

## Results of the IHE Eye Care 2009 Connectathon

On October 5-8, 2009 the IHE Eye Care convened a 4 day Connectathon, a face-to-face interoperability testing event based on the IHE Eye Care Technical Framework Final Text. The purpose of the Connectathon was to test implementation of the IHE capabilities in commercially available systems. This was a requirement for participation in The Electronic Office, the Interoperability Showcase at the AAO 2009 Annual Meeting. The testing process provided a unique opportunity for vendors to test the IHE integration capabilities implemented in their systems with each other in a neutral forum sponsored by IHE Eye Care, managed by IHE Eye Care project managers, and hosted by the Radiological Society of North America and the AAO.

The IHE Technical Framework defines a subset of the functional components of the healthcare enterprise, called IHE Actors, and specifies their interactions in terms of a set of coordinated, standards-based transactions. These transactions are organized into functional units called Integration Profiles that highlight their capacity to address specific clinical needs. Two separate profiles, which represent different integration problems, were used in the testing process: Eye Care Workflow and Charge Posting. The Eye Care Workflow Integration Profile deals with the coordination and exchange of information of the following tasks that are part of every patient visit: admit or register patients, order tests/images for patient, schedule procedures, create a worklist (or list of procedures that were ordered), monitor the status of procedures performed, create images, manage or keep track of images created, store images and display images. The Charge Posting Profile provides a solution for collecting and posting timely billable procedural details.

The following companies participated: Compulink Business Systems, Kowa, Management Plus, Medflow, Inc., MDoffice, Nidek, Ophthalmic Imaging Systems, Topcon Medical Systems, Inc., TSG Integrations, and USSI.

During the 4 days of testing, these vendors with 13 different systems, executed 95 peer-to-peer verified tests under the supervision of the Connectathon monitors. This included 1 day of full workflow testing where all the vendors participated to demonstrate end-to-end integration, from patient registration and ordering, through image acquisition, storage and display, and to automatic posting of charges based on the procedures performed. In addition, these vendors participated in pre-Connectathon testing and passed 152 tests.

The description of the color coding schema is as follows:

1. Trial implementation testing (Yellow): the actor has successfully passed a profile in trial implementation status.
2. Final text testing (Green): the actor has successfully passed a profile in final text status. The domain committee may upgrade the Connectathon results from Yellow to Green if there are no substantive changes in the integration profile going from trial implementation version to final text version.
3. Product testing (Blue): the actor has successfully passed a profile in final text status (same as above) AND the vendor has submitted an IHE Integration Statement to indicate that it is a commercially available product (or has published it as open source). The vendor is also required to publish the IHE Integration Statement on their own web site.

These vendors tested for their different roles/actors. The charts below can be used as an aid to determine what level of integration this product supports with other systems and what benefits such integration might provide. Not all tests for each configuration were able to be completed at the IHE Eye Care Connectathon. Potential purchasers should also refer to the individual vendors' IHE Integration Statements and DICOM conformance statements to see exactly what software versions are able to be integrated and for additional details. The link to the IHE Integration Statements are also listed below.

For the Eye Care Workflow Integration Profile:

Vendor	System Tested	Actor(s)
<b>Compulink Business System</b> <a href="http://www.compulink-software.com/about/inthenews.htm">http://www.compulink-software.com/about/inthenews.htm</a>	Ophthalmology Advantage (Practice management and medical records)	ADT Patient Registration
<b>Kowa Optimed, Inc.</b> <a href="http://www.kowa-usa.com/frontend/landing_medical.asp">http://www.kowa-usa.com/frontend/landing_medical.asp</a>	Non-mydriatic $\alpha$ -D 5 Mega Digital Imaging Software, VK-2 Software Version 5.1.4.0	Acquisition Modality
<b>Management Plus</b> <a href="http://www.managementplus.com/IHE">www.managementplus.com/IHE</a>	Management Plus, Software Version 5	ADT Patient Registration
<b>MDoffice</b> <a href="http://www.mdoffice.com/IHE">http://www.mdoffice.com/IHE</a>	MDoffice, Software Version 6 (Practice management and medical records)	ADT Patient Registration, Order Placer
<b>Medflow, Inc.</b> <a href="http://medflow.com/sitefiles/uploads/files/oiCapture%20IHE%20Integration%20Statement.pdf">http://medflow.com/sitefiles/uploads/files/oiCapture%20IHE%20Integration%20Statement.pdf</a>	Medflow Electronic Medical Record, Version 7.3 oiCapture, Software Version 2	Order Placer, Legacy Acquisition Modality Importer
<b>Nidek, Inc.</b>	NAVIS-Lite (digital imaging and communications), Software Version 3.2.3	Acquisition Modality
<b>Ophthalmic Imaging Systems</b>	Symphony/WinStation, Software Version 10	Acquisition Modality
<b>Topcon Medical Systems</b> <a href="http://www.topconmedical.com/conformance">http://www.topconmedical.com/conformance</a>	IMAGEnet (Image acquisition), Software Version 2.55	Acquisition Modality
<b>Topcon Medical Systems</b>	Eyernote (image PACS), Software Version 7.1	Image Display
<b>TSG Integrations</b> <a href="http://tsgintegrations.com/ihe/TSG_IHEStatement.pdf">http://tsgintegrations.com/ihe/TSG_IHEStatement.pdf</a>	TSGiView, Software Version 2.0 (Electronic medical records and image PACS)	Order Filler, Image Manager/Image Archive, Image Display
<b>TSG Integrations</b>	TSGiView, Software Version 2.0 (Electronic medical records and image PACS)	Legacy Acquisition Modality Importer
<b>USSI</b>	VersaSuite, Software Version 8.0 (image PACS)	Image Display

For the Charge Posting Integration Profile:

Vendor	System Tested	Actor(s)
<b>Compulink Business System</b>	Ophthalmology Advantage (Practice management and medical records)	ADT Patient Registration
<b>Kowa Optimed, Inc.</b>	Non-mydratic $\alpha$ -D 5 Mega Digital Imaging Software, VK-2 Software Version 5.1.4.0	Acquisition Modality
<b>MDoffice</b>	MDoffice, Software Version 6 (Practice management and medical records)	ADT Patient Registration, Charge Processor
<b>Medflow, Inc.</b>	Medflow Electronic Medical Record, Software Version 7.3 oiCapture Software Version 2	Legacy Acquisition Modality Importer
<b>Nidek, Inc.</b>	NAVIS-Lite (digital imaging and communications), Software Version 1.0.0	Acquisition Modality
<b>Ophthalmic Imaging Systems</b>	Symphony/WinStation, Software Version 10	Acquisition Modality
<b>Topcon Medical Systems</b>	IMAGeNet (Image acquisition), Software Version 2.55	Acquisition Modality
<b>Topcon Medical Systems</b>	Eyeroute (image PACS), Software Version 7.1	Acquisition Modality
<b>TSG Integrations</b>	TSGiView, Software Version 2.0 (Electronic medical records)	Legacy Acquisition Modality Importer, Order Filler

If there are any questions or you would like more information, please contact Flora Lum, MD at the Academy, [flum@aao.org](mailto:flum@aao.org) or 415 561-8592.