IMPAC MEDICAL SYSTEMS

EMR and Clinical Trial Support

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IMPAC managing the spectrum of cancer care

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So much to do, so little time…

ATC EMR wish list…

- Make it easier for a participating institutions to submit protocol specific digital diagnostic, treatment planning, and treatment verification data
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- Provide data mining tools for these linked databases.

Brief background, shameless plug…

- Device Integration
- Process Integration
- Enterprise Integration via standards (HL7, DICOM…)
- Cross-modality
- Cross-product

We capture and manage virtually all critical cancer data.

Cooperative groups should be among those who reap the rewards

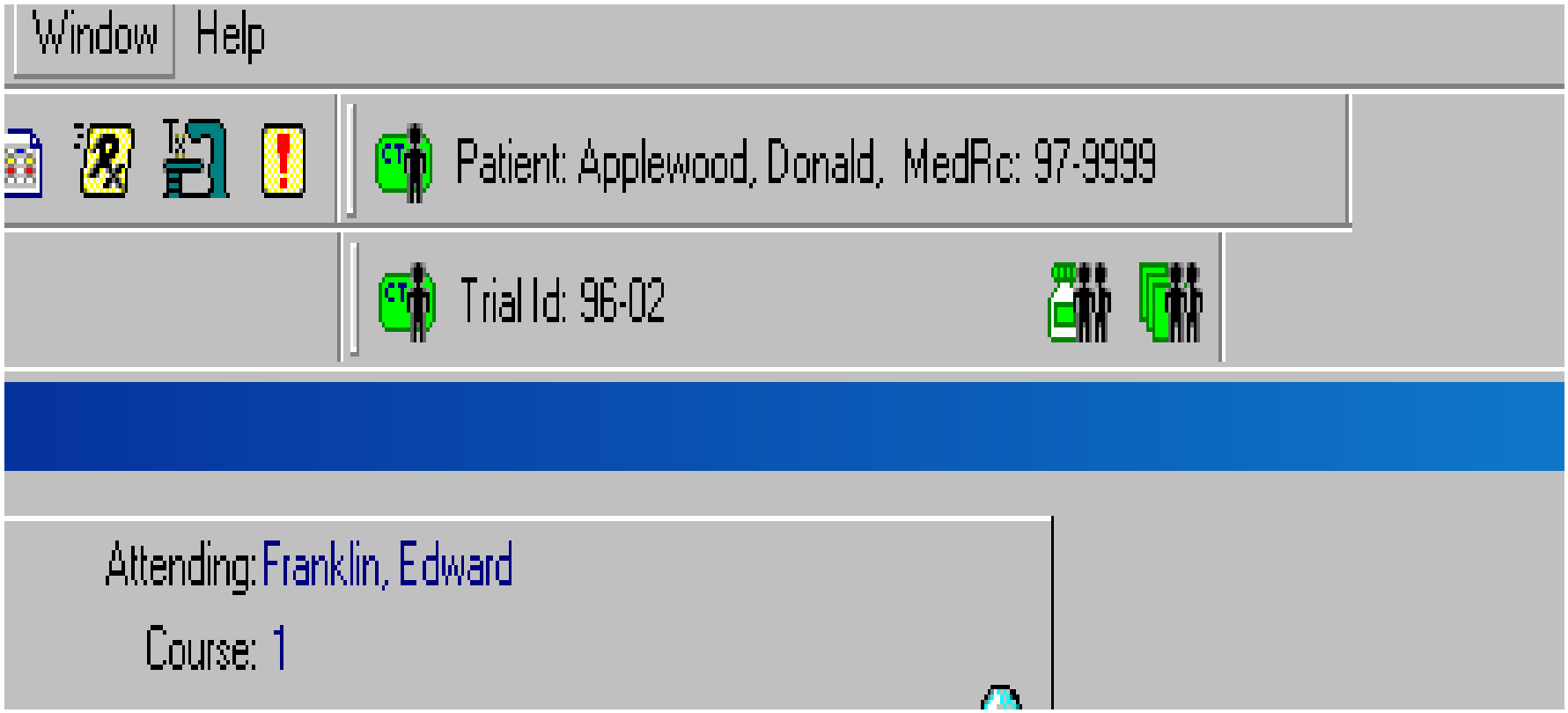
IMPAC's clinical-trials-related initiatives

Incorporate trial support within EMR

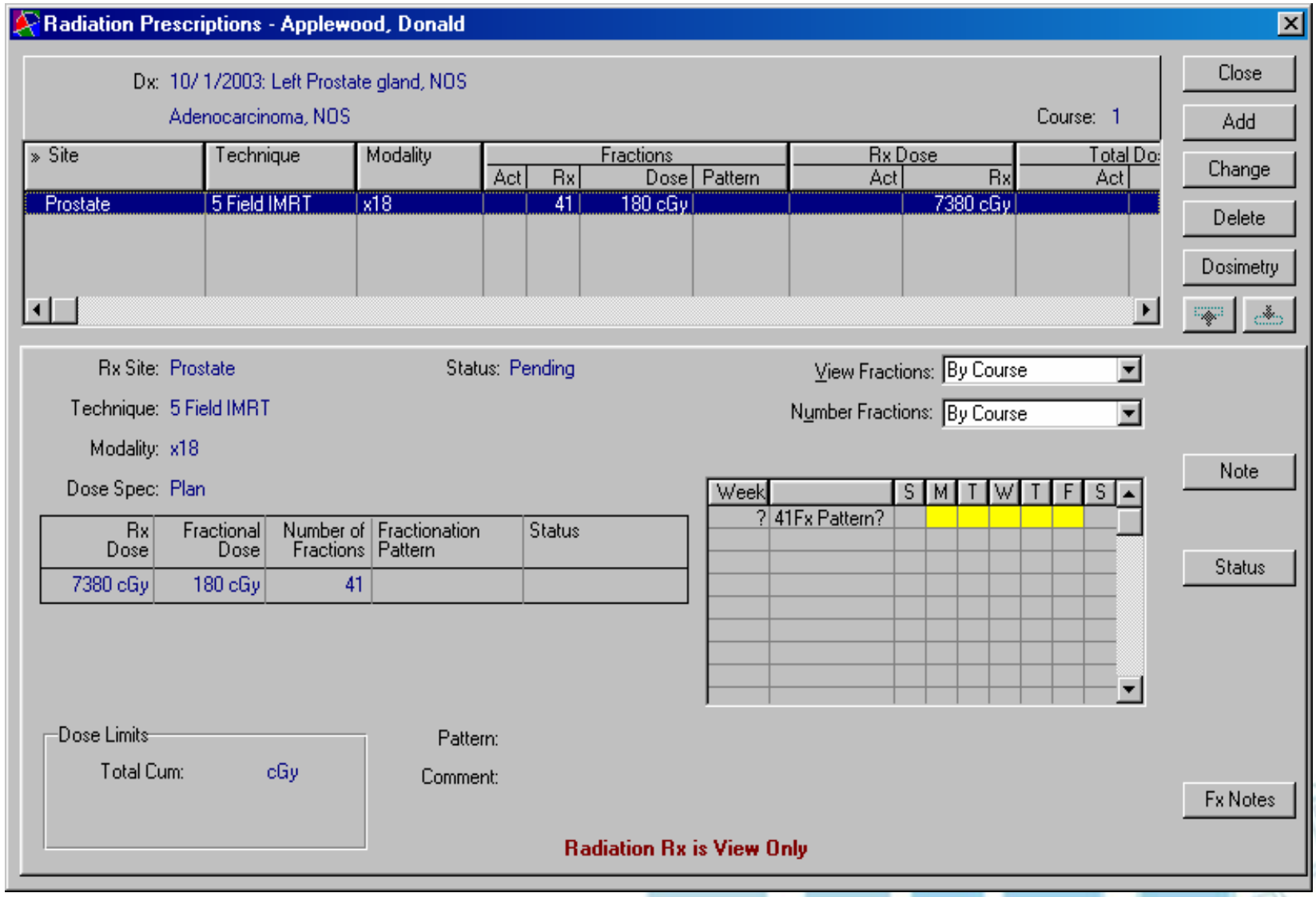
- **Provide trial "header" data**
- Incorporate eligibility determination
- Manage data and image import and export
- Embrace standards

  (HL-7, caBIG, DICOM, 21 CFR 11, etc.)
- Cross-modality, platform, vendors, systems… and remain resource efficient

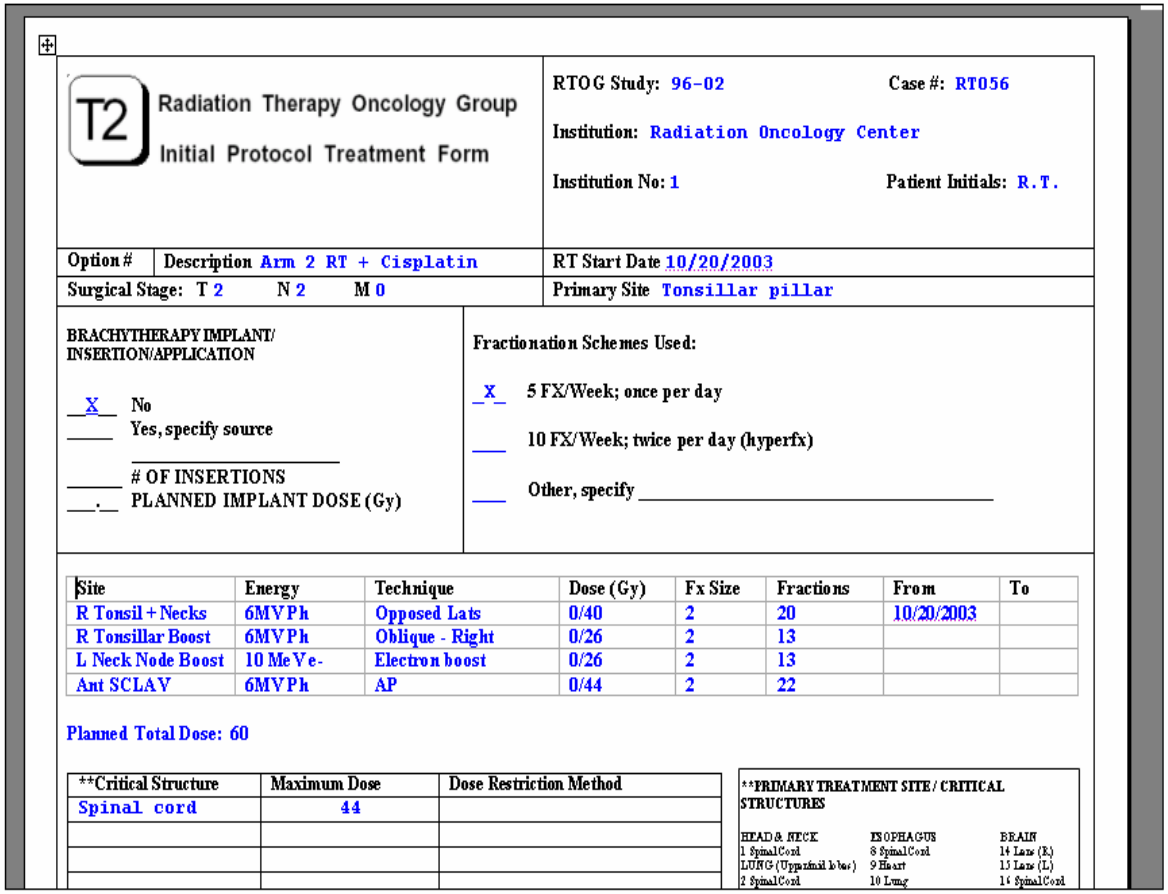
cTrack
– Incorporate and support Trial header data



Data captured at point of care



Populate Report Forms – proof of concept



T2 Radiation Therapy Oncology Group

Initial Protocol Treatment Form

RTOG Study: 96-02 Case #: RT056

Institution: Radiation Oncology Center

Institution No: 1 Patient Initials: R.T.

Option # | Description Arm 2 RT + Cisplatin | RT Start Date 10/20/2003

Surgical Stage: T 2 N 2 M 0 | Primary Site Tonsillar pillar

BRACHYTHERAPY IMPLANT/ INSERTION/APPLICATION

__X__ No

_____ Yes, specify source

_____ # OF INSERTIONS

___.__ PLANNED IMPLANT DOSE (Gy)

Fractionation Schemes Used:

_X_ 5 FX/Week; once per day

___ 10 FX/Week; twice per day (hyperfx)

___ Other, specify _____

Site	Energy	Technique	Dose (Gy)	Fx Size	Fractions	From	To
R Tonsil + Necks	6MV Ph	Opposed Lats	0/40	2	20	10/20/2003	
R Tonsillar Boost	6MV Ph	Oblique - Right	0/26	2	13		
L Neck Node Boost	10 MeV e-	Electron boost	0/26	2	13		
Ant SCLAV	6MV Ph	AP	0/44	2	22		

Planned Total Dose: 60

**Critical Structure	Maximum Dose	Dose Restriction Method
Spinal cord	44	

**PRIMARY TREATMENT SITE / CRITICAL STRUCTURES

HEAD & NECK	ESOPHAGUS	BRAIN
1 Spinal Cord	8 Spinal Cord	14 Lens (R)
LUNG (Upper/mid lobe)	9 Heart	15 Lens (L)
2 Spinal Cord	10 Lung	16 Spinal Cord

Solving the general problem

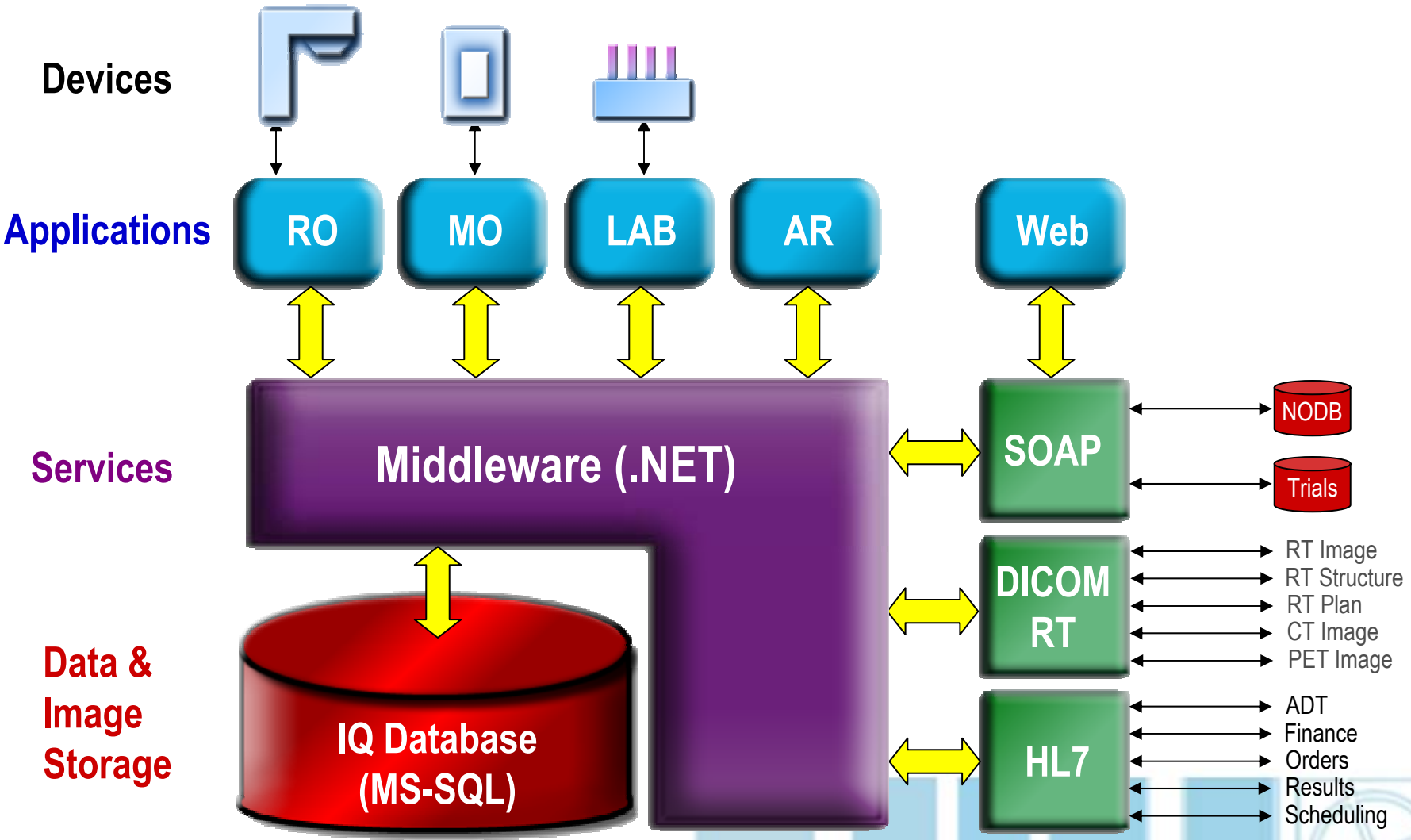
Q: How to do this efficiently for all forms for a particular trial, and then all trials for a particular group, and then all groups…?

A: Standards

Image-related data submission initiatives

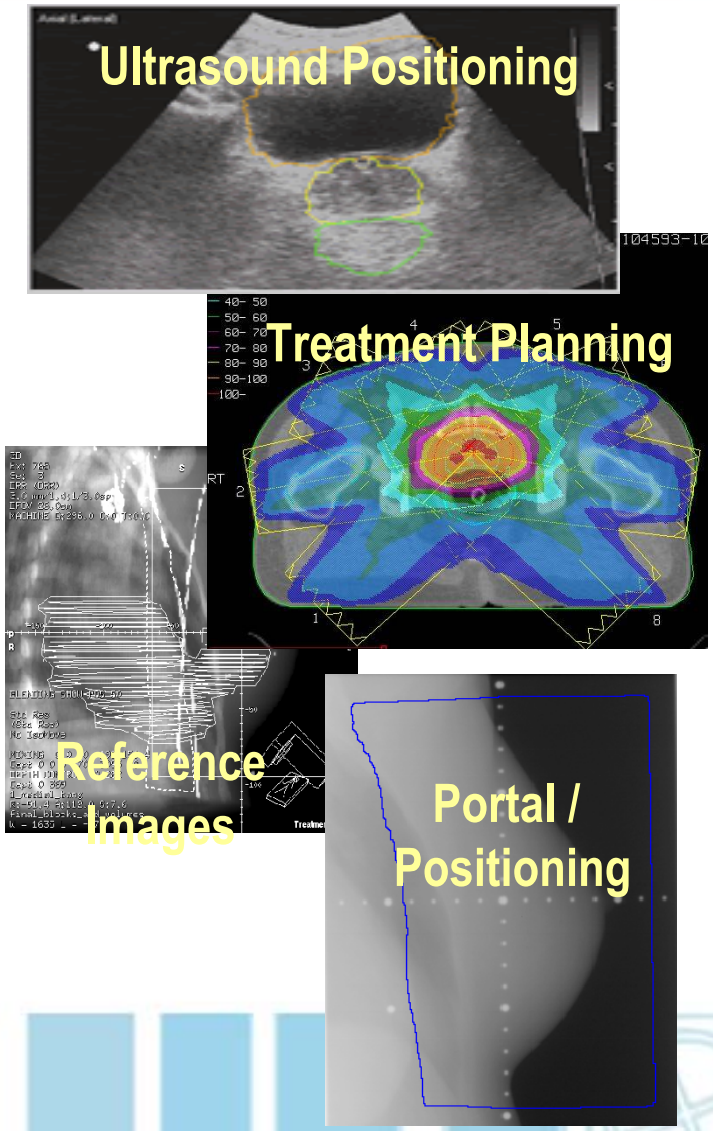
- **Complete support for imaging within application**
- Implicit –interoperability, standards…
  - IHE-RO technical committee representation
    - EMR RT-archive as single point of contact for system ⟶ clinical trial data
  - DICOM WG-7 committee representation
  - Participation in other venues such as caBIG, NHII…

IMPAC: Next Generation (MOSAIQ) Architecture



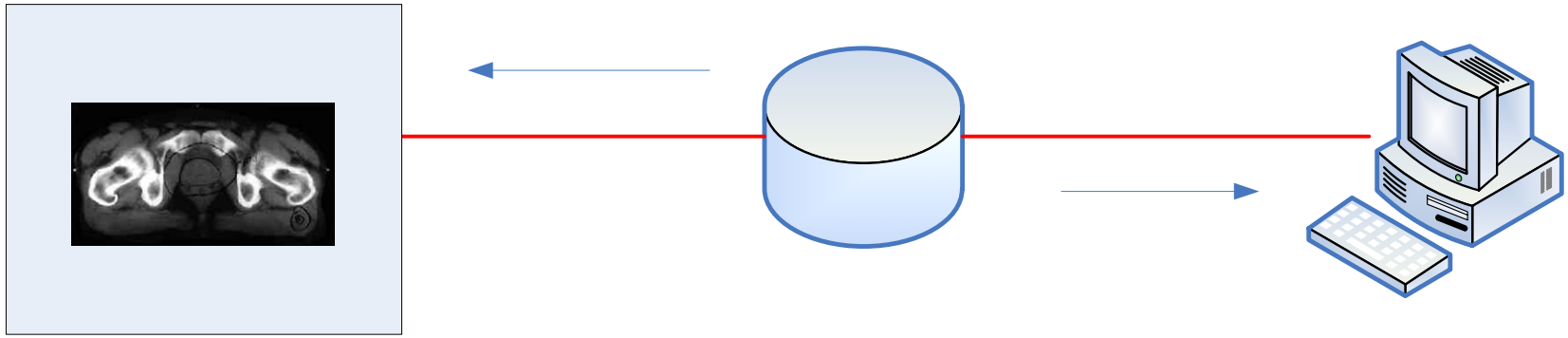
MOSAIQ Oncology PACS

- DICOM/RT Foundation
  to Support All RT Related Images and Information Object Definitions
- Oncology-Specific Process Support
  - Diagnostic Image Export / Study Receipt
  - Image-Guided Treatment Management
  - Internet-Based Review
- Centralized Storage & Archiving
  - High Volume Storage Capacity
  - Hot/Warm/Cold Archive & Retrieval Options
  - Disaster Recovery
- **Image archive in support of clinical trials**
  - **EMR archive as single point of contact for system → clinical trial data**

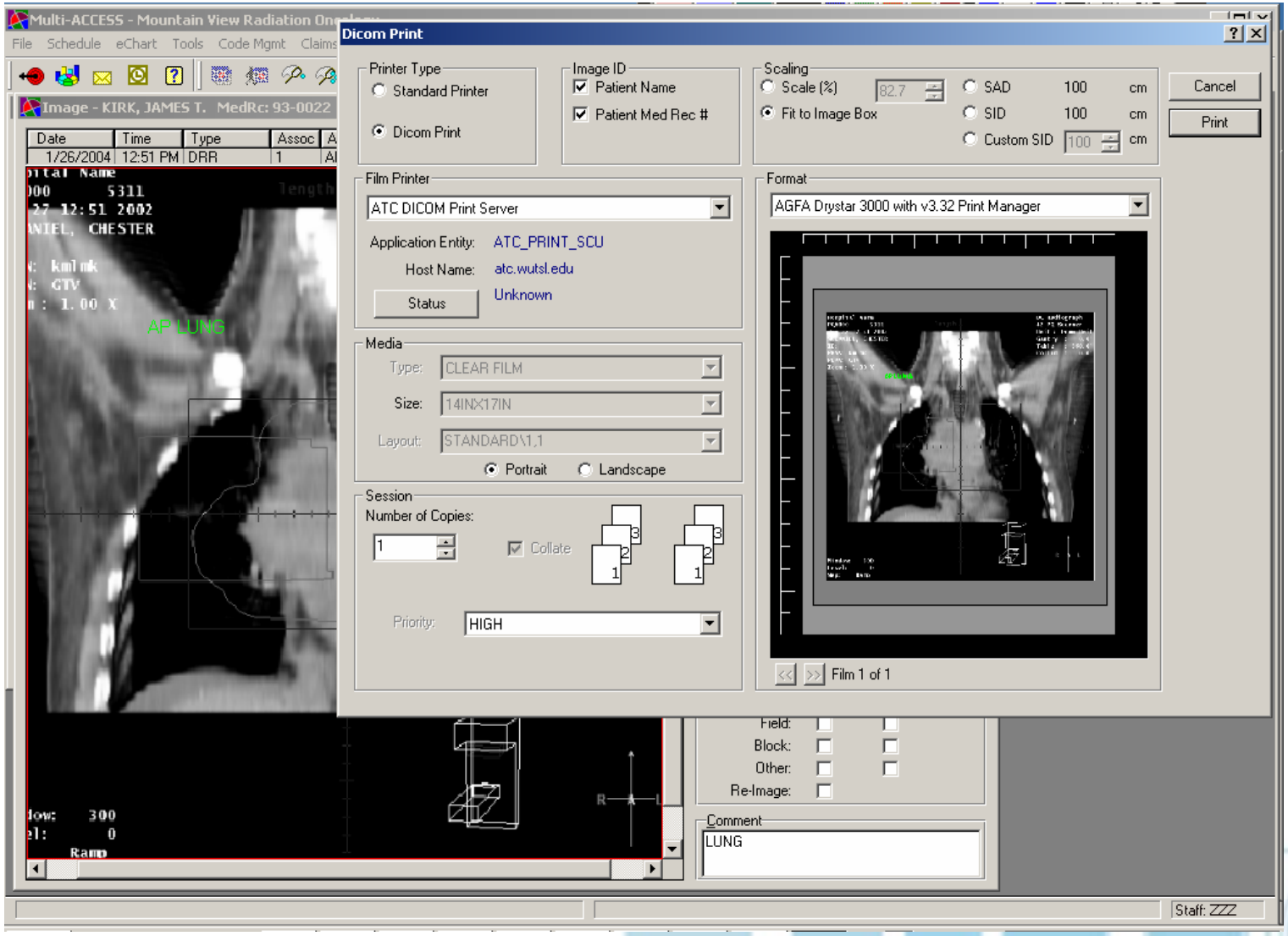


DICOM Diagnostic Workflow

DICOM Support for
Querying External Systems



Multi-ACCESS - DICOM Print



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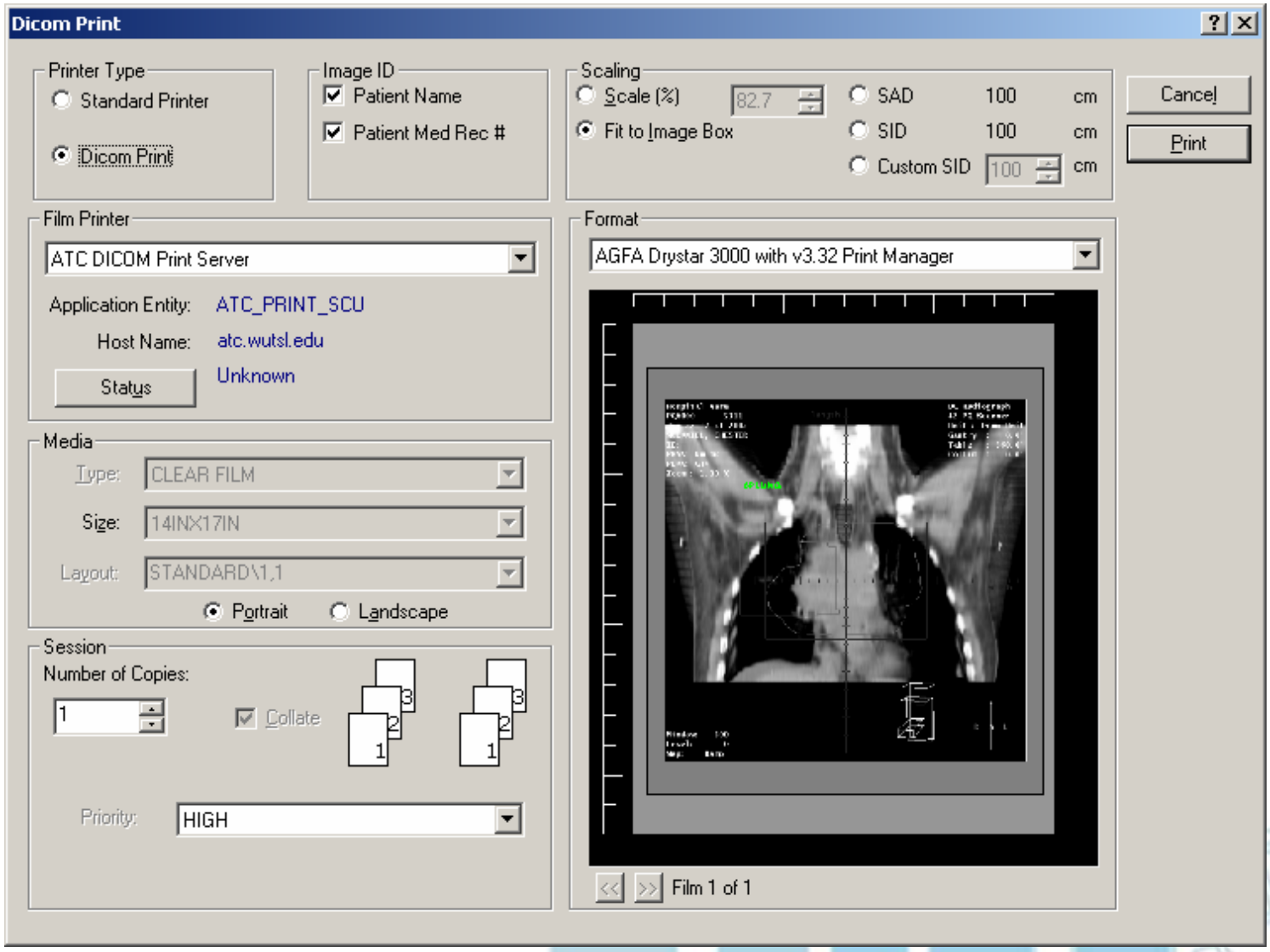

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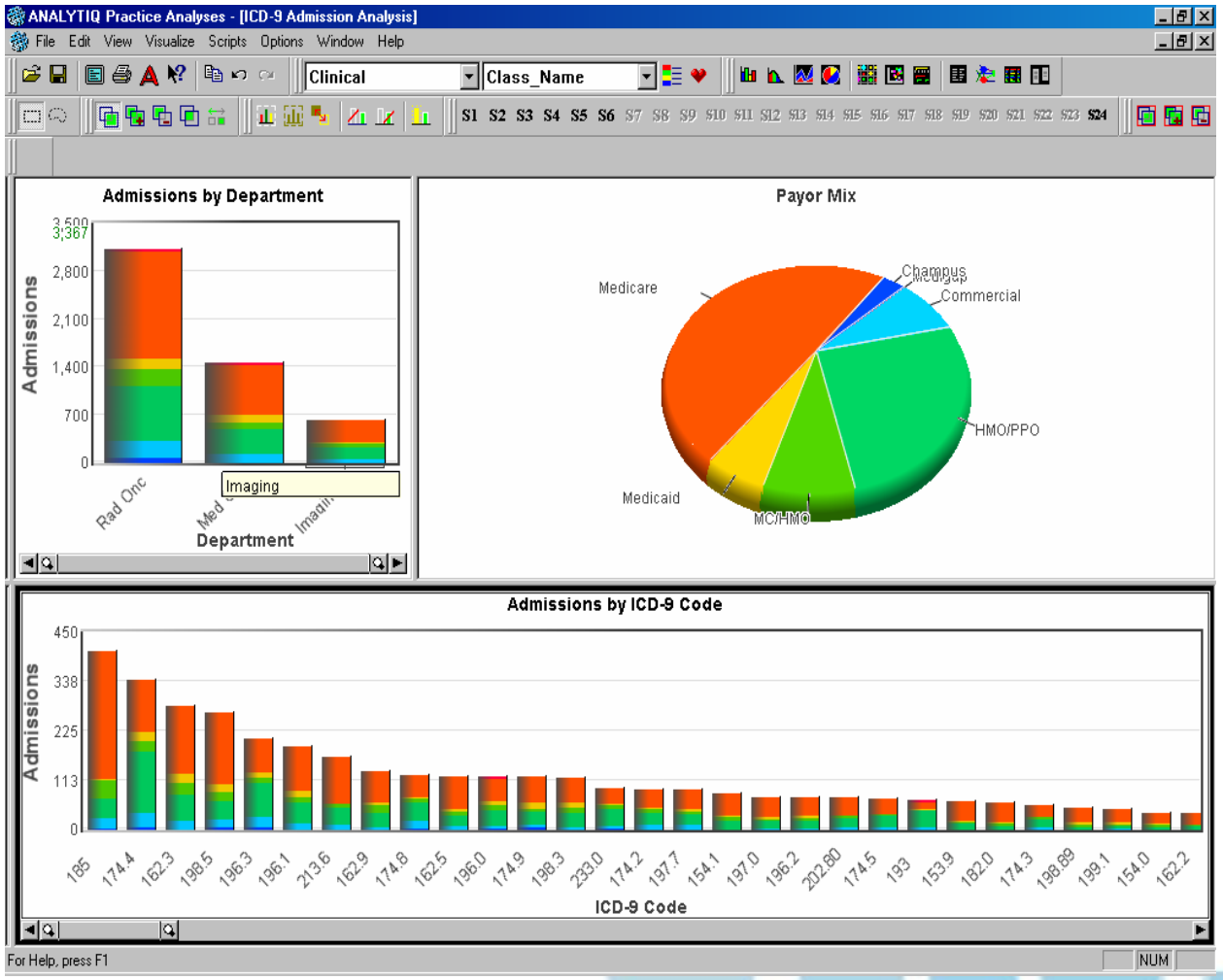
Data Visualization Tools



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Thank You

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