**Request for Proposals**

**2021-2 IHE-RO Test Tools**

**Development and Maintenance**

September 29, 2020  
Please respond to:  
Jill Moton  
Programs Manager  
[ihero@aapm.org](mailto:ihero@aapm.org)

**American Association of Physicists in Medicine (AAPM)**

**I. GENERAL INFORMATION**

1. The American Association of Physicists in Medicine (AAPM) is soliciting proposals for the development and maintenance of software test tools in support of IHE Radiation Oncology (IHE-RO) 2010-2020 Integration Profiles. New test tools are expected to be ready for use by July 31, 2021 for the IHE-RO Connectathon which is scheduled to take place September 20-24 of 2021.
2. *Estimated level of effort.* 40-50 hours per month, mostly for maintenance.

**C**. *Application Deadline.* Intention to bid must be received by 12:00pm EDT, October 15, 2020. Full proposals must be submitted by 12:00 pm EDT, October 30, 2020.

**D**. *Contact Person.* Jill Moton, Programs Manager, ihero@aapm.org, 571-298-1349

**E**. *Confidentiality of Proposals.* Submissions will be shared with AAPM staff and member leadership for review and discussion. AAPM will review responses to the RFP and conduct appropriate follow-up as necessary to narrow the field to a select group of finalists for the project. Follow-up may include contacting references (as identified to show relevant experience) and discussions with the vendor.

**II. ABOUT AAPM**

1. AAPM is a scientific and professional organization, founded in 1958, composed of more than 8000 scientists whose clinical practice is dedicated to ensuring accuracy, safety and quality in the use of radiation in medical procedures such as medical imaging and radiation therapy. We are generally known as medical physicists and are uniquely positioned across medical specialties due to our responsibility to connect the physician to the patient through the use of radiation producing technology in both diagnosing and treating people. The responsibility of the medical physicist is to assure that the radiation prescribed in imaging and radiation therapy is delivered accurately and safely.

One of the primary goals of AAPM is the identification and implementation of improvements in patient safety for the medical use of radiation in imaging and radiation therapy.

**III. IHE-RO PROGRAM SPECIFICATIONS**

1. ***BACKGROUND***: IHE-RO is one of the nine domains under the IHE umbrella. The initiative is comprised of clinicians and vendor representatives who collaborate to create use cases, or clinical scenarios, for information sharing. The use cases are challenging connectivity issues that are solicited from within the community. These use cases then become developed into profiles, which are detailed specifications of the exact process for how communication can occur seamlessly. Test tools are written and distributed to participating vendors to assist in application development by providing a limited set of testing scenarios. Before the profile is voted to final text, it is tested by vendors during ‘Trial Implementation’ phase at a testing event that is hosted by AAPM called a Connectathon. This is a week-long event that allows vendors the opportunity to determine compatibility with each other. There are judges present, typically physicists, to help facilitate the process and determine if compatibility was achieved. Vendors must demonstrate that they are able to successfully pass information to at least 3 vendors and receive information from at least 3 vendors (because of the nature of the field, in some cases there are only 2 vendors available). The results of passed testing are published. The profiles are then implemented by vendors into their products and required by IHE to be released within 1 year of testing at a Connectathon. Prior to the Connectathon, vendors have the ability to do informal testing at what is called the Domain Pre-testing event. This pre-testing event of the profiles typically occurs 6 months before the Connectathon.

**IV. Existing Test Tools Software:**

1. The effort described in this RFP involves the development and maintenance of Test Tools in support of IHE-RO Integration Profiles published 2010-2020 and available on <http://www.ihe-ro.org/doku.php?id=doc:profiles>. Current Test Tools are moving to github. It is expected, but not required, that groups responding to this RFP will use the established github location for future tools.
2. Two Test Tool software applications, developed by ICT (ict.nl) using the DVTK (dvtk.org) framework, are to be maintained and enhanced to support testing of updated revisions of IHE-RO Integration Profiles and editions of the DICOM Standard (dicomstandard.org):
   1. IHE-RO Content Validator, used to test Content Profiles: evaluates datasets produced by a specific Profile/Actor for conformance with the DICOM Standard and IHE-RO Profile requirements. The application supports selection/management of DICOM datasets to be tested, evaluation of dataset conformance, and reporting of evaluation results.
   2. IHE-RO UPS Validator, used to test Workflow Profiles: evaluates Unified Procedure Step based workflow management for treatment delivery. The Test Tool software acts as a surrogate test partner (Treatment Delivery Device or Treatment Management System/Object Store) to exercise TDD or TMS applications. It can be used to evaluate the response of a system under test to both normal (“happy path”) and exceptional workflows.
3. Test Tools are to support testing of the following Integration Profiles, currently in trial implementation or final text:
   1. BRTO-II
   2. DCOM
   3. MMRO-III
   4. TDW-II
   5. TPPC
4. Test Tools are to be extended to support testing of the following Integration Profiles:
   1. TDPC
   2. TDRC
   3. TPIC
   4. TPPC-ION
5. ***DETAILS:*** Those vendors building tools using the existing DVTk foundations, as implemented in the IHE-RO 2010-20 test tools contracts (which can be found at [www.DVTK.org](http://www.DVTK.org) [moving to github]) will be given preference over equal proposals which utilize different foundations. Vendors are encouraged to support 64-bit versions of the Windows 7 and 10 operating systems. Vendors shall indicate which OS and hardware types are supported in their responses.
6. **PROPOSAL FORMAT**

The proposal should be formatted in the following way:

1. Please use fonts no smaller than 11 pt.
2. Proposal should include:
   1. Title Page
   2. Cover Letter. The cover letter should include a brief description of organization, history, and capabilities. This letter must be signed by the person authorized to conduct business on behalf of the company.
   3. Timeline for Implementation
   4. Budget
   5. Additional Attachments (Optional)
3. The proposal should **not** exceed 10 pages.
4. Title page should include:
   1. IHE-RO
   2. Vendor Name
   3. Vendor Address
   4. Vendor Website
   5. Primary Contact
   6. Primary Contact Title
   7. Primary Contact Phone
   8. Primary Contact Fax
   9. Primary Contact Email address
5. *Budget and Fees*. Please provide a detailed compensation proposal for test tools development and any other costs.

Vendors shall not commence any billable work until both the vendor and AAPM have signed a contract.

1. *Attachments*. You may provide additional information or material if applicable to the proposal.
2. Please submit all proposals by 12:00pm EST, October 31st, 2020 **via email** to:

Jill Moton

Programs Manager

American Association of Physicists in Medicine

1631 Prince Street

Alexandria, VA 22314

ihero@aapm.org

Responses should include a timetable for implementation, support for manufacturers during the testing period, and financial requirements.

AAPM will provide support to the vendor selected in producing the test data necessary to complete the test tools. These contacts will also assist in answering questions and/or clarifying issues for the vendor. Questions regarding the RFP should be directed to Ms. Carter at the address above or to:

Walter Bosch

[wbosch@wustl.edu](mailto:wbosch@wustl.edu)

Bruce Curran

[bhcurran@gmail.com](mailto:bhcurran@gmail.com)