Avamar 7.5

Co nowego?

DELL EMC

Daniel.Olkowski@dell.com

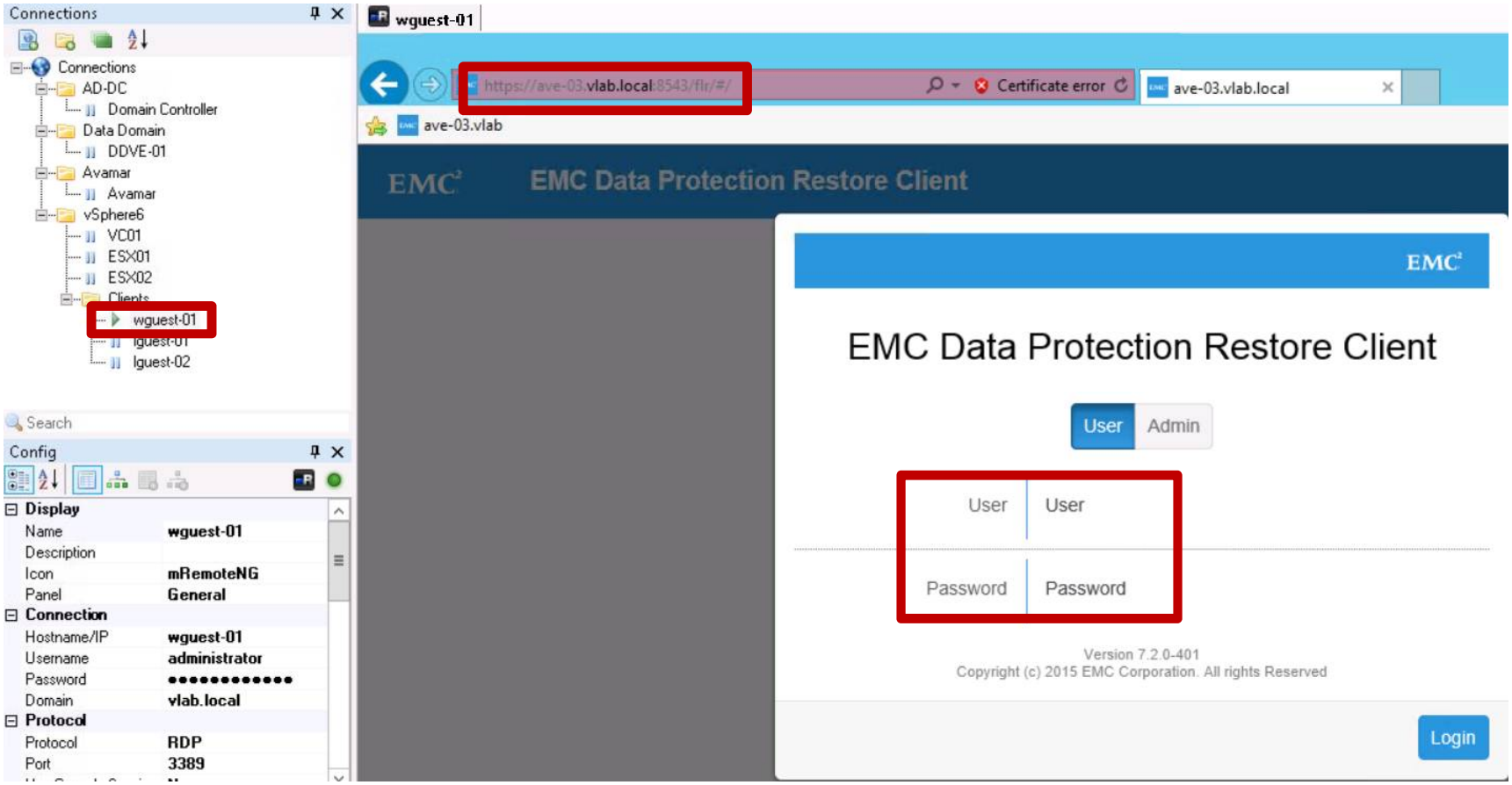
What is new in Avamar 7.5?
Agenda

- VMware enhancements
- Disaster Recovery in the Cloud
- Avamar in the cloud
- CloudTier
- OpenStack
- Client changes
- Security enhancements

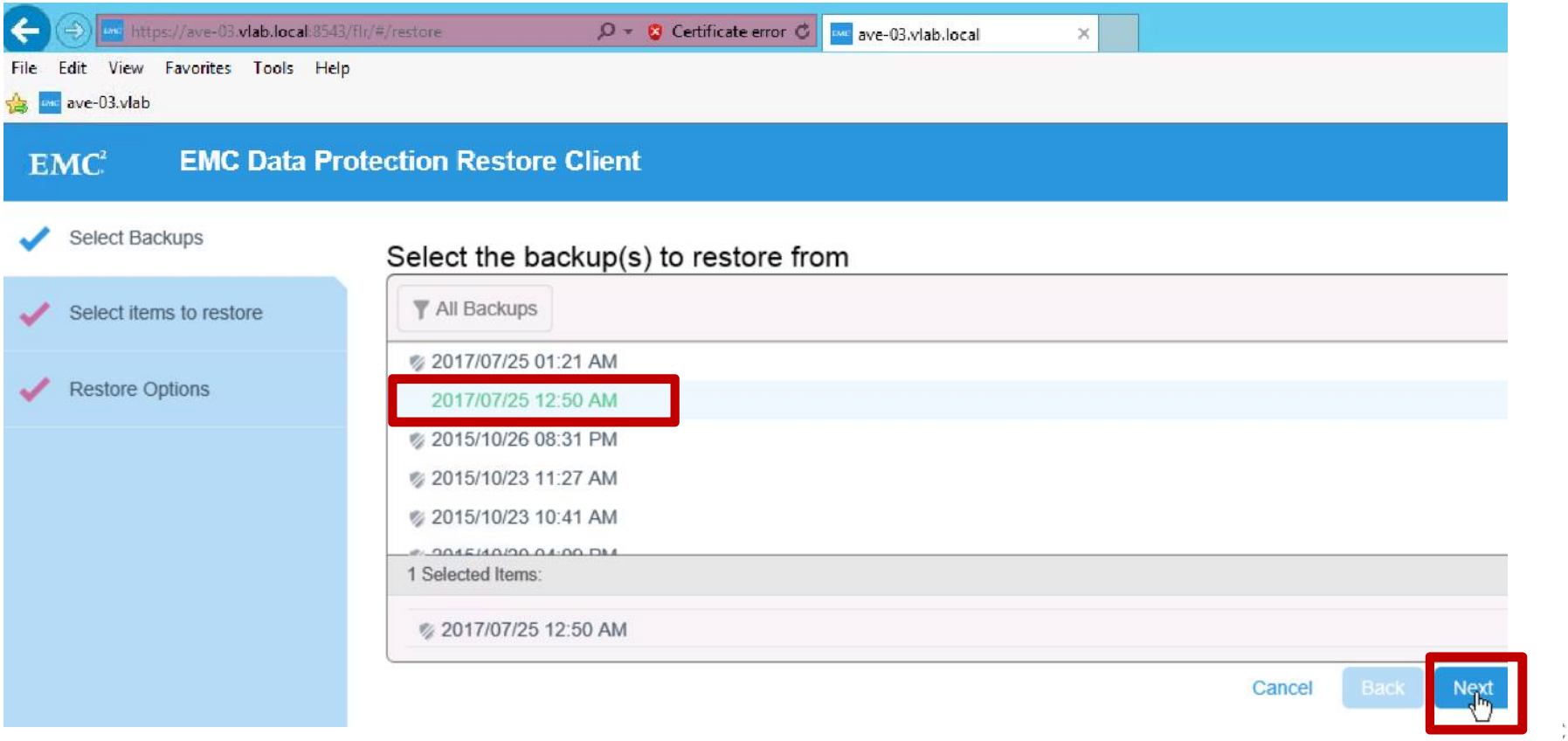
Avamar 7.5

VMware enhancements

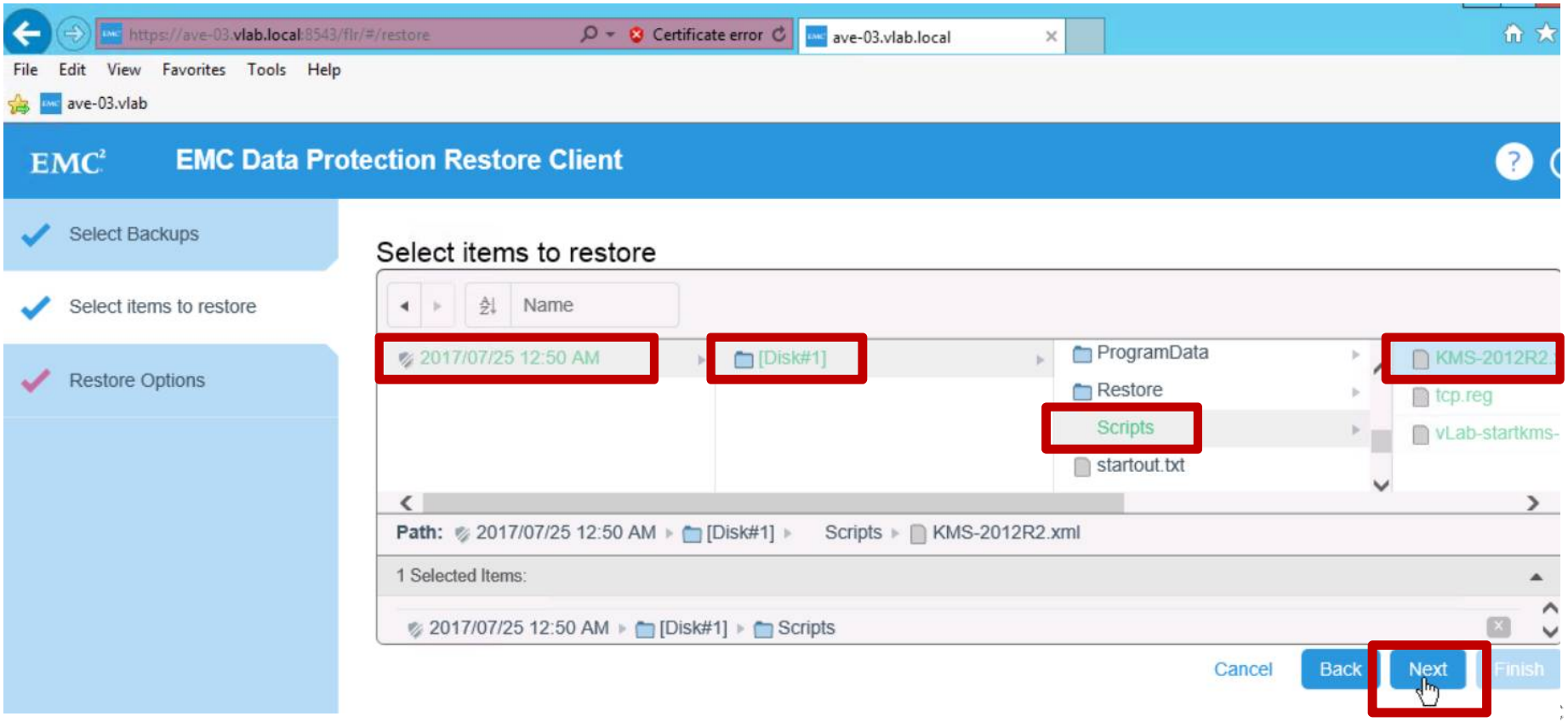
VMware **User** File Level Recovery



VMware **User** File Level Recovery



VMware **User** File Level Recovery



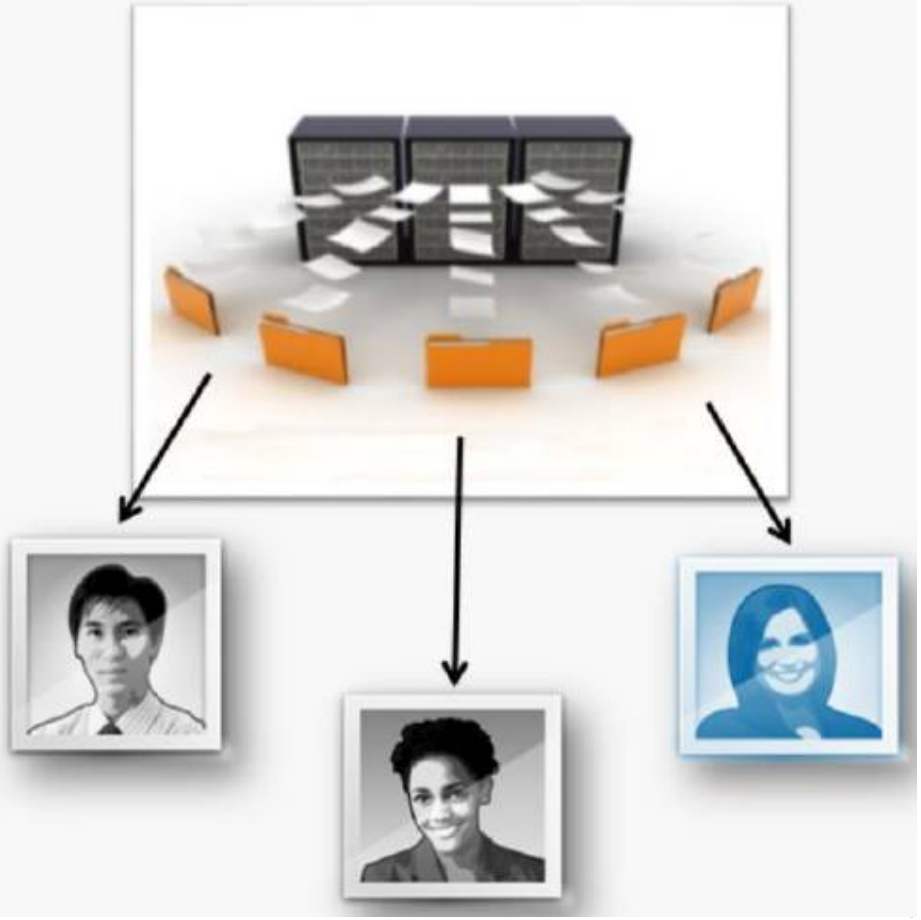
VMware File Level Recovery

Self-service recovery from VM image backups

Permission-based end user File Level Recovery

Flexible recovery options

- Recover to the existing or new location
- Recovery multiple files, single files or folders



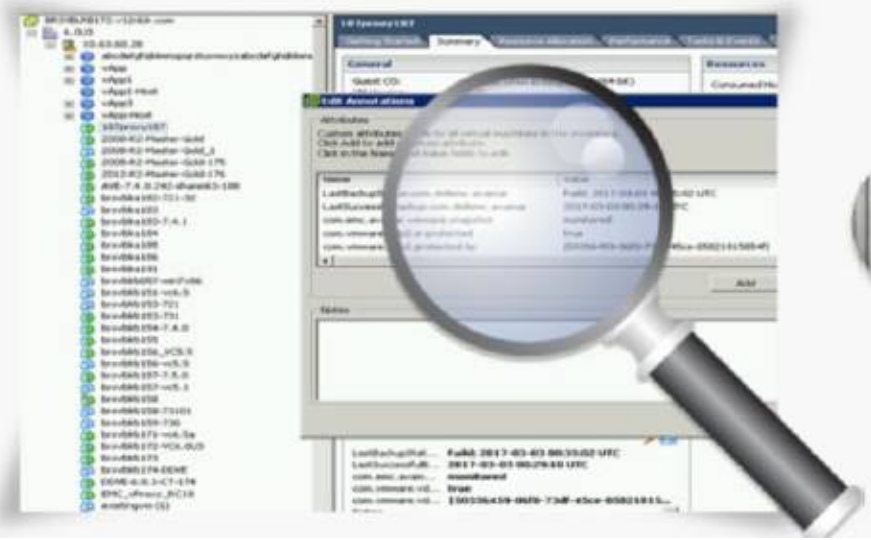
VMware Protection Enhancements

Image Backup - Data Exclusion

- Exclude specific files and folders from the backup based on file name or file extension

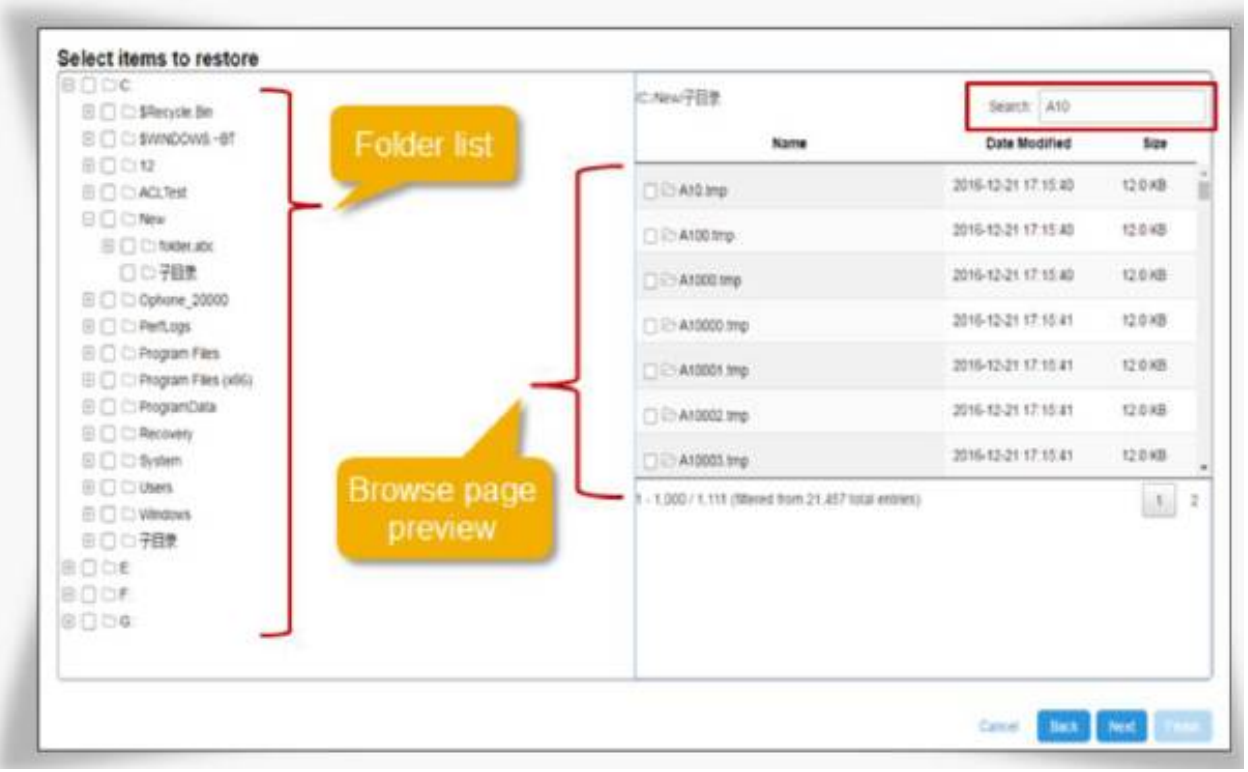
Image Backup - Last Backup Annotation

- Display last backup date/time regardless of completion state *and* last successful backup

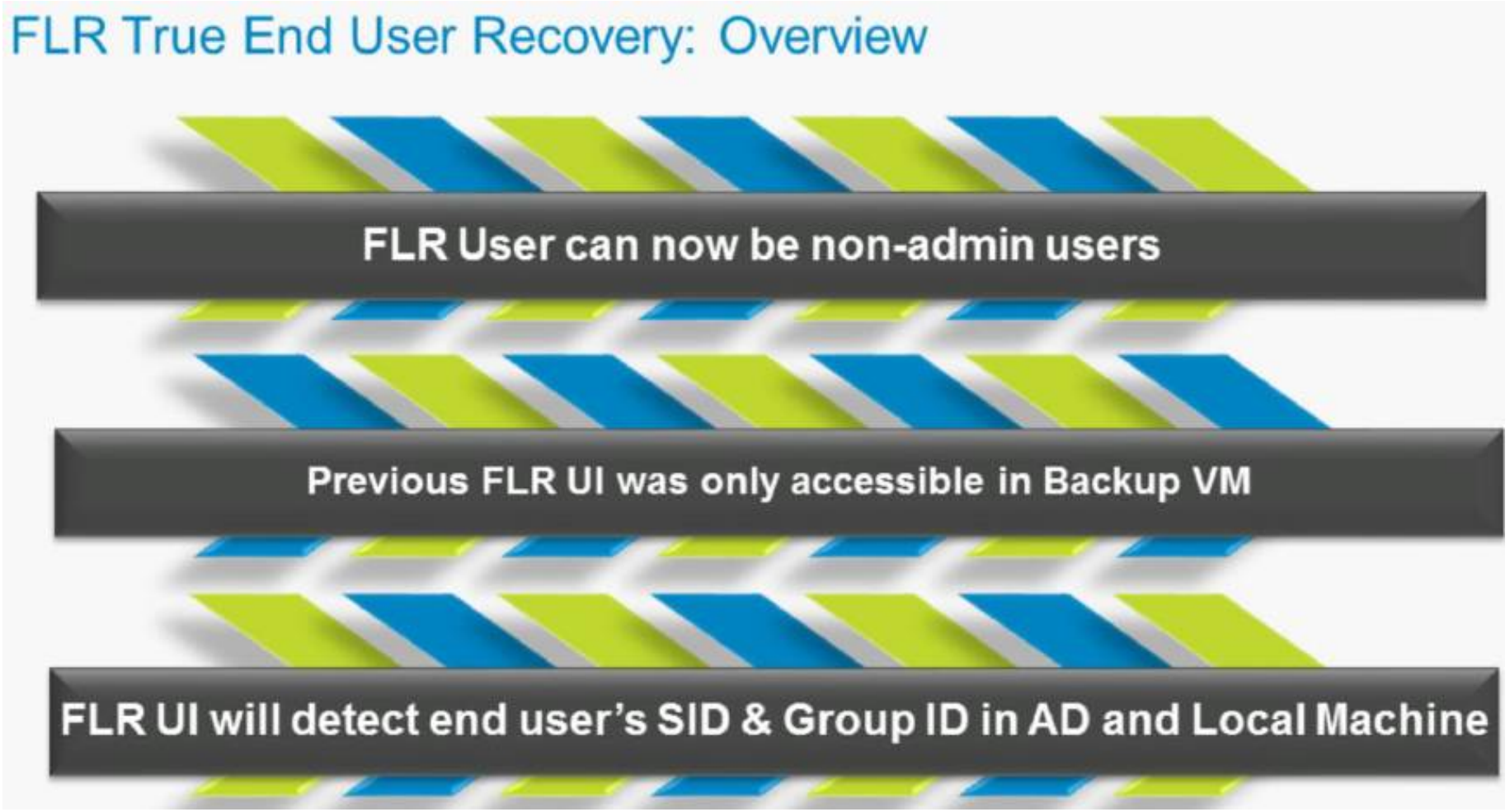


FLR Browse Scalability Enhancement

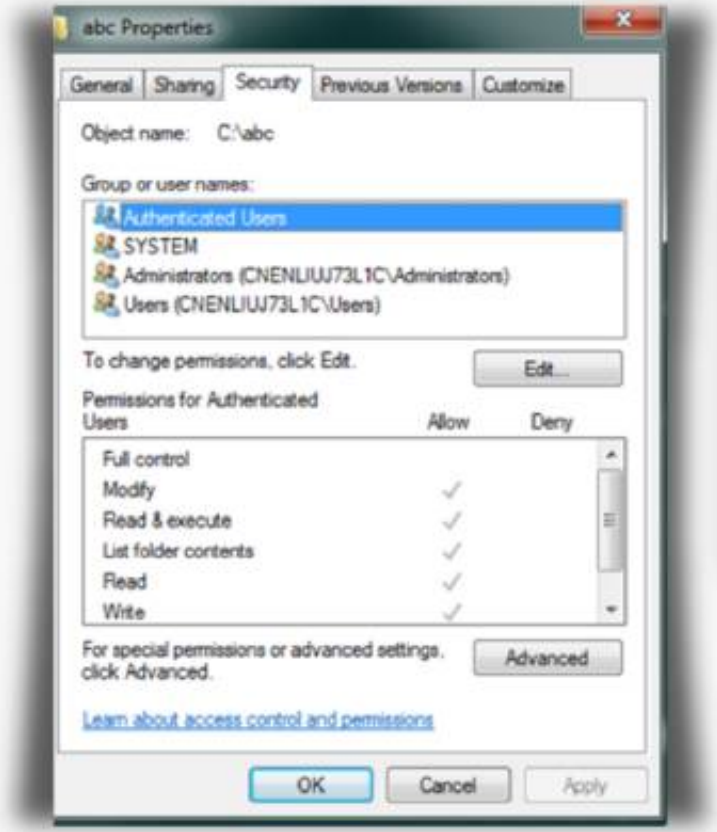
- Redesigned interactive UI component
- Scalability supports browsing of 20,000 files
- Increased browsing performance

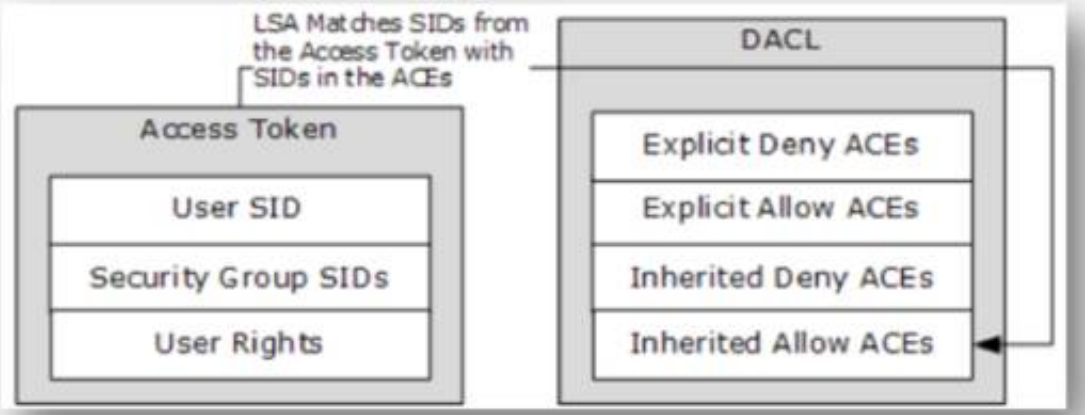


FLR True End User Recovery: Overview



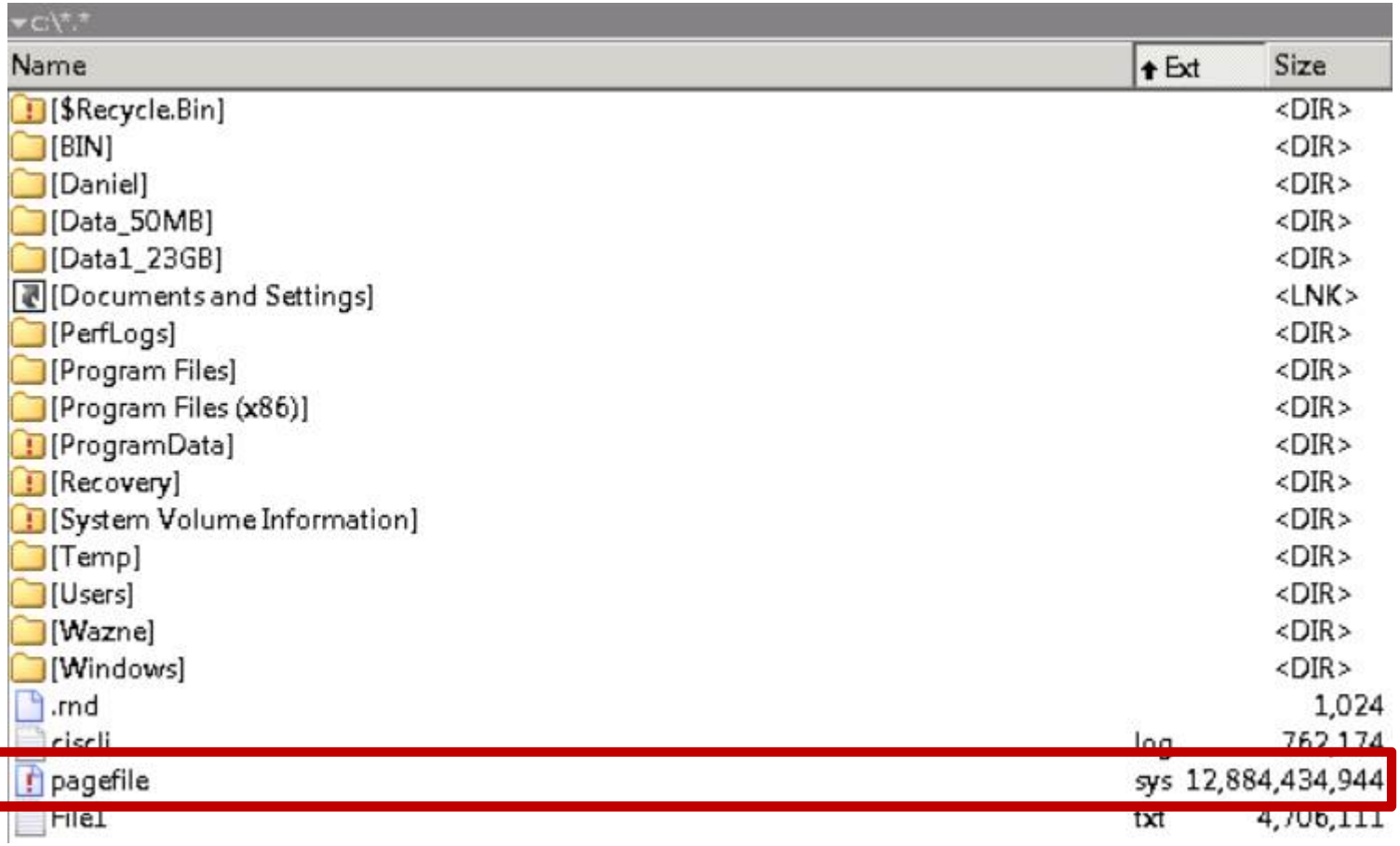
NTFS Access Right Evaluation Process



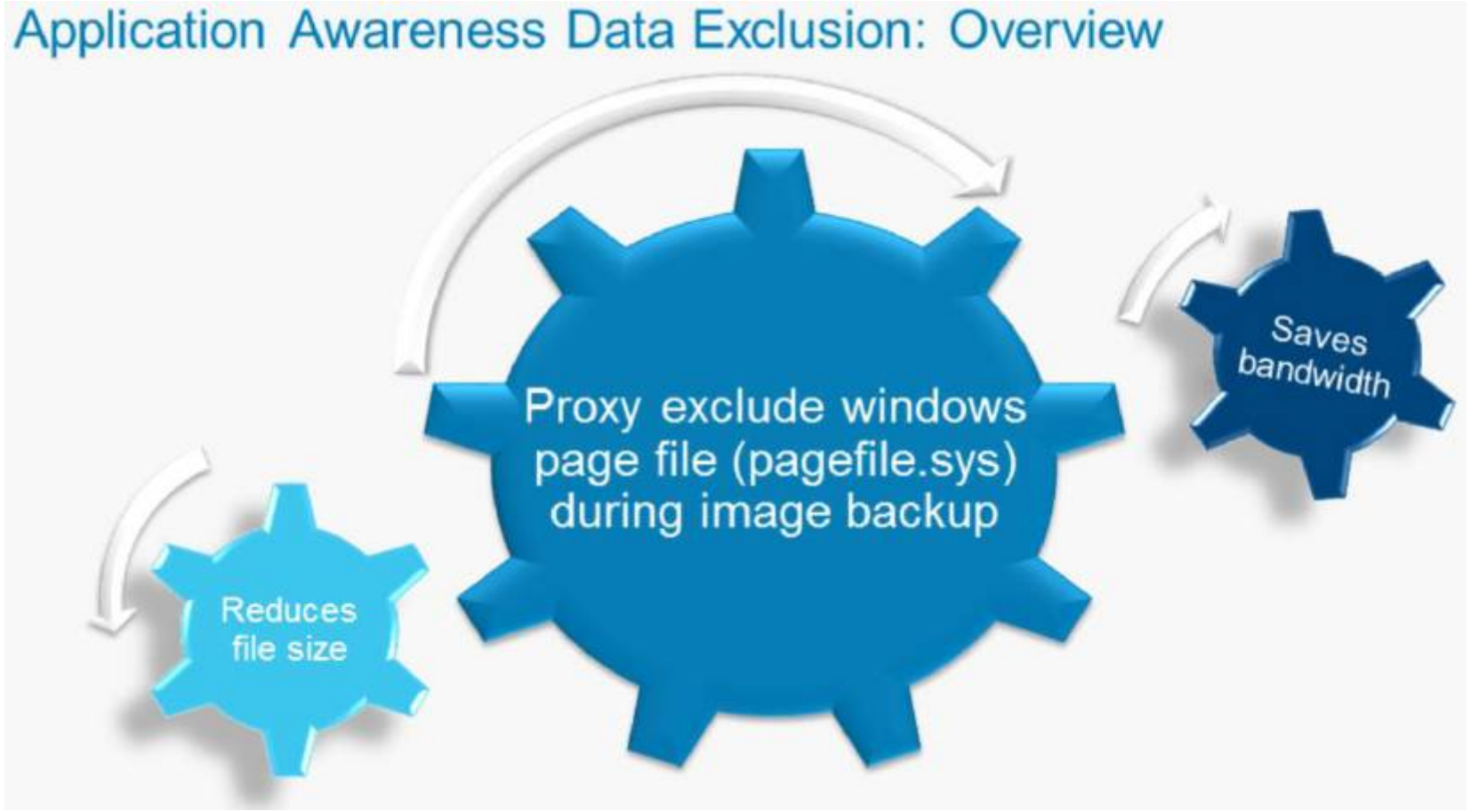


Avamar 7.5

Excluding pagesys file from VMware image backup



Almost 13GB on pure file system Windows


Application Awareness Data Exclusion: Overview
Proxy exclude windows page file (pagefile.sys) during image backup
Saves bandwidth
Reduces file size

Application Awareness Data Exclusion:

Why exclude page file during backup?

- Page file is useless for a backup and restore
- Page file wastes customer's storage for a backup

How is this exclusion performed?

- Proxy identifies data blocks of pagefile.sys
- Proxy to skip read these data blocks from VMDK
- Proxy sends the duplicated data pattern instead of the original data blocks to avtar during a backup
- The data pattern will be marked as duplicate on the client side by Avamar. Avamar will send reduced data to storage, then the overall data sent (bandwidth) and the storage usage will be greatly reduced

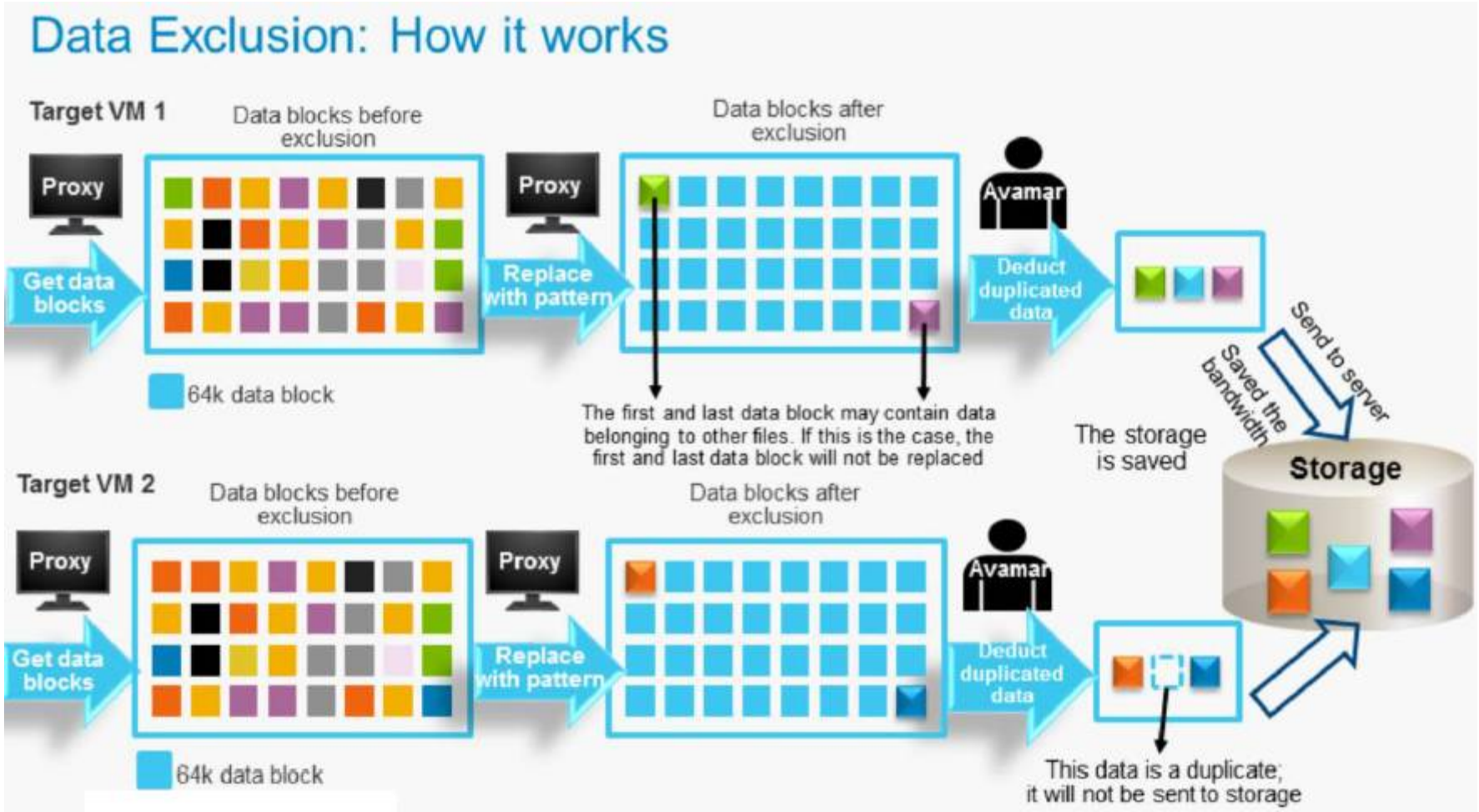
Pagefiles from different Windows servers do not cross de-duplicates.

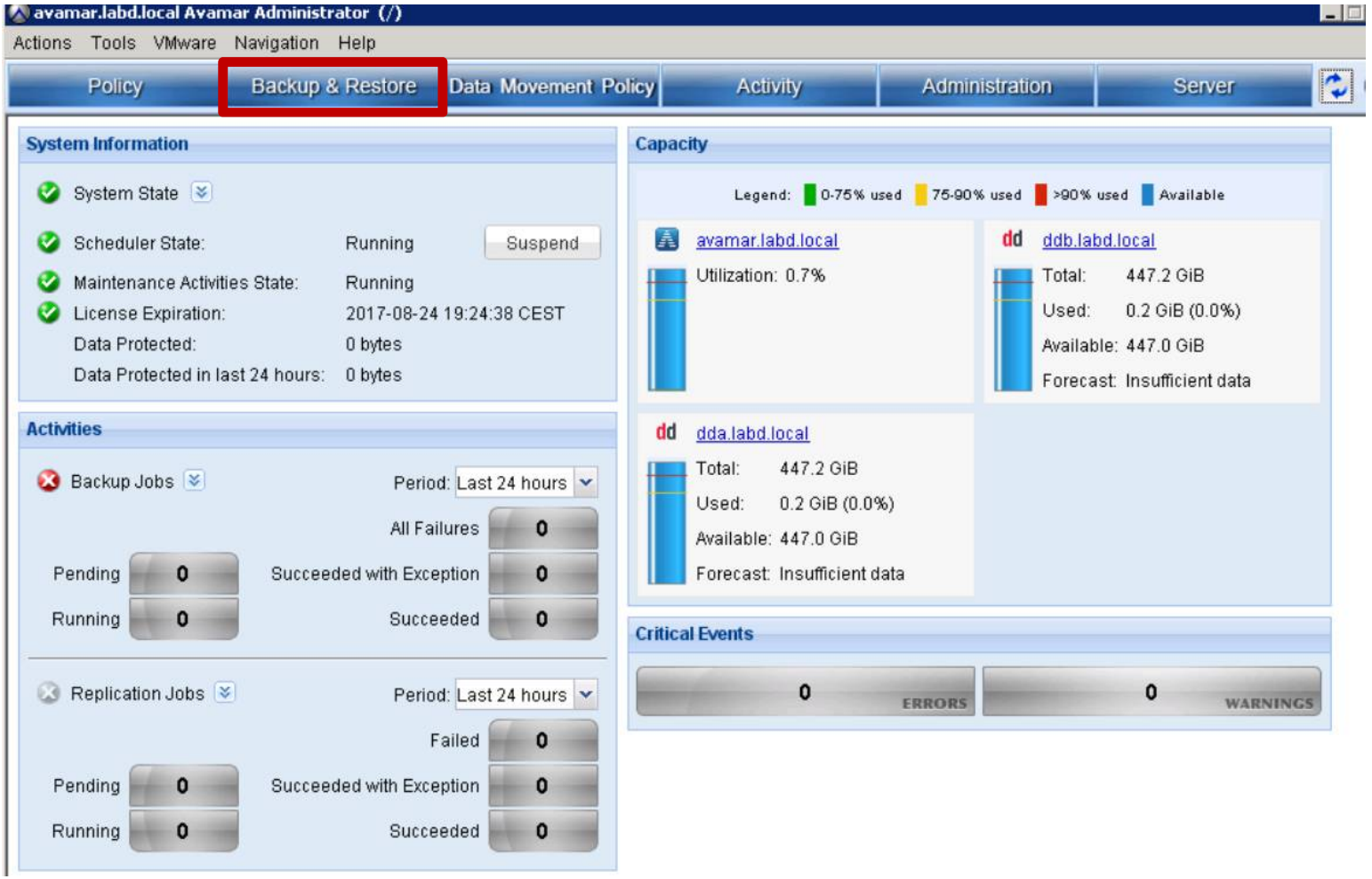
We waste a lot of space on Data Domain.

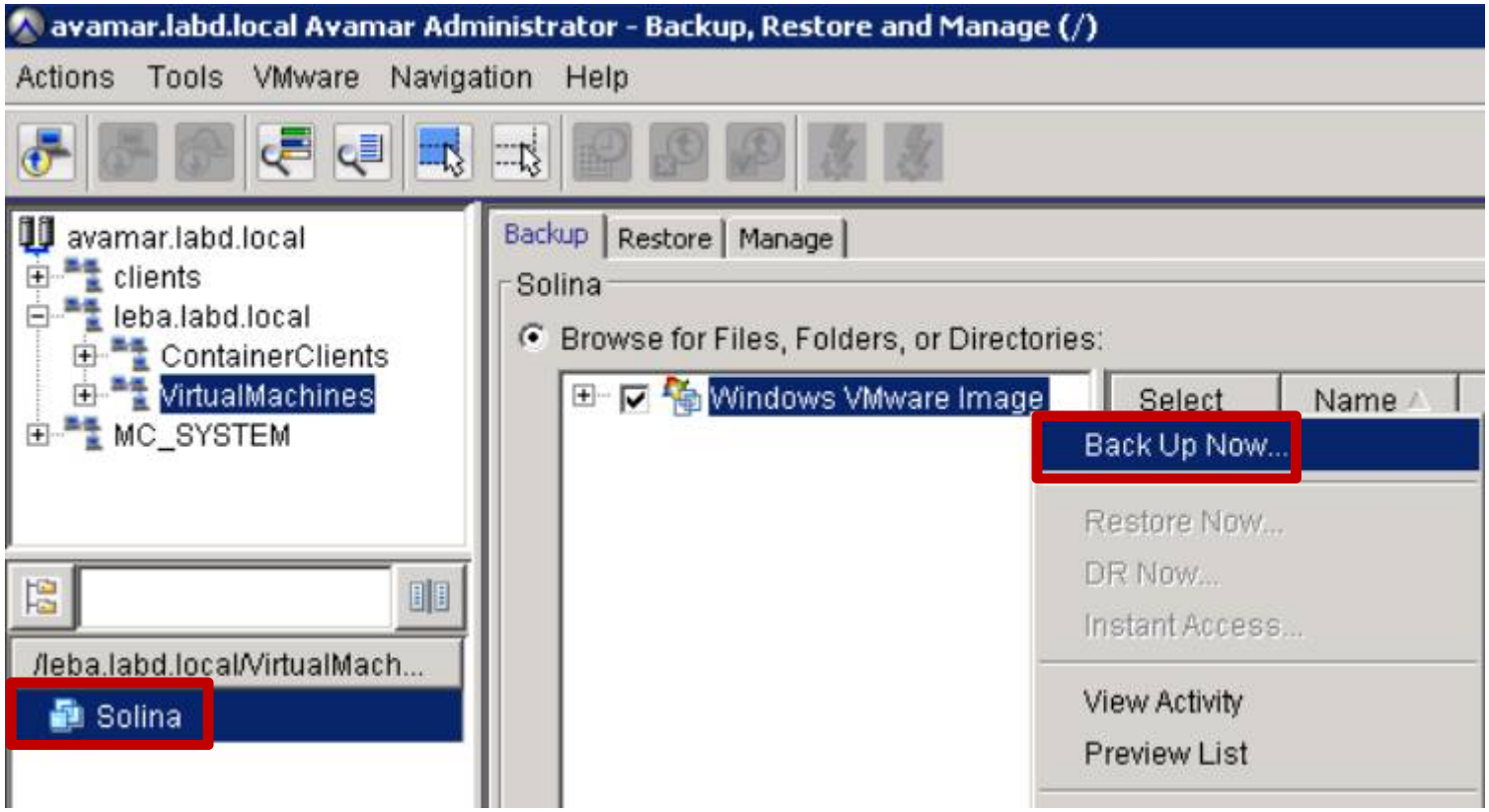
Contrary

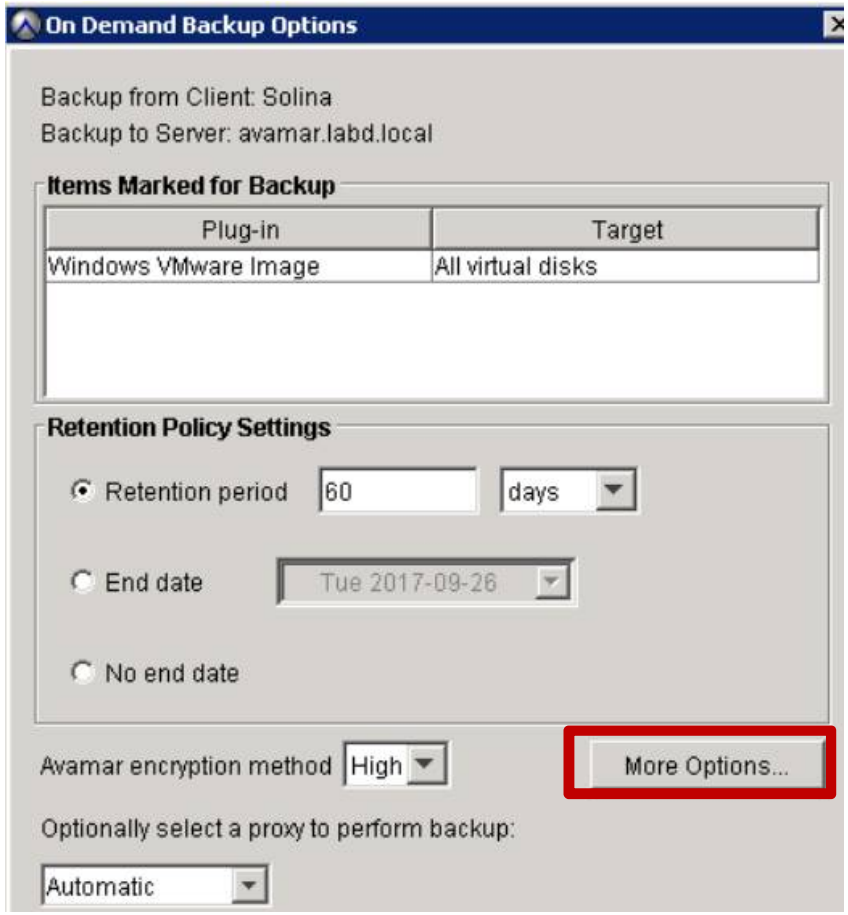
Operating systems on different VMs cross de-duplicates.

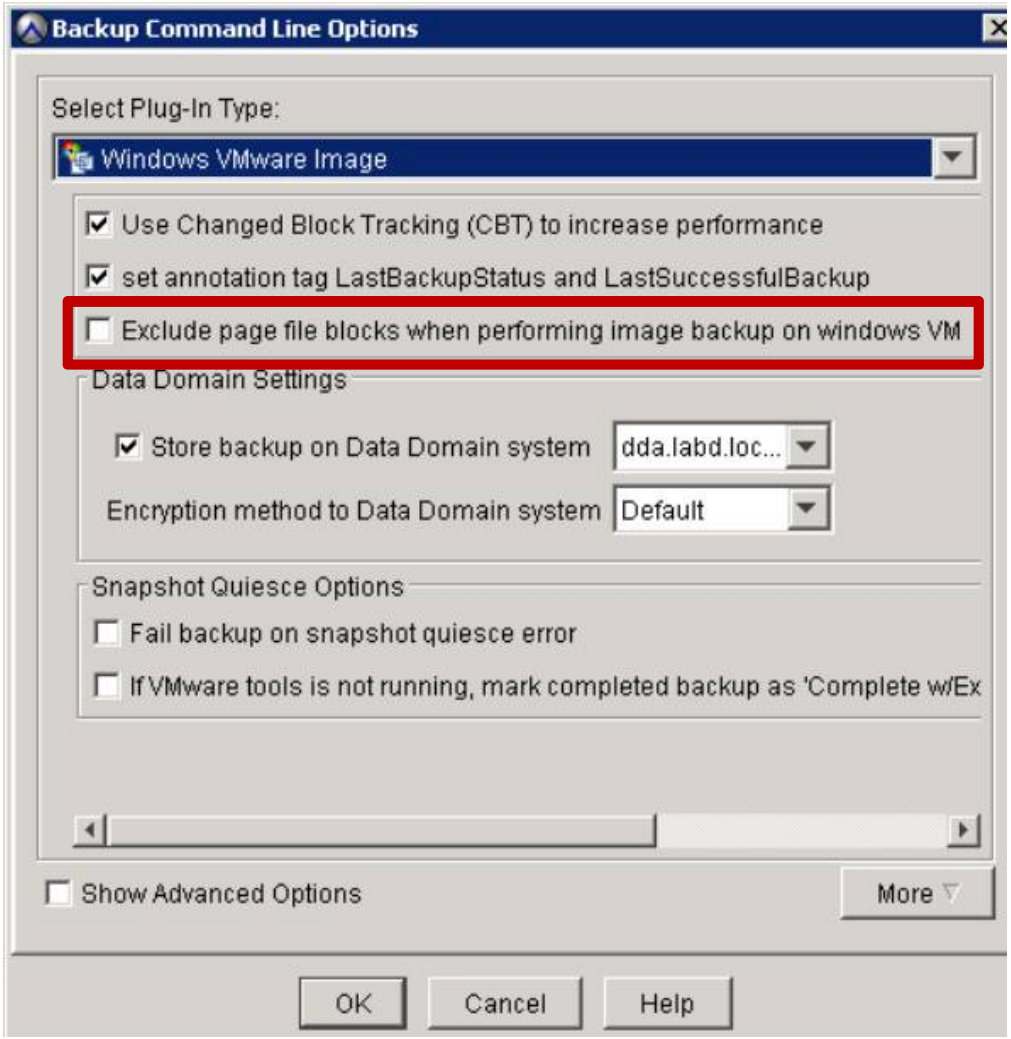
We do not waste a lot of space on Data Domain.

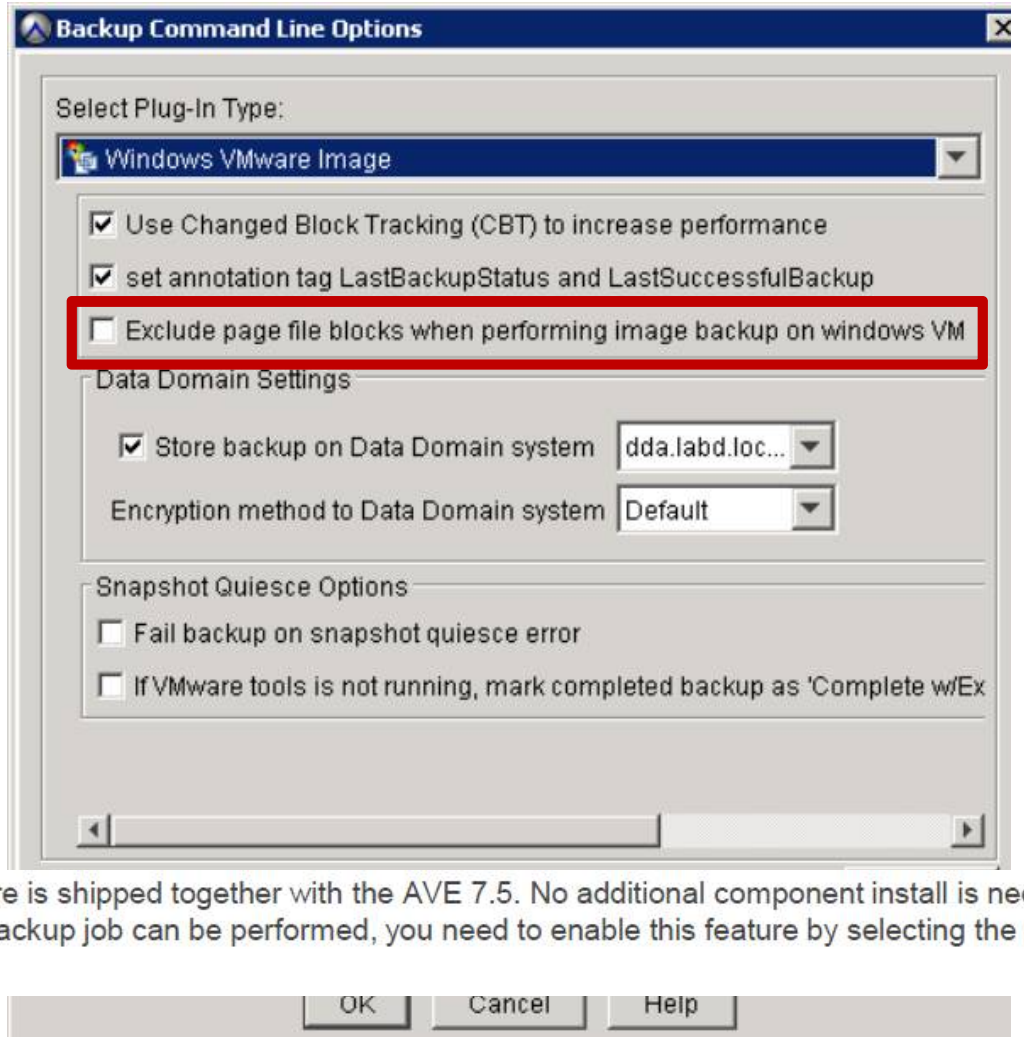

Data Exclusion: How it works
Target VM 1
Data blocks before exclusion
Data blocks after exclusion
Proxy
Get data blocks
Replace with pattern
Proxy
Avamar
Deduct duplicated data
Send to server
Saved the bandwidth
Storage
64k data block
The first and last data block may contain data belonging to other files. If this is the case, the first and last data block will not be replaced
The storage is saved
Target VM 2
Data blocks before exclusion
Data blocks after exclusion
Proxy
Get data blocks
Replace with pattern
Proxy
Avamar
Deduct duplicated data
64k data block
This data is a duplicate; it will not be sent to storage


avamar.labd.local Avamar Administrator (/)
Actions Tools VMware Navigation Help
Policy
Backup & Restore
Data Movement Policy
Activity
Administration
Server
System Information
System State
Scheduler State: Running
Suspend
Maintenance Activities State: Running
License Expiration: 2017-08-24 19:24:38 CEST
Data Protected: 0 bytes
Data Protected in last 24 hours: 0 bytes
Activities
Backup Jobs
Period: Last 24 hours
All Failures 0
Pending 0
Succeeded with Exception 0
Running 0
Succeeded 0
Replication Jobs
Period: Last 24 hours
Failed 0
Pending 0
Succeeded with Exception 0
Running 0
Succeeded 0
Capacity
Legend: 0-75% used 75-90% used >90% used Available
avamar.labd.local
Utilization: 0.7%
ddb.labd.local
Total: 447.2 GiB
Used: 0.2 GiB (0.0%)
Available: 447.0 GiB
Forecast: Insufficient data
dda.labd.local
Total: 447.2 GiB
Used: 0.2 GiB (0.0%)
Available: 447.0 GiB
Forecast: Insufficient data
Critical Events
0 ERRORS
0 WARNINGS


avamar.labd.local Avamar Administrator - Backup, Restore and Manage (/)
Actions
Tools
VMware
Navigation
Help
avamar.labd.local
clients
leba.labd.local
ContainerClients
VirtualMachines
MC_SYSTEM
/leba.labd.local/VirtualMach...
Solina
Backup
Restore
Manage
Solina
Browse for Files, Folders, or Directories:
Windows VMware Image
Select
Name
Back Up Now...
Restore Now...
DR Now...
Instant Access...
View Activity
Preview List


On Demand Backup Options
Backup from Client: Solina
Backup to Server: avamar.labd.local
Items Marked for Backup
Plug-in
Target
Windows VMware Image
All virtual disks
Retention Policy Settings
Retention period
60
days
End date
Tue 2017-09-26
No end date
Avamar encryption method
High
More Options...
Optionally select a proxy to perform backup:
Automatic

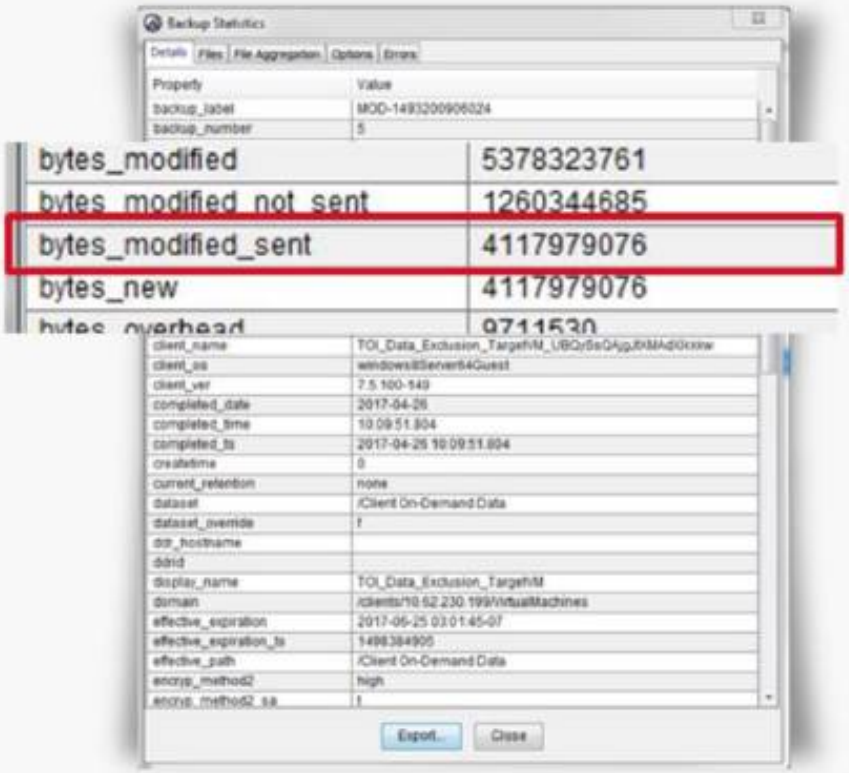

Backup Command Line Options
Select Plug-In Type:
Windows VMware Image
Use Changed Block Tracking (CBT) to increase performance
set annotation tag LastBackupStatus and LastSuccessfulBackup
Exclude page file blocks when performing image backup on windows VM
Data Domain Settings
Store backup on Data Domain system
dda.labd.loc...
Encryption method to Data Domain system
Default
Snapshot Quiesce Options
Fail backup on snapshot quiesce error
If VMware tools is not running, mark completed backup as 'Complete w/Ex
Show Advanced Options
More
OK
Cancel
Help



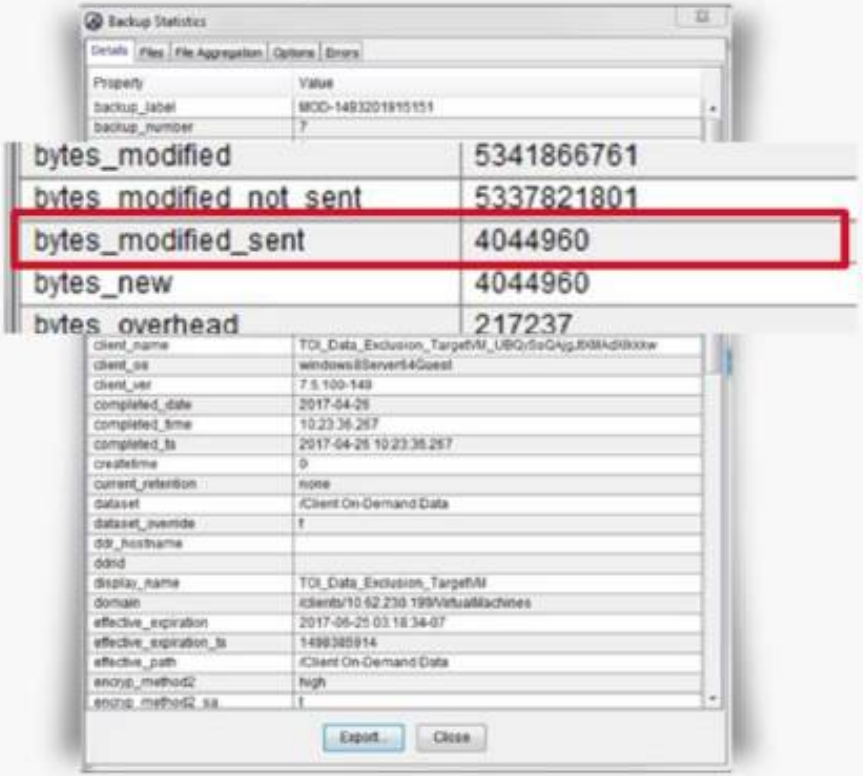
This feature is shipped together with the AVE 7.5. No additional component install is needed. However, before a backup job can be performed, you need to enable this feature by selecting the data exclusion checkbox.

Backup with Exclusion Feature Example

Backup *without* exclusion



Backup *with* exclusion



"bytes_modified_sent" of backup without exclusion is much bigger than backup with exclusion

Excluding pagefile
Saving

Data sent from VM image backup **with** pagefile [GB]	Data sent from VM image backup **without** pagefile [GB]
4,1	0,004

Excluding pagefile
Saving

- 1000 times less data sent during the backup
- Smaller network required
- Much less usage of backup storage (Data Domain)
- Much smaller costs

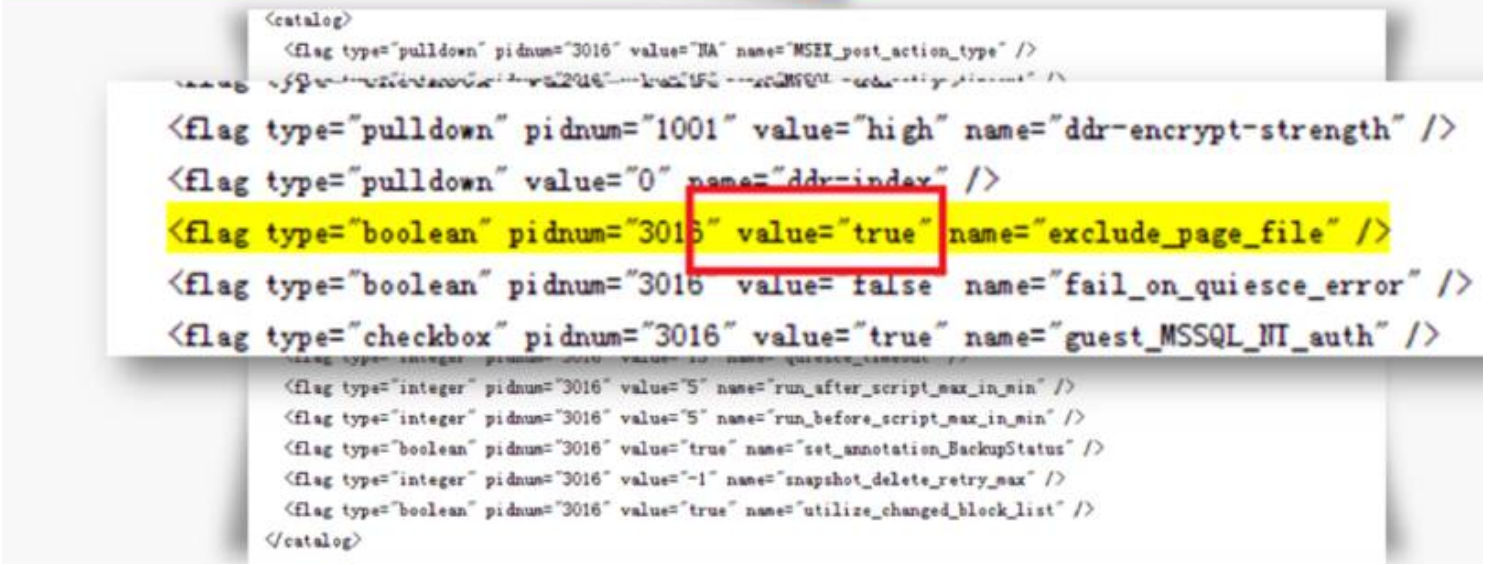
Excluding pagefile
Saving

- Faster backup

Troubleshooting: Verify Data Exclusion Is Enabled

Does the exclusion actually happen?

1. Check work order flag in activity window



By checking the activity log, you can verify whether the data exclusion feature has been enabled. There are several points to check the activity log. The first item to check is the work order to see if the *exclude_page_file* is enabled. In this screenshot, this value is set to *true*, so the feature is enabled.

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Data Domain Cloud Disaster Recovery

Introducing Disaster Recovery to the Cloud

EXTEND TO CLOUD

- Disaster recovery from on-prem Data Domain to Amazon S3
- Fully automated failover for recovering workloads in the cloud
  - Minimal footprint and compute cycles required
  - Eliminate data center costs for disaster recovery

DELL EMC

Data Domain Cloud Disaster Recovery

EXTEND TO CLOUD

Disaster Recovery of on-prem VMware VM's from Avamar/Data Domain to AWS EC2 instances

- Protect directly from on-prem into S3
- Leverage existing on-prem Dell EMC data protection environment
- Simple operation from existing GUI

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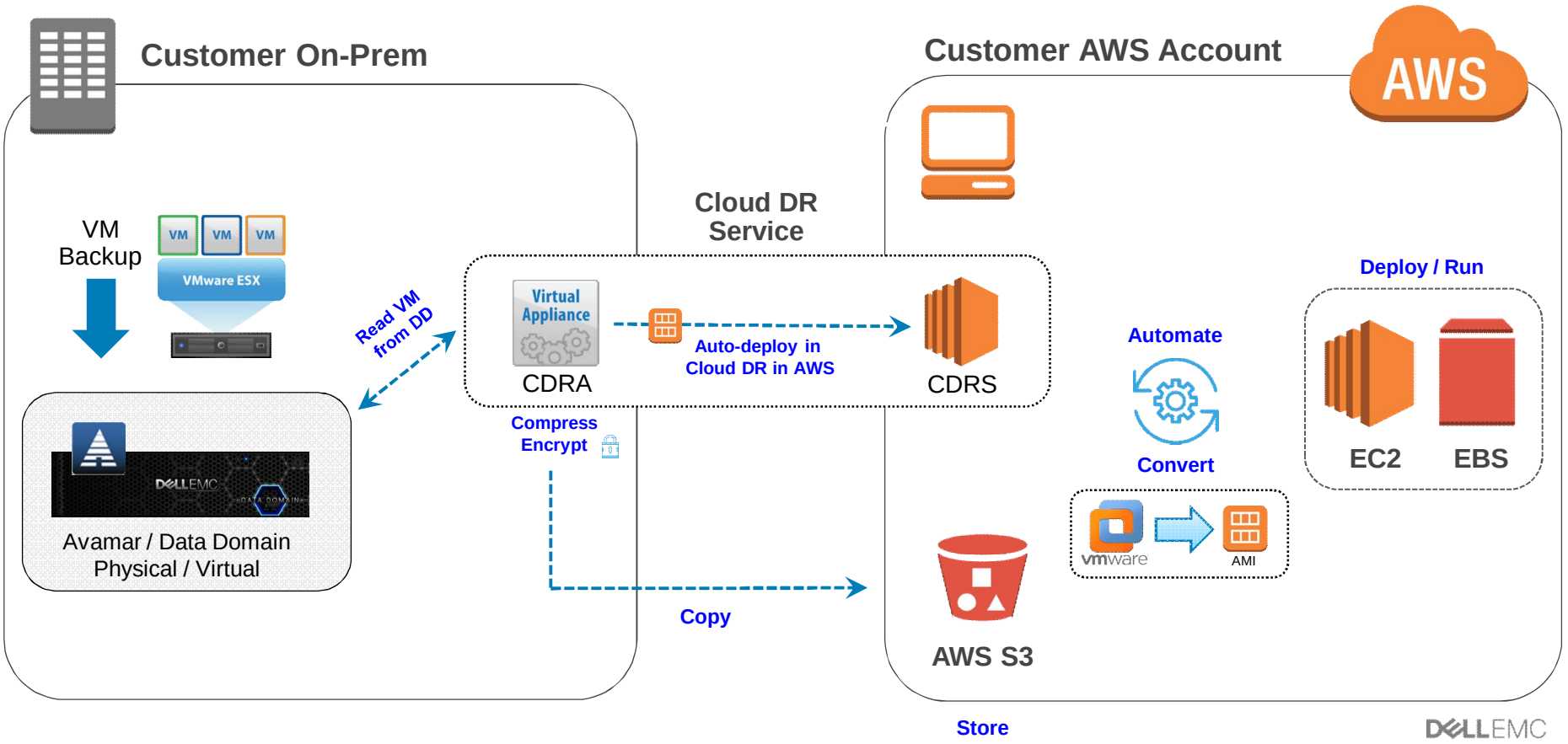
Data Domain Cloud DR Architecture



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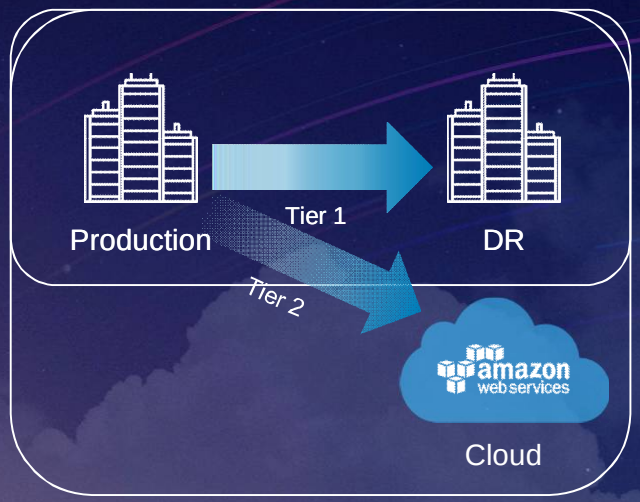
Adding Cloud DR to Traditional DR

EXTEND TO CLOUD



Traditional Disaster Recovery

- Existing physical DR locations
  - expertise, processes, infrastructure
- Mission critical applications

Cloud Disaster Recovery

- Enable crash consistent DR to Tier-2 applications
- Add a 2nd DR site in the cloud
- Accelerate recovery operations / tests
- Minimize ongoing cost

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3 Reasons for Choosing Data Domain Cloud DR

- Leverage existing data protection infrastructure
  - No new configurations
- Lower footprint in the cloud / lower cost
  - Minimal compute running 24/7
- Dell EMC as trusted partner and world's largest data protection company

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Protection solutions throughout your cloud journey

PRIVATE CLOUD | **EXTEND TO CLOUD** | **IN CLOUD PROTECTION** | **AS A SERVICE**

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150+ PB

cloud data is managed by Dell EMC Data Protection technology

2x closest competitor

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“Data Protection are the most common use cases among organizations currently leveraging cloud infrastructure services”

Top “Cloud Infrastructure” Use Cases

42%	40%
BACKUP ARCHIVE	DISASTER RECOVERY

Source: ESG Research Report, *Data Protection Cloud Strategies*, December 2016

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Avamar in the Cloud

Avamar Virtual Edition Server in the cloud

Avamar Virtual Edition for Amazon Web Services

The Avamar Virtual Edition (AVE) is now available for Amazon Web Services (AWS). Support for AVE with Data Domain Virtual Edition (DDVE) is also supported for the AWS and Azure versions of AVE.

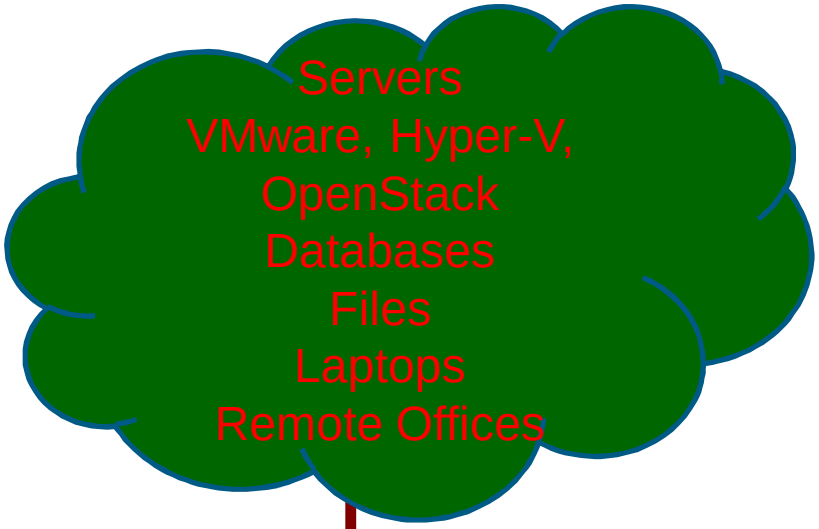
Data Domain integration

- DDOS 6.1
- Data Domain Cloud Tier DR support

Avamar 7.5

CloudTier

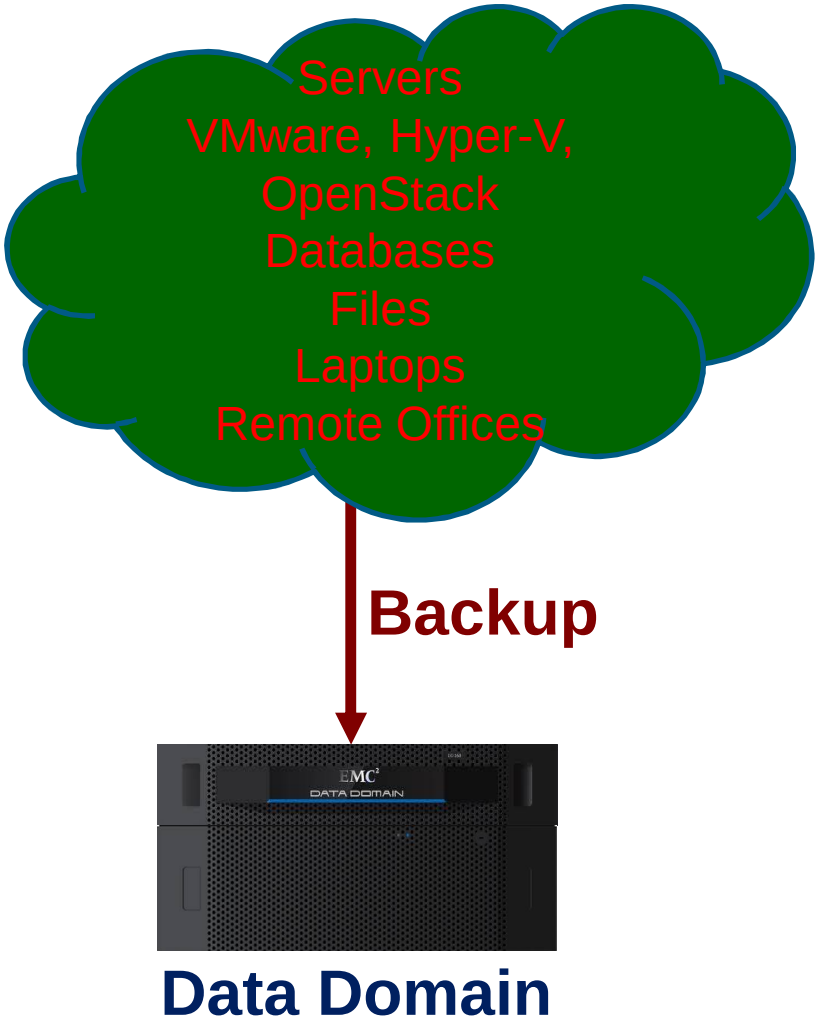
Data Domain
Long Term Backup to S3 storage



Avamar Server

Backup

Data Domain



Performance

Starting backups from Data Domain with SSD disks speed

Flexibility

Disaster Recovery

…

Long Term Backup
S3 storage

Servers
VMware, Hyper-V,
OpenStack
Databases
Files
Laptops
Remote Offices

Avamar Server

S3 Storage Local / Remote

Backup

Data Domain

Long Term Backups

Dedicated for Long Term backups

Security

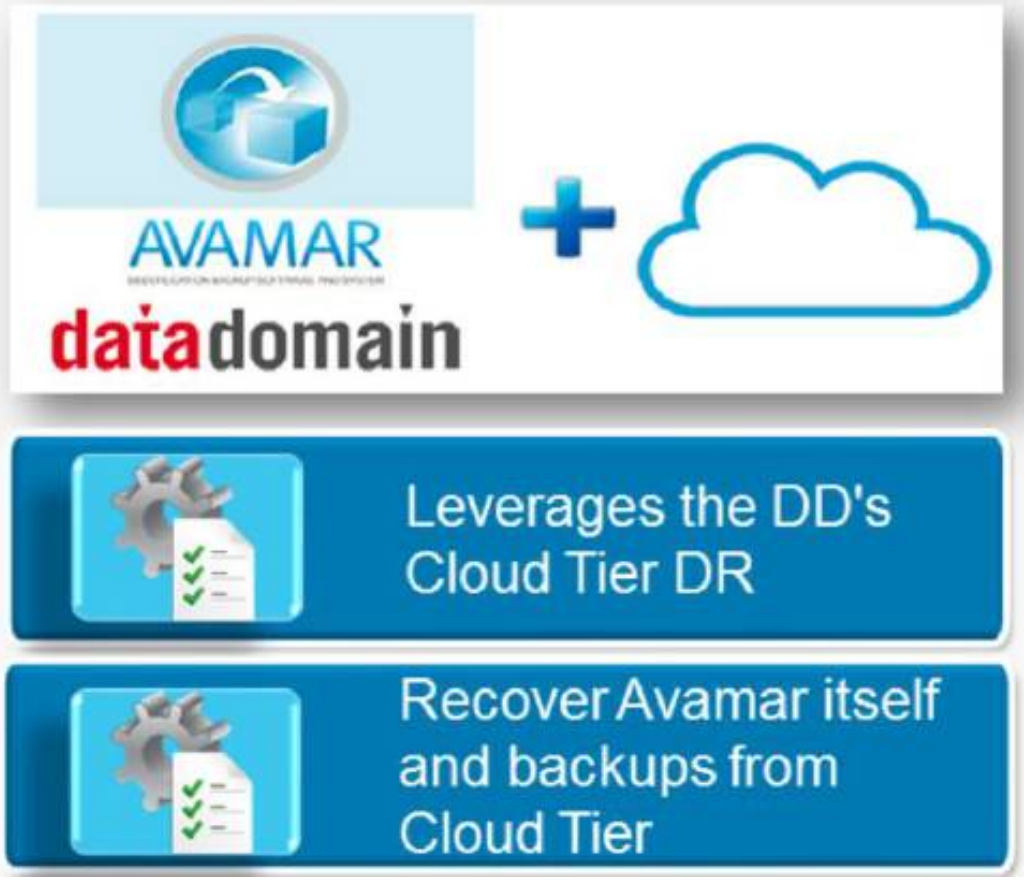
Automation

Management from Avamar

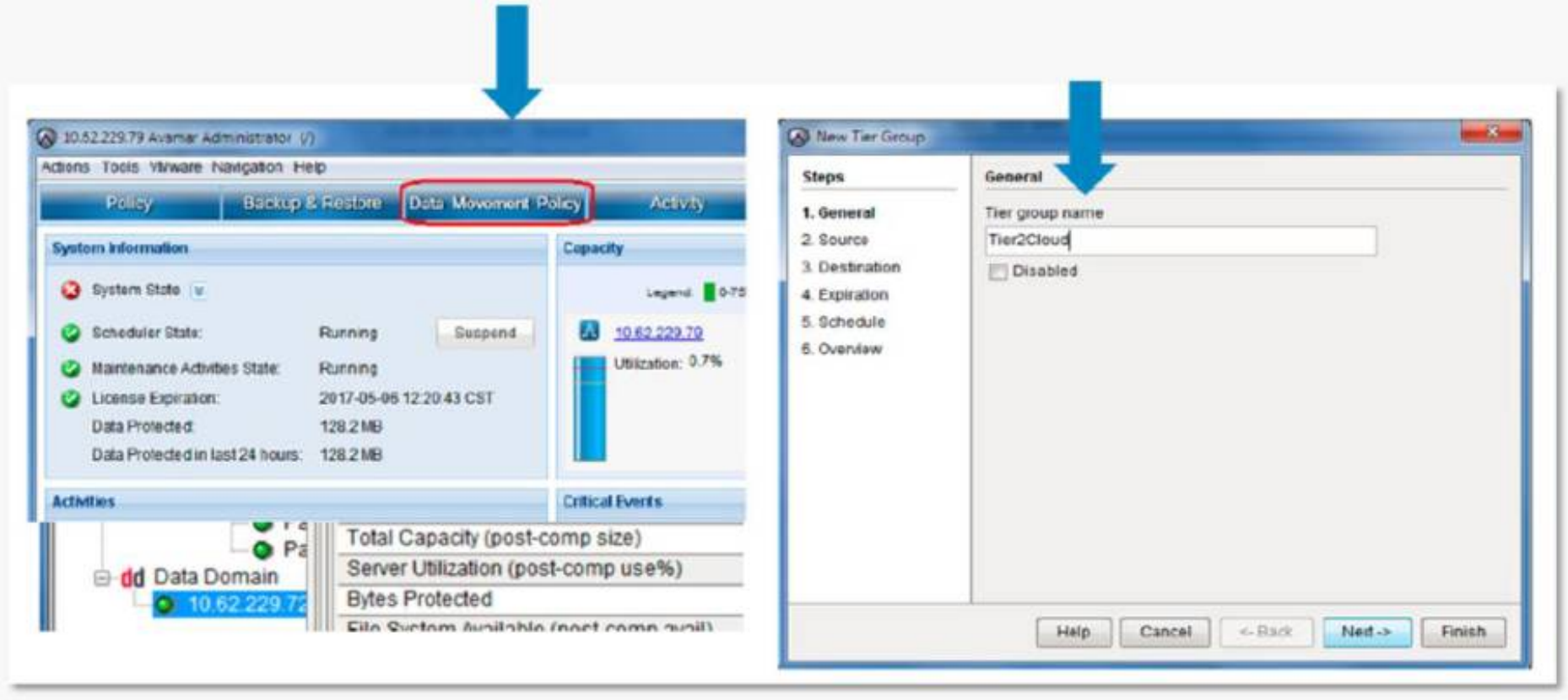
Avamar Disaster Recovery from S3 storage

Smaller cost than tape

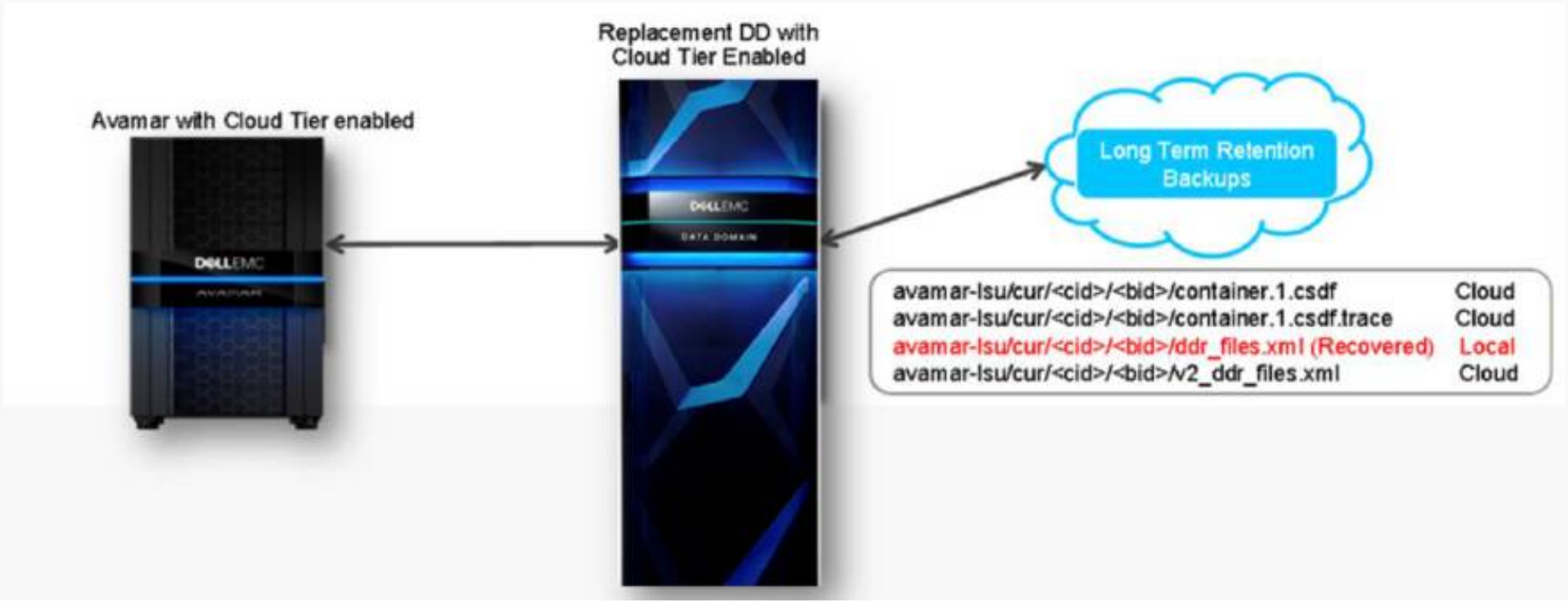
Cloud Tier Disaster Recovery



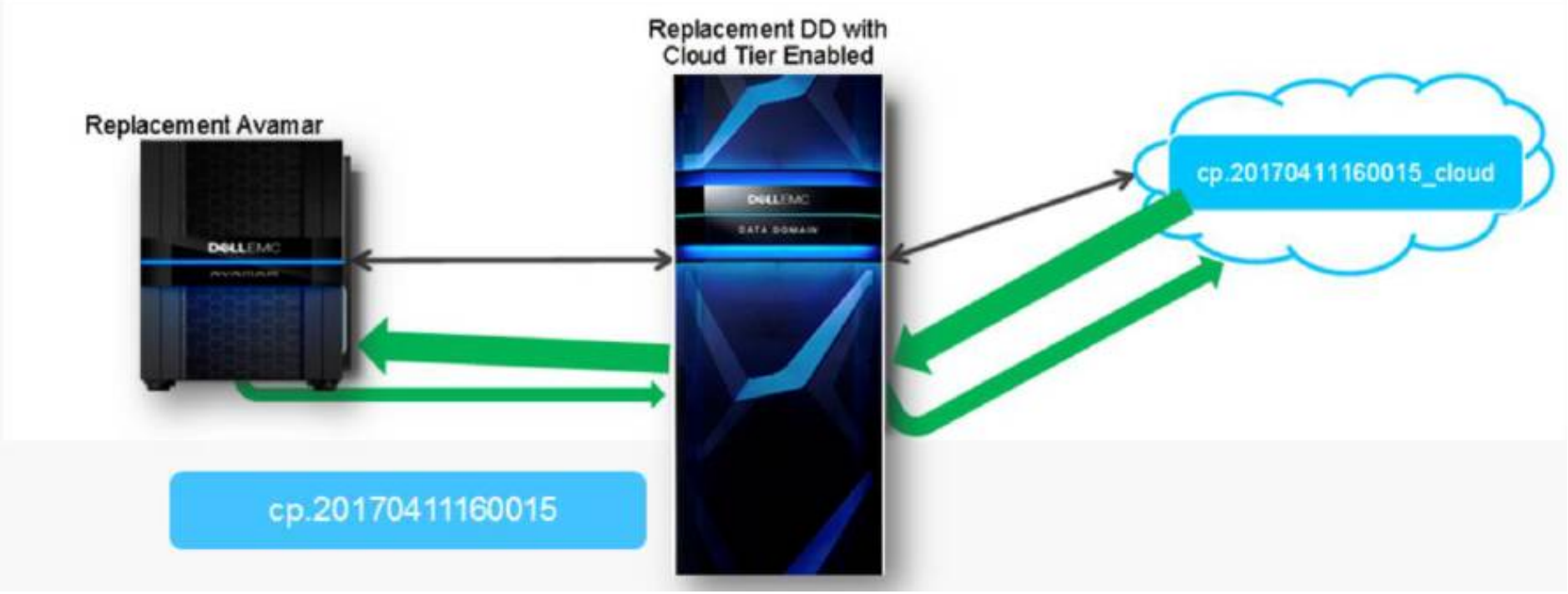
Configure Avamar to Support Cloud Tier DR



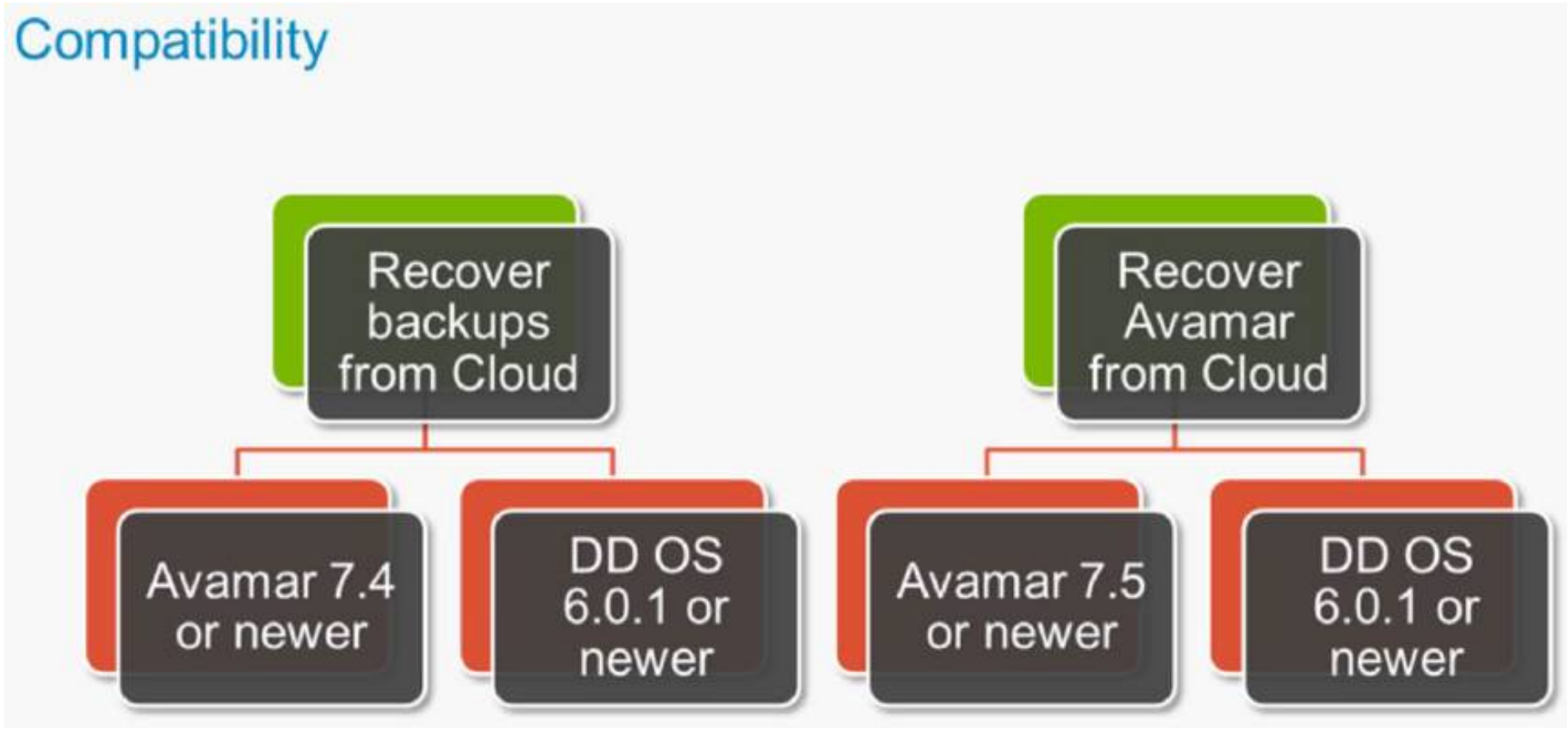
Recover Long Term Retention from Cloud



Recover Checkpoint from Cloud



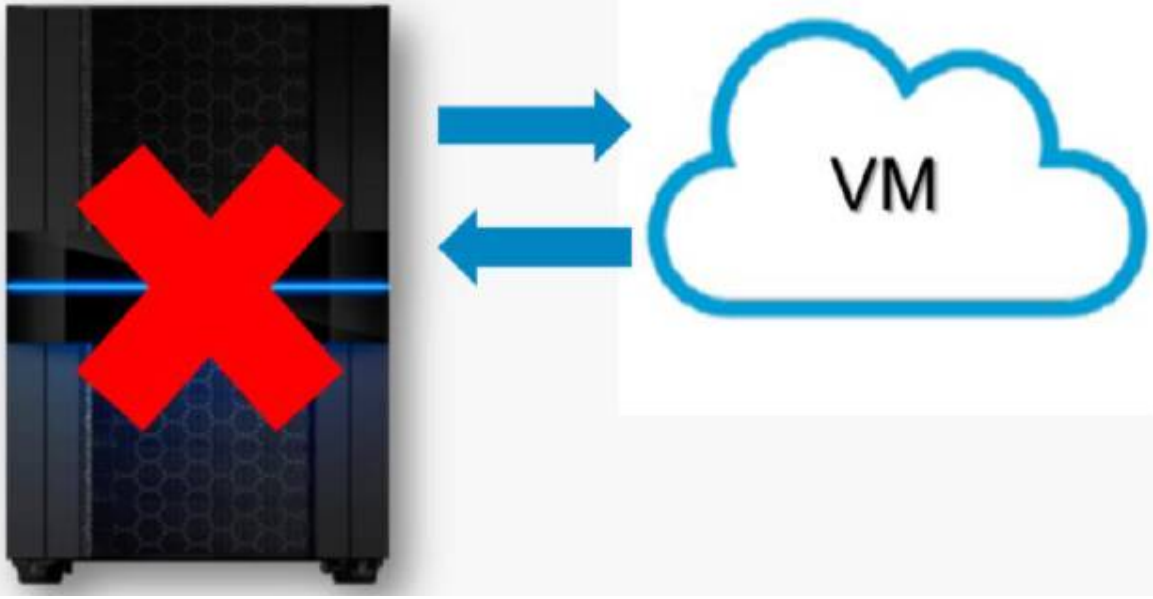
Compatibility



Data Domain DR Solution

Cloud Disaster Recovery Solution saves VM backups to the Cloud

Recover directly in Cloud



Cloud Disaster Recovery Solution provides a way to save VM backups to the Cloud and recover them directly in the cloud even when the on-premises environment is destroyed.

Avamar 7.5

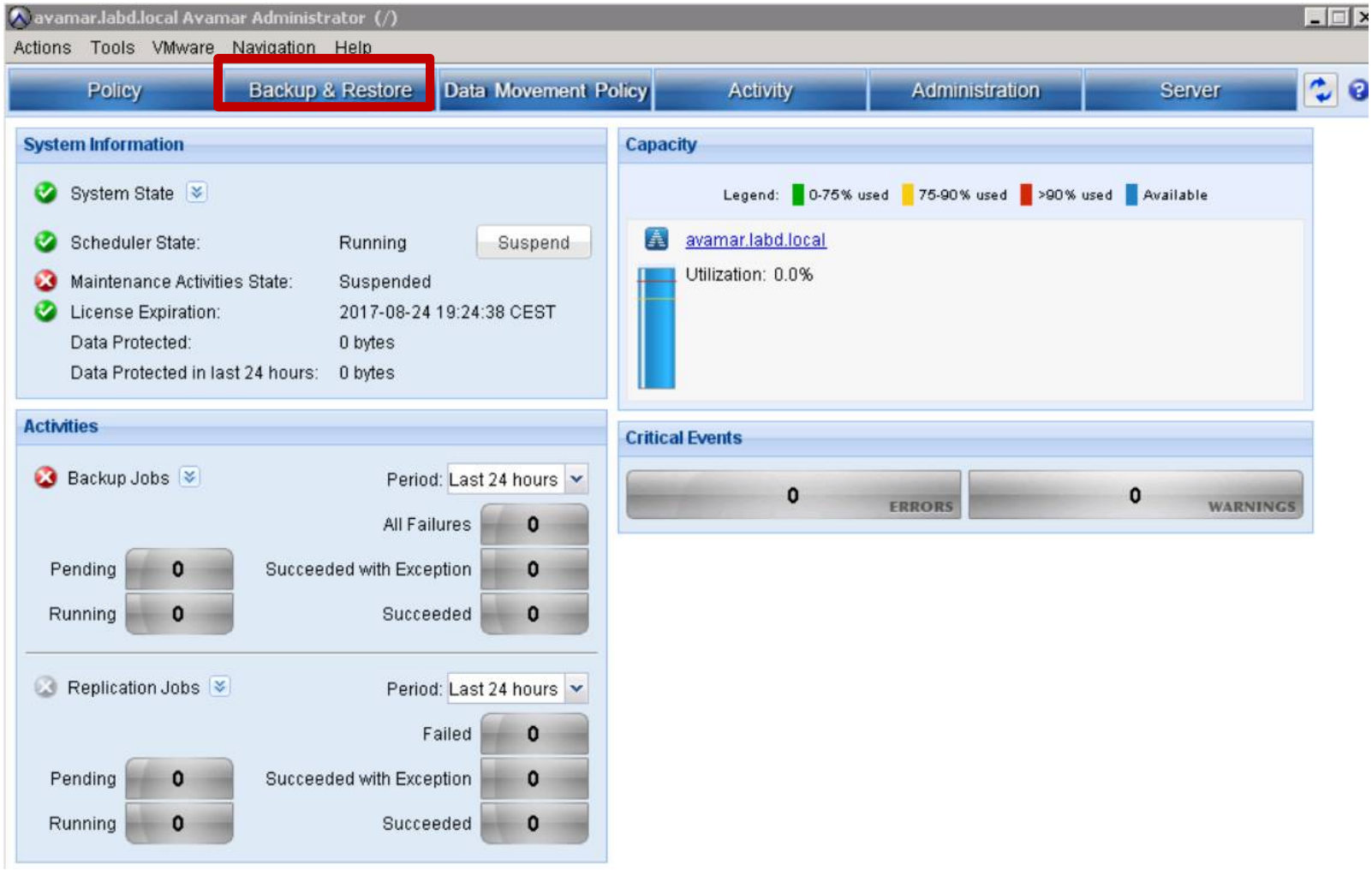
Recovery applications
from
Hyper-V Image Backup

GLR (Granular Level Recovery)
Recovery single applications elements from Hyper-V backups

- Exchange
- SharePoint
- SQL
- …

Procedure :

- Take a backup of the Guest VMs using Avamar Hyper-V plugin. In case of SharePoint application, take backup of both front-end and back-end nodes.
- Start the process of GLR recovery of the VM with the respective MS Application.
- Browse into the backup of the particular VM using Hyper-V GLR option. This mounts the backed-up VM disk on the node where the GLR plug-in is being run. (default location of mount is C:\Program Files\avs\var).
  Note: Do not close or refresh this "browse" until the entire procedure has been completed.
- Go to the node where Itempoint has been configured and run it. The source location path should be the location of the database INSIDE the mounted disk created by Hyper-V GLR. Browse it to locate the table/file you want to restore.
- Under the target location, give the path of the database where you want the data to be restored. Run the restore by copying the data from the source and pasting at the target.
- The data would be restored successfully.


avamar.labd.local Avamar Administrator (/)
Actions Tools VMware Navigation Help
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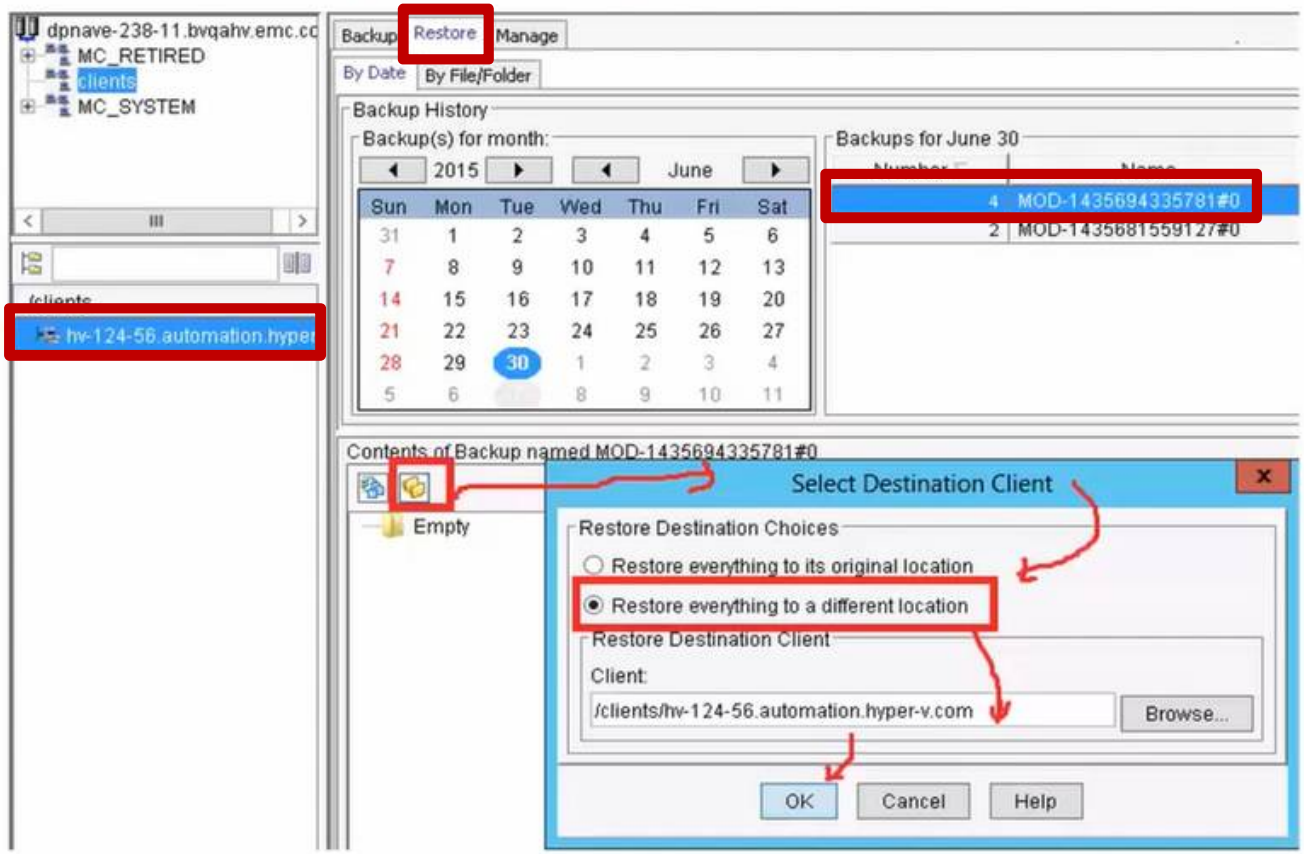
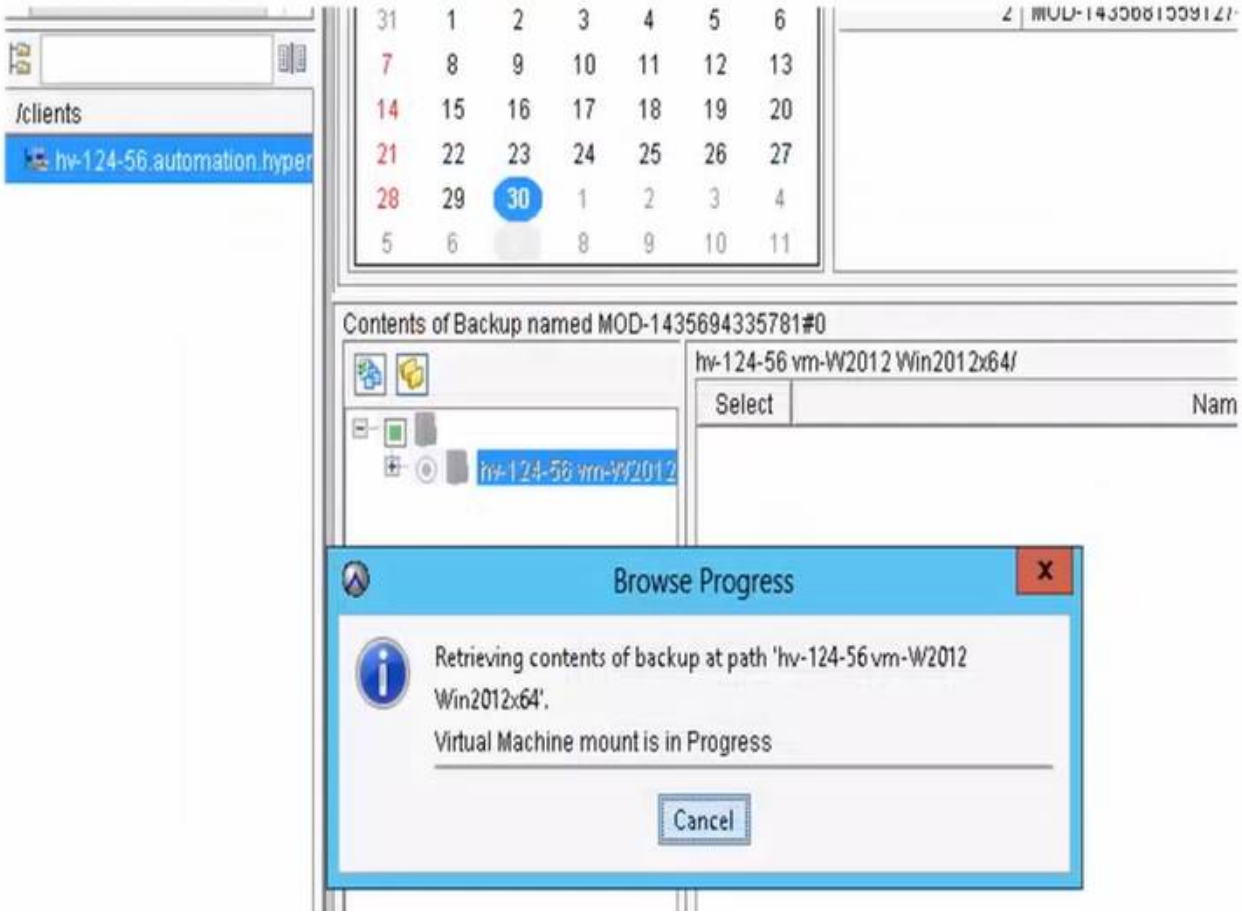
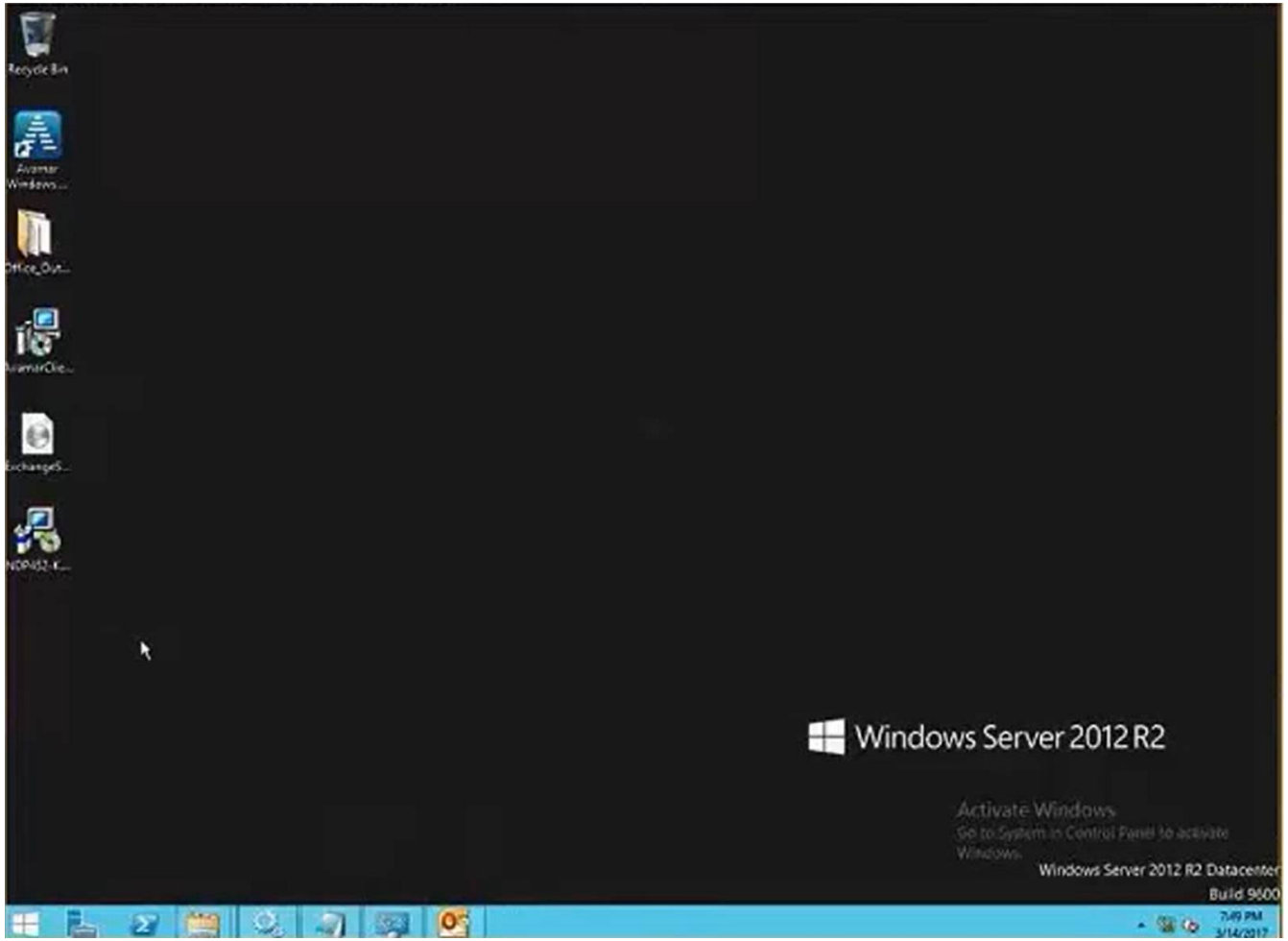
Backup & Restore
Data Movement Policy
Activity
Administration
Server
System Information
System State
Scheduler State: Running
Suspend
Maintenance Activities State: Suspended
License Expiration: 2017-08-24 19:24:38 CEST
Data Protected: 0 bytes
Data Protected in last 24 hours: 0 bytes
Capacity
Legend: 0-75% used 75-90% used >90% used Available
avamar.labd.local
Utilization: 0.0%
Activities
Backup Jobs
Period: Last 24 hours
All Failures 0
Pending 0
Succeeded with Exception 0
Running 0
Succeeded 0
Replication Jobs
Period: Last 24 hours
Failed 0
Pending 0
Succeeded with Exception 0
Running 0
Succeeded 0
Critical Events
0 ERRORS
0 WARNINGS

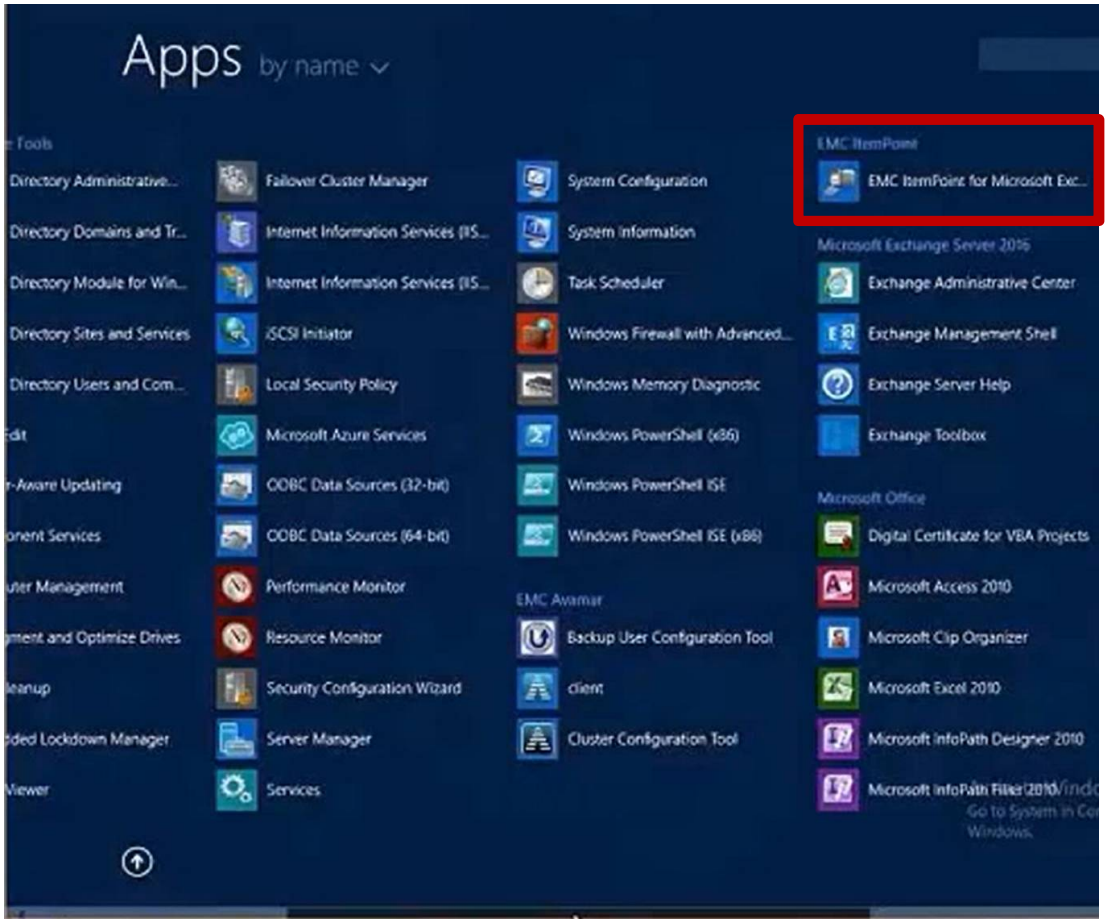
Restore: GLR – Select GLR client

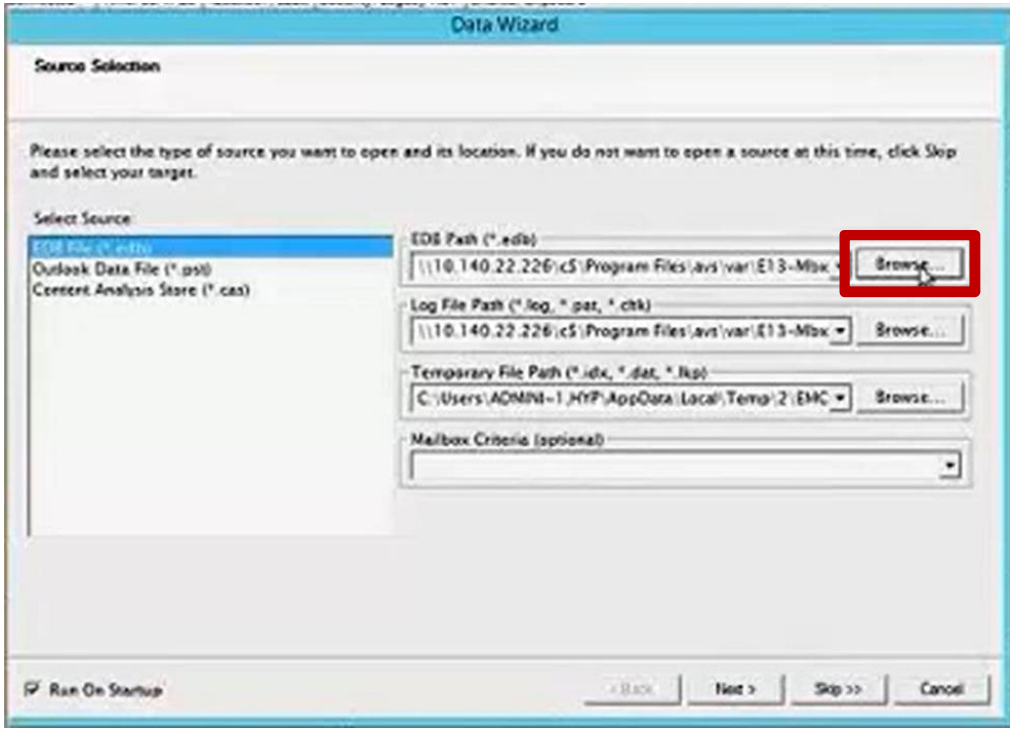


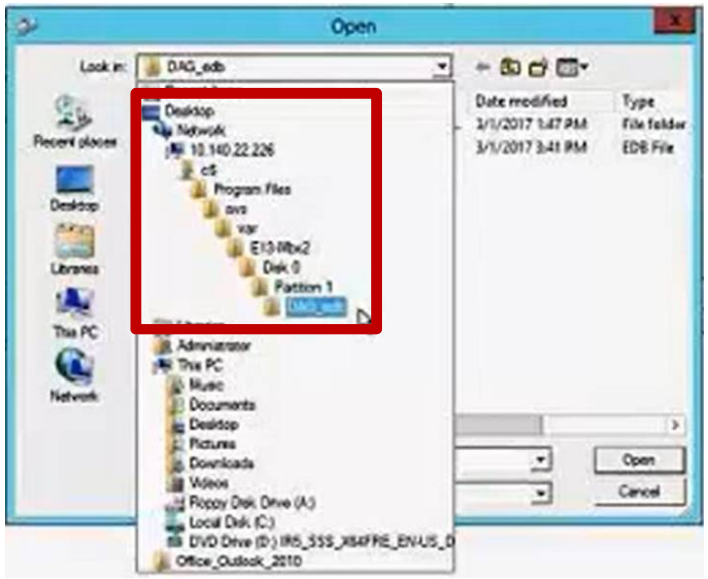
Restore: GLR : Mounting

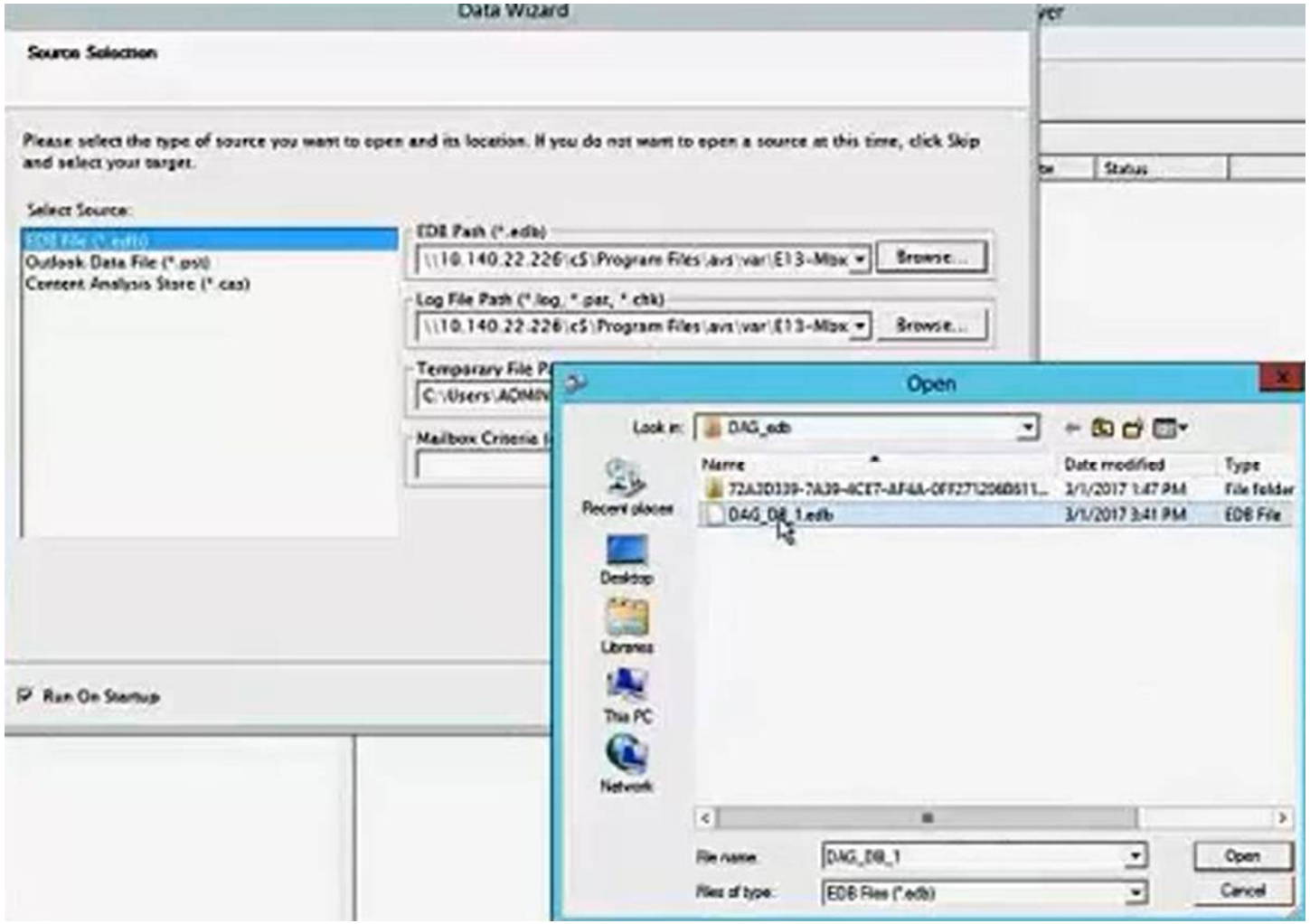


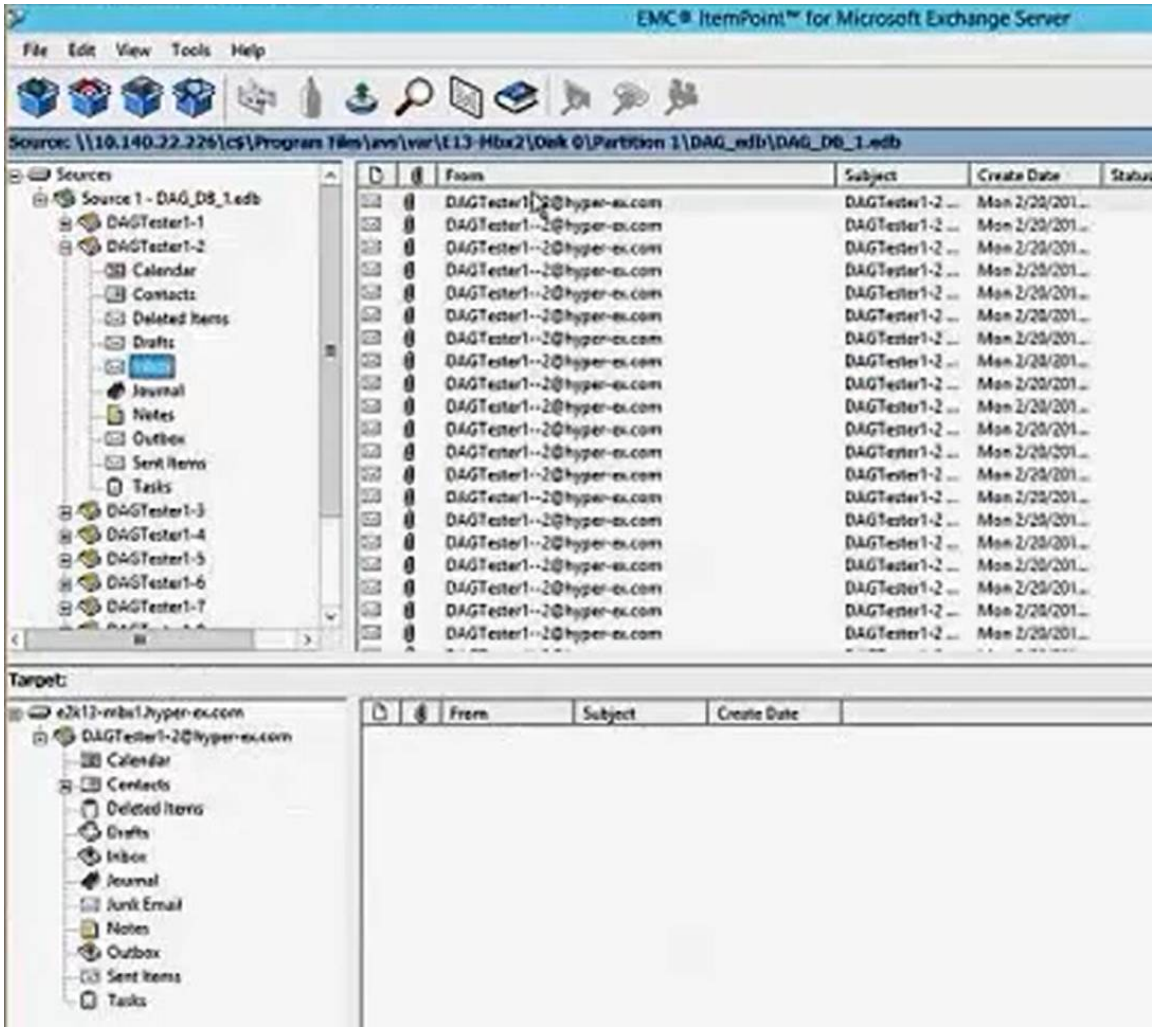

Recycle Bin
Windows Server 2012 R2
Activate Windows
Windows Server 2012 R2 Datacenter
Build 9600


Apps by name
Directory Administrative...
Directory Domains and Tr...
Directory Module for Win...
Directory Sites and Services
Directory Users and Com...
Failover Cluster Manager
Internet Information Services (IIS...
Internet Information Services (IIS...
iSCSI Initiator
Local Security Policy
Microsoft Azure Services
ODBC Data Sources (32-bit)
ODBC Data Sources (64-bit)
Performance Monitor
Resource Monitor
Security Configuration Wizard
Server Manager
Services
System Configuration
System Information
Task Scheduler
Windows Firewall with Advanced...
Windows Memory Diagnostic
Windows PowerShell (x86)
Windows PowerShell ISE
Windows PowerShell ISE (x86)
EMC Avamar
Backup User Configuration Tool
client
Cluster Configuration Tool
EMC ItemPoint
EMC ItemPoint for Microsoft Exc...
Microsoft Exchange Server 2016
Exchange Administrative Center
Exchange Management Shell
Exchange Server Help
Exchange Toolbox
Microsoft Office
Digital Certificate for VBA Projects
Microsoft Access 2010
Microsoft Clip Organizer
Microsoft Excel 2010
Microsoft InfoPath Designer 2010
Microsoft InfoPath Filler 2010


Data Wizard
Source Selection
Please select the type of source you want to open and its location. If you do not want to open a source at this time, click Skip and select your target.
Select Source
Outlook Data File (*.pst)
Content Analysis Store (*.cas)
EDB Path (*.edb)
Browse...
Log File Path (*.log, *.pat, *.chk)
Browse...
Temporary File Path (*.idx, *.dat, *.lkp)
Browse...
Mailbox Criteria (optional)
Run On Startup
< Back
Next >
Skip >>
Cancel


Open
Look in:
DAG_edb
Recent places
Desktop
Libraries
This PC
Network
Desktop
Network
10.140.22.226
c$
Program Files
ovs
var
E13-Rbx2
Disk 0
Partition 1
Administrator
This PC
Music
Documents
Desktop
Pictures
Downloads
Videos
Floppy Disk Drive (A:)
Local Disk (C:)
Office_Outlook_2010
Date modified
Type
3/1/2017 1:47 PM
File folder
3/1/2017 3:41 PM
EDB File
Open
Cancel


Data Wizard
Source Selection
Please select the type of source you want to open and its location. If you do not want to open a source at this time, click Skip and select your target.
Select Source:
Outlook Data File (*.pst)
Content Analysis Store (*.cas)
EDB Path (*.edb)
Browse...
Log File Path (*.log, *.par, *.chk)
Browse...
Temporary File P
Mailbox Criteria
Run On Startup
Open
Look in:
DAG_edb
Name
Date modified
Type
Recent places
Desktop
Libraries
This PC
Network
File name:
DAG_DB_1
Files of type:
EDB Files (*.edb)
Open
Cancel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DAGTester1-1
DAGTester1-2
Calendar
Contacts
Deleted Items
Drafts
Inbox
Journal
Notes
Outbox
Sent Items
Tasks
DAGTester1-3
DAGTester1-4
DAGTester1-5
DAGTester1-6
DAGTester1-7
From
Subject
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Target:
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Drafts
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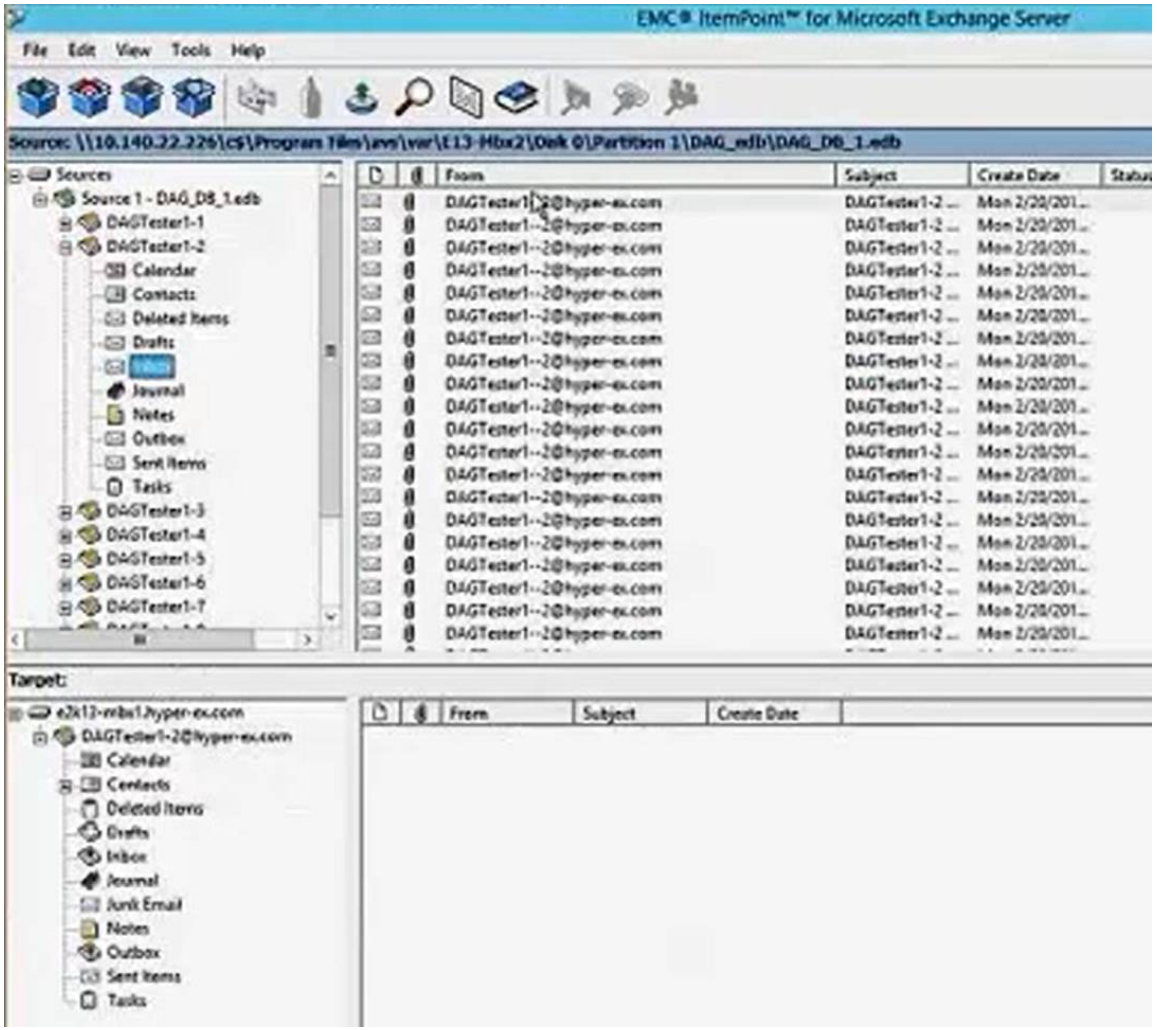
Journal
Junk Email
Notes
Outbox
Sent Items
Tasks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File Edit View Tools Help
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Sources
Source 1 - DAG_DB_1.edb
DAGTester1-1
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Calendar
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Drafts
Inbox
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Sent Items
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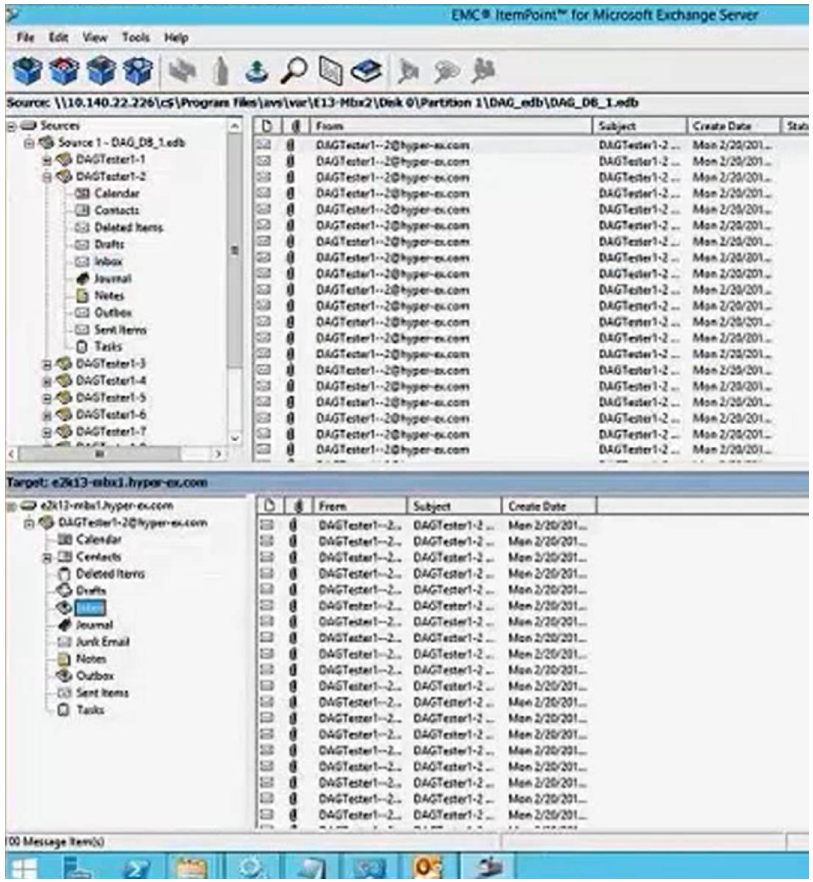
Tasks


EMC® ItemPoint™ for Microsoft Exchange Server
File Edit View Tools Help
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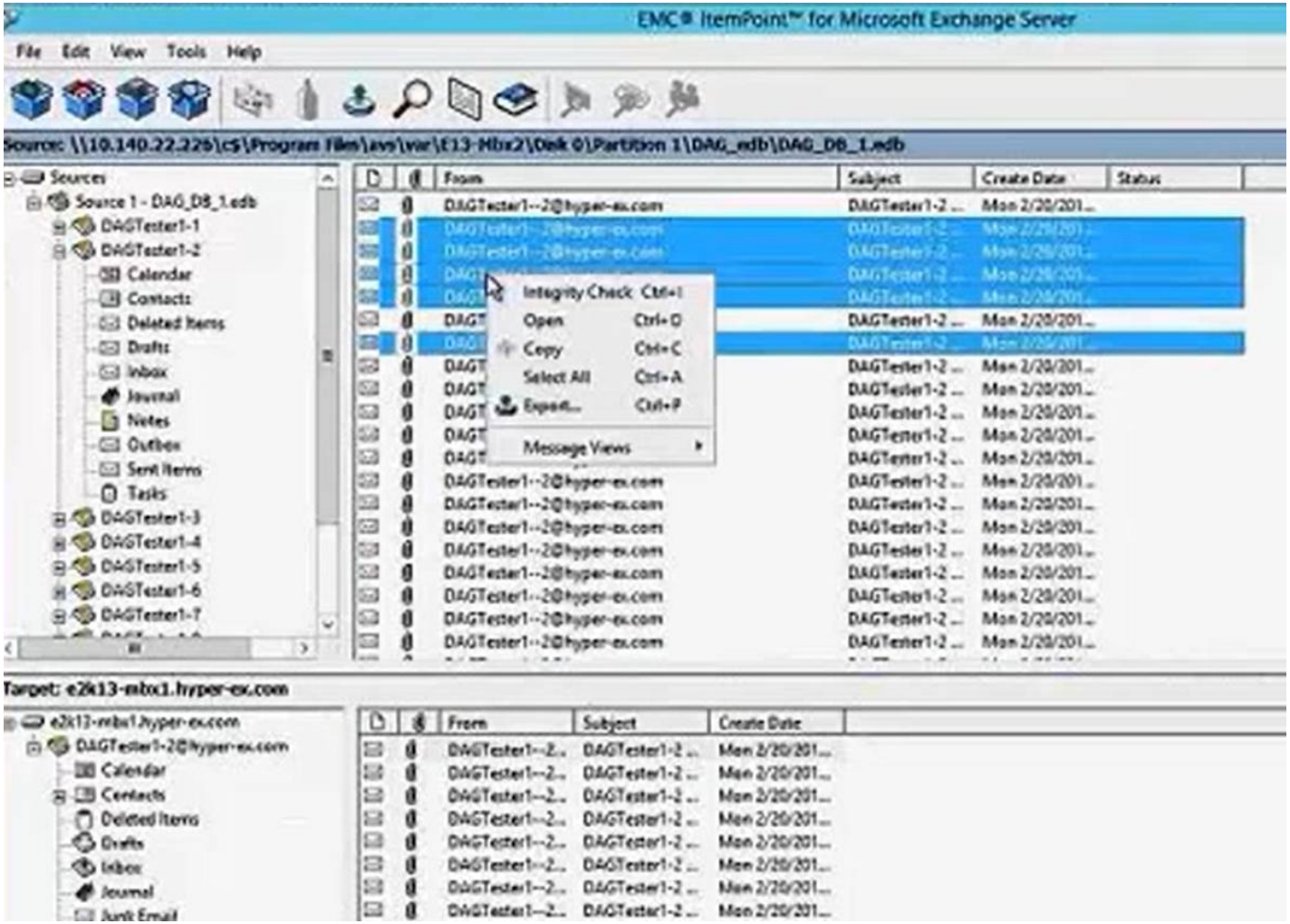
Sources
Source 1 - DAG_DB_1.edb
DAGTester1-1
DAGTester1-2
Calendar
Contacts
Deleted Items
Drafts
Inbox
Journal
Notes
Outbox
Sent Items
Tasks
DAGTester1-3
DAGTester1-4
DAGTester1-5
DAGTester1-6
DAGTester1-7
From
Subject
Create Date
DAGTester1--2@hyper-ex.com
Target: e2k13-mbx1.hyper-ex.com
e2k13-mbx1.hyper-ex.com
DAGTester1-2@hyper-ex.com
Calendar
Contacts
Deleted Items
Drafts
Inbox
Journal
Junk Email
Notes
Outbox
Sent Items
Tasks
00 Message Item(s)


EMC® ItemPoint™ for Microsoft Exchange Server
File Edit View Tools Help
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Source 1 - DAG_DB_1.edb
DAGTester1-1
DAGTester1-2
Calendar
Contacts
Deleted Items
Drafts
Inbox
Journal
Notes
Outbox
Sent Items
Tasks
DAGTester1-3
DAGTester1-4
DAGTester1-5
DAGTester1-6
DAGTester1-7
From
Subject
Create Date
Status
Integrity Check Ctrl+I
Open Ctrl+O
Copy Ctrl+C
Select All Ctrl+A
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Message Views
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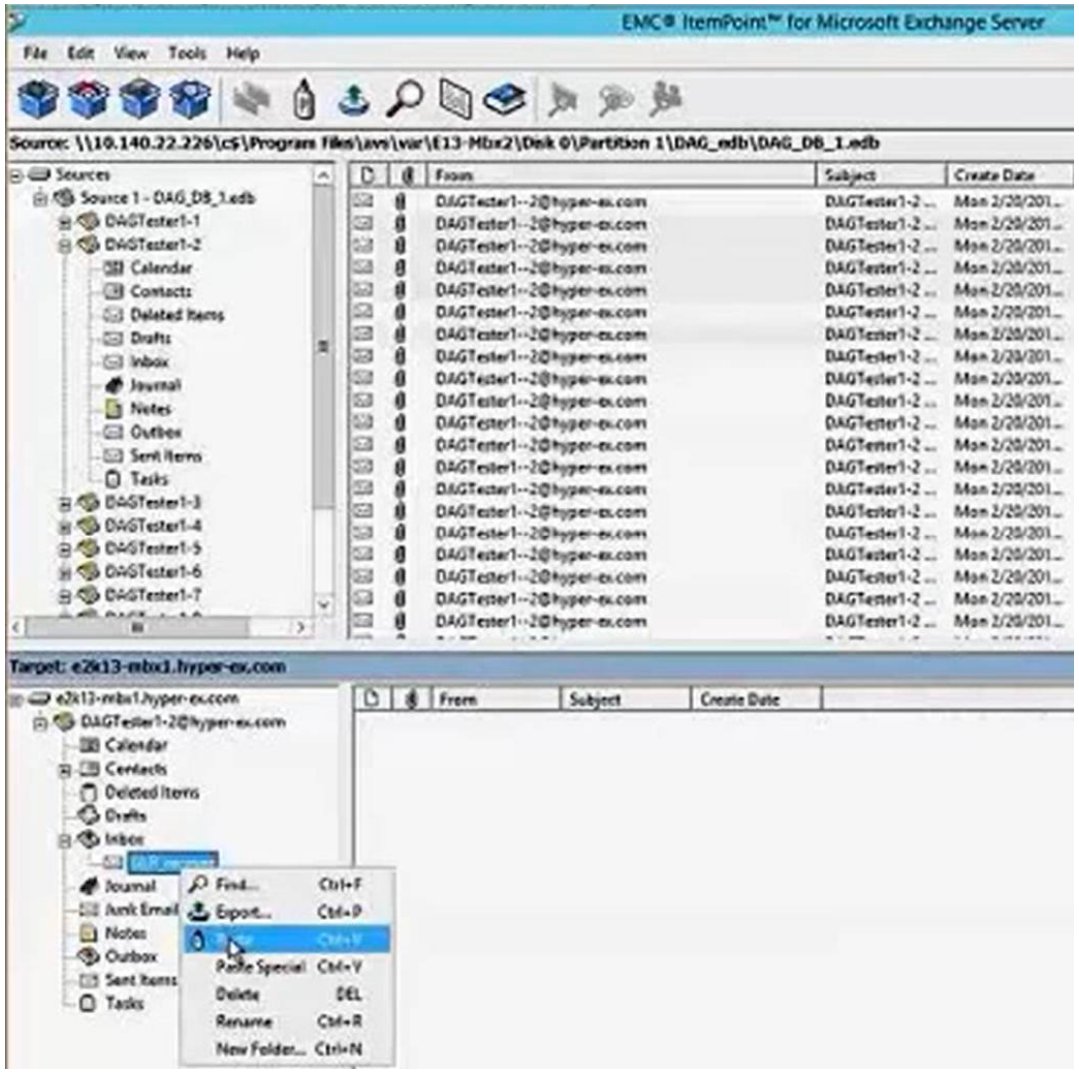
Deleted Items
Drafts
Inbox
Journal
Junk Email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DAGTester1-2
Calendar
Contacts
Deleted Items
Drafts
Inbox
Journal
Notes
Outbox
Sent Items
Tasks
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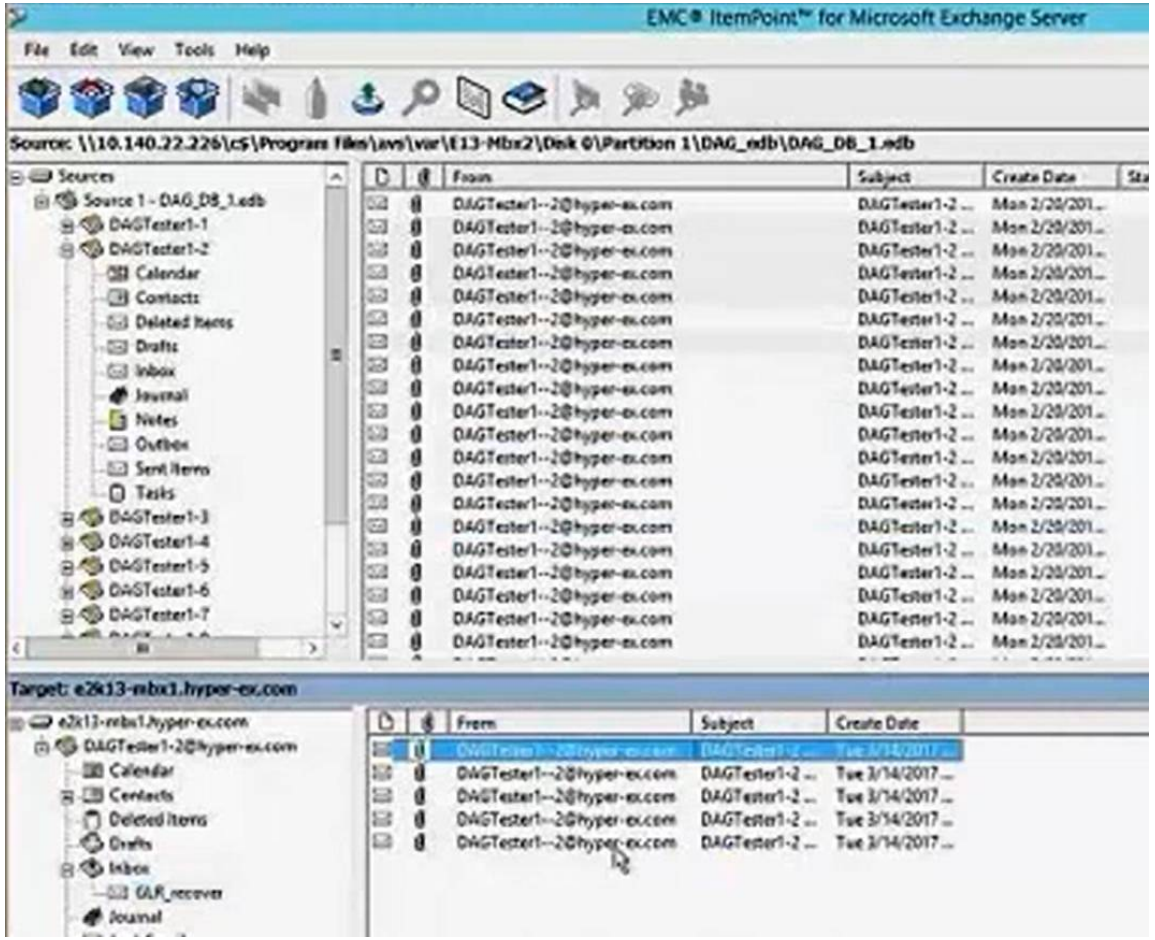
DAGTester1-4
DAGTester1-5
DAGTester1-6
DAGTester1-7
From
Subject
Create Date
Target: e2k13-mbx1.hyper-ex.com
e2k13-mbx1.hyper-ex.com
DAGTester1-2@hyper-ex.com
Calendar
Contacts
Deleted Items
Drafts
Inbox
Journal
Junk Email
Notes
Outbox
Sent Items
Tasks
Find... Ctrl+F
Export... Ctrl+P
Paste Special Ctrl+V
Delete DEL
Rename Ctrl+R
New Folder... Ctrl+N


EMC® ItemPoint™ for Microsoft Exchange Server
File Edit View Tools Help
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Sources
Source 1 - DAG_DB_1.edb
DAGTester1-1
DAGTester1-2
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Contacts
Deleted Items
Drafts
Inbox
Journal
Notes
Outbox
Sent Items
Tasks
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DAGTester1-4
DAGTester1-5
DAGTester1-6
DAGTester1-7
From
Subject
Create Date
DAGTester1--2@hyper-ex.com
DAGTester1-2 ...
Mon 2/20/201...
Target: e2k13-mbx1.hyper-ex.com
e2k13-mbx1.hyper-ex.com
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Contacts
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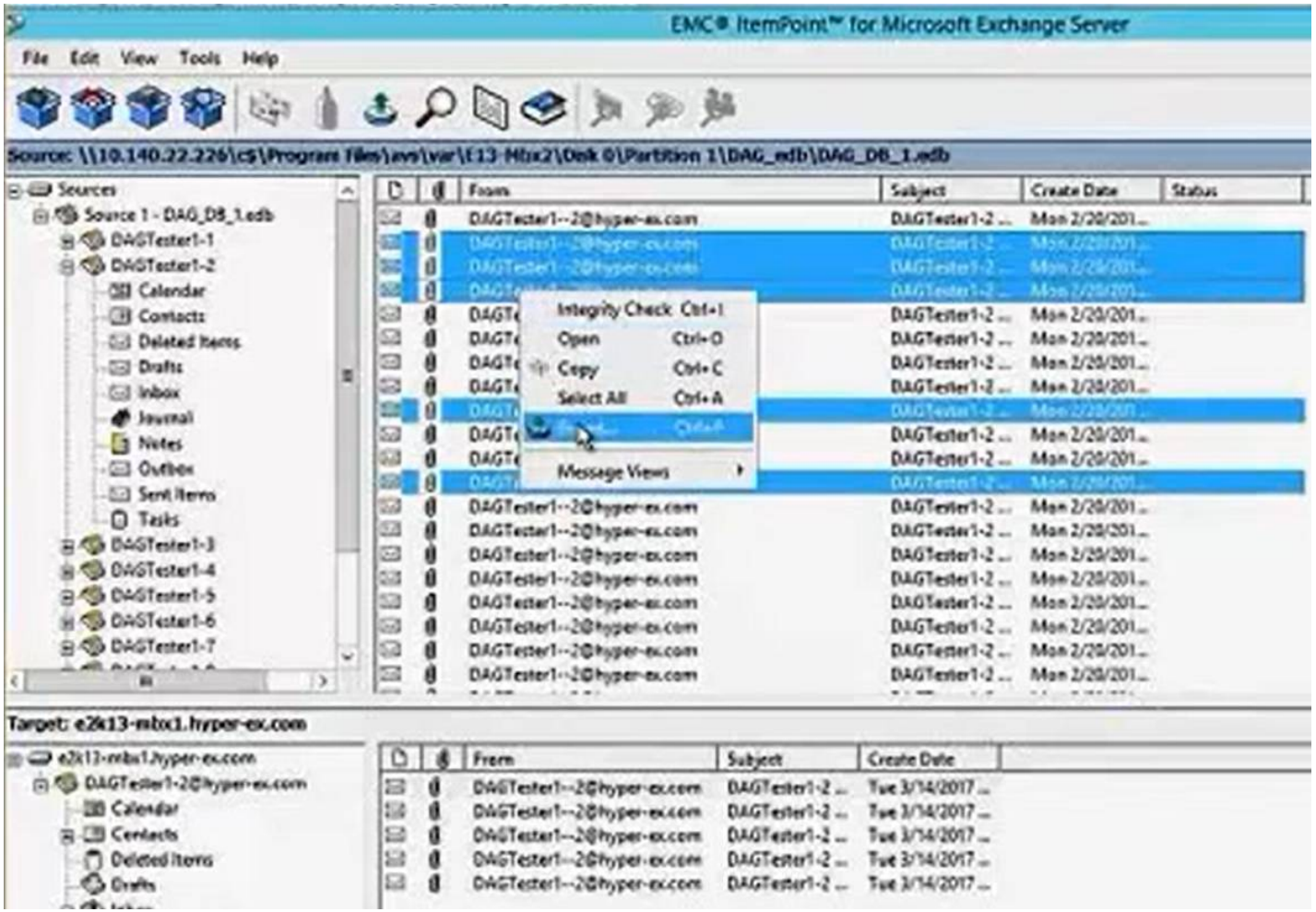
Drafts
Inbox
GLR_recover
Journal
Tue 3/14/2017 ...


EMC® ItemPoint™ for Microsoft Exchange Server
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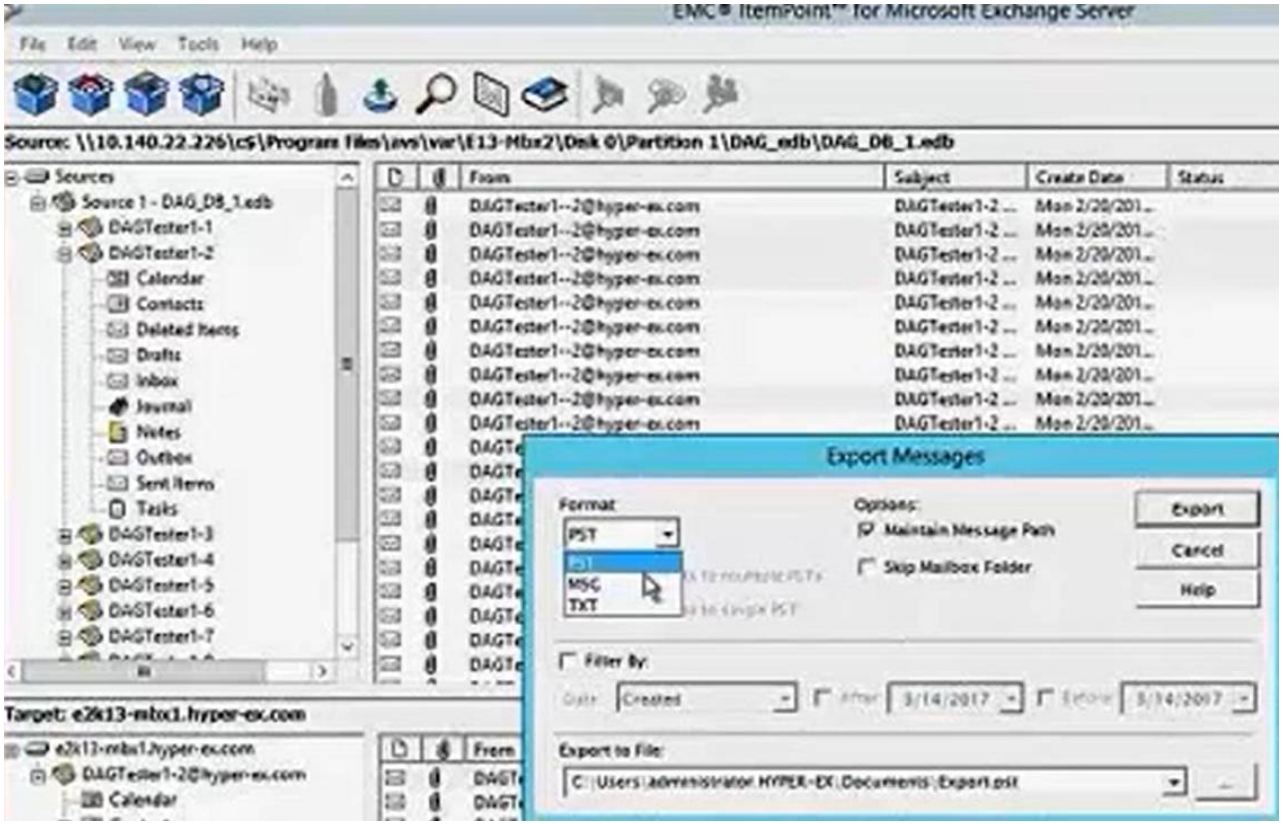
Source 1 - DAG_DB_1.edb
DAGTester1-1
DAGTester1-2
Calendar
Contacts
Deleted Items
Drafts
Inbox
Journal
Notes
Outbox
Sent Items
Tasks
DAGTester1-3
DAGTester1-4
DAGTester1-5
DAGTester1-6
DAGTester1-7
From
Subject
Create Date
Status
Integrity Check Ctrl+I
Open Ctrl+O
Copy Ctrl+C
Select All Ctrl+A
Message Views
Target: e2k13-mbx1.hyper-ex.com
Calendar
Contacts
Deleted Items
Drafts


EMC® ItemPoint™ for Microsoft Exchange Server
File Edit View Tools Help
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Sources
Source 1 - DAG_DB_1.edb
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DAGTester1-2
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DAGTester1-4
DAGTester1-5
DAGTester1-6
DAGTester1-7
From
Subject
Create Date
Status
Export Messages
Format
PST
PST
MSG
TXT
Options:
Maintain Message Path
Skip Mailbox Folder
Export
Cancel
Help
Filter By:
Date
Created
After
3/14/2017
Before
3/14/2017
Export to File:
C:\Users\Administrator.HYPER-EX\Documents\Export.pst
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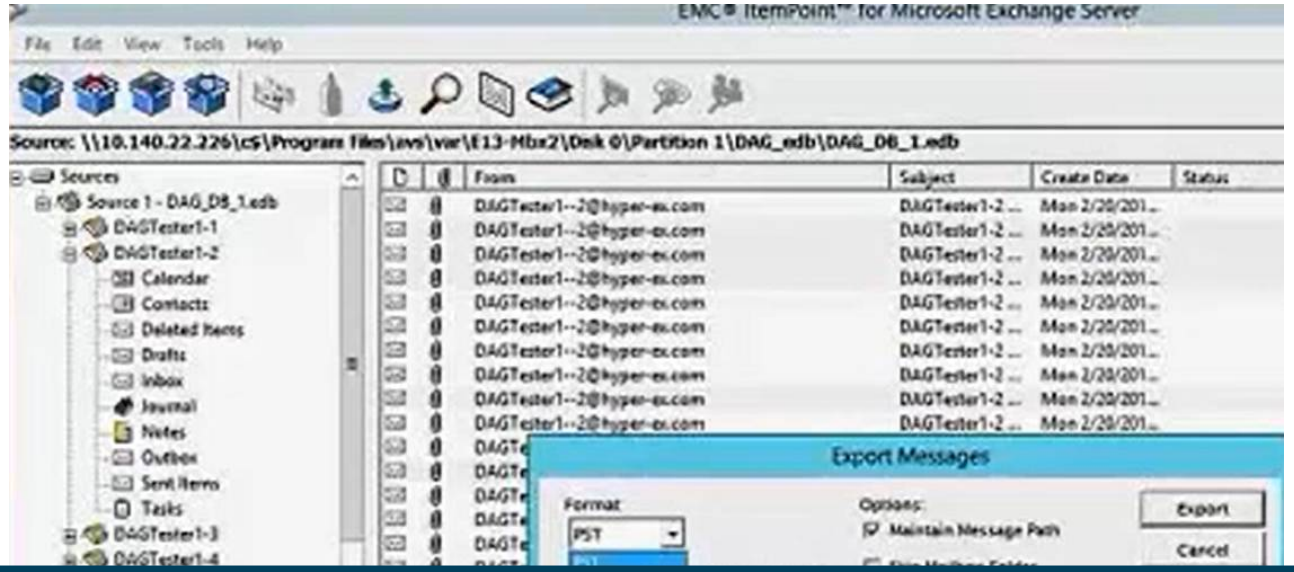
e2k13-mbx1.hyper-ex.com
DAGTester1-2@hyper-ex.com
Calendar



Exchange

SharePoint

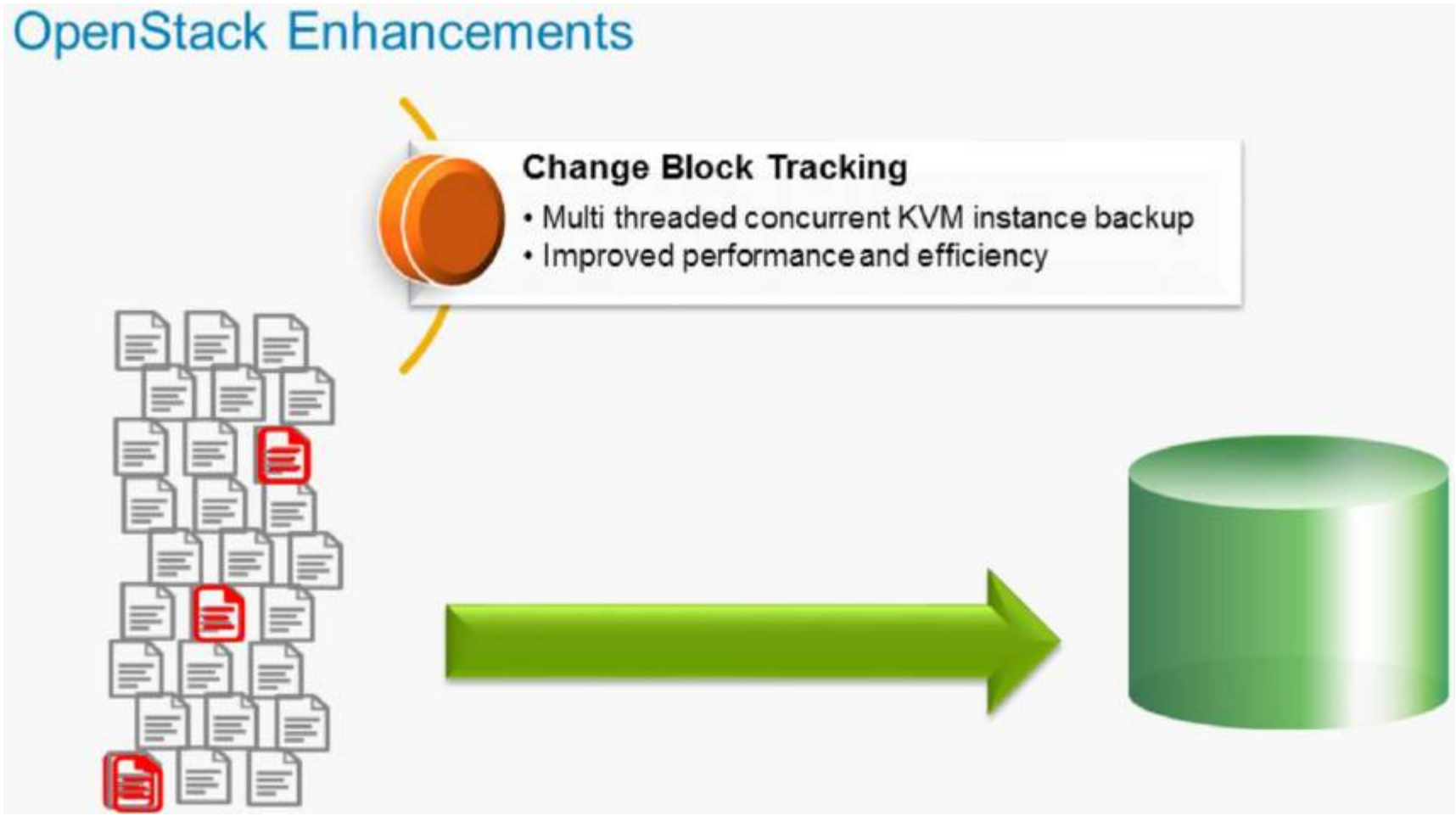
SQL

...

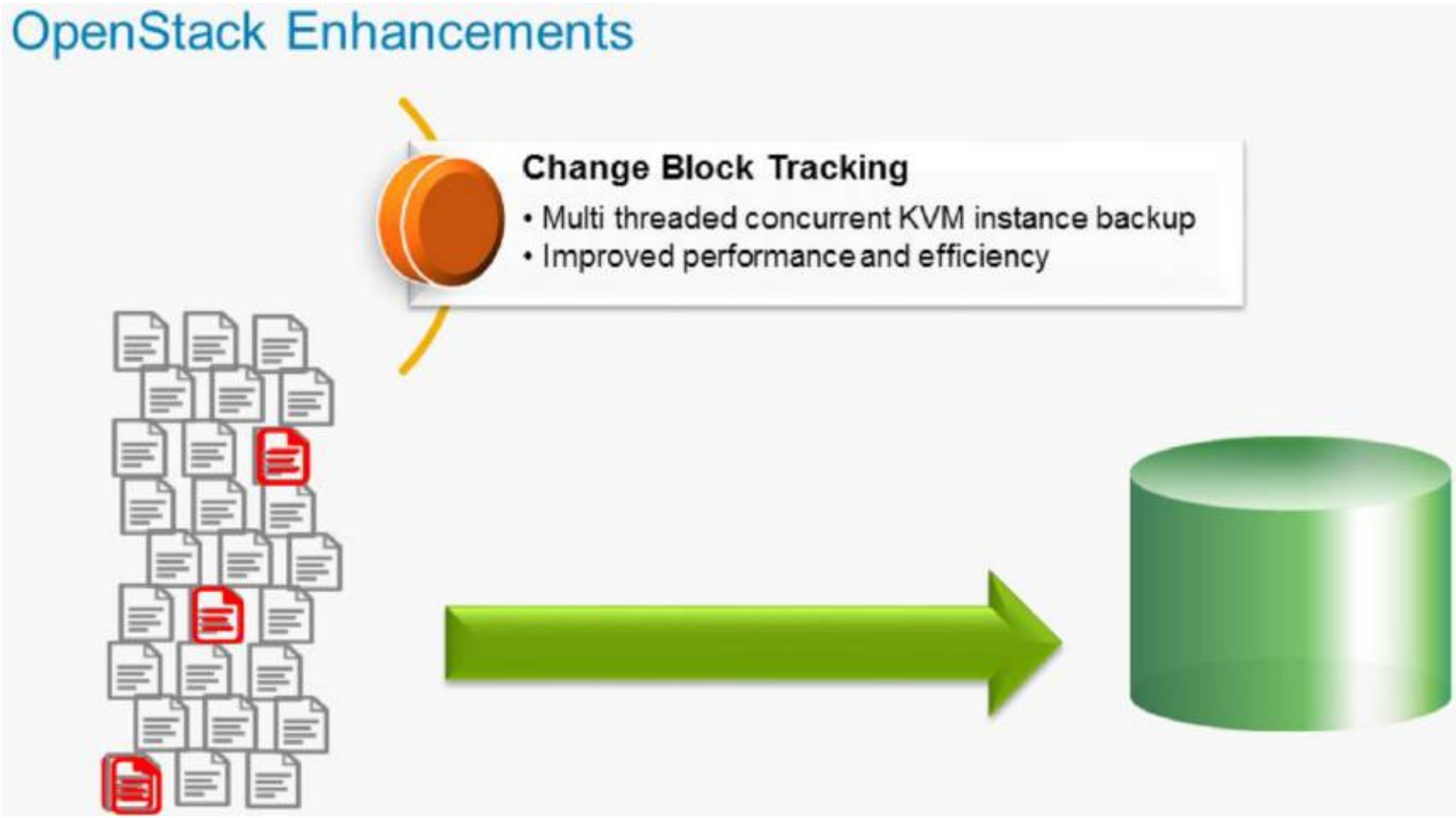
Avamar 7.5

OpenStack enhancements

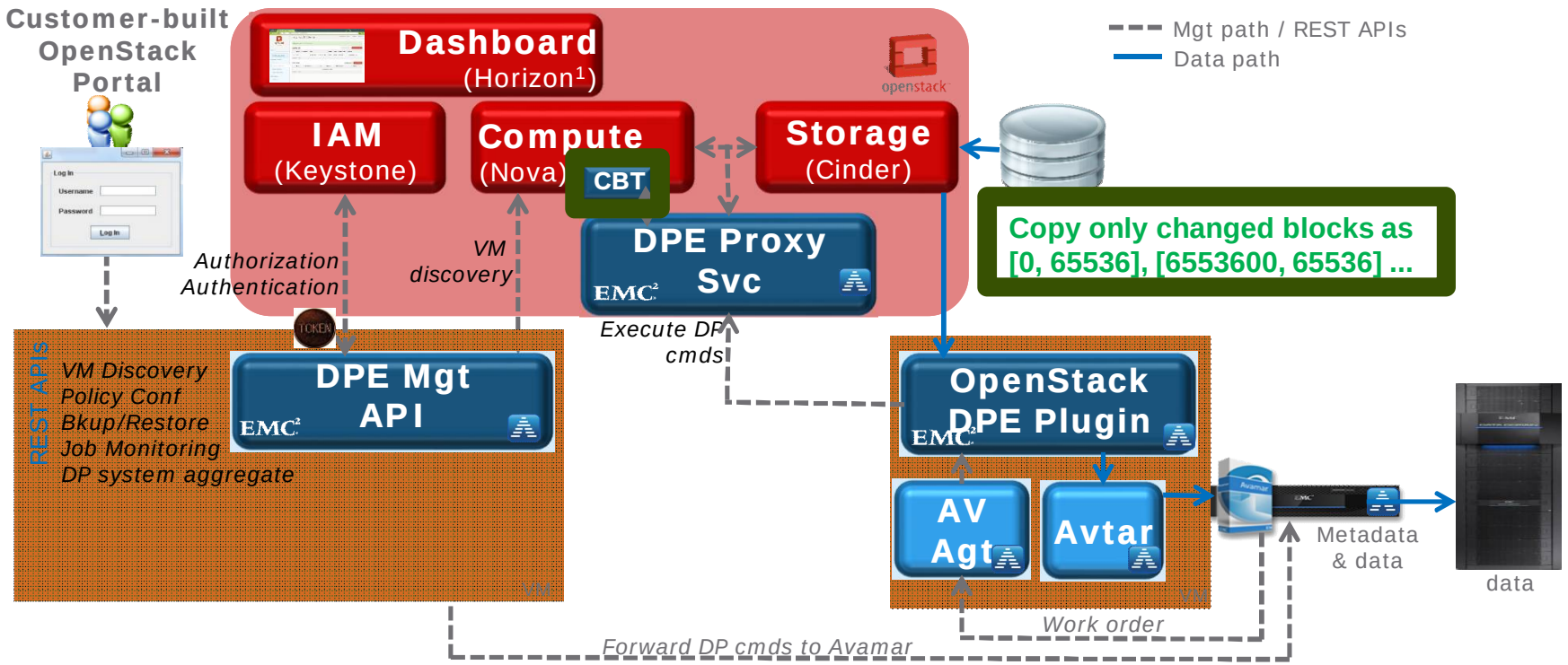
OpenStack Enhancements



OpenStack Enhancements



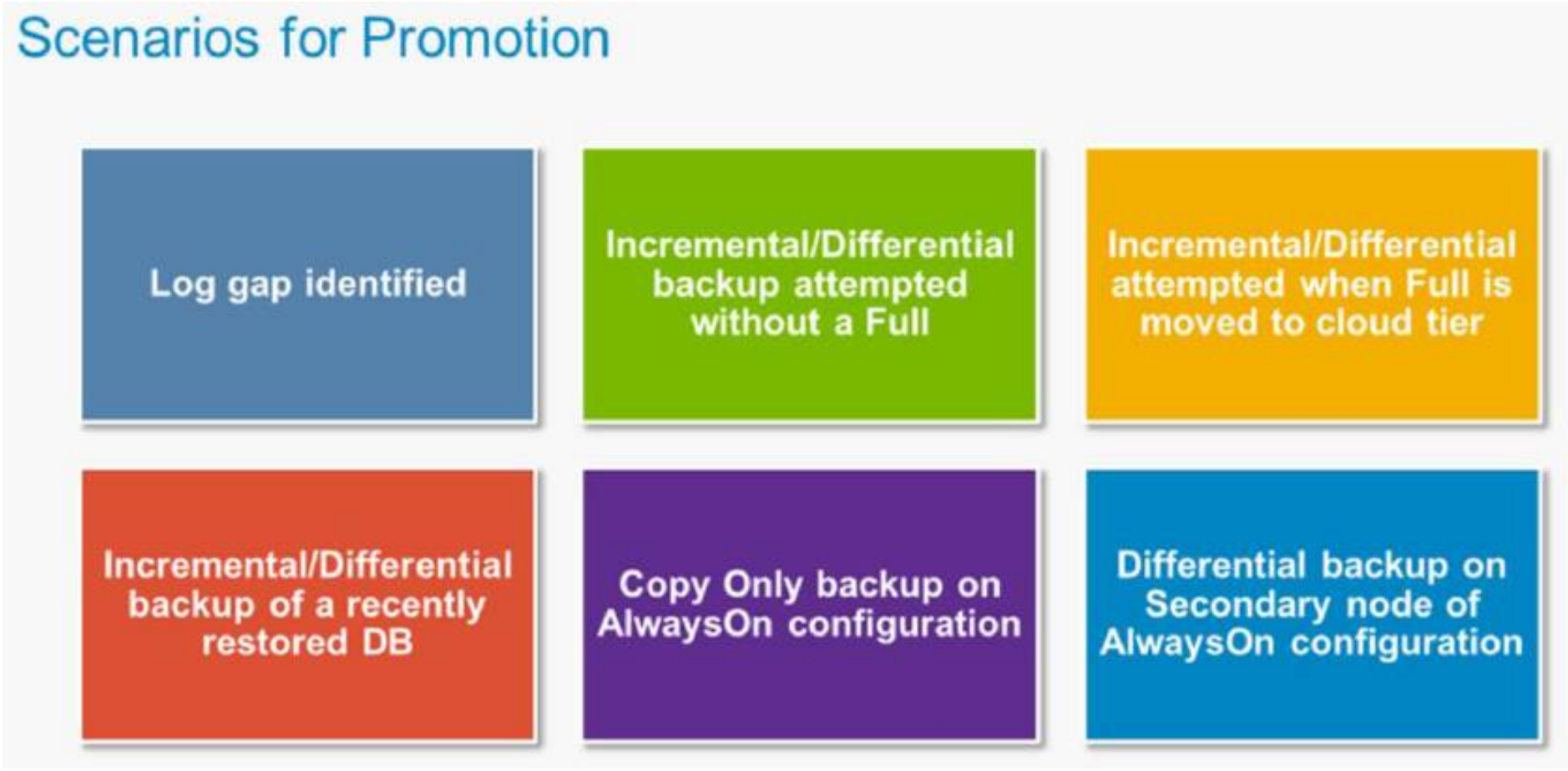
ARCHITECTURE



Avamar 7.5

Client Plugins

Scenarios for Promotion



SQL Plug-in Enhancement

MC GUI

Status	Error Code
Completed	

Without 7.5 SQL plug-in

Status	Error Code
Completed with Promotion	10033

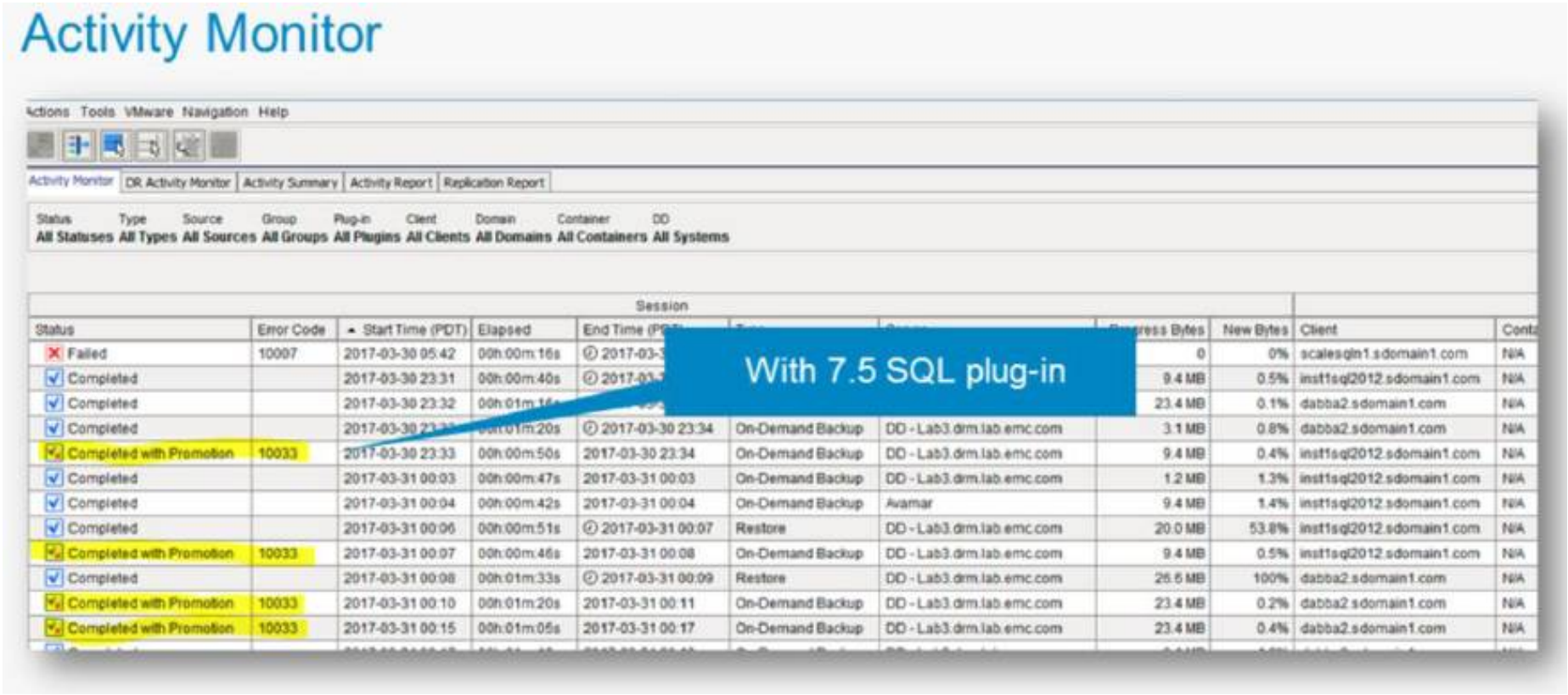
With 7.5 SQL plug-in

Logs

```
2017-03-31 05:27:10 avsql Info <7271>: Final summary generated subwork 1, cancelled/aborted 0, snapview 1, exitcode 0

2017-03-31 02:49:50 avsql Info <42977>: Final summary generated subwork 3, cancelled/aborted 0, promoted to full 1, snapview 10, exitcode 536870945
```

Activity Monitor



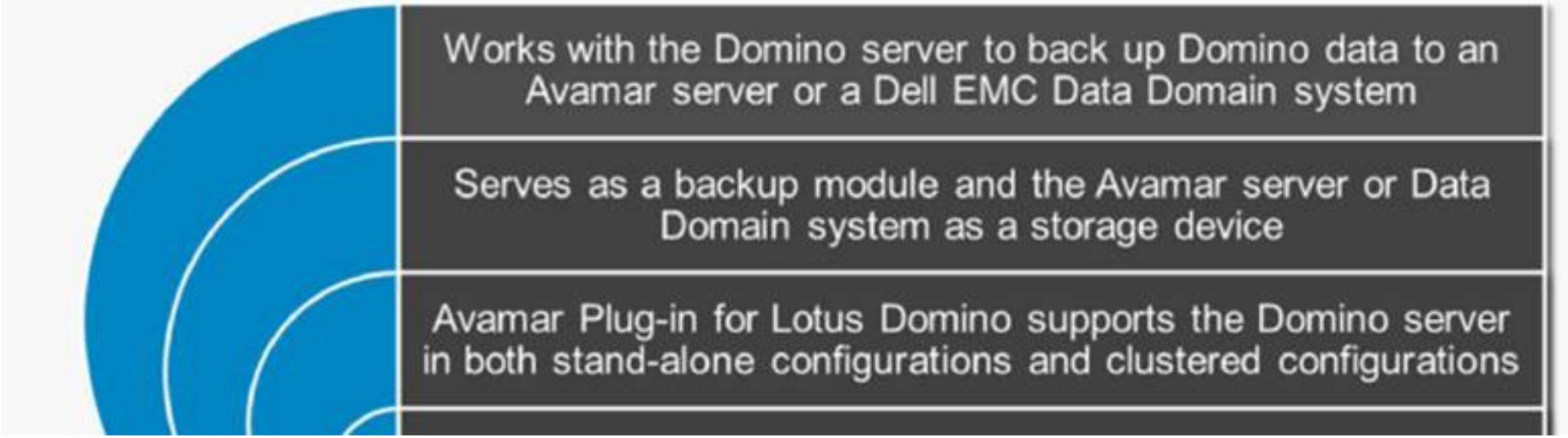
Actions Tools VMware Navigation Help

Activity Monitor | DR Activity Monitor | Activity Summary | Activity Report | Replication Report

Status: All Statuses | Type: All Types | Source: All Sources | Group: All Groups | Plug-in: All Plugins | Client: All Clients | Domain: All Domains | Container: All Containers | DD: All Systems

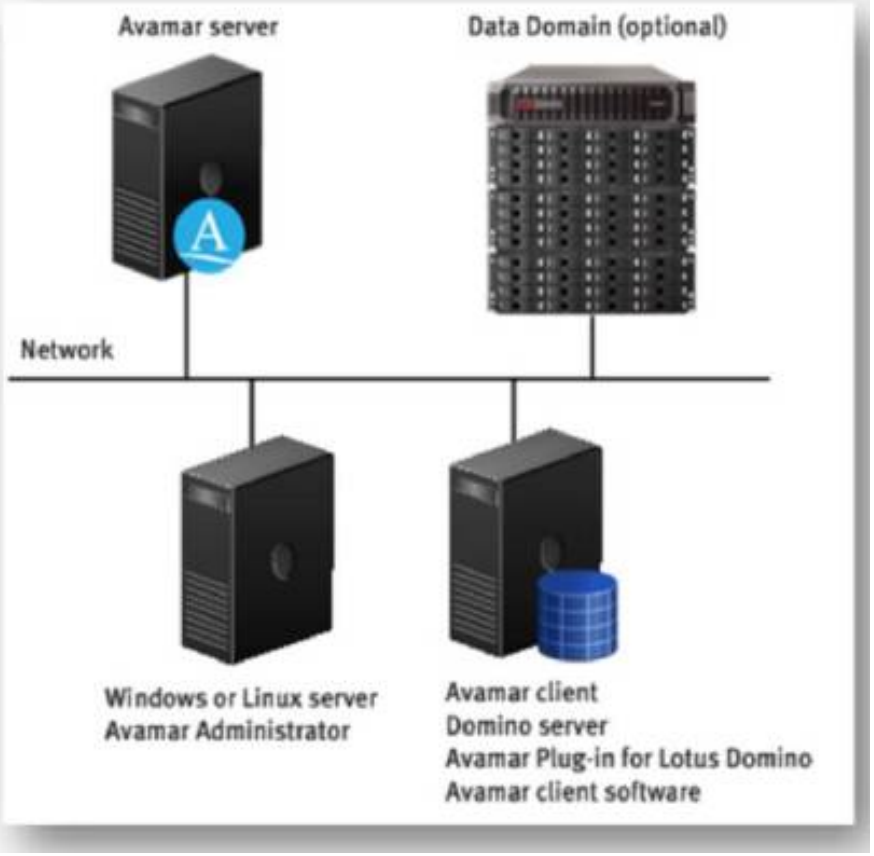
Session										
Status	Error Code	Start Time (PDT)	Elapsed	End Time (PDT)			Progress Bytes	New Bytes	Client	Cont
Failed	10007	2017-03-30 05:42	00h:00m:16s	2017-03-30 05:42			0	0%	scalesqln1.sdomain1.com	N/A
Completed		2017-03-30 23:31	00h:00m:40s	2017-03-30 23:32			9.4 MB	0.5%	inst1sql2012.sdomain1.com	N/A
Completed		2017-03-30 23:32	00h:01m:16s	2017-03-30 23:33			23.4 MB	0.1%	dabba2.sdomain1.com	N/A
Completed		2017-03-30 23:33	00h:01m:20s	2017-03-30 23:34	On-Demand Backup	DD - Lab3.drm.lab.emc.com	3.1 MB	0.8%	dabba2.sdomain1.com	N/A
Completed with Promotion	10033	2017-03-30 23:33	00h:00m:50s	2017-03-30 23:34	On-Demand Backup	DD - Lab3.drm.lab.emc.com	9.4 MB	0.4%	inst1sql2012.sdomain1.com	N/A
Completed		2017-03-31 00:03	00h:00m:47s	2017-03-31 00:03	On-Demand Backup	DD - Lab3.drm.lab.emc.com	1.2 MB	1.3%	inst1sql2012.sdomain1.com	N/A
Completed		2017-03-31 00:04	00h:00m:42s	2017-03-31 00:04	On-Demand Backup	Avamar	9.4 MB	1.4%	inst1sql2012.sdomain1.com	N/A
Completed		2017-03-31 00:06	00h:00m:51s	2017-03-31 00:07	Restore	DD - Lab3.drm.lab.emc.com	20.0 MB	53.8%	inst1sql2012.sdomain1.com	N/A
Completed with Promotion	10033	2017-03-31 00:07	00h:00m:46s	2017-03-31 00:08	On-Demand Backup	DD - Lab3.drm.lab.emc.com	9.4 MB	0.5%	inst1sql2012.sdomain1.com	N/A
Completed		2017-03-31 00:08	00h:01m:33s	2017-03-31 00:09	Restore	DD - Lab3.drm.lab.emc.com	26.6 MB	100%	dabba2.sdomain1.com	N/A
Completed with Promotion	10033	2017-03-31 00:10	00h:01m:20s	2017-03-31 00:11	On-Demand Backup	DD - Lab3.drm.lab.emc.com	23.4 MB	0.2%	dabba2.sdomain1.com	N/A
Completed with Promotion	10033	2017-03-31 00:15	00h:01m:05s	2017-03-31 00:17	On-Demand Backup	DD - Lab3.drm.lab.emc.com	23.4 MB	0.4%	dabba2.sdomain1.com	N/A

Avamar Plug-in for IBM Lotus Domino



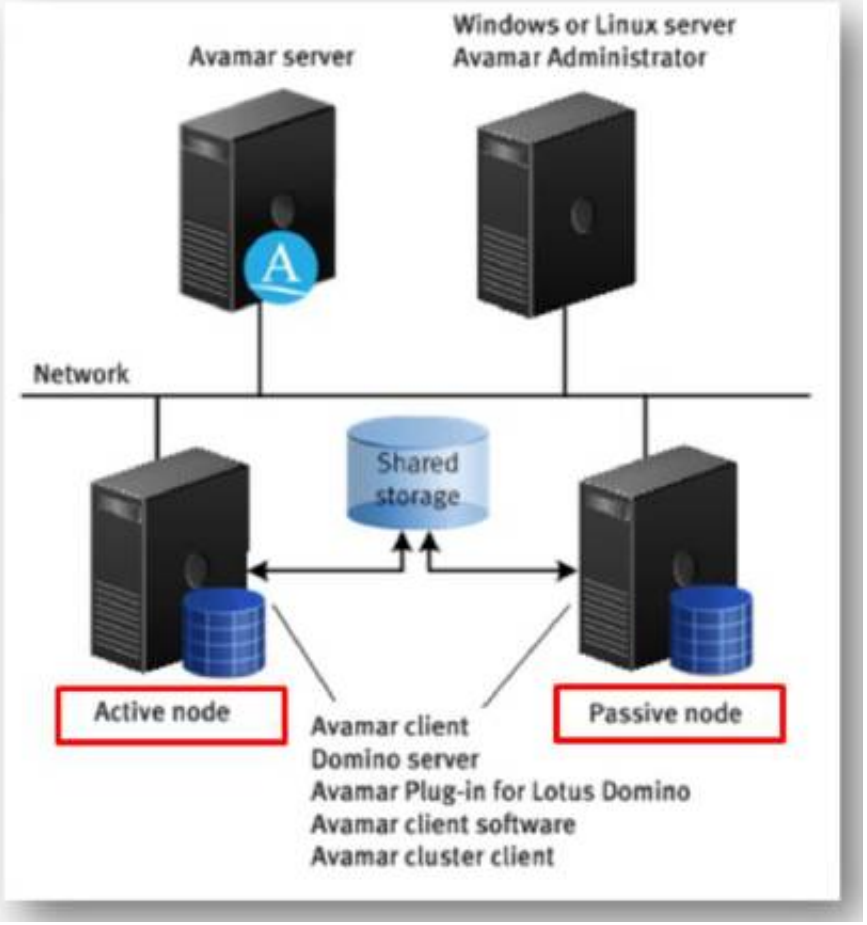
Avamar Lotus Use Case: Standalone

Standalone Configuration

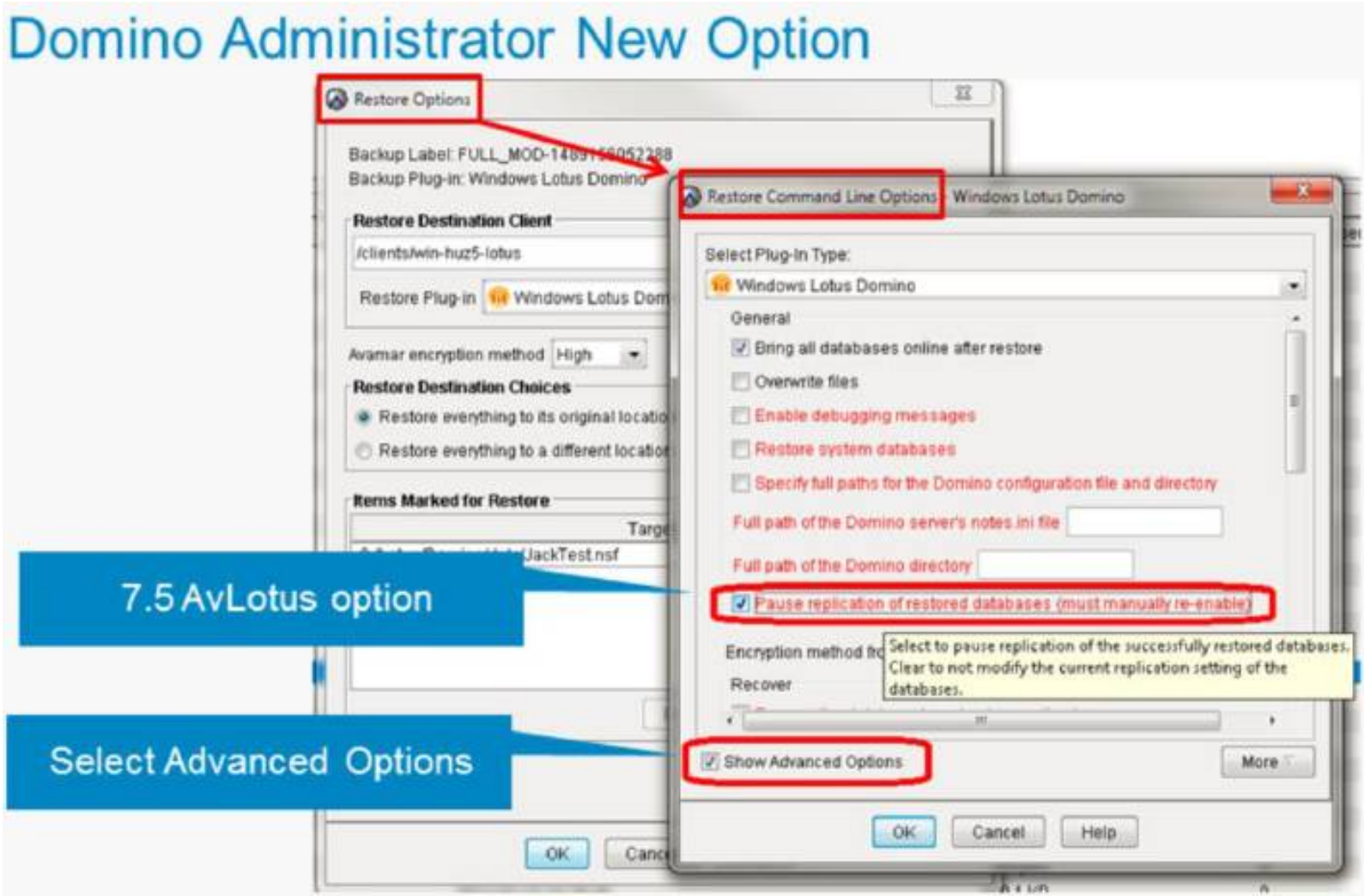


Avamar Lotus Use Case: Cluster

Cluster Configuration



Domino Administrator New Option



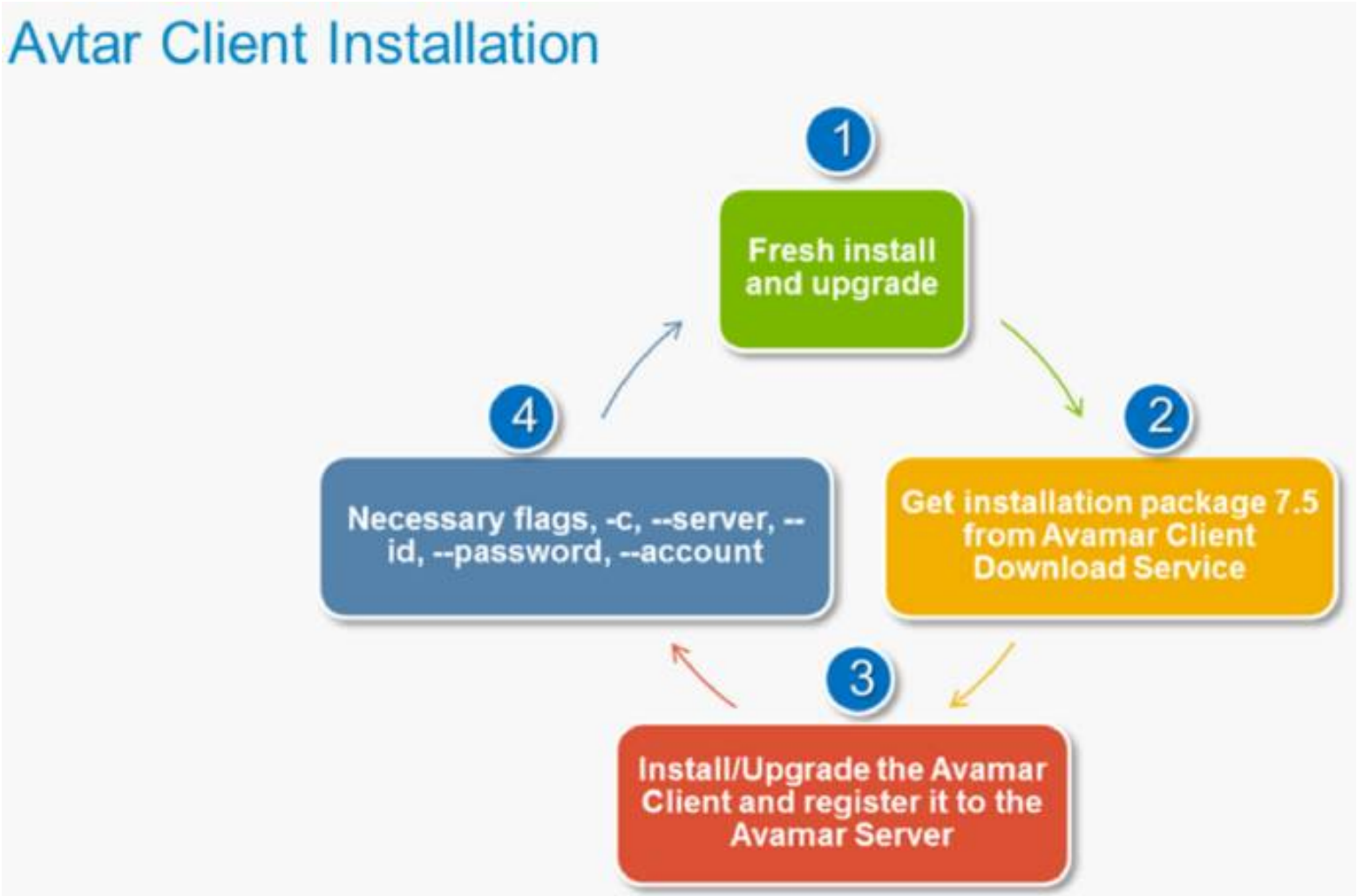
Exchange

- Improved Exchange backup and restore performance

Exchange

- The Exchange plug-in has been enhanced to intelligently discover relevant log files, and back up only those logs.
  - Improved Backup time.
  - Less storage space for each backup.
  - Improved GLR Browsing and restore time.

Avtar Client Installation



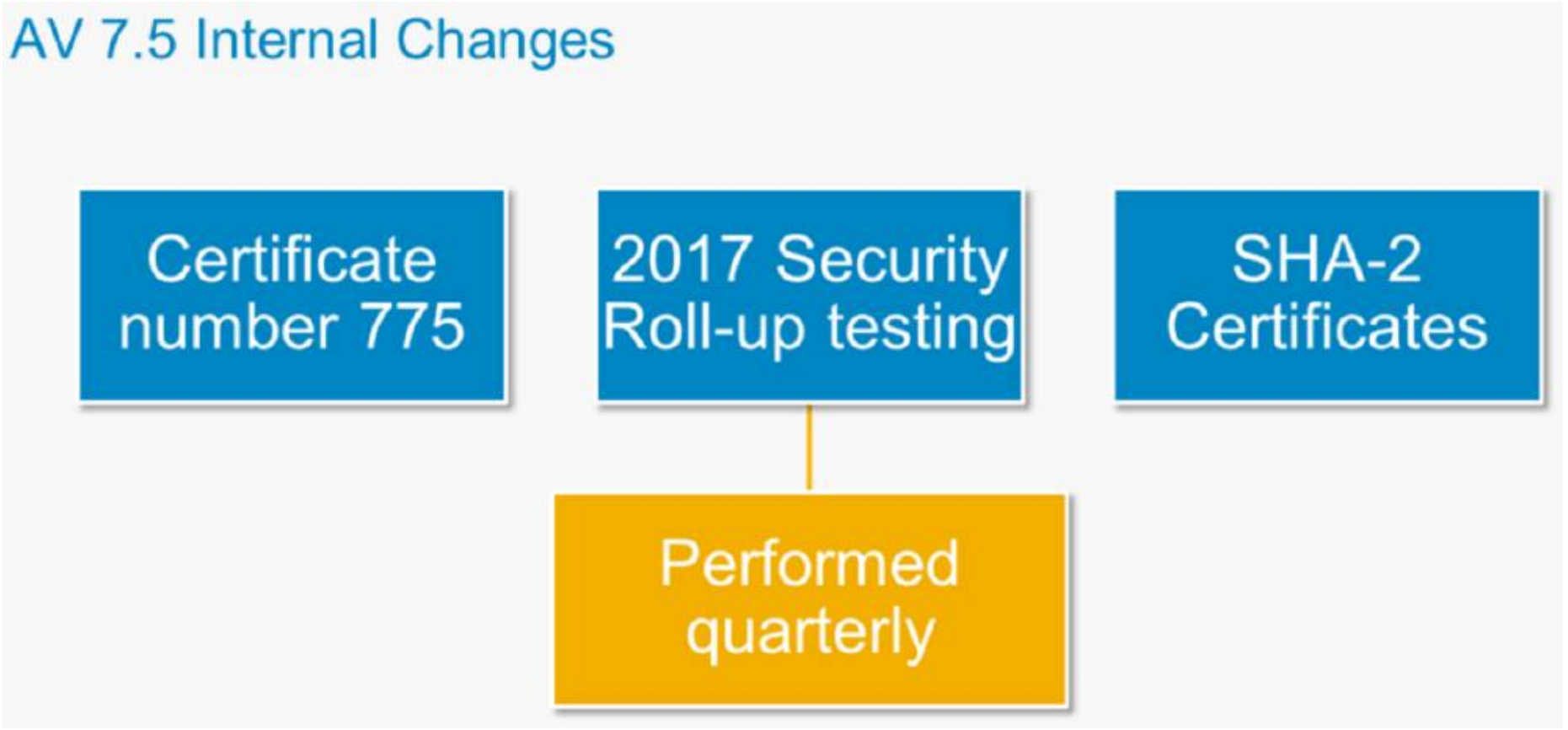
Avamar 7.5

Security Enhancements

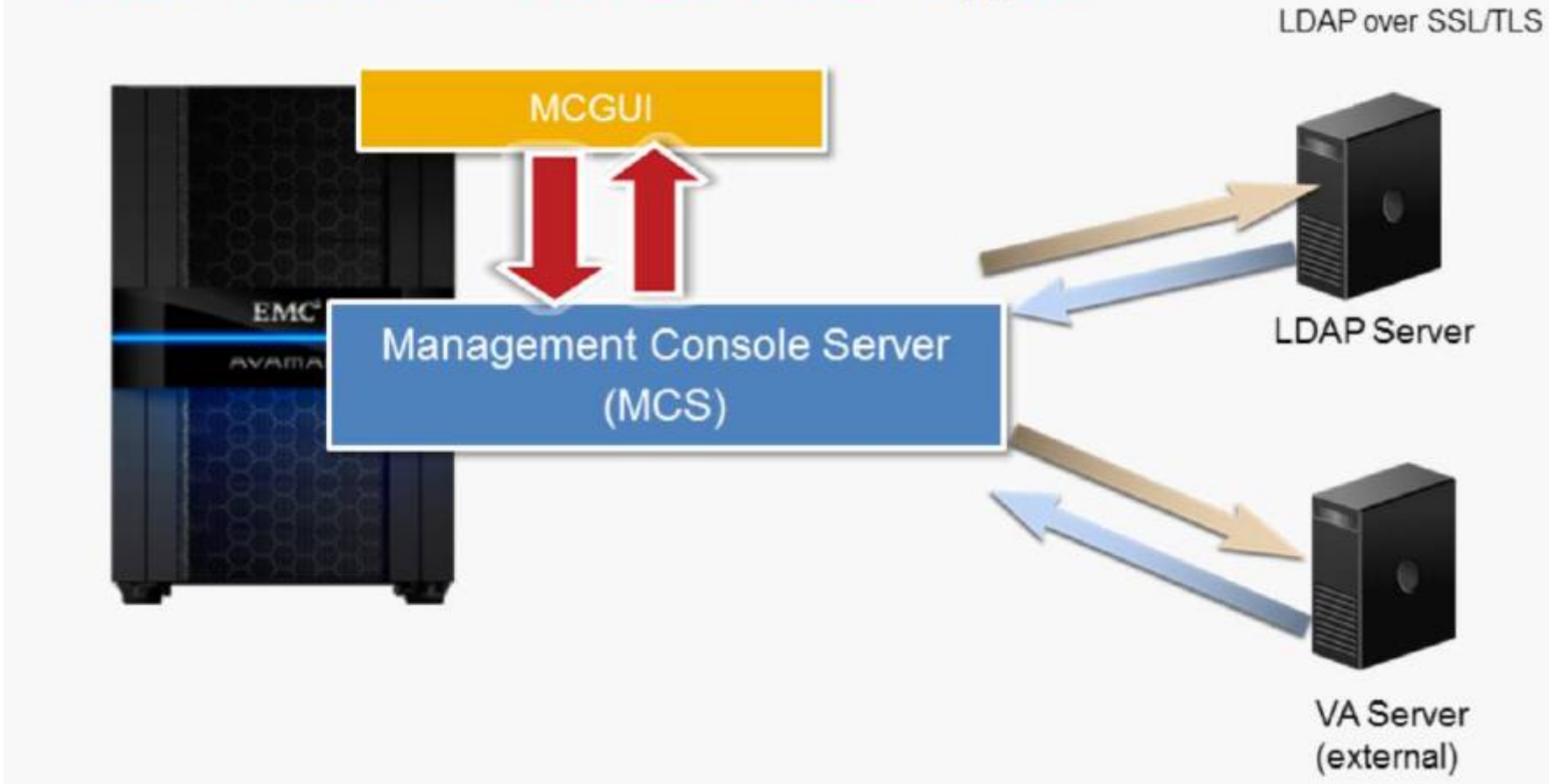
Security enhancements

- Security
- 775 certificates
- LDAP-S Support
- Default to SHA-2 certificates
- Disable TLS 1.0/1.1

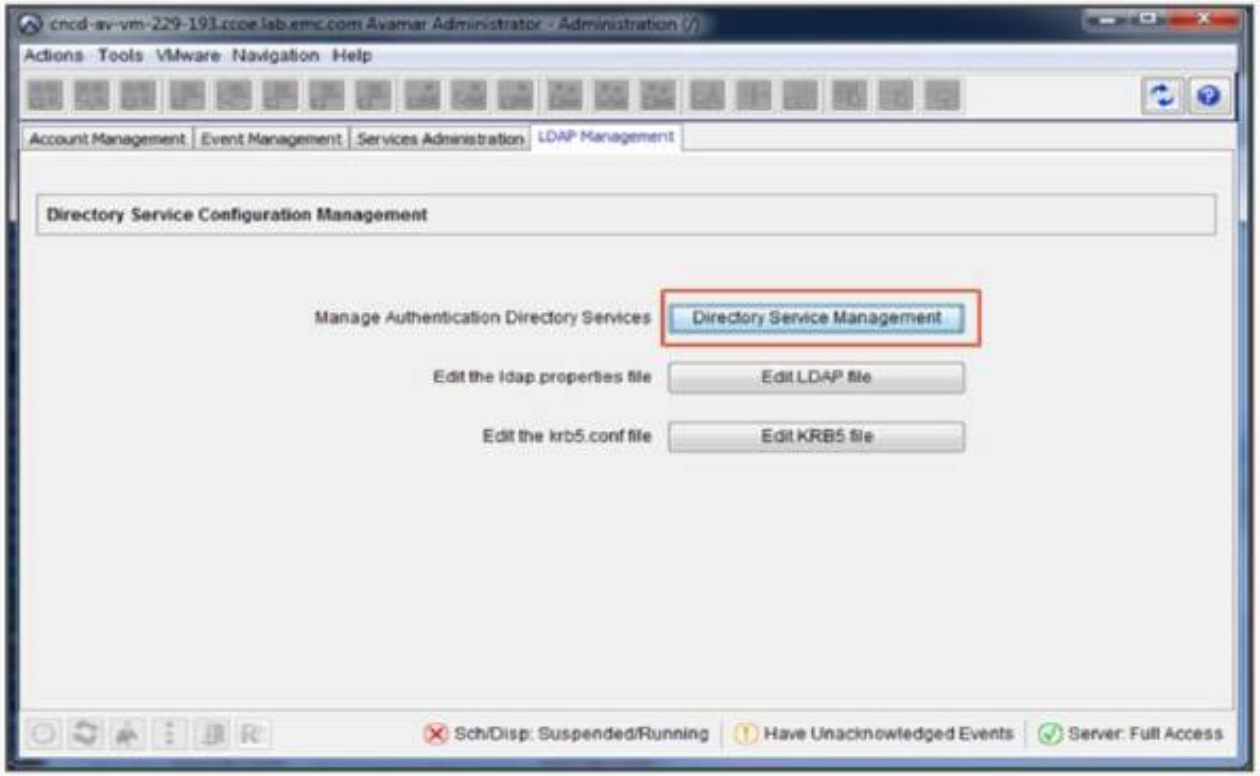
AV 7.5 Internal Changes



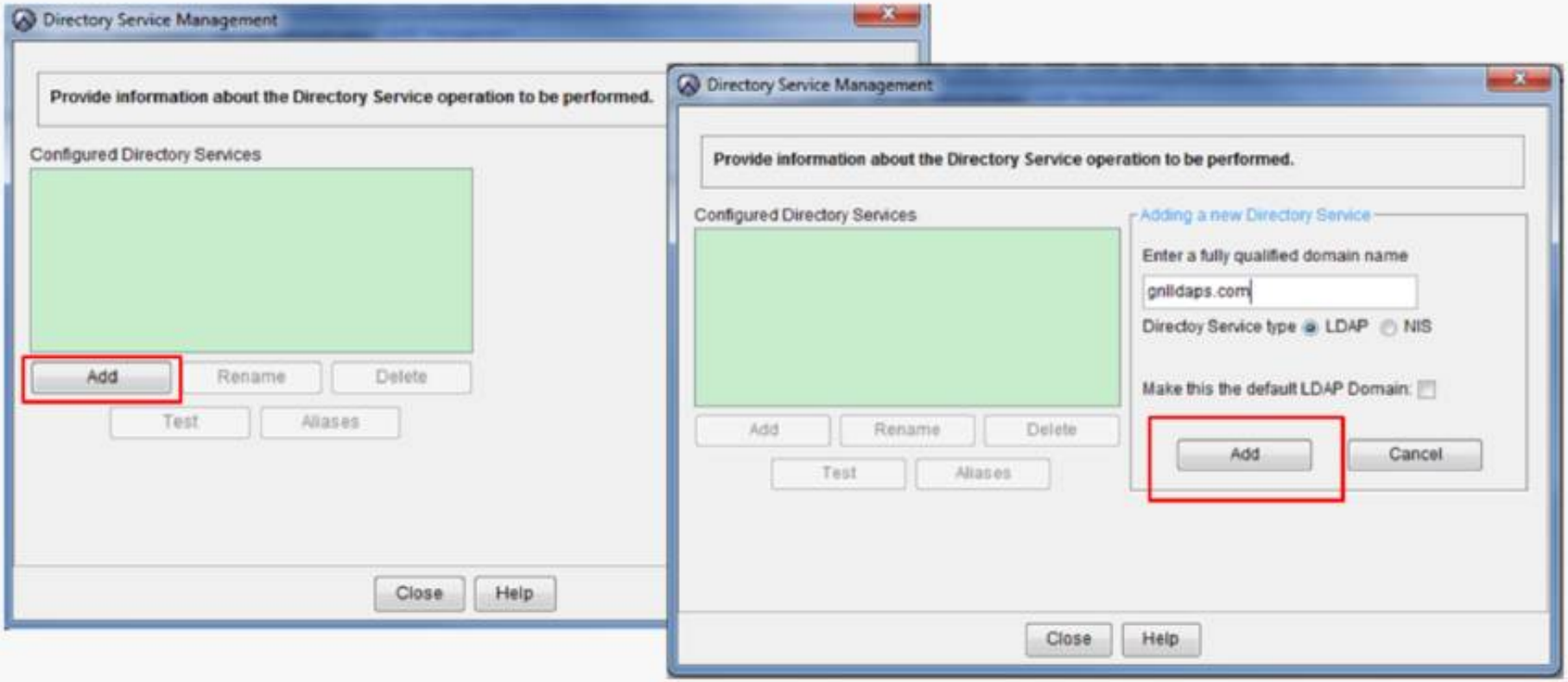
Avamar 7.5 LDAP Over SSL/TLS Support



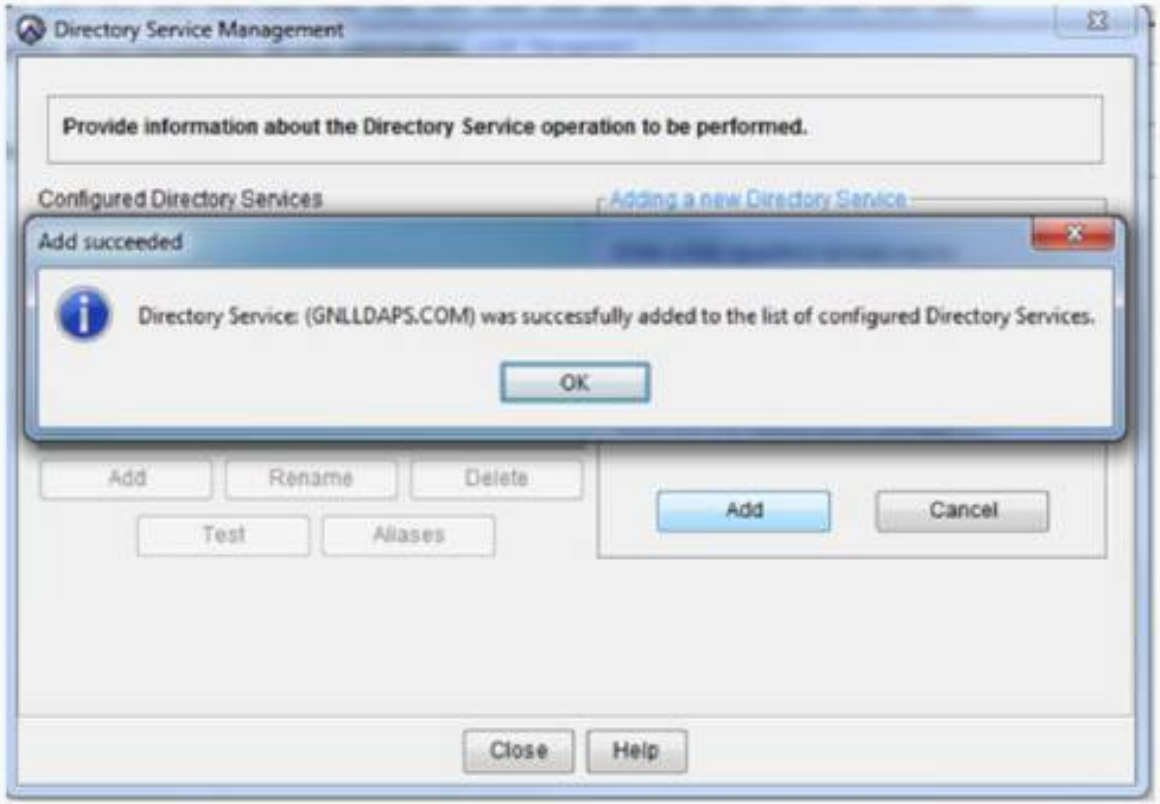
Adding the Windows AD Domain to Avamar Directory Service



Adding the Windows AD Domain to Avamar Directory Service

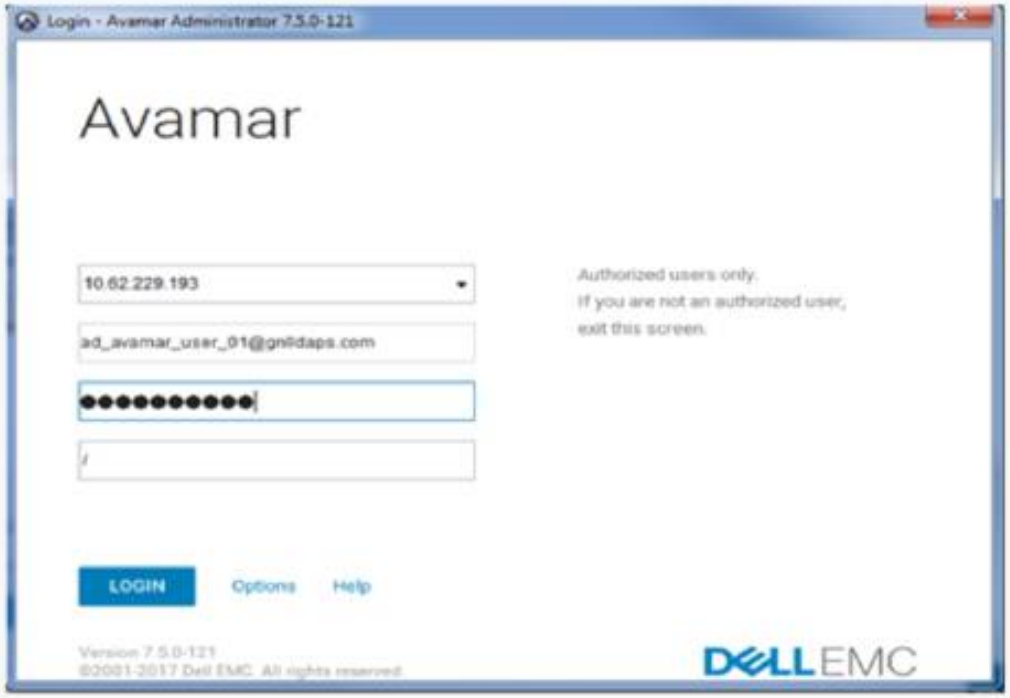


Adding the LDAP to the Windows Domain



Logging on to the Avamar Server

Normal user login with Windows AD



- Input the login user name like 'username@domain.com'.
- Click 'LOGIN' button to log into the Avamar system.

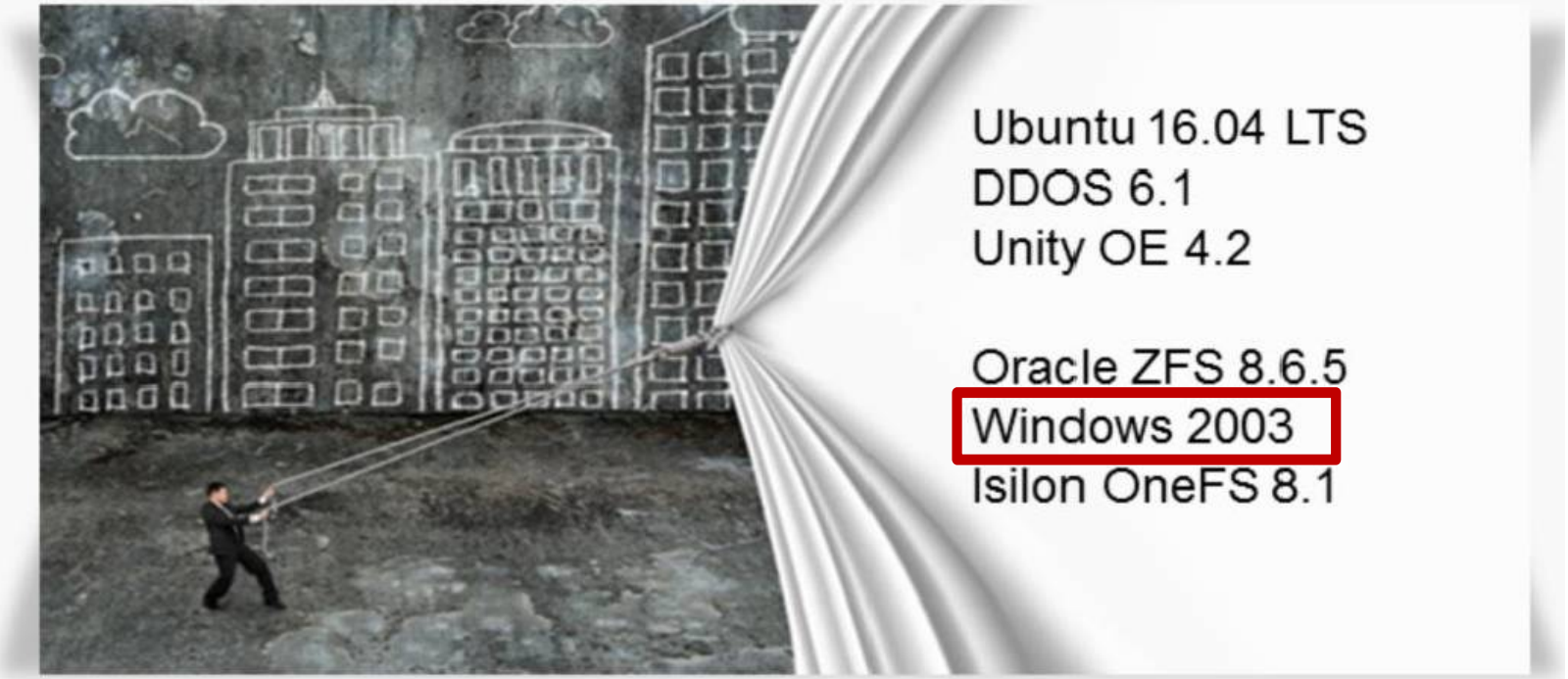
Logging on to the Avamar Server

CAC User Login successfully for normal user login and CAC user login

Avamar 7.5

Other

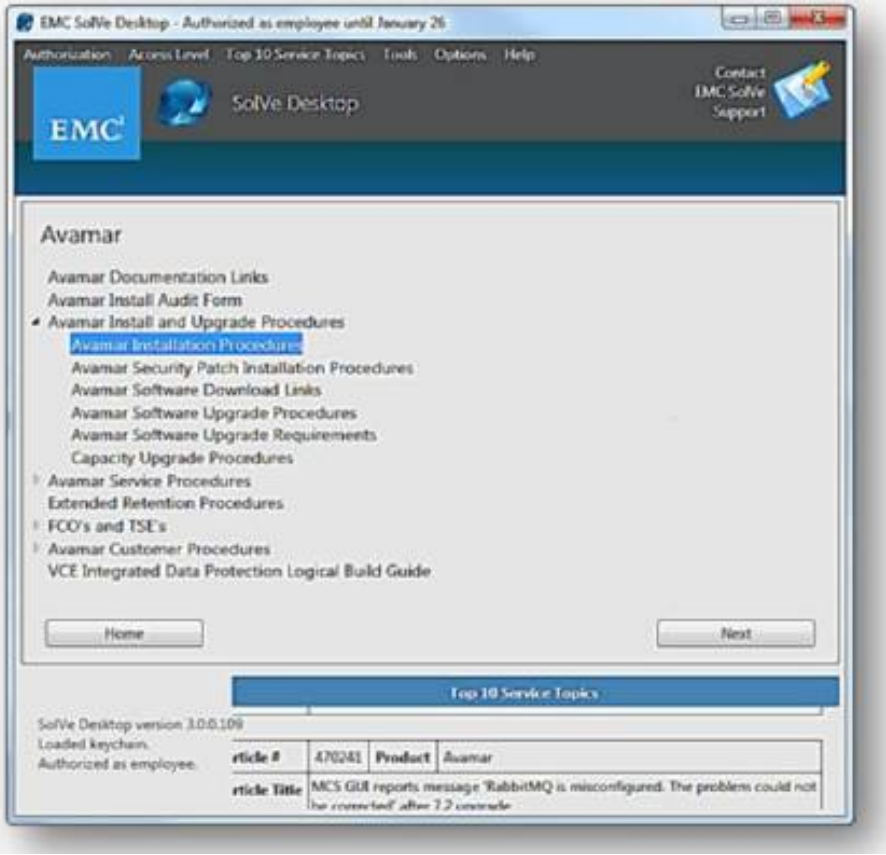
Supported OS/OE and Applications



Ubuntu 16.04 LTS
DDOS 6.1
Unity OE 4.2

Oracle ZFS 8.6.5
Windows 2003
Isilon OneFS 8.1

Installation and Configuration of Avamar 7.5

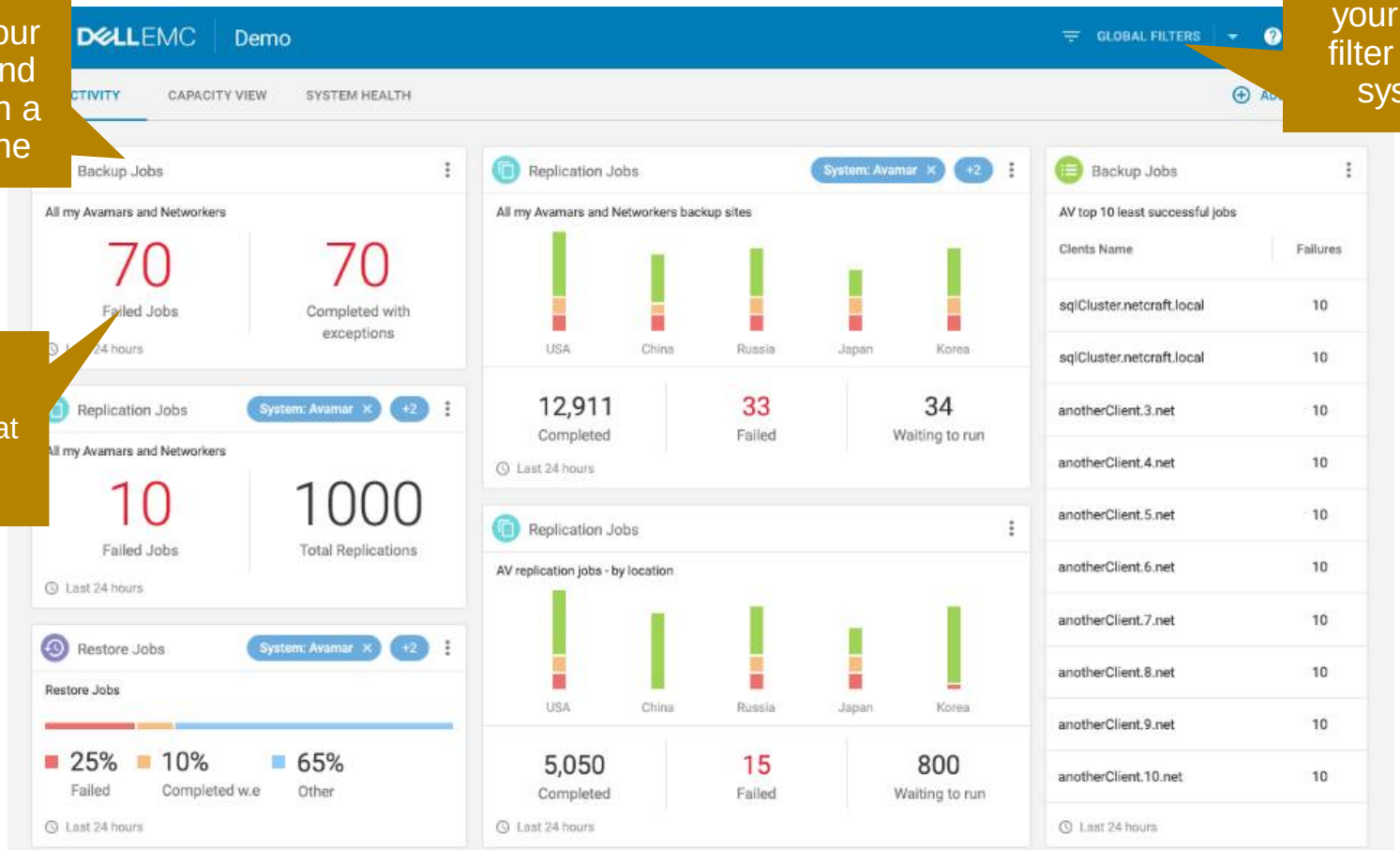


Data Protection Central

View all your Avamar and NW jobs in a single pane

Customize your view – filter Av/NW systems

Configurable Widgets -only show KPIs that you want to see!



Data Protection Central

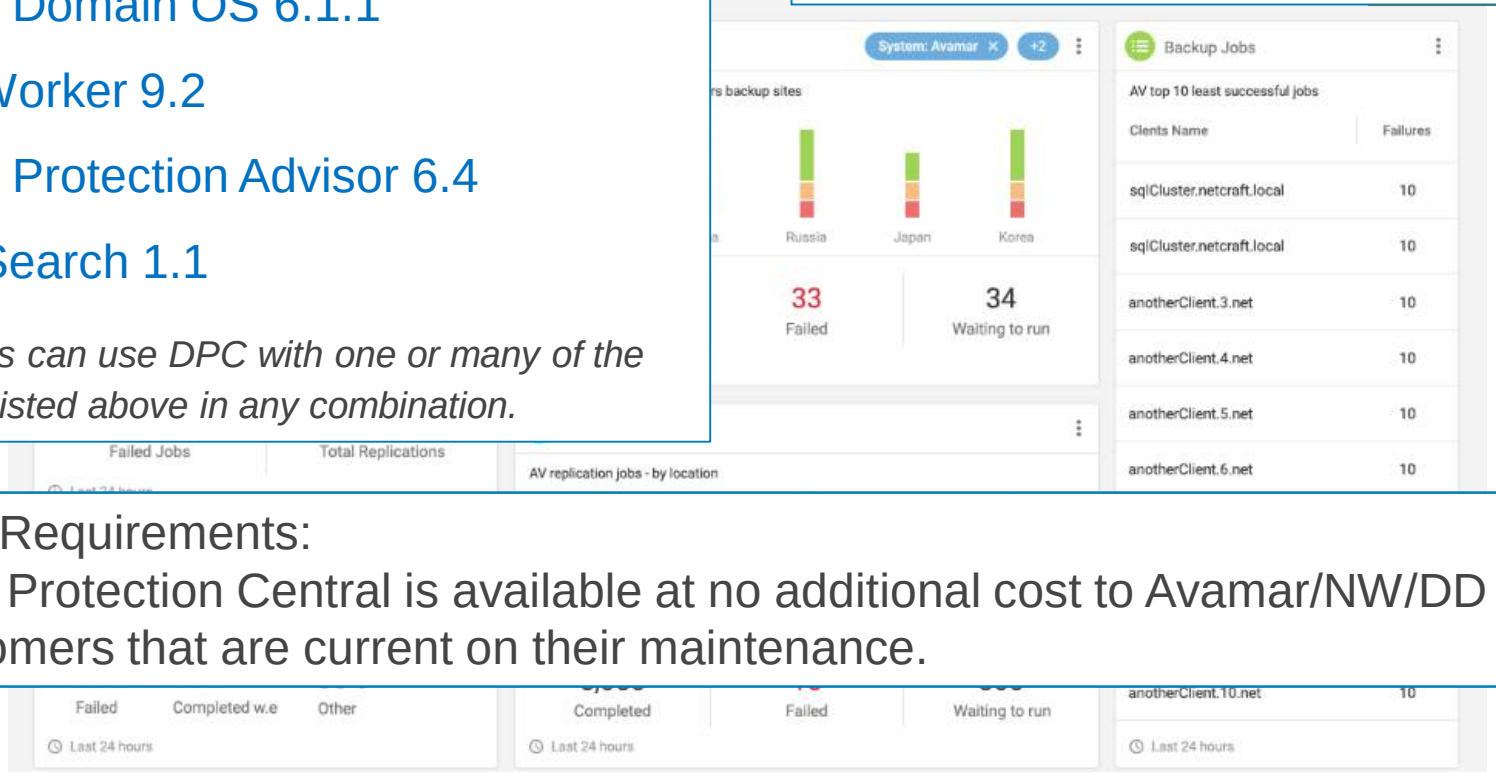
Supported Products:

- Avamar 7.5
- Data Domain OS 6.1.1
- NetWorker 9.2
- Data Protection Advisor 6.4
- DP Search 1.1

Customers can use DPC with one or many of the products listed above in any combination.

Environmental Requirements:

- VMware ESX v6.0 or greater



License Requirements:

- Data Protection Central is available at no additional cost to Avamar/NW/DD customers that are current on their maintenance.

Data Protection Central

The native element manager is a click away:

- Launch the Avamar MC, NW NMC or DD DDSM
- Session established via SSO
- Session launched in context of the system in focus

IDPA
Integrated Data Protection Appliance

Converged AND Comprehensive

Search & Analytics

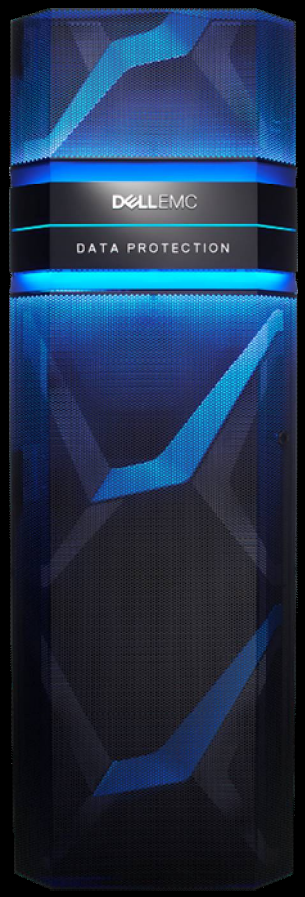
Backup Servers

Backup Storage

Flash

Copy Storage

Backup Software



- Protection Software
- Protection Storage
- Cloud Tier
- Elastic Search
- Analytics & Reporting

DELL EMC

I want to try Avamar 7.5

Where to find resources?

Avamar – Additional Materials

- Avamar Proof of Concept package
  - http://gurago.com/

    1st link from the top

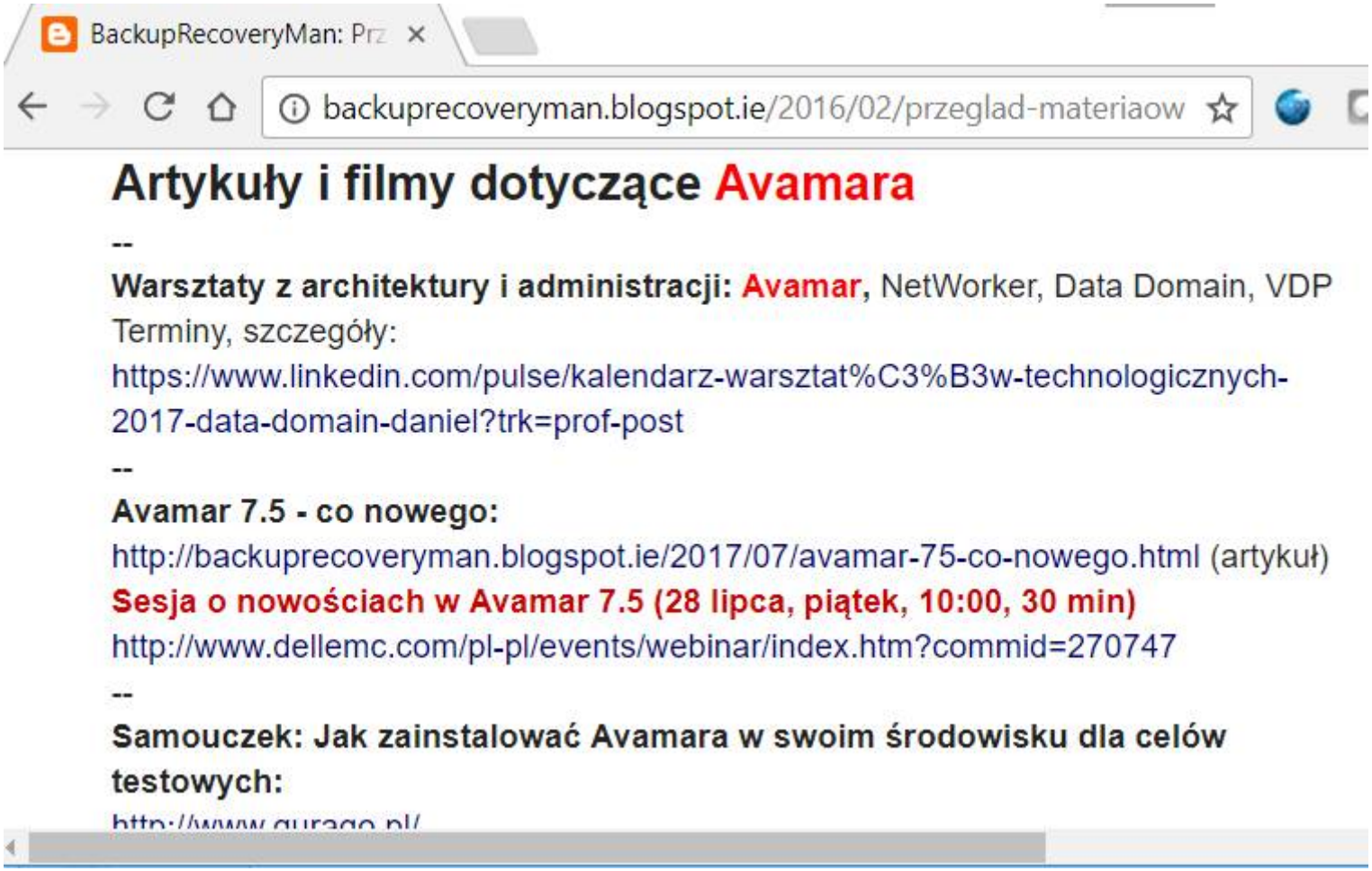
- Shows Avamar features and configuration screen by screen

Avamar – Additional Materials

http://gurago.com/

Avamar – Additional Materials

http://backuprecoveryman.blogspot.com/2016/02/przeglad-materiaow-po-polsku.html#Avamar


BackupRecoveryMan: Prz
backuprecoveryman.blogspot.ie/2016/02/przeglad-materiaow
Artykuły i filmy dotyczące Avamara
--
Warsztaty z architektury i administracji: Avamar, NetWorker, Data Domain, VDP
Terminy, szczegóły:
https://www.linkedin.com/pulse/kalendarz-warsztat%C3%B3w-technologicznych-2017-data-domain-daniel?trk=prof-post
--
Avamar 7.5 - co nowego:
http://backuprecoveryman.blogspot.ie/2017/07/avamar-75-co-nowego.html (artykuł)
Sesja o nowościach w Avamar 7.5 (28 lipca, piątek, 10:00, 30 min)
http://www.dellemc.com/pl-pl/events/webinar/index.htm?commid=270747
--
Samouczek: Jak zainstalować Avamara w swoim środowisku dla celów testowych:

Ogłoszenia

Całodniowe warsztaty technologiczne

- 12 września:
  - **Data Domain**
- 10 października:
  - **Avamar**
- 7 listopada:
  - **NetWorker**
- 12 grudnia:
  - **RecoverPoint for Virtual Machines**

Całodniowe warsztaty technologiczne

- Miejsce
  - i-View Meetings, Mazowiecka 9, Warszawa

- Rejestracja:
  - https://www.linkedin.com/pulse/kalendarz-warsztat%C3%B3w-technologicznych-2017-data-domain-daniel?trk=prof-post

Następna sesja

- 29 września, piątek, 10:00
- Temat:
  - **Nowości w NetWorker 9.2**

Questions…

Daniel.Olkowski@dell.com