AWS Application Migration Service (AWS MGN)

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What is Application Migration Service

Primary migration service recommended for lift-and-shift migrations (previously known as *Cloud Endure Migration*)

A highly automated lift-and-shift solution

Allows migrating physical, virtual and cloud servers to AWS

Simplifies, expedites and reduces the cost of migrating servers and applications

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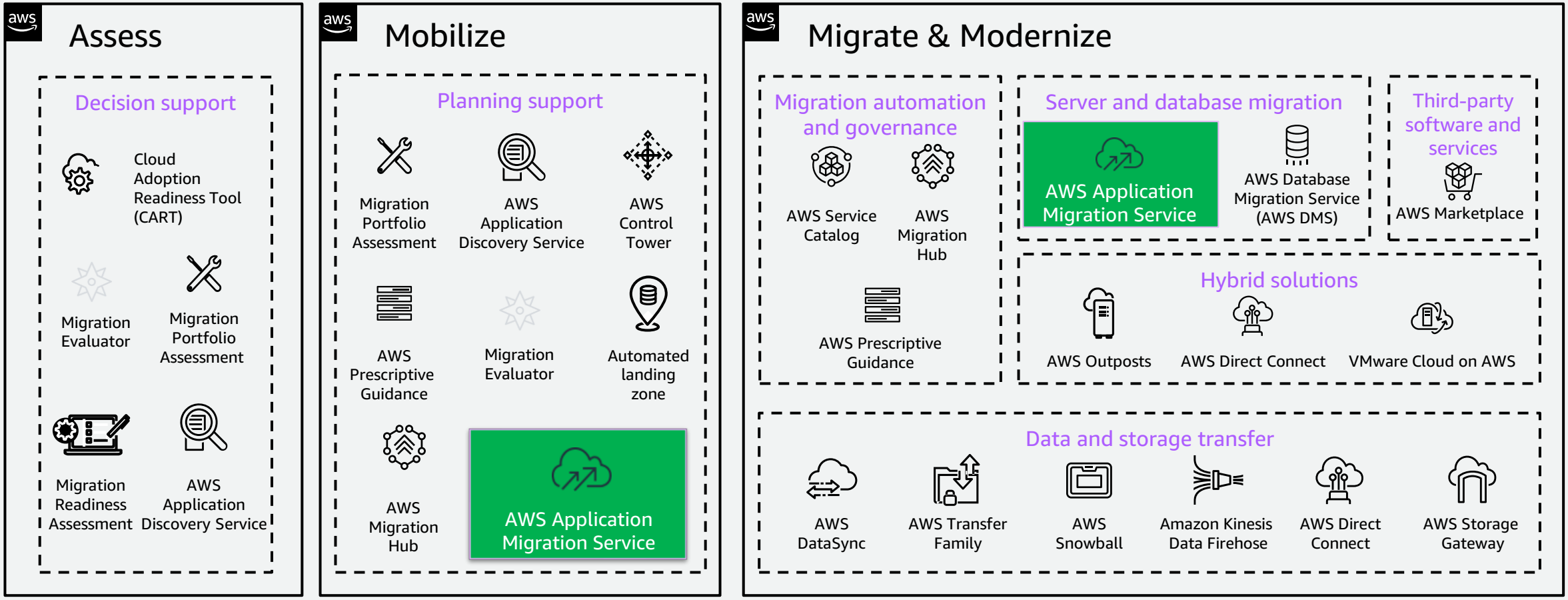
Broadest and deepest set of migration capabilities



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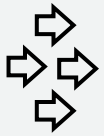
Application Migration Service benefits

Simplify, expedite, and reduce the cost of migrating your applications to AWS

Flexible

Migrate from any source

Wide range of OS, application, and database support



Suitable for large-scale migrations

Reliable

Robust, predictable, nondisruptive continuous replication

Short cutover windows with minimal downtime

Highly secure

Highly automated

Minimal skill set required to operate

Easy, nondisruptive tests prior to cutover

Easily plugs into migration factories and cloud COEs

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Wide platform support*

Virtually any application	Oracle E-Business Suite, Oracle PeopleSoft, SAP CRM, SAP Hybris, SAP ERP, Apache, SugarCRM, IIS, SharePoint, Microsoft Active Directory, Microsoft Exchange Server, Microsoft Dynamics CRM
Virtually any database	Microsoft SQL Server, Oracle Database, SAP HANA, MySQL, mongoDB
x86 operating systems	Red Hat, CentOS, Oracle Linux, ubuntu, debian, SUSE, Windows Workstations, Windows Server 2003, Windows 10, Windows Server 2008, Windows Server 2012, Windows Server 2016, Windows Server 2019, Windows Server 2022
Source infrastructure	Physical data centers, Cloud sources

* See documentation for a complete list and supported versions

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Prerequisites for Application Migration Service

Network

Source	Destination	Port	For more information, see
Source data center	Amazon S3 service URLs	443 (TCP)	Communication over TCP port 443
Source data center	AWS Region-specific console address for Application Migration Service	443 (TCP)	Communication between the source servers and Application Migration Service over TCP port 443
Source data center	Staging area subnet	1500 (TCP)	Communication between the source servers and the staging area subnet over TCP port 1500
Staging area subnet	AWS Region-specific console address for Application Migration Service	443 (TCP)	Communication between the staging area subnet and Application Migration Service over TCP port 443
Staging area subnet	Amazon S3 service URLs	443 (TCP)	Communication over TCP port 443
Staging area subnet	Amazon EC2 endpoint of the subnet's AWS Region	443 (TCP)	Communication over TCP port 443

Source servers

- For a list of supported OS, see https://docs.aws.amazon.com/mgn/latest/ug/Supported-Operating-Systems.html
- Media access control address (MAC address) stability
- Root directory – At least 2 GB of free disk space on the root directory (/)
- RAM – At least 300 MB of free RAM to run the AWS Replication Agent

AWS account

- Application Migration Service initialized
- IAM user
- Amazon S3 interface endpoint
- Application Migration Service interface endpoint
- Amazon EC2 interface endpoint

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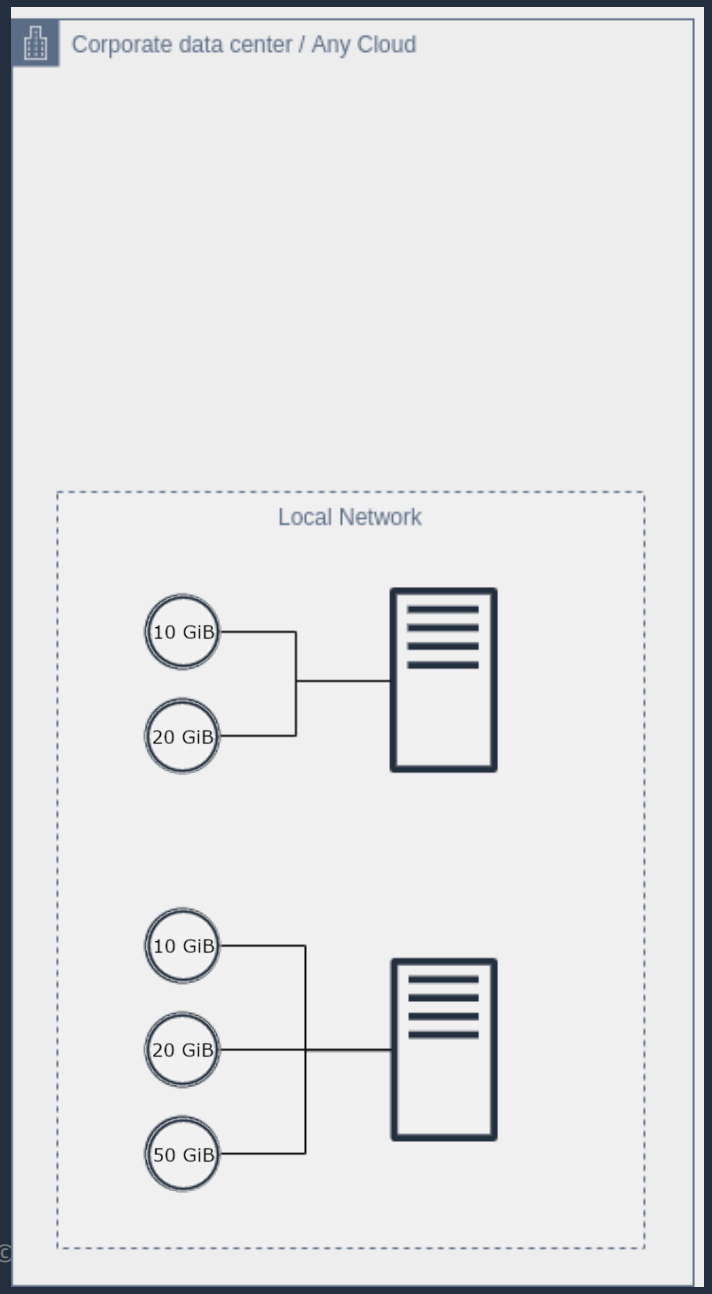
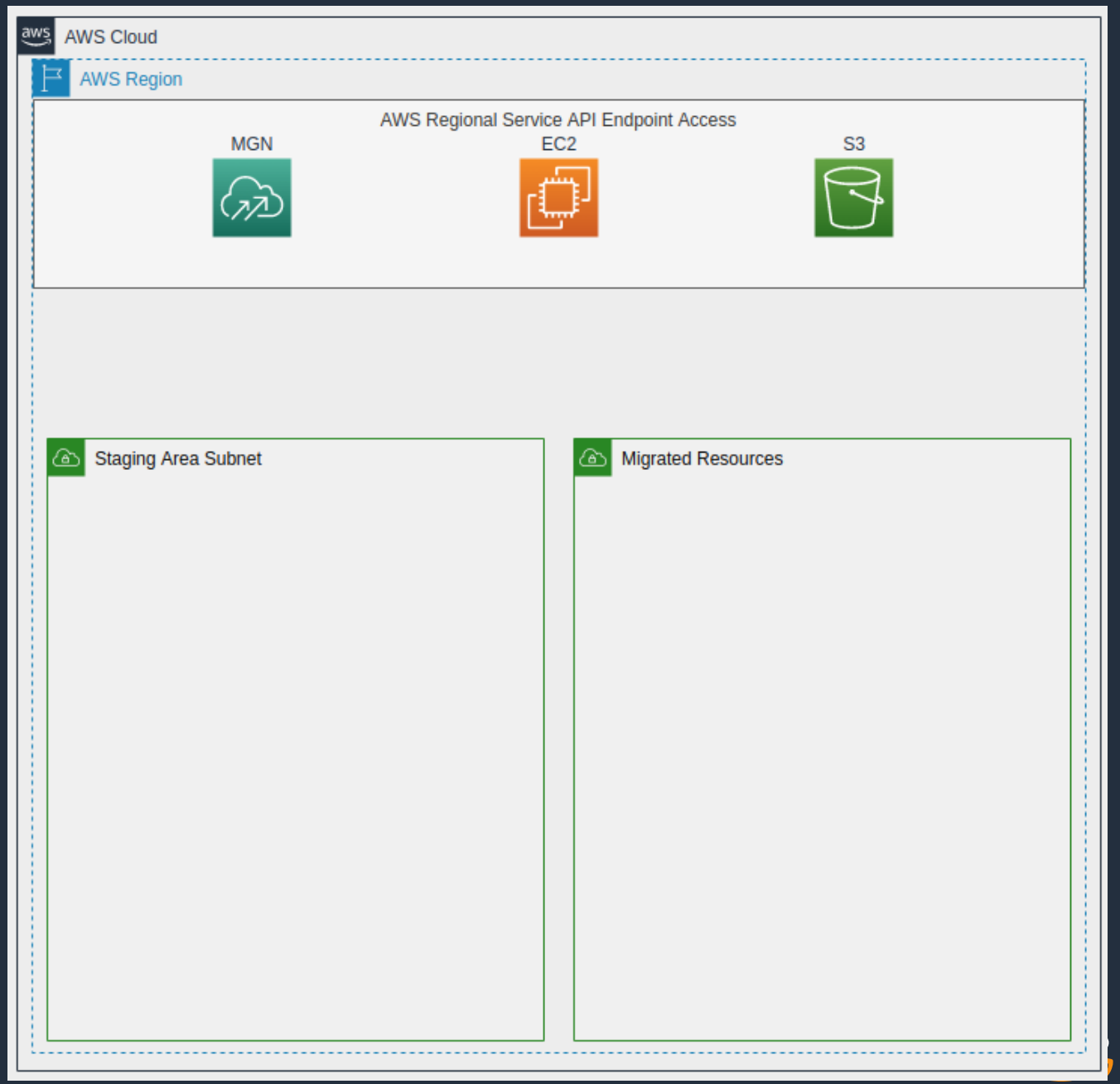
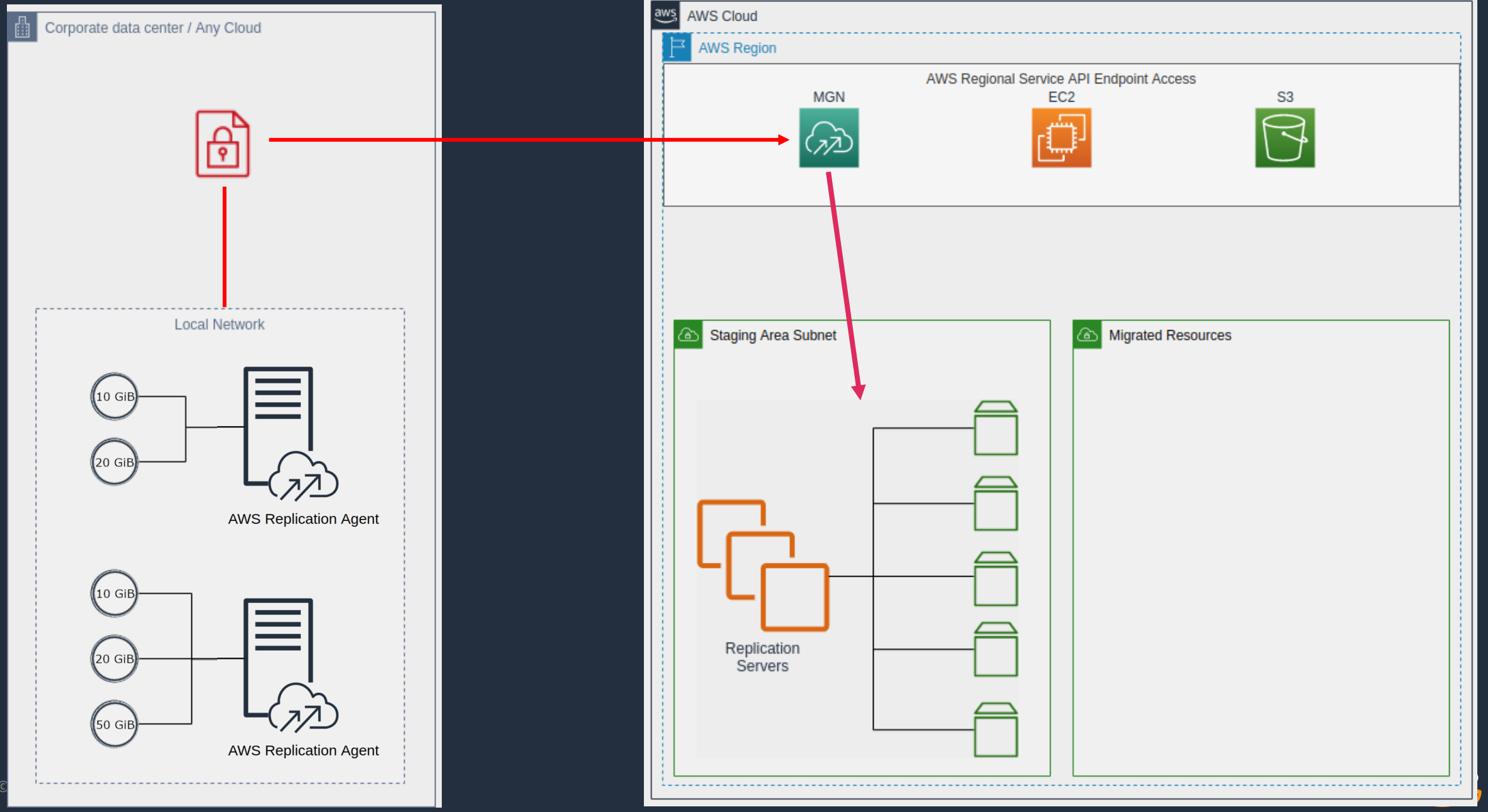
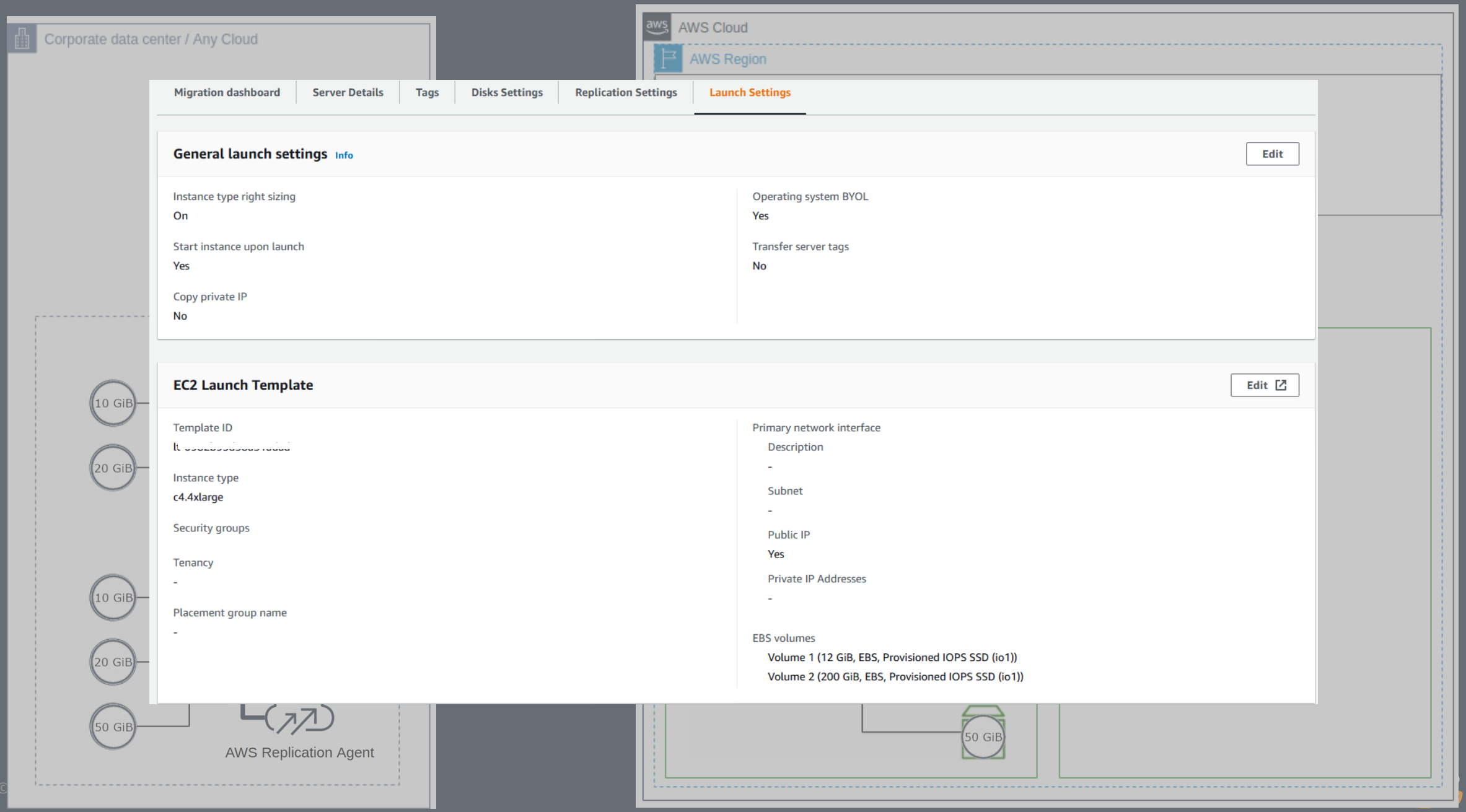
How Application Migration Service works






Corporate data center / Any Cloud
Local Network
10 GiB
20 GiB
AWS Replication Agent
10 GiB
20 GiB
50 GiB
AWS Replication Agent
AWS Cloud
AWS Region
AWS Regional Service API Endpoint Access
MGN
EC2
S3
Staging Area Subnet
Replication Servers
Migrated Resources



Migration dashboard | Server Details | Tags | Disks Settings | Replication Settings | Launch Settings

General launch settings Info

Edit

Instance type right sizing
On

Start instance upon launch
Yes

Copy private IP
No

Operating system BYOL
Yes

Transfer server tags
No

EC2 Launch Template

Edit

Template ID
lt-

Instance type
c4.4xlarge

Security groups

Tenancy
-

Placement group name
-

Primary network interface

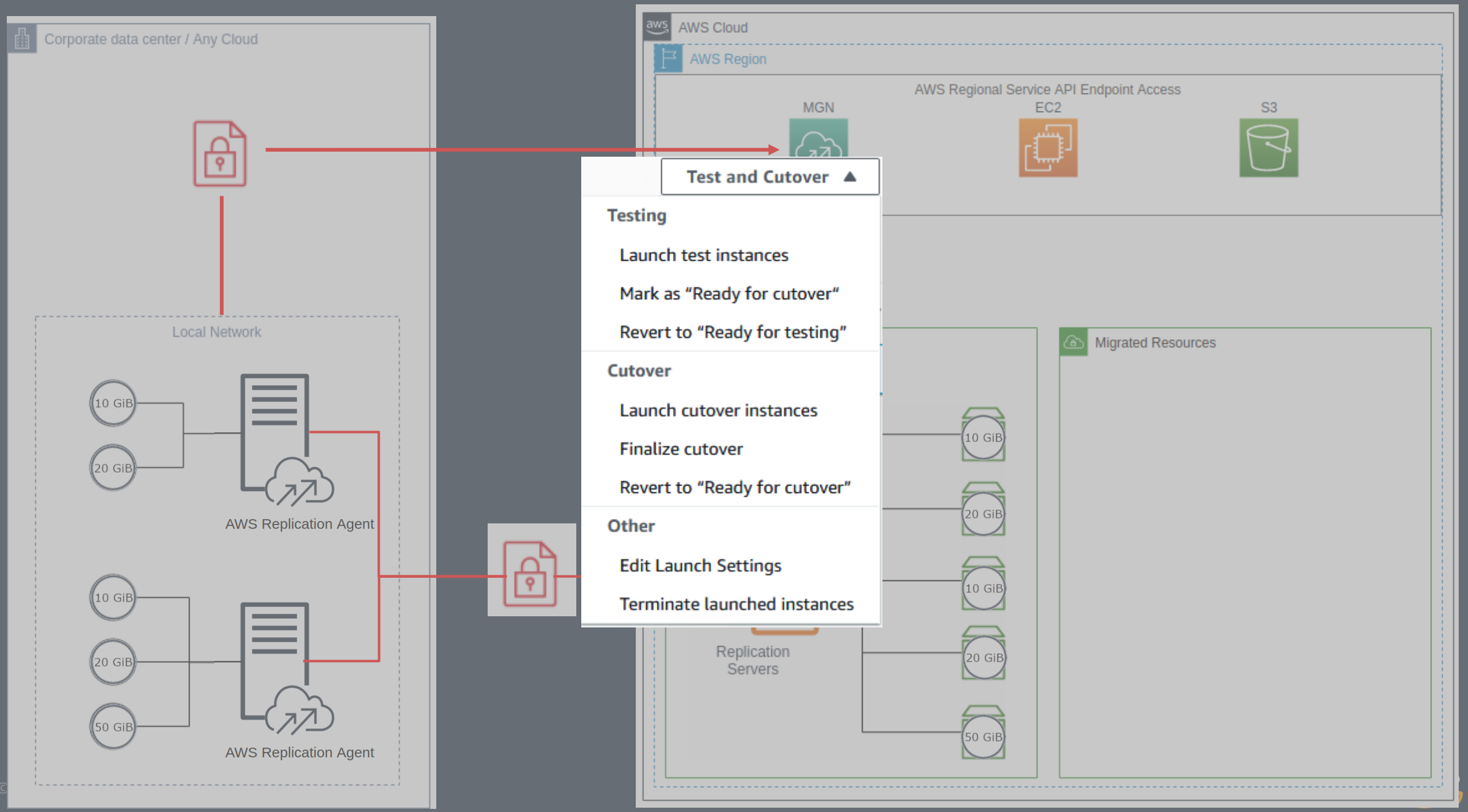
Description
-

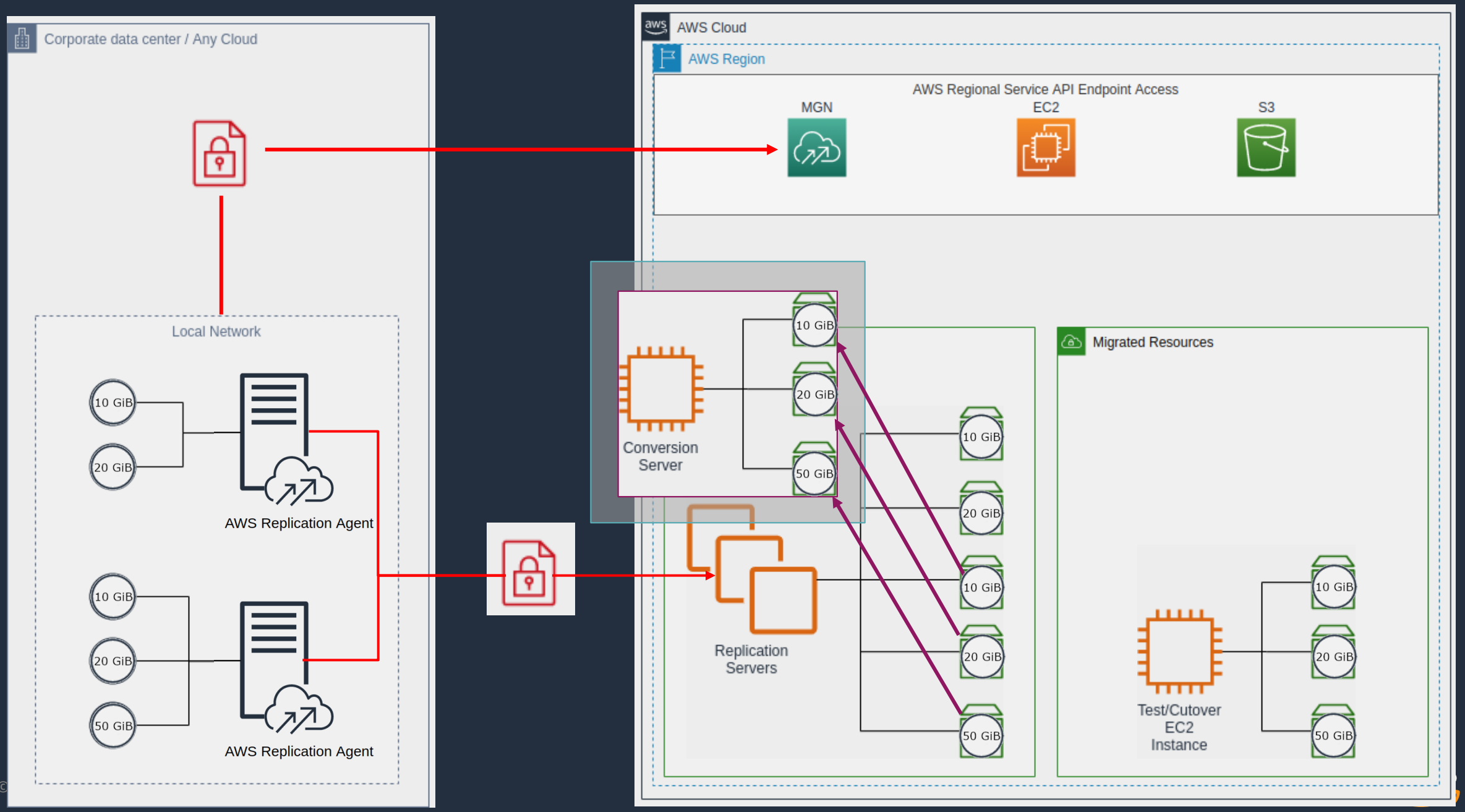
Subnet
-

Public IP
Yes

Private IP Addresses
-

EBS volumes
Volume 1 (12 GiB, EBS, Provisioned IOPS SSD (io1))
Volume 2 (200 GiB, EBS, Provisioned IOPS SSD (io1))


Corporate data center / Any Cloud
Local Network
10 GiB
20 GiB
AWS Replication Agent
10 GiB
20 GiB
50 GiB
AWS Replication Agent
AWS Cloud
AWS Region
AWS Regional Service API Endpoint Access
MGN
EC2
S3
Test and Cutover
Testing
Launch test instances
Mark as "Ready for cutover"
Revert to "Ready for testing"
Cutover
Launch cutover instances
Finalize cutover
Revert to "Ready for cutover"
Other
Edit Launch Settings
Terminate launched instances
Replication Servers
10 GiB
20 GiB
10 GiB
20 GiB
50 GiB
Migrated Resources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Local Network
10 GiB
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AWS Replication Agent
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AWS Cloud
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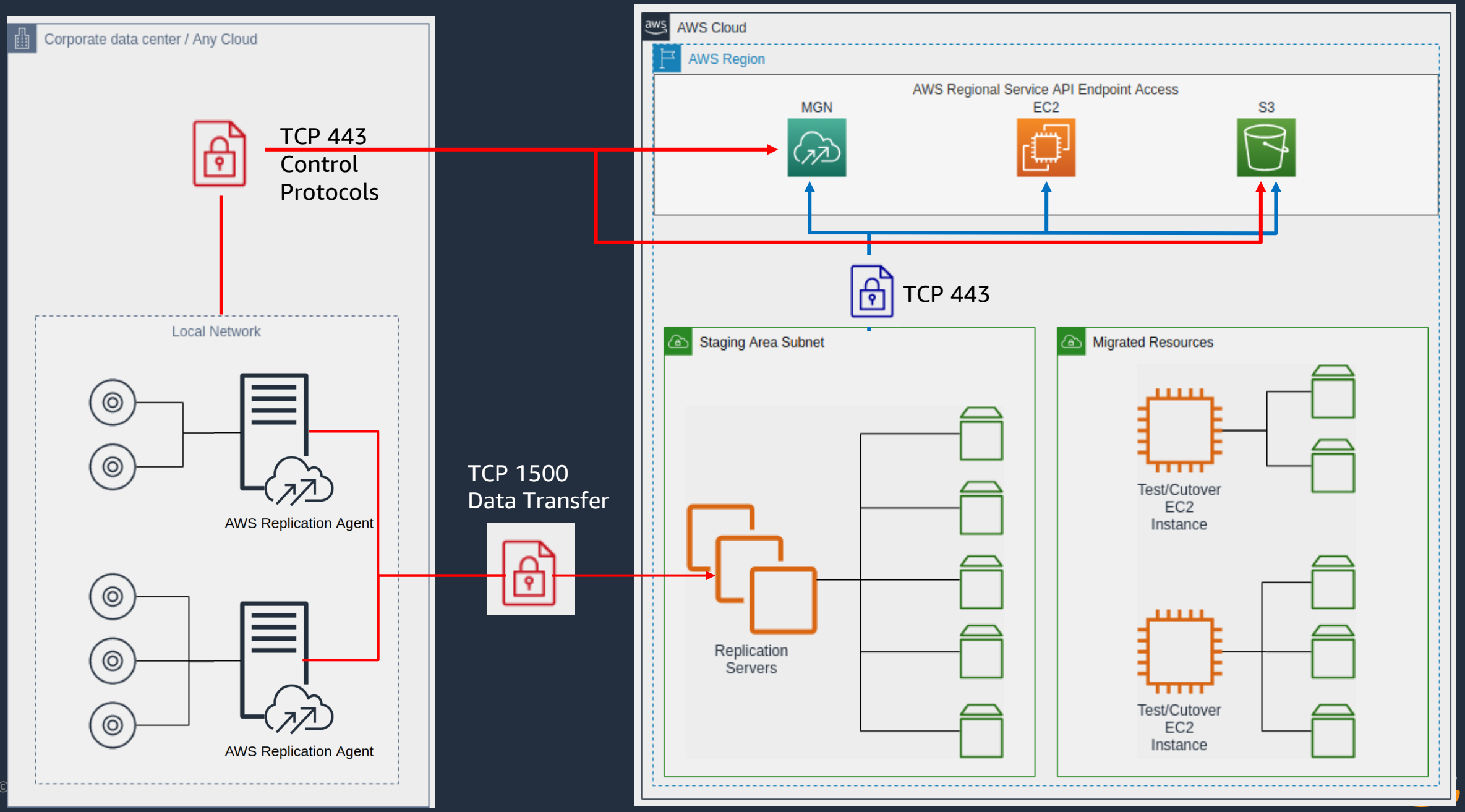
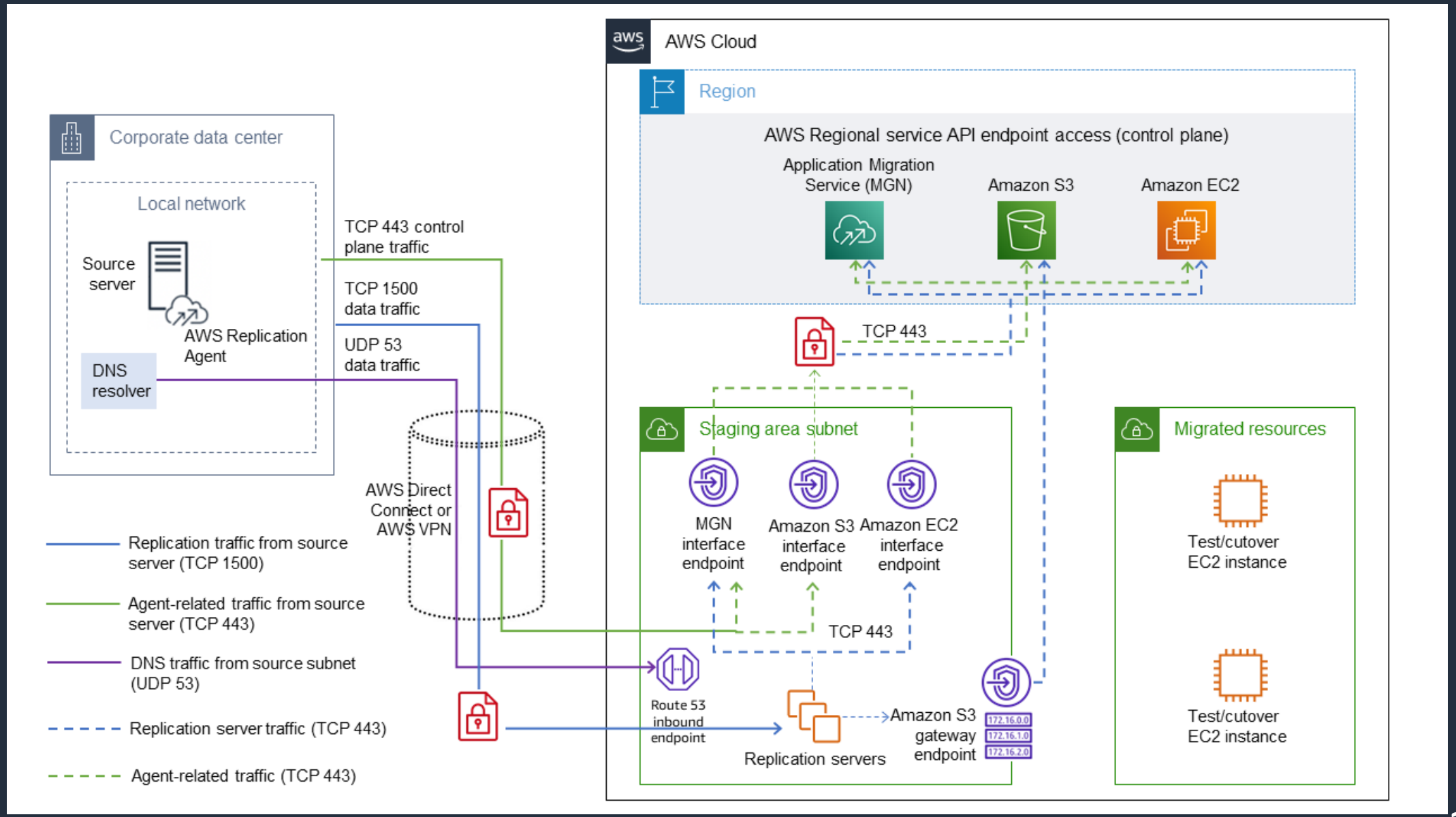
AWS Regional Service API Endpoint Access
MGN
EC2
S3
Conversion Server
10 GiB
20 GiB
50 GiB
Replication Servers
10 GiB
20 GiB
10 GiB
20 GiB
50 GiB
Migrated Resources
Test/Cutover EC2 Instance
10 GiB
20 GiB
50 GiB

Network Architecture



Network Architecture – private subnets



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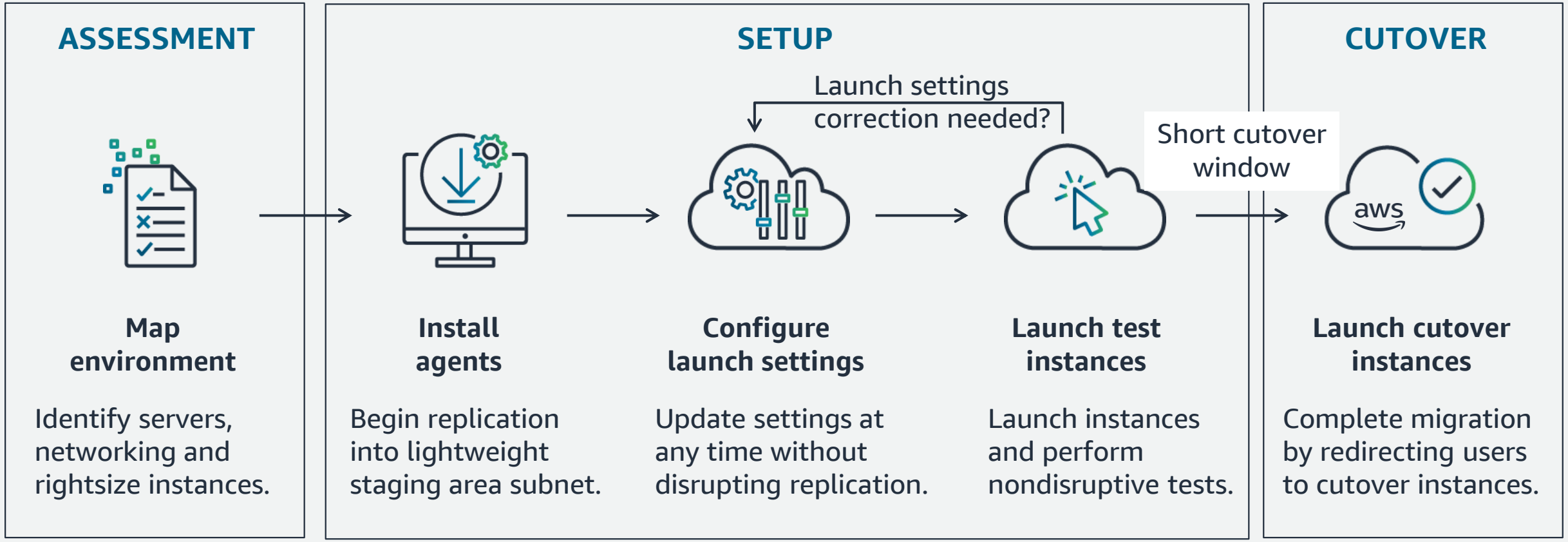
Rehosting: Application Migration Service workflow



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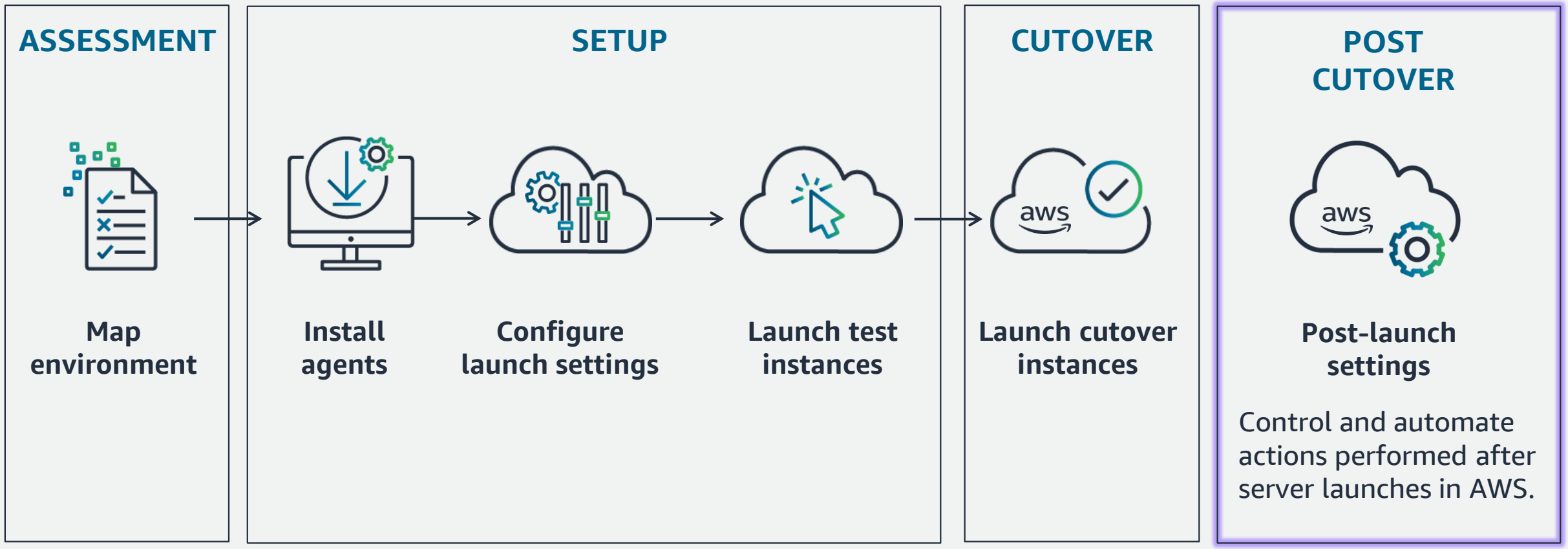
Post-launch modernization actions

- Automate execution of any SSM document (provided by AWS or third party)
- Create your own SSM documents, when public documents don’t meet your needs



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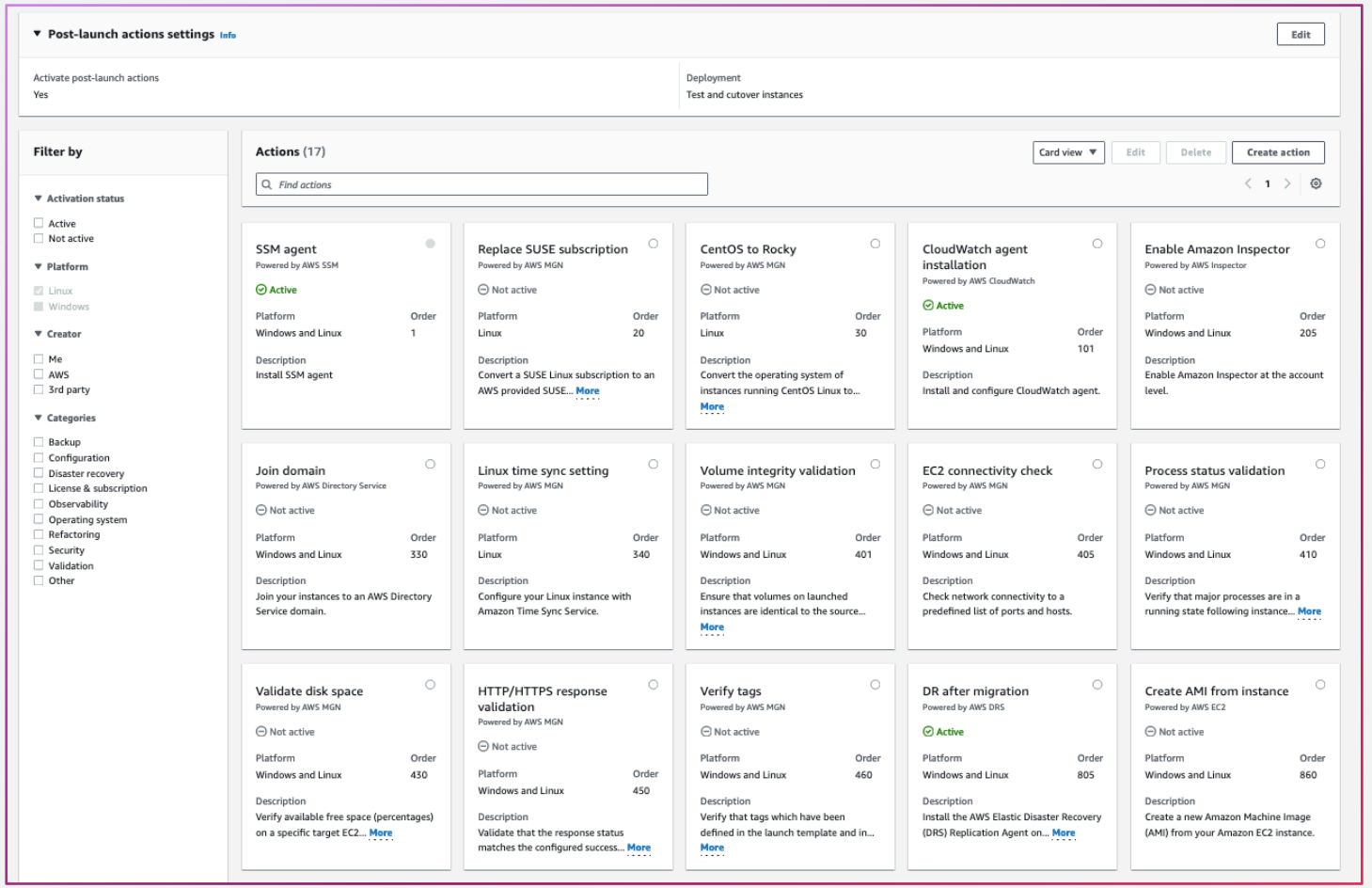
Post-launch modernization actions

AWS Created actions

- Install SSM Agent
- Configure DR after migration
- Enable Refactor Spaces
- Enable Amazon Inspector
- Deploy Amazon CloudWatch
- Convert CentOS to Rocky Linux
- Convert Windows MS-SQL BYOL and SUSE BYOL to AWS License-Included instances
- Upgrade Windows OS (clone Instance and upgrade)
- Create Amazon Machine Image (AMI) from instance
- AD Join domain



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Lab Overview

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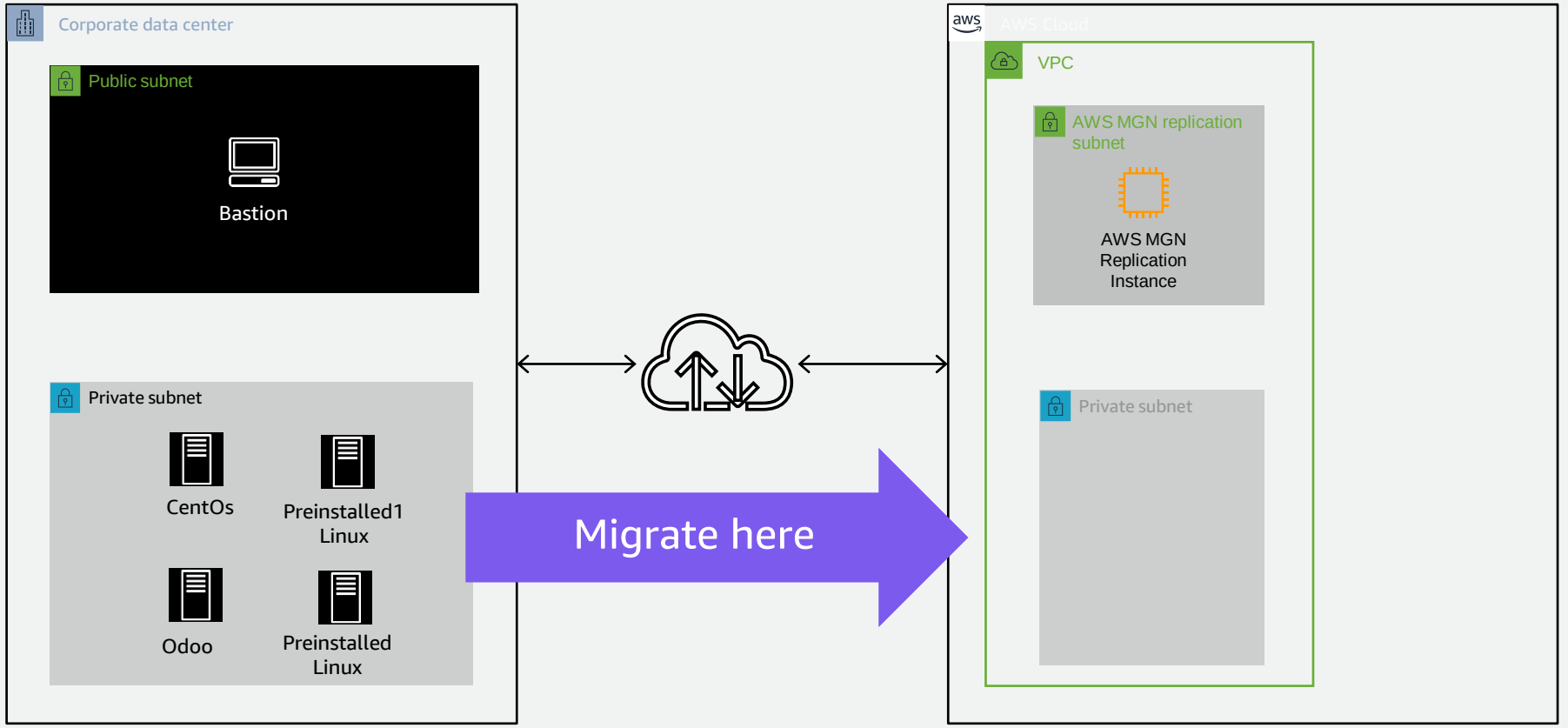
Lab Overview



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