
Open IGT Link: A Plug-and-Play Open Network Protocol for Image Guided Therapy

Release 0.01

Junichi Tokuda¹, Luis Ibanez², Csaba Csoma³, Patrick Chang⁴, Haiying Liu¹, Jack Blevins⁵, Clare Tempany¹, Nobuhiko Hata¹, Steve Piper¹

January 7, 2013

¹Brigham and Women's Hospital and Harvard Medical School, Boston, MA

²Kitware Inc., New York, NY

³The Johns Hopkins University, Baltimore, MA

⁴Georgetown University, Washington D.C.

⁵Acoustic MedSystems, Inc., Champaign, IL

Abstract

Contents

1	Introduction	1
2	Methods	2
3	Software Requirements	2

1 Introduction

Connectivity among various kinds of software and hardware in an operating room (OR) is one of the most common issues in the field of image-guided therapy (IGT). With the recent progress in tracking device technologies, wide variety of tracking tools become available for surgical navigation [], and developers have been obliged to make enormous effort to establish a connection between tracking tools and their navigation software to import tracking data. Another demands for connectivity in an operating environment is an image transfer. Increasing speed of imaging in ultrasonography (US), X-ray computed tomography (CT) and magnetic resonance imaging enables real-time acquisition of 2D or even 3D images during operation, and an on-the-fly image transfer from imaging devices to navigation software is a key issue for intra-operative

imaging. In addition to them, many researchers are exploring to introduce robotic device to IGT, and communication among software and hardware in an operating environment is becoming more complicated. Today's ORs are usually equipped with

2 Methods

3 Software Requirements