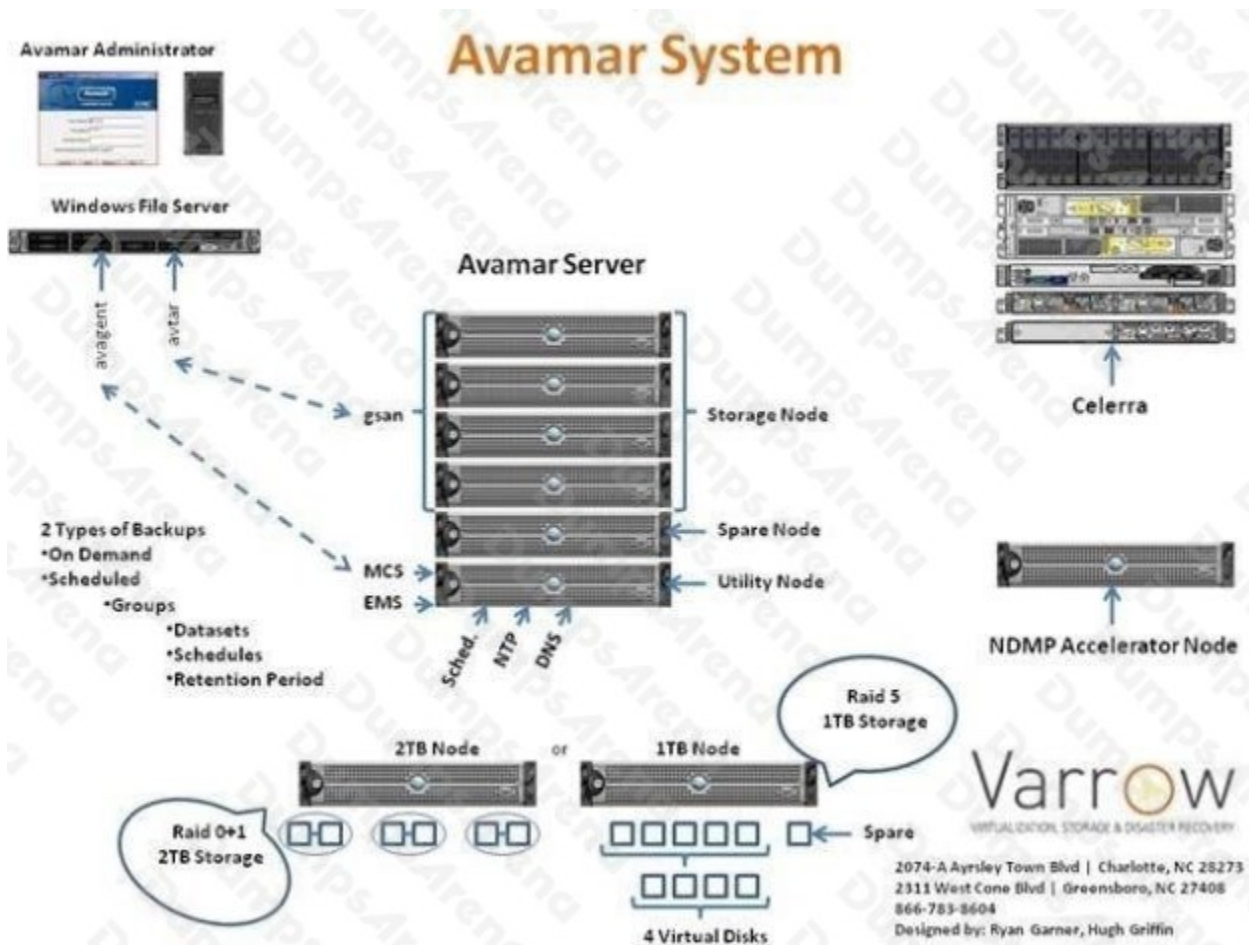
**QUESTION NO: 11**

During a backup, which EMC Avamar server process communicates with the avtar process on the client?

- A. EMS
- B. MCS
- C. GSAN
- D. avagent

**ANSWER: C**

**Explanation:**



Are next type of node is the Storage Node, which run a process called gsan. This service communicates with the avtar command on the individual backup clients. Avtar communicates with a storage nodes gsan process, then that storage node spreads the data across the available data nodes.

### Avamar Node Types and Processes

There are several different types of Nodes within an Avamar Server. The Utility node is the identity of the Avamar Server and provides the bulk of the internal Avamar server processes such as: Avamar Administrator (used to manage the Avamar Server from a gui), cron jobs, DNS, NTP, external authentication, web access, MCS and EMS.

MCS (Management Console Server) provides centralized management including scheduling of backups, restore of backups, monitoring and reporting.

EMS (Enterprise Manager Server) provides web based management for multiple Avamar Servers as well as monitoring and configuration for Avamar Replication. Web Access provides access to documentation, backup plug-ins as well as remote File System restore access to end users.

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A Spare Node is an active node that is present in a multi-node RAIN (Redundant Array of Independent Nodes) grid. The interesting thing about the Spare Node is that it is NOT a hot spare. There is a procedure in place that needs to be followed when a failed Storage Node occurs. In fact, the Avamar Server doesn't even care if the Spare Node is powered on, so if you are a "Green" conscience company, feel free to leave the Spare Node powered down. EMC Best Practice is to leave the Spare Node up and active though. Avamar Backups clients can be installed with 2 different types of client plug-ins: File

System and Databases. The Avamar client uses 2 processes in the backup and restore process: Avtar and Avagent. The Avagent process listens for backup/restore work orders from the MCS service on the Utility Node using port 28002 and executes the avtar command that handles the backup/restore processes and communicates with the gsan service on the storage nodes. This process is depicted in the included picture above. Lastly, in a previous blog, I discussed the 2 different licensable options for Avamar and how the disks are comprised in each Storage Nodes type. These are depicted in the picture above as well as a breakdown of how the disks are structured.

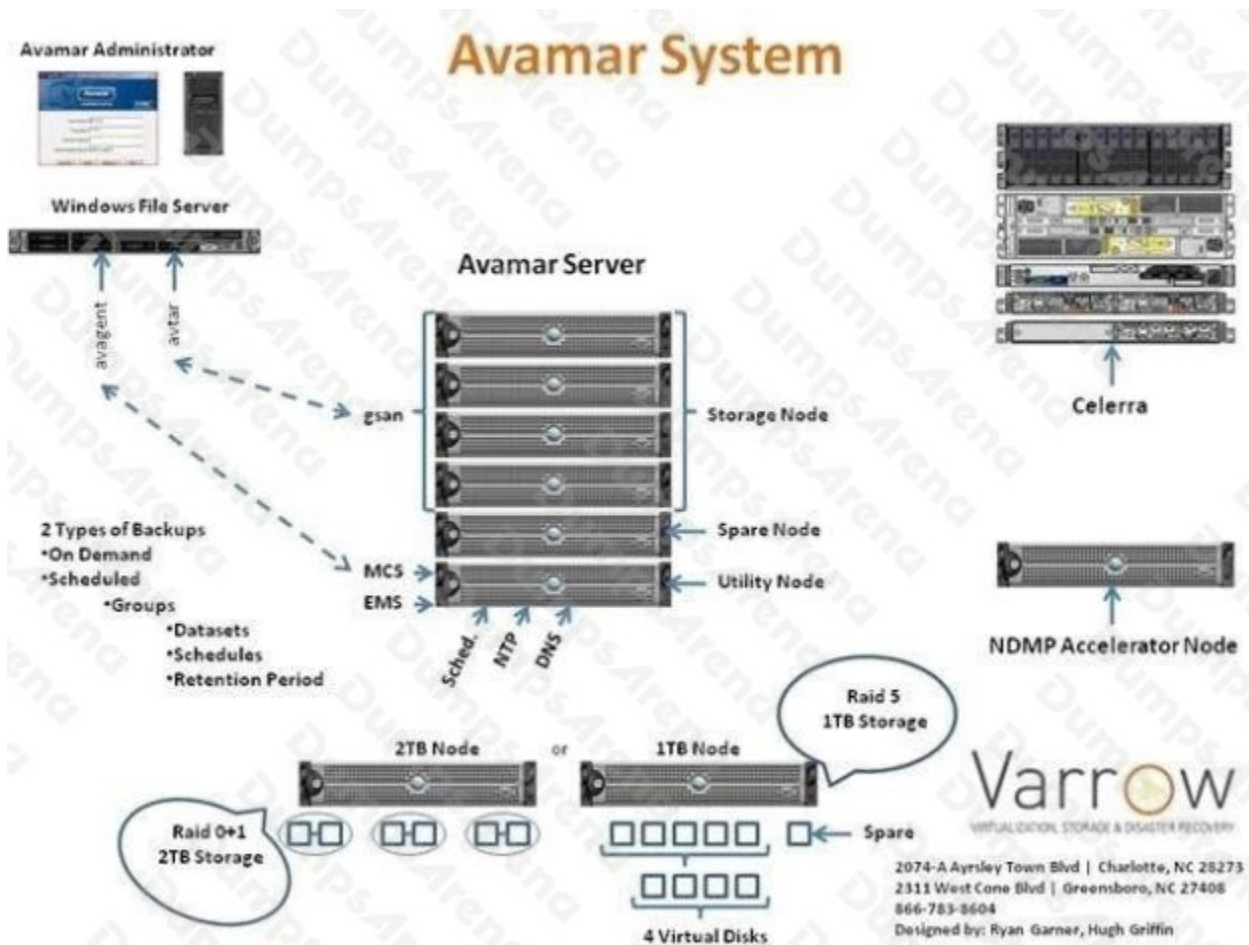
<http://whughgriffin.wordpress.com/2009/06/03/avamar-system-overview/>

**QUESTION NO: 12**

Which client process listens for a work order from the EMC Avamar server?

- A. avagent
- B. avtar
- C. avsc
- D. mcs

**ANSWER: A****Explanation:**



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**QUESTION NO: 13**

A company with a multi-node EMC Avamar Data Store has experienced a catastrophic disk failure due to a RAID controller error on a storage node.

Which fault tolerance feature provides protection against data corruption on that node?

- A. RAID
- B. RAIN
- C. HFSCheck
- D. Checkpoints

**ANSWER: B****Explanation:**

I am sure answer is NOT A

As assessment I was selecting A which is not valid in the results

Avamar ensures protection from disk and data corruption through the use of RAID (redundant array of independent disks). The type of RAID depends on the particular node type.

Checkpoint	Creates consistent point-in-time images (checkpoints) every day. Avamar uses checkpoints as rollback points to recover from various issues, such as sudden power loss.
hfscheck	Validates one of the checkpoints every day through a process called hfscheck.
Garbage collection	Deletes the chunks of data that are no longer referenced within the backups stored on the system.

The phases of hfscheck mentioned above run in the following sequence: 1- indexesweep

- 2- datasweep
- 3- paritysweep
- 4- refcheck

During the indexesweep phase, the system confirms the integrity of the index (the index is the "table of contents" for all the data on the system) and also caches the index entries for each data chunk onto the same disk where the chunk itself is stored. This is done to improve the performance of later phases of the hfscheck. The datasweep phase is typically the longest phase of hfscheck. This phase reads each data chunk from the system and compares the hash of that chunk with the hash that is recorded in the index. This confirms that each data chunk is the same as it was when it was backed up.

As I'm sure you know, multi-node Avamar systems are protected by RAIN parity. During the paritysweep phase, the parity information is recalculated and checked against the parity information on disk. The refcheck phase of hfscheck checks the referential integrity of the backups by verifying that every chunk of data that is referenced by a backup can be found in the index.

<https://community.emc.com/thread/180789>

## QUESTION NO: 14

What is an advantage of the EMC Avamar deduplication technology?

- A. Eliminates the backup catalog
- B. Improves drive speeds
- C. Stores data from different operating systems on the same devices
- D. Stores unique sub-file data objects

## ANSWER: A

### Explanation:

Avamar solves the challenge of redundancy in backup data at the client—before transfer across the LAN or WAN during a backup operation. Avamar backup agents are deployed on the systems to be protected (for example, servers, desktops, laptops) to identify and filter repeated data segments stored in files within a single system and across multiple systems over time. This ensures that each unique data segment is backed up only once across the enterprise. As a result, copied or edited files, shared applications, embedded attachments, and even daily changing databases generate only a small amount of new backup data.

By moving only new, unique subfile variable length data segments, Avamar significantly reduces the required daily network bandwidth and storage. By storing just a single instance of each subfile data segment globally, Avamar also reduces total back-end storage by up to 50x for cost-effective, long-term, disk-based recovery.

## QUESTION NO: 15

What does an HFS check do?

- A. Validates the integrity of a checkpoint



- B. Performs server checkpoint rollbacks
- C. Performs a snapshot of an Avamar server
- D. Checks for RAID controller errors

**ANSWER: A**

**Explanation:**

Review Avamar Fundamentals free course on EMC

**A hash file system (HFS) check** is an operation that validates the integrity of a checkpoint. Once a checkpoint has passed an HFS check, it can be considered valid for a system rollback.

<b>Avamar Fundamentals</b>	<b>MR-1WN-AVAM</b>
<b>Abstract:</b> This EMC Education Services course provides participants with an introduction to EMC Avamar. It includes an overview of Avamar terminology, features, and components, including Avamar backup and restore functions. The course reviews Avamar tools for monitoring and maintaining an Avamar system.	 eLearning (01:30 Hr)
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Training Units:0	

<https://learning.emc.com/Saba/Web/Customer>

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