How Deutsche Bahn keeps their business on track with AWS and N2WS

Veeam/N2WS

Meet the Speakers

Sebastian Straub

- Senior System Engineer at N2WS
- N2WS and CPM Expert
- Former Systems Consultant for Dell
- Former Principal Consultant at Oracle
- Formerly at ScriptLogic (a division of Quest Software)

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How does Veeam help with AWS?

Archive to S3 and Glacier

Reduce costs by archiving backups to S3 and Glacier

.

Make EC2 Backups easier to Manage

Cloud Protection Manager (CPM)

EC2 Data Protection with Veeam Agents

Backup for VMware Cloud on AWS

Veeam Availability Suite for the VMware Cloud on AWS

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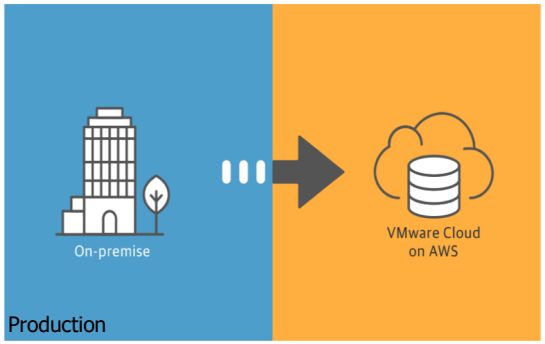
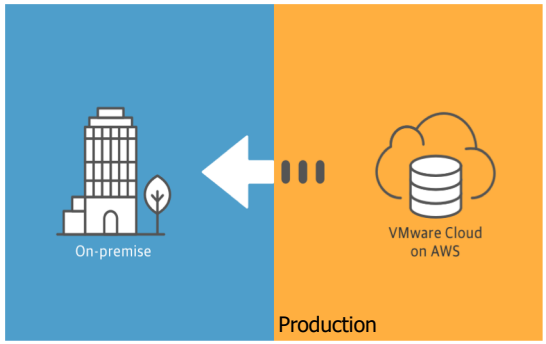
Availability for VMware Cloud on AWS

Replicate **to**
VMware Cloud on AWS



Replicate **from**
VMware Cloud on AWS



Replicate Within
VMware Cloud on AWS

Cloud Lifecycle

Backup from VMware Cloud on AWS to AWS VPC

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Backup & Recovery @ AWS

DB Systel

Moving the digital future. Together.

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Networks
Logistics

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The DB Group

Did you know

… in 2017 the DB Group generated revenues of **EUR 42.7 billion** ?

… that the **DB Navigator** app is the second most popular travel app in Germany (after Google Maps), with an average of **8 million users** a month?

… that DB runs more than **24,000 passenger trains** a day?

… **7.4 million people** use DB's trains and buses in Germany each day, including 6.6 million regional and local passengers? In all, DB transports some **2.7 billion people** each year

… that **www.bahn.de** fulfils some **9 million information requests** each day?

… that over **1.4 million severely disabled people** can use regional and local public transport in Germany for free?

… that DB Cargo runs some **4,350 freight trains** a day, carrying over **a million metric tons of cargo** through Germany and Europe?

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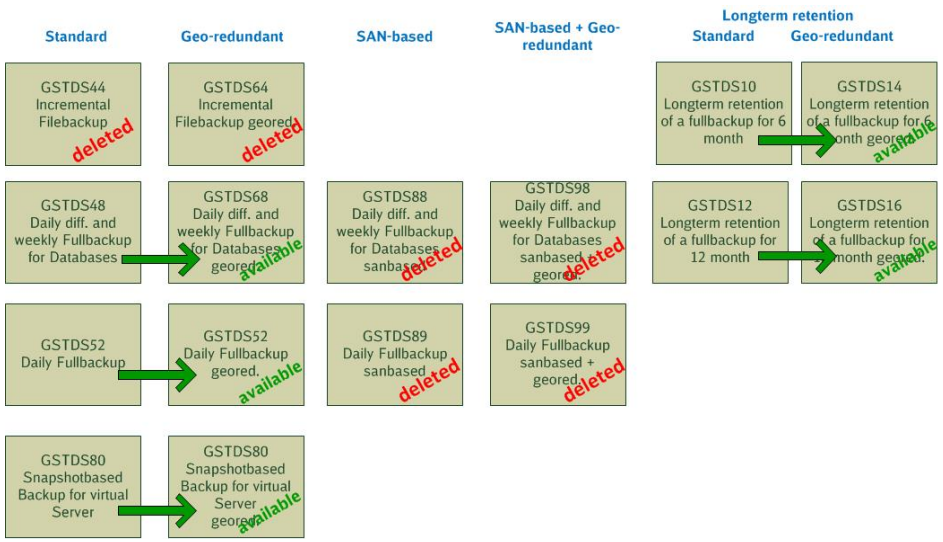
Project "Lift & Shift" (end 2016)

Challenges

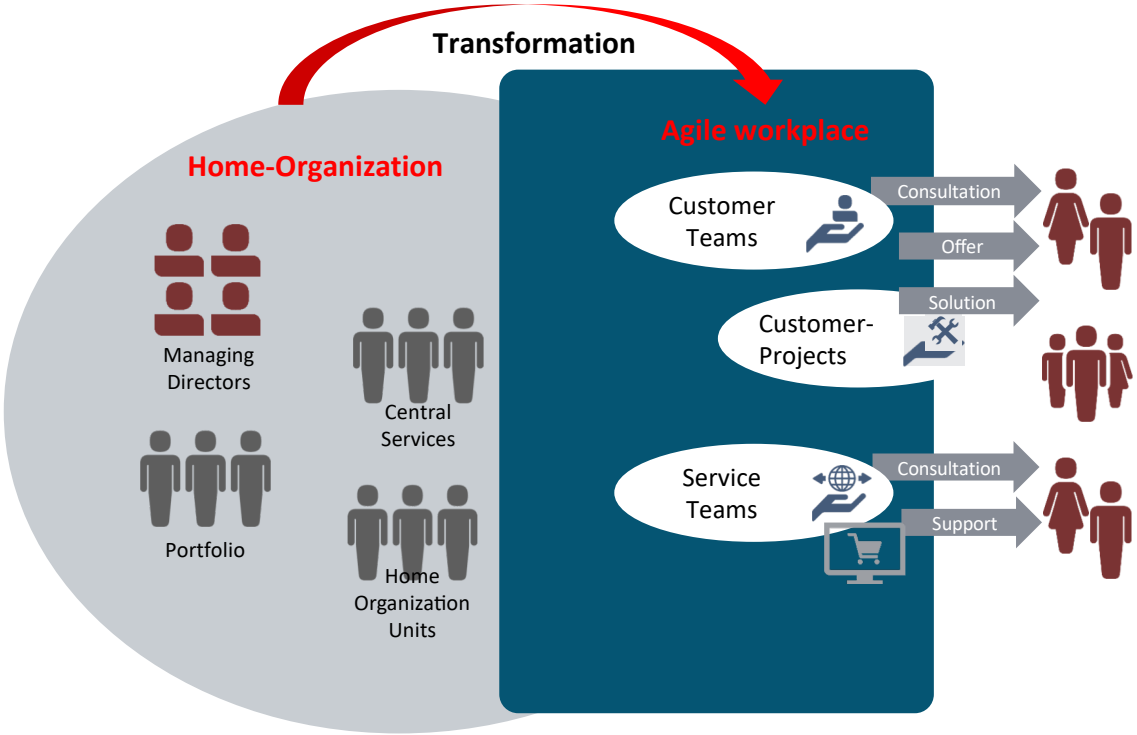
Technical

How do we map the current "on prem" service catalog in AWS?



Organizational

Which changes are associated with cloud migration?
What are the consequences for the basic services?

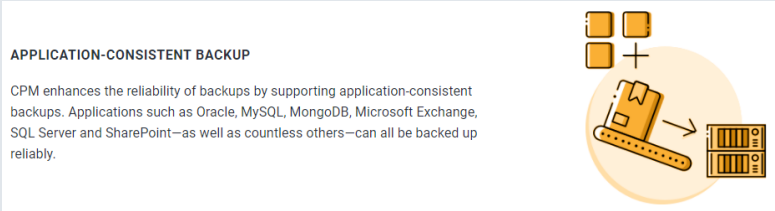


Solution

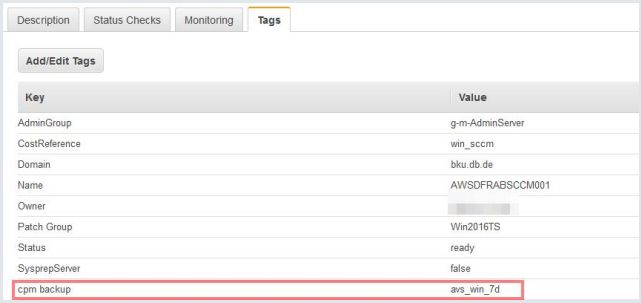
N2WS/Veeam Backup & Recovery with Cloud Protection Manager (CPM)

One Click Deployment

Crash-Consistent Backups

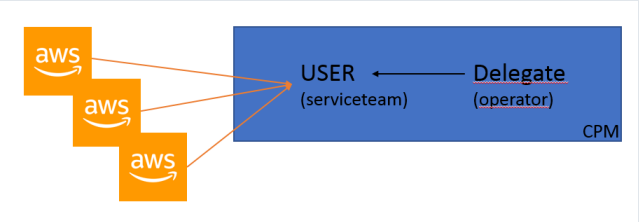


Tagged based Backup

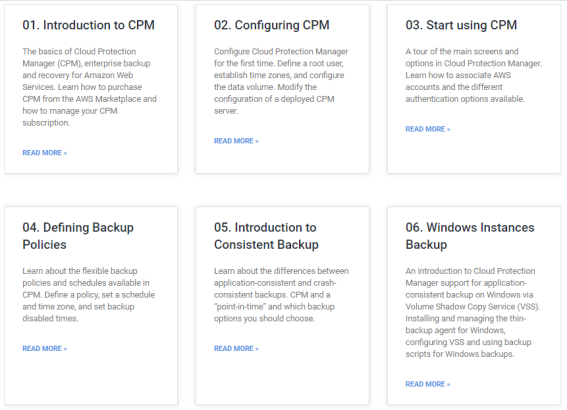


Key	Value
AdminGroup	g-m-AdminServer
CostReference	win_sccm
Domain	bku.db.de
Name	AWSDFRABSCCM001
Owner	
Patch Group	Win2016TS
Status	ready
SysprepServer	false
cpm backup	avs_win_7d

AWS-Account- and User-Management meets our requests

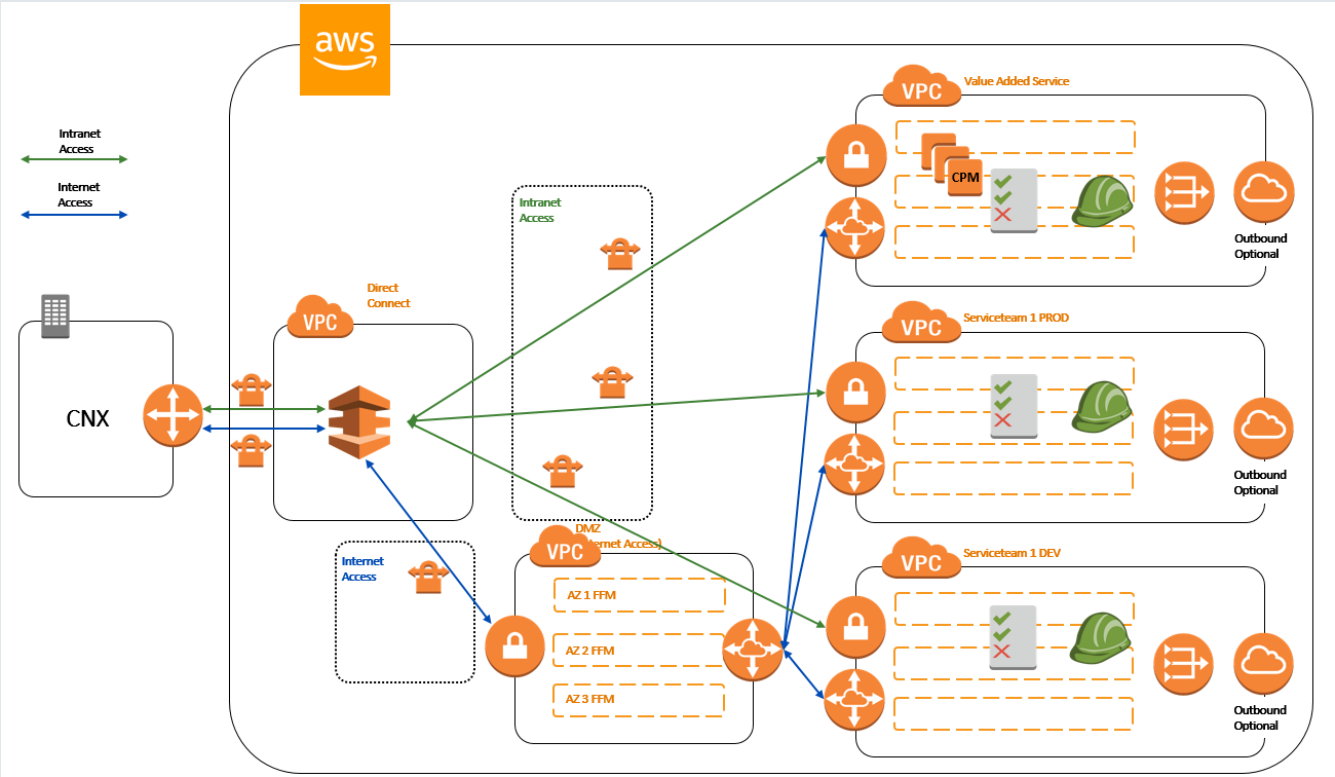


Very Detailed Technical Docs

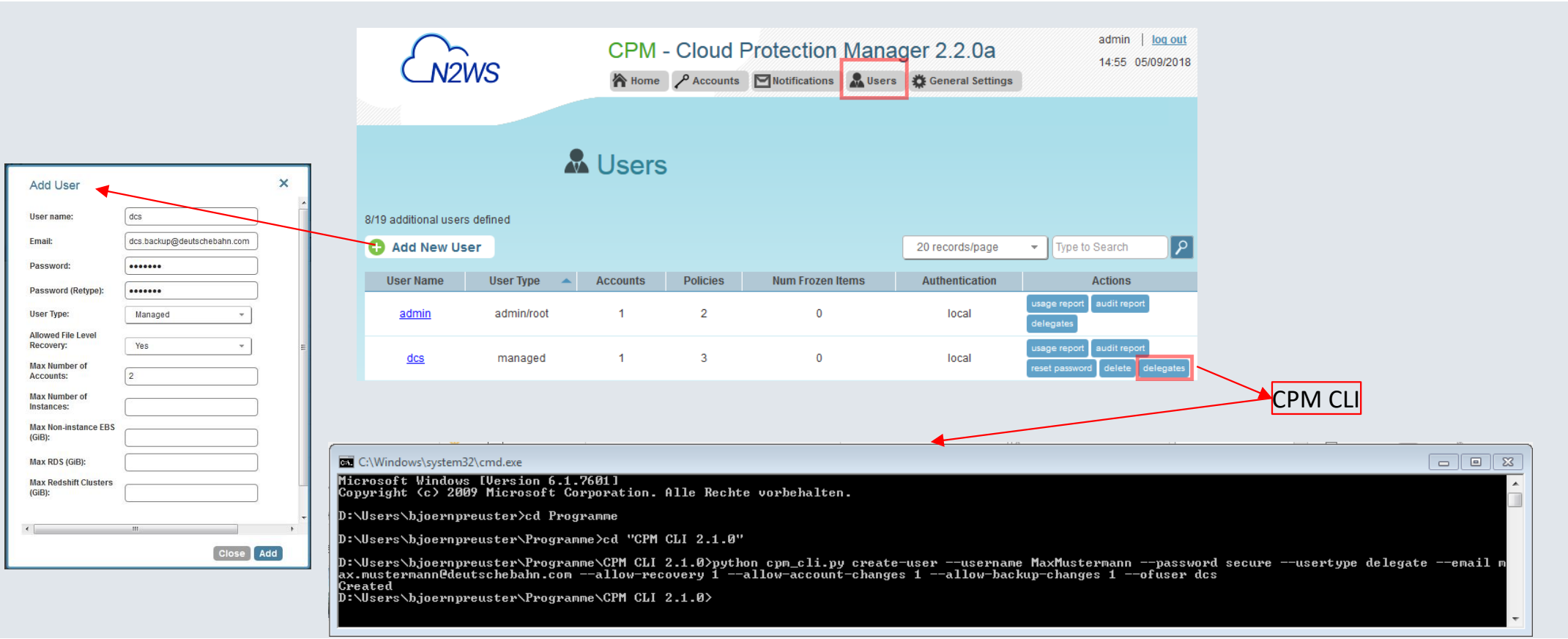


DB Systel uses CPM

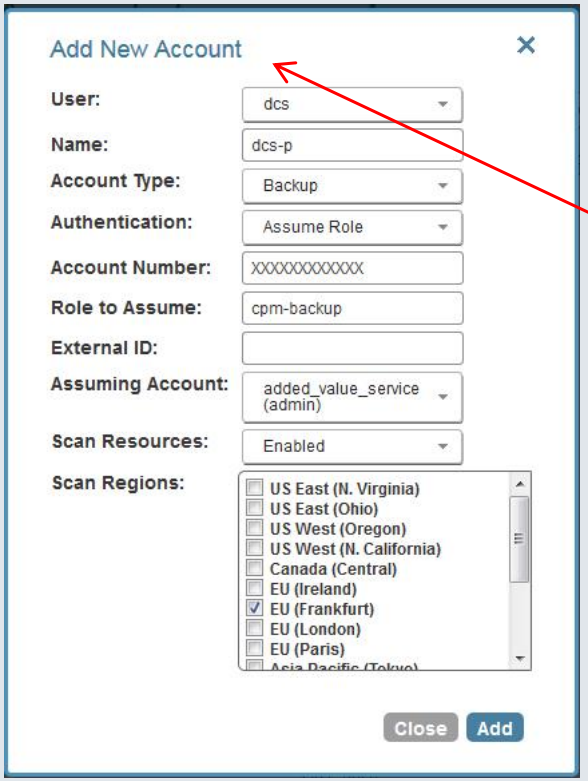
- Backup for various workloads using AWS snapshots on Windows/Linux
- Refresh UAT-Dev environments / Cross Account Restore
- Backup/Recovery of encrypted Volumes (KMS and C-KMS)
- We currently protect 400 server across 13 AWS accounts
- Automated backup by tagging
- Automated AMI creation
- Easy to handle web application
- Automated versioning and retention of snapshots
- Diverse schedule options, up to every minute
- Independent Management for every service team
- Reporting features



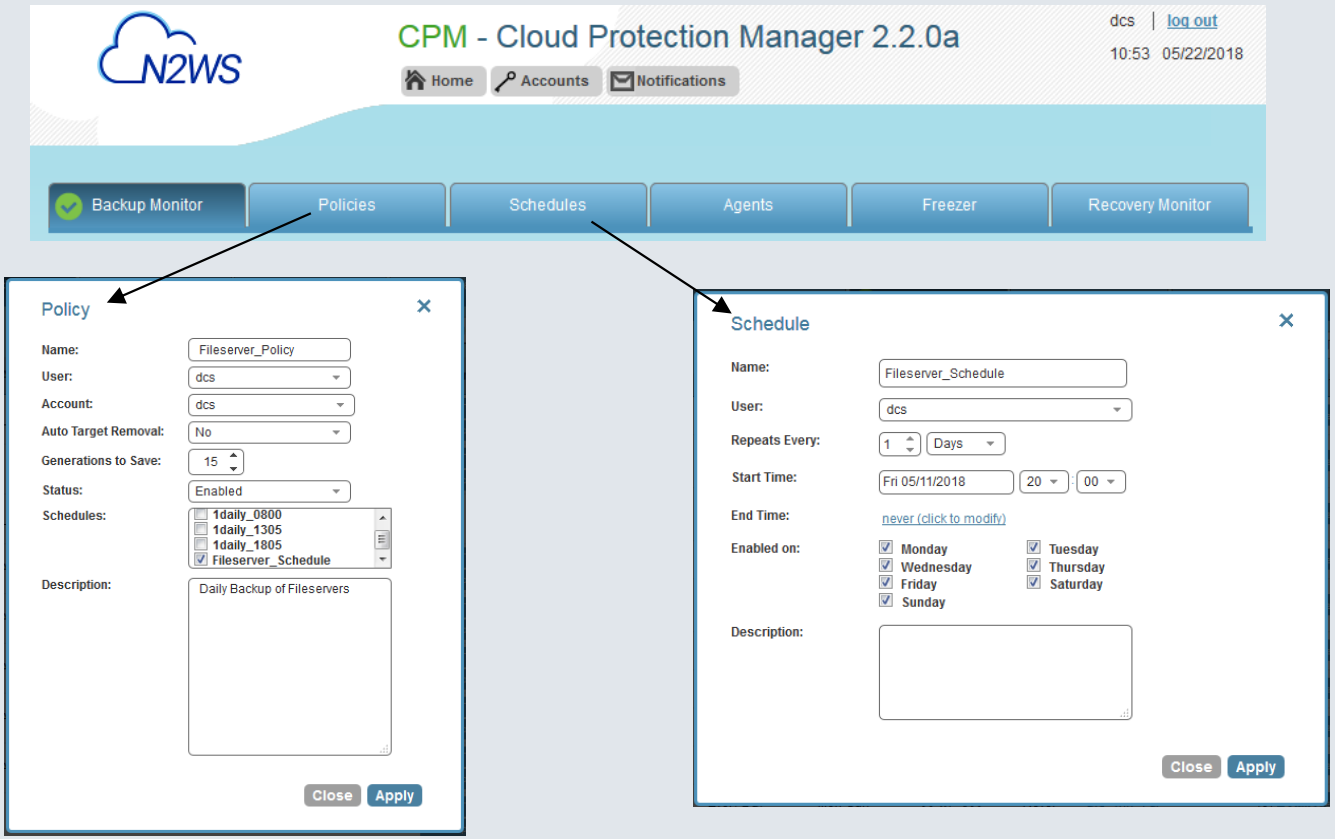
A Closer Look at CPM user and delegates



A Closer Look at CPM Account Configuration



A Closer Look at CPM
Policies and Schedules



A Closer Look at CPM
Instance Recovery

Instance Recovery

From Account: dcs **To Account:** dcs

For cross-account encrypted volume recovery, please make sure the encryption key is shared with the other account.
In addition, for cross-account and cross-region recovery, an encryption key with the same alias is required on the other side.
ebs root device snapshot found. id=snap-059f4ce7f612f5c4c (device=/dev/sda1)

AMI Assistant

Basic Options:

Launch from: snapshot
AMI Handling: De-register after Recovery
Image ID:
Instances to launch: 1
Key: No Key Pair

Instance Volumes:

Recover	Original Volume ID	Capacity (GiB)	Type	IOPS	Encrypted	Device	Preserve Tags	Filter Instances:	Delete on Termination
☑		50	General Purpose SSD	150	yes	/dev/sdd	☑	Type to filter	☑

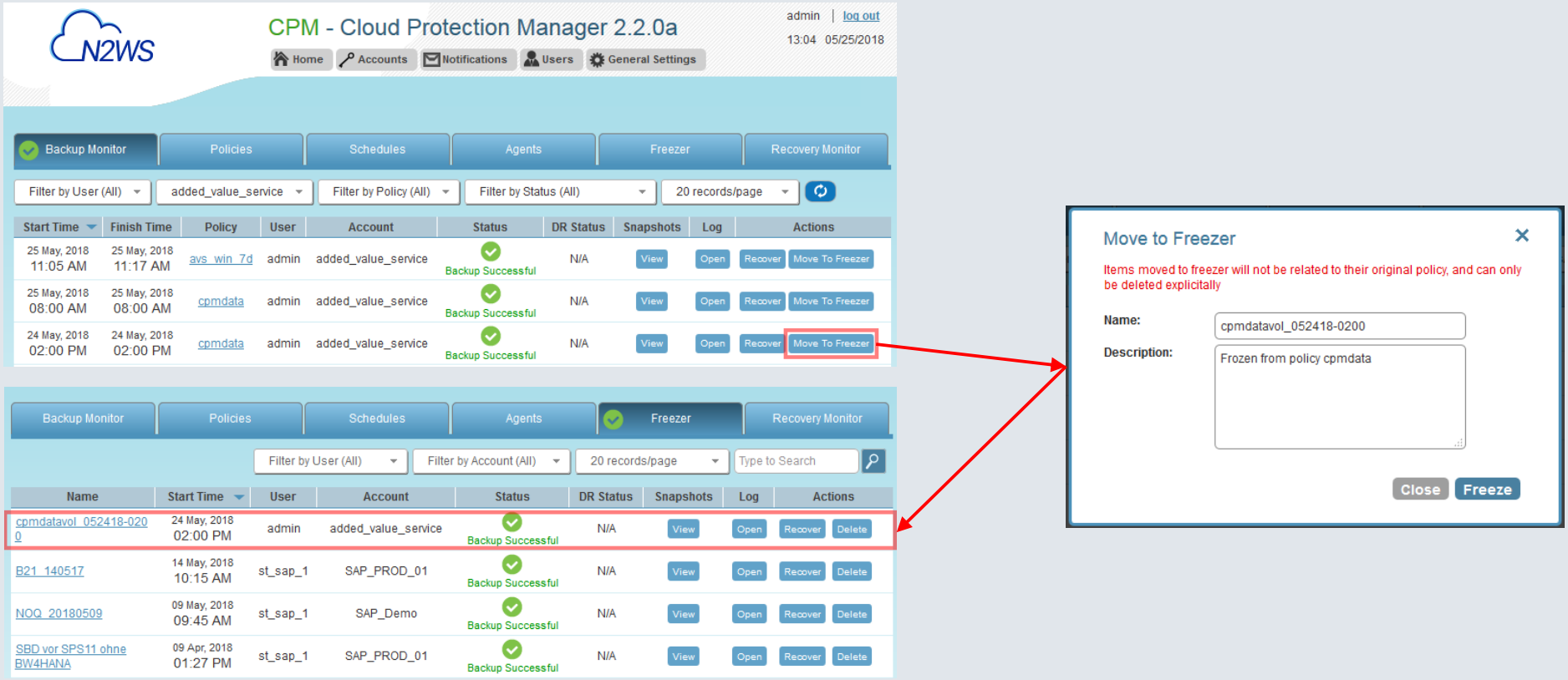
Advanced Options:

Advanced Options:

Ephemeral Storage:
Architecture: x86_64
Placement: By VPC
VPC:
VPC Subnet ID:
VPC Assign IP:
Auto-assign Public IP: Subnet Default
Security Groups: Type to filter Security Groups...
Enable User Data: ☑
User Data: ICAgPHBvd2Vyc2hIbGw+DQ ogICAgV3JpdGUtSG9zdCAia GllciBrYW5uIENvZGUgYXVzZ 2Vmw7xocnQgd2VyZGVuID4 +IGM6XGluc3R3MmtcU3lzcH
Preserve Tags: ☑
Instance Type: t2.medium
Shutdown Behavior: stop
API Termination: Disabled
Kernel:
RAM disk:
Allow Monitoring: ☐
Instance Profile ARN:
EBS Optimized: ☐
Tenancy: Shared

NOTE! https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ebs-initialize.html

A Closer Look at CPM
Longterm retention -> Freezer



Next steps

- With version 2.2.0a N2WS/Veeam implemented AD integration
- There are first requirements for cross-region backup and recovery
- Script based application-consistent backup on Linux
- Fileservice@AWS get it‘s own CPM-server because of single file restore requirement
- Implementation of RDS backup with CPM because of limited retention with AWS standard

Thank you for your attention!

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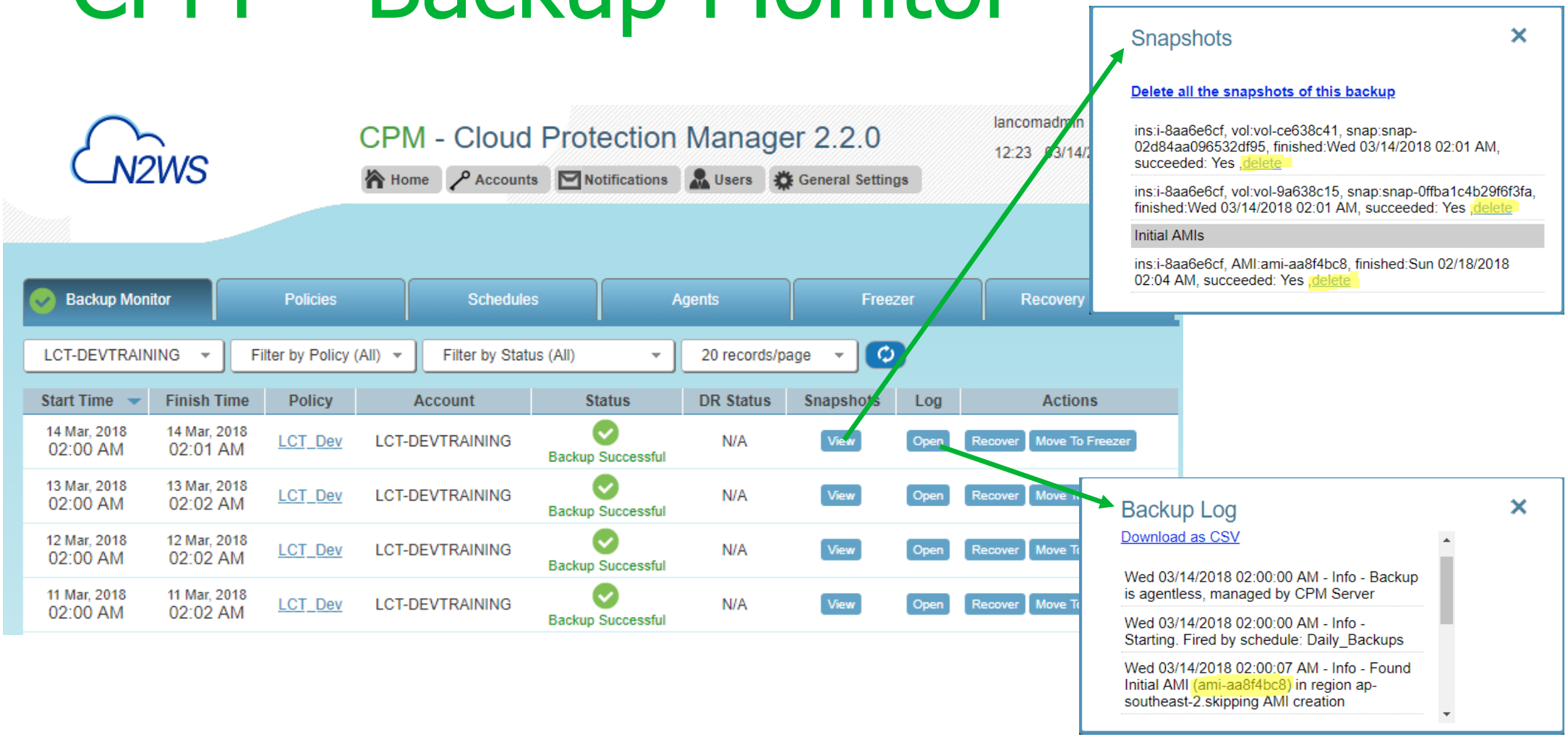
A Closer Look at CPM

CPM – Backup Monitor



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CPM – Policies and Schedules

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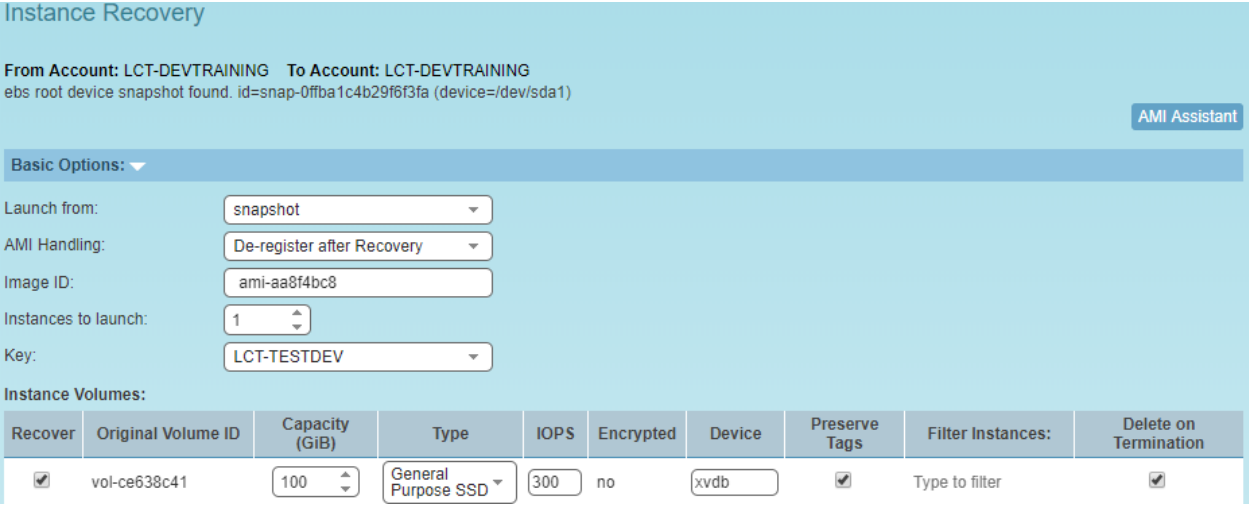
CPM – Instance Recovery

- Basic Options:
- Ability to fine-tune the recovery which includes:
  - VPC subnets
  - IP Addressing
  - Security Groups
  - Keys



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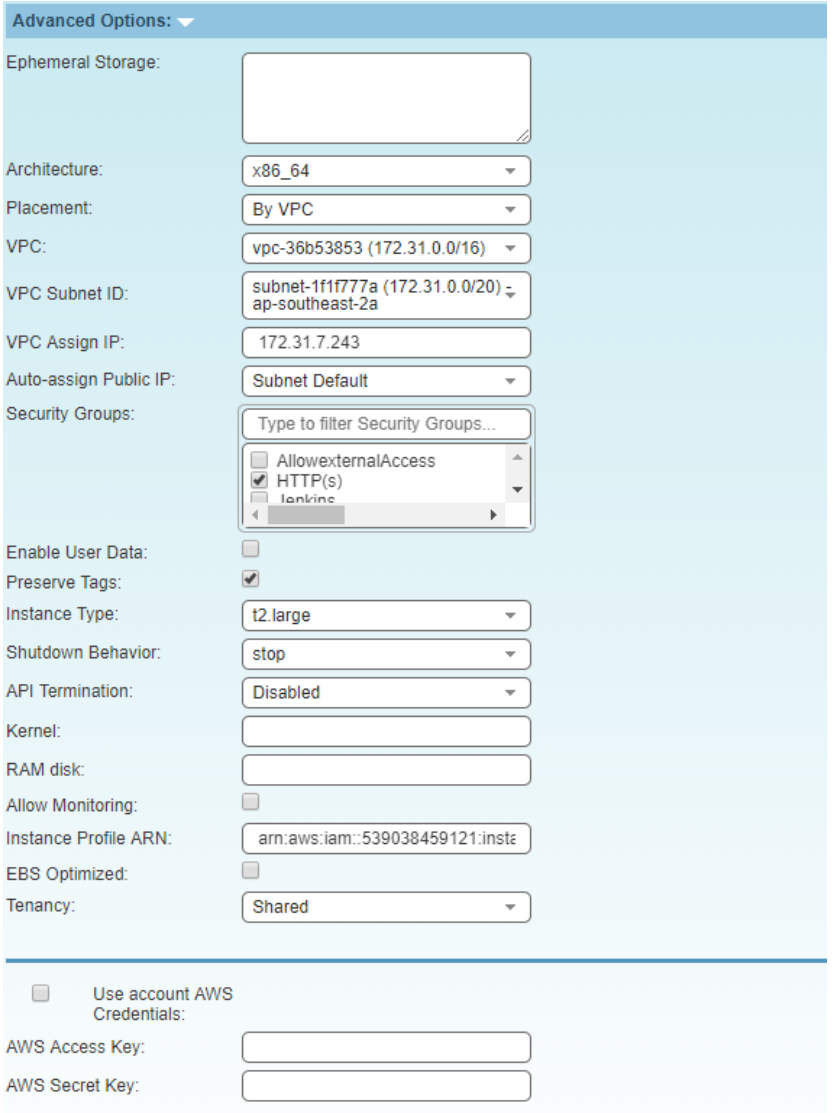
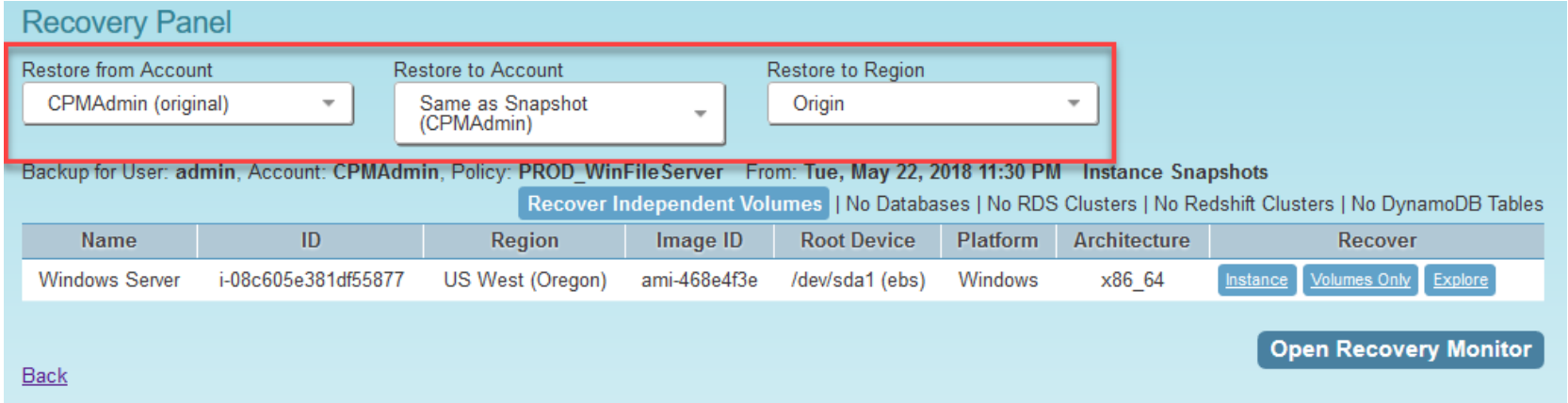
CPM - Instance Recovery

Advanced Options



CPM – Disaster Recovery

- Disaster Recovery
  - Cross region
  - Cross account



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CPM – User management

- Complete control of your organization's data
- Full integration with all SAML based identity providers:
  - Microsoft Active Directory Federation Services (AD FS)
  - Okta etc

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Improvements with CPM by N2Ws

Confidence

Time Saved

Scalability/other benefits

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Visit us at Booth #O17 to get:

- 1 month FREE of Cloud Protection Manager
- $250 AWS Promotional Credits for installing (cancel anytime, no auto-billing)

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Questions?

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