

The IHE logo consists of the letters 'IHE' in a bold, dark blue, sans-serif font. A vertical line is positioned to the right of the letters, separating them from the tagline.

IHE

Integrating
the Healthcare
Enterprise

A stylized globe showing the continents of North and South America, rendered in a light purple color. It is positioned in the lower-left quadrant of the slide, partially overlapping the IHE logo and the main title.

Invoke Image Display (IID)

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IID – Profile Abstract

- *“The Invoke Image Display Profile allows the user of an Image Display Invoker, typically a non-image-aware system like an EHR, PHR or RIS, to request the display of studies for a patient, and have the display performed by an image-aware system like an Image Display (PACS).”*

IID – Problem Statement

- EHR/EMR/PHR/RIS/HIS/portals don't store imaging studies
- EHR/EMR/PHR/RIS/HIS/portal users want to see images
- Static links to individual rendered consumer format images may be insufficient for interactive viewing, and may grow stale
- Interfaces from EHR/EMR/PHR/RIS/HIS/portals to PACS to request display of imaging studies possible but n:m customization/scaling problem
- CCOW at study level (similar to IHE Patient Synchronized Applications) has issues with web technologies, proprietary alternatives abound, bidirectional synchronization is not required
- US Meaningful Use requirements emphasize the need for the "View" part of "View, Download and Transmit" for imaging studies and results, possibly via a link

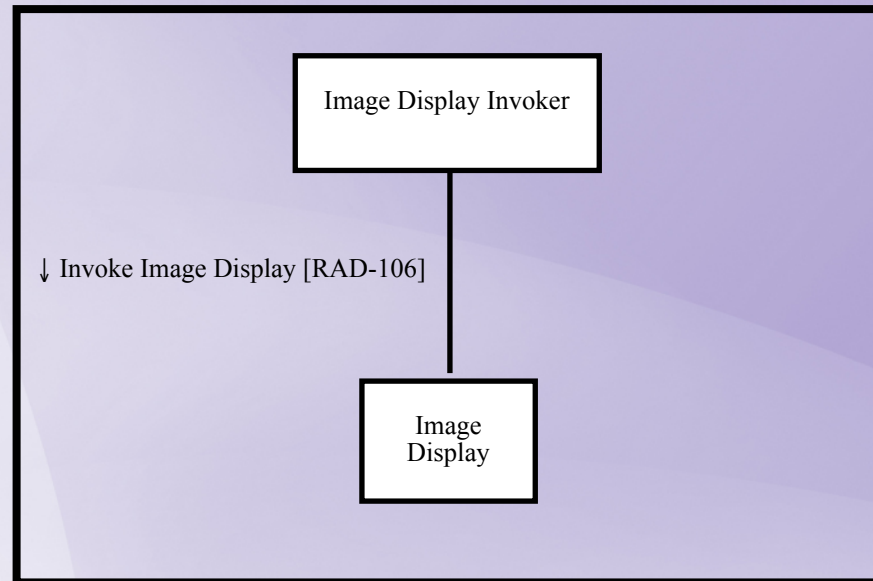
IID – Use Cases – Review Studies

- Non-imaging expert – mobile browser using EHR – wants to see key images
- Imaging expert – desktop browser using EHR – wants to see complete set of diagnostic images – may be zero footprint in browser, or thick client or separate PACS or separate hardware
- Remote user assessing need for transport – remote applications (EHR and PACS viewer) displaying on local hardware
- Local EHR user accessing imaging studies in remote (central/regional/federated) image repository – with or without single sign on (SSO)
- Patient/friend/relative using patient portal to EHR or PHR to view imaging report wants to view imaging studies in (separate) patient portal to PACS or regional image repository
- User of simple viewer needs display in more advanced viewer

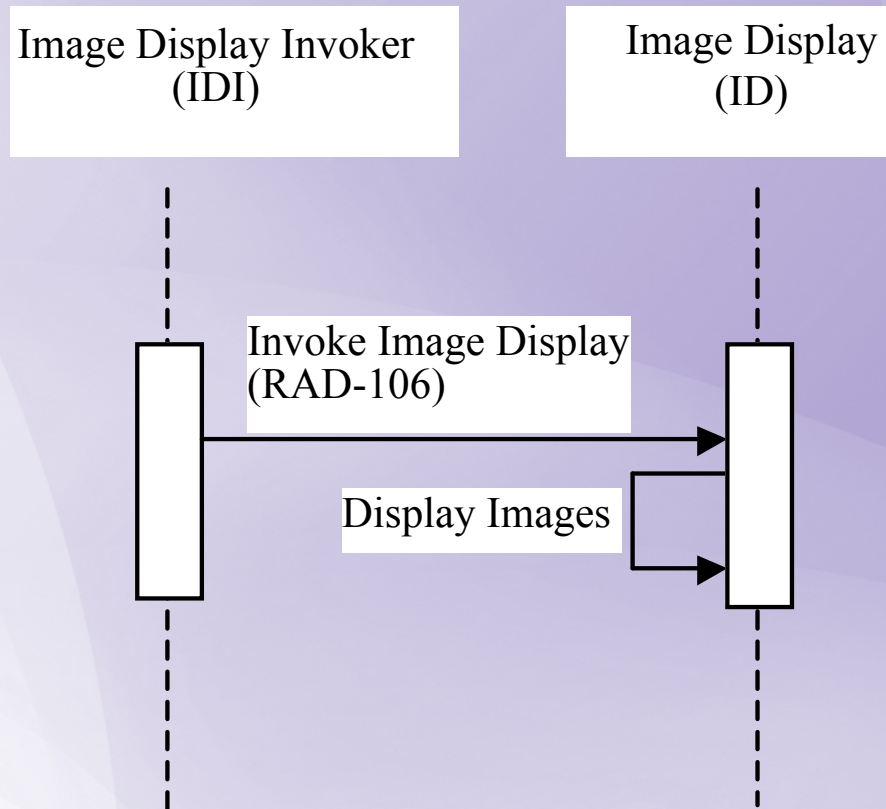
IID – Value Proposition

- Provides a simple HTTP Request with patient/study identifiers and small number of parameters in URL
- Without the complexity of SOAP-based web services
- With sufficiently defined expected behavior for display
- Without limiting the type of viewer technology
- Without precluding diagnostic use
- Mobile device friendly
- Capable of leveraging, but not dependent on, any particular choice of authentication, access control or audit trail protocols

IID – Actors and Transactions



IID – Process Flow



IID – URL Request Examples

- ***“[http://<location>/IHEInvokelimageDisplay?requestType=STUDY&accessionNumber=93649236](http://<location>/IHEInvokelimageDisplay?requestType=PATIENT&patientID=99998410^^^AcmeHospital&mostRecentResults=1”</i>”• <i><a href=)***
- ***http://<location>/IHEInvokelimageDisplay?requestType=STUDY&studyUID=1.2.840.113883.19.110.4,1.2.840.113883.19.110.5&viewerType=IHE_BIR&diagnosticQuality=true***

IID – Request Parameters - Patient

- patientID (required; with issuer)
- patientName, patientBirthDate (optional for client)
- lowerDateTime, upperDateTime (optional for client)
- mostRecentResults (number of, optional for client)
- modalitiesInStudy (optional for client)

IID – Request Parameters - Study

- studyUID (may be multiple, required if no accessionNumber)
- accessionNumber (may be multiple, no issuer (? should be), required if no studyUID)

IID – Request Parameters - Common

- viewerType (e.g., IHE_BIR, optional for client)
- diagnosticQuality (optional for client, default false)
- keyImagesOnly (optional for client; default false)

IID – Interactive Viewing Requirement

- Image Display shall provide interactive viewing.
- Navigate within the requested studies (including change studies, series, and scroll between images and frames)
- Manipulate the appearance of the displayed image (window, zoom and pan)

IID - Conclusion

- The Invoke Image Display profile provides a minimalist means of image-enabling non-image-aware systems
- It uses the simplest available HTTP-based technology
- It supports patient and study level invocation, usable with or without a priori knowledge of individual study identifiers
- It requires servers to provide interactive viewing, and both review or diagnostic quality, and key images, under the control of the user