Using AWS Application Discovery Service, Cloud Adoption Readiness Tool (CART), and Migration Readiness Assessment (MRA)

Introduction

Migrating workloads to the AWS Cloud is a complex process that requires careful planning, assessment, and execution. AWS provides several tools and services to help organizations prepare for and execute successful migrations. This runbook guides you through the tools used in the assessment phase of your migration using the **AWS Application Discovery Service (ADS)**, **Cloud Adoption Readiness Tool (CART)**, and **Migration Readiness Assessment (MRA)** to assess and plan your migration.

Objective

1. Collecting data about your on-premises infrastructure using AWS Application Discovery Service.
2. Assessing your organization's cloud readiness using the Cloud Adoption Readiness Tool (CART).
3. Conducting a comprehensive Migration Readiness Assessment (MRA) to develop a migration strategy.

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1. AWS Application Discovery Service (ADS)

Service Overview

AWS Application Discovery Service helps you to collect information about your on-premises data centers to understand your current environment before migrating to the cloud. It collects detailed information about server configurations, running processes, network dependencies, and resource utilization.

Use Case

ADS is particularly useful for organizations that need to understand their current IT landscape, identify application dependencies, and gather data to inform migration planning and cost estimation.

Steps to Use AWS Application Discovery Service

prerequisite:

1. 2 (or more) linux EC2 servers to simulate on-prem servers.
    a. allow ssh
    b. outbound 443
2. Set migration data inventory home region in Migration Hub

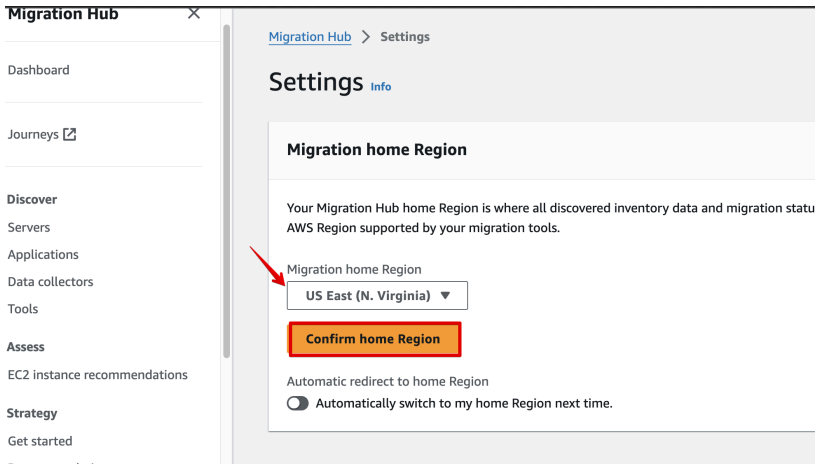
Set Home region in Migration Hub.

Because all data discovered by the ADS tool is stored in Migration Hub, you must set the Migration Hub home region.

The home region is where all discovered inventory data and migration status data is stored.

1. sign into the AWS Migration Hub Console
2. scroll down and choose **Settings**.

3. Under **Migration Home Region**, select home region and click on **confirm home Regio**n to set the home region for migration data.

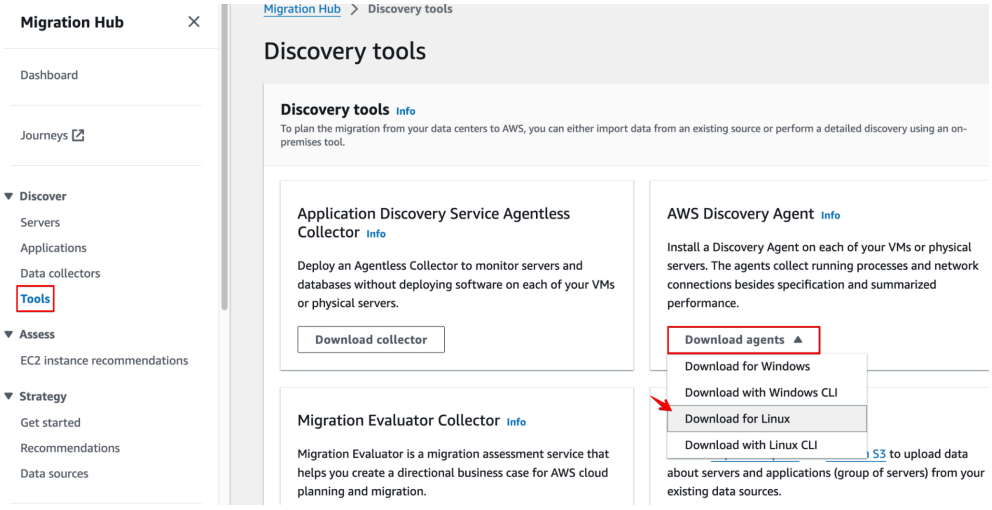


Step 1: Set Up AWS Application Discovery Service

1. **Access the Service**:
   - Log in to the AWS Management Console.
   - Navigate to **AWS Application Discovery Service** under the **Migration & Transfer** category.
2. **Choose Discovery Method**:
   - **Agent-based Discovery**: Install the AWS Application Discovery Agent on each on-premises server. This method provides detailed data, including resource usage and running processes.
   - **Agentless Discovery**: For VMware environments, you can use agentless discovery by connecting AWS Application Discovery Service to your VMware vCenter. This method is less detailed but easier to deploy.

Step 2: Install Discovery Agents (For Agent-Based Discovery)

1. **Download the Agent**
   - From the AWS Management Console, download the Application Discovery Agent for your operating system.



- Using the CLI

  download discovery package

  curl -o ./aws-discovery-agent.tar.gz https://s3-us-west-2.amazonaws.com/aws-discovery-agent.us-west-2/linux/latest/aws-discovery-agent.tar.gz

2. **Install the Agent**:
   - Install the agent on each server you want to analyze. The agent will start collecting data on CPU, memory, disk usage, network details, and running processes.

     Extract tar file

     tar -xzf aws-discovery-agent.tar.gz

     Install the discovery Agent on EC2

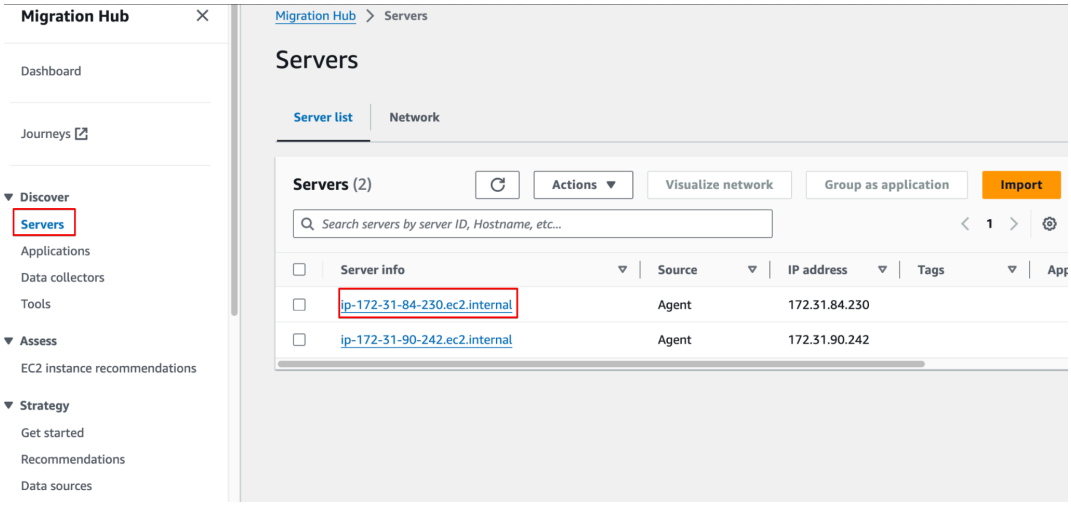
     sudo bash install -r your-home-region -k aws-access-key-id -s aws-secret-access-key

3. **Register the Agent**:
   - Once installed, the agent automatically registers with AWS Application Discovery Service and begins sending data in 15mins intervals.

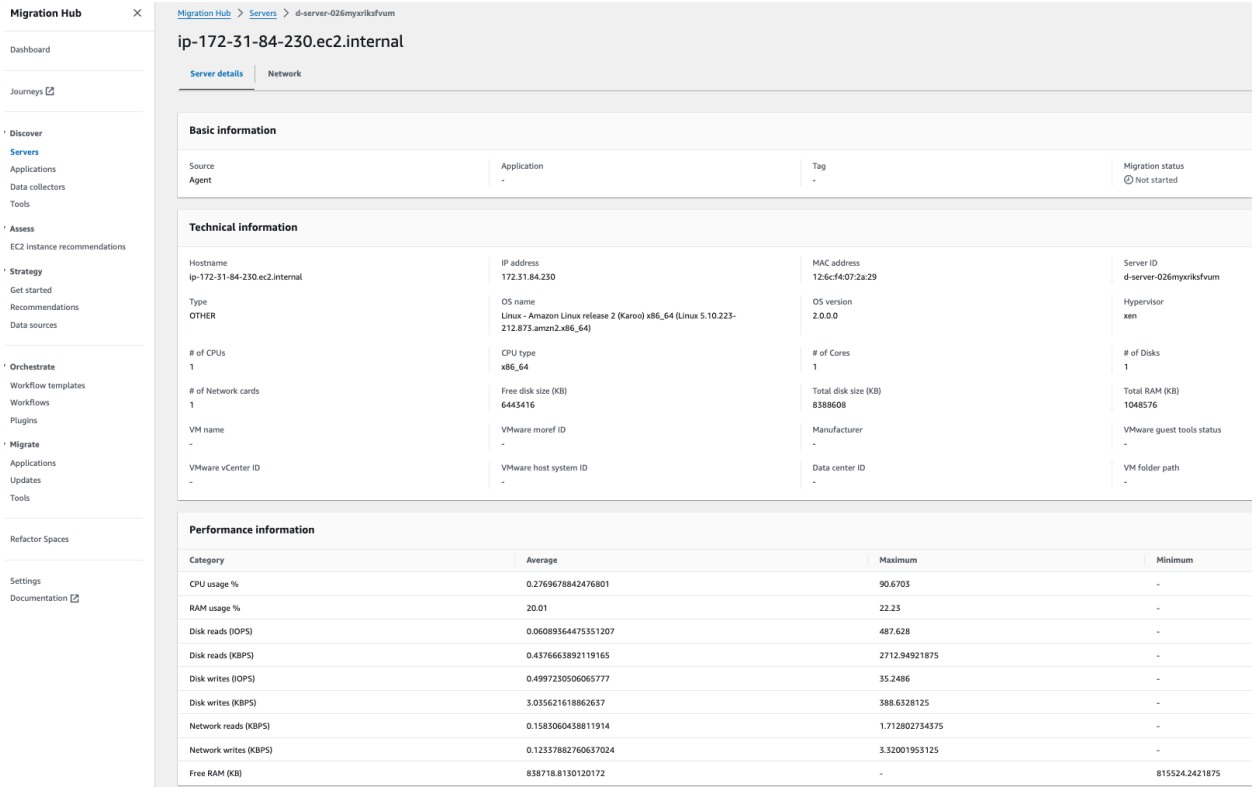
Step 3: Collect and Analyze Data

1. **View Collected Data**:
   - In the AWS Management Console, navigate to migration Hub to view the collected data.

     For server details, Under Discover > choose **Servers**, and click on the "server name link" in the **Server info** column.

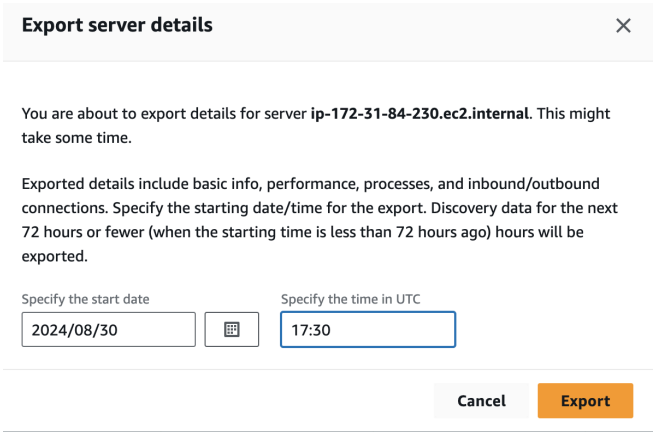


- The data includes server specifications, performance metrics, and network dependencies.

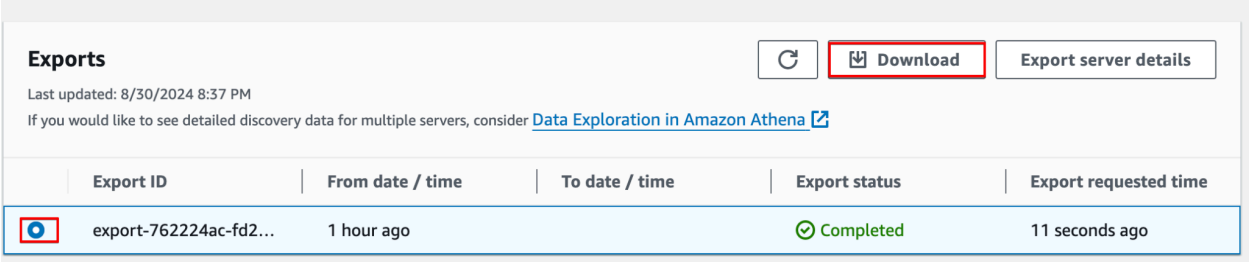


2. **Export Data**:
   - Export the collected data as CSV files for deeper analysis or to share with stakeholders.
     1. In server details section, scroll down to the **Exports** section

2. choose **Export server details**
3. fill in the necessary details (start time is max 72 earlier) and choose **Export** to start the job.



4. Download and save file after job completion



3. **Generate Reports**:
    - Use the collected data to generate reports that summarize your environment, highlight application dependencies, and suggest migration strategies.

Step 4: Data Storage and Security

1. **Data Encryption**:
    - Ensure that the collected data is encrypted at rest and in transit to protect sensitive information.
2. **Data Retention**:
    - Manage data retention policies to store the collected data only as long as needed for migration planning.

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2. Cloud Adoption Readiness Tool (CART)

Service Overview

Cloud Adoption Readiness Tool (CART) is a self-assessment tool provided by AWS to help organizations evaluate their readiness for cloud adoption. It assesses six key areas: Business, People, Governance, Platform, Security, and Operations.

Use Case

CART is used to gauge your organization's preparedness for cloud migration and to identify areas that require improvement before moving to AWS.

Steps to Use CART

Step 1: Access the Tool

1. **Navigate to CART**:
    - Go to the Cloud Adoption Readiness Tool (CART) page.
    - Click "Get started" to begin the assessment.

Step 2: Complete the Assessment

1. **Answer Questions**:
    - The assessment will ask questions related to the six perspectives of cloud adoption.
    - Provide accurate information about your current IT environment, organizational structure, and migration goals.
2. **Review Recommendations**:
    - After completing the assessment, CART generates a report with recommendations for each area.
    - The report will highlight areas where your organization is strong and where it needs improvement.

Step 3: Download and Share the Report

1. **Download the Report**:
    - Save the CART report as a PDF for future reference.
2. **Share with Stakeholders**:
    - Distribute the report to key stakeholders to inform strategic planning and decision-making.

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3. Migration Readiness Assessment (MRA)

Service Overview

Migration Readiness Assessment (MRA) is a structured process that AWS uses to assess an organization's readiness to migrate to the cloud. The MRA focuses on evaluating business processes, organizational structures, and technology platforms to identify gaps and create a migration strategy.

Use Case

MRA is used to develop a comprehensive migration plan that addresses both technical and non-technical aspects of cloud migration.

Steps to Conduct an MRA

Step 1: Engage AWS or a Partner

- Engage with AWS or an AWS Partner to begin the MRA process. They will guide you through the assessment.

Step 2: Conduct the Assessment

- AWS or the partner will conduct workshops and interviews with key stakeholders to gather detailed information about your environment.
- Assess your organization's readiness across the six perspectives: Business, People, Governance, Platform, Security, and Operations.
- Use the data collected from ADS and CART as inputs.

Step 3: Review Results and Develop a Plan

- Review the findings from the MRA, which will include readiness scores, strengths, weaknesses, and identified gaps.
- Develop a detailed migration plan that addresses the gaps identified in the assessment, including timelines, resources, and priorities.

Step 4: Implementation

- Execute the migration plan, using the findings and recommendations from the MRA to guide the process.
- Monitor the migration process and make adjustments as needed to ensure a smooth transition to AWS.