

# Health IT Standards Committee

A Public Advisory Body on Health Information Technology to the National Coordinator for Health IT



## Clinical Operations WG Update Image Sharing

HIT Standards Committee

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# Use Case Framework For Image Sharing



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Adapted from Clinical Operations discussions with thanks to David Clunie

	VIEW	DOWNLOAD	TRANSMIT TO 3 <sup>rd</sup> PARTY
<p><u>Each Use Case Scenario Must Define:</u></p> <ul style="list-style-type: none"> <li>Actors: Clinician, Care Team, Patient</li> <li>Actions: Clinical Decision, Report, Audit</li> <li>Content: Full Set, Key Images, Report</li> <li>Initiation: Manual, Triggered, Automatic</li> <li>Systems: EHR, PHR, PACS, Archives</li> </ul> <p><u>Before Analyzing and Recommending:</u></p> <ul style="list-style-type: none"> <li>Payload Packages</li> <li>Protocols and Modalities</li> <li>Image Quality</li> <li>Etc. . .</li> </ul>			



- Encompassed by View/Download/Transmit (VDT):
  - View – select, navigate, display, interact, measure, analyze
  - Download – to local machine or media – use, archive, share
  - Transmit – to 3<sup>rd</sup> party – provider, archive, analysis service
- For Each:
  - Who – imager, clinician (ordering, referral), “team”, patient
  - What – complete set, subset, key images, report, other ‘ologies
  - When – manual or automatic (triggered)
  - Where – EHR, PHR, PACS, VNA, HIE Archive, ...
  - Why – reporting, diagnosis (clinical decision), review, audit, ...
- Scenarios Inform Requirements For Protocols/Modalities
  - push/pull, payload, protocol, image quality, speed, identifiers

# Example of Protocol Considerations

## View (Pull)



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What does “zero footprint” mean?

- Zero footprint
  - No helper apps, plugins, applets, Flash or SilverLight
- Absolute zero – HTML pre-5, frames, tables, images
- Almost zero – JavaScript +/- HTML5 Canvas
- Pretending to be zero – Flash (etc.) dependency
- Not zero - thick client spawned by browser (or EHR “app”)

# Example of Protocol Considerations, Continued

## View (Pull)



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- Separation of requestor from performer
  - EHR/PHR/etc. user requests viewing of study
  - PACS/VNA/etc. actually performs it
- Very common proprietary pattern
  - e.g., encrypted URLs – identify, authorize, time-limited
  - n:m permutations of requestor/performer to customize
- Storing fully qualified links (URLs) – go stale



- Push “architecture”
  - easy, tempting
  - duplication (stored many places)
  - change management (wrong patient, side marker, etc.)
- Pull “architecture”
  - federated/distributed queries v. centralized registries
  - centralized image storage v. expose locally at edges
  - links go stale, enterprises go out of business, etc.
- “Brokered” “hybrid” “clearing house”
  - intermediary holds images transiently (possible encrypted)
  - sender pushes, then recipient notified and pulls
  - analogous to DropBox file sharing service, Filelink email



- Learn from global experience
  - Canada (DI-r) ... regional repositories
  - UK (IEP) ... point-to-point push → brokered → centralized
- Report in scope or not?
- Agility to adapt to rapidly changing technology (mobile)
- Transition from local to remote experience
- How to leverage the installed base



- COWG to better define a few use cases for image sharing
- Identify for each use case
  - Minimum recommended bundle of standards
  - Needed improvements to standards
- Further HITSC discussion

