



PACS – Supporting your System and Knowing your Constituents

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**AUSTIN
RADIOLOGICAL
ASSOCIATION**





PACS at ARA

ARA clinics



ARA Data Center



Referring Physician
Offices/Homes



ARA's ASP sites



Hospitals



Images sent to the Data Center can be read at any time, by multiple persons, from ARA workstations at all hospitals, ARA Clinics, radiologists' homes, referring physician



3 PACS archives for 3 environments

- 3 archive PACS system
 - ◆ ARA outpatient facilities and the doctor's offices
 - ★ RIS
 - ★ Voice Dictation System
 - ★ Practice management system
 - ★ Long term and short term storage
 - ◆ Seton hospital system
 - ★ RIS
 - ★ Long term and short term storage
 - ★ Centralized Transcription
 - ◆ Telerad server
 - ★ Images are stored for 30 days
 - ★ Centralized transcription into different services



Modalities

- Over 180 modalities enterprise-wide
- Modalities that connect:
 - ◆ GE
 - ◆ Siemens
 - ◆ FUJI
 - ◆ Acuson
 - ◆ Vidar
 - ◆ Lumisys
 - ◆ Cannon
 - ◆ ADAC
 - ◆ Philips
 - ◆ Kodak
 - ◆ Agfa
- We still have a few merge boxes.



Master Patient Index

- Common View

The screenshot displays a software window titled "Patient Information for Lina, Stefania Z - MRI BRAN". It features a table of study data and a detailed patient information section.

Date	Study Date	Accession #	Site	Match	Mod	Description	Status	Req
	7/11/2001 2:24:00 PM	5080307	Verona	100%	MR	MRI BRAN	Completed	7.0
	7/11/2001 12:08:00 PM	5080308	Verona	100%	MR	MRI BRAN	Finalized	132

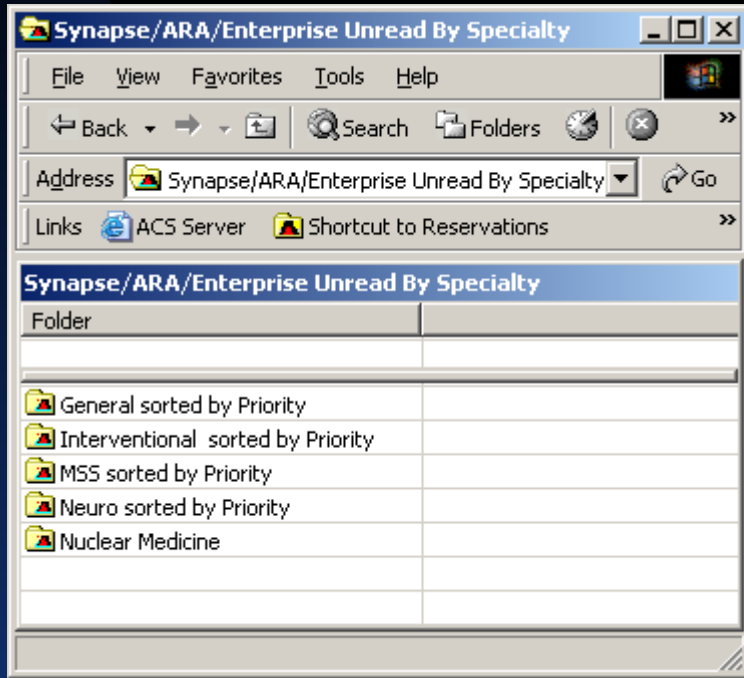
Below the table, there are buttons for "List studies with Links Modified", "Compare", and "Open".

The patient information section includes:

- Site ID:** Syncope Medical Center
- Patient ID:** Lina, Stefania Z
- ID:** 6129030
- DOB:** 7/6/1968
- Order #:** 5080307
- Accession #:** 5080307
- Procedure:** MR BRAN
- Date:** 7/11/2001 2:24:00 PM
- Reason:** Pain
- Ordering:** Lina, Stuart
- Phone:** (645695-2671)
- Page:** (645695-1221)
- Admitting:** Lina, Stuart
- Phone:** (645695-2671)
- Page:** (645695-1221)
- Visit #:** 28010424215214
- Class:** I
- Pregnancy:** N
- LMP:** N/A
- Admission Date:** 4/19/2001 1:18:30 PM
- Pos. Loc:** 280RTH
- Current Loc:** 280RTH

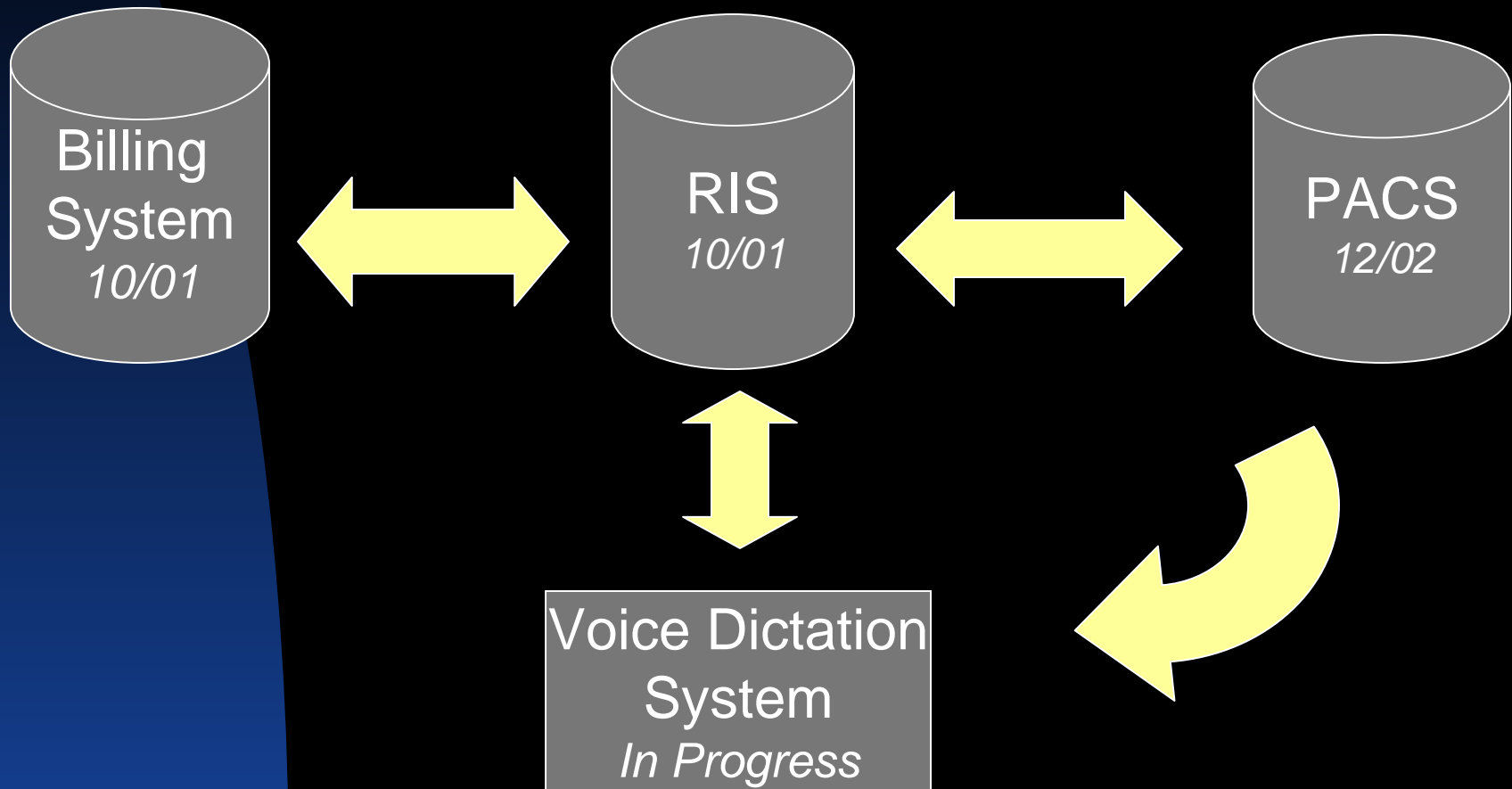


3 workflows for 3 distinct archives





Within ARA PACS the RIS drives Information Across all of the Systems





What is next?

Document Imaging

- Can all documents for a given patient be accessed through one interface?
- Can you access documents from the RIS, PACS, and billing system?
- Does it save time and money to image documents?
- Can you restrict access to the documents?



Challenges

- 1. Holding studies for comparison.**
- 2. Finding and keeping track of studies that need addendums.**
- 3. QCing images before they get to a radiologist.**
- 4. MPPS and storage commitment.**
- 5. Tracking QA discrepancies.**
- 6. Communication back to the ER.**
- 7. Integrating peer review while maintaining confidentiality.**



What we have Learned

Through our various integrations

- 1. Have a complete test system that mimics your live environment**
- 2. Run all changes to your systems through committees**
- 3. Pay close attention to the workflow at the sites**
- 4. Look for creative ways to solve problems**



How the customer explained it



How the Project Leader understood it



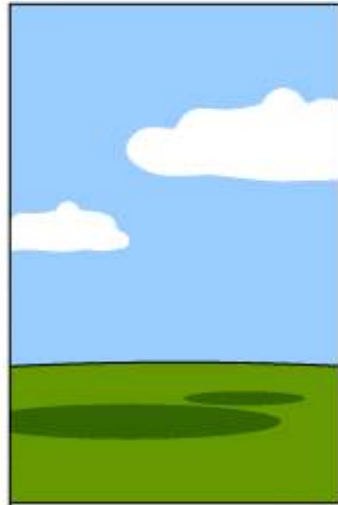
How the Analyst designed it



How the Programmer wrote it



How the Business Consultant described it



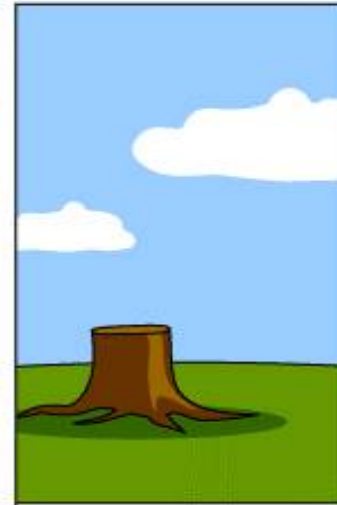
How the project was documented



What operations installed



How the customer was billed



How it was supported



What the customer really needed



What We Have Learned

- We have shifted support from technologists to a helpdesk

WATCHFUL AREA

- Radiologists and referring physicians no longer immediately complain to a tech about image quality

RECOMMENDATIONS

- Train your helpdesk to understand clinical workflow.
- Anticipate problems
- Have the ability to remote into workstations
- Train your technologists and filerooms to answer basic questions.



What We Have Learned

- Teaching clinical staff IT skills and sensitizing IT staff to clinical workflow

WATCHFUL AREA

- Who does your merges?
- Can your clinical staff and IT staff understand each other
- Do you have IT savvy person at each site?

RECOMMENDATIONS

- Send your Helpdesk to sit in the clinics before taking calls
- Do as many in services as possible
- Ask questions



Helpful Tools – *PACS Analysts*

Second level support to helpdesk

1. Train Radiologists

2. Q.C. workstations

**3. Work with PACS vendor
on resolving issues**

4. Test upgrades

**5. Interface with clinical
staff to improve workflow**

6. Q.C. whole system



Evolution of RP access to PACS

- Make the interface really easy to use and send them instructions
- Send them instructions and send someone out to show them how to use PACS if they ask
- Hired a technically savvy, good marketer and trained him to train referring physicians. Do not let someone start using PACS without being offered a training.
- Show the Referring Physicians the what's in it for me while doing initial and follow up trainings, assisting them in adding it into their workflow



Helpful Tools – *Referring Physician Consultant*



1. Train Referring Physicians and their staff to use PACS

2. Communicate upgrades to Referring Physicians

3. Show referring physicians how PACS can fit into their workflow

Don't Forget: *You cannot over anticipate*



IN CLOSING



- Train your support staff to understand problems from a clinical perspective
- 24x7 support and making sure that your staff understands their SLAs
- Ensure that the support staff understands when to go on site to help a staff person, radiologist or referring physician.
- Ensure that everyone fully understands downtime procedures and the procedures are well documented and accessible everywhere.