



# Seamless Imaging

Transformative Opportunities in the Cloud

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# Agenda

Cloud Benefits

Cloud Imaging Deployment Models

Cloud Imaging Maturity Model

Cloud Native Imaging Architecture

Partner Solutions

# Cloud Benefits

## Reduce Cost

- No Procurement of Physical Infrastructure
- No Maintenance of Physical Infrastructure
- Elastic Resources

## Ensure Availability

- Resilient And Highly Available
- Feature Updates Do Not Cause Downtime
- Scale Up App Resources During Peak Seasons
- Positive Customer Experience

## Increase Efficiency

- Tool Automation
- Higher Performance
- Data Lake / Analytics
- AI/ML Training/Inference

<https://aws.amazon.com/what-is/cloud-native/>



# Cloud Benefits

Scalable

Flexible

Resilient

## Competitive Advantage

Update Quickly

Fast and Frequent Changes

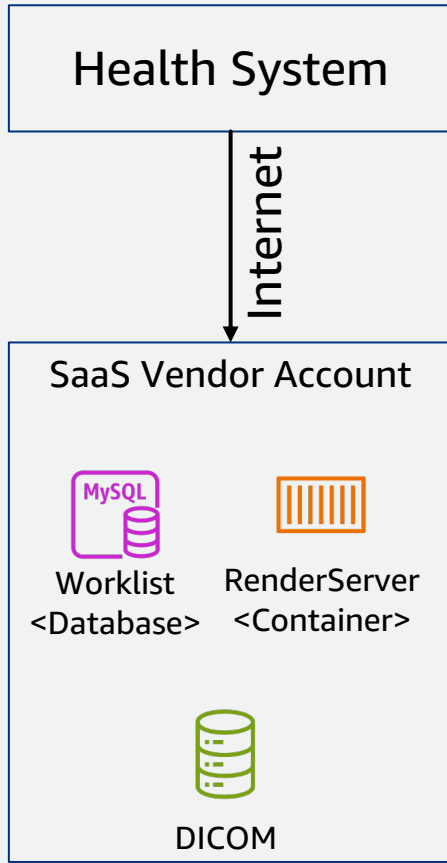
Modern Applications

<https://aws.amazon.com/what-is/cloud-native/>

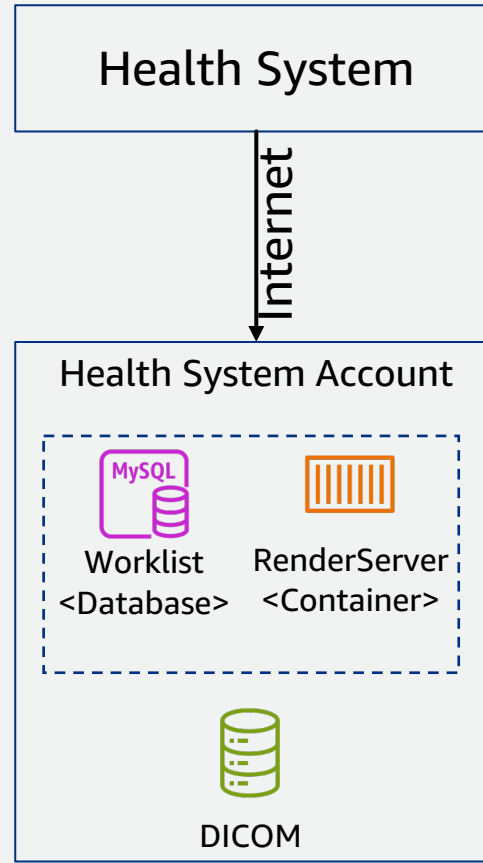


# Cloud Imaging Deployment Models

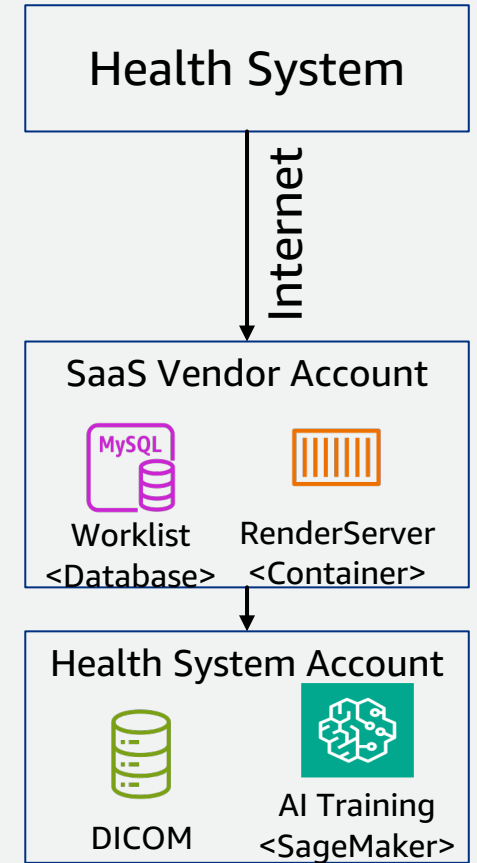
## SaaS



## Bring Your Own Account



## Hybrid



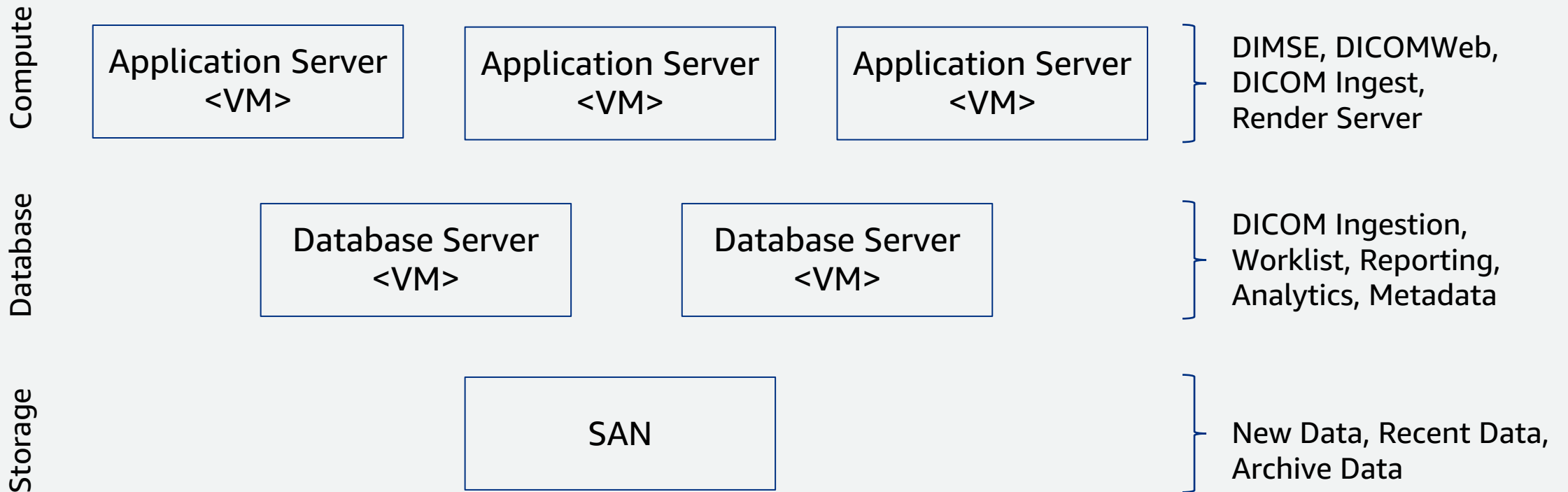
# Cloud Imaging Maturity Models

Level	In Cloud	On Premise
0	Nothing	Modalities, Archive, Disaster Recovery, Enterprise Viewers, Diagnostic Viewers, Research Data, Image Sharing, Trauma/Stroke, Specialty Viewers
1	Image Sharing	Modalities, Archive, Enterprise Viewers, Diagnostic Viewers, Research Data, Trauma/Stroke, Specialty Viewers
2	Image Sharing, Disaster Recovery, Research Data	Modalities, Archive, Enterprise Viewers, Diagnostic Viewers, Trauma/Stroke, Specialty Viewers
3	Image Sharing, Disaster Recovery, Research Data, Archive, Enterprise Viewers	Modalities, Diagnostic Viewers, Trauma/Stroke, Specialty Viewers, Local Cache
4	Image Sharing, Disaster Recovery, Research Data, Archive, Enterprise Viewers, Diagnostic Viewers, Specialty Viewers	Modalities, Trauma/Stroke

Hybrid



# Typical Enterprise PACS Architecture



# Modern Cloud First PACS Architecture

Compute

DICOMWeb  
<Lambda>

DIMSE  
<Outposts>

DICOM Ingest  
<Fargate>

Render Server  
<EC2>

Database

Worklist DB  
<Aurora>

DICOM Ingestion DB  
<DynamoDB>

Reporting  
<RDS>

Analytics  
<RedShift>

Storage

New Data  
<S3 - Standard>

Archive Data  
<S3 - Glacier>

Render Server OS  
<EBS>



# Cloud Native Spectrum

**Lift and Shift**

**Cloud Optimized**



EC2  
EBS  
FSx

IaC

Object  
Storage

Containers

Managed  
Database

Purpose Built  
Services

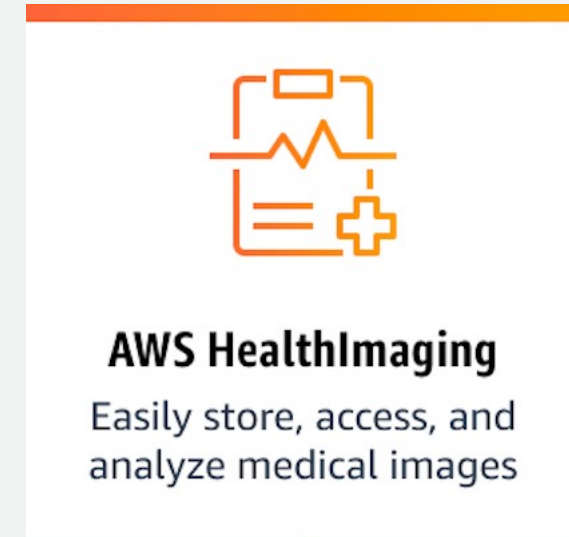


# AWS Purpose Built Service for Medical Imaging

Fast And Scalable DICOM Ingest

Fast And Scalable Image Access

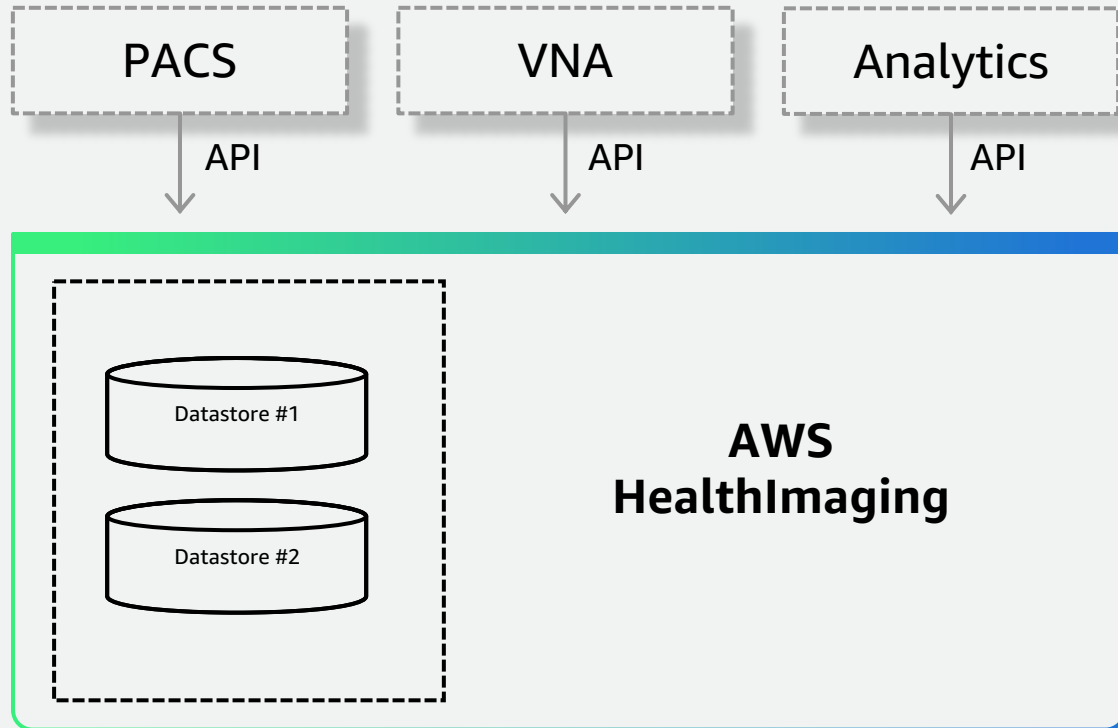
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**Fastest and lowest cost approach to  
building cloud native medical imaging  
applications**



# AWS HealthImaging Overview



Workflow agnostic

DICOM compliant

# Partners delivering AWS based solutions in Canada



AWS has a strong presence in Canada and is actively working with InfoWay, HealthCanada and other national bodies.





# Thank you!

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<https://www.linkedin.com/in/chafey/>

<https://github.com/chafey/medical-imaging-community/>