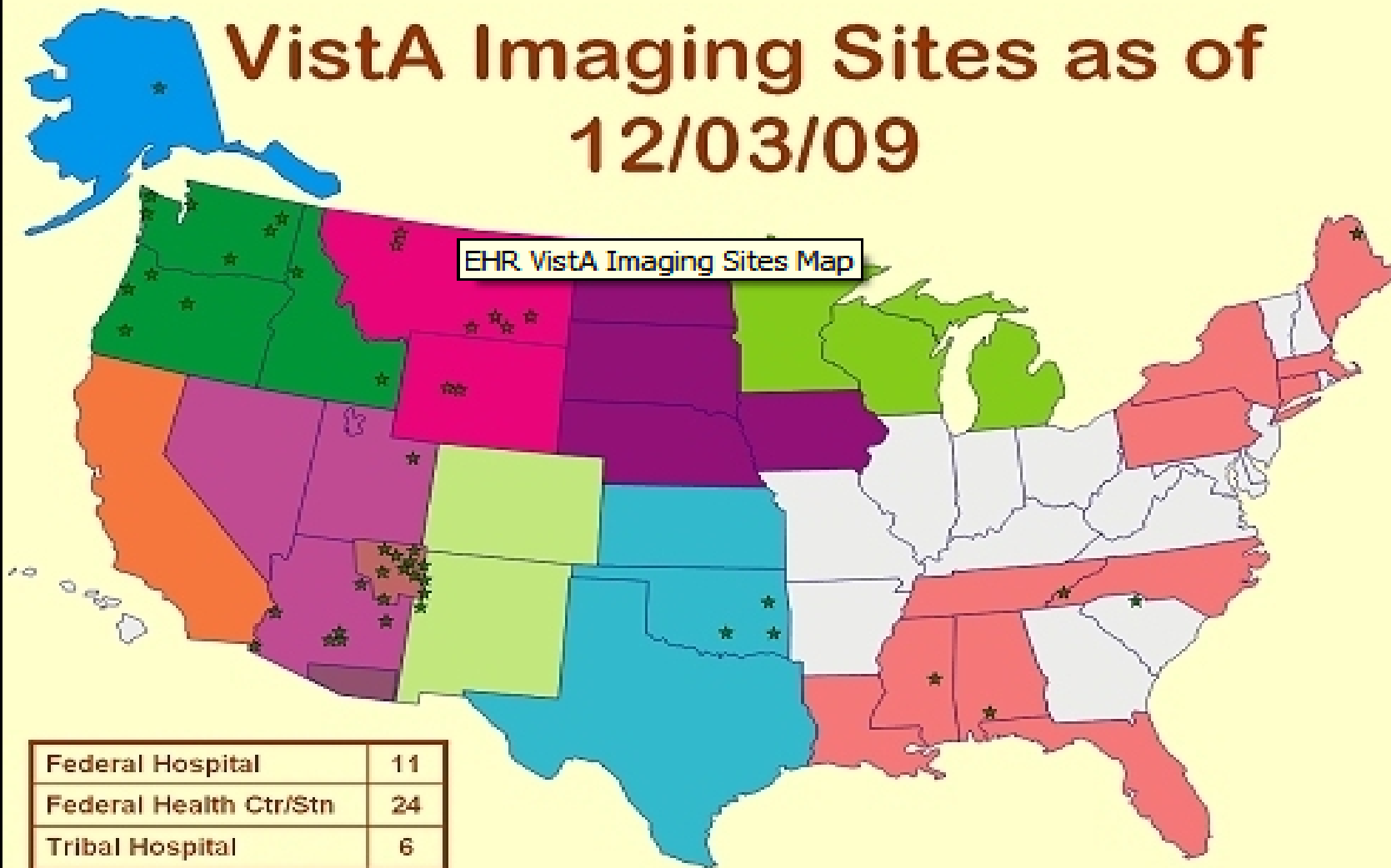


Veterans Health Information
Systems Technical
Architecture (VistA) Imaging
Scanning

What is VistA Imaging?

- The VistA Imaging System (VI) is an extension to the Resource and Patient Management System (RPMS) information system.
 - VI provide extensive support for imaging.
 - VI is an FDA-Approved Medical Device and cannot be modified.
- It captures scanned documents and makes them part of the patient's electronic medical record.
- Areas have the storage server (depository) which is purged and transmitted for storage up to 75+ years.

VistA Imaging Sites as of 12/03/09



VistA Imaging Components

§ RPMS HIS

- OpenVMS/Cache`

§ VistA Imaging Workstations

- Clinical Display Workstation
- Clinical Capture/Display Workstation
- Diagnostic Workstation (VistARad) 2 or 4 headed

§ Utility Workstations

- DICOM Image Gateways
- DICOM Text (Worklist) Gateway
- DICOM Routing Gateway
- Background Processor

§ Storage Servers

- Short-Term Storage (Magnetic Disk - RAID)
- Long-Term Storage (Magneto Optical - Jukebox)

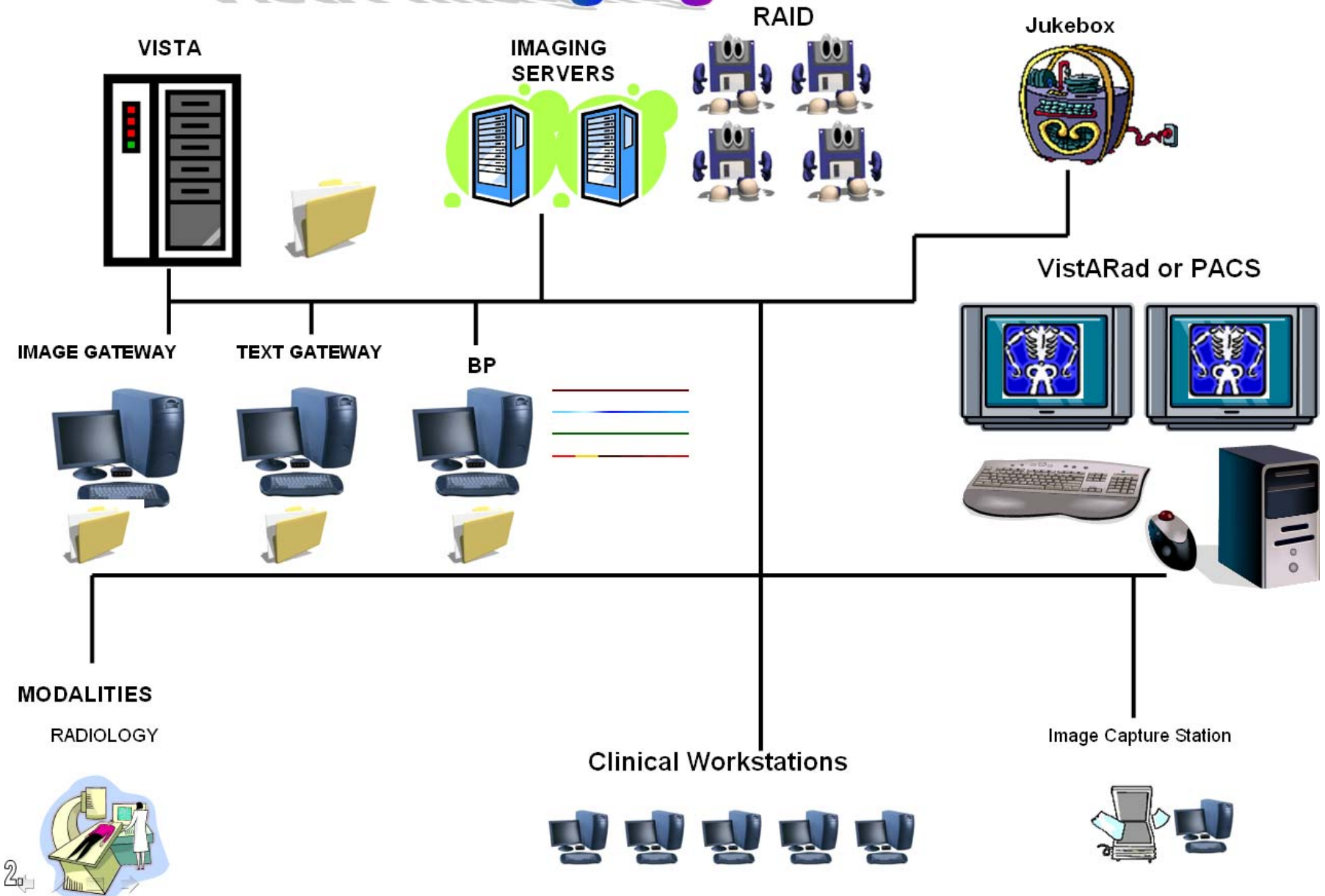
§ Modalities

- MRI, CR, DR, CT

Methods of capturing images into VistA Imaging

- Capture Workstation for scanning and image import
- DICOM Image Gateways for Radiology studies

VistA Imaging



Vista Imaging Implementation

- Identify the team
 - Health Information Management (HIM) Director
 - Clinical Application Coordinator (CAC)
 - Radiology
 - Providers
 - Information Technology (IT)
 - Others as appropriate

Preparation

- Contact Vista Imaging Sites–Site Visit
- Equipment Purchase
 - Server
 - Scanners
 - Food and Drug Administration- (FDA-) approved scanning system
 - Ergonomic Concerns: chairs, desk, etc.
 - Stamps: illegible, intentionally blank, etc.
- Scanner locations – Medical Records
- Training: who, when, etc.
 - Massive training
 - Individual
 - Group

Training

- Renee George provides Indian Health Service (IHS) training
 - Scanning Policy and Procedure is required
 - <http://www.ihs.gov/CIO/EHR/index.cfm?module=listserv>
 - 3 ½ days of hands-on training
 - Posttraining competency test

IHS Policy Recommendation

Scanning Outside Clinical Documents

PURPOSE: To establish policy, procedures and responsibilities for scanning outside clinical documents into the VistA Imaging program that can be accessed through the RPMS Electronic Health Record (EHR).

POLICY: The IHS is committed to creating an environment that promotes and fosters the use of the RPMS EHR by defining policies, objectives, and responsibilities for the scanning of documents related to patient care.

To establish policy and outline procedures for scanning of documents into the VistA Imaging program, it is important to define what documents will be scanned into VistA Imaging and how these documents will be indexed.

RESPONSIBILITIES:

The HIM Director or designee and the appropriate committee are responsible for approving all requests for document scanning and monitoring image quality. All staff members with scanning responsibilities are properly trained in Standard Operating Procedures (SOP) as they relate to scanning and in the use of scanning equipment.

Staff members scanning documents will ensure that the document is attached to the appropriate progress note title and patient, and that image quality meets necessary standards.

The HIM Director or designee will be responsible for tracking and monitoring quality/quantity of scanned documents into the EHR, according to facility policy.

The HIM Director or designee will be the only facility staff member with the functionality to delete a scanned image. In the event a document is scanned to the incorrect chart, it will be reported to the HIM Director or designee. Errors noted by staff located outside of HIM, will be brought to the attention of the HIM Director or designee.

PROCEDURE:

- 1) Any document received by a scanning specialist will be checked against the list of approved documents for appropriateness and then scanned. *See below list of approved documents.*
- 2) If the scanning specialist encounters a document that is not listed on the approved scanning list or questions a document he/she receives, the form will be referred to the HIM Director or designee for a decision on whether the document is appropriate for scanning.
- 3) The computer downtime contingency plan should address when the RPMS EHR is unavailable for a considerable amount of time. Local policy will determine what is termed "a considerable amount of time." Documentation completed during the down time will be scanned into the record with a

Develop Local Policy

FT. DEFIANCE INDIAN HOSPITAL
FT. DEFIANCE, ARIZONA
HOSPITAL POLICY

| | | |
|--|---------------|-------------|
| MANUAL : Administration | | |
| SUBJECT: Uploading and Storing Digital Images in Vista Imaging | | |
| EFFECTIVE: | REVISED DATE: | SUPERSEDES: |
| DISTRIBUTION: | | |

REFERENCES: HIPAA _____ 482.13 Patient Rights.

POLICY:

- The Indian Health Service Security Rules of Behavior, HIPAA and Privacy act apply to clinical images captured by digital cameras.
- You are responsible for images that you capture and import into the electronic health record.
- You can not import photos for any other person (if you take the picture you import it)
- Clinical photos must be taken on an Indian Health Service camera that has been approved by the Computer Support Team.
- You are responsible for uploading your clinical photos and that they must be immediately uploaded to Vista Imaging and subsequently deleted from the camera or memory card.
- Clinical images should not be transferred, copied or stored at any location except on the Vista Imaging Server.
- You can't manipulate, resize, print, or crop any images.

I. PROCEDURE:

- Create the patient identifier This will be a 3x 5 index card. Write the first initial and last initial of the patients name, their health record # and DOB.
- Place the patient identifier into the field of vision and take the picture (s)
- Some images may require zoom/macro. These must be taken using optical zoom, not digital zoom. The patient identification card may not fit into the field of vision in this case:
 1. Zoom out to include the pt identifier.
 2. Zoom in to take a close-up photo of the patient anatomy that needs to be photographed without the patient identifier

Procedure 1: Approved Documents

Approved Documents For Scanning

- Consent Forms
- Advance Directives
- Visual Field Forms
- Audiology ear charts
- Mammograms
- Doctors orders generated during computer down time, as described in the contingency plan for computer down time
- Progress notes generated during any computer down time, as above
- Progress notes
- Outside medical documents from other Non-IHS facilities:
 - Discharge Summaries
 - Etc.

New and Nonapproved Documents

New Documents

- Copy of document
- Request for justification
- Sent to HIM Director
- HIM Director submits to appropriate committee

Nonapproved Documents

- Refer to HIM Director for approval or denial

Enhancements

- Enhancements are submitted through Catherine Moore, IHS National VistA Imaging Coordinator, to the VA.
- The VA Index Term Review Board reviews and approves items to be added to the index terms (image type).
- Birth and marriage certificates were recently approved.

Scanning

- Attach outside documents to appropriate Text Integration Utility (TIU) Note Title.
- Dates:
 - Date of Service: date the document is scanned into Vista Imaging.
 - Encounter Date: the day the patient was actually seen is entered as the Vista Encounter Date. This helps scanned documents match up with the encounter dates in the Electronic Health Record (EHR).

Vista Imaging Capture : []

File Options Tools Configurations System Manager Image Help

Source: TWAIN Format: True Color JPG (24 bit) Association: TIU Saying: Single Mode: OnLine Other:

Blood transfusion Consent FD IHS 515 Prenatal visit Referral to Fort Defiance Outside Lab other ROI Referral Out Culposcopy Consent Transfer HRSA-351
outside lab pap smear Outside Lab Path P.H.N. Visit EKG C.T. Ultrasound X-ray (CR) Mammography Ref Lab Other Ref Lab Pap Smear

Select Patient

*Patient

Select Progress Note

*Note Title

Note-Status-Loc

*Note Date

*Doc/Image Date

*Origin

VA

*Doc/Image Type

Specialty

Proc/Event

*Image Desc

Capture...

MultiPg Doc.

Image OK

Cancel

Bri 100 Con 100 Zoom 100 pg 0 of 0



viewing image :

Document Image dates enter here

Signing of Documents

- Only the document signed by the provider will be scanned.
- Review record to ensure document isn't already scanned.
- Notifications may be used if your facility chooses to scan first—then sign electronically.

Postscanning

- Once a document is scanned, it will be stamped, dated, and initialed on the top right side of the document.
- File original source document into paper record.
- IHS policy doesn't allow shredding of source documents until IHS receives approval from the National Archivist.

Confirmed Scans

DATE SCANNED: 3-23-09
BY: TKM

Consent Forms

- Link form to the provider's procedure note.
- New note title is not necessary.
- Use same postscanning procedure.

Quality Checks

- Document Scanning Specialist will perform quality checks.
- Perform at the time of scanning:
 - Adjust image resolution
 - Review positioning
 - Legibility

Quality Checks (Continued)

- Poor Quality
 - Contact original source for better copy.
 - If not possible to obtain a quality copy, enhance the image with tools available in VI.
- Illegible
 - If document is illegible, stamp “original illegible” close to the area that is not readable.

Sample:

ORIGINAL - ILLEGIBLE

Quality Checks (Continued)

Validation Process

- Run VI report according to local policy to identify scanned documents.
- Ten percent of scanned documents per total volume of each scanning specialist will be reviewed.
 - Includes: review of positioning; legibility; and proper use of resolution to enhance image quality
 - If accuracy is less than 90%, the sample size will be increased for a more focused review

Quality Check Log

Microsoft Excel - Quality Assurance LOG.xls

Next Previous Zoom Print... Setup... Margins Page Break Preview Close Help

QUALITY ASSESSMENT LOG

| PATEINT CHART # | DOC IMAGE # | DATE ENTERED | DATE OF Q/A | PASS Y/N | COMMENTS |
|-----------------|-------------|--------------|-------------|----------|----------|
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QUALITY ASSESSMENT LOG

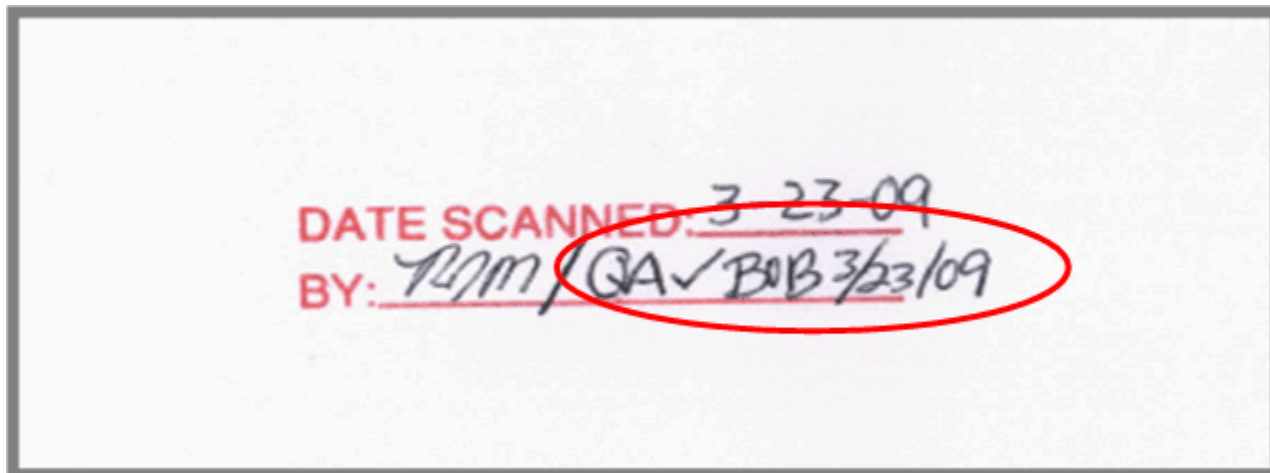
| PATEINT CHART # | DOC IMAGE # | DATE ENTERED | DATE OF Q/A | PASS Y/N | COMMENTS: |
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Preview: Page 1 of 1 NUM

start Outlook Today -... Microsoft Powe... My Documents deletion page.d... Microsoft Excel ... 1:45 PM

Quality Check (Continued)

Consider random quality check process to file source document: the reviewing technician will initial and date next to the scanning technician, as shown below.



Multiple Pages

- Any front and back documents that are blank, stamp the document before scanning
 - Intentionally Blank
 - Intentionally Left blank

Outside Sources

- Protected Health Information (PHI) on various media (CDs, disc, etc.)
 - Accept medium from patient
 - Forward to primary provider for review of information to be included in the patient record
 - May enter the information as a chart review in the EHR.
 - NOTE: It is recommended that IT scan all outside electronic data sources before forwarding to provider.

Errors

- Scan documents to the wrong patient
 1. Contact HIM Director
 2. HIM Director deletes the image(s) and enters the reason for deletion.
 3. HIM Director will be contacted to delete the unsigned progress note of the error.
 4. HIM Director will attach an addendum to the TIU note indicating the reason for deletion.

Administrative Documents

- Certificate of Degree of Indian Blood (CIB)
- Insurance Card
- Paternity Papers
- Adoption Papers
- Court-Appointed Custody Documents
- Legal Guardianship
- Healthcare Power of Attorney
- Medicare Inpatient Hospital discharge appeals notification
- Other—per local policy

Other Processes to Consider

- Verification process for each document
- Correcting source document errors
- Note Titles
- Quality Checks for filing (random)
 - Point of scanning checks (100%)

Choices for Importing Outside Documents into the EHR

- Upload using the TIU option.
 - Takes considerable setup
- Receive electronic “transcribed” document and copy and paste into a new EHR note.
- Scan documents using Vista Imaging.
 - Must have policy and procedure in place for quality control of scanned documents

Transcription vs. EHR Notes

- Some notes may need to be dictated due to length of note
 - History and Physical (H&P) examination
 - Procedure
 - Discharge Summary
 - Radiology
- Cost of transcription service
- Notes not available for Inpatient analysis and coding
- Notes are not available in EHR

Scanning Process

Patient Selection


Patient Lists

- No Default
- Providers
- Teams
- Specialties
- Clinics
- Wards
- Personal Lists
- All

Manage List...

Save Settings

Patients



Abe,David

Demographics

Patient Detail...

OK

Cancel

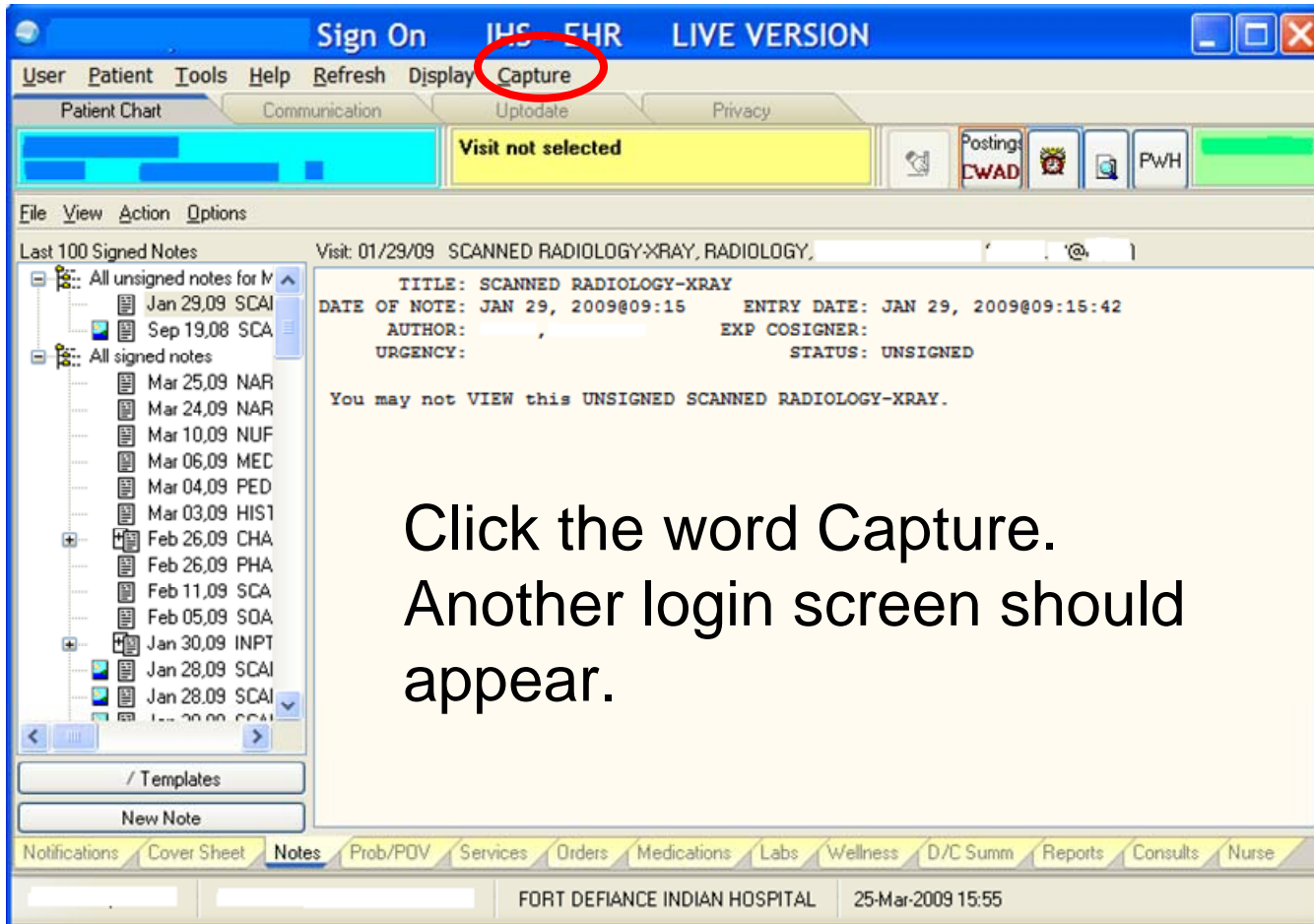
Step 1: Open the EHR

The screenshot displays the IHS - EHR LIVE VERSION interface. The window title bar includes "Sign On", "IHS - EHR", and "LIVE VERSION". The menu bar contains "User", "Patient", "Tools", "Help", "Refresh", "Display", and "Capture". The main interface is divided into several sections:

- Top Bar:** "Patient Chart" (highlighted with a red oval), "Communication", "Uptodate", and "Privacy".
- Yellow Bar:** "Visit not selected".
- Right Side:** "Postings" (with "CWAD" icon), a search icon, and "PWH".
- Left Panel:** "Last 100 Signed Notes" with a tree view showing notes for various dates and types (e.g., "Jan 29,09 SCAI", "Mar 25,09 NAR").
- Main Content Area:** "Visit: 01/29/09 SCANNED RADIOLOGY-XRAY, RADIOLOGY,". The note details are:
 - TITLE: SCANNED RADIOLOGY-XRAY
 - DATE OF NOTE: JAN 29, 2009@09:15
 - ENTRY DATE: JAN 29, 2009@09:15:42
 - AUTHOR: [redacted]
 - EXP COSIGNER: [redacted]
 - URGENCY: [redacted]
 - STATUS: UNSIGNEDA message below reads: "You may not VIEW this UNSIGNED SCANNED RADIOLOGY-XRAY."
- Bottom Bar:** "Notifications", "Cover Sheet", "Notes" (selected), "Prob/POV", "Services", "Orders", "Medications", "Labs", "Wellness", "D/C Summ", "Reports", "Consults", "Nurse".
- Footer:** "FORT DEFIANCE INDIAN HOSPITAL" and "25-Mar-2009 15:55".

Step 1: Open the EHR to the corresponding patient. (This window should already be open from the prescreen process.)

Step 2: Open the Capture Window



The screenshot shows a web-based medical application window. The title bar reads "Sign On IHS EHR LIVE VERSION". The menu bar includes "User", "Patient", "Tools", "Help", "Refresh", "Display", and "Capture". The "Capture" menu item is circled in red. Below the menu bar, there are tabs for "Patient Chart", "Communication", "Update", and "Privacy". A yellow banner displays "Visit not selected". To the right of the banner are icons for "Postings", "CWAD", and "PWH". The main content area is titled "Last 100 Signed Notes" and shows a list of notes with dates and initials. The selected note is titled "SCANNED RADIOLOGY-XRAY" and contains the following text:

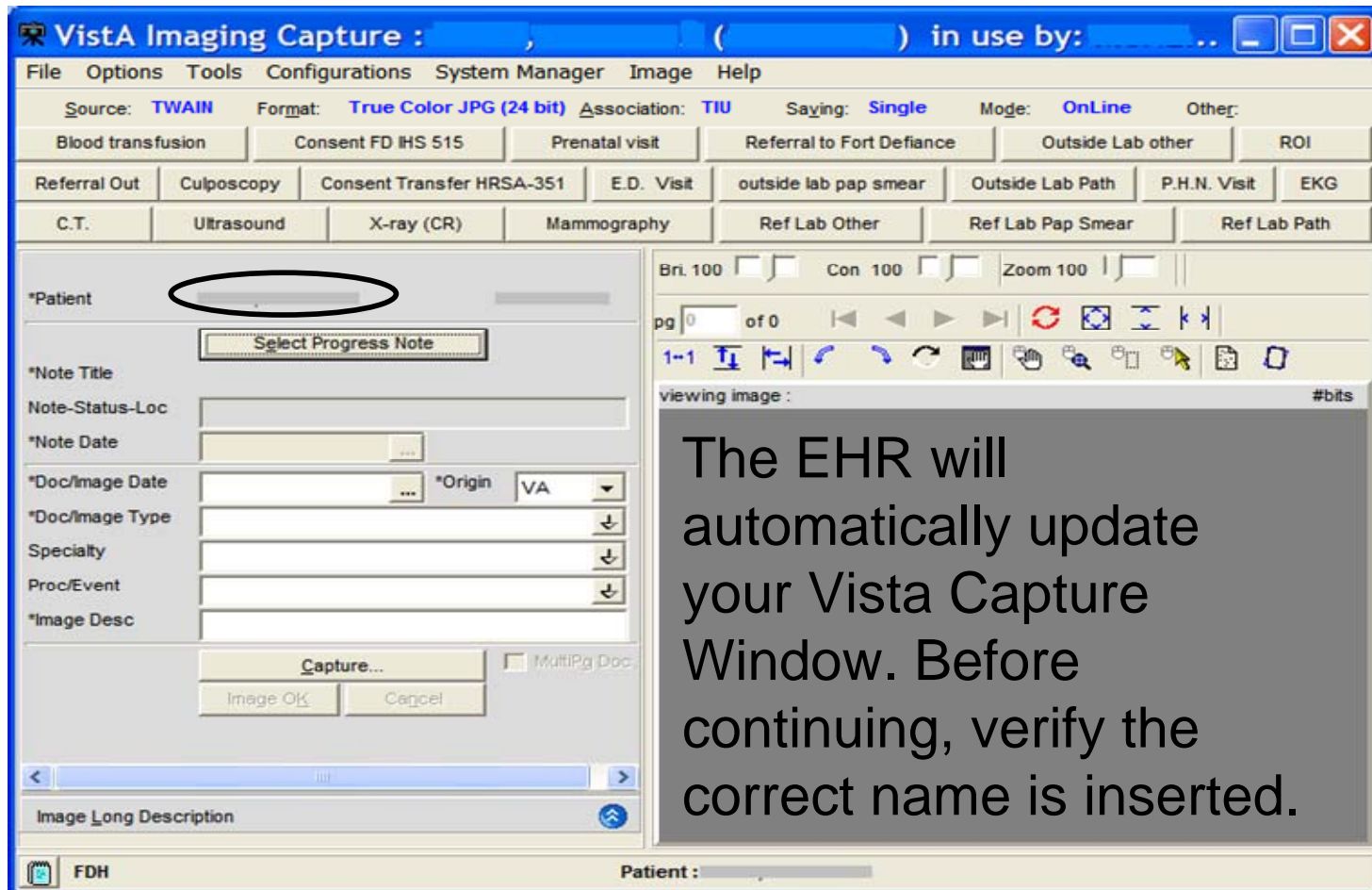
Visit: 01/29/09 SCANNED RADIOLOGY-XRAY, RADIOLOGY,
TITLE: SCANNED RADIOLOGY-XRAY
DATE OF NOTE: JAN 29, 2009@09:15 ENTRY DATE: JAN 29, 2009@09:15:42
AUTHOR: EXP COSIGNER:
URGENCY: STATUS: UNSIGNED

You may not VIEW this UNSIGNED SCANNED RADIOLOGY-XRAY.

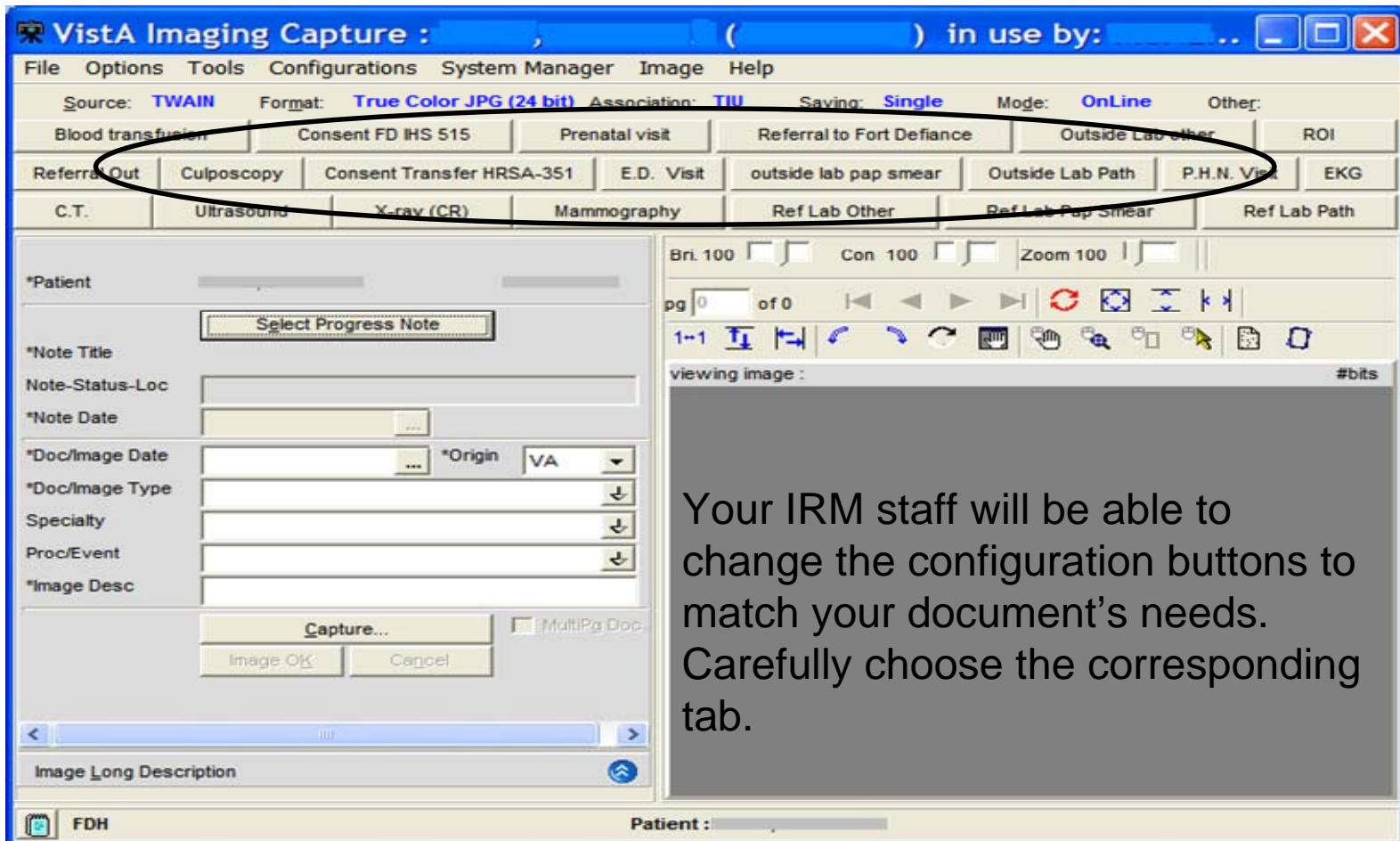
At the bottom of the window, there is a navigation bar with tabs for "Notifications", "Cover Sheet", "Notes", "Prob/POV", "Services", "Orders", "Medications", "Labs", "Wellness", "D/C Summ", "Reports", "Consults", and "Nurse". The status bar at the very bottom displays "FORT DEFIANCE INDIAN HOSPITAL" and "25-Mar-2009 15:55".

Click the word Capture.
Another login screen should appear.

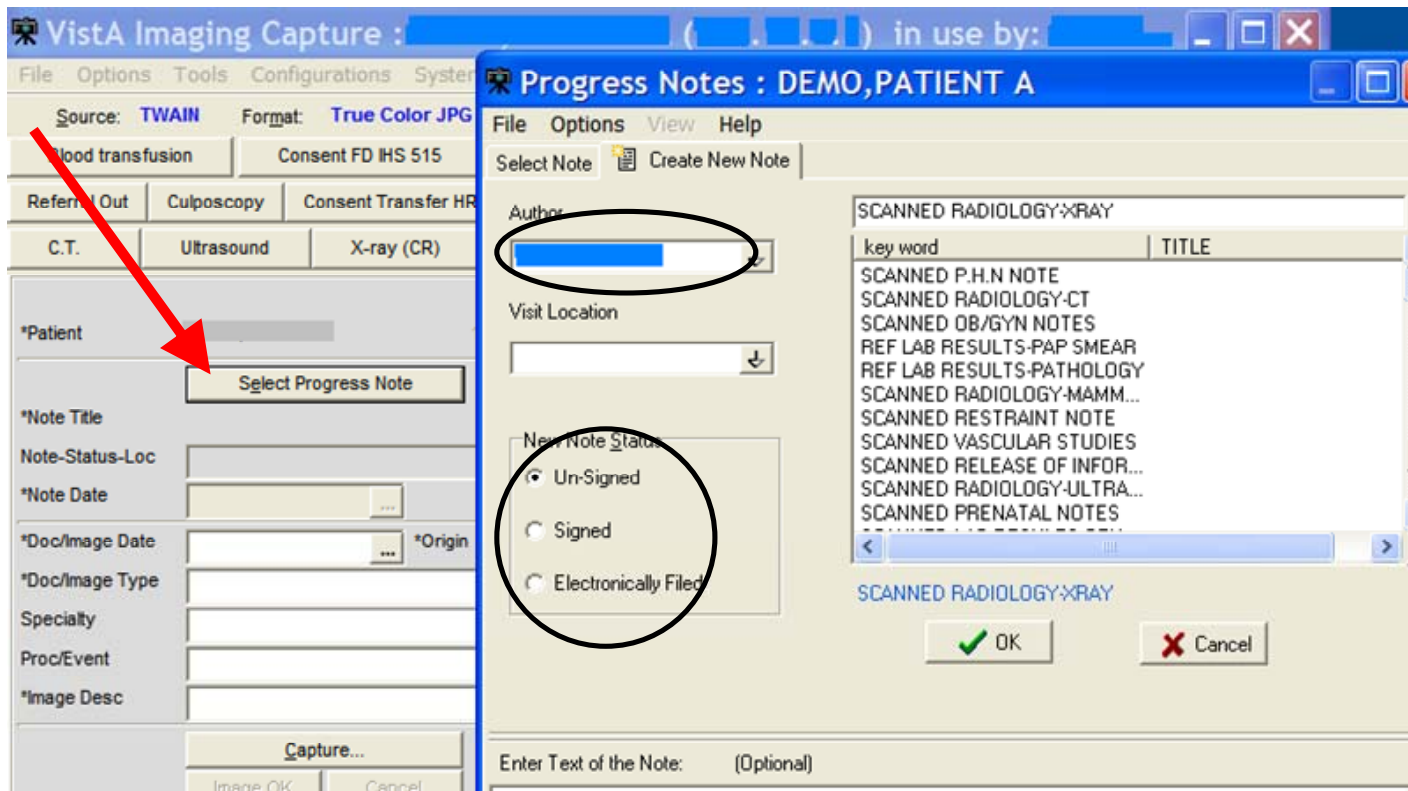
Step 3: Verify Correct Patient



Step 4: Choose Configuration

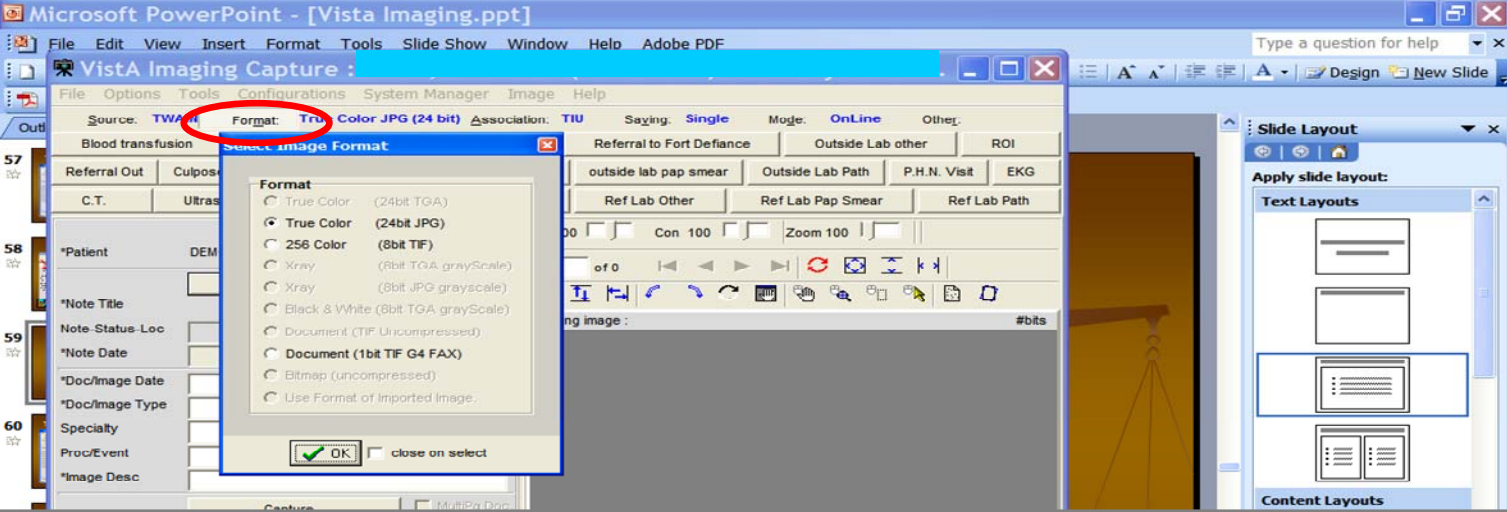


4.1 Notification Window



By entering the Physician's name, you can send notification's through EHR.

4.2 Choosing Your Format



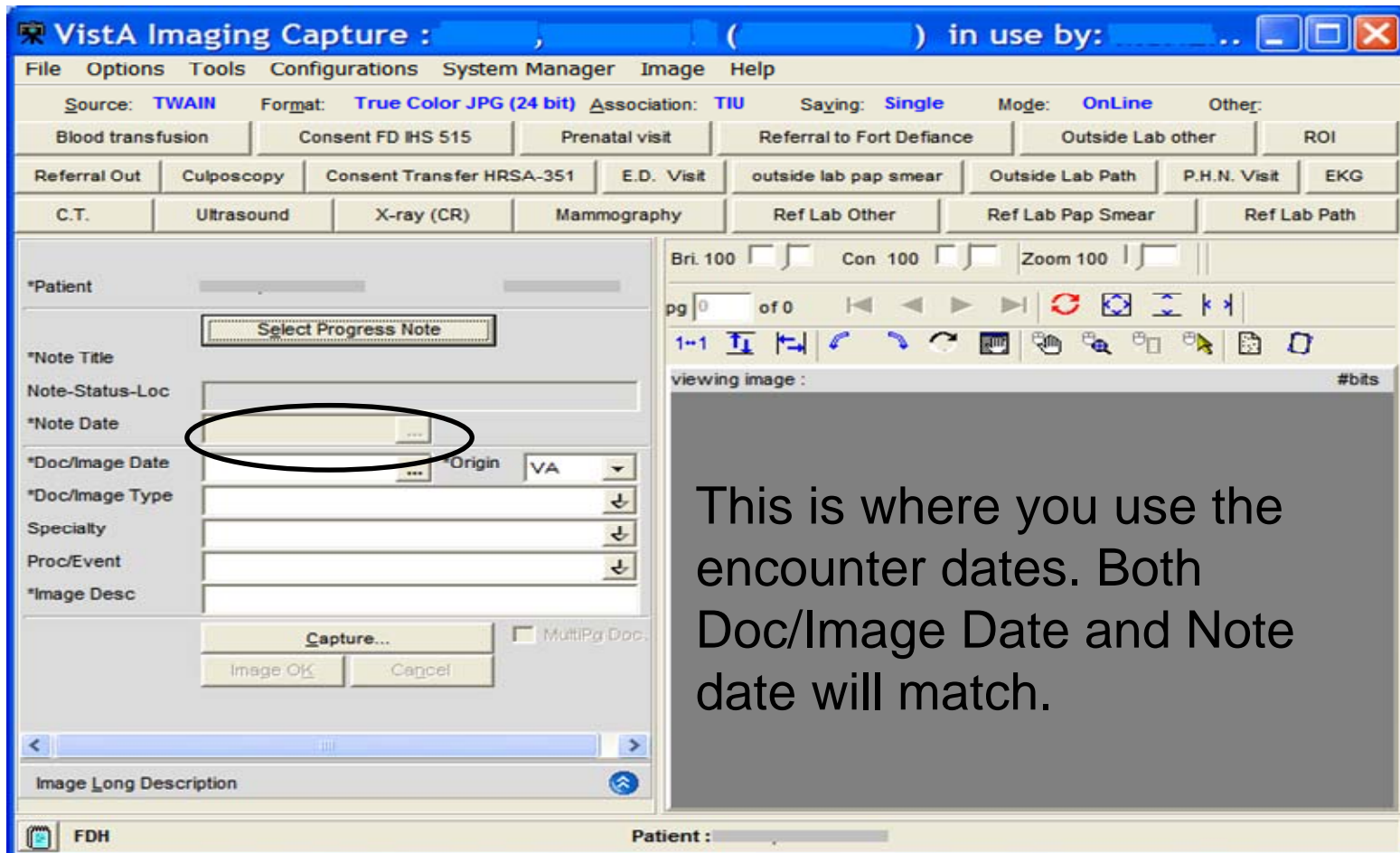
The screenshot shows the Microsoft PowerPoint interface with the VistA Imaging Capture dialog box open. The 'Format' dropdown menu is highlighted with a red circle, and the 'Select Image Format' sub-dialog is open, showing the following options:

- True Color (24bit TGA)
- True Color (24bit JPG)
- 256 Color (8bit TIF)
- Xray (8bit TGA grayscale)
- Xray (8bit JPG grayscale)
- Black & White (8bit TGA grayscale)
- Document & (TIF Uncompressed)
- Document (1bit TIF G4 FAX)
- Bitmap (uncompressed)
- Use Format of Imported Image

The 'True Color (24bit JPG)' option is selected. The dialog also includes an 'OK' button and a 'close on select' checkbox.

Color Settings
True Color JPG scans color documents one page at a time.
TGIF 4Fax scans multipage black and white documents.
265 Color scan multipage color documents. Warning: If scanning photographs use True Color JPG. 256 Color will give your photograph a water-washed appearance.

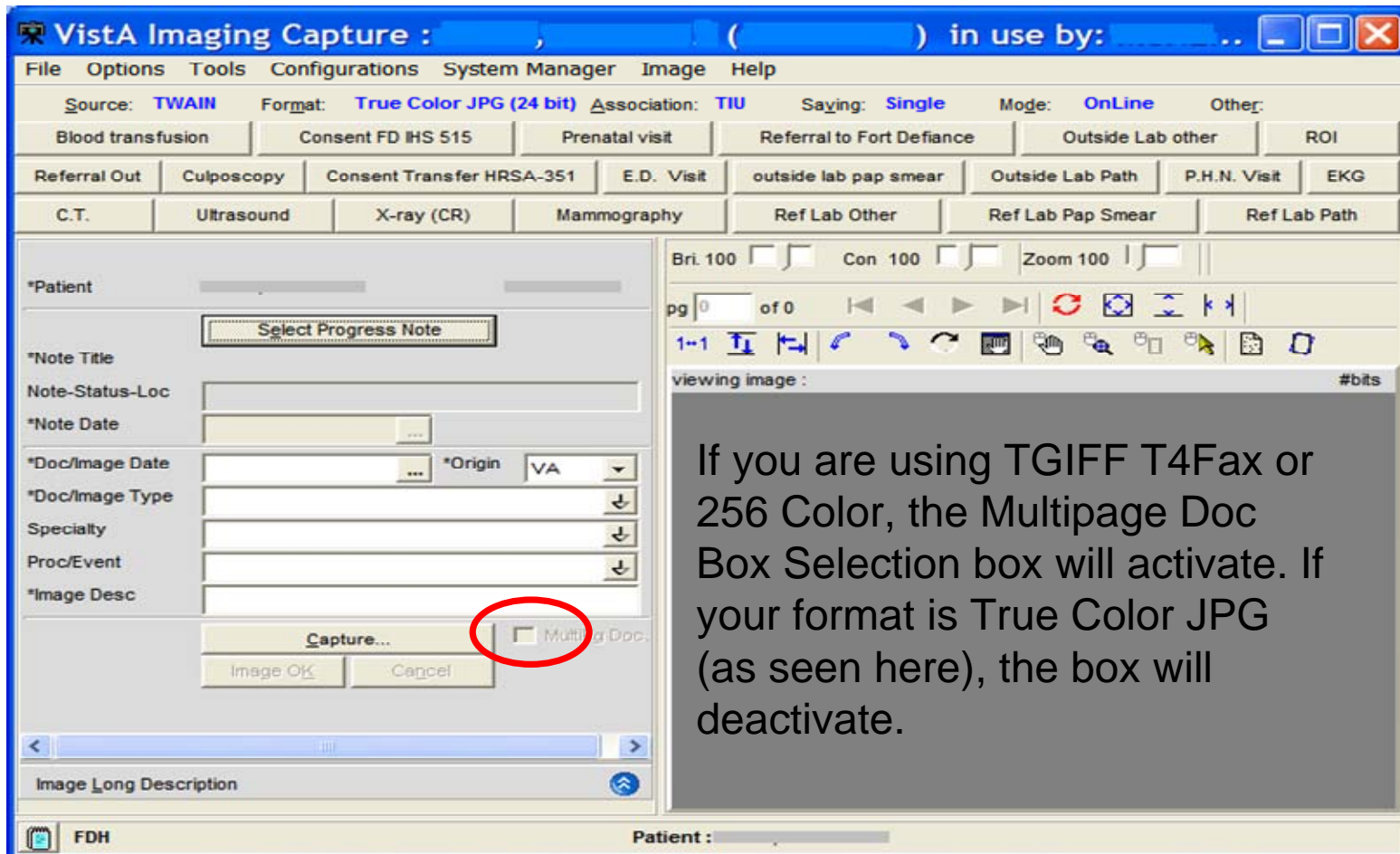
Step 5: Enter Document Dates



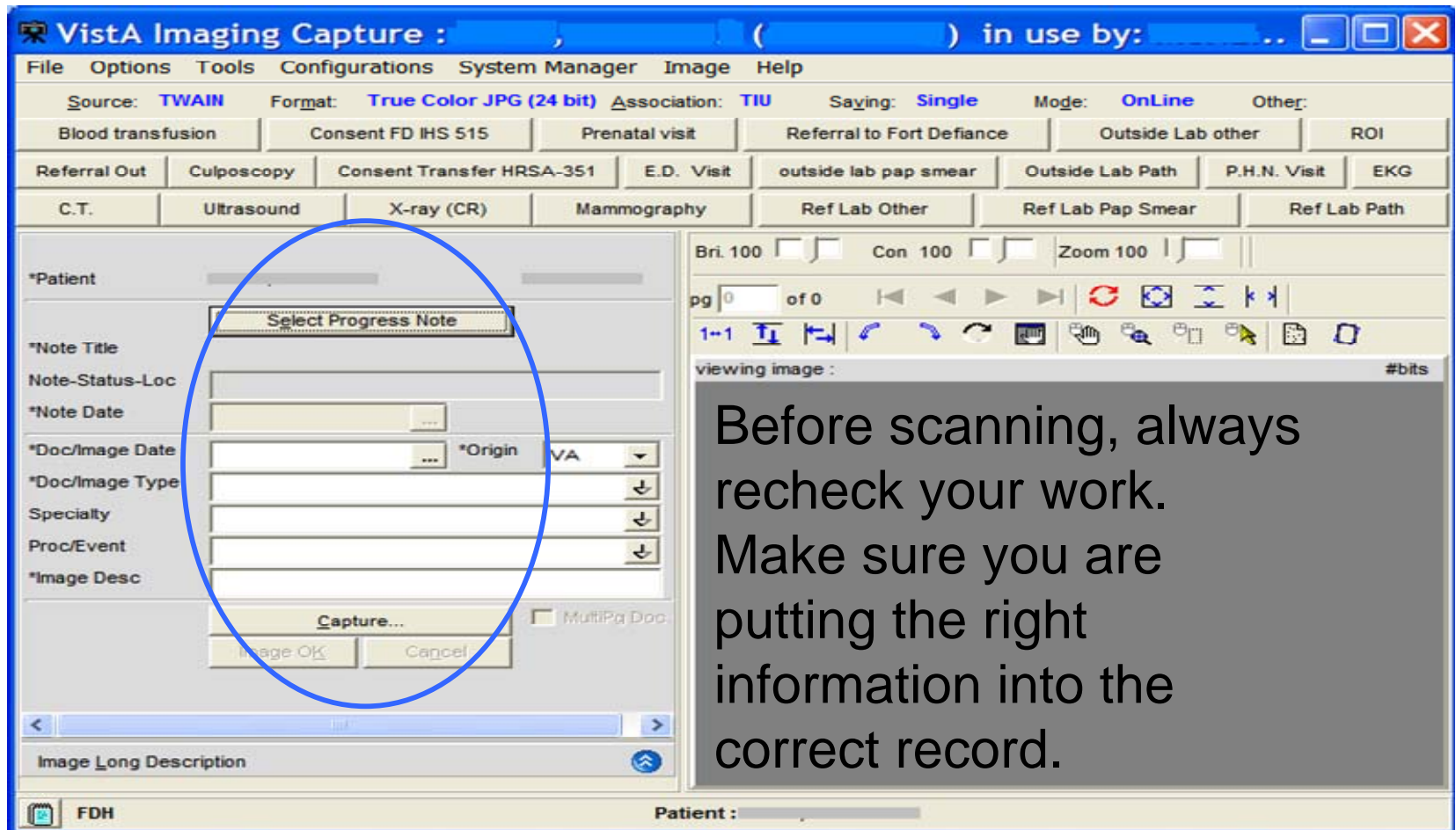
Step 6: Enter Brief Description

The Note Title that appears in the EHR will be generic. Recommend entering an identifier. When someone looks in Vista Display, your description will show.

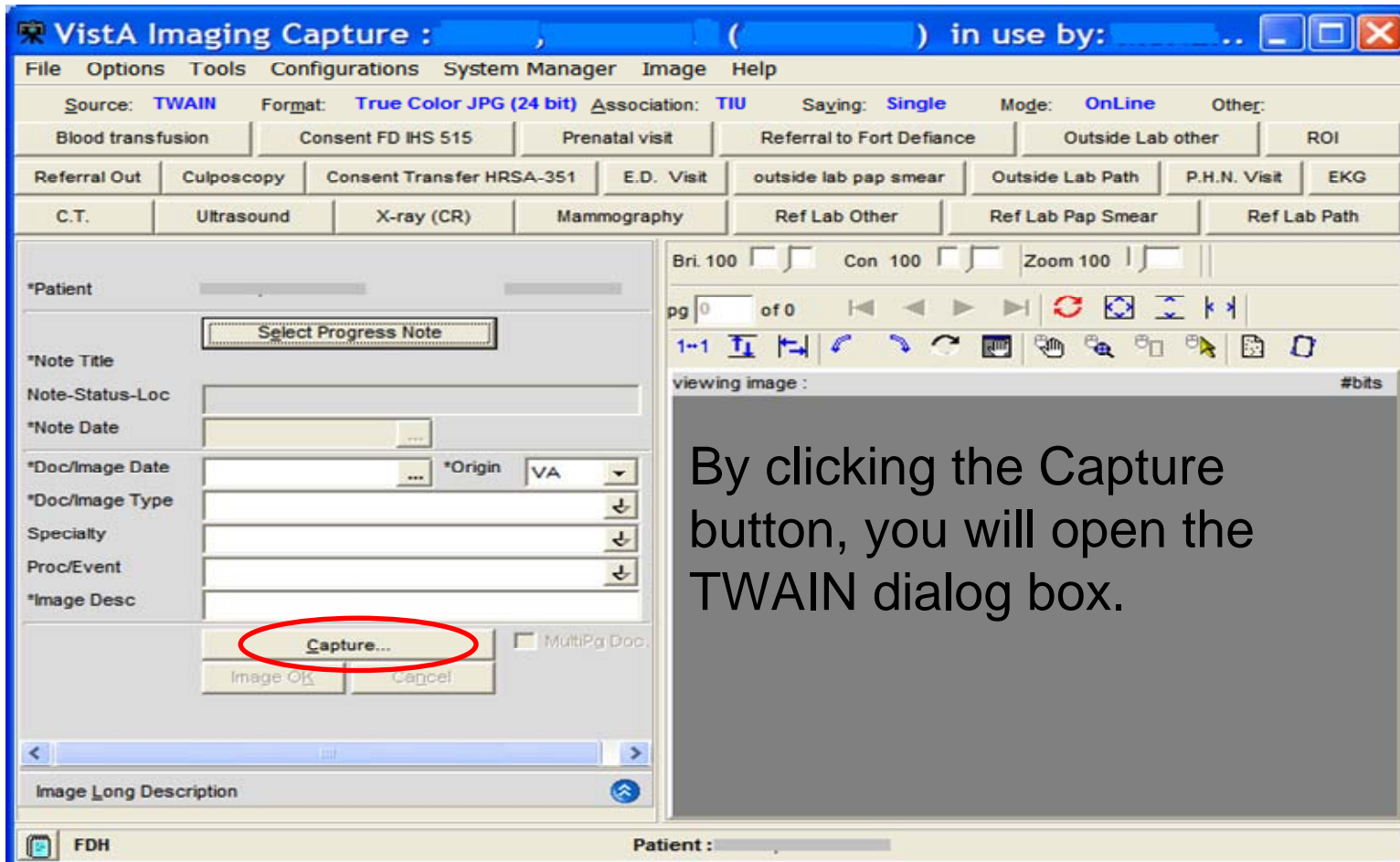
Step 6: Multipage Click Box



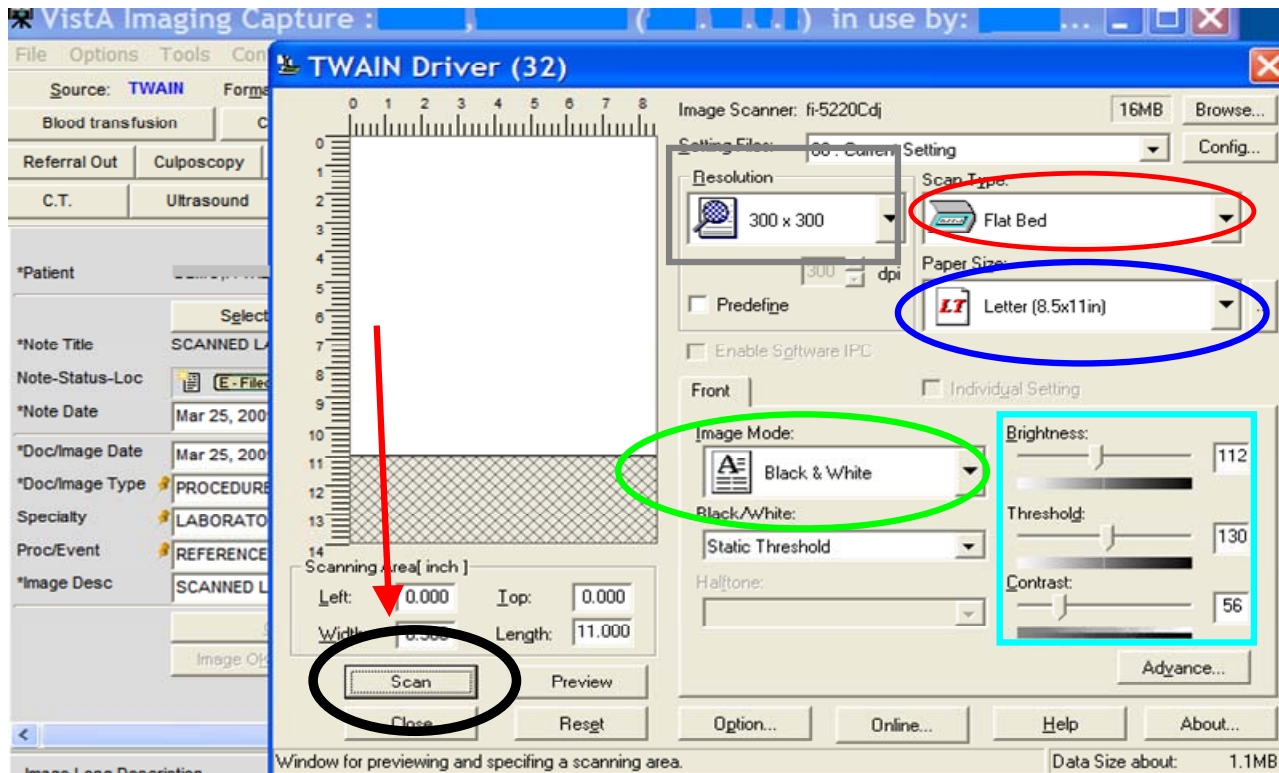
Step 7: Recheck your work!



Step 8: Capture Button



Steps 9 and 10: Twain Window



The TWAIN BOX allows you to choose your document color contrast, brightness, and threshold. This is also where you select your load source and paper size. Resolution should always be 300x300.

Steps 11 and 12: The Capture Window

Once you click Scan from the TWAIN dialog box, your image should appear in the Capture Window. Above it are your controls to make minor adjustments. If your document is of quality, then click Image OK or Cancel to try again.

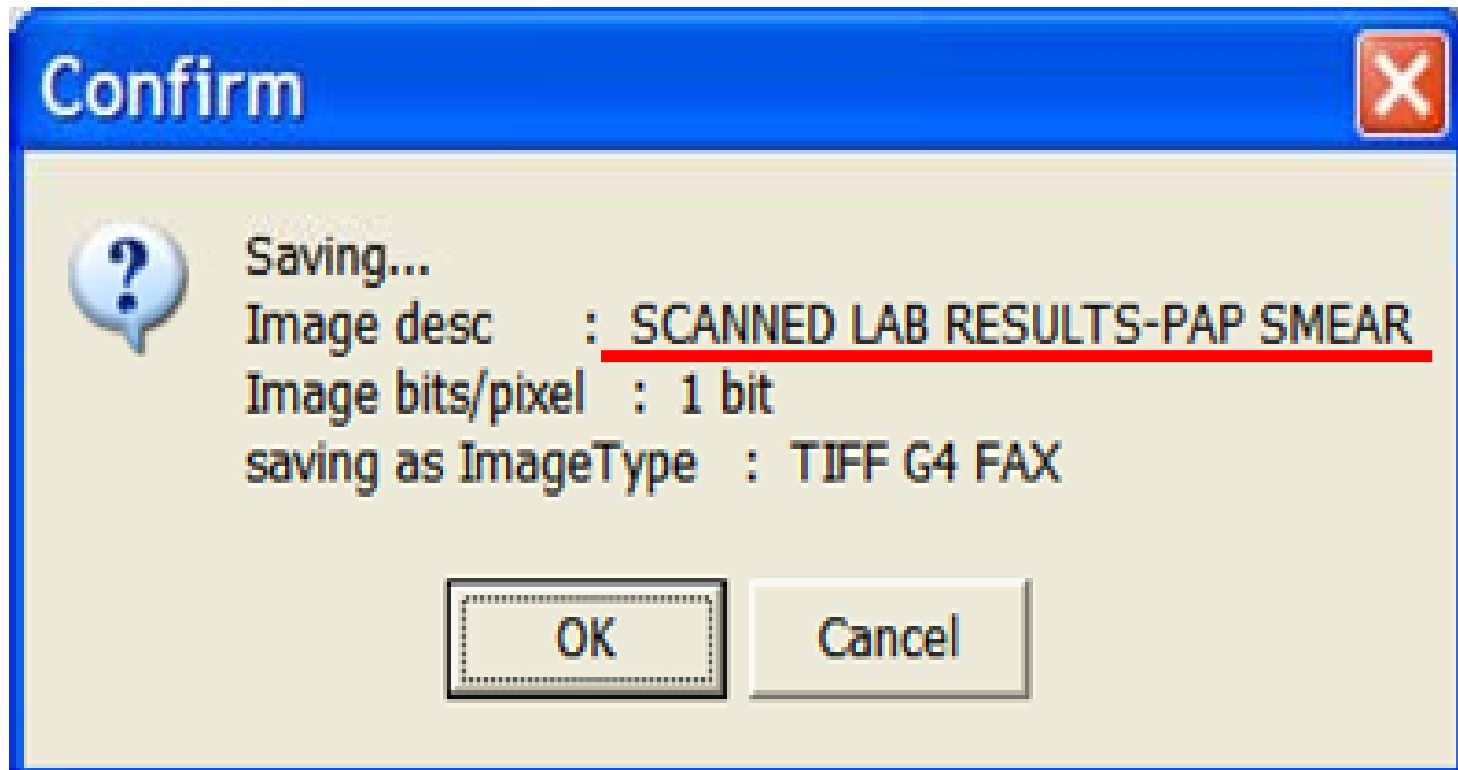
The screenshot displays the Vista Imaging Capture software interface. The window title is "Vista Imaging Capture : (. . .) in use by:". The menu bar includes "File", "Options", "Tools", "Configurations", "System Manager", "Image", and "Help". The main area is divided into a metadata panel on the left and an image preview area on the right. The metadata panel contains fields for Patient, Note Title (SCANNED LAB RESULTS-PAP SMEAR), Note Date (Mar 25, 2009@16:06), Doc/Image Date (Mar 25, 2009), Doc/Image Type (PROCEDURE RECORD/REPORT), Specialty (LABORATORY), Proc/Event (REFERENCE LAB), and Image Desc (SCANNED LAB RESULTS-PAP SMEAR). At the bottom of this panel are buttons for "Image OK" and "Cancel", which are circled in red. The image preview area shows a scanned document with the text "Test" and "FD-IHS SIS" written vertically. Above the image are controls for Brightness (Bri 100), Contrast (Con 100), and Zoom (Zoom 130). A toolbar with various navigation and editing icons is also visible. A status bar at the bottom reads "Click 'Image OK' to save Image, or 'Cancel' to discard Image".

Accepting an Image

If the image you have scanned is adequate for use in the EHR, click Image OK, then affirm the following confirmation message that follows.

If there is something wrong with the image, the click Cancel. You will have to capture the image again and make adjustments from the TWAIN dialog box.

Confirmation: Your Last Chance



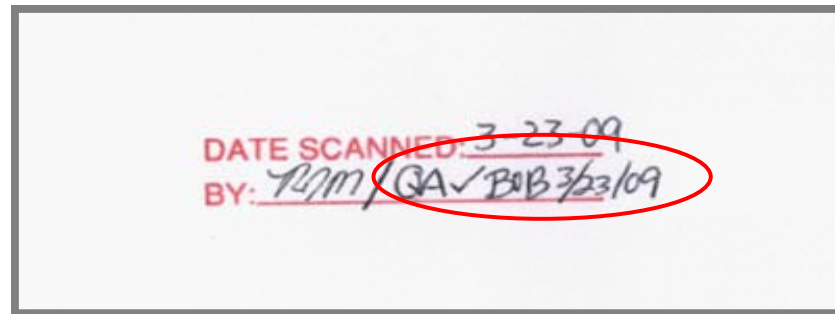
Signing Your Work

Once a document is confirmed “acceptable”, stamp each document scanned. Initial and date accordingly.

DATE SCANNED: 3-23-09
BY: RLM

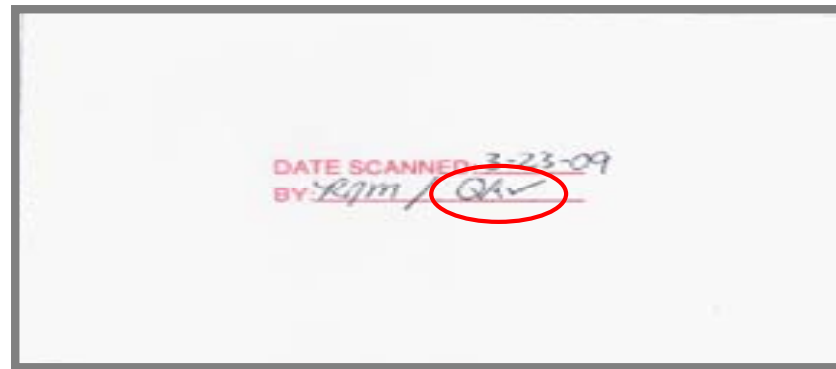
Approval

When an item is approved for physical filing, the qualifying technician will initial and date next to the scanning technician's initials, as shown below.



Approval (Continued)

For those documents that were not part of the 1 of 10 sample, the qualifying technician will notate Q/A, as seen below.



- Questions and Discussion