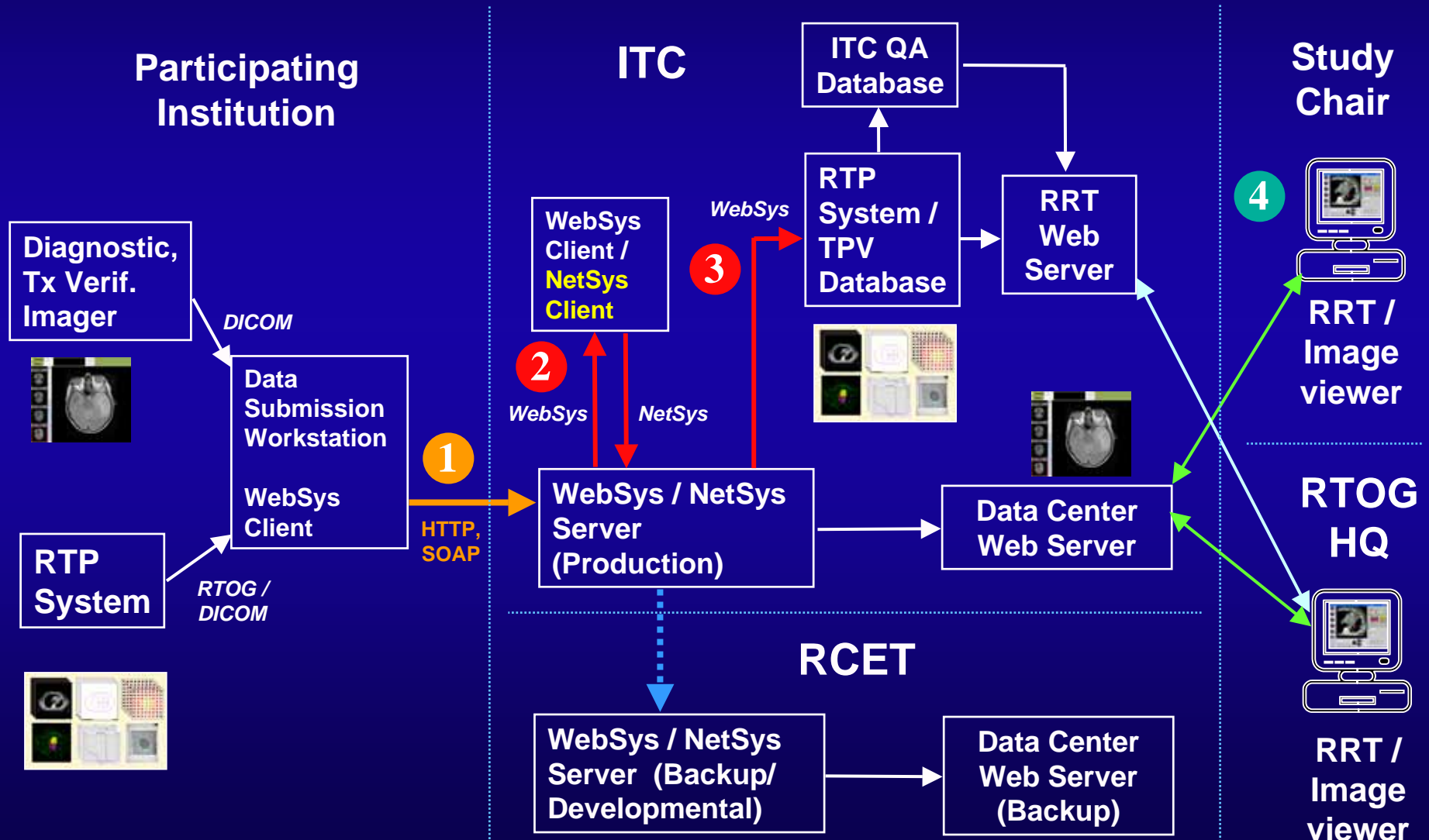


ATC Steering Committee

March 31, 2004

Walter R. Bosch, D.Sc.
Image-guided Therapy QA Center

Method 2 (in development): Digital Data Submissions to ATC



ATC Method 2 Data Import

- 2** Import of diagnostic and treatment verification images to Image Viewer database
 - Required to build thumbnail images and database entries for Image Viewer
 - Currently accomplished by WebSys download, NetSys upload
 - RCET to develop automated import mechanism
- 3** Import of treatment planning images and data to Remote Review Tool database
 - Convert submitted CTs, Structures, Doses, DVHs in DICOM or RTOG to local treatment planning system format
 - Data QA / consistency check is important for immature DICOM implementations
 - ITC to integrate RRT with WebSys database

ATC Digital Data Submission Server

Provides links to

- WebSys – secure upload/download
- RRT – image segmentation and dosimetry review
- Rapid Image Viewer – diagnostic image display

Advanced Technology QA Consortium (ATC) - Microsoft Internet Explorer

File Edit View Favorites Tools Help



Address http://polaris.wustl.edu/Main_40.asp

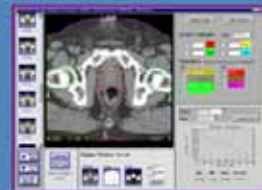
ATC Digital Data Submission/Review Server

Welcome to the [Advanced Technology QA Consortium Digital Data Submission Server](#) located at the Image-guided Therapy Center (ITC), at Washington University, in St. Louis, Missouri. The ATC Digital Data Submission System is operated jointly by the ITC and the Resource Center for Emerging Technologies (RCET) in Gainesville, Florida. The ATC provides resources to facilitate the conduct of NCI sponsored advanced technology radiation therapy clinical trials while maintaining patient confidentiality.

Please note: the resources linked on this page are for the use of investigators, QA centers, and participants in ATC-supported clinical trials. A valid user account is required for their use. Please contact the Image-guided Therapy QA Center (ITC) at itc@castor.wustl.edu or call 314-747-5415 to request a user account.



WebSys is a web-based application for *submitting* and *retrieving* images and treatment planning data for ATC-supported advanced-technology clinical trials. WebSys uses *secure web services communication* with the ATC database. DICOM and RTOG Data Exchange data sets are automatically anonymized and registered with the ATC database when they are uploaded. Datasets available for download can be accessed using WebSys via an electronic folder for each protocol case.



Remote Review Tool is a web-based application for interactive review of images and treatment planning data. The Remote Review Tool displays axial images, organ- and target-volume contours, iso-dose curves, point doses, and DVHs for ATC-supported protocol data sets.



Rapid Image Viewer is a web-based application for reviewing diagnostic image series and treatment verification images for ATC-supported clinical trials. This application requires the installation of the Java Runtime Library your computer (available for download [here](#)).

WebSys

- Secure upload of images and treatment planning data
- Supports DICOM and RTOG Data Exchange format
- Images and data are anonymized and encrypted prior to upload

http://polaris.wustl.edu/WebSys/WebSys.WebSys - Microsoft Internet Explorer

File Edit View Go To Favorites Help

Address http://polaris.wustl.edu/WebSys/WebSys.WebSys

Login to RCET Data Base

1 Log in Connected Disconnect From Server R: 1-10-04

Please Login to the Database

User Name wrbosch_sd Password **** Log in

Primary ATC Server

ITC
ITC
RCET

Logged in: Walter Bosch Access Level: SD ITC: polaris.wustl.edu

2 Select Protocol ATC Test Protocol
ATC Test Protocol
COGTest Protocol
MA,20
Test Protocol
ATC M2 Test

3 Select Case

A,APM_Elekt_a_test
Contour_Marathon
ITC_DICOM-TEST_VWRB-MR_031219
MIR_M2-test_oroph1_031215
MIR_M2-test_prost1_031215
MIR_M2-test_Sinus1_031215
RTOG_0126_IMRT_Dry_Run_test
RTOG_0225_Dry_Run_test_Pt_C
RTOG_0225_Dry_run_test_Pt_S
WU_PrecisePlan_Test_040213

Proxy Server Setting

Electronic Folder
Secure Data Upload
DICOM Submission Sheet
RTOG Submission Sheet
Data Submission Sheet

Unknown Zone

WebSys

- Secure download of data
- Access restrictions: own data (user), entire protocol (study director)

Address: http://polaris.wustl.edu/WebSys/WebSys.WebSys

Login to RCET Data Base
Electronic Folder

Case Information

Case ID: ITC_WRB-MR_031219 Patient Real Name: N/A Creation: 12/19/03 Last Updated: N/A Action Date: N/A

Messages: 72672C Created By: Walter Bosch Submitted from: RCET

Update

Case Description	Set Description	Num DICM Objs	Submission Date	Stuc
N/A/hips/TSE_T1_TRA	N/A	20	12/19/03	03/1
N/A/TSp_Myelopathy_BJC/scout	N/A	5	12/19/03	03/1
N/A/TSp_Myelopathy_BJC/scout	N/A	5	12/19/03	03/1
N/A/TSp_Myelopathy_BJC/T1_SAG	N/A	9	12/19/03	03/1
N/A/TSp_Mets_Bone_BJC/scout	N/A	5	12/19/03	03/1
N/A/hips/PDFS_COR_TIR	N/A	18	12/19/03	03/1
N/A/hips/T1_COR	N/A	20	12/19/03	03/1
N/A/hips/T1_TRA	N/A	30	12/19/03	03/1

Secure Data Upload
 DICOM Submission Sheet
 RTOG Submission Sheet
 Data Submission Sheet

Remote Review Tool

- Interactive image segmentation and dosimetry review
- Displays axial images with organ, target-volume contours, isodoses, DVHs.

ITC Remote Review Tool 03080501 (SSL User: wlsrtog, Protocol/Case: 0126cdr19) - Microsoft Internet Explorer

Isodose Contours Plan: totalhetero

Structures (dashed when isodoses are displayed)

All Off | All On

ON

- BLADDER
- CTV
- FEMUR_LT
- FEMUR_RT
- GTV
- PENILE_BULB

ON

- PTV1
- PTV2
- RECTUM
- SEM_VES
- SKIN

Struct: PTV1 Eval DVH Re-calc DVH

PTV1

Volume, (cc)

Dose, (Gy)

Plan ID	Vol ≥ Ref	Max	Min	Mean
totalhetero	100.00 %	83.70 Gy	54.00 Gy	78.90 Gy

Total Volume: 168.83 cc
 Click on Plan ID for plan summary.

Rapid Image Viewer

- Displays diagnostic and treatment verification images
- Images are organized in an electronic folder

The screenshot displays the Rapid Image Viewer interface. At the top, there are tabs for 'Login Page', 'Electronic Folder', and 'Ids_m2-test3_brain_20031118 :: MR Set Submission0'. Below the tabs, there are checkboxes for 'Thumbnail' (checked) and 'Equalize'. A status bar shows Z-axis coordinates: Z = 0.0, Z = 475.0, and Z = 150.0. On the left, a vertical strip of thumbnails shows axial brain slices at Z = 125.0, 150.0, 175.0, 200.0, 225.0, and 250.0. The main window displays a large axial MRI slice at Z = 150.0. On the right, a control panel includes a 'Close' button, a 'Check to use Lens' checkbox, 'Lens shape' options (Square and Circle), 'Lens size' options (S, M, L), 'Lens magnify: 2' with a slider, 'Center: 128' and 'Width: 256' with sliders, a 'Restore' button, 'Ratio(1/2)' with a value of '0 mm', radio buttons for '(1)' and '(2)', an 'R <-> L' button, and a 'Reverse Order' button.

ATC Digital Data Submission Server Status

Component	Function	Status
WebSys	Secure TP data upload/download	Tested using DICOM and RTOG formats with several users
NetSys	Diagnostic/verification image import	New version, not yet tested
Rapd Image Viewer	Diagnostic/verification image review	Early testing