

Enterprise Informatics



Asaf Agler
Business Unit Manger

PHILIPS



Are you practicing cloud migration ?
Raise your hand



Cloud world trend vs Israel



Globally

- **94% of Global Organizations Have Already Embraced Cloud Technology**
- **Over 50% of workloads are running in a public cloud.**
- **Only about 20% remain on-prem only.**
- **Most organizations have adopted a hybrid/multi-cloud strategy.**

In Israel

- **The cloud market is expanding rapidly with double-digit growth.**
- **Government initiatives (Nimbus) support cloud migrations.**
- **A similar trend to the global one — combining cloud and on-prem in organizations.**

PACS

Picture Archiving and Communication System



PICTURE



ARCHIVING

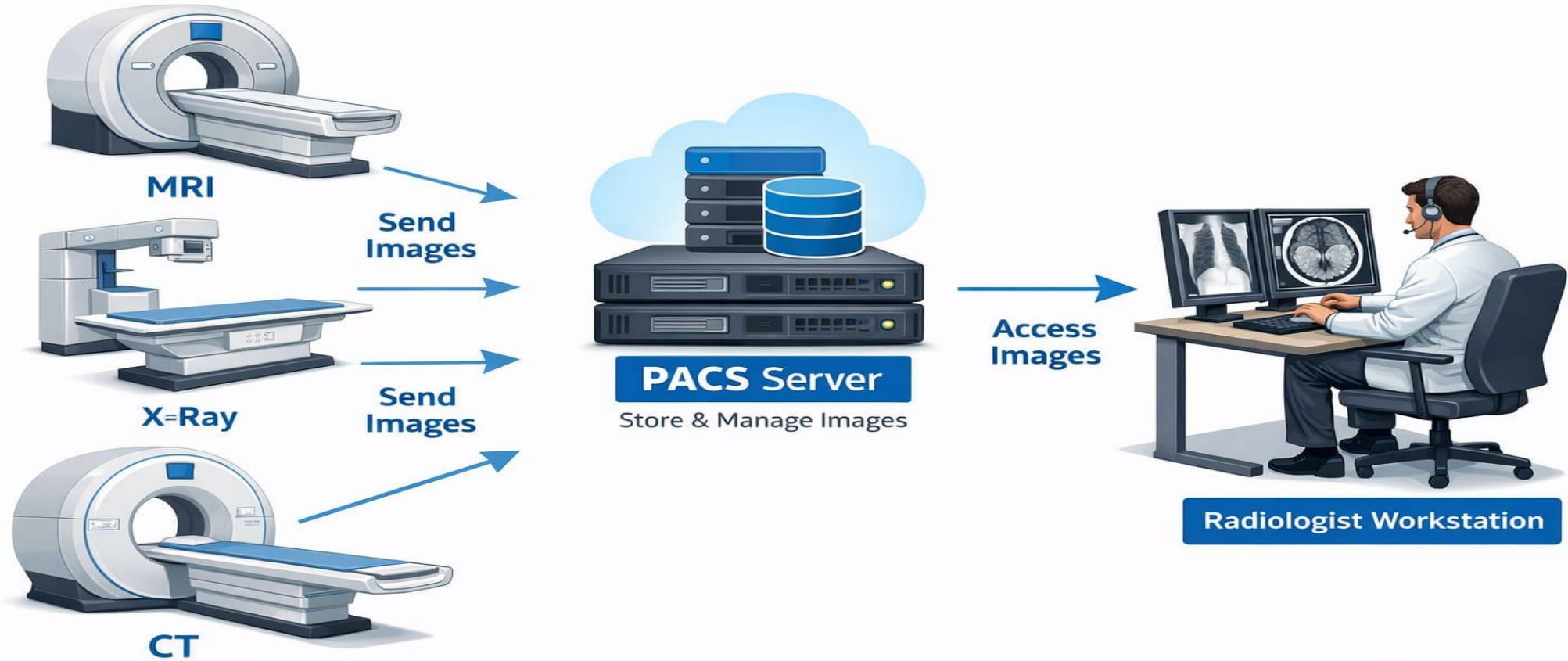


COMMUNICATION





SYSTEM

PACS Workflow



Cloud PACS – World Trend vs. Israel



Category	 Global Market	 Israel Market
Adoption Level	Rapid growth. Majority of large health systems moving to Cloud or Hybrid models	Early adoption. Mostly hybrid or on-prem deployments
Deployment Model	Full Cloud (AWS/Azure/GCP), Vendor-Hosted, SaaS	Hybrid dominant, selective cloud initiatives
Drivers	AI integration, scalability, teleradiology, cost optimization	Innovation culture, startup ecosystem, digital health push
AI Integration	Deep integration (AI as-a-Service, embedded workflows)	Point solutions, limited enterprise-wide AI integration
Regulation & Compliance	HIPAA, GDPR mature cloud frameworks	Strict MOH regulation, data residency sensitivity
Infrastructure Maturity	Enterprise cloud strategy across health systems	Mixed maturity across hospitals and HMOs
Teleradiology Support	Standard and widely adopted	Growing but not yet universal
Data Interoperability	Strong push toward FHIR & enterprise imaging platforms	Progressing, still fragmented in practice

PACS in the cloud

Strategic decision for clinical continuity, cost control and risk management



Future
Scale + AI
Multi-site

clinic
24/7 service
No downtime

Management
Expected cost
Less risk

What will we gain from PACS in the cloud?

Predictable OPEX model + hardware investment reduction

Security & backup -Professional cloud providers offer automatic backups and strong encryption. In the event of a failure on an on-premises site, your data is still safely stored in the cloud.

High Availability (HA) and Disaster Recovery (DR) as part of the solution



Why are we still at the beginning?

Regulation/Data Sovereignty (where the data is stored)

Price Sensitivity: Customers Expect On Prem to be Inexpensive

Performance: Large Image Files \Rightarrow Latency Noticeable to Radiologist

On prem PACS ≠ Cloud based PACS

In medical imaging – every second and every glitch is clinically noticeable



Info size

Large files
Latency

Continuity

24/7 True
No maintenance window!

Responsibility

Clinical Risk
and Reputation

Who is responsible when something goes wrong?



This is the real decision when choosing a cloud PACS

Type of deployment

SaaS

Simplicity
Less control

BYOC

Control
Shared responsibility

Hybrid

Performance
and continuity



**RISK
AHEAD**

Fail-safe architecture

Multi-AZ (availability zone)/ Redundancy to avoid a single point of failure

Cache / Edge to maintain a radiologist reading experience

Redundant connectivity



Unlocking the Future of Medical Imaging

Difficulty #1 – Performance and Connectivity

Best latency

Latency directly affects test/scroll opening time

Caching

Prefetch + Smart Cache to reduce downloads

Latency directly affects test/scroll opening time
Prefetch + Smart Cache to reduce downloads
Planning for a 'disconnect' scenario: minimal work continued



Difficulty #2 – Migration (the big risk)

Huge volumes Gradual transition

Deciding on Priors What stays hot, what goes to archive

Plan + KPI: Migration rate, data quality, response times

Gradual Migration

- Phased approach
- Intelligent data tiering
- Continuous KPI monitoring
- Parallel operation

Decision Checklist (What to close before moving forward)

Where is the data stored and what does the regulation require

Who is responsible for what (RACI) – Operations, Security, DR
 Performance Architecture (Cache/Network/Views)

Migration Strategy + Integrations

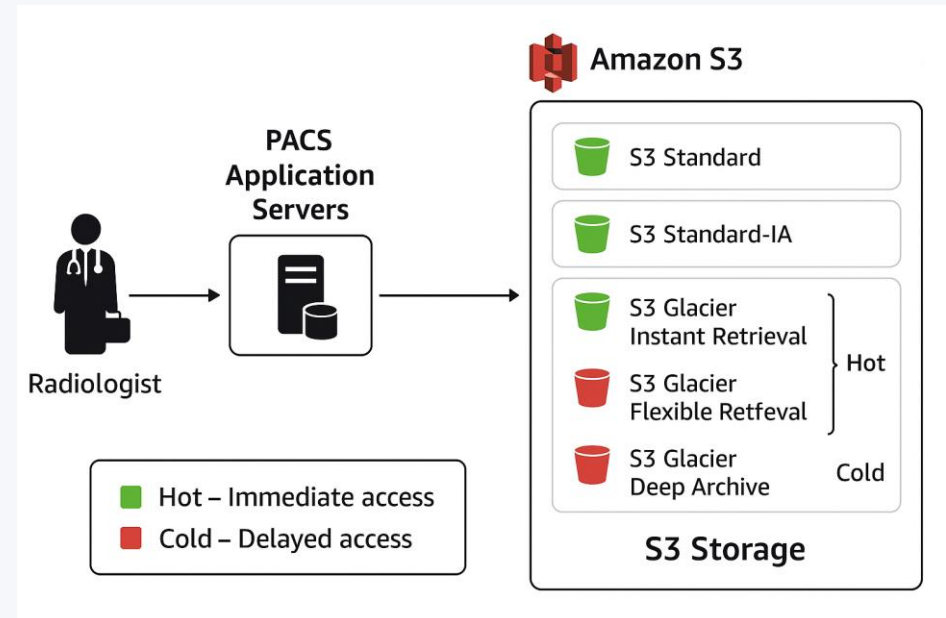


Image availability

Recommended Workflow in Practice

Storage Lifecycle Policy

Define automatic rules that move files between layers based on object age.

Local or cloud cache (S3 Standard) for storing recent exams ("Hot cache").

Managed pre-fetch: When a new exam is scheduled, the system pre-fetches relevant history from Deep archive.

Image availability

Imaging Modality	Typical Clinical Need for History	Access Pattern	Recommended S3 Storage Class	Rationale
CT (Computed Tomography)	Very high – prior comparison is critical	Frequent for 1–3 years, occasional after	S3 Standard (0–12 months) → S3 Standard-IA (1–5 years) → Glacier Instant Retrieval (>5 years)	Fast access required for comparison studies; older exams rarely accessed but must remain immediately retrievable
MRI	Very high – longitudinal follow-up common	Frequent for oncology / neuro	S3 Standard → S3 Standard-IA → Glacier Instant Retrieval	Similar to CT; oncology & chronic disease require fast historical access
Digital Mammography / Breast Tomosynthesis	Extremely high – legal + clinical long-term comparison	Frequent long-term	S3 Standard-IA → Glacier Instant Retrieval	Long retention (10–30 years), but fast retrieval required for screening comparison
Ultrasound (US)	Moderate – mainly short-term comparison	Mostly short-term	S3 Standard (0–1 year) → Standard-IA → Glacier Instant Retrieval	History less frequently accessed long-term
X-Ray (CR/DR)	Moderate	Short to mid-term	S3 Standard → Standard-IA → Glacier Instant Retrieval	High volume, relatively low file size

A stroke case



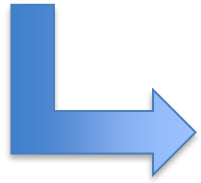
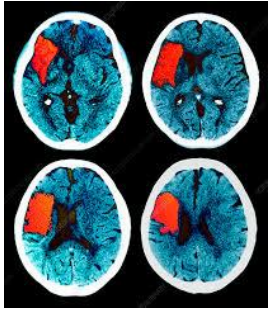
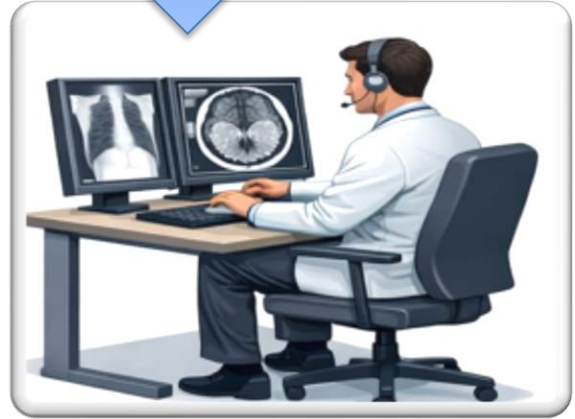
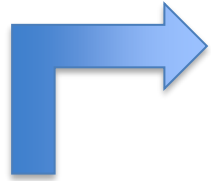


CT Scan





Availability at the right moment!!!



**Diagnostic
Treatment
patient life are saved**



Toda – תודה

