

ACR TRIAD version 3.0 (Works In Progress Status Report)

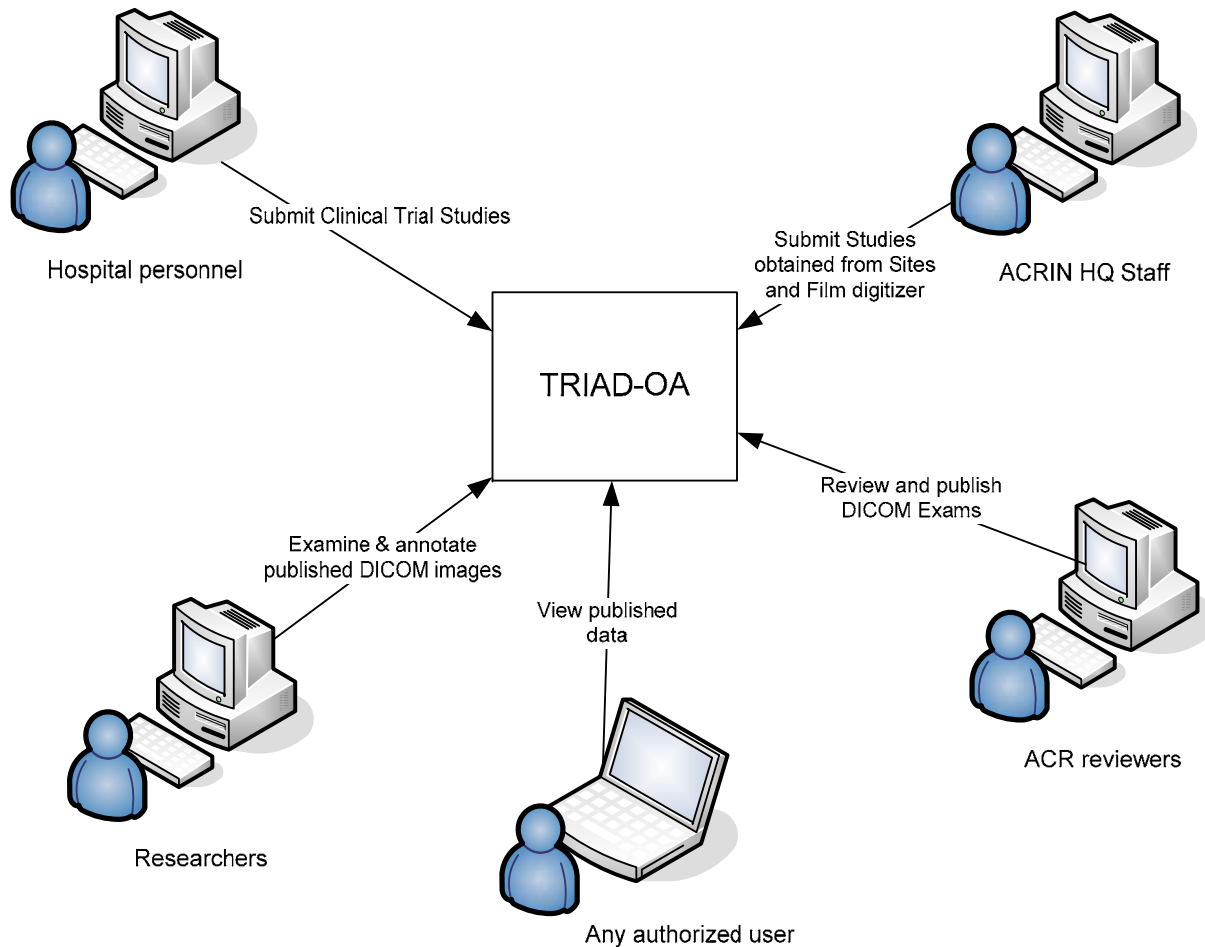
Jay Gaeta, ACR Clinical Research Center

RTOG/ATC Meeting

25-June-2009

ACR TRIAD Initiatives

- **TRIAD-OA:** Supports “Clinical Trials” at the ACR Clinical Research Center in Philadelphia (e.g. for ACRIN, RTOG, and Image Metrix). TRIAD-OA is an FDA GCP Part 11 Compliant system.
- **TRIAD-TR:** Supports “Radiology Information Exchange”. This is an ACR “pilot project” for submission of imaging studies from Level 3 and Level 4 Trauma Centers to a regional Level 1 Trauma Center.



TRIAD

- Studies:**
- Study No.
- Cases:**
- Case No.
 - Study No.
- Series:**
- Series ID
 - Case No.
 - Personal patient data
 - Anonymized DICOM files
 - Image metadata incl. Anonymized DICOM header
 - Annotation layers associated with DICOM images

CTMS

- Sites' info:**
- Site (Organization) No.
 - Site name
- Studies info:**
- Study No.
 - Cases:
 - Case No.
 - Case Name
 - Site (Organization) No
 - Patient ID

← Sites' info
 Studies' info

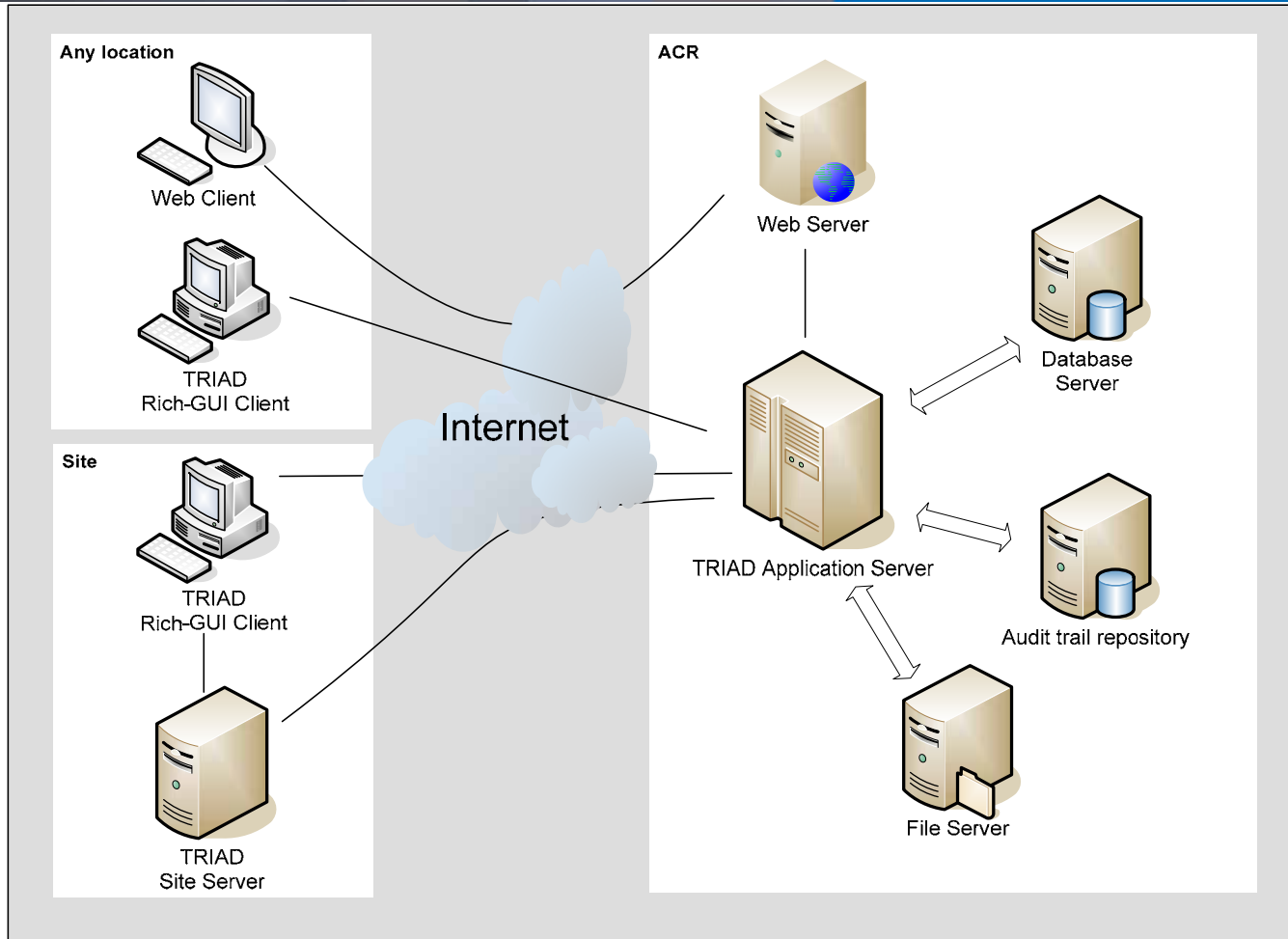
Published Series
 info →

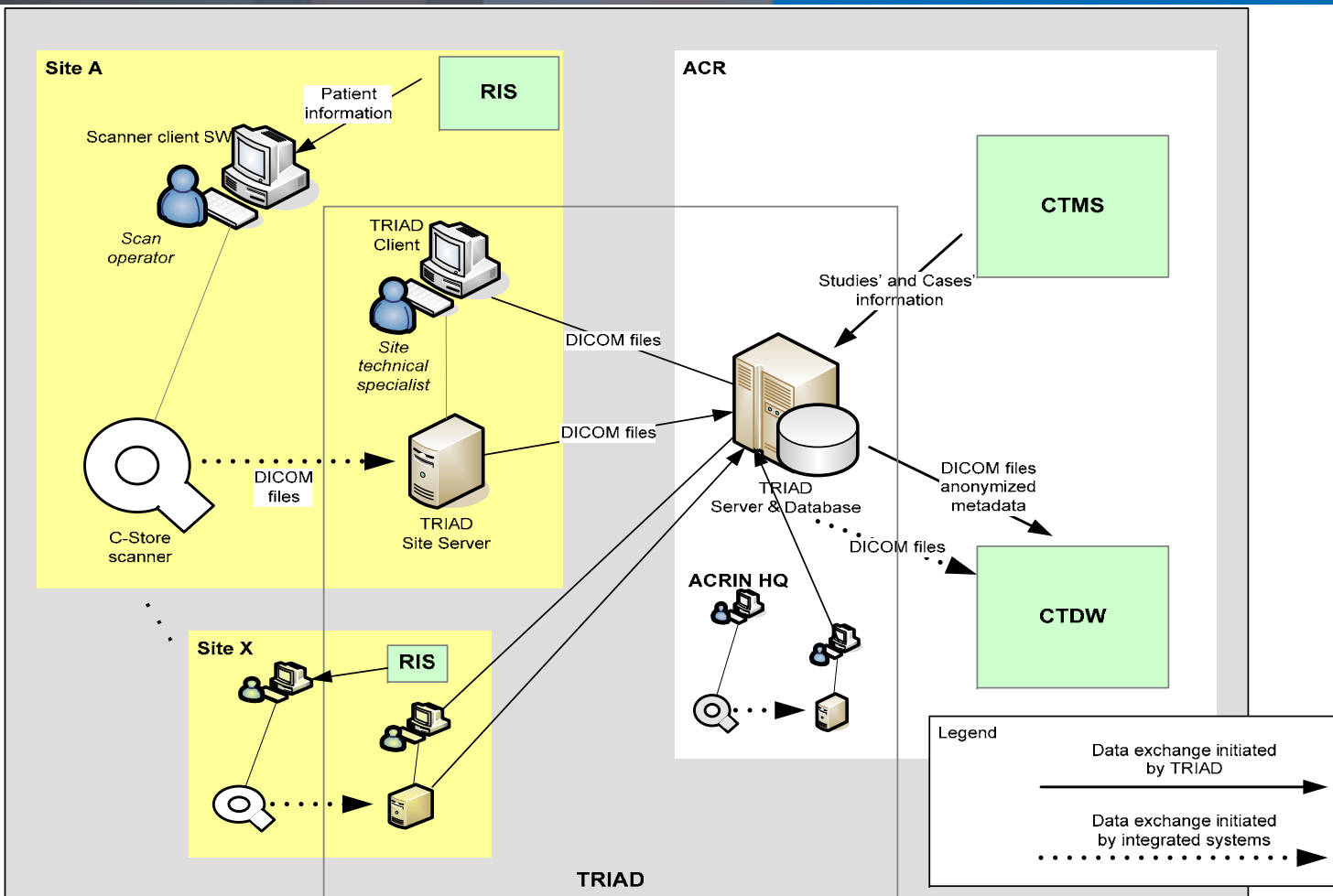
Anonymized
 DICOM files →

CTDW

- Published Series info:**
- Series IDs
 - Anonymized DICOM header

**TRIAD-OA - Systems
 Integration Perspective**





Options

- Domains
- Interface settings
- Miscellaneous

Connection Settings for Trauma_name domain

Domain

Name: Trauma_name Type: TRAUMA
GUID: a582614d-5746-4ddc-b978-e77d8909a20b

Central Server

Server URL:

Use proxy

Proxy address port

Site Server

Server address

Port

Worklists

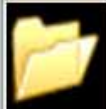




- My Worklists
 - RTOG-ITC-QA (1)
 - RTOG-JamesGalvin-QA (1)
- Browse Exams
 - Central TRIAD Server
 - Site Server
 - CD Drive (D:\)
 - Folder (.data)
- Submission
 - Current Submission Queue

Worklists Management

RTOG-ITC-QA (1)
 RTOG-JamesGalvin-QA (1)

Central TRIAD Server

Drag a column header here to group by that column

Exam Date	Exam Time	Study Name	Time Point Id	TimePointIdDescription	Case #	Site #	Study Name	Patient
6/4/2004		Radiology Inform...			105@1		Radiology Inform...	105^42
		Thumbnail	Series Description	Modality	Number Of Objects	Series Status	Submit Date	Submitted By
					1	Submitted	6/25/2009	
					1	Submitted	6/25/2009	
			JPEG Image		1	Submitted	6/25/2009	
6/4/2004		Radiology Inform...			105@1		Radiology Inform...	105^42
		Thumbnail	Series Description	Modality	Number Of Objects	Series Status	Submit Date	Submitted By
				MR	32	Submitted	6/25/2009	
				MR	360	Submitted	6/25/2009	
30.12.2004		Radiology Inform...			11@1		Radiology Inform...	11^426

Worklists

- My Worklists
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Worklists Management

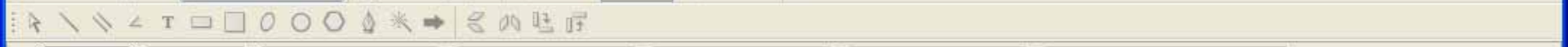
RTOG-ITC-QA (1)

RTOG-JamesGalvin-QA (1)

CD Drive (D:\)

Drag a column header here to group by that column

Exam Date	Exam Time	Patient Name	Patient ID	Patient's Birth Date	Patient's Sex	Study Description	
19990425	092400	Impatient^Taylo...	7676226	19620803	M	Brain	
Thumbnail	Series Description	Modality	Number Of Objects	Manufacturer	Station Name	Series Date	Series Time
	SAG LOC IFAST ...	MR	17			19990425	
		SR	1			00010101	
	AXIAL T2 IFAST...	MR	20			19990425	
	AXIAL FLAIR (...)	MR	19			19990425	
	AX T1 POST GA...	MR	1			19990425	



My Worklists

- RTOG-ITC-QA (1)
- RTOG-JamesGalvin-QA (1)

Browse Exams

- Central TRIAD Server
- Site Server
- CD Drive (D:\)
- Folder (vdata)

Submission

- Current Submission Queue

Worklists Management

RTOG-ITC-QA (1)

RTOG-JamesGalvin-QA (1)

Drag a column header here to group by

Exam Date	Exam Time
20080403	
Patient Name	Patient ID
Greenberg^Da...	01171106
Greenberg^Da...	01171106
Greenberg^Da...	01171106
Greenberg^Da...	01171106
20080505	083115
Patient Name	Patient ID
GREENBERG^D...	01171106

Browse For Folder

- Audit Trails
- Compression
- Consistent Presentation of Images
- CPI Tech-E
- DICOMHL 18
- Enhanced MR Objects
- Help Desk
- Installation_protocols
- Presentations
- Release Candidates - Draft Documentation
- RTOG stuff
 - data
- Storage stuff
- Strategy and Product Planning
- TRIAD CCB
- Triad Conference Calls
- TRIAD Deployment
- TRIAD Requirements
- TRIAD Software Audit
- TRIAD Support and Training
- TRIAD v2.5 screen shots
- TRIAD v3.0 WorksInProgress
- TRIAD Weekly Meetings
- TRIADQA-SRS

Make New Folder

OK Cancel

Send Exam to Trauma Center

Exams files to be attached to

Patient's Name	Patient ID	Patient's Birth Date	Patient's Sex	Study Description	Study Date	Study Time
1009^1066	1009	19380912	F	MRI BREAST W...	20010820	132937....

Send

Cancel

Attach Files

File Name	Size	Date Modified
20090625 - Adobe Acrobat 7.0 Document		
ACR Application Hosting Press Release 5-01-09v2.pdf	10.52 kB	5/01/2009

Submission Information

Data Size: **134.97 kB** Sent by: **ACR ALL (triad_acr_all)**

Number of Series: **2**

Send Exam to Central Server

Send

Cancel

Destination

From Site: ✓
Start typing Site# or part of Site name

Trial: *
Start typing Trial# or part of Trial name

Submission Type: **Clinical Trial** Quality Assurance Test Submission

Case #

Time Point ID: Time Point Description:

Exam to be sent

Patient's Name	Patient ID	Patient's Birth Date	Patient's Sex	Study Description	Study Date	Study Time
John Doe	1234	19450404	M	Positron Emission	20090401	144444

Attach Files

File Name	Size	Date Modified
20090401 - Microsoft Office Word		
John_Doe_Report1.doc	25 kB	2/26/2009
John_Doe_Report2.doc	31 kB	3/26/2009
20090401 - Excel Worksheet		
John_Doe_Data.xls	45 kB	2/26/2009

Submission Information

Data Size: **1.71 MB** Sent By: **Vadim Ioffe (vioffe)** ACR Project: **6 - ACRIN**
 Number of Series: **4** Anonymization Profile: **Basic** ACR Group: **12 - ACRIN**

File Edit View File Markup Planning Tools Image Window Help

Drawing Pan Window and Level Best fit Fit Zoom in Zoom out DICOM Tags Copy As Bitmap

Worklists 105 4287 - 6/4/2004 105 4287 - 6/4/2004 105 4287 - 6/4/2004 105 4287 - 6/4/2004 Greenberg David - 20080403 Downloads 1009 1066 - 20010820

Open Send to Central Server Attach Send to Device Export Refresh Stop

Worklists

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Worklists Management

RTOG-ITC-QA (1)

RTOG-JamesGalvin-QA (1)

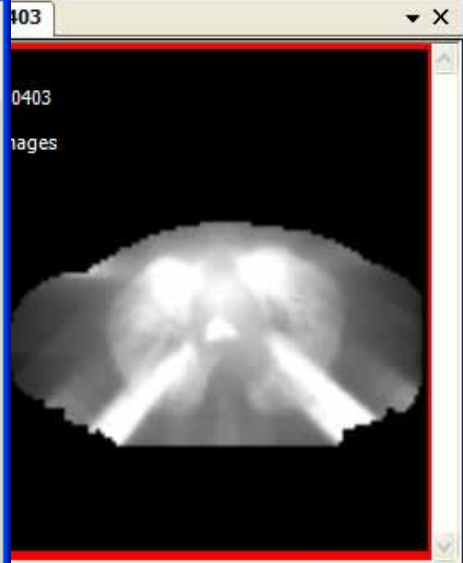
Submission Queue

Drag a column header here to group by that column

From -> To	Exam Date	Exam Time	Patient Name	Patient ID	Patient's Birth Date	Patient's Sex	Study Description
Folder -> CS	20080505	083115	GREENBERG^DA...	01171106			
Series Thumbnail	Series Description	Modality	Number Of Objects	Manufacturer	Station Name	Series Date	Series Time
		CT	61			20080505	
Folder -> CS 20080403 Greenberg^David 01171106 M							
Series Thumbnail	Series Description	Modality	Number Of Objects	Manufacturer	Station Name	Series Date	Series Time
		RTDOSE	1				
		RTPLAN	1				
	Pinnacle POI	RTSTRUCT	1				
		CT	94			20080403	

DICOM File Metadata

Group	Element	Description	Type	Value
0x0008	0x0012	InstanceCreationDate	DA	20090330
0x0008	0x0013	InstanceCreationTime	TM	105143
0x0008	0x0016	SOPClassUID	UI	1.2.840.10008.5.1.4.1.1.481.2
0x0008	0x0018	SOPInstanceUID	UI	2.16.840.1.113669.2.931128.2207353353.20090330105142.961480
0x0008	0x0020	StudyDate	DA	20080403
0x0008	0x0023	ContentDate	DA	20090330
0x0008	0x0030	StudyTime	TM	
0x0008	0x0033	ContentTime	TM	105142
0x0008	0x0050	AccessionNumber	SH	
0x0008	0x0060	Modality	CS	RTDOSE
0x0008	0x0070	Manufacturer	LO	ADAC
0x0008	0x0090	ReferringPhysiciansName	PN	
0x0008	0x1010	StationName	SH	adacp3u3
0x0008	0x1048	PhysiciansOfRecord	PN	sf
0x0008	0x1090	ManufacturersModelName	LO	Pinnacle3
0x0008	0x1110	ReferencedStudySequence	SQ	
0x0010	0x0010	PatientsName	PN	Greenberg^David
0x0010	0x0020	PatientID	LO	01171106
0x0010	0x0030	PatientsBirthDate	DA	
0x0010	0x0040	PatientsSex	CS	M
0x0018	0x0050	SliceThickness	DS	4
0x0018	0x1020	SoftwareVersions	LO	8.0h\Version: 8.2g
0x0020	0x000d	StudyInstanceUID	UI	2.16.840.1.113662.2.12.0.3131.1206541869.4766
0x0020	0x000e	SeriesInstanceUID	UI	2.16.840.1.113669.2.931128.2207353353.20090330105114.9073
0x0020	0x0010	StudyID	SH	
0x0020	0x0011	SeriesNumber	IS	
0x0020	0x0013	InstanceNumber	IS	4
0x0020	0x0032	ImagePositionPatient	DS	-232.65600585938\ -433.4684753418\ 26.203987121582
0x0020	0x0037	ImageOrientationPatient	DS	1\0\0\0\1\0
0x0020	0x0052	FrameOfReferenceUID	UI	2.16.840.1.113662.2.12.0.3131.1206541869.4767
0x0020	0x1040	PositionReferenceIndicator	LO	
0x0028	0x0002	SamplesPerPixel	US	1
0x0028	0x0004	PhotometricInterpretation	CS	MONOCHROME2
0x0028	0x0008	NumberOfFrames	IS	71
0x0028	0x0009	FrameIncrementPointer	AT	(3004,000c)
0x0028	0x0010	Rows	US	76
0x0028	0x0011	Columns	US	121



Submit

Shape Active layer Magnify

Annotation <1>

Annotation <1>

Annotation <1>



TRIAD OA Client

File Edit View Tile Markup Filtering Tools Image Window Help

Drawing Pan Window and Level Best fit Fit Zoom in Zoom out DICOM Tags Copy As Bitmap

Worklists MRI Normal L Ankle Foot - 4/8/2004 Downloads TRAGICOMIX - 11/1/2004

Open Send to Central Server Attach Send to Device Export Refresh Stop

Worklists

- My Worklists
 - DUKE-MR-DCE (13)
 - New Worklist (3)
- Browse Exams
 - Central TRIAD Server
 - Site Server
 - CD Drive (D:\)
 - Folder (\20080116_163827)
- Submission
 - Current Submission Queue

Worklists Management

- DUKE-MR-DCE (13)
- MCW-MR-DCS (3)
- MCW-MR-DTI (4)
- MGH-MR-Spectroscopy (3)
- New Worklist (3)
- New Worklist (3) (0)

Central TRIAD Server

Patient ID /

Exam Date	Exam Time	Accession Number	Patient Name	Study ID	Study Description	Modalities in Study	Referring Physician's Name
Patient ID:							
11/1/2004		9999.110165011649716027822468139539336615979	TRAGICOMIX				
1994.11.05	11:20:00		Anonymized		Echocardiogram		Anonymized
12/1/2003		8852602581890972282951295061845	AGECANONIX				
12/1/2003			AGECANONIX				
Patient ID: 01171106							
5/5/2008			850 GREENBERG^DAVID				
4/3/2008			Greenberg^David^				
Patient ID: 106							
Patient ID: 14							
Patient ID: 16344							
Patient ID: 19							
10/4/2007			19^4254				
Patient ID: 5647							
Patient ID: 8v0vFOkw							
Patient ID: 9							

Open
Delete
Refresh
Send to
Attach files
Assign to worklist
Find related worklists

DICOM Destination
Folder (Export)

User: triad_acr_all Ready CS SS

Any questions?

Demonstrations of the TRIAD-TR pilot project, “works in progress”, may be arranged during the RTOG meeting (by request).