



Veritas NetBackup with Anzen

Data protection for the quantum computing age and beyond.

White Paper | October 2024

Introduction

As quantum technology progresses, the need to shield data and intellectual property against a range of existing and emerging threats grows more urgent. Anzen's innovative technology combined with Veritas' data protection solutions, brings users unparalleled security paired with efficient data management. The solution stands immune to brute force attacks, including those from quantum computers, ensuring robust and future-proof information security.

Solution Value

Veritas NetBackup is known as a best-in-class data protection solution for enterprises on-premises, hybrid, and cloud environments. NetBackup provides protection for a wide variety of workloads such as files, databases, virtual machines, cloud instances, Kubernetes, and more. It has built-in security features such as immutability, encryption, multi-factor authentication, AI powered anomaly detection, threat hunting, adaptive MFA and MPA, and automated malware scanning to protect and detect data from cyber-attacks. For fast recovery, NetBackup offers features such as instant access and instant rollback for certain workloads as well as an option to recover to an isolated environment to limit risk of recontamination.

NetBackup coupled with Anzen technology as an S3 target storage for backup images provides added security and protection of critical digital assets which includes:

- Security Hardening: Mitigate attack surface concentration, data aggregation, and insider breach risk.
- Futureproofed Anonymization and Data Sharding: An additional security layer complementing existing protections, ensuring resilience against evolving threats to public cloud backup.
- Federated, Multi-Cloud Data Protection: Guard against unauthorized bulk data exfiltration, eradicating single location breach risk.
- Power Cloud Adoption: Assure security and sovereignty control and foster confidence in adoption of public cloud services.

Solution Overview

Architecturally, NetBackup backs up data from sources needing data protection and uses the AnzenStore S3 API as a storage target as shown in Figure 1. AnzenStore receives data after which it anonymizes and shards it, distributing those shards to multiple object stores in the cloud (any mixture of AWS S3, S3 compatible, Azure Blob Storage). Utilizing Anzen's modular 'connector' architecture customers can take advantage of hybrid-cloud/multi-cloud storage configurations to further increase security, and reduce risks outlined in the previous section, by distributing shards across vendors. Anzen's storage connectors are used by the Storage Gateway to seamlessly integrate with a range of providers and offer continued opportunities to support new providers in the future.

Anzen technologies has been validated by Veritas labs as an S3 target storage for NetBackup. For specific Anzen versions supported with NetBackup, please refer to Veritas Hardware and Cloud Storage Compatibility List (HCL).



Figure 1 - Veritas NetBackup with Anzen as S3 Target Storage

Solution Deployment

Deployment of Anzen with NetBackup requires connections details from Anzen which include:

- Secret Key: Received as outputs from deployment scripts.
- Access Key: Received as outputs from deployment scripts.
- Endpoint Address: Received as outputs from deployment scripts.

Data can be sent to Anzen either deduplicated using NetBackup media server deduplication pool (MSDP) or direct to Anzen without deduplication. Below are examples of how to configure Anzen with and without deduplication of data. For more details relating to each of the products in this solution, please refer to the product documentation in the references section of this document.

Configuration Files

If using NetBackup versions 10.1 thru 10.4, cloud configuration files package would need to be downloaded and installed as indicated in the NetBackup Hardware and Cloud Storage Compatibility Lists to use Anzen as an S3 target storage. There is a "Read me" in the cloud configuration files package download website that describes installation instructions per your platform. For major releases after NetBackup 10.4, the configuration file that has support for Anzen is already included with the release and installation of this package would not be required. Here is an example installation of this package on a Linux platform and using NetBackup version 10.4:

1. Download and copy the cloud configuration file into a temporary directory on the NetBackup primary server.

2. Extract the tar file into the temporary directory # cd /tmp # tar xvf NB_CloudConfig_v2125.tar CloudProvider.xml cacert.pem

- 3.Copy the CloudProvider.xml to /usr/openv/var/global/cloud directory # cp CloudProvider.xml /usr/openv/var/global/cloud
- 4. Re-initialize the list of cloud providers.

/usr/openv/netbackup/bin/admincmd/csconfig R Reinitialized CloudStore Service Container successfully.

5. Verify Anzen is on list of cloud providers.

/usr/openv/netbackup/bin/admincmd/csconfig cldprovider -l

EMC-ECS (EMC ECS - EMC Elastic Cloud Storage) QTM-AS (Quantum ActiveScale - Quantum Cold Storage) QTM-Lattus (Quantum Lattus - Object Storage) acpcs3 (ACP Cloud Storage - ACP Cloud Storage CS3) alibaba (Alibaba Cloud - Alibaba Cloud Object Storage Service (OSS)) amazon (Amazon - Simple Storage Service) amazongov (Amazon GovCloud - Simple Storage Service) anzenstore (AnzenStore Cloud Storage - Anzen Technology System Ltd) atmoss3 (EMC ATMOS Private Cloud - ATMOS object storage) atnt-cs (AT&T S3 - AT&T S3 Cloud Storage (ACS)) azure (Microsoft Azure - Microsoft Azure Storage Service)

Configuration of NetBackup with MSDP (deduplication) and Anzen

The steps described below is an example of how to configure NetBackup version 10.4 with Anzen as an S3 target storage. The data is first deduplicated by NetBackup using MSDP prior to sending it to Anzen.

1. Verify that you already have an MSDP Storage Server defined as shown below.

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🖨 Disk storage													
₩ Media servers													

2. Select the **Disk Pools** tab, press **Add** and **change** the Storage Server to the MSDP storage server configured. Specify a unique name to the disk pool and provide a description if needed. Then click **Next**.

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🗮 Host properties				
🛠 Bare Metal Restore 🗸 🗸				
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3. In next screen, select Add volume.

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Snapshot Manager										
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4. At the next screen, enter the desired volume name and once you click the line under **Cloud storage provider** a dialog box will pop-up and select **AnzenStore Cloud Storage**.

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5. Continue to scroll down to Region section and click Add to add a region. From the connection details that Anzen provided, specify the region name, location constraint (also the region name), the Anzen endpoint as the Service URL and use default values for the HTTP and HTTPS ports. NetBackup with Anzen supports both path and virtual hosted styles. Then, click Add.

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O Storage lifecycle policies	AnzenStore Cloud Storage	Endpoint access style			
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D Resiliency				Cancel Previous	Next

6. Under Associate credentials, click Add a new credential, specify desired name for the credential and enter the secret key and access key provided by Anzen, click Next and Save.

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Hosts	C IAM Anywhere			
Deployment ma				
Host properties				Cancel
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7. Under Advanced settings, uncheck Check certificate revocation.

8. Continue to scroll down and under Cloud buckets, select **Add** bucket. In the dialog box, enter desired bucket name and click **Add**. Click on the radio button of the new bucket added to select it. Then click **Next**.

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	anzen-co-20240916	6d1201f2-f546-4fbe-8706-cde4caf			
Host properties	O anzen-nb-101	6d1201f2-f546-4/be-6706-cde4caf			
Deve Matel Destant	O anzen-som-1	6d1201f2-f546-4fbe-8706-cde4caf			

9. After the disk pool has been configured, click **Close** and then click on **Add Storage** Unit at the top green bar that appears. Enter the desired storage unit name and modify the maximum concurrent jobs as appropriate. **NOTE:** If the green banner disappears, you can get to the "Add cloud storage unit" dialog box by navigating to Storage->Storage Units and clicking 'Add.'

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🚔 Workloads 🗸 🗸	Maximum concurrent jobs				
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10. Select the disk pool created in the previous steps and then click Next.

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Activity monitor										
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Disk storage		O msdp-dp1	2.24 GB of 475.86 GB used	PureDiskVolume	PureDisk	aj-fnb104-media1 tlab1.com	None			
🛒 Media servers		Showing 1-2 of 2 (1 selected)					Rows per page 100 🗸	K	$\langle \rangle$	
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11. In the next couple of screens, select your "Media Server," review the selections and then select **Save**. As shown below, the storage unit has been successfully created.

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Configuration of NetBackup Direct to Anzen without Deduplication

Some data may not benefit from deduplication and thus there is an option to send data directly to Anzen target storage without deduplication. The following steps describes how to configure NetBackup to send directly to Anzen.

1. Under Storage Server tab, click Add and select Cloud Connector in the pop-up dialog box.

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Workloads		Select the type of storage that you want to configure						
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🛒 Media servers		Category *						
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2. In the next screen, specify desired storage server name. Click on **Cloud Storage provider** and select AnzenStore Cloud Storage.

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0.00	Cloud storage provider	Description	Storage API type			
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I Media servers	C ATATAS	AT&T \$3 Cloud Storage (ACS)	63			
	 Albaba Cloud 	Albaba Cloud Object Storage Ser	50			
Snapshot Mana	Amazon	Simple Storage Service	53			
0	Amazon GovCloud	Simple Storage Service	83			
O Storage Mecycle	AnzenStore Cloud Storage	Anzen Technology System Ltd	53			
E Storage units	 Backblaze B2 Cloud Storage 	Backblaze B2 Cloud Storage	83			
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3. Select the discovered Anzen region, select the media server and click Next.

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4. Enter the access and secret keys provided by Anzen, **uncheck** the **Check certificate revocation** and click **Next**.

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Add cloud storage server Dubboard Cubboard Cubboard <th>Veritas NetBackup"</th> <th></th> <th></th> <th></th> <th>4</th> <th>A ? O (</th>	Veritas NetBackup"				4	A ? O (
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Recovery Access to Dis A	Y Activity monitor					
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 Workloads Storage Betext access ky * Modia servers Storage strasge Storage strasge Storage strasge Ceckstor and reporting Ceckstor and reporting Detextion and genoret Popyment management Hosts Ceckstorage reported Bestimery Storage strasge Sto	Protection ~	4482497d5cdb4004a4f90a394e2927bdf6d1671	53d9bc832905901da581e47fa			
Storage	🖹 Workloads 🗸 🗸	Secret access key *				
	🛢 Storage 🗠					
Mudda servers Stage blot Manager Costalog Detection and reporting Popy Detection and reporting Popy Detection and reporting Popy Detection and reporting Popy Besilvery	Disk storage					
Subplied Manager Subplied Manager Submap infuscion publics Storage infuscion publics Catalog Detection and reporting Polepolyment management Hosts Polepolyment management Bioter propries Bioter porties Bioter porties Resiliency	星 Media servers	Advanced settings				^
Adventication only Adventication onl	Snapshot Manager	Security Use SSL				
Image: storage units Image: storage units Image: storage units Image: control contro control control control control control control control co	O Storage lifecycle policies	Authentication only Authentication and data transfer				
Rege storage Page Catalog Image: Storage Detection and reporting Image: Storage Detection and reporting Image: Storage Papelsyment management Image: Storage Image: Storage Image: Storage Real/Host Image: Storage Real/Host Image: Storage	Storage units	Check certificate revocation (IPv6 not s	supported for this option)			
Catalog Catalog Detection and reporting Catalog Detection and reporting Catalog Catalog Detection and reporting Hosts Poployment management Elifet properties	•• Tape storage	-				
Potection and reporting ✓ C redential management ✓ Montal Management ✓ (p) Deployment management ✓ (E) Astroporties ✓ (Realliercy: ✓	E Catalog	Use praxy server				
Credential management mo Hosts mo Deployment management iiii Host properties the Bare Metal Restore ✓	Detection and reporting ~					
ees Hosts ^ ⑦ Deployment management ﷺ Host properties ❀ Bare Metal Restore ✓ № Realliercy	Credential management					
⊕ Deployment management ⊞ Host properties ⊕ Bare Metal Restore • Restlercov	Hosts					
	Deployment management					
	⊞ Host properties					
	🏟 Bare Metal Restore 🗸 🗸					
	I Resiliency				Canad	Provious Next

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5. For the next couple of screens, under default Storage server properties use defaults or modify as appropriate, add additional media servers if needed, click **Next**, review, and click **Finish**.

«	Add cloud storage server				*
B Dashboard	C Basic properties	Access settings	Storage server options	Media servers	3 Review
Y Activity monitor					
Recovery	anzen-cc-direct	Storage provider	Storage API type Storage class		
Protection	v		anang. Annaan aa		
Workloads	- Basic properties				
Storage	Media server				
🖨 Disk storage	aj-fnb104-media1.tlab1.com				
F Media servera	Region				
Spanshot Managar	Service host	Region name	Region identifier		
	verites sandbox ancentechsystems com	6d1201f2-f546-6fbe-8706-	cdetc. 6d1201f2-l546-lfbe-0706-cdetcel		
Storage lifecycle policies	Access settings				^
le Storage units	Access details for the account				
Tape storage	Access key				
Catalog	General settings				
Detection and reporting	 Use SSL (Authentication and data transfer) 			* Check certificate revocation	
Credential management	Proxy settings				
Hosts	> Se Use proxy server				
Deployment management					
Host properties	Storage server options				^
	Object size				
sare Metal Kestore	S MB				

6. After Storage server succeeds, in the green banner click on Add disk pool. NOTE: If banner disappears, just click on Disk pools tab, and click on Add.

Veritas NetBackup"									÷	٠	?	۰	•
«	Disk storage			Storage:	server successfully created.	Add disk pool					Dani	gure dish	sb
Dashboard	Storage servers Di	isk pools Universal sha	res										
Y Activity monitor	+ Add Search								A Q	т	c	m×	18
3 Recovery	Name 🛧	Storage server type	Category	Media servers	Supports Accelerator	Supports snapshot	Supports A.I.R.	WORM capable					
Protection	aj-fnb104-media1.tlab1.c	com PurcDisk	MSDP	1	Yes	No	Yes	0					1
Workloads	anzen-co-direct	anzenstore_raw	Cloud	1	Yes	No	No						•
Storage	~												
🖨 Disk storage													
루 Media servers													
Snapshot Manager													
O Storage lifecycle policies													
😹 Storage units													
🚥 Tape storage													
Catalog													
Detection and reporting	•												
Credential management													
Hosts	<u>_</u>												
Deployment management	t												
Host properties													
🕸 Bare Metal Restore													D
	Strains 1/2 of 2							D	100	V			

7. In the add disk pool screen, **change** Storage server name to the storage server created in previous step, enter desired disk pool name, and click **Next**.

Veritas NetBackup"			+	4 7	•	
	Add disk pool					
Dashboard	Disk pool options	od avignose Textures Ret Accesses Texture Ret Accesses Camp) Resi			
C Activity monitor	[manual states and st	Fachase				
Recovery	anzen-co-direct	Accelerator		Chan	pe	
Protection ·	Conserve Conserve Conserve Partners <					
Workloads	Disk pool name *					
Storage	anzen-cc-direct-dp	0				
🖨 Disk storage	Description					
Media servers		0				
Snapshot Manager	Limit UP streams Consumm read and write pills offent diak performance. Unit UP etneme to present diak	or bal				
O Storage lifecycle policies						
💼 Storage units						
Tape storage						
Catalog						
Detection and reporting						
Credential management						
Hosts						
Deployment management						
III Host properties						
Barn Matal Dastorn						
Care Metal Restore						

8. In the next screen, click Add and specify new bucket name and click Add. Select the newly added bucket from list and click Next.

e e	Add Cloud disk pool					
B Dashboard	Cisik pool options		Votemes			() ==
Activity monitor						
D Recovery	+ A05 Sector		٩			0
D Restaurtion	Name	Region				1
Protectori	O argen	641301/3/1	45-459-4706-cdedc.			
Workloads	O anzen-bucket-2016	64120112-15	40-40x-4736-c84c.			
	O anzen-bucket 2019	641201/2/1	40 48e 8706-c8e4c			
Storage	A O argen-co-20240916	641201026	10 10 1000 1 1			
C. Net stress	O arzen-co-bucket 2019	641001/0.0	Add a volume X			
Ca creationage	O argan-eb-101	661201/2.4				
Wedia servers	O anzen-som t	641201024	And the second se			
	O anzen-test-bucket-t	6412010-0	autors direction with			
Snapshot Manager	O azvalptuciat	641 SCH 10 H	Brock a new for easy for 60 losenias desires norther, it haloes for or here it with new orthologies			
	C clab-test-bucket	64120142.8				
O Storage Intecycle police	clatrawbuckat	6413010.0	Region Lan STATE Real place (1914) and an all real real real real real real real			
it Storage units	C etitorribudiet	6412010-8	61211219464086106084081081			
	C harrie hat	6.40 Mer # 10				
GG Tape storage	Showing 1-22 of 23		Canal Art	Rowsparpage 100 v	K (××
Catalog		_				
Detection and reporting						
Credential management						
- Hosta						
Deployment managem	ent					
III Host properties						
Bare Metal Restore						

9. Review and click Finish.

Veritas NetBac	ckup			÷ • ? 0 (
K	Add Cloud disk poo	bl		
Dashboard	 Disk pool options 		S Volumes	Revi
Activity monitor				
Recovery	anzen-cc-direct-d Storage category: Clour	lp id		
Protection				
Workloads	Storage server			^ ^
Storage	Storage server nam	ne	Features	
Disk storage	anzen-cc-direct		Accelerator	
🛒 Media servers	Disk pool			^
Snapshot Manag	per Volumes			
O Storage lifecycle	policies	Region		
E Storage units	anzen-co-direct-bu	ucket-2019 6d1201f2-f546-4fbe-870	6cd#4c	
Tana storage	1 record			
a nape sinage	Description			
Catalog	Anzen Direct Non De	eduplication Disk Pook		
Detection and reportir	ing v			
Credential manageme	ent			
e Hosts	.			
Deployment man	agement			
Host properties				
Host properties				

10. After disk pool configuration completes, a green banner appears and click on Add storage unit. NOTE: If the green banner disappears, you can get to the "Add cloud storage unit" dialog box by navigating to Storage->Storage Units and clicking 'Add.'

-											
Veritas NetBackup							4	۰	?	۰	Δ
«	Disk storage		🕑 Disk po	ool successfully created. Ad	d storage unit						,
🚯 Dashboard	Storage servers Disi	k pools Universal shares		Þ							
Y Activity monitor	+ Add Search						01	. τ	c	mv t	=~
 Recovery 	Name	Used space	Volumes	Storage server type	Category	Storage server	WORM capable	-	WOR	M mode	
Protection ~	msdp-dp1	2.24 GB of 475.86 GB used	PureDiskVolume	PureDisk	MSDP	ej-1nb104-media1.tlab1.com					1
🖨 Waddaada	anzen-co-direct-dp		anzen-co-direct-bucket-2019	anzensione_raw	Cloud	anzen-co-direct					1
Workloads V	anzen-msdp-dp	0.00 KB	enzen-msdp-vol	PureDisk	MSDP	ej-1nb104-media1.tlab1.com					1
🛢 Storage 🔷 🥎											
🖨 Disk storage											
荦 Media servers											
Snapshot Manager											
O Storage lifecycle policies											
🗟 Storage units											
🚥 Tape storage											
Catalog											
Detection and reporting ~											
😽 Credential management											
🚥 Hosts 🔷 🗠											
Deployment management											
Host properties											
🌸 Bare Metal Restore 🗸 🗸											
1 Resiliency	Stowing 1-3 of 3						Rows per page: 100 ~	K	<	>	Ж

11. In next screen, specify the storage unit name and modify maximum concurrent jobs based on your requirements. Click Next.

Veritas NetBackup				# # 7 0
«	Add Cloud storage unit			
Dashboard	Basic properties	() Disk cool	Media server	() III
* Activity monitor	name holder area	O mapon		0 ~~
Pecovery	Name *			
Protection	*			
🖶 Workloads	Maximum concurrent jobs			
Storage	^			
🖨 Disk storage	Maximum fragment size 524288 MB			
🕎 Media servers				
Snapshot Manager				
O Storage lifecycle policies				
Storage units				
Tape storage				
Catalog				
Detection and reporting				
Credential management				
- Uoste				
(•) Deployment management				
Host properties				
🛠 Bare Metal Restore	×			
Resiliency				Cancel Previous N

12. Select the disk pool created in previous steps. Click Next.

Veritas NetBackup							4	•	?	•
۲	Add Cloud storage unit									
Dashboard	Basic properties				(i) Media	server				0
Activity monitor			•		0					0
Recovery	Select a disk pool									
Protection ~	Search								Q	
Workloads ~	Name	Used space	Volumes	Storage type	Storage server	Replication				
Storage	anzen-co-direct-dp		anzen-cc-direct-bucket-2019	anzenstore_raw	anzen-co-direct	None				
Ca Disk storage	Showing 1-1 of 1 (1 selected)					Rows per page	100 🗸	К <	>	
III Maria second										
	On demand only									
 Snapshot Manager 										
O Storage lifecycle policies										
🗑 Storage units										
Tape storage										
Catalog										
Detection and reporting v										
Credential management										
■ Hosts ^										
Deployment management										
Host properties										
Host properties Bare Metal Restore										

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13. In the next screen, select your "Media Server", review and select Save.

6	Veritas NetBackup							4	\$?	• 6
«		Add Cloud storage unit								×
6	Dashboard	Basic properties		C Disk pool			Media server			A Review
Ť	Activity monitor						-			-
ອ	Recovery	anzen-cc-direct-stu		Maximum concurrent jo	obs	Maximum fragment size	x On demand only			Edit
U	Protection ~	storage category: cloud		x Use WORM		004200 140				
•	Workloads ~									
8	Storage ^	Disk pool								^
	🖨 Disk storage									Edit
	루 Media servers	Name	Available space	Raw size	Replication	Volumes				
	Snapshot Manager	anzen-co-direct-dp			None	strate-co-direct	Cuchet-2019			_
	O Storage lifecycle policies	1 record								
	👼 Storage units									^
	Tape storage	Media server								
	Catalog	Allow NetBackup to automatics	ally select from the load balancing mer	dia servers						Edit
•) Detection and reporting 🛛 🗸									
4	Credential management									
	Hosts ^									
	Deployment management									
	Host properties									
4	Bare Metal Restore 🗸 🗸									
0	Resiliency							Car	cel Previ	ous Save

14. As shown below, the storage unit has been successfully created.

Veritas NetBackup							4	٠	?	٥	(
ĸ	Storage units			🕑 Storage uni	t successfully created						
Dashboard	Storage units										
Activity monitor	+ Add Bearch						(in)	λ Τ	c	∎v	15
Recovery	□ Name ↑	Media servers	Category	Disk pool used space	Fragment size	Disk pool	High water mark	-	Low w	vater mar	ï
Protection ~	anzen-cc-direct-stu	Any available	Cloud		512 GB	anzen-co-direct-dp					1
M-444-	anzen-msdp-stu	Any available	MSDP	0.00 KB	50 GB	anzen-madp-dp					-
wondcads ~	msdp-stu1	Any available	MSDP	2.24 GB of 475.86 GB used	50.08	madp-dp1	98%		00%		
Storage ^											
🔒 Disk storage											
🐺 Media servers											
Snapshot Manager											
O Storage lifecycle policies											
📚 Storage units							ß				
Tape storage											
Catalog											
Detection and reporting \sim											
Credential management											
Hosts ^											
Deployment management											
🗮 Host properties											
Bare Metal Restore 🗸 🗸											
	1										

After configuration of the storage unit, policies and protection plans can be defined to utilize the storage unit to backup data to Anzen. For more information on how to define policies and protection plans and run backups and restore, please refer to the NetBackup documentation in the reference section.

Conclusion

With the rise of quantum computing and continued cyber-threats, companies are seeking data protection solutions that would safeguard their digital assets that are imperative to run their business. NetBackup with Anzen offers additional data security that makes it ideal for the quantum computing age and beyond. NetBackup can protect a myriad of data workloads and Anzen has features that anonymize and shard data across clouds to be resilient against evolving threats, security hardening that would mitigate attack surface and insider breach risk, and federated, multi-cloud data protection to guard against unauthorized bulk data exfiltration. NetBackup coupled with Anzen provides excellent data protection on-premises, multi-cloud, and hybrid-cloud environments. Reach out to your Veritas or Anzen sales account team to learn more.

References

Veritas NetBackup Product Documentation

https://www.veritas.com/support/en_US/article.100040093

Anzen Product Documentation

- https://anzentechsystems.com/work/01-anzen-store
- https://api.anzentechsystems.com

About Veritas

Veritas Technologies is the leader in secure multi-cloud data management. Over 80,000 customers—including 91% of the Fortune 100—rely on Veritas to help ensure the protection, recoverability and compliance of their data. Veritas has a reputation for reliability at scale, which delivers the resilience its customers need against the disruptions threatened by cyberattacks, like ransomware. No other vendor is able to match the ability of Veritas to execute, with support for 800+ data sources, 100+ operating systems and 1,400+ storage targets through a single, unified approach. Powered by Cloud Scale Technology, Veritas is delivering today on its strategy for Autonomous Data Management that reduces operational overhead while delivering greater value. Learn more at www.veritas.com. Follow us on X at @veritastechllc.

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