
IT MANAGEMENT IN A MAJOR HOSPITAL SYSTEM

Bruce Curran, MS, ME, FAAPM, FACR, FACMP
Associate Professor of Radiation Oncology
VCU Health System
Chief Therapy Medical Physicist
HH McGuire VA Medical Center
Richmond, VA

Disclosures

- AAPM Funding:
 - DICOM Working Group 7 (member since 1994)
 - IHE-RO (co-chair, AAPM Steering Committee since 2017)
- ASTRO Funding:
 - IHE-RO (co-chair, Technical Committee (2004 – 2014))

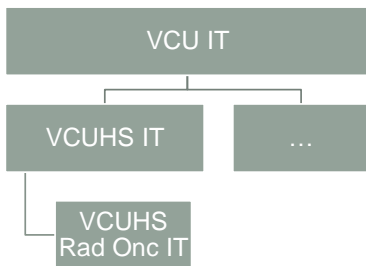
IT in a Major Hospital System

- Separate IT Department with its own resources and policies
 - In very large departments, may be in-department personnel
- Biomedical Engineering Department involved in equipment maintenance
 - May also have in-department support personnel
- Non-RO Departments may not understand RO needs
 - Recommend isolated IT space for each system
 - Priorities are often security-based rather than patient treatment centric

Role of the Medical Physicist

- Responsible for the overall operations of RO equipment
 - Verify correct operation of systems prior to clinical use
- Development of Policies and Procedures for IT integration
 - Requires buy-in from IT and Biomedical leadership
- Management of diverse goals in support of quality patient care
 - Establish Medical Physicist as the lead in IT systems for RO
- Lead Planning and Implementation Teams for IT systems
 - Not always the leader, but instrumental in their actions

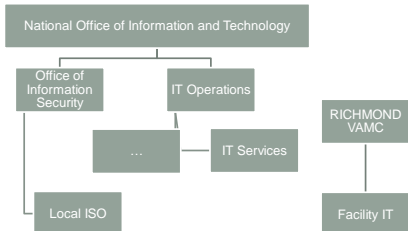
VCU Information Technology Structure



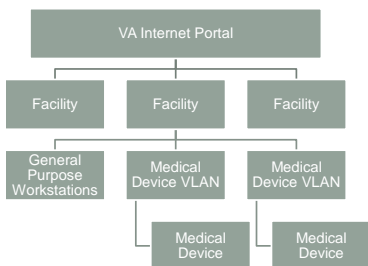
VCU Health System Radiation Oncology IT

- 2 Individuals (mutual backup)
 - One primary for Varian-based applications
 - One primary for Philips and other applications
- Recognized by VCU and VCUHS IT as peers
 - Independent Active Directory for Radiation Oncology Users
 - Complete control over devices, users, ...
 - Handle all radiation oncology applications
 - Aria, Eclipse, Pinnacle, ...
- Medical Physics Advisory Group to help set policies

VA Office of Information and Technology



VA Network Structure



Network Access

- Generally, access through each Medical Device VLAN is highly restricted
 - No internet access
 - No VA network access except to OIT systems (license servers, AD servers, ...)
 - Access control is maintained by National IT, not local facility IT
- General policy is that each Medical Device is independently isolated in its own VLAN

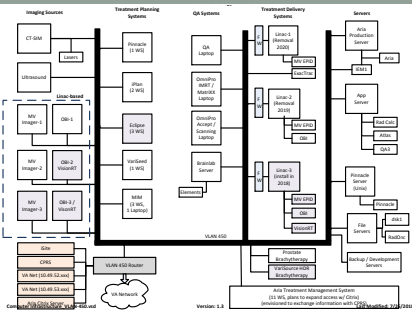
Medical Physicist Oversight

- For Radiation Oncology, departments are allowed to contain all Medical Devices in a single VLAN
- Easier configuration of communication between devices
- IT changes require multiple department support
- Radiation Oncology submits work order to Biomedical Engineering
 - Biomedical Engineering submits IT order to OIT
 - OIT transfers order to Local IT if required
 - Local IT performs service

Richmond VAMC has slightly modified structure

- OIT has granted a Medical Physicist Administrative Rights to all Radiation Oncology Medical Devices
- Justification based on accreditation requirements for Medical Physicist to oversee all changes in biomedical devices associated with radiation treatment
- Privileges limited to devices inside the radiation oncology VLAN. Access requests for crossing the VLAN barrier still maintained by national OIT
- Annual training and resubmission required for renewal
- Privileges reviewed quarterly for appropriateness

IT Map: VA Radiation Oncology MD Network



Biomedical IT Devices:
Radiation Oncology



Thank you