OpenIGTLink in Plus

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What is OpenIGTLink?

• Open, simple, platform independent, ready-to-use network communication protocol, designed primarily for IGT
• Version 2 coming out with Slicer4.

OpenIGTLink in Plus

• Ready: vtkOpenIGTLinkBroadcaster class sends 2D image sliced and tracked tool transforms to specified network addresses.

• Work in progress: OpenIGTLinkBroadcaster application will provide a network interface for most Plus features.

• “LiveUltrasound” Slicer module (under development) to provide GUI for different Plus features.
Hardware

Computer running 3D Slicer

Sonix TOUCH

Network connection

EM tracker

EM sensor

Transrectal US probe
Prototype

3D Slicer running ProstateLiveUS module

Sonix TOUCH - GPS EM tracked transducer

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Calibration

3D Slicer uses the Reference coordinate system. The shown transformations are needed for the 3D scene.

Given by the EM tracker

"fCal" freehand calibration tool

Landmark point registration

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Software

3D Slicer

ProstateLiveUS  OpenIGTLink  ...  Registration  Visualization

OpenIGTLink (TCP)

Data controller/broadcaster

PLUS library

3D reconstruction  Probe calibration  Ulterius API  ...  Ascension API  OpenIGTLink

OpenIGTLink (TCP)

TCP

USB

Sonix TOUCH image acquisition  Ascension 3DG tracker

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