AbstractID: 10951 Title: DICOM-RT Data Transfer from Odyssey Treatment Planning System to Siemens Linear Accelerators using ARIA Record and Verify Software: A Multi-Vendor Environment

Purpose: To interface radiotherapy equipment across three different vendor products.

Methods and Materials: Our treatment planning is system Odyssey by Permedics, treatment machines are by Siemens and the software interfacing between these two is ARIA by Varian. Although all three products came with DICOM standard conformance, we encountered many problems during the commissioning of this interface. Some of the issues were inability to transfer a plan with multiple prescriptions, exporting a plan with virtual wedges or manual apertures and exporting electron beams. Most of the issues were resolved by working with the vendor of our treatment planning system. ARIA did not support Siemens MLC, because it looked for a tertiary collimation of Varian linac. Treatment planning system had to be modified to supply X1 and X2 jaw information to ARIA before MLC data could be transferred from treatment planning system to the Siemens linac through ARIA. To run IMRT software on Siemens Primus through ARIA, Primus had to be upgraded with an IM-MAXX software.

Results: The issues related to interfacing from different vendors were best handled by working with individual vendors. All vendors were willing and happy to work on solving these problems. Odyssey treatment planning system is now successfully interfaced to Siemens linear accelerators through Varian ARIA record and verify software. The DICOM RT data transfer from Odyssey treatment planning system to treatment machines through ARIA was tested and implemented for routine clinical use.

Conclusions: Even though all radiotherapy equipment from different vendors is supposedly in conformance with DICOM standard, one will encounter problems while interfacing equipment from different vendors. To resolve these problems one has to work with various vendors. Extra care is needed during commissioning the interface across multiple vendors and its clinical implementation.