



Davide Sottara &lt;dsotty@gmail.com&gt;

## [HSPC] FHIR and terminology, "CTS-3" and implementations

9 messages

Davide Sottara &lt;dsotty@gmail.com&gt;

Fri, Oct 23, 2015 at 7:14 PM

To: "Burton, Matthew M., M.D." <Burton.Matthew@mayo.edu>, Rick Freeman <rick@isalusconsulting.com>, "craig.parker@imail.org" <craig.parker@imail.org>, Scott Narus <Scott.Narus@imail.org>, Tom Oniki <Tom.Oniki@imail.org>, Stan Huff <Stan.Huff@imail.org>, "odiaz@ngenex7.com" <odiaz@ngenex7.com>, Dave Carlson <dcarlson@xmlmodeling.com>, "Keith E. Campbell" <campbell@informatics.com>, "grahame@healthintersections.com.au" <grahame@healthintersections.com.au>, Harold Solbrig <Solbrig.Harold@mayo.edu>, "Peterson, Kevin J. [RO BIT]" <Peterson.Kevin@mayo.edu>, Andy Schriever <aschriever@parkstreetsolutions.com>, Claude Nanjo <cnanjo@cognitivemedicine.com>, Esteban Aliverti <ealiverti@cognitivemedicine.com>, Emory Fry <eafry@cognitivemedicine.com>, Bryn Rhodes <bryn@veracitysolutions.com>, "Rubin, Ken" <ken.rubin@hpe.com>, Aziz Boxwala <aziz.boxwala@meliorix.com>

Dear all,

I have been reviewing the FHIR spec in terms of their terminology-oriented resources and the relative service specification.

I strongly believe that most clinical applications would benefit from at least a runtime terminology capability. From an HSPC perspective, it makes perfect sense to have it exposed as a service.

In general, we need a runtime interface for code resolution purposes, as well as curation/maintenance operations and, of course, the content itself.

We need at least basic terminology (codes, valuesets), we would strongly benefit from some reasoning/inference capability (e.g. the ability to resolve a valueset not only through set operations like union or difference on other valuesets, but also by expansion of definitions based on relationships between concepts), ideally we could also go as far as managing slightly more knowledge bases (e.g. drug KBs, drug/drug interaction KBs, disease KBs, etc...)

The FHIR specification covers mostly the runtime use cases with some inferencing aspects. The CTS-2 spec is broader, but more low-level.

The FHIR documentation claims compliance with CTS-2, but I could not find how that is supposed to be done concretely. Interestingly, at Mayo we did define an interface that is functionally exactly equivalent to the FHIR terminology service, before the FHIR one was released, and we mapped and implemented it on top of a CTS-2 API. So, we do have some ideas about how it *could* be done, but an official specification might help...

Given this background, from various discussions I've been engaged in recently:

- HSPC (and Mayo) would need a robust specification and implementation
- C4MI and/or HL7 may become hosts for aspects of a reference implementation and documentation of CTS-2?
- it would be good to harmonize the FHIR and CTS-2 specs
- there may be a need to revisit and extend the CTS-2 spec to include important missing features
- there are at least a few known open and commercial implementations of the various APIs
- frameworks like MDHT or the IHTSDO workbench could benefit from, and contribute to, the broader picture?

I wonder if this is the right time to start a discussion on what would need to be done to converge, evolve and see who wants and can help. I'd be happy to host it under HSPC, or to participate if it's done under FHIR, C4MI or any other banner.

Feedback would be appreciated.

Thank you and have a good weekend!

Davide

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**Keith E. Campbell** <campbell@informatics.com>

Fri, Oct 23, 2015 at 8:11 PM

To: Davide Sottara &lt;dsotty@gmail.com&gt;

Cc: "Burton, Matthew M., M.D." &lt;Burton.Matthew@mayo.edu&gt;, Rick Freeman &lt;rick@isalusconsulting.com&gt;, "craig.parker@imail.org" &lt;craig.parker@imail.org&gt;, Scott Narus &lt;Scott.Narus@imail.org&gt;, Tom Oniki &lt;Tom.Oniki@imail.org&gt;, Stan Huff &lt;Stan.Huff@imail.org&gt;, "odiaz@ngenex7.com" &lt;odiaz@ngenex7.com&gt;, Dave Carlson &lt;dcarlson@xmlmodeling.com&gt;, Grahame Grieve &lt;grahame@healthintersections.com.au&gt;, Harold Solbrig &lt;Solbrig.Harold@mayo.edu&gt;, "Peterson, Kevin J. [RO BIT]" &lt;Peterson.Kevin@mayo.edu&gt;, Andy Schriever &lt;aschriever@parkstreetsolutions.com&gt;, Claude Nanjo &lt;cnanjo@cognitivemedicine.com&gt;, Esteban Aliverti &lt;ealiverti@cognitivemedicine.com&gt;, Emory Fry &lt;eafry@cognitivemedicine.com&gt;, Bryn Rhodes &lt;bryn@veracitysolutions.com&gt;, "Rubin, Ken" &lt;ken.rubin@hpe.com&gt;, Aziz Boxwala &lt;aziz.boxwala@meliorix.com&gt;

Hi Davide...

> - there may be a need to revisit and extend the CTS-2 spec to include important  
> missing features

I believe this is the case... There are a number of issues, but one in particular I'll point out now is the inability of CTS 2 to support an arbitrary number of description types, causing a number of interesting but non-standard workarounds to deal with the 4 SNOMED description types (preferred, synonym, fully-specified name, and definition). There are others related to ability to extend terminology with assertional content. I believe that most of the issues can be resolved with relatively modest changes.

I think it is time for CTS 3, or a related name, or to split the terminology standards into language/dialect and logical functions (taxonomy, kind-of, incremental classification) . I'd like to have a set of standards relating to logic definition and language/dialect representation associated with codes in a system that I feel good about supporting.

> - frameworks like MDHT or the IHTSDO workbench could benefit from, and contribute to, the broader picture?

I'm happy to work toward contributing implementations toward the broader picture.

Thanks,

Keith

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&gt; --

> This email was Virus checked by UTM 9. <http://www.sophos.com>

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**Grahame Grieve** <grahame@healthintersections.com.au>

Fri, Oct 23, 2015 at 8:20 PM

To: Davide Sottara &lt;dsotty@gmail.com&gt;

Cc: "Burton, Matthew M., M.D." &lt;Burton.Matthew@mayo.edu&gt;, Rick Freeman &lt;rick@isalusconsulting.com&gt;, "craig.parker@imail.org" &lt;craig.parker@imail.org&gt;, Scott Narus &lt;Scott.Narus@imail.org&gt;, Tom Oniki &lt;Tom.Oniki@imail.org&gt;, Stan Huff &lt;Stan.Huff@imail.org&gt;, "odiaz@ngenex7.com" &lt;odiaz@ngenex7.com&gt;, Dave Carlson &lt;dcarlson@xmlmodeling.com&gt;, "Keith E. Campbell" &lt;campbell@informatics.com&gt;, Harold Solbrig &lt;Solbrig.Harold@mayo.edu&gt;, "Peterson, Kevin J. [RO BIT]" &lt;Peterson.Kevin@mayo.edu&gt;, Andy Schriever &lt;aschriever@parkstreetsolutions.com&gt;, Claude Nanjo &lt;cnanjo@cognitivemedicine.com&gt;, Esteban Aliverti &lt;ealiverti@cognitivemedicine.com&gt;, Emory Fry &lt;eafry@cognitivemedicine.com&gt;, Bryn Rhodes &lt;bryn@veracitysolutions.com&gt;, "Rubin, Ken" &lt;ken.rubin@hpe.com&gt;, Aziz Boxwala &lt;aziz.boxwala@meliorix.com&gt;

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In general, we need a runtime interface for code resolution purposes, as well

as curation/maintenance operations and, of course, the content itself. We need at least basic terminology (codes, valuesets), we would strongly benefit from some reasoning/inference capability (e.g. the ability to resolve a valueset not only through set operations like union or difference on other valuesets, but also by expansion of definitions based on relationships between concepts), ideally we could also go as far as managing slightly more knowledge bases (e.g. drug KBs, drug/drug interaction KBs, disease KBs, etc...)

it's our intent to extend the FHIR terminology interface to do more of these things, but at some stage - not far past where it is now - these things stop being 'terminology' services, and become 'knowledge services'. In FHIR, these things become services about other kinds of resources.

The FHIR specification covers mostly the runtime use cases with some inferencing aspects. The CTS-2 spec is broader, but more low-level. The FHIR documentation claims compliance with CTS-2, but I could not find how that is supposed to be done concretely.

yes, that's true. We wrote the terminology service with CTS2 in mind, in that it would be something you could build on top of CTS 2 (not equivalent), and we intend(ed) to check this with an implementation, but that hasn't happened. Harold talked about doing it a couple of times, and I've kind of thought I would get around to it at some stage, but there's a lot of things higher up my list than that.

Interestingly, at Mayo we did define an interface that is functionally exactly equivalent to the FHIR terminology service, before the FHIR one was released, and we mapped and implemented it on top of a CTS-2 API. So, we do have some ideas about how it \*could\* be done, but an official specification might help...

well, what would that it say? I think an implementation would help, and might tell us what we'd need to say. Given that they're different specs for different purposes, I kind of think that a whitepaper outlining the way you provide a FHIR terminology service on a CTS2 service might be useful.

Given this background, from various discussions I've been engaged in recently:

- HSPC (and Mayo) would need a robust specification and implementation
- C4MI and/or HL7 may become hosts for aspects of a reference implementation and documentation of CTS-2?
- it would be good to harmonize the FHIR and CTS-2 specs
- there may be a need to revisit and extend the CTS-2 spec to include important missing features
- there are at least a few known open and commercial implementations of the various APIs
- frameworks like MDHT or the IHTSDO workbench could benefit from, and contribute to, the broader picture?

As I said, we're going to extend the FHIR terminology service into the knowledge space. There's also an open discussion at HL7 about whether we want to extend FHIR to cover code system maintenance (that's been out of scope to this point for FHIR). That would get much more into overlap with CTS2, if we did that, but there doesn't seem to be a lot of appetite for using CTS2. Otherwise, we will consider change proposals and collaborate with other spec development as appropriate.

Grahame

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**Solbrig, Harold R., M.S.** <Solbrig.Harold@mayo.edu>

Wed, Oct 28, 2015 at 9:27 AM

To: "Keith E. Campbell" <campbell@informatics.com>, Davide Sottara <dsotty@gmail.com>

Cc: "Burton, Matthew M., M.D." <Burton.Matthew@mayo.edu>, Rick Freeman <rick@isalusconsulting.com>,

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Carlson <dcarlson@xmlmodeling.com>, Grahame Grieve <grahame@healthintersections.com.au>, "Peterson, Kevin

J., M.S." <Peterson.Kevin@mayo.edu>, Andy Schriever <aschriever@parkstreetsolutions.com>, Claude Nanjo <cnanjo@cognitivemedicine.com>, Esteban Aliverti <ealiverti@cognitivemedicine.com>, Emory Fry <eafry@cognitivemedicine.com>, Bryn Rhodes <bryn@veracitysolutions.com>, "Rubin, Ken" <ken.rubin@hpe.com>, Aziz Boxwala <aziz.boxwala@meliorix.com>

Hello Keith,

>> I believe this is the case. There are a number of issues, but one in particular I'll point out now is the inability of CTS 2 to support an arbitrary number of

>> description types, causing a number of interesting but non-standard workarounds to deal with the 4 SNOMED description types (preferred, synonym, fully-specified name, and definition). There are others related to ability to extend terminology with assertional content. I believe that most of the issues can be resolved with relatively modest changes.

While I agree that there may be reasons to extend the CTS2 specification, this is certainly not one of them. The CTS2 specification allows any number of arbitrary description types. See, as example, <http://informatics.mayo.edu/py4cts2/entity/sctid:125671007?bypass=1/> / <http://informatics.mayo.edu/py4cts2/entity/sctid:125671007?bypass=1&format=xml>. The first screen is an HTML rendering of the CTS2 content w/ FSN, preferred, synonym and definition for US English. The second (in xml) includes both the types and the case significance.

The CTS2 specification was designed to be extensible. It has a lot of optional fields that were specified on the basis that "Not everyone needs or wants to use this, but, if they do, it would make more sense if everyone said them the same way". It was also designed to be extensible to address emerging cases where it didn't catch the details originally.

Your misunderstanding, however, a couple of issues that we DO face with the existing CTS2 specification. The first, approachability/documentation, will hopefully be addressed in the next couple of months as we move the documentation to the HL7 web site. The OMG specification is fairly dense and it does not make it obvious how one would add designationTypes, definitions, roles, etc.

The second is a more troubling -- there is a CTS2 SFM (requirements document) DSTU published by HL7 that is also called CTS2. It is not a standard, in that "conformance" with the HL7 requirements says little or nothing when it comes to interoperability. This, unfortunately, is the "standard" that FHIR currently claims compliance with, meaning that services implemented by FHIR servers are not directly consumable by existing CTS2 clients and, without wrappers, existing CTS2 services cannot be consumed by FHIR clients.

So, in summary, we undoubtedly will need to extend CTS2, which, in the short term at least, should probably fall under the rubric "CTS2++". We should give the existing specification a chance before we do something radical like replace it with something completely new...

Cheers,

Harold Solbrig

On 10/23/15, 8:11 PM, "Keith E. Campbell" <[campbell@informatics.com](mailto:campbell@informatics.com)> wrote:

>Hi DavideŠ

>

>> - there may be a need to revisit and extend the CTS-2 spec to include

>>important

>> missing features

>

>I believe this is the caseŠ There are a number of issues, but one in

[Quoted text hidden]

**Grahame Grieve** <[grahame@healthintersections.com.au](mailto:grahame@healthintersections.com.au)>

Wed, Oct 28, 2015 at 2:45 PM

To: "Solbrig, Harold R., M.S." <[Solbrig.Harold@mayo.edu](mailto:Solbrig.Harold@mayo.edu)>

Cc: "Keith E. Campbell" <[campbell@informatics.com](mailto:campbell@informatics.com)>, Davide Sottara <[dsotty@gmail.com](mailto:dsotty@gmail.com)>, "Burton, Matthew M., M.D." <[Burton.Matthew@mayo.edu](mailto:Burton.Matthew@mayo.edu)>, Rick Freeman <[rick@isalusconsulting.com](mailto:rick@isalusconsulting.com)>, "craig.parker@imail.org" <[craig.parker@imail.org](mailto:craig.parker@imail.org)>, Scott Narus <[Scott.Narus@imail.org](mailto:Scott.Narus@imail.org)>, Tom Oniki <[Tom.Oniki@imail.org](mailto:Tom.Oniki@imail.org)>, Stan Huff <[Stan.Huff@imail.org](mailto:Stan.Huff@imail.org)>, "odiaz@ngenex7.com" <[odiaz@ngenex7.com](mailto:odiaz@ngenex7.com)>, Dave Carlson <[dcarlson@xmlmodeling.com](mailto:dcarlson@xmlmodeling.com)>, "Peterson, Kevin J., M.S." <[Peterson.Kevin@mayo.edu](mailto:Peterson.Kevin@mayo.edu)>, Andy Schriever <[aschriever@parkstreetsolutions.com](mailto:aschriever@parkstreetsolutions.com)>, Claude Nanjo <[cnanjo@cognitivemedicine.com](mailto:cnanjo@cognitivemedicine.com)>, Esteban Aliverti <[ealiverti@cognitivemedicine.com](mailto:ealiverti@cognitivemedicine.com)>, Emory Fry <[eafry@cognitivemedicine.com](mailto:eafry@cognitivemedicine.com)>, Bryn Rhodes <[bryn@veracitysolutions.com](mailto:bryn@veracitysolutions.com)>, "Rubin, Ken" <[ken.rubin@hpe.com](mailto:ken.rubin@hpe.com)>, Aziz Boxwala <[aziz.boxwala@meliorix.com](mailto:aziz.boxwala@meliorix.com)>

hi Harold

The second is a more troubling -- there is a CTS2 SFM (requirements document) DSTU published by HL7 that is also called CTS2. It is not a standard, in that "conformance" with the HL7 requirements says little or nothing when it comes to interoperability. This, unfortunately, is the "standard" that FHIR currently claims compliance with, meaning that services implemented by FHIR servers are not directly consumable by existing CTS2 clients and, without wrappers, existing CTS2 services cannot be consumed by FHIR clients.

Several things to say:

- I intended to refer to "CTS2" as the OMG spec as an implementation of the HSPC requirements doc
- I did not use the word conformance because we knew all along that the FHIR service and CTS2 would never aspire to be interchangeable on the wire, or even pluggable behind a single library interface - they are different services doing different things
- the intent was always that you could build something on front of a CTS2 service that provided the FHIR service functionality. If you think that we could describe this better, you're welcome to propose alternate language

Grahame

**Solbrig, Harold R., M.S.** <[Solbrig.Harold@mayo.edu](mailto:Solbrig.Harold@mayo.edu)>

Wed, Oct 28, 2015 at 2:53 PM

To: Grahame Grieve <[grahame@healthintersections.com.au](mailto:grahame@healthintersections.com.au)>

Cc: "Keith E. Campbell" <[campbell@informatics.com](mailto:campbell@informatics.com)>, Davide Sottara <[dsotty@gmail.com](mailto:dsotty@gmail.com)>, "Burton, Matthew M., M.D." <[Burton.Matthew@mayo.edu](mailto:Burton.Matthew@mayo.edu)>, Rick Freeman <[rick@isalusconsulting.com](mailto:rick@isalusconsulting.com)>, "craig.parker@imail.org" <[craig.parker@imail.org](mailto:craig.parker@imail.org)>, Scott Narus <[Scott.Narus@imail.org](mailto:Scott.Narus@imail.org)>, Tom Oniki <[Tom.Oniki@imail.org](mailto:Tom.Oniki@imail.org)>, Stan Huff <[Stan.Huff@imail.org](mailto:Stan.Huff@imail.org)>, "odiaz@ngenex7.com" <[odiaz@ngenex7.com](mailto:odiaz@ngenex7.com)>, Dave Carlson <[dcarlson@xmlmodeling.com](mailto:dcarlson@xmlmodeling.com)>, "Peterson, Kevin J., M.S." <[Peterson.Kevin@mayo.edu](mailto:Peterson.Kevin@mayo.edu)>, Andy Schriever <[aschriever@parkstreetsolutions.com](mailto:aschriever@parkstreetsolutions.com)>, Claude Nanjo <[cnanjo@cognitivemedicine.com](mailto:cnanjo@cognitivemedicine.com)>, Esteban Aliverti <[ealiverti@cognitivemedicine.com](mailto:ealiverti@cognitivemedicine.com)>, Emory Fry <[eafry@cognitivemedicine.com](mailto:eafry@cognitivemedicine.com)>, Bryn Rhodes <[bryn@veracitysolutions.com](mailto:bryn@veracitysolutions.com)>, "Rubin, Ken" <[ken.rubin@hpe.com](mailto:ken.rubin@hpe.com)>, Aziz Boxwala <[aziz.boxwala@meliorix.com](mailto:aziz.boxwala@meliorix.com)>

Grahame,

Thanks for the clarification. Please accept my apologies for mischaracterizing the specification — this



is indeed good news.

Harold Solbrig

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**From:** "grahameg@gmail.com" <grahameg@gmail.com> on behalf of Grahame Grieve <grahame@healthintersections.com.au>

**Date:** Wednesday, October 28, 2015 at 2:45 PM

**To:** "Solbrig, Harold R." <solbrig.harold@mayo.edu>

**Cc:** Keith Campbell <campbell@informatics.com>, Davide Sottara <dsotty@gmail.com>, "Burton, Matthew M., M.D." <Burton.Matthew@mayo.edu>, Rick Freeman <rick@isalusconsulting.com>, Craig Parker <Craig.Parker@imail.org>, Scott Narus <Scott.Narus@imail.org>, Tom Oniki <Tom.Oniki@imail.org>, Stan Huff <Stan.Huff@imail.org>, "odiaz@ngenex7.com" <odiaz@ngenex7.com>, Dave Carlson <dcarlson@xmlmodeling.com>, "Peterson, Kevin J., M.S. [RO BIT]" <Peterson.Kevin@mayo.edu>, Andy Schriever <aschriever@parkstreetsolutions.com>, Claude Nanjo <cnanjo@cognitivemedicine.com>, Esteban Aliverti <ealiverti@cognitivemedicine.com>, Emory Fry <eafry@cognitivemedicine.com>, Bryn Rhodes <bryn@veracitysolutions.com>, "Rubin, Ken" <ken.rubin@hpe.com>, Aziz Boxwala <aziz.boxwala@meliorix.com>

**Subject:** Re: [HSPC] FHIR and terminology, "CTS-3" and implementations

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**Davide Sottara** <dsotty@gmail.com>

Wed, Oct 28, 2015 at 4:12 PM

To: "Solbrig, Harold R., M.S." <Solbrig.Harold@mayo.edu>

Cc: Grahame Grieve <grahame@healthintersections.com.au>, "Keith E. Campbell" <campbell@informatics.com>, "Burton, Matthew M., M.D." <Burton.Matthew@mayo.edu>, Rick Freeman <rick@isalusconsulting.com>, "craig.parker@imail.org" <craig.parker@imail.org>, Scott Narus <Scott.Narus@imail.org>, Tom Oniki <Tom.Oniki@imail.org>, Stan Huff <Stan.Huff@imail.org>, "odiaz@ngenex7.com" <odiaz@ngenex7.com>, Dave Carlson <dcarlson@xmlmodeling.com>, "Peterson, Kevin J., M.S." <Peterson.Kevin@mayo.edu>, Andy Schriever <aschriever@parkstreetsolutions.com>, Claude Nanjo <cnanjo@cognitivemedicine.com>, Esteban Aliverti <ealiverti@cognitivemedicine.com>, Emory Fry <eafry@cognitivemedicine.com>, Bryn Rhodes <bryn@veracitysolutions.com>, "Rubin, Ken" <ken.rubin@hpe.com>, Aziz Boxwala <aziz.boxwala@meliorix.com>, Todd Cooper <todd@center4mi.org>, "Beebe, Calvin E." <cbeebe@mayo.edu>

Harold, Keith, Grahame, thanks for your feedback!

Being pragmatic, would it make sense to start from the work we did at Mayo, and try to recommend a possible binding for a FHIR

terminology API to a CTS-2 compliant server?

Meanwhile, we could discuss the next iteration of the CTS-2 specification in the appropriate contexts.

@Grahame, on a separate thread, could I (we) know more about the roadmap for supporting other "Knowledge Resources" in FHIR?

For one, it's a huge domain with a lot of candidate resource models, service specifications, interchange formats and implementations.

Some successful some not. I think that the CQIF FHIR IG already goes in the direction of enabling compatibility with existing frameworks.

Who will set the requirements for the kind of resources to be included, and will the proposal be based on existing standards or redesigned in a more ad-hoc way? We could move this to a different thread if appropriate.

Thanks!

Davide

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**Grahame Grieve** <grahame@healthintersections.com.au>

Thu, Oct 29, 2015 at 7:30 AM

To: Davide Sottara <dsotty@gmail.com>  
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Being pragmatic, would it make sense to start from the work we did at Mayo, and try to recommend a possible binding for a FHIR terminology API to a CTS-2 compliant server?

yes. That would be a good wiki page/white paper for the CTS2 community. The french guys would have some comments to add to this, since they've done this - implemented FHIR in front of a CTS2 interface

Meanwhile, we could discuss the next iteration of the CTS-2 specification in the appropriate contexts.

Is there enough interest?

@Grahame, on a separate thread, could I (we) know more about the roadmap for supporting other "Knowledge Resources" in FHIR?

same audience?

For one, it's a huge domain with a lot of candidate resource models, service specifications, interchange formats and implementations.

yes. My focus will be on the interface between domain resources and value sets, so that the API picks up whatever is defined in the domain resources. We already have data element, medication, location, substance, etc

Some successful some not. I think that the CQIF FHIR IG already goes in the direction of enabling compatibility with existing frameworks. Who will set the requirements for the kind of resources to be included, and will the proposal be based on existing standards or redesigned in a more ad-hoc way? We could move this to a different thread if appropriate.

the domain committees can propose resources, and FMG weighs in on them from a process perspective. Otherwise... we have ongoing discussions about this. I'm far from convinced that the CQIF approach represents the right abstraction level, but I'm waiting till I've seen implementation experience before forming a solid opinion

Grahame

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**Davide Sottara** <dsotty@gmail.com>

Thu, Oct 29, 2015 at 10:21 AM

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On Thu, Oct 29, 2015 at 7:30 AM, Grahame Grieve <[grahame@healthintersections.com.au](mailto:grahame@healthintersections.com.au)> wrote:

Being pragmatic, would it make sense to start from the work we did at Mayo, and try to recommend a possible binding for a FHIR terminology API to a CTS-2 compliant server?

yes. That would be a good wiki page/white paper for the CTS2 community. The french guys would have some comments to add to this, since they've done this - implemented FHIR in front of a CTS2 interface

Perfect, so we have at least two implementations to compare and harmonize. Who would be the contact person?

Meanwhile, we could discuss the next iteration of the CTS-2 specification in the appropriate contexts.

Is there enough interest?

I'll let Harold and Keith chime in. I do see value in this, especially in the long run. I guess it would take a new iteration on the requirements, to be reflected in an update to specification first. We would also identify which parts should be exposed in the FHIR spec, based on the 80/20 principle. In any case, I would prioritize the initial "official" alignment of the existing standards.

Davide