

April 2, 2018

ABII 10 Year Re-Certification

I am applying for consideration of re-certification to the American Board of Imaging Informatics. I am choosing the option of mentoring a Non-CIIP person into the informatics profession.

I have been employed at Anywhere Hospital USA (AHU) as the Radiology PACS Administrator since December of 1998. I am currently mentoring my co-worker, who has no prior experience in Imaging Informatics, for the position of PACS Administrator. My co-worker has been a Technologist in MRI for many years. The mentoring process start date was March 1, 2016 to present.

My mentoring process began with assessing my mentees basic knowledge of the following:

- Defining PACS; what is the meaning of acronym and what role does it play in the Medical field,
- Defining EMR, HIS and RIS and what their functions and roles in Imaging Informatics.
- Assessed the mentee's knowledge about information technology, specifically basic networking, and computer skills.
- Discussing the importance of learning how to communicate with all customers including vendors, physicians, technologists, IT personal as well as lay people.
- I did not feel it necessary to cover anatomy and physiology due to the mentee's background as a Radiologic Technologist.

After getting a feeling for my mentee's knowledge, we began discussing each of the specific AHU systems in detail and acquainting the mentee with the terminology. For example, the AHU PACS Vendor is EXCELPACS, PACS speaks DICOM. The EMR for AHU is EXCELMR and the RIS system is EXCELRAD, RIS systems speak HL7. What is HL7, what is DICOM and how do they work together, what is their purpose?

Once the mentee felt comfortable with the terminology we began working in each of the systems. The need to learn, understand and memorize the key components of PACS was stressed. As a PACS Administrator you may not always be at your computer with shortcuts to your tools and/or URLs. Knowing your PACS infrastructure along with the IP Addresses, User Names and Passwords is a must especially if remote and troubleshooting.

The PACS system has several backend tools in which to manipulate or edit the database. We went through the building/adding of a modality node. I explained each node always requires three entities: AE Title, IP Address and Port number along with the SOP Class Provider and/or

SOP Class User. These basic components that allow PACS to speak to the modalities as well as other PACS Systems. At this point we looked at the IHE Profiles and I suggested he get acquainted with those as they are the standards of integrating and communicating with other systems and devices.

We addressed building new exam procedures in PACS. Each exam is first built within the RIS system with a unique interface or procedure code as well as the procedure description. The PACS Administrators job is to then enter this information into the PACS database tool. It was stressed the importance of accuracy when entering the procedure code as this is the number that is used throughout all systems for exam procedures to interface correctly. The procedure description is what the end user will see to identify the study. We discussed assigning the correct modality for each procedure along with assigning the most appropriate modality group and body part. The tiering logic of the modality, procedure groups and body parts become very important as this is what drives exams to appear correctly to the end user along with their comparisons.

We covered adding physicians and users to the PACS database. Each physician will have a unique identifier for example in our case an NPI number. This number will interface the physician's name across all systems for a variety of uses. The user groups are set up with varying degrees of access/privileges. Administrators will be granted the highest privileges followed by radiologists and technologists. Clinicians, nurses and all others not included in the prior groups will be set as read only. Each user will have their own unique identifier, user name along with secure password that may or may not utilized with LDAP. To maintain HIPAA policies, we manually expire passwords every 120 days in a rotating fashion. If users have not accessed PACS for 6 months they are inactivated.

Building DICOM send destinations was our next task. Again the 3 DICOM entities were stressed, AE Title, IP Address and Port, every destination requires these 3 entities. We have built several destinations throughout past couple of years. We learned the usage of basic command prompts in troubleshooting network issues. Typing **cmd** in run field and then pressing enter will get you to the Command Prompt window if you already do not have shortcut. A few of the prompts learned are: **ping** to check network response and availability, **ipconfig/all** which will provide information about the PC and local network including subnets, gateways etc. I also instructed the use of **Tracert** command prompt if there are any issues getting from the local PC to the destination. **Tracert** command will show the steps and time taken in the pathway to the destination. You can diagnose latency and packet loss with the **tracert command**. Having the PACS Administrators run a simple **tracert** cmd prompt has been very helpful in assisting our Network team troubleshoot.

DICOM modality work list was another key feature to learn. We discussed the data flow of the patient and the patient exam order. The patient is first registered in the HIS then an encounter for the patient is created for the specific department. Once the encounter is set an exam order may be placed. The important numbers that will be interfaced from this exam order to the PACS Broker are the unique Patient ID and the Accession number which is unique to the exam as well as the patient. It was explained no Patient ID or accession number can be re-used. Data integrity must always be maintained in the PACS system. Multiple numbers for the same patient must be expunged.

We discussed the RIS system sends all the exam orders to an interface engine which in turn sends all Radiology orders outbound to a server called a PACS broker. The PACS broker houses the software for DICOM Modality Worklist. I explained for the integrity of PACS to be maintained a DICOM Modality Work List is mandatory. DMWL eliminates manually data entry of patient and exam demographics at the modality. If DMWL is non-functional, then manual entry is the backup. The modality must have a destination saved for DMWL query. This destination must include the AE Title, IP Address and Port number of the PACS Broker. In turn the PACS Broker must know the AE Title, IP Address and Port number of the Modality that is performing the query. The modality may query the exam based on patient name, patient ID and/or accession Number.

Throughout the past couple of years, we have submitted several proposals for purchasing of equipment and new software which have successfully been adopted. We briefly covered RFP's but are continually asked for ROI's in purchasing new technologies. I will briefly list a few of the other systems in which I am mentoring. Most of these systems are directly interfaced into our EXCELPACS. Some of these systems were voice recognition dictation and reporting, modality specific reporting systems, quality monitoring systems and software for scanning and burning documentation to share with other healthcare providers.

Along with the above systems and software we are directly responsible for building and maintaining the diagnostic reading workstations. We also oversee an extensive teleradiology system that connects to over 100 sites. We utilize VPN's as well as cloud technology.

To assure my mentee is progressing I have created a skills check list (attached). This list contains the items previously discussed plus more extensive details on learned about the PACS infrastructure. We discuss and date each of the items as he become proficient.

Recently we both have become members of SIIM and have purchased the SIIM Boot Camp study guide. We have participated in a few of the webinars which has helped us network with others in the profession. My hope is with my mentoring along with utilizing the SIIM Boot Camp

series and other study materials my mentee will be ready to take his CIIP Certification in the near future.

PACS Administrator Skills Check List

EXCELPACS

- Support Phone Number_____
- Acronym Meaning_____
- Database IP_____
- Administrative User Name/Password_____

- Name of Application for PACS Clean-Up_____
- Preferences_____
- Worklists Adding/Removing_____
- Skins_____
- How to find Workstation Build and Type_____
- Merging Exams_____
- Merging Patients_____

- Management Tool for PACS_____
- URL for Management Tool_____
- Alternate Location for Management Tool_____
- Adding Physicians_____
- Adding Users/Functions_____
- Adding /Deleting Workstations_____
- Adding/Deleting Destinations_____
- Adding/Deleting Destination Addresses_____
- DICOM Send Queue_____
- Adding/Deleting Folders_____
- Adding/Deleting Privileges to Folders_____
- Building Physician Folders/Worklists_____

- Name Tool for Adding Nodes_____
- URL for Tool_____
- User Name/Password_____
- Build/Delete a Node_____
- DAS Names_____
- DAS IP's_____
- DAS Job Logging_____

- Name of DMWL_____
- Acronym Meaning_____
- IP address_____

- How to Access_____
- User Name/Password_____
- Adding/Deleting/Editing_____
- Testing of DMWL_____

- Unmerging patients in PACS_____

- Architecture of PACS_____
- LTS_____
- STS_____
- DAS_____
- EA_____
- PACS Broker_____
- Virtual Servers_____
- Vsphere_____
- DPS_____

- Installation of EXCELRAD Client_____

- Building DDP's_____

- Physical setup of Radiologist PACS workstation_____

- ZFP IP/URL_____

TELERADIOLOGY GATEWAY SYSTEM

- IP Addresses of all existing Teleradiology Gateway Systems and Physical Locations_____
- Support Phone Number_____
- Administrative User Name/Password_____
- Building Destinations_____
- Testing Destination Connectivity_____
- Auto-Routing_____
- QC Module_____
- Digitizing Films_____
- Burning CD's_____
- Sending/Receiving Images_____
- Work lists_____

- Configuring _____
- Error Logs _____
- Restarting Services _____
- VNC application _____
- VNC administration _____
- Clearing Send Queue _____

PACS AUDITING TOOL

- Support Contact _____
- User Name/Password _____
- Audit by Accession, User etc. _____
- Duplicate Report _____

FAX

- Fax Utility tray _____
- Changing Printers _____
- Support Contact _____

QUALITY REPORTING SYSTEM

- URL _____
- Support Contact _____

DICOM MEDIA WRITING SYSTEM

- PACS Nodes Setup _____
- Worklist setup _____
- Defaults _____
- Support Contact _____

CLOUD BASED SYSTEMS

- System 1 _____
- System 2 _____
- System 3 _____
- System 4 _____

REMOTE ACCESS SOFTWARE

- Remote Desktop _____

- Bomgar_____
- Landesk_____

3D RECONSTRUCTION SYSTEM

- Server IP Addresses_____
- DICOM Destination (AE Title, IP, Port.) _____
- Installing Application_____
- Service_____
- User Name/Password_____

CRITICAL RESULTS AUTOMATION SYSTEM

- URL_____
- User Name/Password (resetting)_____
- Client Configuration_____
- Group Configuration_____
- Assigning Pagers/Cell Phones/Faxes_____
- Configuring Administrators_____
- Configuring Specialists_____
- Provisioning_____
- Reporting_____
- Service_____
- Name of App_____
- Yellow Alerts_____
- Red Alerts_____
- Yellow Document Only_____
- Red Document Only_____
- Escalation Process for Yellow Alerts_____
- Escalation Process for Red Alerts_____

SONOGRAPHY REPORTING SYSTEM

- Server IP_____
- Server Name_____
- Server User Administrative User Name/Password_____
- VP Admin_____
- User Configuration/Privileges/Password/Activate/Deactivate_____
- Worklists_____
- Create Worklists_____

- Merge Patients_____
- Move Encounters_____
- Navigate software to train Physicians_____
- Define Start/Prelim and Final Status_____

VOICE RECOGNITION DICTATION and REPORTING SYSTEM-Portal

- URL_____
- Server Names and IP's_____
- Service ID_____
- Support Phone Number_____
- Explorer-Define Status's_____
- How to Change status_____
- Linking/Unlinking_____
- Deleting reports_____
- Dashboard_____
- Set up Users/Privileges_____
- Auto-texts_____
- Cloning Auto-Texts_____
- Physicians_____
- Sites_____
- Procedures-categorize/uncategorized_____
- Configurations-Site vs System vs User_____
- Order Entry_____
- Order Entry Login_____
- Order Entry Sites_____
- Password changing_____

VOICE RECOGNITION DICTATION APPLICATION

- How to load and sync_____
- Preferences_____
- Auto-text Editor_____
- Microphone Wizard_____
- Training new user_____
- Troubleshooting_____
- Loading drivers_____
- Microphone return/exchange process_____

Other

- Name the 3 elements needed for communication between DICOM Modalities
 - _____
 - _____
 - _____
- DICOM Tags _____
- RIS Acronym Meaning _____
- Give Example of a RIS _____
- What language is utilized by RIS _____
- What language utilized by PACS _____
- Explain how CIS interfaces with PACS and Powerscribe _____

- OGZEN what is it? _____
- OGZEN IP Address _____
- OGZEN User Name/Password _____
- OGZEN file location _____

EXCELRAD

- Cert/Prod/Mock _____
- Department Order Entry (Regional Work Flow) _____
- Exam Management _____
 - Replacing Orders _____
 - Add-On Accession _____
 - Editing orders _____
- Radiology Order Viewer _____
 - Crediting Charges (Pro and/or Tech) _____
- Combine Patients _____
- Uncombine Patients _____
- Remove Exam _____
- Discern Visual Explorer _____

Questions/Comments or Concerns

- _____

Employee Name_____

Date of Review_____

Signature_____

Evaluator Name_____

Date of Evaluation_____

Signature_____

PACS Administrator Skills Check List

PACS

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- Acronym Meaning_____
- Database IP_____
- Administrative User Name/Password_____

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- Alternate Location for Management Tool _____
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- Adding Users/Functions _____
- Adding /Deleting Workstations _____
- Adding/Deleting Destinations _____
- Adding/Deleting Destination Addresses _____
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- Adding/Deleting Privileges to Folders _____
- Building Physician Folders/Worklists _____

- Name Tool for Adding Nodes _____
- URL for Tool _____
- User Name/Password _____
- Build/Delete a Node _____
- DAS Names _____
- DAS IP's _____
- DAS Job Logging _____

- Name of DMWL _____
- Acronym Meaning _____
- IP address _____
- How to Access _____
- User Name/Password _____
- Adding/Deleting/Editing _____
- Testing of DMWL _____

- Unmerging patients in PACS _____

- Architecture of PACS _____
- LTS _____
- STS _____
- DAS _____
- EA _____
- PACS Broker _____
- Virtual Servers _____
- Vsphere _____
- DPS _____

- Installation of Centricity RA1000 Client_____
- Building DDP's_____
- Physical setup of Radiologist PACS workstation_____
- ZFP IP/URL_____

RADWORKS

- IP Addresses of all existing Radworks and Physical Locations_____
- Support Phone Number_____
- Administrative User Name/Password_____
- Building Destinations_____
- Testing Destination Connectivity_____
- Auto-Routing_____
- QC Module_____
- Digitizing Films_____
- Burning CD's_____
- Sending/Receiving Images_____
- Work lists_____
- Configuring_____
- Error Logs_____
- Restarting Services_____
- VNC application_____
- VNC administration_____
- Clearing Send Queue_____

PACSHEALTH

- Support Contact_____
- User Name/Password_____
- Audit by Accession, User etc._____
- Duplicate Report_____

RIGHTFAX

- Rightfax Utility tray_____
- Changing Printers_____
- Support Contact_____

RADIMETRICS

- URL_____
- Support Contact_____

PACSSCAN/Mediawriter

- PACS Nodes Setup_____
- Worklist setup_____
- Defaults_____
- Support Contact_____

Clouds

- Powershare_____
- Emix_____
- Intuition_____
- Valvepoint_____

Remote Access Software

- Remote Desktop_____
- Bomgar_____
- Landesk_____

SYNGOVIA

- Server IP Addresses_____
- DICOM Destination (AE Title, IP, Port.) _____
- Installing Application_____
- Service_____
- User Name/Password_____

Powerscribe 360 Critical Results

- URL_____
- User Name/Password (resetting)_____
- Client Configuration_____
- Group Configuration_____
- Assigning Pagers/Cell Phones/Faxes_____

- Configuring Administrators_____
- Configuring Specialists_____
- Provisioning_____
- Reporting_____
- Service_____
- Name of App_____
- Yellow Alerts_____
- Red Alerts_____
- Yellow Document Only_____
- Red Document Only_____
- Escalation Process for Yellow Alerts_____
- Escalation Process for Red Alerts_____

VIEWPOINT 6.0

- Server IP_____
- Server Name_____
- Server User Administrative User Name/Password_____
- VP Admin_____
- User Configuration/Privileges/Password/Activate/Deactivate_____
- Worklists_____
- Create Worklists_____
- Merge Patients_____
- Move Encounters_____
- Navigate software to train Physicians_____
- Define Start/Prelim and Final Status_____

NUANCE POWERSCRIBE-Portal

- URL_____
- Server Names and IP's_____
- Service ID_____
- Support Phone Number_____
- Explorer-Define Status's_____
- How to Change status_____
- Linking/Unlinking_____
- Deleting reports_____
- Dashboard_____
- Set up Users/Privileges_____
- Auto-texts_____

- Cloning Auto-Texts_____
- Physicians_____
- Sites_____
- Procedures-categorize/uncategorized_____
- Configurations-Site vs System vs User_____
- Order Entry_____
- Order Entry Login_____
- Order Entry Sites_____
- Password changing_____

NUANCE POWERSCRIBE APPLICATION

- How to load and sync_____
- Preferences_____
- Auto-text Editor_____
- Microphone Wizard_____
- Training new user_____
- Troubleshooting_____
- Loading drivers_____
- Microphone return/exchange process_____

Other

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- What language is utilized by RIS_____
- What language utilized by PACS_____
- Explain how CIS interfaces with PACS and Powerscribe_____
- OGZEN what is it? _____
- OGZEN IP Address_____
- OGZEN User Name/Password_____
- OGZEN file location_____

Cerner Radnet

- Cert/Prod/Mock _____
- Department Order Entry (Regional Work Flow) _____
- Exam Management _____
 - Replacing Orders _____
 - Add-On Accession _____
 - Editing orders _____
- Radiology Order Viewer _____
 - Crediting Charges (Pro and/or Tech) _____
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