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ADMe
Q & A

Version October 2, 2020

	Question & Answer
1	**What is ADMe?**
	ADMe was productized with the release of Avamar 7.3 for purposes of being used to perform Tapeout operations from Avamar. It is a scripted utility which automates migration of Avamar backups to a staging disk area which can then automatically be backed up to a tape backup application such as Networker. When the staging disk is cloud enabled via a suitable gateway, the staged data can be uploaded automatically to public or private cloud object-based storage. ADMe provides an easy to use interactive Menu driven CLI UI as well as a Web-UI. It's strongly recommended Dell EMC Professional Services be used for its initial deployment as technical support cannot be leveraged for deliverable related tasks or issues.
2	**Where can I obtain a copy of ADMe and related documentation?**
	ADMe documentation and code downloads are available Here Additional related collateral is available internally Here Additional related collateral is available publicly Here
3	**What staging methods does ADMe provide?**
	ADMe supports non-incremental and incremental staging approaches. Non-incremental is the most common approach and effective for all plugin types and backup sizes. The staging disk used is erased between migration jobs allow the same disk space to be reused. Incremental is reserved for large filesystem or NDMP backups only as it is dependent of file timestamps and costly in terms of staging disk capacity required as this space must be dedicated to the selected clients involved. The staging disk is not routinely erased between migrations therefore it cannot be shared with other migration clients. When data is staged incrementally, its corresponding tape backup may also be configured to perform an incremental backup to improve performance further. In general, the use of incremental improves throughput by a factor of 3-4 times that of the same data being processed non incrementally.
4	**Does ADMe automatically delete staged data files to make room for additional files if the selected data is too large to fit the available disk space?**
	No, ADMe only deletes staged data when migrating to an export application and the export reports back the migrated data has been successfully written to tape or target Avamar. The user must ensure the aggregate size of their ADMe client groups are sized such that their data files will fit their targeted staging disk. A given client groups aggregate size can be easily calculated from either of the ADMe UI's. When a given client group's aggregate size exceeds its targeted staging disk you have two choices available:

	1. move some of the clients in the group to another group 2. expand the destination staging disk area accordingly
5	**Do I have to create and maintain tape scripts used to initiate a tape backup?**
	No, ADMe automatically establishes and triggers an appropriate tape export script. They are created in real-time and executed automatically. Results of the tape scripts execution are captured in the ADMe job policy log providing informative details returned by the tape application.
6	**Where is ADMe installed and managed from?**
	ADMe is installed and executed from the Avamar Utility/Single/AVE node It's managed using its interactive CLI Menu UI or WEB-UI. To start the menu from a putty session you must be root or admin via the sudo command and type adme.

7	**Can multiple migration threads be used concurrently?**
	Yes, By default, Avamar supports one MCS session per staging server which will be under the control of an ADMe environment file. ADMe supports multiple environment files where each can contain a unique staging server name and all Environment file threads can be used concurrently. Procedures exist to increase the MCS thread count on a given staging server this allowing them to be defined to their own environment file and be used concurrently. When multiple staging servers or threads are being used the ADMe user interface remains consistent regardless of the quantity.
8	**What does the client configuration file contain?**
	The client configuration is stored in a csv formatted file containing various attributes such as client and domain names, staging path to use and export application syntax to be called by a tape backup application. A primary purpose for grouping clients is to segment the workload into manageable sizes. A complete client entry is comprised of 18 fields with each field containing pertinent information required by the migration process.
9	**How do I determine a migrations completion status?**
	The ADMe Job Manager or the Web-UI Job-Activity tab provides job policy completion status and its progress can be viewed easily to confirm the status of each migration phase. Job policies are defined and managed from Job Manager or from the Web-UI Job-Policies tab. The job logs can be browsed and are color formatted providing a forever history of each migration session.
11	**How do I limit or select the backups to be migrated?**
	Within a job policy definition, the -***select*** action is used to pass a comprehensive choice of filters to accomplish appropriate backup selections. With Avamar, every backup is a synthetic full therefore it is important not to select multiple backups against a given client name. Filters can limit selected backups based on a retention tag value, Avamar group/name field string value, first or last backup within the date range used, day of the week, relative day or month, last backup of the month, plug-in type. Once you understand the various filters and how to leverage them, you have complete control over which backups are selected for migration.
12	**How much staging disk capacity is required?**
	The absolute minimum disk space required must be large enough to hold the largest individual backup involved. However, from a practical perspective considerably more is required in order to support concurrency to have multiple migrations being performed concurrently. The deciding factor is determined by the total aggregate data size involved combined with a reasonable timeframe to perform the migration.
13	**Are there restrictions to using incremental migrations?**
	Yes, The incremental benefit which can be substantial will only be achieved with either file system or ndmp backup data. Database or even FS's where change rates are high will see little to using incremental staging. When incremental tape backup is also desired, its corresponding data must be use incremental staging.

14	**Can ADMe be used to only stage data?**
	Yes, This is accomplished using ***–s*** or ***–stageonly*** option on the ***–migration*** action. Possible use cases could include staging to cloud enabled storage, standalone USB drives or a JBOD connected via USB or iSCSI. The portability of USB drives and JBOD's could be used to provide a simple air gap approach to protecting your data.
15	**Can ADMe be used to initiate a tape export backup against previously staged data?**
	Yes, This is accomplished using the ***–t*** or ***–tapeonly*** switch during a ***–migration*** action or using latest Web-UI to start a job policy and choose the desired phase to be run. A use case might be to rerun a job which has previously failed writing to tape but its data is still staged and available for use.

16	**Are there limitations or considerations with respect to the staging server OS to use?**
	Yes, The following should be considered ▪ The OS must be a supported client of both Avamar and the tape application involved ▪ Cross platform staging is supported but in order to maintaining proper file attributes you must stage to a compatible OS Windows to Windows and Unix/Linux to a comparable OS ▪ Windows staging servers result in challenges deleting staged data therefore ADMe relies on the use of a quick format command against the staging drive letter. Refer to option –**upst** used to automatically format the staging drive letter involved. ▪ Typically, Unix or Linux platforms can be cross restored to one another while staging unless a unique file system type is involved such as zfs on Solaris and you want to preserve its expanded ACL's if used. It is important to note, the export tape application being used governs the requirements with respect to cross platform restores from tape and must be adhered to to.
17	**What governs the lifecycle of migrated data?**
	When a tape application is being used the tape policy syntax passed to ADMe is responsible for its lifecycle management. Retention time on tape, which media to use etc. are both included as part of the definition of a tape policy. A given ADMe client group calls the tape policy passed to it as required. If cloud storage is being used as a target and deduplication is not being used the cloud provider's capabilities for lifecycle management can be used if they exist. Normally these are applied to the staging path or top-level bucket and/or folder involved. Support of this varies between providers. The ADMe –expire option is an alternative approach used to establish a calculated folder value at time of migration formatted as YYYY-MM-DD providing a visual indicator if the form of a top-level folder where its underlying data is intended to be deleted. The actual deletion process is a manual task performed by the end user.
18	**Can ADMe migrate Avamar backup data to the cloud?**
	Yes, The process is identical to when going to tape, selected backups are staged to a predefined staging disk area therefore it is a simple recovery from Avamar and ADMe perspective. What differs is the fact the staging disk area is cloud enabled using gateway software such as Geo-Drive to ECS or TNT Drive to Amazon S3 storage bridging the gap between legacy storage to object storage. The gateway software provides the authentication mechanism to a cloud provider. Cloud storage can be presented to a staging sever via iSCSI, NFS, CIFS, 3rd party appliances or using simple tools similar to EMC Geo Drive for ECS or TNT Drive for Amazon both of which provide virtual drive letter(s) on a Windows staging server. Because the data is in a rehydrated state, it is only practical to use this capability on a monthly basis versus migrating all daily backups.
19	**What Avamar system types are supported?**
	ADMe works with any Avamar system type including single or multi node, source or replication target, AVE, and IDPA or Avamar Griffin systems. When Data Domain being used to store Avamar backups versus its internal GSAN, it is transparent to ADMe and fully supported.