

Pulse

Apelon Newsletter

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In this issue we continue our focus on interoperability. Managing interoperability programs is always a challenge. Every organization has its own requirements and use cases to consider.



Still, there are a few common threads we have identified and we hope will be helpful to you. In our editorial below, we consider the strengths and weaknesses of two common approaches to interoperability. While this article considers the general strategies that can be applied to interoperability, this issue's Consultant's Corner describes one company's specific tactics to achieve its interoperability goals.

Finally, in the Product Forum, we look at how an integrated workflow capability can improve management and productivity of complex interoperability projects.

As always, we welcome queries and feedback to pulse@apelon.com or write me directly at scoady@apelon.com.

Regards,

Stephen Coady
President and CEO
APELON

Interoperability - Top-Down or Bottom-Up?

In discussions of interoperability the traditional default has been a "top-down" approach in which an all-inclusive general framework was developed from which particulars would be extracted. The alternative is a "bottom-up" approach where the general is built, or developed, as a collection of the particulars. Our observation is that the latter is experiencing a groundswell of support.

An interesting thing about practical users is their focus on a relatively small set of data elements. Typically they have an application that is triggered by a manageable number of codes or conditions. This often makes their issues regarding standardization and interoperability easier to resolve.

For many years the industry has envisioned and has been building systems that normalize everything so that whatever is potentially needed will be available. We have made pitiful progress. A new approach: focus on what's needed for the applications / questions at hand, and add to that as more needs / queries emerge.

A key advantage is that the customer's patience is not tested. Applications presumably exist because each serves a practical purpose. Running the apps reinforces the appropriateness of the limited normalization that's been necessary to trigger the apps. That the application works provides encouragement (and funding) to develop more apps, which calls for more normalization ...

Groundswell efforts are often inefficient, coming up already trod learning curves and ignorant of existent assets. But what they lack in efficiency and thoughtful design they often make up for in enthusiasm and speed of growth. Advised on what needs to be captured, Apelon helps user organizations by analyzing the data sources and developing solutions to amalgamate content efficiently. The objective is to advise if similar work has already been done and if not, then advise on how best to do it based on relevant experience. A key insight is the identification of what appear to be expedient paths but in reality likely lead to useless artifacts. An easy example: cautioning reconsideration if someone proposes to map legacy termset A to legacy termset B when it would be better to map each to existing standard X.

The usual rationalization is that appreciation curves grow faster than development curves. That argument asserts that when demand arises for the more complete terminologies it will be too late to start developing them. One of our colleagues refers to this as 'being ready for success'. But we have been ready for a long time. "Built it and they will come" doesn't always work.

One ought look to users regarding practical priorities, and there are more users than ever before. Informaticists should not get too far ahead designing the 'uber-terminology', lest we end up with solutions in search of problems. At the risk of oversimplification: a good product / tool / service is one which the customer understands that he or she needs.

We are not alone in this thinking. The current issue of JAMIA includes two articles ^{1, 2} that promote non-top-down interoperability approaches.

The scientist in us bemoans the loss of the vision of an interoperable assemblage that may be interrogated for anything and that will support population-based descriptive statistics, identification of best proven practice patterns, heuristic decision support, and so forth. But the businessperson in us smiles and cautions to not underestimate the speed with which the incremental approach will grow our healthcare information systems to critical mass.

1. Enrico Coiera, Building a National Health IT System from the Middle Out, J Am Med Inform Assoc 2009; 16: 271-273

2. Walter V. Sujansky, J. Marc Overhage, Sophia Chang, Jonah Frohlich, and Samuel A. Faus, The Development of a Highly Constrained Health Level 7 Implementation Guide to Facilitate Electronic Laboratory Reporting to Ambulatory Electronic Health Record Systems, J Am Med Inform Assoc 2009; 16: 285-290

Consultants' Corner - Interoperability at Premier



The Premier healthcare alliance serves more than 2,100 U.S. hospitals and 54,000-plus other healthcare sites. Owned by not-for-profit hospitals, Premier operates one of the largest healthcare purchasing networks and the nation's largest comprehensive repository of hospital clinical and financial information. Premier Healthcare Informatics is committed to providing customers actionable ways, through the use of analytical tools and services, to improve the quality of care and accelerate them into the top performing quartile of healthcare facilities nationwide.

Following the acquisition of CareScience, a clinical outcomes analysis company, Premier had two quality outcomes products and recognized the need to integrate these offerings. A key component of this integration effort was the improvement of their data normalization processes. One of the products used a "home-grown" vocabulary for normalization, while the other was already using standard terminologies such as SNOMED CT. Premier's goal was an integrated system in which standard terminologies were the basis for all normalization processes.

"Interoperability of data within and across healthcare systems is a necessity to put actionable information into healthcare providers' hands" explained Barbara Doyle, Product Director, Premier QualityAdvisor™. "When interpreting and comparing clinical information it is vital to know that regardless of the system that is being used, the terminology is the same. The Healthcare Information Technology Standards Panel (HITSP) is setting standards for healthcare data exchange and terminologies, such as the use of SNOMED CT terminology for procedures, tests,

and therapies. Electronic health records are adapting this terminology for common documentation, but for many health facilities and systems that have not yet implemented or are in the process of implementing EHRs, SNOMED CT can also be used to normalize other data sources for meaningful analyses. For example, hospital charge masters can be mapped to industry standard terminologies like SNOMED, allowing facilities to use their admin data to analyze resource utilization within a facility or across a health system. Making this data interoperable within healthcare systems makes it easy to answer questions such as 'What percent of heart failure patients have a chest x-ray?', or 'Do I have variation on drug-eluting stent use across my physicians?' without ever having to pull a patient record."

Premier began working with Apelon in the late 1990s to meet their goal of semantic interoperability for resource utilization within and across health systems. Since that time, Apelon products, including the Distributed Terminology System and TermWorks mapping solution, have been used to develop the data normalization processes required for quality analysis. Most recently, Apelon consultants have helped Premier develop and implement a mapping strategy to produce the terminology content on which a high-throughput data normalization system could be based.

"The relationship has sustained itself through the years and through different terminologies to the present effort for QualityAdvisor," Ms. Doyle continued. "All resource data for more than 600 acute care facilities will ultimately be mapped to SNOMED CT for tests, therapies and procedures, MultumDrug for pharmacy, and UMDNS for devices."

If you are interested in partnering with Apelon, please contact Apelon's SVP for Consulting Services, Tony Weida at tweida@apelon.com.

Product Forum - Managing Projects With DTS Workflow

The management of advanced terminology projects such a modeling or mapping project can be a complicated process, especially when project participants are spread geographically. Building on our experience with TDE Workflow for Kaiser Permanente, the National Cancer Institute, and the College of American Pathologists, Apelon designed the DTS Workflow module to facilitate the management and tracking of these activities. DTS Workflow augments the DTS Editor with new panels and knowledgebase features that improve the ability of terminology managers to create, manage and track critical projects.

The key features of DTS Workflow are:

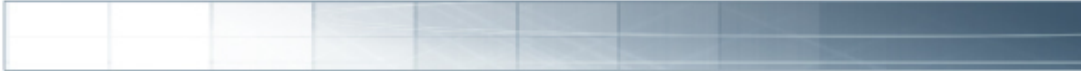
User Management - The DTS User Manager has been extended to include Workflow Manager and Workflow Modeler roles that can be applied to any DTS user. This role-based classification scheme separates the functions of assignment creation and management from assignment execution.

Assignment Management - A Workflow Manager has the ability to create, copy, assign, track, and close work Assignments. A Workflow Assignment is a set of DTS Concepts with associated descriptive notes that define a set of editing tasks to be performed. Using features of the DTS Editor Workflow Manager Panel, the Manager creates the Assignment, adds the desired Concepts, appends notes, and assigns the Assignment to a Modeler. During the Assignment Processing, the Manager can track progress, and, upon receipt of the completed assignment, accept, reject or reassign the work.

Assignment Processing - When a Workflow modeler logs on to the DTS Editor (connects to a DTS Knowledgebase) their current Assignment(s) are displayed in the DTS Editor Workflow Modeler Panel. Only those assignments assigned to a Modeler by the Manager appear in the Modeler's assignment view. The Modeler can then accept or reject the Assignment. If accepted, they perform the tasks described having the full features of the DTS Editor available. Once the tasks are completed, they submit the Assignment, along with any applicable new Notes, back to the Workflow Manager.

Audit Trail - All changes to Concepts made during a Workflow session are logged and date/time stamped. Workflow users can thus see a detailed "snapshot" of the actions performed on any Concept. A variety of standard audit query reports are available so that Managers and Modelers can view changes by Namespace, by Date Range, by Modeler, or by Assignment. Change displays and reports can contain the full set of modifications to Concepts, giving a complete picture of the edit history.

Give DTS Workflow a try on your next terminology development project. We think you'll find it an easy-to-use way to improve your project's performance. The DTS Workflow module is available for download from our [DTS SourceForge site](#).



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