HL7 UK eZine October 2008

Welcome to the October 2008 HL7 UK eZine. In this issue we have a special focus on the international scene in HL7, that is, on HL7.org rather than individual affiliates. This makes it a longer eZine than previous issues, however hopefully also an interesting read for UK members who do not usually get to Working Group Meetings (WGMs).

Rik Smithies and Charlie McCay, both veteran WGM participants, provide personal accounts of the WGM held in September 2008 from their different perspectives – Rik as Chair of HL7 UK and Charlie as Chair of the HL7 Technical Steering Committee. Tim Benson has contributed a summary of the keynote speeches at the plenary, and Ann Wrightson reports on the Enterprise Architecture work undertaken by the HL7 Architecture Board in preparation for the WGM. Much of the technical content described will come to ballot in due course, and the articles below are personal accounts, not formal positions of HL7 UK.

First, however, we look forward to:

The HL7 UK 2008 conference

The sixth annual HL7 UK Conference takes place on **22-23 October at the Royal College of Obstetricians and Gynaecologists in London.**

This year's programme focuses on the capability of HL7 and related informatics standards to ensure quality Healthcare information is made available when and where required, making HL7 UK 2008 is the best opportunity all year to spend two days learning about the experience of colleagues and discussing these issues in detail.

This year we have a rich selection of quality speakers from national programmes such as NHS Connecting for Health, Informing Healthcare (Wales), Holland and Canada Health Infoway, together with contributions from major suppliers including BT, Cerner, CSC, INPS and iSOFT.

The programme has been structured into 7 sessions across the two days:

- International context
- Implementation experience
- Moving forward with healthcare information standards
- EHR architecture
- HL7 v3 implementation
- Standards-based application architecture
- Next steps for healthcare interoperability standards.

In addition to this, and at no extra cost, we are also running a series of tutorial sessions on HL7 V3, the Spine/PDS, CDA and SNOMED.

We feel strongly that the programme will give practical help to suppliers and health informatics staff both in the NHS and other sectors in our joint endeavour to deliver better information.

To register, simply go to www.hl7.org.uk/hl7ukconferencesite/2008.asp

We look forward to seeing you there.

From the Chair... at the WGM

By Rik Smithies

One of the privileges of being the Chair of HL7 UK is attending the HL7.org Working Group Meetings, week-long meetings of many parallel committees that happen three times a year. The most recent Working Group Meeting was September 2008 in Vancouver. As a taster of what goes on, here are some notes about the sessions I attended.

Before the conference proper, Sunday is the regular slot for the International Affiliates meeting. This is where the HL7 groups from around the world give updates and increasingly, welcome new countries that have established start-up groups (HL7 Singapore being the newest, and HL7 India is being re-launched). I formally represent the UK affiliate at this meeting, and other UK members attending the WGM also often attend to keep up with the wider international scene in HL7.

After Monday morning's annual HL7 Plenary session, where industry and

InterSystems is our conference sponsor this year, and we appreciate their consistent support of the HL7 UK conference.

CSC has chosen InterSystems Ensemble as its trust integration engine (TIE) for system integration in the North East and Midlands regions. This will be used to integrate new applications such as Lorenzo with existing applications.

NHS Yorkshire and the Humber is one of the first strategic health authorities to use Ensemble under the contract. Phil Molyneux, CIO at the SHA said: “This agreement between CSC and InterSystems is part of the LSP contract fits with our strategy to take advantage of new strategic solutions from CSC, whilst maximising the benefit that we can get from existing software products that are highly valued by the local trusts.”

Trust and SHA representatives are collaborating through the NHS Connecting for Health Trust Integration Forum to agree on which of their existing applications require TIE interfaces and will have pre-built and pre-tested interfaces.

“Proven, comprehensive and extensible integration is vital to the success of the NPfIT programme,” said Mike Dyer, CSC’s NHS Chief Technology Officer. “Our new TIE initiative directly addresses the need to achieve a single view of a patient record and keep disparate systems synchronised.”

Clinical Statement Workgroup in session

political leaders address the organisation, the more technical streams of the conference got underway.

On Monday afternoon I attended the RIMBAA Workgroup (RIM-Based Application Architecture).

This is a newly revitalised group, formerly the Java SIG, that has realised lots of people are using the HL7 RIM (the core HL7 data model) to organise all aspects of health information.

This includes messages, of course, but also archetypes and templates, until recently considered the sole province of other medical models. The RIM is a powerful flexible model, and has proved itself in a series of well established live systems, and in some new developments. The "messaging only" view of HL7 is strange, since messaging basically involves the modeling of all kinds of medical data. If you can model data successfully to message it, then you can model and manipulate data successfully and consistently throughout your application. Worries about application performance, in the face of the flexibility of the RIM have proved unfounded, and systems exist that can now work with any type of medical data, with few changes. Various automatically generated user interfaces have been built directly on top of HL7 V3 models. It seems that HL7 has been capable of this all along, but the PR has been lacking!

There were two demonstrations at this session.

Andreas Ceiner demonstrated the PHI framework. Andreas is Italian but his team is also based partly in Austria and has links with several universities including Stanford.

The system is a forthcoming new generation of an established hospital system. It re-uses the RIM based storage code from the Java SIG, uses the Eclipse IDE platform, and adds an application modelling layer on top. You can open any HL7 model, for instance those in the international ballot pack, or your own, and create process flows and generate HTML and Ajax user interfaces directly from these. No programming is necessary, but a degree of technical knowledge would be needed, so this is a task for a system administrator rather or DBA rather than an ordinary member of the hospital staff.

A series of industry standard technologies are used: JBOSS, JSF Richfaces, Ajax and Flex, JBPM and the Drools reasoning engine. The project is open source, so anyone can contribute or use the code. It certainly looked impressive. A whitepaper is available on the HL7 wiki (wiki access details can be found in the members area of the HL7 UK website).

General information about RIM based HL7 applications is at René Spronk's site http://www.ringholm.de/docs/03100_en.htm

The next RIMBAA session was a presentation by Ernst de Bel, who works at the Radboud University Nijmegen Medical Centre.

Ernst is a medic turned programmer who for the last few years has devoted his time to developing and supporting a complete hospital system.

The system he demonstrated was written from first principles, pre-dating HL7 V3, but was converted to use the V3 RIM natively because it was so similar to the existing architecture.

The system stores all data in HL7 RIM format, and has user interfaces that are dynamically generated from HL7 models. In effect, transactions between the UI and the database are HL7 messages, with persistence at the back and automatic creation of populated HTML controls at the front. Data is round-tripped from UI to HL7 and back with each user interface action that needs to be captured. For example, the authorisation of some medication starts by reading a RIM store (an SQL database with table layout like the HL7 generalised model) to create a standard HL7 medication message structure. This shows what is already authorised, dispensed and so on for that patient. Then the UI is created on the fly to display this information, and allow editing the record. New data can be entered, and the result is re-persisted via

an HL7 "message" (acting as a large datagram) that is serialised into the HL7 store at the back end. Anything that can be modeled (or re-modeled) in HL7, and that includes pretty much all clinical data, can be stored, retrieved and used to form an interactive, robust application. Again, I was very impressed, not to say amazed!

I think this newly emerging architectural pattern is a very powerful and welcome addition to the HL7 world. **You can hear more in two separate presentations, from René and Ernst, at the HL7 UK 2008 conference.**

Monday evening had a meeting of the Technical Steering Committee (TSC), where working group co-chairs hear reports on the technical organisation and management of the organisation. As well as getting free food (always a big draw for me) we heard reports from the committee about an ARB (Architectural Review Board) initiative to reposition HL7 for SOA: the Services Aware Enterprise Architecture Framework (see article below from Ann Wrightson). There is a full document (SAEAF_Document) on the HL7 wiki.

There was also an interesting announcement from Woody Beeler, one of the founders of the HL7 V3 RIM, that the much maligned concept of "context conduction" has been recognised as being "broken" and is going to have a big overhaul. Hear, hear I say. Context conduction in HL7 is a bit like quantum mechanics, if you think you fully understand it, you don't understand it. It needs to be far more usable.

Tuesday morning I was invited to the RCRIM group (Regulated Clinical Research Information Management). This isn't a group I know a lot about, being mainly focused on exchange of medicines information for US regulations. However, out of curiosity I had looked at their ballot material in August and my interest was piqued. As a complete newcomer to the domain, but with experience of other ones, I submitted some comments about how to make the material easier to understand for an outsider. Since HL7 standards are always open to review and criticism my comments were treated as seriously as those from knowledgeable insiders. The group is obliged to address my minor issues before their work can be adopted as part of the HL7 standard. It was good to see this inclusive process at work and I would encourage others to have a look at any part of the HL7 ballot and submit comments in January. Naturally you don't necessarily have to represent yourself in person at these comment review meetings, email or conference calls are often used.

The second quarter was a discussion of the Problems model in the Patient Care group. It was an opportunity for me to catch up with the work of this group that develops general purpose structures for clinical content. These are then handed on to other groups to model specific clinical use cases.

After lunch there was a meeting of the core group of HL7 V3 policy makers, namely "MnM" or Modelling and Methodology. Charlie McCay, our former UK Chair and current HL7 TSC chair, led a discussion about the thorny problem of versioning of HL7 artefacts (models, schemas and the like). This work is ongoing with Charlie.

Tuesday afternoon is usually the HL7 Board meeting, to which the International Affiliate Chairs are invited. This is where the business of running the HL7 organisation happens. A key theme was the finances of the organisation and the realisation that, if current ambitious plans are to be realised (as laid out in the new organisation "Roadmap") finance models will need to evolve.

The organisation wants to reach out to the world, but not incur a large loss in doing so and was pleased with 544 attendees at this Canadian meeting. The May 2009 meeting in Kyoto is considered more of a challenge since it is far from the US base of many members.

On Wednesday the group that deals with re-organising voting rights for members met, the so called "One Member One Vote" team. This addresses the fact that the whole of the UK and other countries have only the same vote at HL7 as a benefactor member company of the US based organisation. In practice, since any negative vote will hold up a standard, the effect in practice is small, but it certainly doesn't appear as a level playing field.

This is closely tied to the issue that there is no national HL7 body in the US, only HL7 as a whole, which has an international remit. So the two tend to get conflated, and there is both no US specific forum, and a tendency for the organisation as a whole to be US focussed. Moving away from the basic voting issue, the committee is likely to re-launch as an "HL7 globalisation committee", looking ahead to a time when international affiliates, such as HL7 UK, are not necessary and all membership, voting and governance are fully internationalised.

Later it was back to Patient Care to discuss the modelling of patient assessment scales (while working on generating HTML views for the Clinical Statement ballot material, in preparation for presentation the next day. It is also possible to get actual work done at WGMs!). In the evening many people attended the networking meeting organised by our excellent Canadian hosts.

The CIC, Clinical Interoperability Council, meets Thursdays. This acts as a forum for projects with mainly clinical content that are domain knowledge driven, rather than mainly technical. There are typically reports from various

groups aiming to coordinate efforts by clinicians and publicise their work to generate interest and prevent duplication. Isobel Frean from the UK has an interest in Long Term Care projects. She outlined discussions with the people in the UK, New Zealand and Canada about re-using the ISO 11179 meta data standard to document the InterRAI functional status data elements. As a first step she will be tackling intellectual property issues around using this work. At the invitation of Ed Hammond, HL7 Chair, David Markwell also presented on terminology and models of meaning.

There was a meeting of the Affiliates Council at lunch (the chairs of the affiliates such as HL7 UK). An interesting meeting was announced by Ed Hammond, "Bridging the Chasm". This is planned for Washington in April 2009 as a clinician's get together, where HL7 can ask how best their domains and interest groups can be supported and their expertise brought in. Perhaps from the UK this would be of interest to the Department of Health and the Royal Colleges IT leads.

Practical matters about organising overseas meetings were covered, with the possibility of a South or Central American WGM in 2010.

Clinical Statement meets Thursday afternoons. This group stewards the general pattern that is intended for representing all clinical data in HL7 (as opposed to administrative, or financial data). It is an older version of Clinical Statement that you see on the right side of the CDA model, and is how "coded" rather than text data is structured. Work is underway at the moment to document the detail of the graphical model, and some simple tools and transformations are being developed to make this easier.

By Friday many workgroups have wound up, with thoughts turning to the flight home. Keen souls may attend Detailed Clinical models or Terminfo, others are sharing taxis, or maybe preparing for the question "what did you bring me back dad?".

Notes from an HL7 ArB out-of-cycle meeting

by Ann Wrightson.

This meeting, held in August, was the last of a series of monthly meetings held by the ArB (Architecture Board) since the May WGM in order to develop an Enterprise Architecture for HL7 standards. Attending this meeting (formally as an observer, though nevertheless an active participant) was a very satisfying closure to my involvement with the HL7 SOA SIG since 2004.

The main output was the architectural framework outlined below. Full minutes of the meeting are on the HL7 wiki, including much more detail on the framework.

Architecture Framework

The vertical dimension of the framework tracks how solutions emerge from business needs (called the “Blueprint” level by analogy with the high level EHR concept of that name from Canada) through platform independent models into platform specifics and actual implementations. The horizontal dimension has five viewpoints, based on the ISO RM-ODP (Reference Model for Open Distributed Processing) enterprise architecture standard. These are, in brief:

Enterprise: Purpose, scope and policies for a system.

Information: Kinds of information handled by the system and constraints on the use and interpretation of that information. Models the information content held in and communicated within and to/from a distributed information system

Computation: Functional decomposition,

	Enterprise	Information	Computation	Engineering	Technology
Blueprint	Business context, purpose	Domain Information Model	Operational concept		
Platform Independent	Governance eg IG; design policy	Constrained Information Models	Functional decomposition; service choreography		
Platform Bound		Data models and schemas	Service orchestration; interface descriptions	Interface realization; specification bindings to actual technology choices	Deployment & Service considerations

functional characteristics and computations
Engineering: Generic aspects of infrastructure and technology for deployment. Engineering support; development of a distributed information system from design to deployable application(s)
Technology: Infrastructure and specific technology choices not mandated by the engineering design

Dynamic Model

There was also considerable discussion of a common functional model for interoperability interactions, called by HL7 tradition the "dynamic model". This model is now developing from a description of messaging only, into a generic model covering service and message style interaction. The state of the model following this discussion is in the ARB meeting minutes; this is another area where there will doubtless be much further work.

From the HL7 TSC Chair... at the WGM

by Charlie McCay

The TSC continued to work on making the activity within HL7 more visible. This is being done by looking at the products, projects and work groups, and ensuring that these are each well defined, and information about them can be found.
This is useful both for the active members of HL7 to ensure that they are engaging as effectively as possible, and also for other stakeholders to see what is available from HL7, and where more active engagement would be useful to them. Finally it links up with the HL7 roadmap effort, which is providing a statement of the overall direction of the organisation. This needs to be informed by what is happening in each of the workgroups, and will also provide a framework within which future plans can be made.

HL7 Board meeting gets underway

The TSC is appointing a full time analyst who will be working on this, and so we expect to be able to deliver much improved visibility without asking yet more administrative overhead from the membership. This appointment will make the TSC a much more efficient body, so please do continue to tell us what we can do better.
The TSC is also starting up a project to implement the Enterprise Architecture that the ARB (Architecture Board) has been developing. This project will ensure that the architecture has been fully reviewed and commented on, and also that support for the architecture in tooling, publication, working processes, and work group responsibilities has been thought through and is implemented efficiently.
The ITS (Implementation Technology Specifications) work group looked at the "New ITS" work, and discussed at some length how this work has been split into two streams. One activity that remains within the ITS WG is looking at the "Crunched XML ITS", which was balloted in May as the XML ITS R2, and the other stream is looking at how different wire formats can be asserted to be conformant to HL7 RIM-based models. This approach fits well into the Architectural Framework being developed by the ARB, and will be explored with the Implementation Conformance Work Group.
The ISO/CEN/HL7 collaboration continues, and there is a growing recognition that the stakeholders of all these organisations want them to work together to deliver a coherent framework of standards for healthcare information systems, and are not interested in them developing a diversity of incompatible standards. Establishing effective ways to work with these and other SDOs to deliver such a framework will be a slow process, but there was progress at the Sunday meeting.
The Board has continued to develop and promote the roadmap activity, as a

staircase towards a more practical strategic framework for the organisation. This provides a context for both the TSC visibility activity, and the SDO collaboration work (as well as all else that happens in HL7).

Notes from the HL7.org Plenary

by Tim Benson

Last week the HL7 Community met for the 22nd annual Plenary Meeting, with a focus on the Role of IT in health Policy. There were four interesting keynotes; first from the Director of Canada Infoway (Canada's NPfIT), and then from the Obama and McCain presidential campaigns and finally a report from Singapore.

Dick Alvarez of Infoway outlined how they had fostered collaboration with all stakeholders. Is first example was that all funding is matched from the provinces; Infoway only provides 50%, and half is withheld until benefits are realised. His second example was the Canadian Standards Collaborative, which is umbrella for all HL7 and SNOMED standards development in Canada. It has invested $33Million in specific standard development projects.

Both of the US presidential campaigns stressed that healthcare IT was part of the solution to the ills of US healthcare, but had very different approaches. The McCain approach involves major changes to the legislative framework for health insurance, allowing insurance to be purchased across state boundaries and giving tax credits to individuals, rather than their employers. The Obama analysis was comprehensive, but perhaps less radical, involving more regulation and ensuring that all people are covered by insurance.

The fourth memorable Keynote was a description of the proposed reorganisation of the Singapore healthcare system to provide comprehensive electronic patient records for all citizens, designed to empower patients as well as improve efficiency. With a population of 4 million on a territory about twice the size of the Isle of Wight and a relatively compliant population, Singapore has several advantages in introducing EPRs. It is now moving rapidly forward with a strategy based on HL7 and SNOMED CT. One to watch.

Another highlight of the meeting was the award of the Ed Hammond Volunteer of the Year award to Charlie McCay (past Chair of HL7 UK) for his services as the Chair of HL7's Technical Steering Committee.

A date for your diary is the HL7 International Working Group meeting in May 2009 in Kyoto, the ancient capital of Japan. The Japanese seem keen to make it a memorable event.

Conference Venue - Sheraton Wall Centre

HL7 UK Events

See the HL7 UK website for an up to date listing.

Future issues depend on you!

Please send feedback, contributions and ideas for articles to:
ezine@lists.hl7.org.uk

Vancouver -Beaver Lake in Stanley Park...

...and English Bay beach