

Meaningful Use and Medical Imaging Vendor Neutral Archiving



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Agenda

- **Meaningful Use and Medical Imaging**
- **Vendor Neutral Archive (VNA)**
- **VNA Enabling Meaningful Use**
- **Architecture Examples**
- **Customer Examples**



Meaningful Use and Medical Imaging

Assessment of Current State



Meaningful Use Brief History

American Recovery and Reinvestment Act of 2009 (ARRA)

- \$787B Economic Stimulus Enacted by Congress in 2009
- Provides \$19B for Healthcare Information Technology Adoption

Health Information Technology for Economic and Clinical Health Act (HITECH)

- Funding for Health IT infrastructure including HIE's
- Incentives (Medicare and Medicaid) for meaningful use achievement
- Strengthen privacy and security of health information
- Designated Office of National Coordinator (ONC) in HHS as lead



Meaningful Use Objectives and Requirements

Meaningful Use Objectives:

- Improving quality, safety, efficiency, and reducing health disparities;
- Engage patients and families in their health care
- Improve care coordination;
- Improve population and public health
- Ensure adequate privacy and security protections

Meaningful Use Requirements

- Use of certified EHR technology for electronic exchange of health information to improve quality of health care
- Use of certified EHR in a meaningful manner (e.g., e-prescribing)
- Use of certified EHR technology to submit clinical quality measures (CQM) and other such measures selected by the Secretary of HHS



Meaningful Use and Medical Imaging

There are no published ONC certification requirements for any RIS, PACS, Archiving or Middleware products.

No requirements = no testing = no certification = no MU \$\$

There are no specific CMS Meaningful Use Requirements for any RIS, PACS, Archiving or Middleware products.

No Requirements = no testing = no certification = no MU \$\$

The proposed Stage 2 guidelines were published on January 14, 2011 by the agency administering the program for the U.S. Centers for Medicare and Medicaid Services (CMS), the Health IT Policy Committee of the U.S. Office of the National Coordinator for Health Information Technology (ONC).

“The federal agency (ONCHIT) overseeing the program has omitted radiology in the draft proposal of stage 2 "meaningful use" criteria required to become eligible for the funds” Aunt Minnie 2/03/11



Meaningful Use and the VNA

- MU incentives are intended to speed the adoption of HIT.
- One Long-term goal is of MU is accelerated HIT adoption to eventually enable ubiquitous access to patient information
- Ubiquitous Access depends on the use of standards to foster interoperability. Investments made today must have that goal in mind
- VNA is a future proof investment that enables the exchange of data within and outside of the enterprise & meet the ultimate goal of MU...That makes Medical Imaging More Meaningful
- VNA decision puts you in control of your data & your destiny

Meaningful Use Stages

| Stage 1 2011* | Stage 2 2013* | Stage 3 TBD* |
|---|---|--|
| <ol style="list-style-type: none"> 1. Capturing health information in a coded format 2. Using the information to track key clinical conditions 3. Communicating captured information for care coordination purposes 4. Reporting of clinical quality measures and public health information | <ol style="list-style-type: none"> 1. Disease management, clinical decision support 2. Medication management 3. Support for patient access to their health information 4. Transitions in care 5. Quality measurement 6. Research 7. Bi-directional communication with public health agencies | <ol style="list-style-type: none"> 1. Achieving improvements in quality, safety and efficiency 2. Focusing on decision support for national high priority conditions 3. Patient access to self-management tools 4. Access to comprehensive patient data 5. Improving population health outcomes |
| <p>Capture information....</p> | <p>Report information...</p> | <p>Leverage information to improve outcomes...</p> |

Stage 3 may include more imaging initiatives. Eligibility of radiology for \$\$ still unclear



Medical Imaging – Health IT

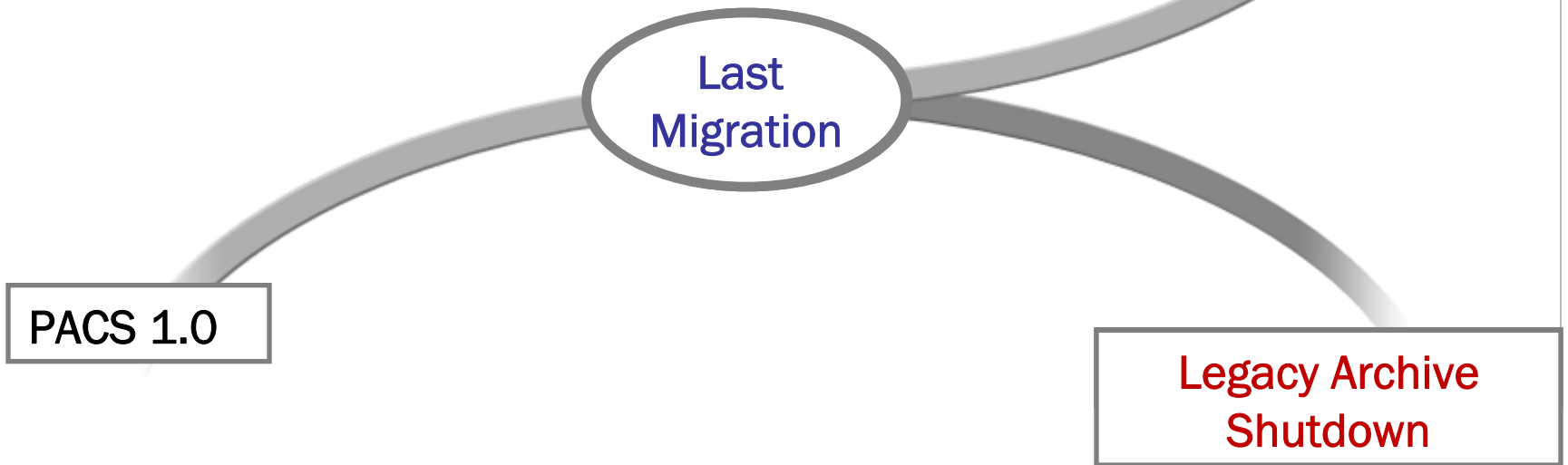
Current State



What is Current Situation in Healthcare?

- **Applications Own The Data**
 - PACS control Data Format and often the Storage Hardware, OS, and Networks
 - PACS Proprietary Format Makes It Difficult To:
 - Replace a PACS
 - Add New Applications To Existing Storage System
 - Share Data Between Applications
 - Add New HW or IT Strategies, i.e. Business Continuity
 - Integrate with HIS, EMR and other IS systems
 - **Data Migration Is Required When:**
 - Selecting A New Vendor
 - Upgrading - Either Replacing Storage or PACS SW Upgrade
 - **Adds Cost, Reduces Flexibility and Increases Complexity**

Migrations - PACS to PACS Transition





Vendor Neutral Archiving



What a VNA MUST Do

- BREAK the Proprietary Link to YOUR data
- Eliminate Custom Engineering
 - Integrate via Configuration
 - *Require full Standards-based Interoperability*
- Manage Storage as an Enterprise Resource
 - Enable PACS as Applications, Not Storage Systems
 - Provide Efficient Access and Administration

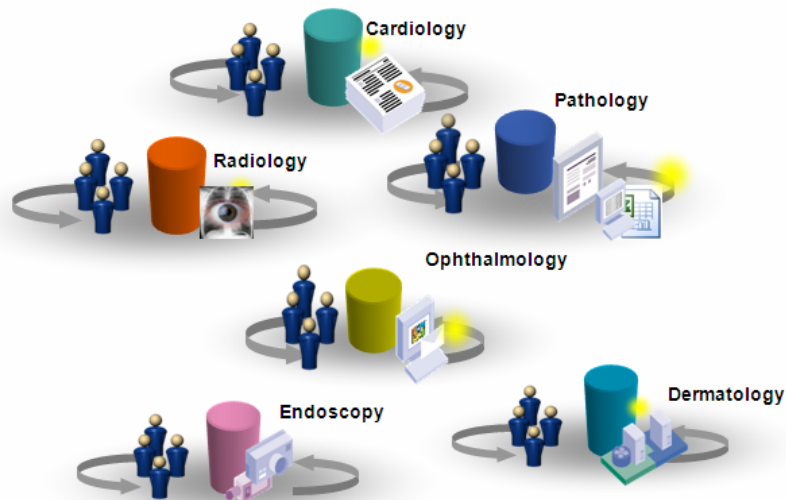
Results:

- ✓ Higher Quality of Service - BC – Dedicated Viewer
- ✓ Streamlined Operations/Improved Productivity
- ✓ Effectively Lower TCO In All Areas

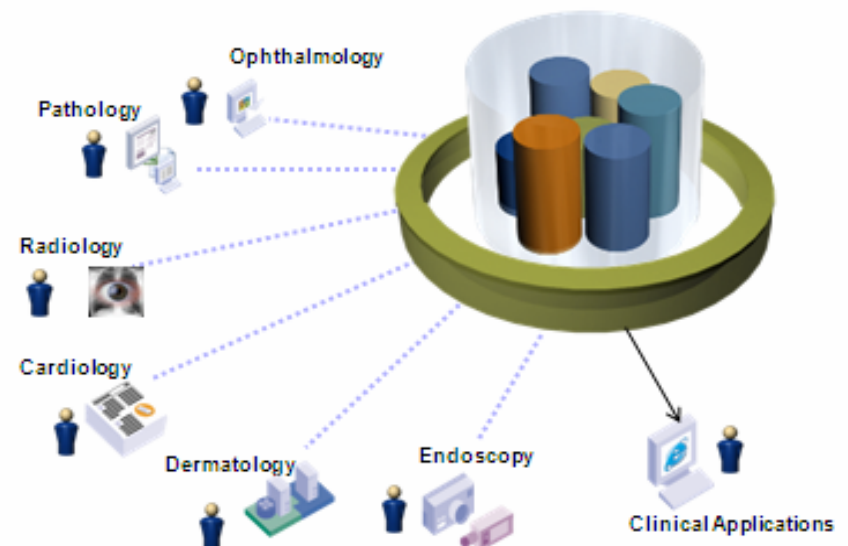
Vendor Neutral Archiving

- A True Vendor Neutral Archive solution is a single set of software tools to centralize all medical imaging systems into *one* perpetual repository.
 - Simpler management
 - Seamless migrations
 - Independent of PACS deployment
 - Scales to meet all your capacity needs

Before



After



What is expected

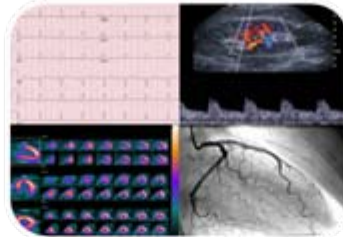
Any – 'ology



Radiology – CT, MRI, PET, Diagnostic Radiology, Fluoroscopy, Ultrasound, Nuclear Medicine, Breast Imaging, Interventional Radiology, DEXA



Dermatology - Visible Light Imaging



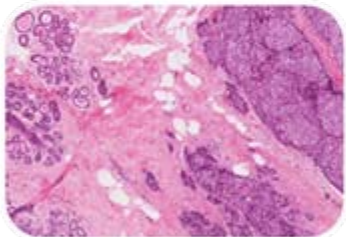
Cardiology – Cardiac Cath, Echocardiology, Nuclear



GI Lab



Ophthalmology



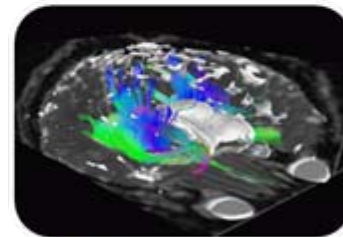
Pathology



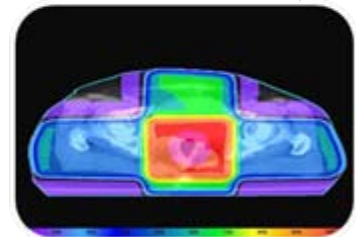
Wound Care



Otorhinolaryngology



Neurosurgery



Oncology



Additional Expectations of a VNA

- Enables a Clinical viewer for the EMR that allows viewing of all images
 - Provide one integration point for images
 - Move to a rendering viewer strategy with no image cache
- End of Migrations
 - It is a replacement market
- Robust support of next generation storage
 - Business continuity
 - Cloud Hosting



Who provides VNA

Pure Play VNA vendors

- Software only
- No Diagnostic Viewer
- Smaller – innovative

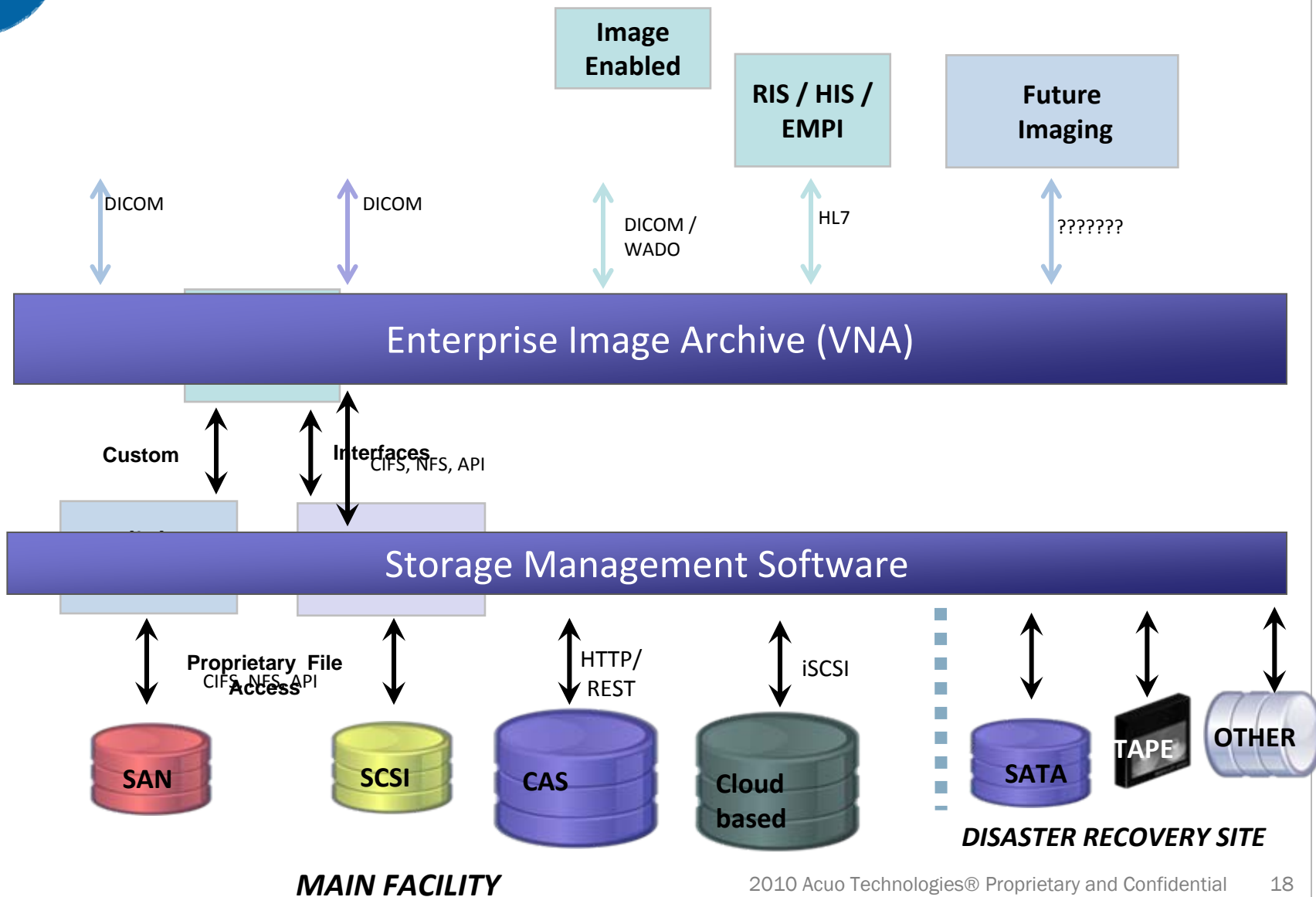
Infrastructure Providers

- Often already providing enterprise storage solution
- See it as next phase in the evolution of PACS

PACS Providers

- Send us everything, we can manage it.
- Many deployments, few if any without their PACS
- Will require future migration

Enterprise Archive Strategy





VNA and Meaningful Use

Meaningful Use and Medical Imaging

To Qualify For ARRA Reimbursement of EMR Investment, Providers Must Demonstrate 'Meaningful Use'

- HIMSS Model Defines 7 Stages of EMR Adoption
- Institutions Achieving Stage 3 “well positioned¹” to meet the majority of 2011 measures

| EMR Adoption Model SM | | | |
|----------------------------------|--|----------|----------|
| Stage | Cumulative Capabilities | Q1 2009 | Q2 2009 |
| Stage 7 | Medical record fully electronic; HCO able to contribute CCD as byproduct of EMR; Data warehousing in use | 0.3% | 0.3% |
| Stage 6 | Physician documentation (structured templates), full CDSS (variance & compliance), full R-PACS | 0.8% | 1.0% |
| Stage 5 | Closed loop medication administration | 3.6% | 4.5% |
| Stage 4 | CDP, CDSS (clinical systems) | 2.8% | 3.6% |
| Stage 3 | Clinical documentation (flow sheets), CDSS (error checking), PACS available outside Radiology | 37.0% | 38.4% |
| Stage 2 | Clinical Dec, may have Document Imaging | 32.1% | 31.6% |
| Stage 1 | Ancillaries – Lab, Rad, Pharmacy – All Installed | 9.0% | 7.2% |
| Stage 0 | All Three Ancillaries Not Installed | 14.5% | 13.4% |
| Total Hospitals | | n = 5170 | n = 5167 |

- Establish a Clinical Data
 - Access to Images in CDR by Physicians/Nurses Outside Radiology Dept via Intranet

- Future Requirements
 - 2013: Stage 4
 - 2015: Stage 6/7

A CDR is at the Core Of Modern Healthcare IT Infrastructures

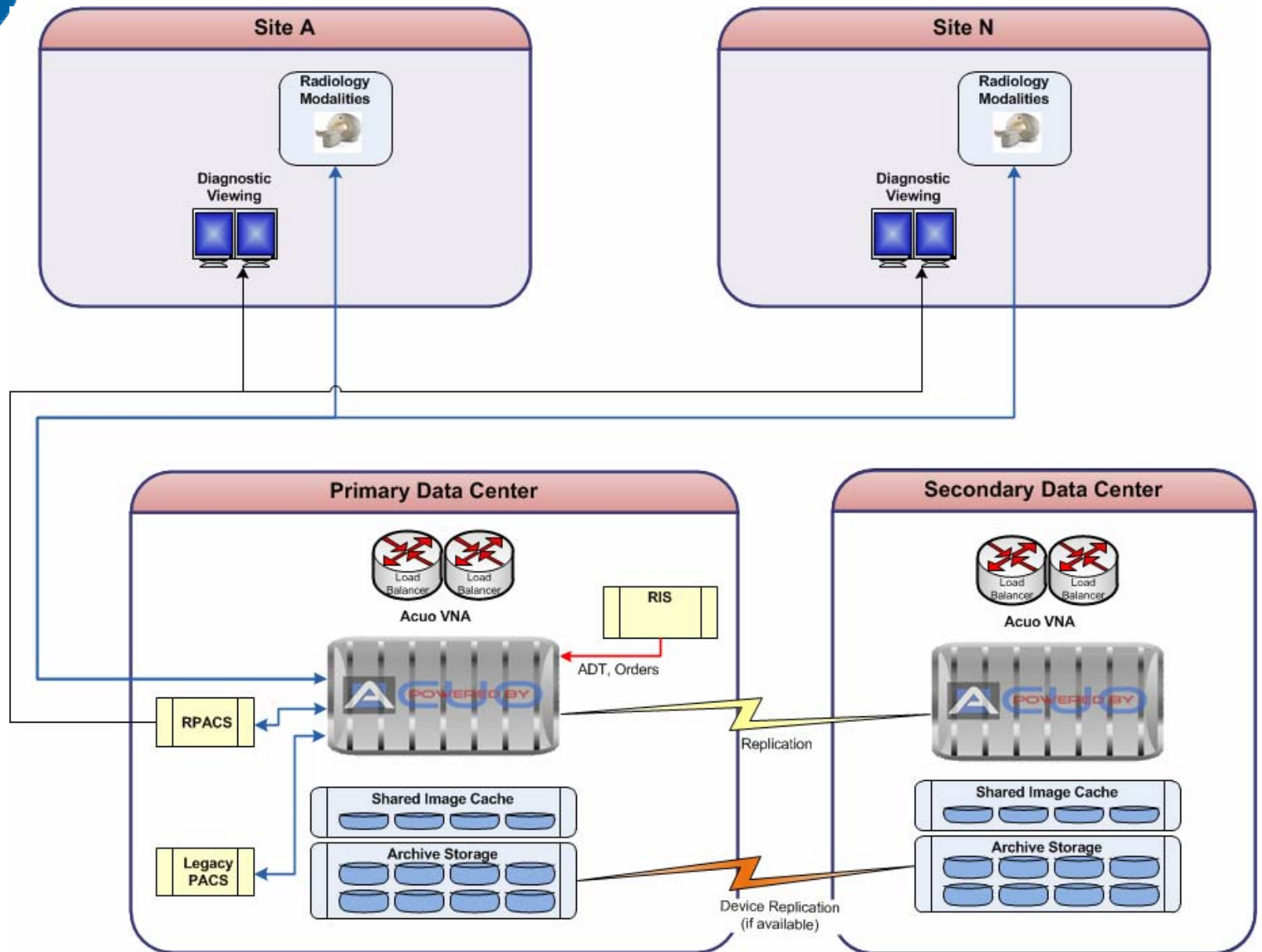
Data from HIMSS Analytics™ Database N = 5170/5167 ©2009 HIMSS Analytics

¹Source: Michael Davis, HiMSS Analytics, “The State of U.S. Hospitals Relative to Achieving Meaningful Use Measurements”, 2009.

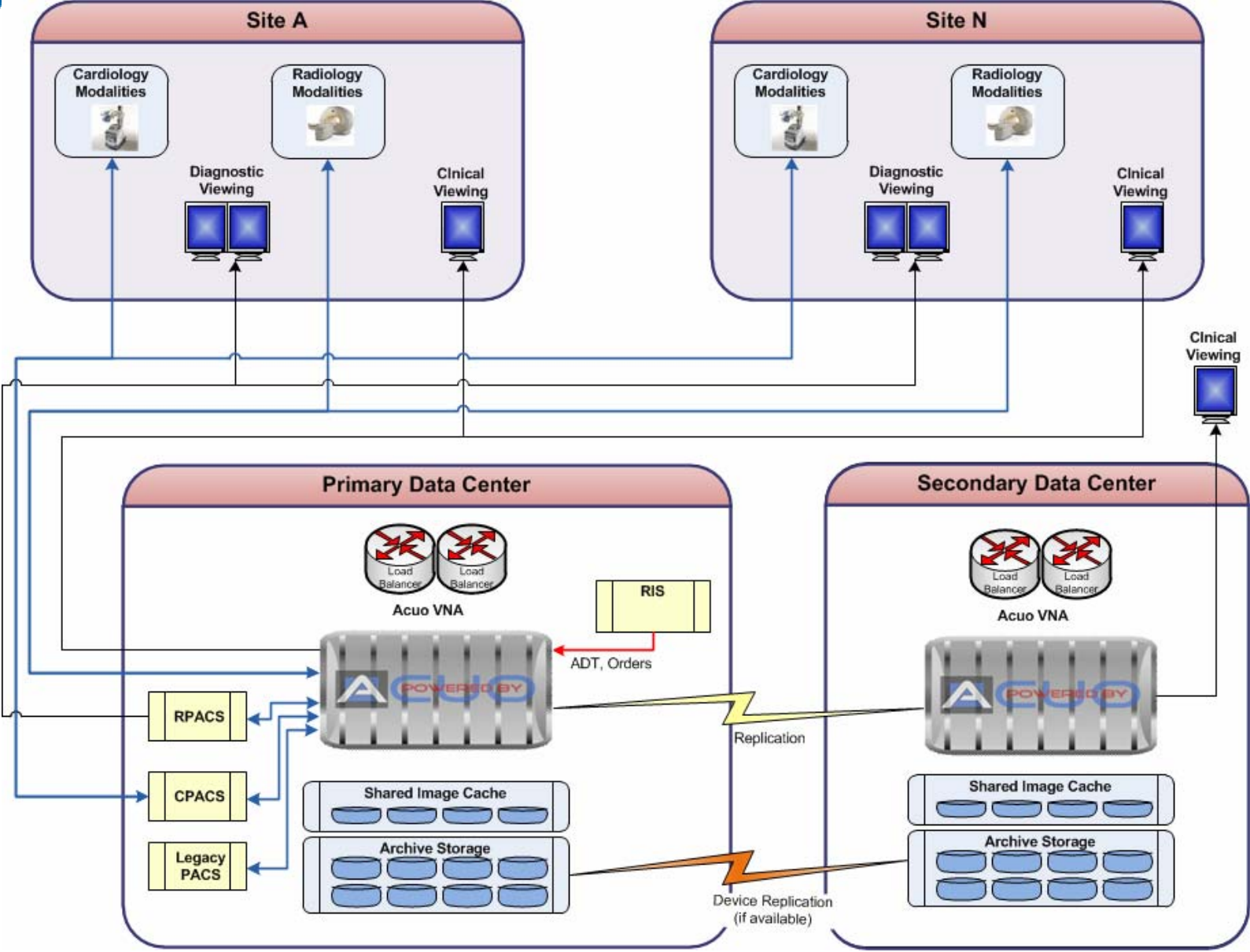


VNA Architecture Examples Enabling Data Sharing

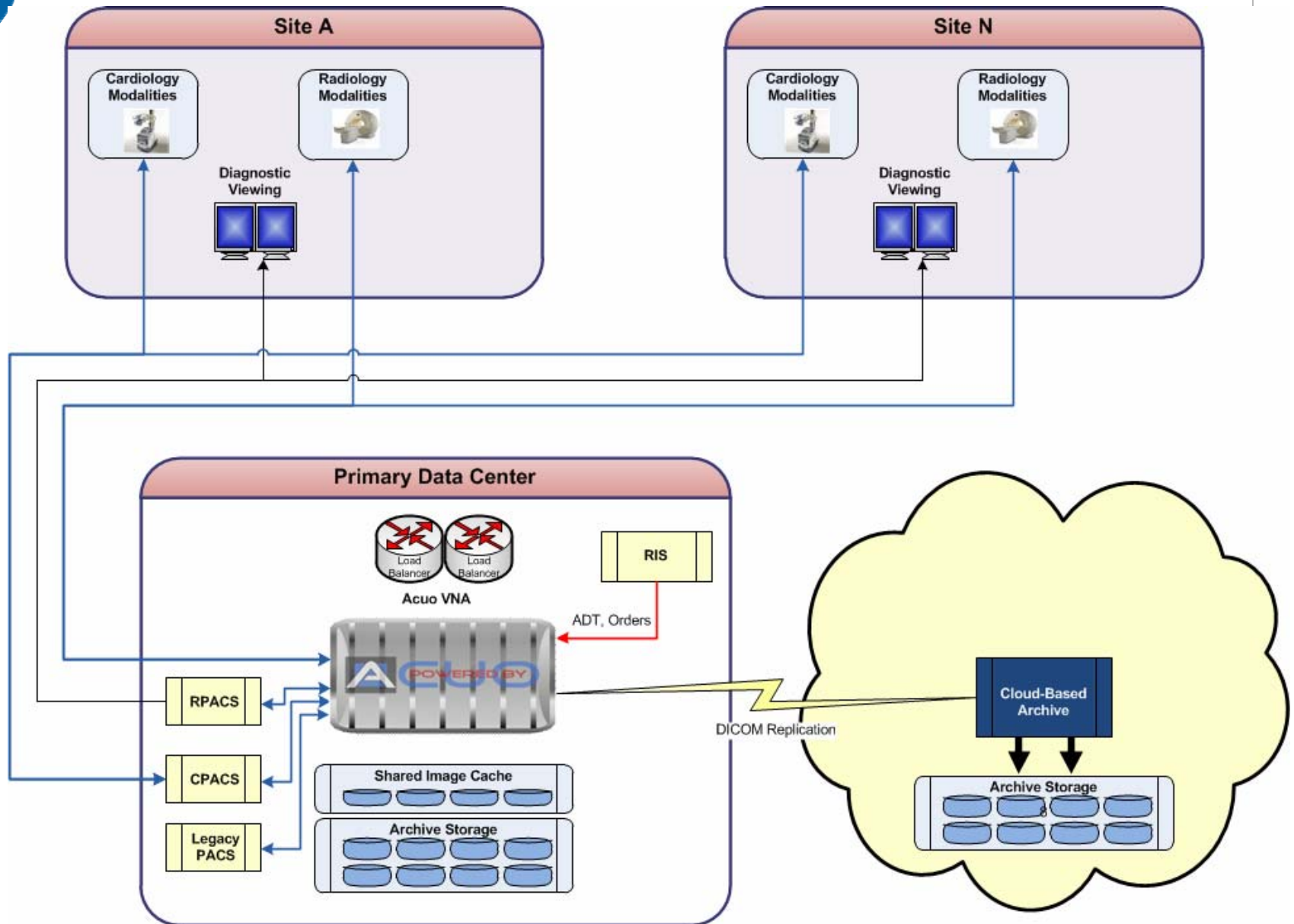
Centralized VNA – Radiology Only



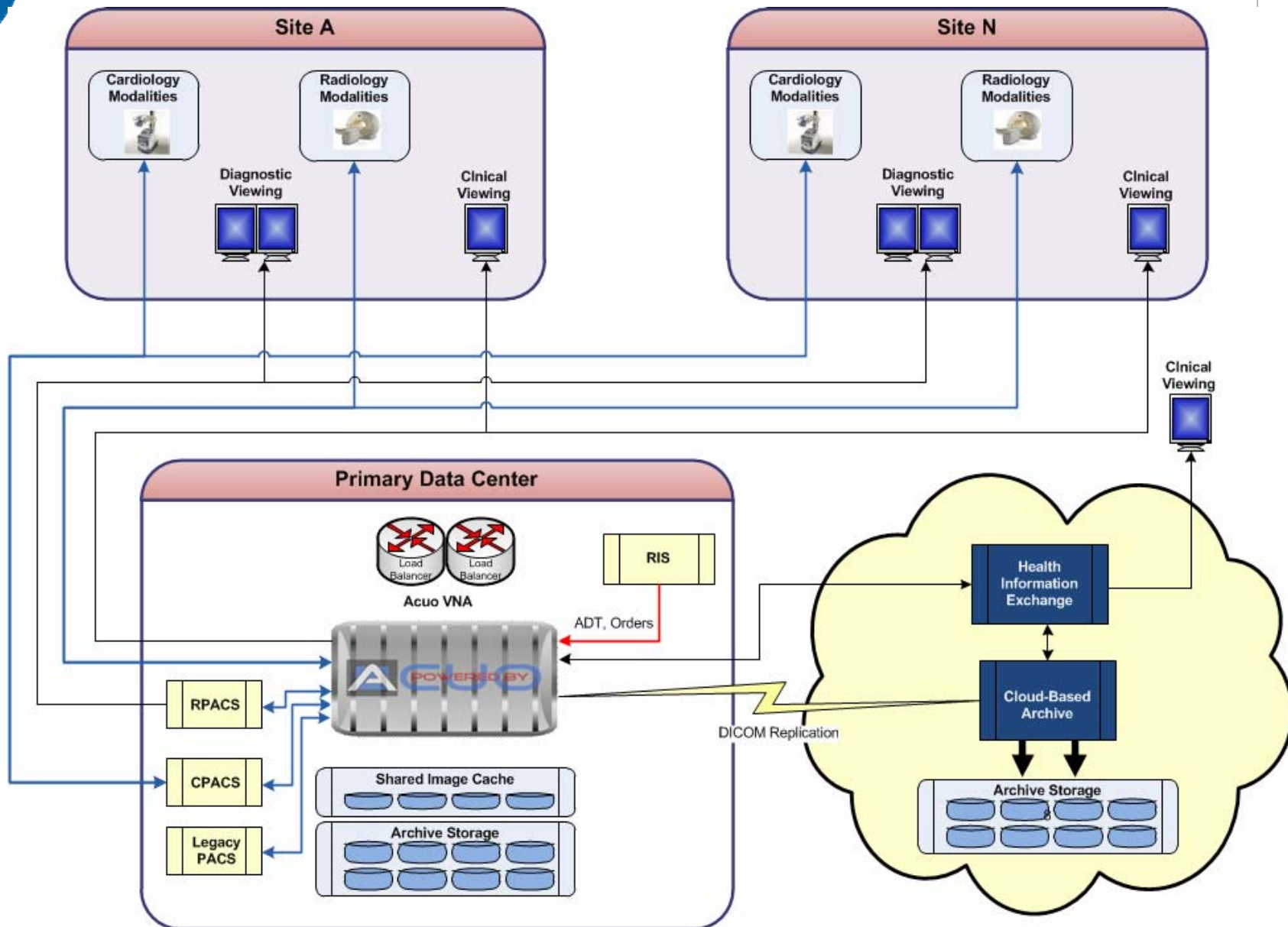
Centralized VNA – Rad/Card/Sharing

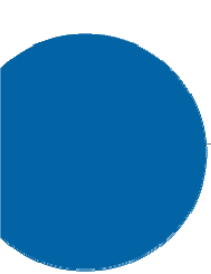


VNA with "Cloud"



VNA with "Cloud" – HIE Integrated/Sharing



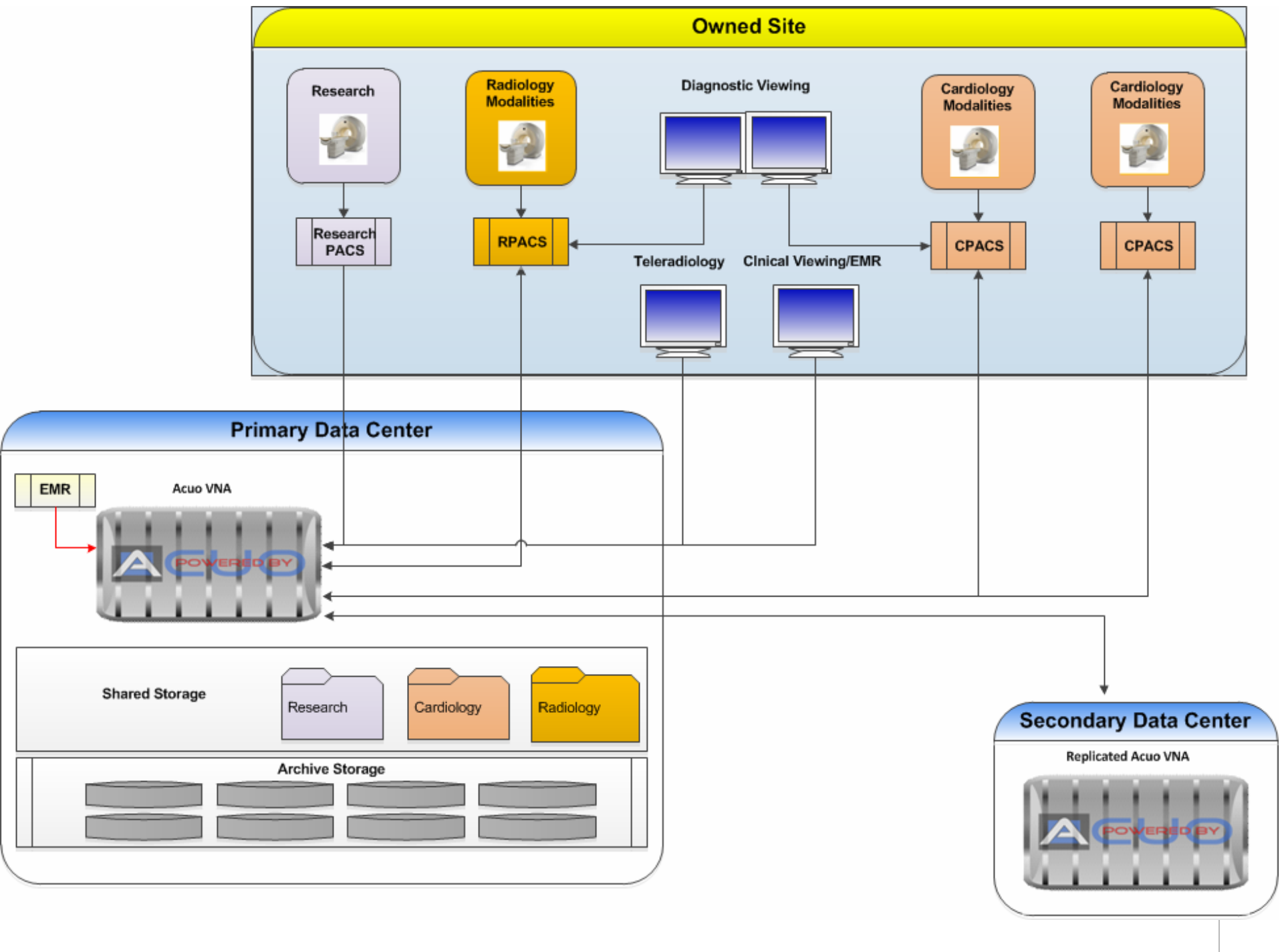


Customer Examples Enabling Data Sharing



**Rush University Medical Center
Chicago, IL**

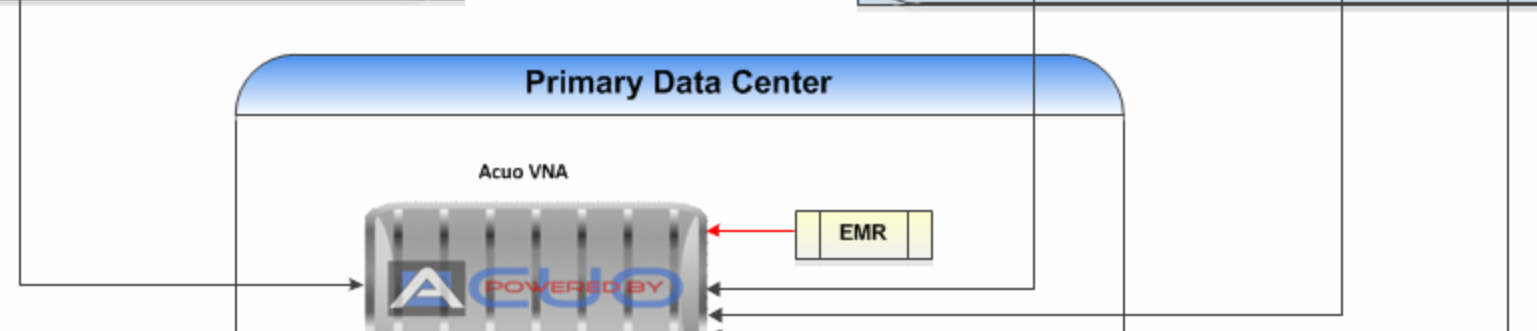
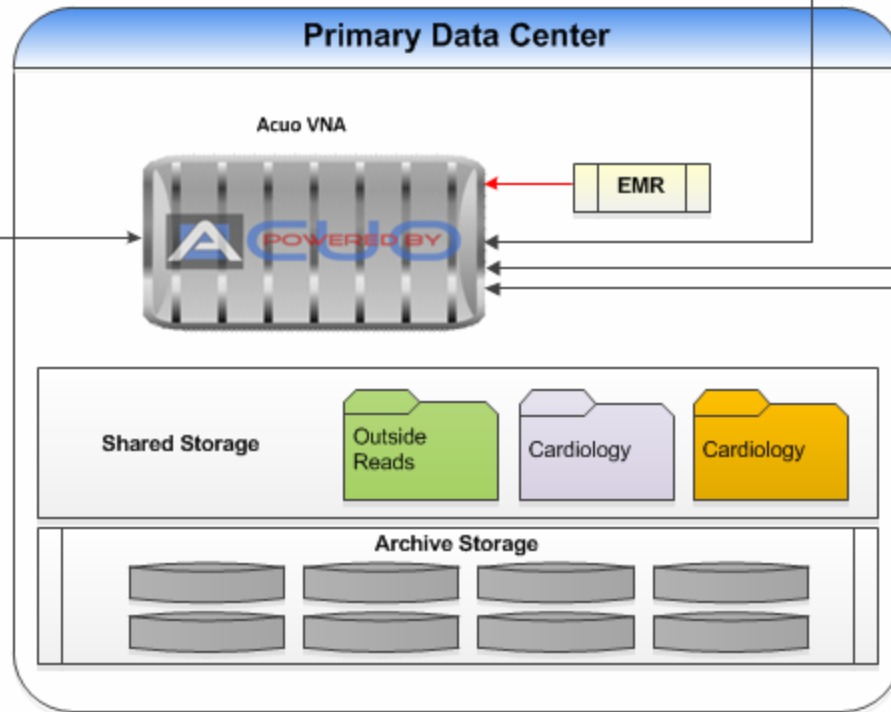
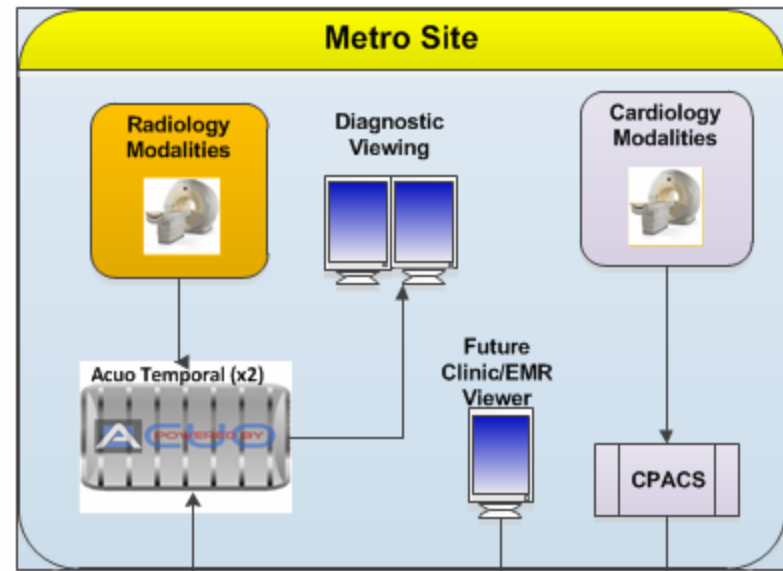
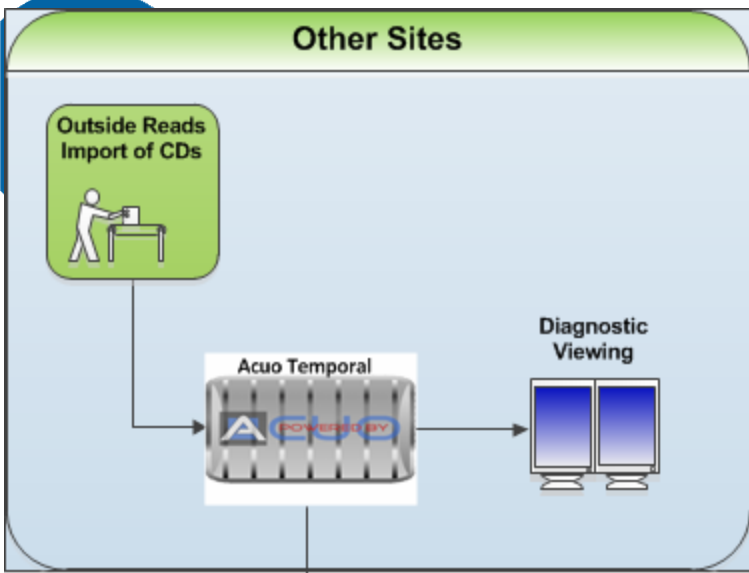
**University Hospital
Research Hospital**





**Allina Hospitals & Clinics
Minneapolis, MN**

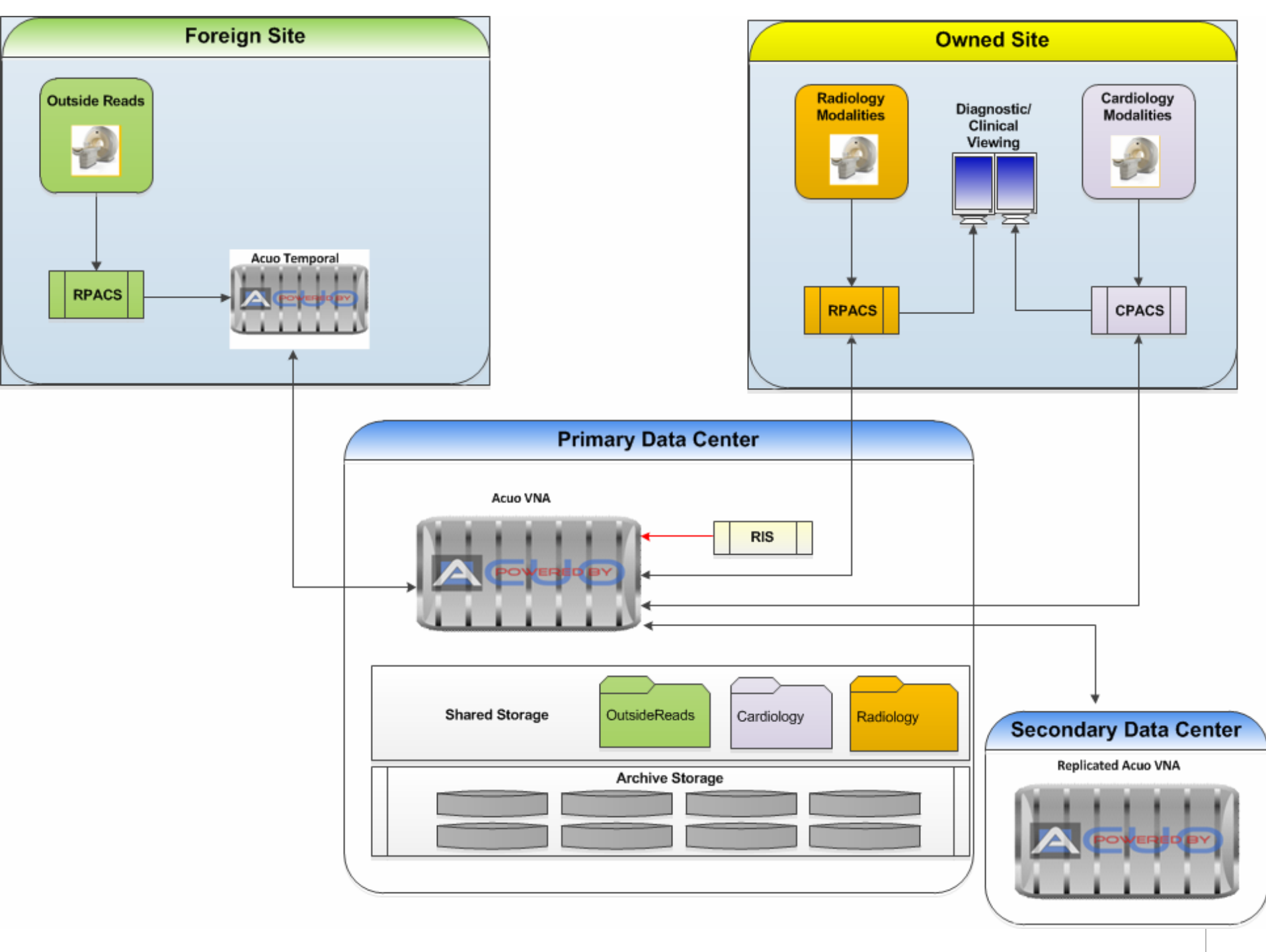
Integrated Delivery Network





**Newcastle Upon Tyne
Newcastle, England**

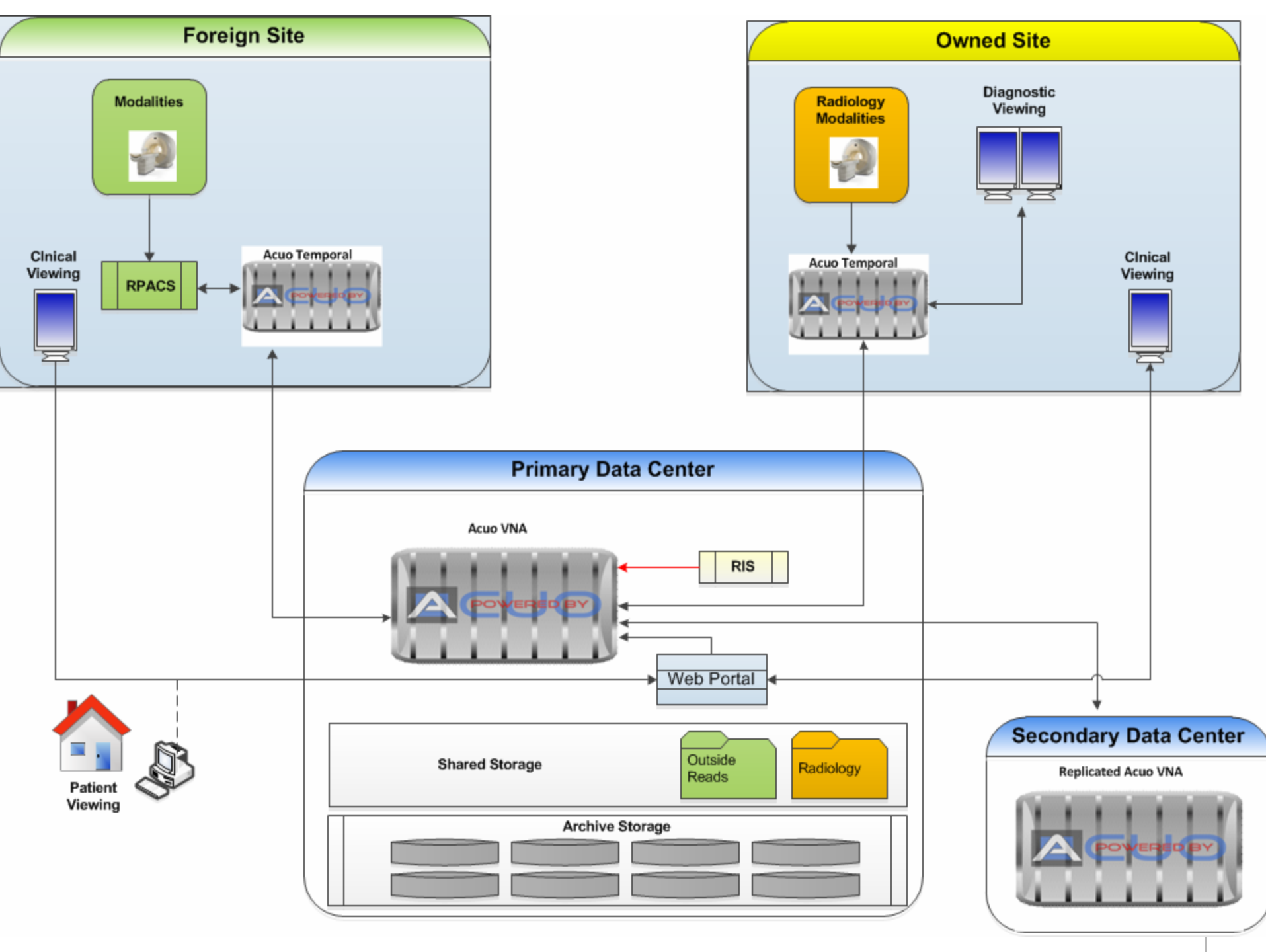
NHS Foundation Trust





**Centers for Diagnostic Imaging
Minneapolis, MN**

National Imaging Center





Thank You!

Questions?

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