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Bridging the Gaps between IGRT Systems and R&V Systems YULONG YAN, XUEJUN WENG, JOSE PENAGARICANO, VANEERAT RATANATHARATHORN, University of Arkansas for Medical Sciences — Image Guided Radiation Therapy (IGRT) is the next-generation of technology for high precision radiotherapy. BrainLAB ExacTrac and Tomotherapy are two of them. Unfortunately, neither of the two communicates with any Record and Verify (R&V) system for seamless radiation therapy workflow. So two dedicated software systems, iPump and ScreenBee, have been developed respectively to bridge the gaps between IGRT systems and the R&V systems to allow remote image reviewing as well as consolidation of patient's medical records. As an image pumping utility, iPump periodically searches for new registered images, fuses them and sends them to the R&V system via DICOM connection. The built-in instant messaging mechanism automatically notifies the attending radiation oncologists right after images were sent. ScreenBee is a DICOM screen dumper. Instead of sending unsupported treatment parameters, it captures their graphical presentations on the computer screen and sends them to the R&V system. Both iPump and ScreenBee have been extensively tested and evaluated in our clinic. They reduce the cost and improve the efficiency and the safety of clinical procedures. They also act as key integral components of our facility on its way toward the digital and paperless future.

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