



Technical Steering Committee

E-NEWSLETTER

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Consistently Improving: Report from the TSC Chair

By Charlie McCay

Chair, TSC

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The strength of HL7 is that it can deliver specifications that people need using an open process with quality review. I want people to sigh with relief when they hear that a project that they are involved with is using HL7 standards. While this does happen, it is not yet a universal reaction. It is one that we can and must get to.

So, what can we improve? This article looks at the work to drive consistency between the various HL7 Version 3 product types: CDA implementation guides (IGs), messaging, services, and decision support virtual models.

HL7 does have a number of specifications with duplicate or inconsistent content. HL7 has been feeling this tension for many years as our scope and level of activity increases. We are constantly working to do a better job of delivering consistency, but we must keep our eyes firmly on delivering those useful specifications in a timely fashion. The TSC has looked for strategies that allow consistency to be introduced in an incremental way.

The current TSC visibility initiatives help to address this; the open distribution of project scope statements means that HL7 projects and work groups have discovered that there are projects happening elsewhere in HL7 that they want/need to work with. The more consistent we are in posting minutes and project updates, the easier it will be to work such issues through and deliver better specifications as a result.

Getting tools for maintaining CDA IGs and associated templates in a form that is directly comparable (with tooling assistance) to the RMIMs developed by domain work groups will help drive up the quality of the CDA IGs and domain models, and will also make it easier to compare work. It will be easier to maintain consistency while allowing for differences when there is good reason.

The work of the ArB and the Foundation and Technology Steering Group work groups to establish and implement an Architectural Framework for HL7 products will help to support convergence and consistency going forwards.

Collecting and sharing information about intended and actual uptake and successes of various HL7 products will also help to establish which existing HL7 products are working, and which are not. This will help us to see where there is further work to be done, and where maintaining consistency adds real value. It will also help implementers to know whether they are early adopters, or using a widely adopted specification.

Creating and promoting a clear product roadmap will help users to navigate the wealth of material that is available from HL7. It will also help new projects see with which products that they need to aim to be consistent.

Delivering all these changes in the framework of the organizational roadmap will let internal and external stakeholders see the overall direction of the organization, and how each of the individual initiatives within the working group contribute to that.

All this is being done to ensure that HL7 delivers standards that are of the maximum value to all the projects that use them. There is much to be done, many mistakes will be made, and many excellent and useful specifications will be delivered. The TSC is always open to ideas as to how to avoid mistakes, and how to increase the benefits that HL7 delivers.



Joint Initiative Council Approves Identification of Medicinal Products as Project

By W. Ed Hammond, PhD

Chair, HL7

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One of the first projects discussed at the formation of the Joint Initiative Council was the Identification of Medicinal Products (IDMP). After a long period of confused discussion, disagreements among participants, struggle with scope and approach, an agreement has been reached that now permits this work to move forward as a JIC project. Actually, final approval depends on agreement with the JIC project template now being prepared.

Much of the confusion resulted from the existing work done in this area. That work included the work in HL7 on the Common Product Model (CPM), the Structured Product Labeling (SPL), and the Individual Case Safety Report (ICSR). After discussion with lead individuals from the participating Standards Developing Organizations (SDOs), the International Conference on Harmonization of Requirements for Registration of Pharmaceuticals for Human Use (ICH), and the European Medicines Agency (EMA), the following course of action was adopted.

The work on the Common Product Model would continue in HL7 with members of ICH and ISO participating as an HL7 project. When the CPM standard was approved in HL7, it would be advanced to ISO for approval as part of the ISO/HL7 Pilot Project. That decision was based on work already done and the belief that this potentially was the quickest path to an ISO/HL7 standard. The CPM basically defines a container for drugs and drug products. Each country or region would populate the container with drugs specific to its requirements. The CPM provides a structure for ingredients and substance, route of administration, strength, dosage form, units of measure, manufacturer and package. What goes into the slots of this structure is what the additional standards cover.

The set of standards – and there are currently five related standards – make up the work of the IDMP approved as a JIC Project. These standards are:

- Data elements and structures to uniquely identify and describe specified substances
- Data elements and structures to uniquely identify pharmaceutical dose forms, units of presentation and routes of administration
- Data elements and structures to uniquely identify units of measurements
- Data elements and structures to uniquely identify medicinal products for the exchange of regulated medicinal product information
- Data elements and structures to uniquely identify and exchange pharmaceutical products (PhPIDs)

ISO will take the lead on these five standards. The other SDOs participating in

creating the standards will include HL7, CEN, CDISC, and IHTSDO. HL7 will name a co-lead for each of these standards (and it could be the same person). HL7 will also share equal responsibility for creating the standard and for bringing previous and appropriate HL7 work into the mix. One of the concerns has been the resolution of the regulator and clinical communities on these standards. We anticipate and hope that HL7 members will provide the environment for that to happen.

Again, in the interest of time, HL7 agreed to accept the Committee Drafts (CDs) for these five work items and provide comments during the ISO ballot cycle. By moving rapidly into the process, we will gain at least one ballot cycle on creating these much needed standards.

For this project to be a success, we need to listen to others, share, and ensure that HL7 requirements are met while permitting other groups to meet their requirements. If we accomplish these goals, we will make a loud statement to the world that these different groups can work together!



TSC Updates Since the May Working Group Meeting

By Lynn Laakso
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Approved Projects

- Genetic Testing Reports Project Proposal for Clinical Genomics: Clinical Genomics and Structured Documents Work Groups will jointly develop a CDA Implementation Guide (IG) for genetic testing reports. (TSC Issue 917 – Status = Closed; Project Insight ID 460)
- PORR Dam project for Patient Safety: this project will create a Domain Analysis Model (DAM) to facilitate harmonization of new and existing messaging standards and Clinical Document Architecture (CDA) templates in the HL7 Public Health Reporting Domain (PORR). (TSC Issue 1054 – Status = Closed; Project Insight ID=494)
- Diabetes Data Strategy Project for EHR Work Group: this project will focus on a minimum data set and data standards in EHR systems for diabetes assessment in children in outpatient clinic settings. (TSC Issue 1066, Project Insight ID=509)
- Patient Encounters Project for Patient Administration: PA R2 DSTU expires in September 2009 and so minor changes will be applied for additional encounter type “Short Stay” and a third DSTU cycle will be balloted to obtain implementer feedback. (TSC Issue 1067 – Status = Closed; Project Insight ID= 489)
- Registry Enhancements for Social Services Project [RESS] for Patient Administration: this project will document requirements for an extensive use case on a child’s living situation, to provide a draft for comment to identify and gauge acceptance of modeling and vocabulary changes to the existing Person Registry topic. (TSC Issue 1069 – Status = Closed; Project Insight

ID= 490)

- Real Time Location Tracking for Patient Administration: this was known as Registries Release 1 with original Project Insight ID #171. This DSTU ends on July 9, 2009, and will advance to normative balloting with no changes. (TSC Issue 1068 – Status = Closed; Project Insight ID = 491)
- Context Aware Information Retrieval (Infobutton) SOA Implementation Guide, for Clinical Decision Support: leveraging the HL7 Decision Support Services (DSS) standard, this project will be an instance (knowledge module) of the broader DSS standard, to support back and forth communication between EHRs, Infobutton Managers, and knowledge resources. (TSC Issue 1075 – Status=Closed; Project Insight ID=507)
- Care Record Summary, Release 2: Discharge Summary Project for Structured Documents: this update will be to issue a Discharge Summary-specific CRS updated for compliance with the current approach to CDA templates in CCD and the HL7 Health Story implementation guides. (TSC Issue 1076- Status=Closed ; Project Insight ID 510)
- Electronic Quality Measure Specification, Release 1 Project for Structured Documents: this project intends to create a standard to unambiguously represent quality measure specifications, including data elements, logic and definitions, where data gathered in this manner would pre-populate a QRDA. (TSC Issue 1077- Status=Closed ; Project Insight ID 508)

DSTU Publication Approvals

The following documents were approved as Draft Standards for Trial Use (DSTU) and will be available on the HL7 DSTU comment site (<http://www.hl7.org/dstucomments/index.cfm>).

- Clinical Decision Support: V3 Infobutton (TSC Issue 1058 – State=Closed)
- Financial Management: FICR Special Authorization (TSC Issue 1059 – State=Closed)

Informative Document Publication Approvals

The following documents were approved as Informative Documents and will be available on the HL7 members-only Website for Informative Documents (at http://www.hl7.org/Library/standards_mem1.cfm#HL7 Informative Documents).

- TB DAM for PHER (TSC Issue 1057 – State=Closed)

Work Group Health Documents

- The TSC reviewed and approved the distribution of Work Group Health documents that are listed below:

1. **DESD:**
<http://hl7projects.hl7.nscee.edu/frs/download.php/657/DESD-WorkGroupHealth2009May.pdf>
2. **FTSD:**
<http://hl7projects.hl7.nscee.edu/frs/download.php/658/FTSD-WorkGroupHealth2009May.pdf>
3. **SSD SD:**
http://hl7projects.hl7.nscee.edu/frs/download.php/659/SSD_SD-WorkGroupHealth2009May.pdf
4. **TSS SD:**
http://hl7projects.hl7.nscee.edu/frs/download.php/660/TSS_SD-

[WorkGroupHealth2009May.pdf](#)

Work Group Mission and Charter Statements

- The work group mission and charter statement guidelines are found on the TSC Utilities page as well as on the TSC Wiki.
- All work groups should review their Mission and Charter statements for conformance to the new template at or before the September Working Group meeting.

Work on Enterprise Architecture and Roadmap

Marc Koehn, the project manager for the EA IP continues to work with the Advisory Group to obtain project charter statements for the 'alpha projects'. Documentation on the Implementation project is available at the HL7 wiki at http://wiki.hl7.org/index.php?title=EA_IP.

TSC Visibility Plans

The TSC is making efforts to improve the visibility of the HL7 projects, products, and work groups. [see http://hl7tsc.org/wiki/index.php?title=Main_Page#TSC_Projects].

In addition to the Project Directory (see separate article), Project visibility efforts have been extended by the TSC to those involving HL7 participation in ISO as well as the Joint Initiative Council (JIC) projects. A table for tracking projects of concurrent interest to HL7 and ISO, as well as those shared by JIC members HL7, ISO, CEN, and CDISC, and those that may be of interest to HL7 workgroups and members is found at http://hl7tsc.org/wiki/index.php?title=ISO_and_JIC_projects.

A product list has been drafted and is undergoing review, and a product brief template is in development, to provide a consistent format for the description of HL7 products. This material will be published and promoted on the HL7 website – Further details can be found at http://hl7t3f.org/wiki/index.php?title=2009_TSC_Product_Visibility.

The Work Group Health documents, provided with this newsletter, are one effort to provide visibility to the activity level of the work groups. The Work Group Health documents can be found at http://hl7projects.hl7.nscee.edu/frs/?group_id=52. Any comments on the accuracy of the statistics shown, or suggestions for changes to the indicators tracked would be welcome.

For any additions, updates or suggestions on any of these TSC promoted initiatives please contact Lynn Laakso (lynn@hl7.org).

Viewing Projects and Accessing the TSC Issue Tracker

To view Projects:

- Go to Project Insight at: <http://healthlevelseven.projectinsight.net> (this requires a PMO assigned login) OR

- ❑ Go to the new searchable Project Database by [clicking here](#) OR
- ❑ Open the Project List on GForge by [clicking here](#)

To Access the TSC Issue Tracker [click here](#)



Working on a New HL7 Implementation Guide for Immunization Transactions

By Rob Savage, MS

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The American Immunization Registry Association (AIRA) is collaborating with the Centers for Disease Control and Prevention (CDC) in the creation of a new Implementation Guide for Messaging Immunization Data. An Implementation Guide for immunization messaging, based on HL7 Version 2.3.1, was first published in 1999. It has been widely adopted across the US by numerous Immunization Information Systems (IIS) and their partners in the Electronic Health Record Systems (EHR-S) world. According to the CDC-sponsored 2007 IIS Annual Report, 24 grantees with IIS report being able to accept and process an HL7 message (VXU). Grantees typically process millions of HL7 transactions on a yearly basis. These systems connect to many of the EHR-S in the US.

This long-standing success has highlighted the importance of HL7 messaging, but has also identified some deficiencies in the existing implementation guide. IIS program managers are challenged by the current guide's format. Ambiguities in the guide have led to inconsistent interpretation and differences in implementation. As HL7 standards have evolved, they have improved the foundation that implementation guides are built on. The new implementation guide will take advantage of the modernized query structure of the QBP query and the power of profiles to support the growing number of interactions between IIS and EHR-S.

The goal is for the new version of the guide to support both the system managers who need to understand what they are asking for and the technical staff who must implement and support messaging. The guide must faithfully follow the HL7 2.5.1 standard. It must be clearly written and unambiguous to assure consistent implementation between systems.

The new implementation guide will be balloted as an informative document through HL7 so that it can benefit from the wisdom in the HL7 community. Public Health and Emergency Response (PHER) and Orders and Observations (OO) are co-sponsors of this project. The review and input from HL7 and AIRA assures that the needs of the community will be met and that the document accurately reflects the HL7 standard.

Please contact Rob Savage (rbsavage@cdc.gov) for more information or to get involved.



HL7 Tooling: The Case for a New Tool Strategy

By John Quinn

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Since its inception, HL7 has turned to computer software programs that we generally refer to as “tools” to assist in performing tasks that are:

1. So complex in nature that it would take an impractical amount of training for all but the best experts to perform;
2. Involve extremely repetitive looped iterations over hundreds (if not thousands) of similar operations in order to produce the needed results;
3. Some combination of these two general categories.

Historically, HL7’s reliance on tooling became significant as our first products started to grow larger than a single human could reliably handle. These problems began to appear during the early 1990s when HL7 started to produce usable Version 2 messaging standards of several hundred pages. The source materials that made up this standard was developed at the time by six to eight small working groups and their output needed to all “fit together,” while also being consistent in both their content and format. At this point, HL7 started to develop internal databases and publishing tools to make the process of publishing more manageable and accurate.

Shortly after this time, HL7 started its first work on the HL7 Reference Information Model. The work of defining an information model that encompassed all of human healthcare rapidly grew in size and complexity. This work also quickly exceeded human capabilities to record and manage. It even outstripped the capabilities of easy to obtain off-the-shelf tools in common use at the time such as Visio, Microsoft Access and the formal Object Oriented modeling tools of the time. As a means of dealing with this problem, adjustments were made to the underlying modeling methodology to accommodate the extremely large number of entities and relationships. In turn, this all dictated the need for custom tooling to support HL7 modeling and many of these tools have evolved and are still in use today.

Since that time, HL7’s products have become larger and more complex. Fortunately, off-the-shelf tooling has also vastly increased in capabilities. XML, UML and off-the-shelf modeling and development tools such as IBM’s “Rational” products are now a possible alternative to our historic tools and methods. HL7 is now rapidly moving to adopt these and make routine use of them as quickly as we can safely can.

HL7 as an organization and its users individually make use of three broad categories of tools:

1. **Publishing and Balloting Tools:**

These software programs have a basic purpose of aiding HL7 standards developers (i.e., the members of the HL7 working groups) write, ballot and publish our work products. Some of these tools are very particular to these processes (e.g., the balloting workbench) and some have broader use in other tooling categories (e.g., the static R-MIM modeler which is also used

by HL7 Version 3 and CDA users as they create implementation specifications for specific use of HL7 Version 3 products).

If you look closely at the annually published HL7 Version 3 products you will notice that thousands of interrelated files (actual count of the 2008 Version 3 Normative Edition is 6,452 files) are produced by the publishing process. These files and their content must be verified against each other before Version 3 can be released. It is not humanly possible for the few individuals involved in this work to reliably accomplish this publishing task without the assistance of some very specific tools.

2. **User Implementation Specification Tools:**

Users of HL7 products create implementation specifications (sometimes also called implementation guides or profiles) that conform to an HL7 standard. It is sometimes important to remember that HL7 standards must be applied to a defined problem that constrains that standard to a specific use case (i.e., application process) and terminologies. In other words, the standard supports a wide scope of possible uses of that standard. The user developed implementation specification is the unambiguous set of directions that tells the systems integrator exactly how the communicating applications are allowed to interoperate.

Some users of HL7 (e.g., the UK's National Health Services (NHS) and Canada's Health Infoway (CHI)) have created extensive implementation specifications. (A sample version of the NHS's Messaging Implementation Manual (MIM) is available on the HL7 website in the standards download area). They have also created their own set of tooling to create and test their implementation specifications. At this time, the NHS and CHI have told HL7 that they are placing their specific implementation tools in the Open Health Tools (OHT) website's database for Open Source use. These tools are all based on the Eclipse Platform.

HL7 has also identified tools that it and some of its users have created, or are currently developing that could also be useful to other HL7 users. All tools created by HL7 will be made available in OHT in source form for general use by HL7 users.

3. **HL7 Ballot Validation and Testing Tools:**

HL7 also has many smaller tools that are used to verify elements of our standards at various steps during the balloting and publishing processes and when we share them with other standards organizations such as ISO. Examples of these tools are:

- A tool that validates that all hyperlinks are correct references with an existing target object;
- A tool that validates that the XML schemas that we specify meets W3C's requirements for valid XML.

The above tooling does not test device interoperability and HL7 does not attempt to create "certification" or "conformance testing tools". There is another class of tool that has been created by CHI and the NHS that perform these functions for their countries. In the US the ARRA legislation assigns that role to NIST. These testing tools validate the ability of applications to properly interoperate with their related IT infrastructures as required in their published implementation specifications. At this time, CHI has indicated that they plan to put their conformance testing tools for

applications that connect through Version 3 services to a CHI “HIAL” into the OHT website database. The NHS has also indicated that they have interest in similarly doing the same with their validation tools that are used for applications that must attach to their “Spine” Version 3 message based infrastructure. It is HL7’s intention to make the limited tools that we have in this category also available to our members.

The important message is that tooling is vital to HL7 for two broad and very important reasons:

1. Tooling is vital if we are to continue publishing new content in our standards products. It is vital to the creation of the content, the publishing of our ballots and the continued publishing of our standards products themselves. **Without reliable and maintained tooling, we face difficulties meeting our basic mission to write and publish healthcare interoperability standards.**
2. **Tooling is also vital to our users (i.e., our customers) if they are to make use of our standards.** This is especially true to the users of our Version 3 family of standards that are based on a model-based methodology and all users of our standards with structured terminologies. A lack of good well-documented and easy-to-use implementation tooling is, in my opinion, the biggest challenge facing HL7 today. If our users cannot use our standards with reasonable effort and a high degree of success, they will look to use something else.

The NHS in the UK, CHI in Canada and the VHA in the US have all made some investments in HL7 tooling to create implementation guides and deploy them in their respective environments. **HL7 will work to leverage these experiences, knowledge and, whenever possible, the tools themselves and will work with these organizations (and others as they become involved) to make these capabilities available, when possible, to all our users.**

In our next issue, I will give you more details of our proposed strategy and give you an idea of the tooling challenge that we face in the next few years.



Update from the Domain Experts Steering Division—New Projects for 2009

By Austin Kreisler and Ed Tripp

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As we look back on the first half of 2009, there have been a number of interesting new projects approved for the work groups that make up the Domain Experts Steering Division (DESD).

The month of February was a busy month for the Domain Experts Steering Division with the Technical Steering Committee (TSC) approving four of its project scope statements. Public Health and Emergency Response (PHER) began projects for two Version 2.5.1 implementation guides with *Version 2.5.1 Implementation Guide for Immunization Messaging* and *Electronic Laboratory Reporting Version 2.5.1 Implementation Guide (US Realm)*. Regulated Clinical Research Information Management (RCRIM) initiated *Annotated ECG, Release 1 ANSI reaffirmation* in order to reaffirm the suitability of this five-year-old Version3 standard. The Government Projects Work Group began *Healthcare SOA Reference Architecture (H-SOA-RA) V 2.0 and EHR System Design Reference Model (EHR-SD RM)*. This project will mature the April 2008 Healthcare Services Oriented Reference Architecture (H-SOA-RA) Version 1.0 into H-SOA-RA Version 2.0 and then integrate it into an EHR System Design Reference Model (EHR-SD RM), using the HL7 SOA-Aware Enterprise Architecture Framework (SAEAF), HITSP Multi-Enterprise Architecture of Networked Services Standards (MEANS), and EHR System Functional Model (EHR-S FM).

In March, the TSC approved two additional projects. The Imaging Integration Work Group began work on *CMET: A_DicomCompositeObjectReference minimal (COCT_RM830120UV05) R2*, a project to produce an updated version of the DICOM object reference CMET to harmonize it with the HL7 Version 3 assertion pattern. PHER began work on *Immunization Administration* to develop messages for communicating information related to the management and administration of immunizations.

On June 1, 2009, the Patient Safety Work Group received approval for *Public Health Reporting Domain Analysis Model*. The scope of the project is to create a Domain Analysis Model (DAM) to facilitate harmonization of new and existing messaging standards and Clinical Document Architecture (CDA) templates in the HL7 Public Health Reporting Domain (PORR).

As of the writing of this article, the DESD is considering the *Emergency Medical Services Domain Analysis Model* sponsored by the Clinical Interoperability Council with co-sponsorship from Patient Care, Emergency Care, PHER. To date, this has been an active year for the DESD and there will certainly be a number of new and interesting projects in the remaining half of the year.



Technical and Support Services Steering Division September 2009 WGM Report

By Ken McCaslin

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This has been an exciting time for the Technical and Support Services Steering Division and the work groups in the Steering Division. With the recent announcements from Electronic Services, we are now aware of updated services for the HL7 Wiki, HL7.org, and the work group landing pages. Electronic Services will

announce more updates in the near future, some of which will be visible on the website while others are back office updates but are equally important.

Education is not only prepared for the July Educational Summit, but they have also prepared for the future educational summits into 2010 as well as the educational tutorials for the Working Group Meetings. This team is always working several Working Group Meetings ahead and constantly preparing for the “what ifs” to make sure they have coverage under any circumstance for every tutorial.

Tooling is looking at the future as well to ensure that the membership of HL7 has what it takes to develop the messages necessary to be successful. This work group supports the HL7 CTO to help find the best tools to meet the changing technology landscape.

Publishing has been very busy with the back-to-back releases of Version 2.51 and Version 2.6 in the past two years and will be publishing Version 2.7 this year. These are record-setting accomplishments considering previous versions took at least four years to develop. Version 3.0 continues to be driven at a high rate with the updates coming out of the Harmonization and Working Group Meetings, which equates to six or more updates every year.

Project Services has done tremendous work in developing the model for project management, including further refinements on the product/project life cycles; the project scope statement; the help guide for selecting ballot types based on the goal of the project; and Project Insight templates based on the type of ballot that will be used at that point in the project life cycle. A strong indication of the level of work the Project Services Work Group is performing is that they will be electing an additional co-chair during the September 2009 Working Group Meeting.

Process Improvement is in the process of updating the Co-Chair Handbook to include all of the changes HL7 has experienced over the past few years. With the change from technical committees and special interest groups, to what really happens—the work group—there is a great deal that needs to be updated. The Strategic Task Force drove much of this change from a grant provided by The Robert Wood Johnson Foundation that resulted in a new HL7 Organization with new processes. Process Improvement will include items from Project services to the revised Co-Chair Handbook that will help Co-Chairs succeed in the roles in the new HL7 Organization.

The work groups of the Technical and Support Services Steering Division (T3SD) do not focus on the work that makes HL7 successful; instead, their focus is on making you, the member, successful by providing services and tools to the rest of HL7's Steering Divisions. When you are successful, then T3SD is also successful. Many of the HL7 Roadmap 2009 Initiatives are driven by the work that these work groups accomplish. The work groups of the T3SD continue to coordinate with each other to focus on those roadmap initiatives that are the highest priority for HL7 and see that “Unlocking the Power of Health Information” is accomplished by providing the best services possible with the resources we have available.

Many of our work groups have limited members because it is difficult to justify giving up time to an effort that does not develop solutions for your companies. However, if you or someone you know has just a little time, the T3SD work groups could benefit from your skills and knowledge. Please contact any T3SD work group co-chair or myself for more information.



Enabling eHealth Strategies through Architecture Driven Health IT Standards Development

By Marc Koehn, B.Sc., MBA

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There appears to be a common policy focus among developed countries these days. Yes, I know you are thinking it's the economy since surely that is squarely on many a citizen and policy maker's minds. However, I am referring to the more enduring theme of healthcare renewal as response to the perfect storm of aging populations, chronic disease challenges, rising costs, and projected shortages of healthcare professionals. A key component of the response, certainly across the developed world, has been the push towards Electronic Health Records (EHR) through the establishment of system-wide eHealth strategies. At the core of these strategies is the basic notion that the availability of up-to-date and pertinent patient information at the right time and place, subject to the needed privacy constraints, will help improve the ability of clinicians to provide care and will yield better outcomes for patients. Given the broadly distributed nature of most health systems (*i.e.* the health delivery infrastructure AND the associated IT systems), this demands not only the establishment of common standards but standards that scale up to the needs of health system-wide deployment. Such standards require effective consensus building processes as well as leading edge specification frameworks and methodologies that help drive overall quality and consistency across the full standards portfolio.

HL7 has been at the core of establishing specification systems for the development of health information standards and a home for stakeholder consensus building for more than 22 years. Over the past decade, in partial response to the requirements for more inter-organizational data interchange and improved semantic interoperability, HL7 introduced the HL7 Reference Information Model (RIM) that became an ANSI normative standard in 2003 and today supports three interoperability paradigms: **Messages**, **Documents**, and **Services**. More recently, HL7 has established a roadmap (<http://www.hl7.org/documentcomments/index.cfm>) to outline a series of strategic initiatives designed to ensure that its products and services remain pertinent to its stakeholders and responsive to the growing eHealth push.

One of these initiatives is the development of an Enterprise Architecture Framework – through the Services Aware Enterprise Architecture Framework (SAEAF) project –

and the subsequent, planned refinement of HL7's own internal Enterprise Architecture in order to make the SAEAF operational. The development of the framework was in direct response to the HL7 Board of Directors' commitment to the following three-part premise:

- HL7 produces specifications to enable Computable Semantic Interoperability (CSI) between users of systems implementing those specifications.
- Instances of CSI between two or more HL7-based systems may cross department, enterprise, and/or national boundaries.
- An HL7 Enterprise Architecture Specification (EAS) is required if HL7 is to produce durable specifications that enable CSI in an effective, efficient, and scalable manner.

Under the direction of HL7's Chief Technology Officer (CTO), the HL7 Architectural review Board (ArB) has worked over the past 16 months to establish a core foundation for the architecture framework. Drawing on key industry frameworks such as the Reference Model for Open Distributed Processing (RM-ODP), among others, the architecture framework has established a model for HL7 specifications that recognizes the importance of separating various views of the specification (*e.g.* Enterprise view, Information view, Computational view, Engineering view and Technology view) so as to ensure that business needs can be expressed in a consistent manner and then appropriately and consistently reflected in various specification artifacts across the full spectrum of established interoperability paradigms (*i.e.* **messaging**, **document exchange** and **services**). By providing a model that harmonizes specifications across these paradigms, the framework should begin not only to shape HL7 specifications towards consistency and ever more scalability, but also to provide a common lingo for expressing requirements in the areas of specification tooling, decision making, *etc.*

In addition to a consistent overall specification structure, the framework has also begun to devise the following key components:

- A more rigorous Behavioral Framework to express interaction semantics;
- A layered Conformance/Compliance Framework to support service integration and run-time assessment of CSI; and
- A Governance Framework to oversee the development and implementation of HL7 Interoperability specifications.

A significant milestone for this roadmap initiative is the fact that the framework is now sufficiently completed (See http://wiki.hl7.org/index.php?title=Architecture_Board) to allow HL7 to begin using it in "alpha" mode. This "alpha" use is intended to meet two core objectives: (1) To

exercise the framework and, in so doing, to refine and elaborate it, and (2) To enable “alpha” projects to reap the benefits of following a broader, architectural approach in the development of their specifications.

In parallel to such test driving of the framework, HL7 will also review and refine its decision making practices and processes to begin to establish the “architecture governance” elements of the framework. This will also draw heavily on the experience generated by the “alpha” projects.

Several key HL7 projects and work groups, including the Privacy, Access and Security Services (PASS) project, the Common Terminology Services 2 (CTS2) project and the Structured Documents Work Group are presently evaluating their readiness to engage as “alpha” projects with a goal to initiating the needed activities prior to the 23rd Annual Plenary & Working Group Meeting this September in Atlanta, Georgia.

As these and other projects apply and evolve the Enterprise Architecture Framework, and as this framework begins to visibly impact HL7 based specifications development, HL7 should be progressively better positioned to support national, regional, or hospital-group wide eHealth strategies and to continue to play its part in the renewal of health systems globally as the “SDO” for health information interchange.



Update from the Project Management Office

By Dave Hamill

Director, Project Management Office

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The quality of the information in the Project Directory being maintained by the Project Services Work Group continues to improve. Two new fields have been added as filter criteria to the HL7 Searchable Project Index Tool. You can now filter projects based on **Product Type** (e.g. EHR, Arden Syntax, or various V2 or V3 product types) or **Project Type** (e.g Normative Ballot, Informative Ballot, ISO Ballot Project, etc.). The tool is located in the Resources section on the homepage of www.hl7.org (the direct URL is <http://www.hl7.org/special/Committees/projman/searchableProjectIndex.cfm>).

A listing of HL7 projects is also available as an Excel spreadsheet in GForge via the TSC’s File tab (the direct URL is http://hl7projects.hl7.nscee.edu/frs/?group_id=52)

HL7 projects are maintained in Project Insight (<http://healthlevelseven.projectinsight.net>), which can also support more detailed project management and tracking functions for co-chairs and project facilitators.

The Project Services Work Group will facilitate the effort for HL7 work groups to

review and clean up existing projects. The HL7 Project Review and Cleanup Project (# 511) will have HL7 work groups review their projects in Project Insight and identify their current status based on project statuses defined by the Project Services Work Group. A team will be assembled to help divide the effort to facilitate the work groups in their review. By the September Working Group Meeting, Project Insight will be updated to reflect the current statuses and provide the ability for better project tracking and management.

For more details, contact Dave Hamill (pmo@hl7.org) or the Project Services Work Group leadership.

Update from Project Services

By Barb McKinnon

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The next release of the HL7 Co-Chair Handbook will contain an "Electronic Balloting" attachment to provide co-chairs with a quick reference to balloting information.

- Review Ballot – Comment Only
- Review Ballot – Informative Document
- Review Ballot – Draft Standard for Trial Use (DSTU)
- Normative Ballot

The attachment is made up of four (4) charts with each chart outlining more detailed information on ballot intent, ballot use, levels of approval, milestones, and how to handle ballot results. The charts also provide direct links to key HL7 ballot schedules, documents, and manuals to assist in ballot preparation, submission, and reconciliation.

The document is available at:

<http://hl7projects.hl7.nscee.edu/docman/view.php/55/3350/HL7%20PS%20-%20Electronic%20Ballot%20Chart%20-%20Final.pdf>

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