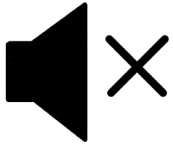Aug 08, 2023

Operationalize Data Integration with Advanced Serverless

- Atul Singh, Senior Product Manager – Advanced Serverless

Informatica®

Housekeeping Tips

- Today's Webinar is scheduled for 1 hour

- The session will include a webcast and then your questions will be answered live at the end of the presentation

- All dial-in participants will be muted to enable the speakers to present without interruption

- Questions can be submitted to "All Panelists" via the Q&A option and we will respond at the end of the presentation

- The webinar is being recorded and will be available on our Success Portal - where you can also download the slide deck for the presentation. The link to the recording will be emailed as well.

- Please take time to complete the post-webinar survey and provide your feedback and suggestions for upcoming topics.

Informatica®

Feature Rich Success Portal
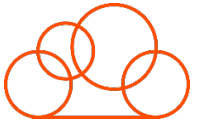
Bootstrap trial and POC Customers

Enriched Customer Onboarding experience

Product Learning Paths and Weekly Expert Sessions
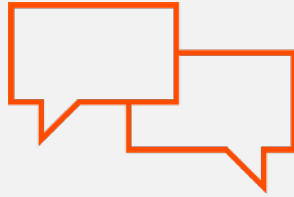
Informatica Concierge

Tailored training and content recommendations

Informatica®

More Information

Success Portal

https://success.informatica.com

Communities & Support

https://network.informatica.com

Documentation

https://docs.informatica.com

University

https://www.informatica.com/in/services-and-training/informatica-university.html
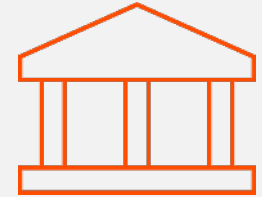
Informatica®

Safe Harbor

The information being provided today is for informational purposes only. The development, release, and timing of any Informatica product or functionality described today remain at the sole discretion of Informatica and should not be relied upon in making a purchasing decision.

Statements made today are based on currently available information, which is subject to change. Such statements should not be relied upon as a representation, warranty or commitment to deliver specific products or functionality in the future.

Informatica

08.08.2023

Tech Tuesday

Operationalize Data Integration with Advanced Serverless

Atul Singh

Senior Product Manager

Informatica®

Safe Harbour

The information being provided today is for informational purposes only. The development, release and timing of any Informatica product or functionality described today remain at the sole discretion of Informatica and should not be relied upon in making a purchasing decision. Statements made today are based on currently available information, which is subject to change. Such statements should not be relied upon as a representation, warranty or commitment to deliver specific products or functionality in the future.
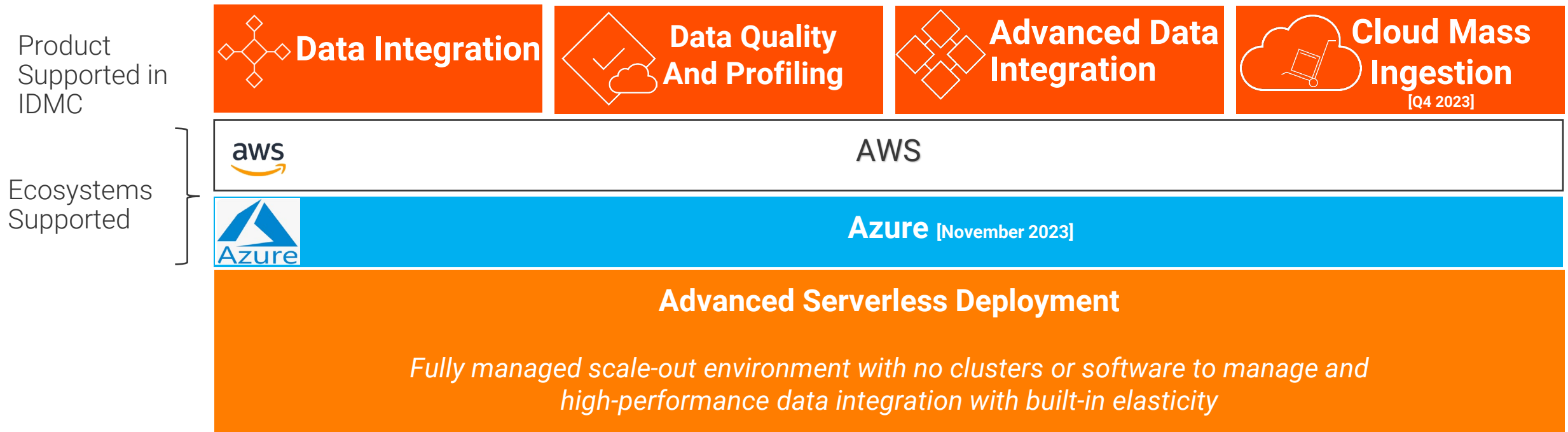
Informatica®

Agenda

Advanced Serverless

Informatica

Cloud Data Integration Processing Anywhere

Advanced Serverless is expanding coverage to support to all IDMC Products and ecosystems

Product Supported in IDMC

Data Integration	Data Quality And Profiling	Advanced Data Integration	Cloud Mass Ingestion [Q4 2023]

Ecosystems Supported

aws AWS

Azure [November 2023]

Advanced Serverless Deployment

Fully managed scale-out environment with no clusters or software to manage and high-performance data integration with built-in elasticity

Note: CAI is already available as Separate Serverless Offering

Informatica

Serverless is a deployment option and NOT an engine

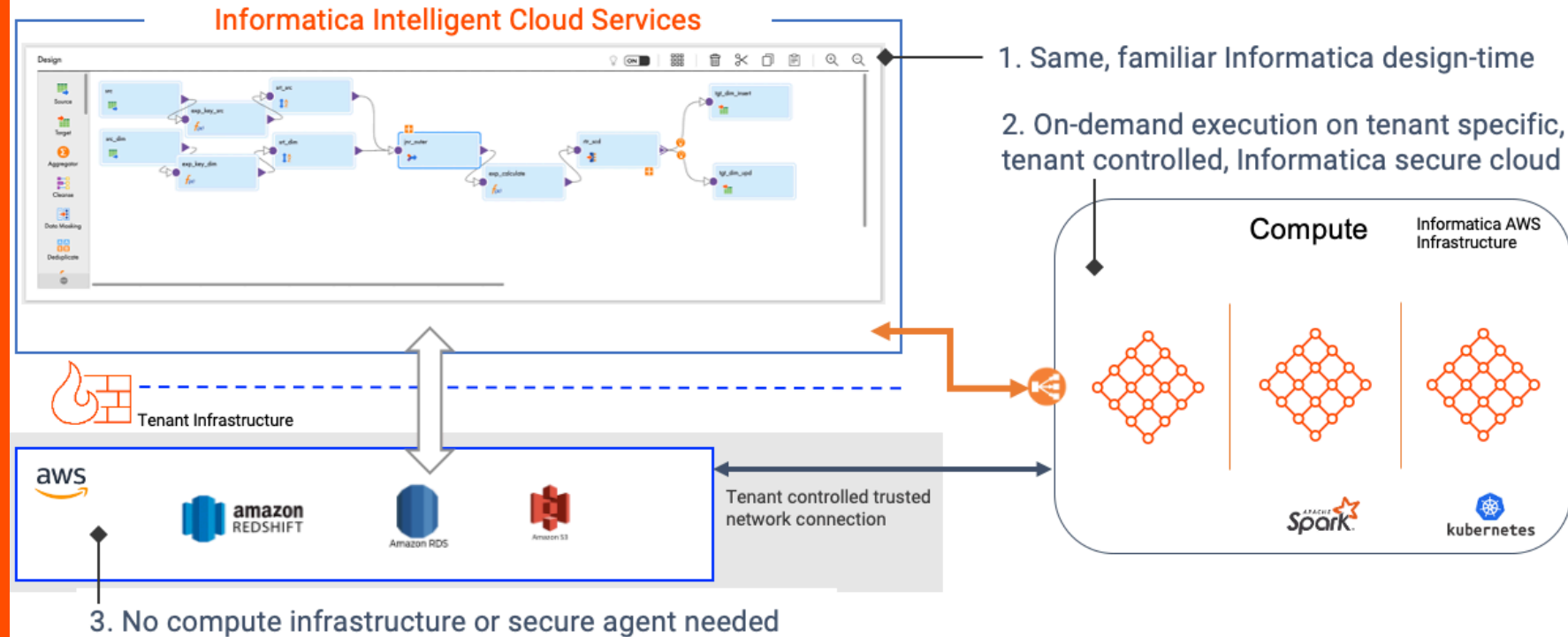© Informatica. Proprietary and Confidential.
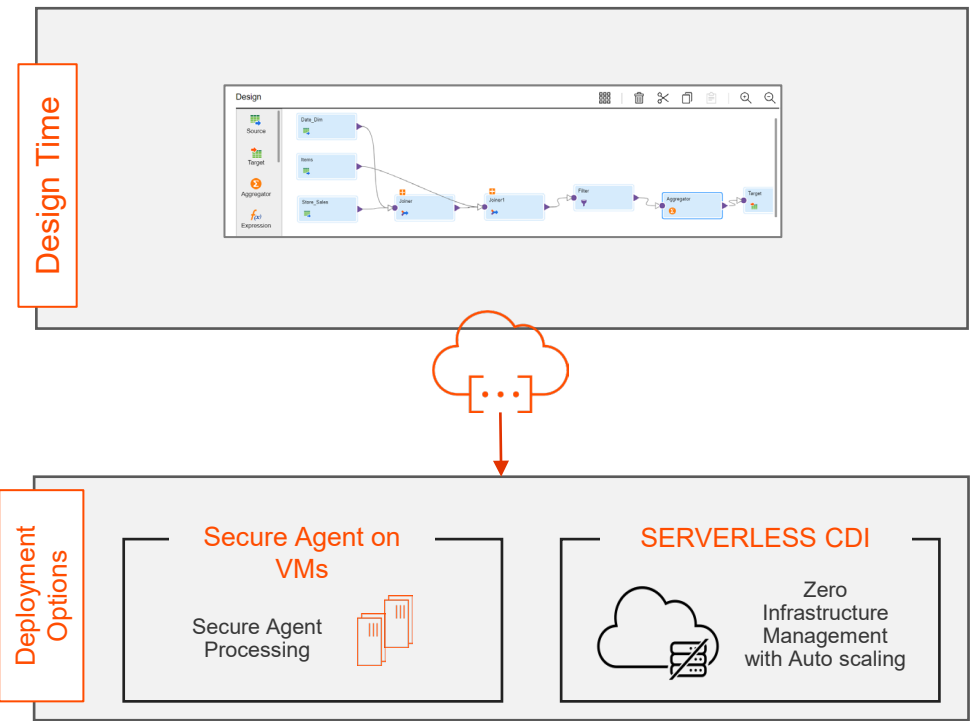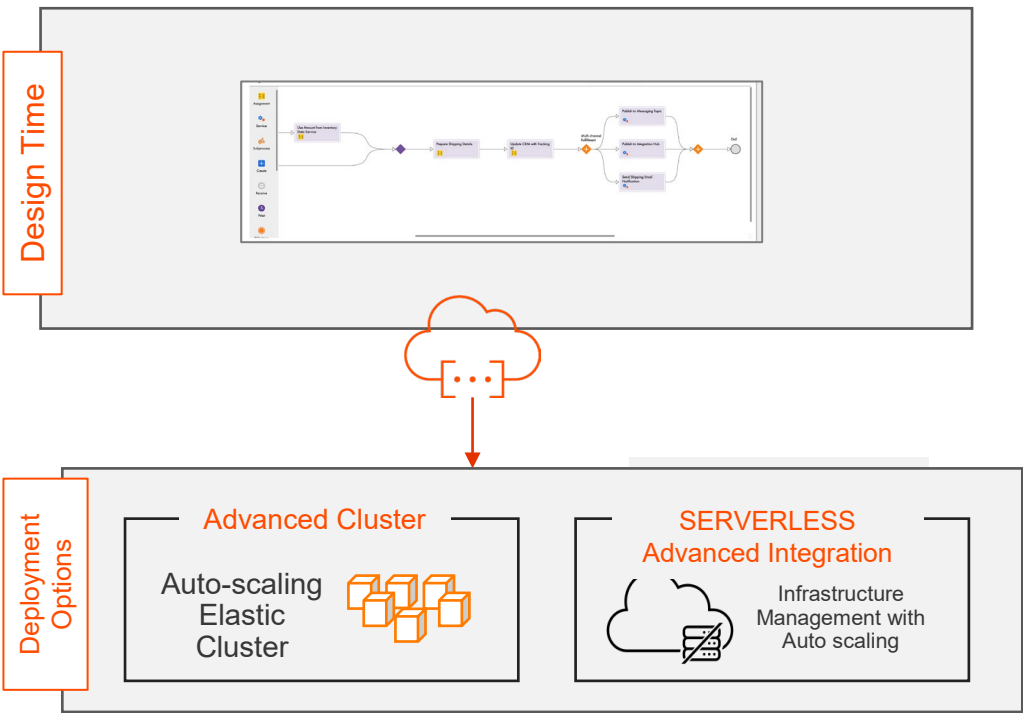
Advanced Serverless

Advanced Serverless Deployment
Fully managed scale-out environment with no clusters or software to manage and high-performance data integration with built-in elasticity

Serverless Features

- Currently available on AWS
  (Azure – On Roadmap)

- No servers or software to Manage

- Switch existing tasks from SA to Advanced Serverless Runtime through UI

- Inbuilt Autoscaling and concurrency

- Consumption-based pricing

- Easy setup in 2 mins with cloud formation template

- Co-exist with your existing Secure agents Runtime

Informatica Intelligent Cloud Services

1. Same, familiar Informatica design-time

2. On-demand execution on tenant specific, tenant controlled, Informatica secure cloud

Compute — Informatica AWS Infrastructure

Tenant Infrastructure

Tenant controlled trusted network connection

3. No compute infrastructure or secure agent needed

Key Benefits
Fully managed, serverless infrastructure, operate at massive scale

Reduce infrastructure maintenance and secure agent administration overhead

No more procuring, provisioning, patching.
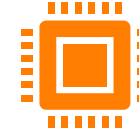
Exponential savings with higher workloads!

Dynamically or seasonally changing infrastructure needs

Flexibility to meet changing workloads

Jump start projects or do quick POCs

Start running data pipelines on Day 1 instead of waiting to secure, provision infrastructure

Process lots of concurrent workloads

Serverless scales to process infinite concurrent workloads whereas with SA you are limited to processing capacity of the host

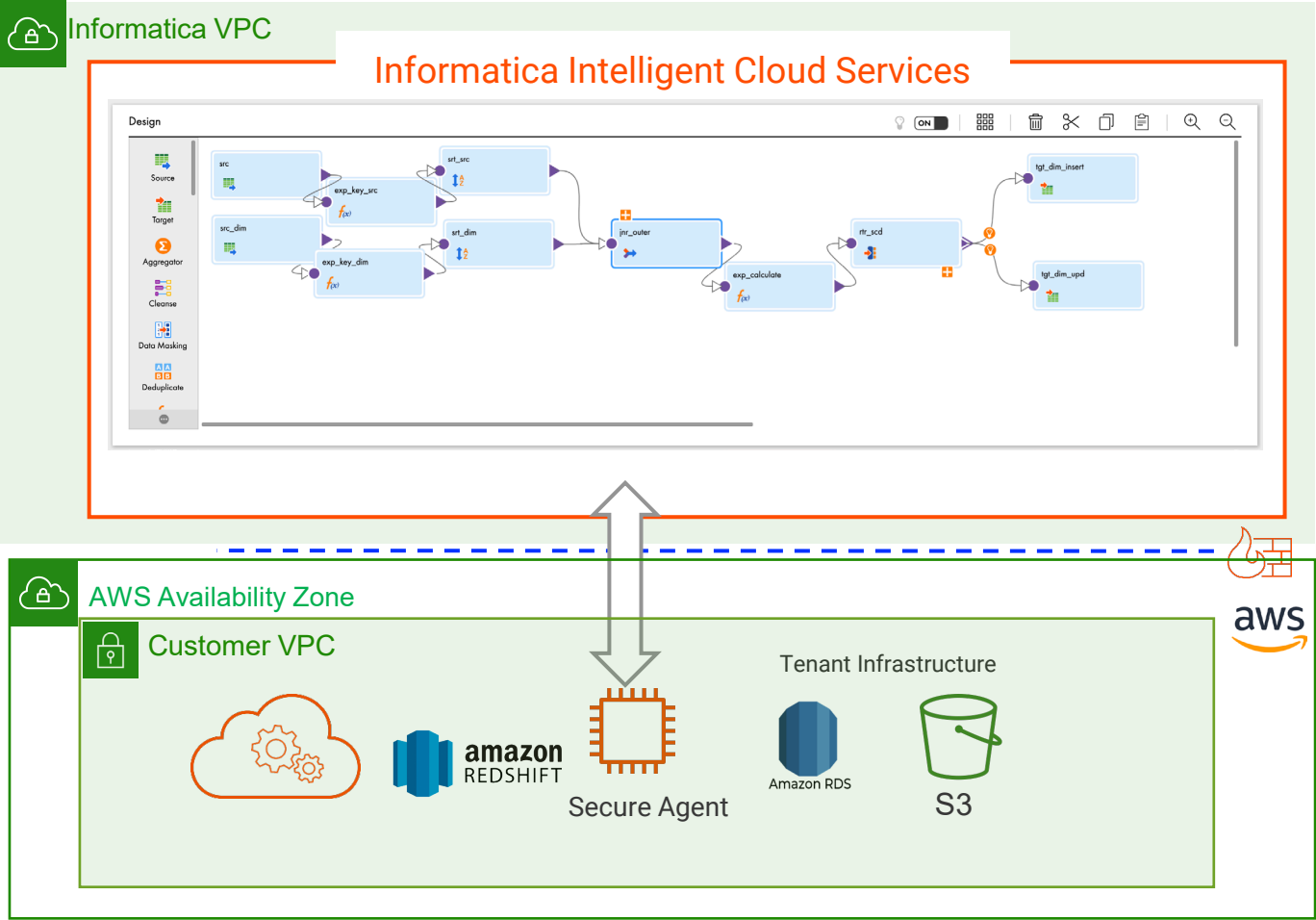**Be more productive and/or are short staffed on resources**

Deploy your staff on building for business needs than for operationalizing infrastructure

Advanced Serverless

Execution Model

Secure Agent Execution Model
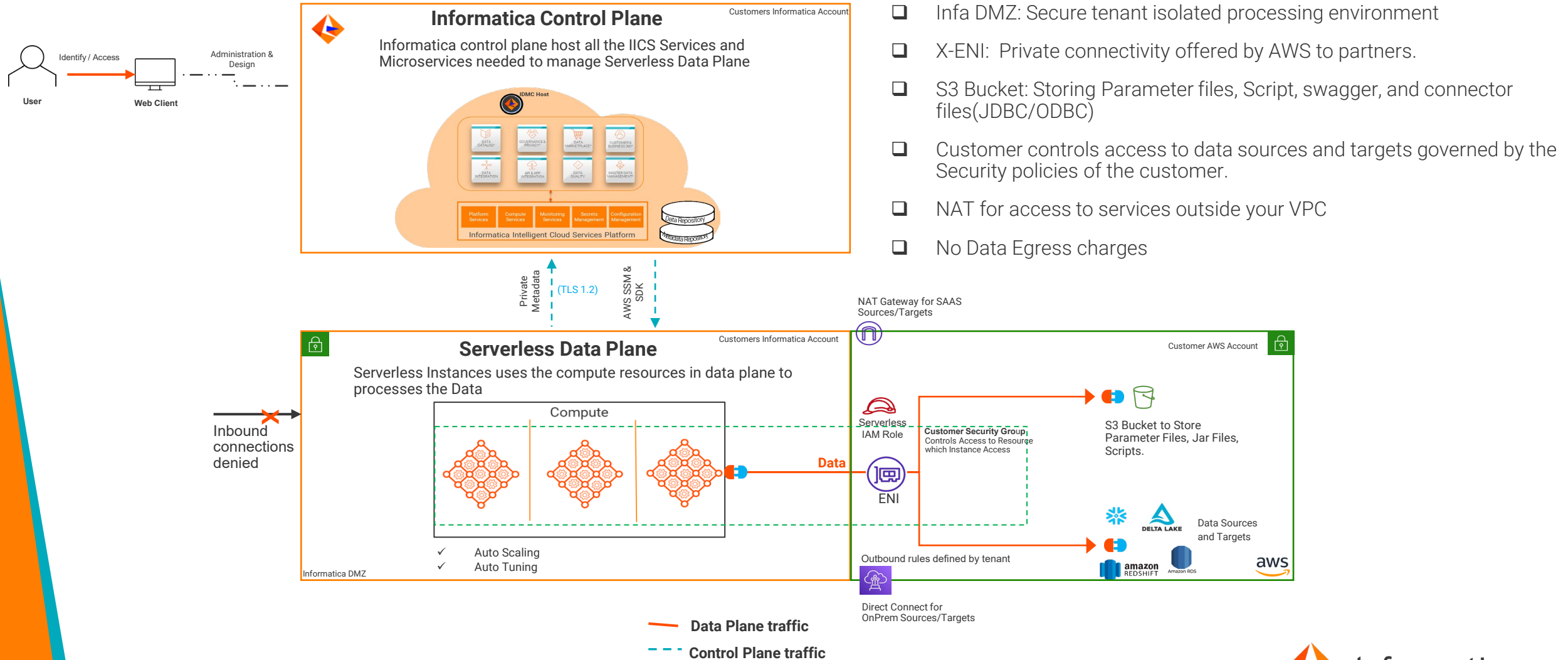## CDI

© Informatica. Proprietary and Confidential.

Advanced Serverless Execution Model

CDI / Advanced Integration

© Informatica. Proprietary and Confidential.

Advanced Serverless

Secure, tenant isolated Serverless Architecture

IDMC Serverless Architecture

Informatica Control Plane — Customers Informatica Account

Informatica control plane host all the IICS Services and Microservices needed to manage Serverless Data Plane

IDMC Host

DATA CATALOG | GOVERNANCE & PRIVACY | DATA MARKETPLACE | CUSTOMER & BUSINESS 360

DATA INTEGRATION | API & APP INTEGRATION | DATA QUALITY | MASTER DATA MANAGEMENT

Platform Services | Compute Services | Monitoring Services | Secrets Management | Configuration Management

Data Repository
Metadata Repository

Informatica Intelligent Cloud Services Platform

User — Identify / Access — Web Client — Administration & Design

Private Metadata (TLS 1.2)

AWS SSM & SDK

Serverless Data Plane — Customers Informatica Account

Serverless Instances uses the compute resources in data plane to processes the Data

Compute

✓ Auto Scaling
✓ Auto Tuning

Informatica DMZ

Inbound connections denied

Data

NAT Gateway for SAAS Sources/Targets

Serverless IAM Role

ENI

Customer Security Group
Controls Access to Resource which Instance Access

Outbound rules defined by tenant

Direct Connect for OnPrem Sources/Targets

Customer AWS Account

S3 Bucket to Store Parameter Files, Jar Files, Scripts.

Data Sources and Targets

DELTA LAKE
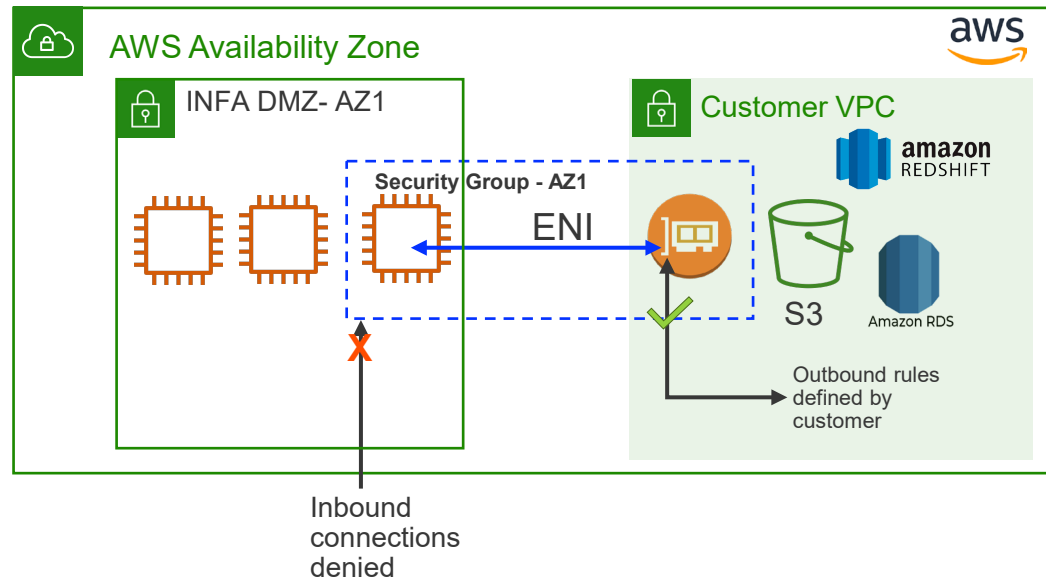
amazon REDSHIFT | Amazon RDS

aws

─── Data Plane traffic
╌╌╌ Control Plane traffic

- ☐ Infa DMZ: Secure tenant isolated processing environment
- ☐ X-ENI: Private connectivity offered by AWS to partners.
- ☐ S3 Bucket: Storing Parameter files, Script, swagger, and connector files(JDBC/ODBC)
- ☐ Customer controls access to data sources and targets governed by the Security policies of the customer.
- ☐ NAT for access to services outside your VPC
- ☐ No Data Egress charges

Informatica

ENI based architecture is more secure and cost-efficient than VPC peering

Advanced Serverless (Elastic Network Interface based connection)

AWS Availability Zone

INFA DMZ- AZ1

Security Group - AZ1

ENI

Inbound connections denied

Customer VPC

amazon REDSHIFT

S3

Amazon RDS

Outbound rules defined by customer

VPC Peering Solution

VPC

Vendor VPC

Internet GW

VPC Peering

VPC

Private subnet

amazon REDSHIFT

S3

Amazon RDS

Internet GW

☑ Zero Data transfer costs/additional costs

☑ Simple Setup (Cloud Formation Template)

☑ Advanced network sharing

☑ Enables transitive routing if desired

☑ Tighter security and isolation
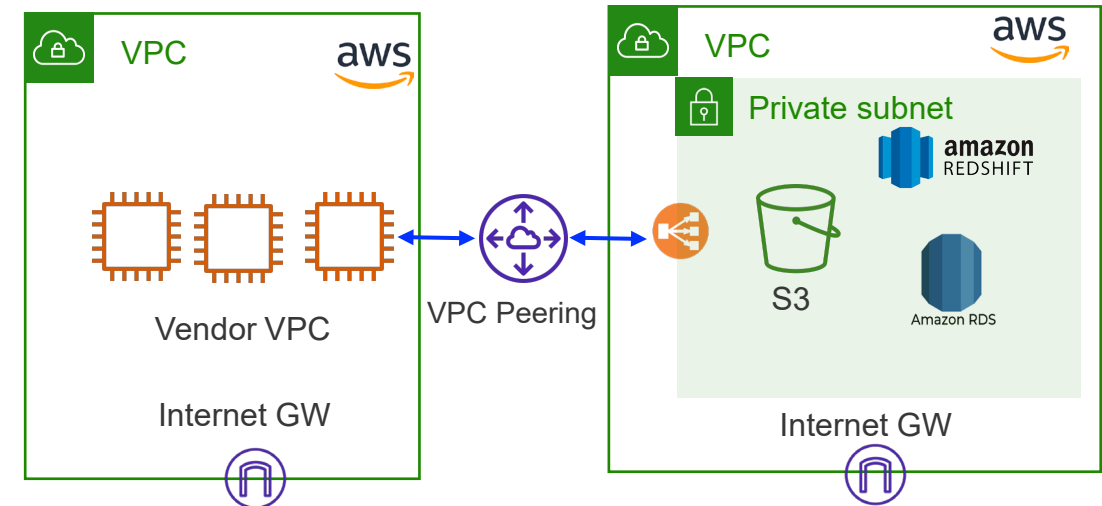
☒ Data transfer costs + GW ELB cost + VPC endpoint cost

☒ Setup overhead

☒ No transitive routing – only able to communicate with directly peered VPCs

☒ Not useful for complex network sharing scenarios

☒ Non-starter from enterprise security standpoint

Informatica

Advanced Serverless

Runtime Deployment Options and Security

Runtime Deployment Options

	Secure Agent	Adv. Cluster	Advanced Serverless (CDI/Adv Integration)
Cloud Provider	Any (or On-Prem)	AWS, Azure, GCP	AWS, Azure(On Roadmap)
Elastic Scaling	Manual	Automatic	Automatic
Infrastructure management	Customer	Informatica (agent by customer)	Informatica
Maintenance Overhead	Customer	Informatica	Informatica
Infrastructure Cost Incurred by	Customer	Customer	Informatica
Runtimes supported	CDI, DQ, CAI, MI, Profiling and many more..	CDI-e, CDQ-e, Profiling	CDI, CDI-e, CDQ, Profiling, CMI(Q4 2023)
Workload Data Volume	Low-Med	Low-Med + Med-High	Low-Med + Med-High
Recommended Use case	Cloud -> Cloud On-prem->Cloud Cloud->On-prem On-prem->On-prem	Cloud -> Cloud On-prem->Cloud Cloud->On-prem	Cloud -> Cloud On-prem->Cloud Cloud->On-prem
Pricing model	Fixed monthly license per agent regardless of use	Usage based – separate bills from Informatica and infrastructure provider	Usage based – single bill from Informatica

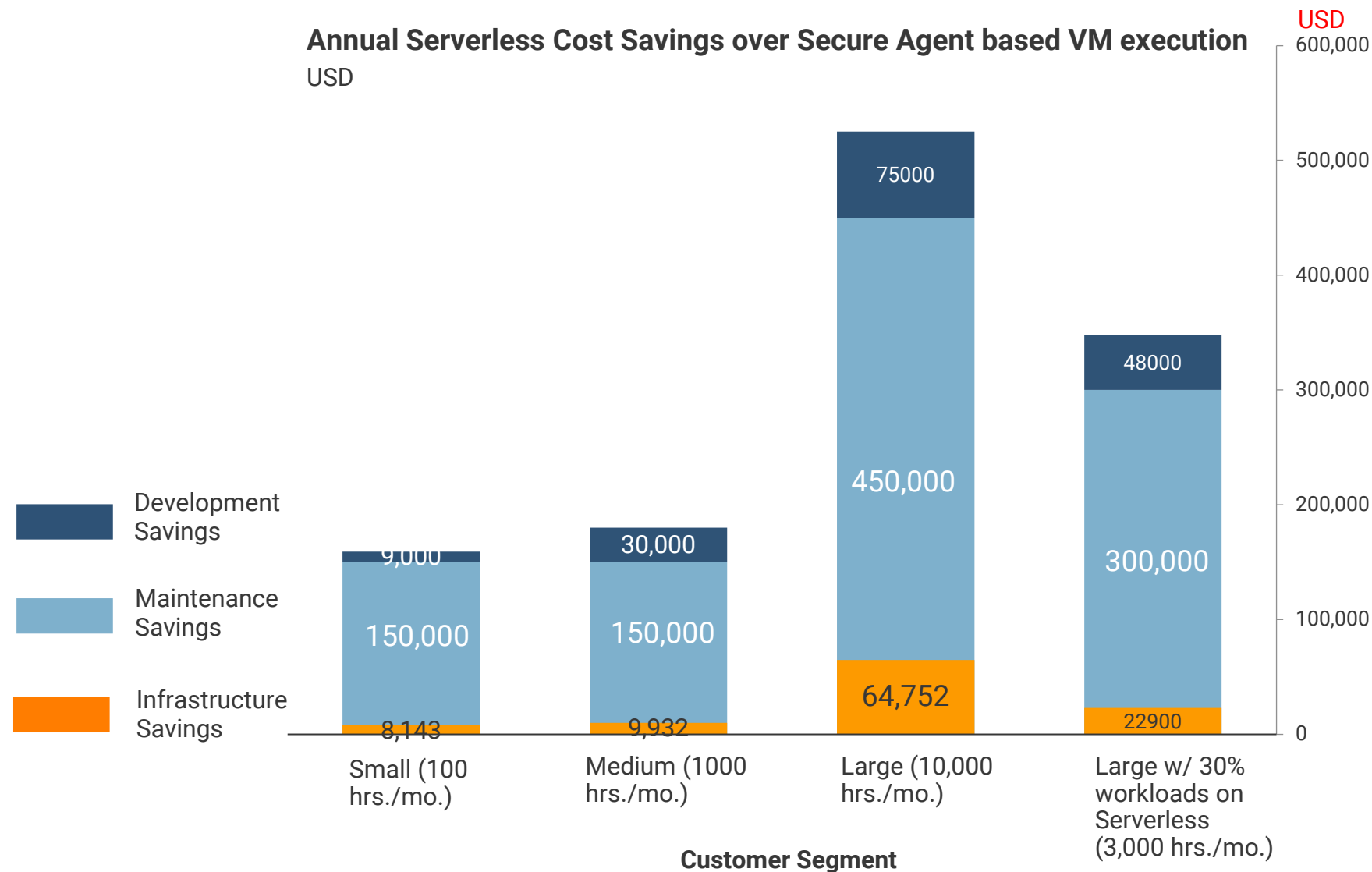**Informatica**

Is Advanced Serverless Secure?

Defense in Depth Architecture

- 7 layers of Enterprise Grade Security protection to get to tenant data

- Tenant Data flows within the trusted networks they control

- Serverless compute in DMZ is part of our SOC2 certification boundary

- Trusted secure link used to link to tenant's network and controlled using tenant's security group and policies

- Serverless Security Whitepaper

AICPA SOC 2 — Formerly SAS 70 Reports

SOC³ SysTrust for Service Organizations

HIPAA / HITECH

cloud security alliance®
CSA

Privacy Shield Framework

ISO ISO/IEC 27001:2013 Aligned Program

Audit

Threat Protection

Network Security

Authentication

Access Control/IAM role

Security policies

2-way trust

CERTIFIED

Informatica®
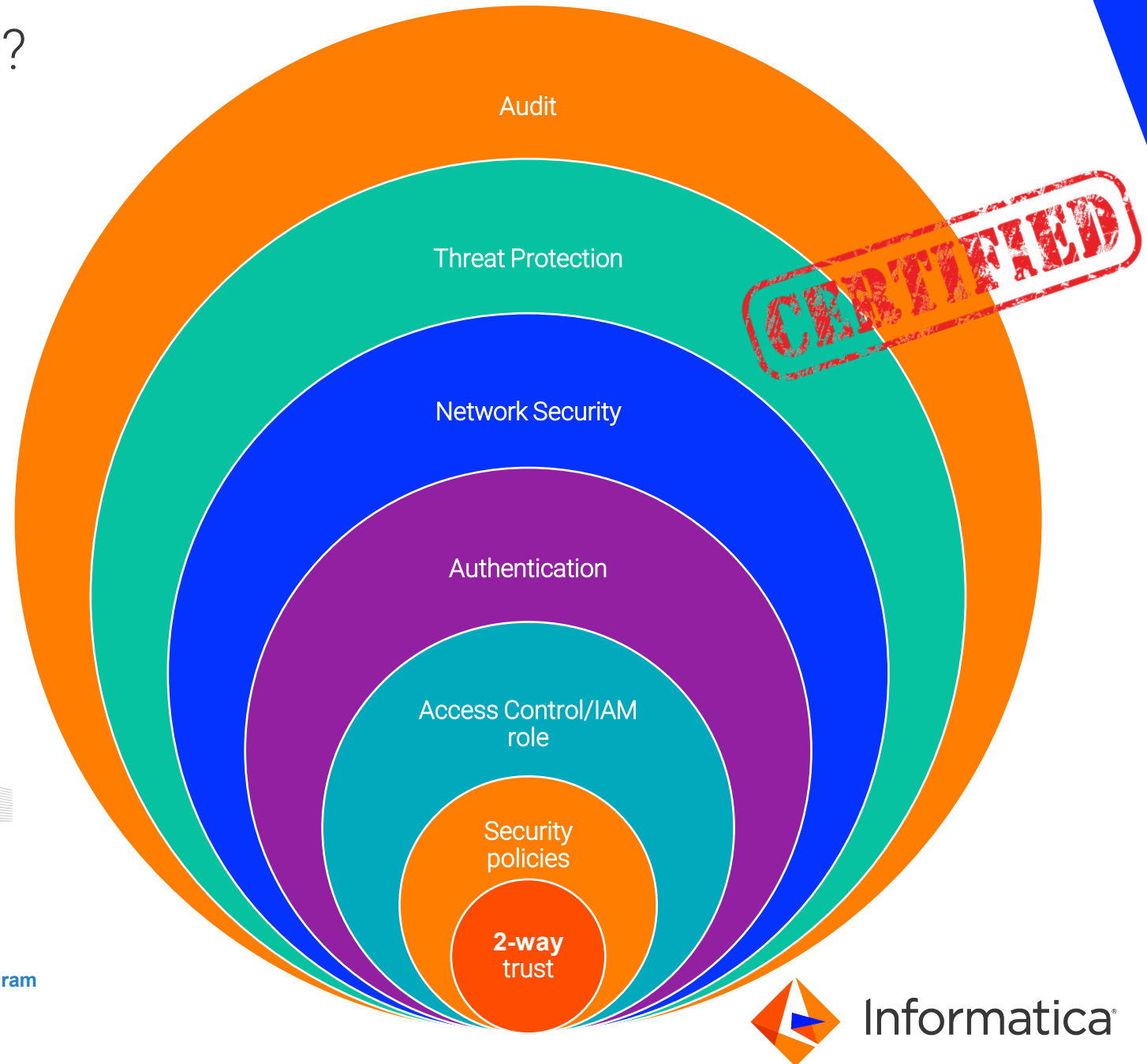
ROI and Cost Savings Calculator

Serverless Cost Savings by customer segment

Annual Serverless Cost Savings over Secure Agent based VM execution
USD

USD

Development
Savings

Maintenance
Savings

Infrastructure
Savings

9,000		
150,000		
8,143		

30,000		
150,000		
9,932		

75000		
450,000		
64,752		

48000		
300,000		
22900		

600,000
500,000
400,000
300,000
200,000
100,000
0

Small (100
hrs./mo.)

Medium (1000
hrs./mo.)

Large (10,000
hrs./mo.)

Large w/ 30%
workloads on
Serverless
(3,000 hrs./mo.)

Customer Segment

Informatica

Advanced Serverless

Setup

Pre-Requisites

1. VPC

2. Subnets

3. Create a NAT Gateway (Optional)

   o To allow the subnet configured in serverless env to connect to external services through the internet, if needed

4. Create S3 folders (optional)

   o To store supplementary files (Jar files, external libraries, drivers, etc.)

5. Setup IAM role and policies

   o To establish 2-way trust between your (customer) AWS account and Informatica AWS account

6. Create Security groups

   o Used for attaching to the ENI

AWS Availability Zone

INFA DMZ- AZ1

Security Group - AZ1

ENI

Inbound connections denied

Customer VPC

amazon REDSHIFT

Amazon S3

Amazon RDS

Outbound rules defined by customer
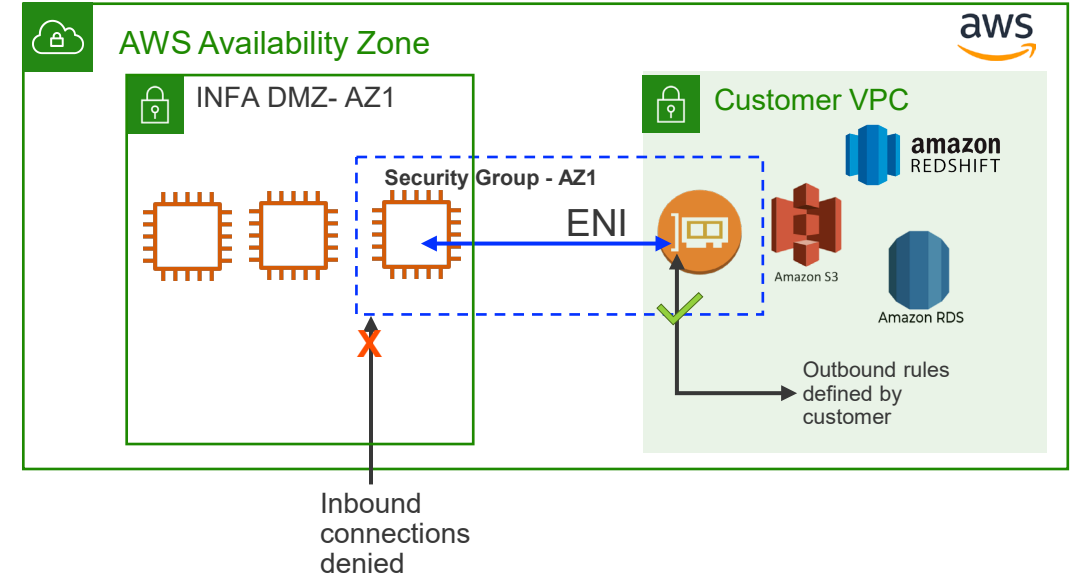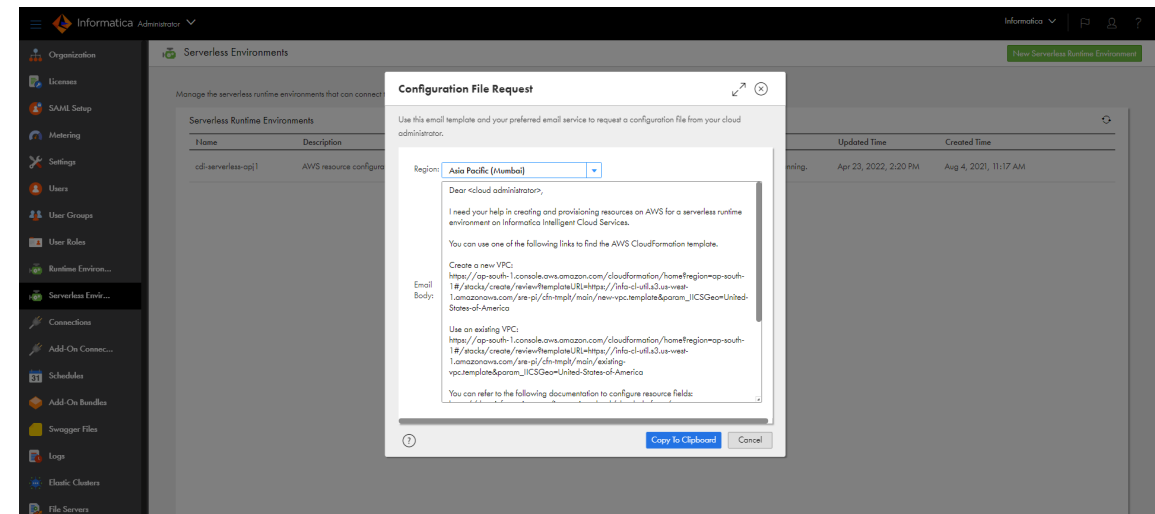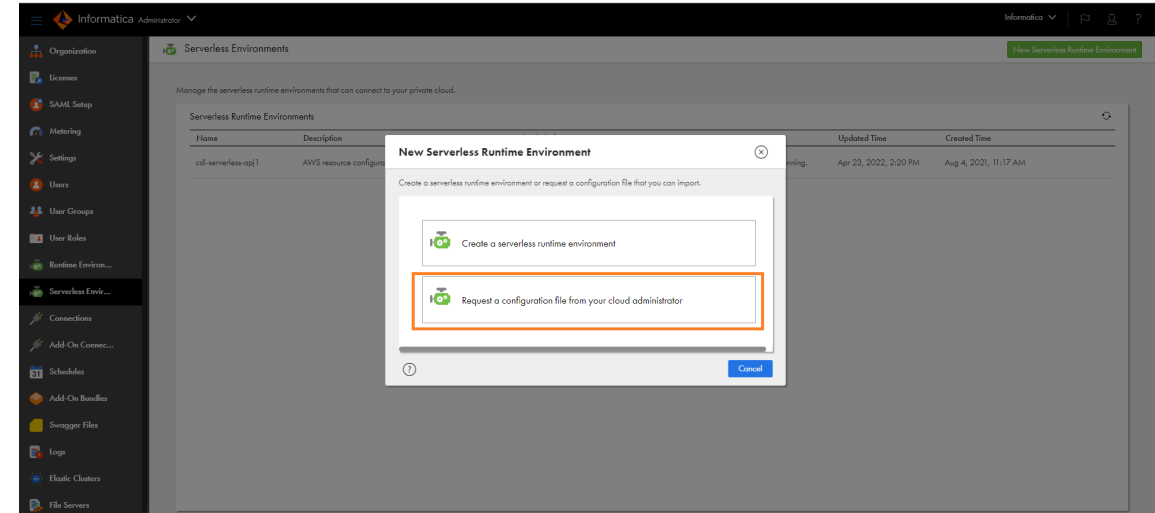
Informatica

Serverless Setup Using Informatica Cloud IICS - UI

1. Login to IICS Administrator > Serverless Runtime Environment

2. Use New Serverless Runtime Environment option and Go to 'Create Serverless Runtime Environment'

3. Provide the details of parameters for Serverless and AWS resources(VPC, Subnet, IAM role, etc)

   "Serverless Environment will be Up and Running in about 2 minutes".

Doc:

https://docs.informatica.com/integration-cloud/cloud-platform/current-version/runtime-environments/serverless-runtime-environments/before-you-begin/option-1--create-and-configure-aws-resources-in-your-vpc.html
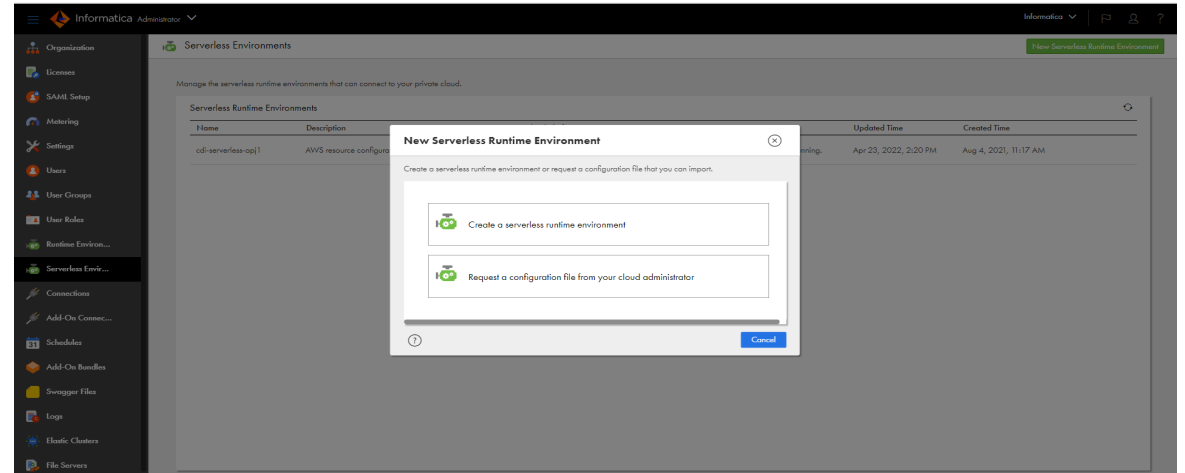
New Serverless Runtime Enviro...

Save ✕

Create or modify a serverless runtime environment to define how the environment connects to your private cloud.

Basic Configuration

Name:* [   ]

Description:* [   ]

Task Type:* [▼]

Cloud Platform:* Amazon Web Services (AWS)

Max Compute Units Per Task:* ? [▼]

Task Timeout:* ? [2880   ]

Informatica Account Number:* ? 643384346542

External ID:* ? [59b1b51b-54c7-4ef1-8dc3-a99794032ac]

Platform Configuration   Runtime Configuration Properties

Configuration Name:* [   ]

Configuration Description: [   ]

Account Number:* ? [   ]

Serverless Setup using AWS CloudFormation

1. Login to IICS Administrator > Serverless Runtime Environment

2. Use New Serverless Runtime Environment option and Go to 'Request Configuration File from Cloud Administrator'

3. Generate the Email by Choosing Region and send/share the email with the Clouformation Template link to AWS Admin.

4. Admin will use the link and create the necessary resources and Share the Resource Config File

5. Go to Create Serverless Runtime Environment' and upload the file JSON file.

"Serverless Environment will be Up and Running in about 2 minutes."

Docs:

https://docs.informatica.com/integration-cloud/cloud-platform/current-version/runtime-environments/serverless-runtime-environments/before-you-begin/option-2--use-an-aws-cloudformation-template.html

https://docs.informatica.com/integration-cloud/cloud-platform/current-version/runtime-environments/serverless-runtime-environments/creating-a-serverless-runtime-environment/using-a-serverless-configuration-file.html

Switching Mapping to Serverless Runtime Environment

© Informatica. Proprietary and Confidential.

Demo

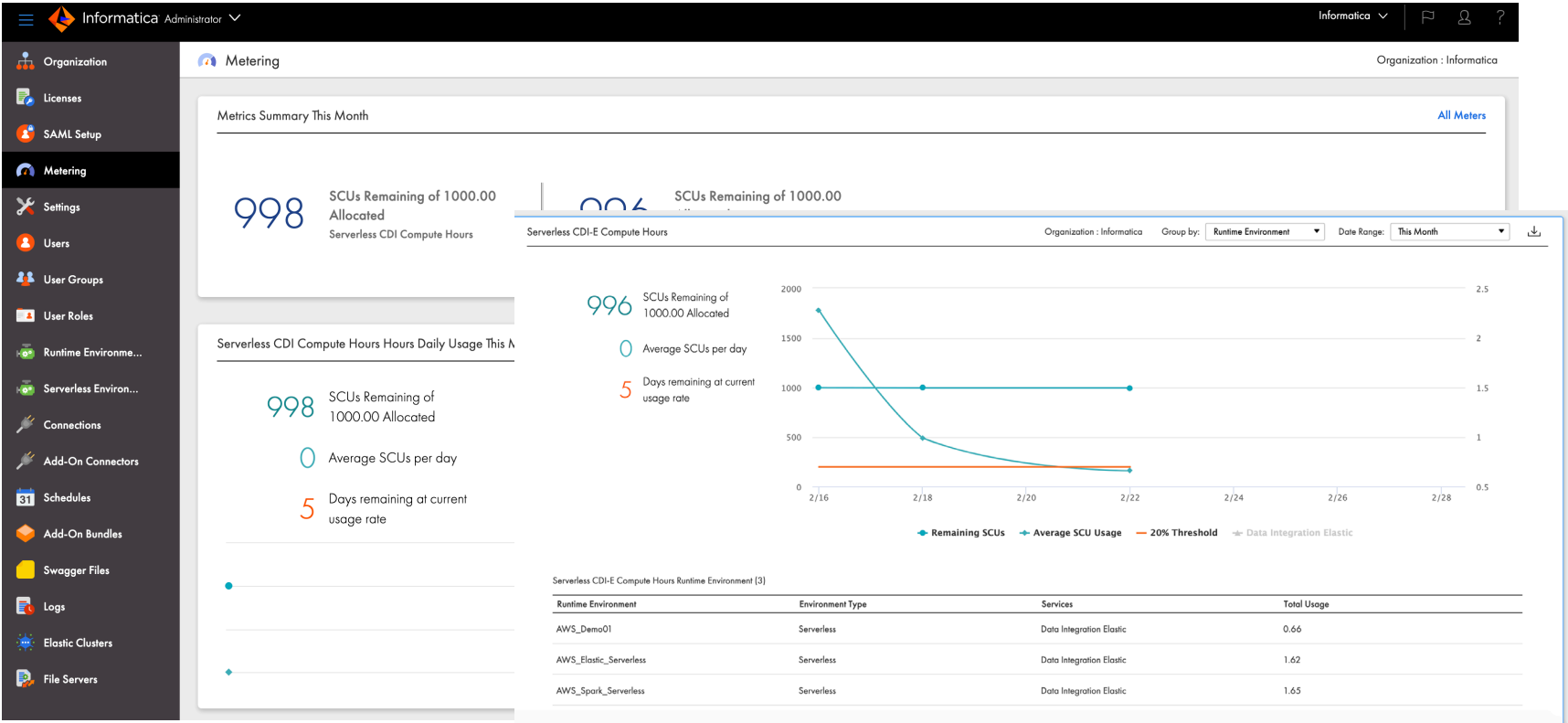© Informatica. Proprietary and Confidential.

Key Highlights

Highlights

- Same Design time experience

- Broad Connectivity

- Supports CDI, CDI-E, (CDQ/CDQ-E, Profiling)

- Metering & Integrated IPU Dashboard

- Global availability on AWS Pods – US, EMEA, AP-Sydney, Canada

- Cloud Formation Templates

Azure Native Services w/ Serverless

## Azure native IDMC w/ Marketplace transactability

Key Highlights

- **1st party-like** service discovery experience alongside Azure services
- Integrated purchase experience private offers.
- **AAD Integration** & SSO experience from Azure portal
- **Advance Serverless** Support

Benefits

- **Easy, Low-friction** Serverless setup
- **Discoverability** and Transactability
- Drawdown against **Azure commits**
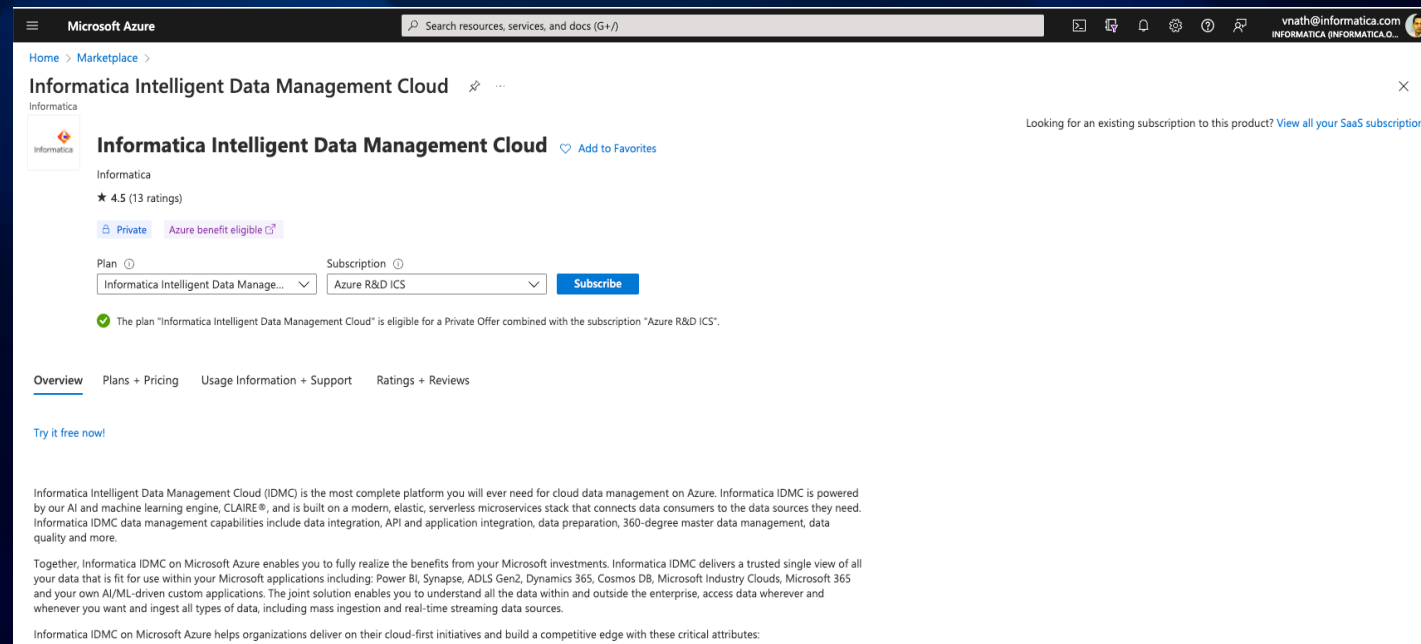
To know more and see these capabilities in action Register here for Early Preview

Q&A

Thank You

Informatica