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The importance of an efficient WORKFLOW in a Teleradiology environment

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The importance of an efficient WORKFLOW in a Teleradiology environment

- ✓ Introduction
- ✓ Challenges in Radiology
- ✓ What is Teleradiology
- ✓ Issues with the current workflows
- ✓ Key Features in a New Age Teleradiology Workflow
- ✓ Impact of an Efficient Workflow
- ✓ Teleradiology Workflow
- ✓ The clinical Integration platform
- ✓ Same solution presented differently
- ✓ Workflow platform should be Compliant to standards

- ✓ Application level Integration
- ✓ Case Studies

Introduction

Teleradiology providers for Hospitals around the world with customer base growing in leaps and bounds across geographies are constantly required to meet:

✓ **The tight SLA's while maintaining the quality of reports.**

✓ **Software systems with a work-flow that improves efficiency of the radiologists multi-fold.**

✓ **Software systems with automated checking and monitoring of studies to ensure accuracy and quality of service**

✓ **Need of collaboration and communication between the radiologists, Physicians and Hospitals to ensure quality of reports.**

✓ **Finally the systems need to be scalable with increasing number of studies across geographies**

Challenges in Radiology

Teleradiology

Transfer of diagnostic images to another location for interpretation

Issues with the current workflows

- ✓ **Disparate systems**

- ✓ **Scheduling – non optimal radiologist assignment**

- ✓ **Images missing from incomplete orders found too late**

- ✓ **Slow Image transfer**

- ✓ **Lack of feedback mechanism**

- ✓ **Inflexible Access / lack of mobility**

- ✓ **Communication bottlenecks**

Key Features in a New Age Teleradiology Workflow

- ➤ **Web-based** platform needing no time or investment to setup

- ➤ **Report from anytime, anywhere through an internet browser**

- ➤ **Optimize a multi-site and a multi-radiologist setup**

- ➤**Configurable workflow system to adapt to the dynamic changes in the workflow.**

- ➤ **Enable security and privacy as per HIPAA guideline**

Key Features – Optimal distribution of images through smart scheduling; Unified patient information and reporting

Existing Issues — Radiologists spend significant time(>25%) on workflow, IT systems, logistics and iterations which could have been more useful in diagnosis. The reasons which lead to such inefficient usage of human resource include:

Issue 1

Non optimal distribution of studies keeps radiologist waiting to be assigned to studies

With Optimized workflow- studies are reported on time as the scheduler schedules radiologists and provides work according to expertise, availability ,

Issue 2
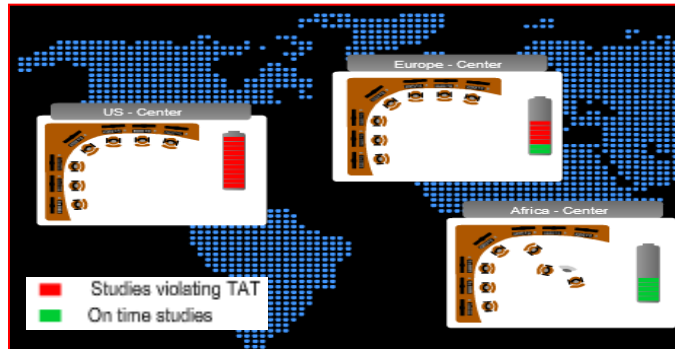
Image and order incompatibilities in disparate RIS and PACS systems cause reporting delays

Unified intelligence of a workflow provides one system having images, patient information and reporting. Auto reconcile ensures image and order compatibility

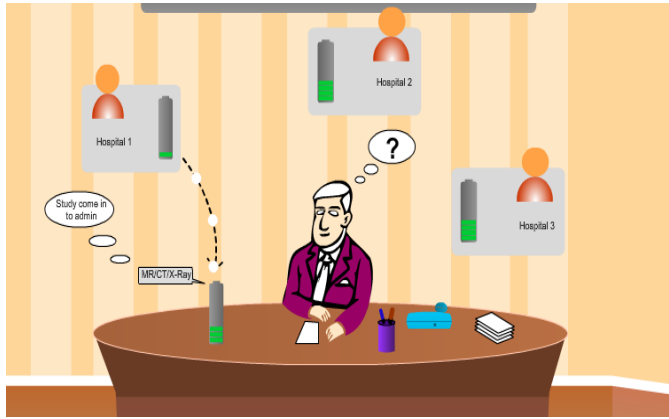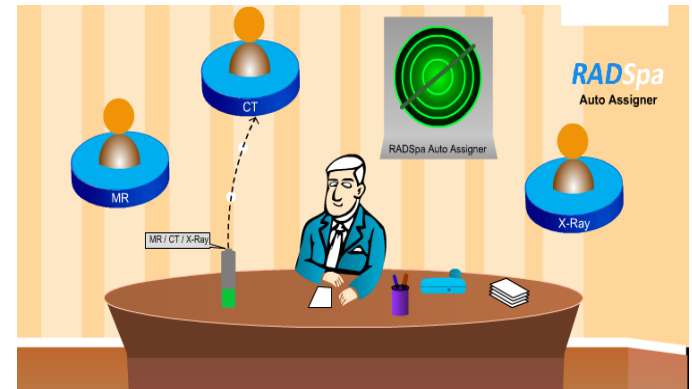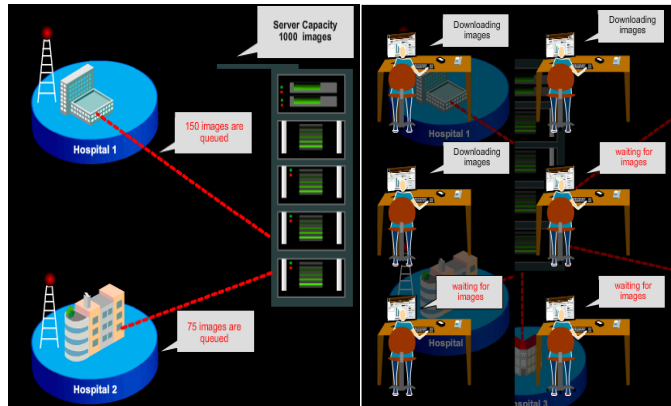# Key Features – Distributed architecture enables scaling; Push feature enables "on time" reporting
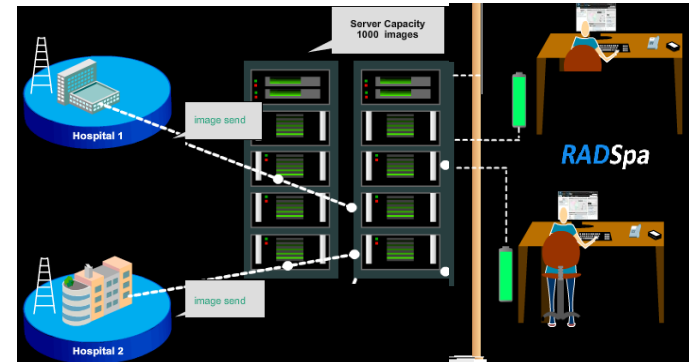

Issue 1

Issue 2

Slow image transfer and pull based download of images delays images availability to a radiologist

Distributed architecture scales with the volume of studies. Proactive push- delivers images directly to assigned radiologists enabling "on time" reporting

Key Features – "On the move" accessibility and reporting options; Context based collaboration between radiologists and physicians

Issue 1

Inflexible access/lack of mobility
Radiologists can only access images at their workspace

Mobile Teleradiology workflow allows a radiologist to access images and also report while on the move

Issue 2
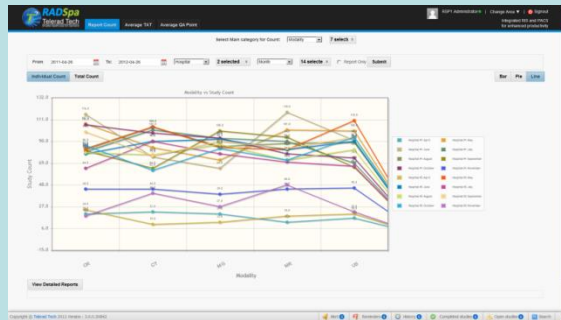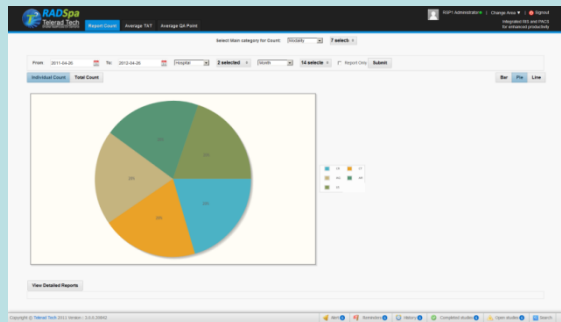
Collaboration over disparate system makes communication ineffective
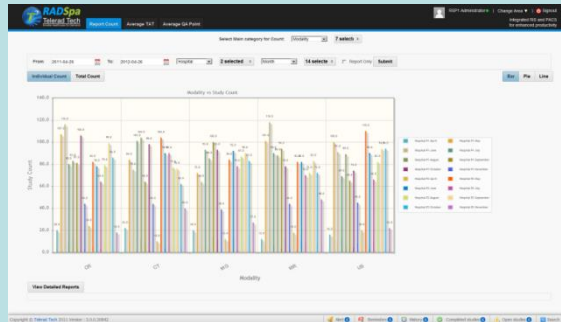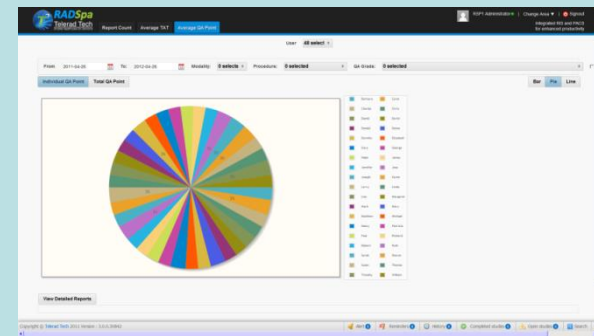
Context based collaboration enables effective collaboration as physician can see radiologists availability online and can then communicate with a context on certain image

Location 1

Location 2

Location 1

Location 2

Management Information System

Variety of tools to provide management reporting on the Business aspects
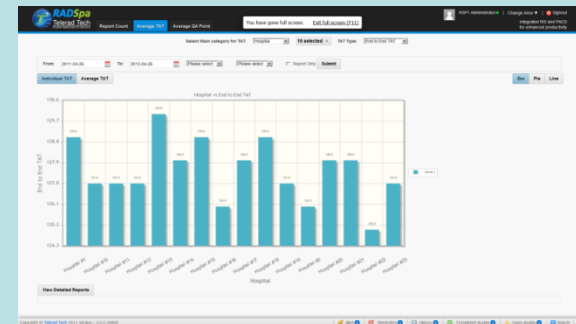
Impact of an Efficient Workflow

- ✓ **Reduce TAT**

- ✓ **Increase Quality**

- ✓ **Increase Volume and Growth**

- ✓ **Happy customers**

AND

HAPPY RADIOLOGISTS!!!

Teradiology Workflow

The clinical Integration platform
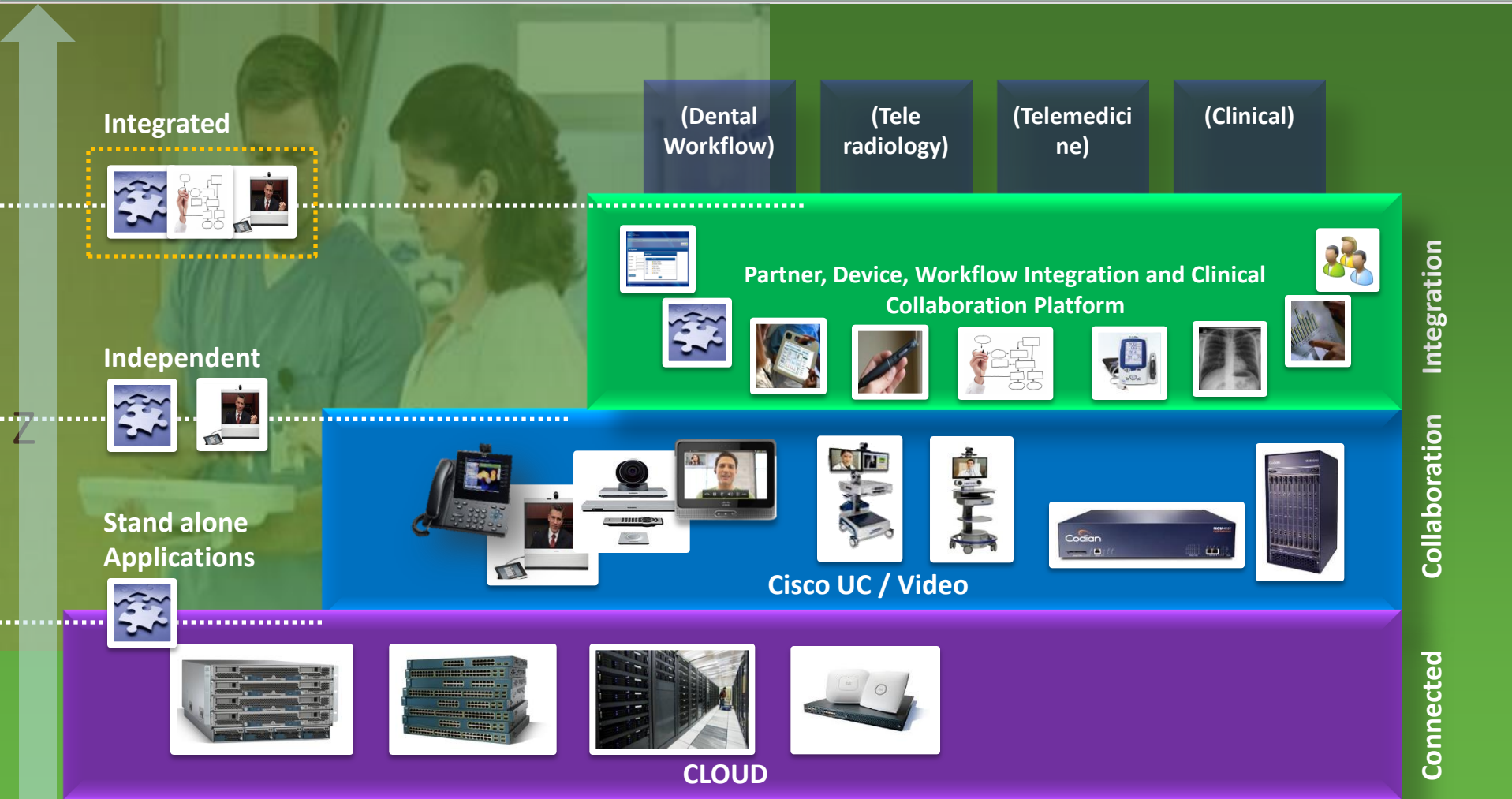
Same solution presented differently!
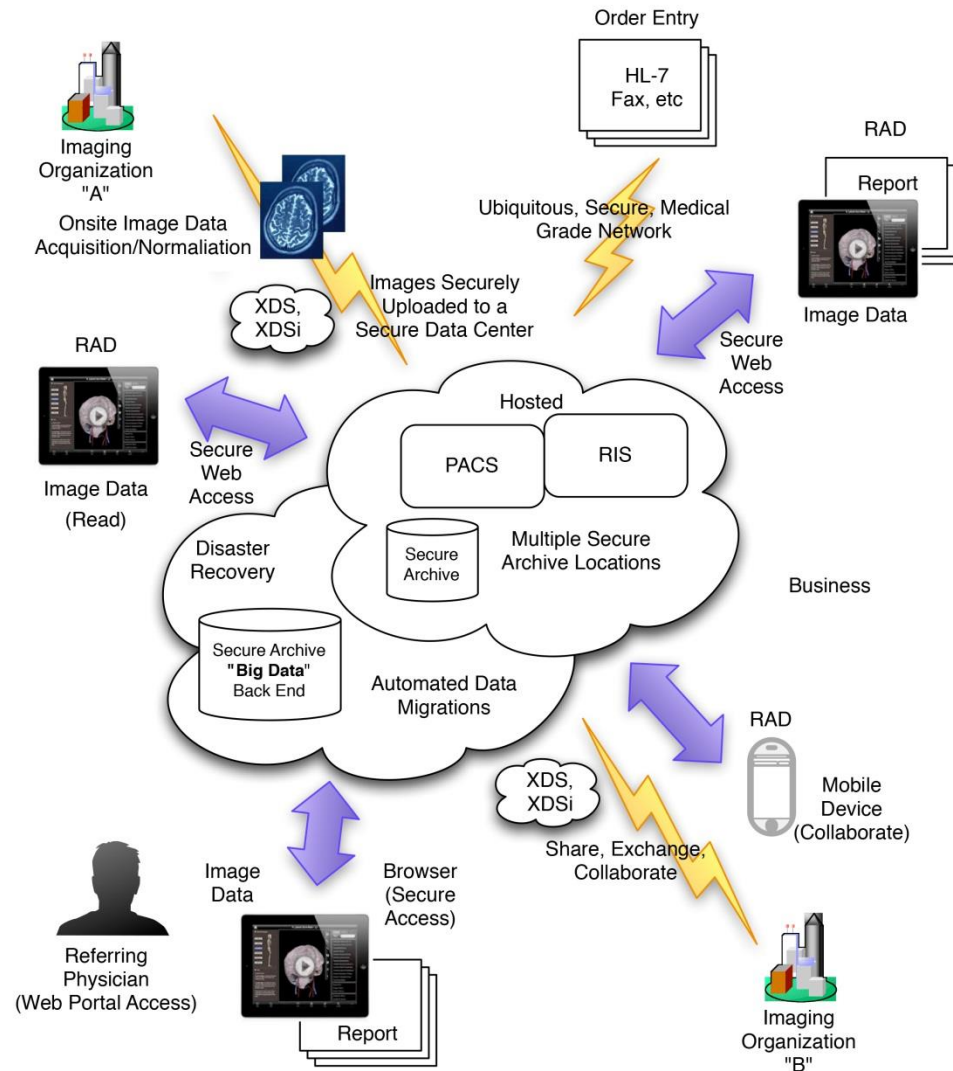
Application level Integration

The clinical integration platform, must provide support for application level integration.

- ➢ **Tele-health Workflow**
- ➢ **Radiology Image Access and Workflow**
- ➢ **Video**
- ➢ **Medical device integrations**

Business Value

- ✓ **Enables tools for broader specialty consultations**
- ✓ **Oncology, Pulmonology, Cardiology**
- ✓ **Enhanced Radiologist, Provider collaboration**
- ✓ **Integrated workflow for seamless access and enhanced productivity**
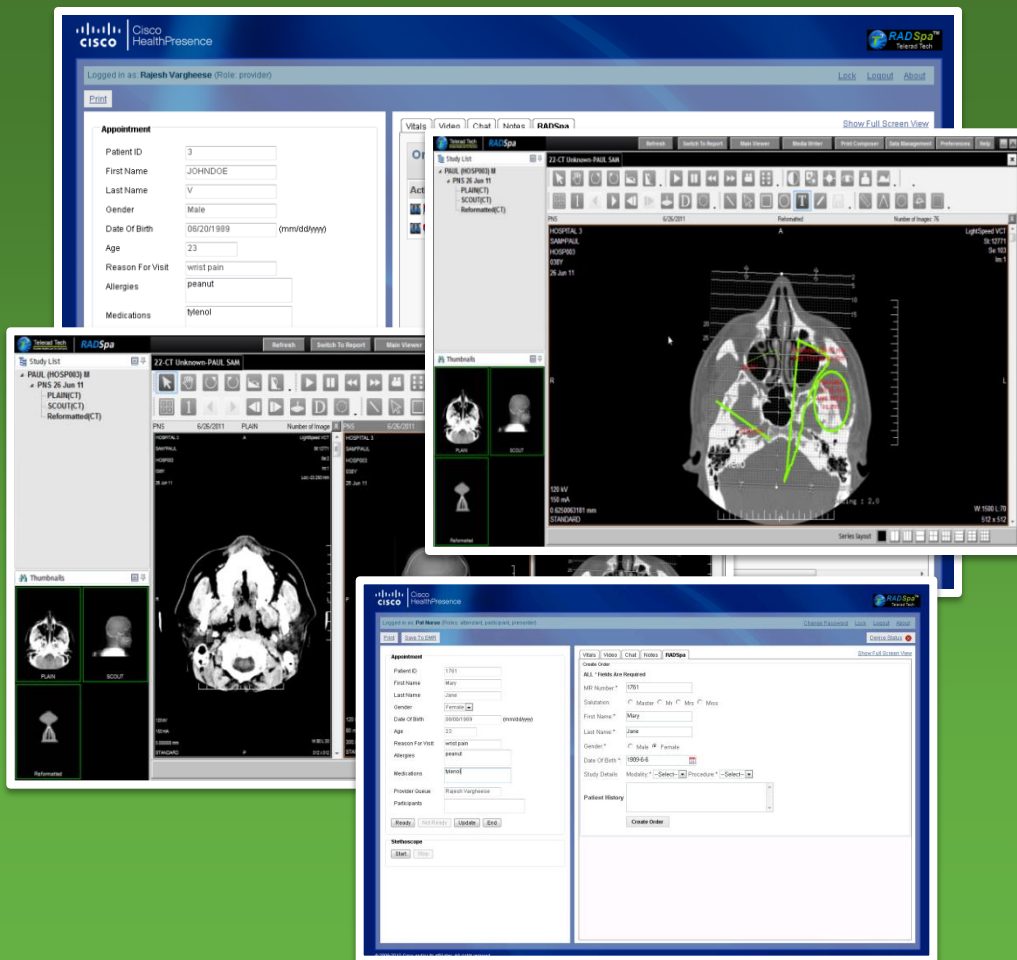
Workflow platform should be Compliant to standards

- ➢ **Compliance:**

  - ✓ FDA approved

  - ✓ CE approved

  - ✓ HL7, DICOM standards

  - ✓ HIPAA compliant

Case Studies

Case Study 1:
Teleradiology Reading Center

- ➢ **"Over the last 3 months we have seen almost 3x improvements in the measured average quality of reports when compared with the earlier systems.**

- ➢ **1.68% of the cases reported with the earlier system have reported "need quality improvements" as against only 0.63% with the studies reported with current workflow system.**

- ➢ **Approximately on an average 40% of Radiologists report time is spent on the report editing, work-flow and system tasks. With intelligent workflow system, we are seeing that 40% of non-core radiology reporting time can be reduced by 2x.**

- ➢ **This leads to a overall 20% improvement in the productivity of the Radiologists.**

Case Study 2:
Hospital

Archive failure causes 5,000 x-ray studies to vanish at Oregon Hospital.

Hospital in Oregon lost more than 5,000 x-ray studies recently due to a hard-drive crash in a PACS archive system. Because of the loss, which was discovered earlier in the year when some of the files could not be accessed, the hospital has issued letters to 900 patients informing them of the situation, according to an AP/Oregonian report.

"Four of the five hard drives crashed," said Jeff Drop, CEO at Oregon Hospital "Our vendor tried to scrub the hard drives and get the images back, but they couldn't."

To prevent this situation from recurring, multiple storage locations on the cloud, with a disaster recovery setup is essential.

Case Study 3:
Hospital System

DICOM
Digital Imaging and Communications in Medicine

Approximate Annual Study Volume: 100,000

Facilities Served: 17 hospitals, 2 imaging center; 2 additional hospital contracts signed

Challenges

- **Workflow inefficiencies, resulting from use of disparate PACS systems by different teleradiology clients and absence of universal work list**

- **Need/desire to grow practice, without initial and ongoing capital expenditures**

Results

- **Markedly decreased study turnaround times; reports now available in 20 minutes**

- **Increased reporting accuracy**

- **Overall enhanced service to teleradiology client**

- **Ability to add new clients without the hassle of adding/maintaining more servers.**

Thank You!

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Thank you for your attention !