



HL7: Version 2 Standard

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Agenda

- **HL7 Version 2.0 – 2.5.1**
 - **History & Use**
 - **Basic Tenets Elements & Structures**
- **HL7 Version 2.6 – October 2007**
- **HL7 Version 2.7**



How we got here...

- **HL7 Version 2.x started as Version 1.0 at HIMSS 1988.**
- **First version of HL7 (1.0 & 2.0) were used solely as “desk” standards and a couple of pilot tests (e.g., Moses Cone).**
- **First accepted “usable” HL7 Version 2 Standards was 2.1 completed and published at the end of 1990. Now used in over 32 countries.**



33 HL7 Affiliates / Countries



And growing

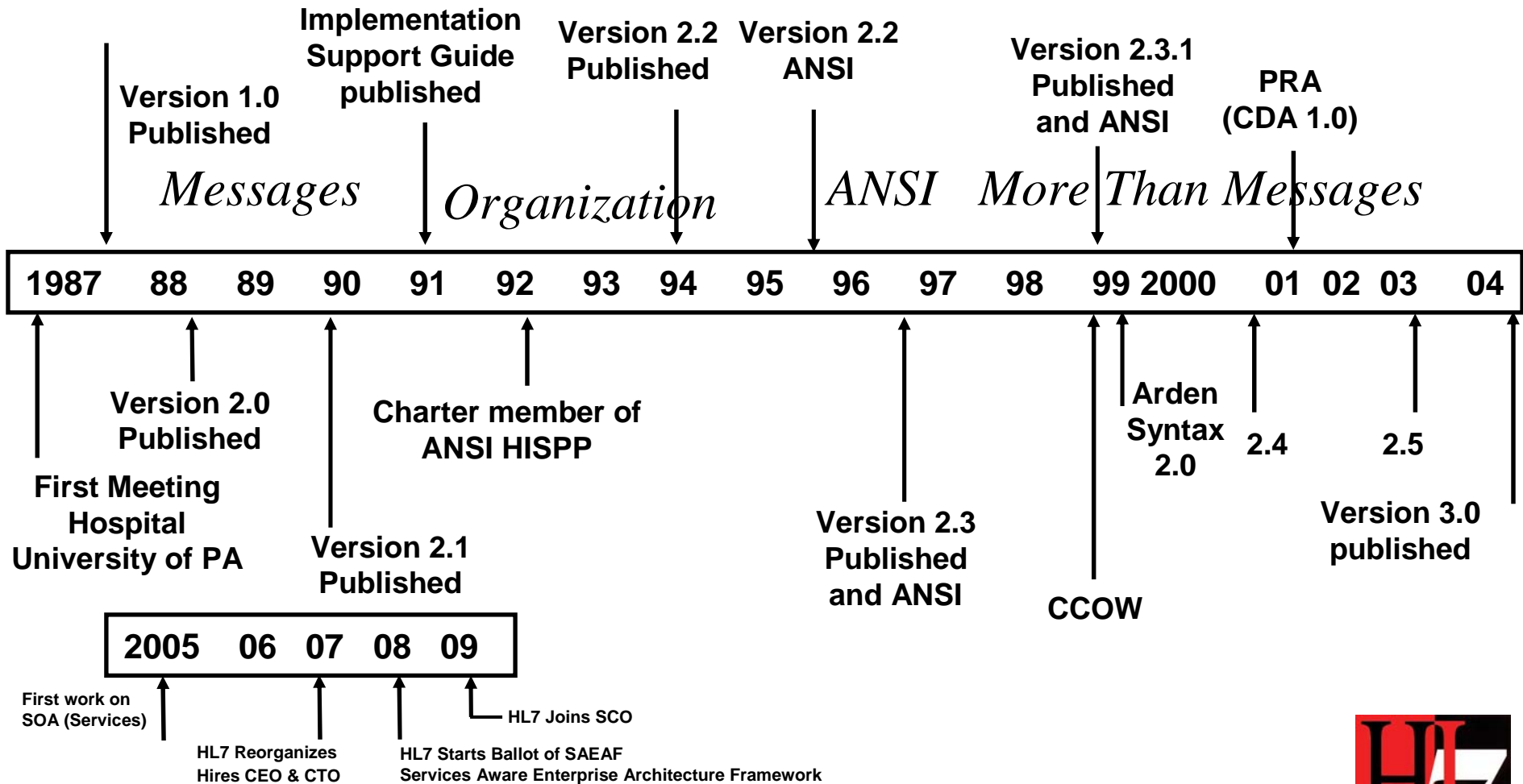
HL7 Version 2.x

- **First widely used version 2.1 published in 1991**
- **Used in 90%+ provider organizations in the US and widely supported by vendors.**
- **Generally requires bi-lateral negotiations between communicating parties.**
- **Backwards-fitted (imperfectly to HL7 Reference Information Model (RIM))**
- **Not well normalized.**
 - **Segments & Data Elements moved to a single location (Chapter 2) only in 2.5 in 2003.**
- **Makes no formal attempt to define process**
- **Most implementations are a mix of versions ranging from 2.1 to 2.3 (even though current version is 2.5)**



History of HL7

(Through 2008)



Message Type

- **Most HL7 messages are “unsolicited updates” and involve two parties:**
 - **Sender...creates and pushes an unsolicited update message (e.g., patient is registered, here is an order, etc.)**
 - **Receiver has a serving roll and always has a read pending waiting for an unsolicited up message from a sender.**
- **The Query/Response mode is also supported but is used less often.**
- **Services are proving to be better suited to queries.**



Acknowledgment

- **Acknowledgement messages are most frequently “immediate”. That is, the receiver (usually the interface engine) gives a nominal acknowledgement that the message was received without detectable error.**
- **Implementation of End-to-end (i.e. functional) acknowledgements are uncommon because it is difficult. Unfortunately, it is also indicative of a much more robust model.**



Messages

- **A message is a unit of data transferred between systems. It is comprised of a group of segments in a defined sequence.**
- **The message type defines its purpose (e.g., unsolicited trigger, query, response)**
- **Message components include:**
 - **Message**
 - **Segments**
 - **Fields(Data types)**
 - » **Components (complex data types)**



HL7 Subject Domains

- **ADT**
- **Order entry**
- **Result reporting**
- **Clinical Guidelines**
- **Clinical Observations**
- **Scheduling**
- **Patient care**
- **Immunizations**
- **Discharge summaries**
- **Adverse event reporting**
- **Automated waveforms**
- **Medical transcriptions**
- **Referrals**
- **Consultations**
- **Clinical trials**
- **Clinical Genomics**
- **Nursing care plans**
- **Data Warehousing**

... And Growing ...



HL7 Subject Domains

- **SGML, (now XML)**
- **Vocabulary**
- **Certification**
- **Conformance**
- **Security transactions**
- **Claims attachment**
- **Accountability, Quality, Assurance**
- **Blood Bank**
- **Personnel Management**
- **Arden Syntax**
- **Component Based Messaging** (*i.e., Java*)
- **Visual/Context Integration**
- **Government Projects**
- **Master Patient Index**
- **SOA**
- **Image Management**

... And Growing ...



The Effects of Version 3

- **HL7 Version 3 was never intended to be either dependent on or a change agent to Version 2.x**
- **Nevertheless, some new developments in V3 are finding their way back into V 2.5, 2.6 and 2.7**
 - **New domains and expanded scope of existing domains**
 - **More rigorous normalization of V2 artifacts (e.g., data types, segment and field definitions and formal code-set bindings.**
- **A recognition that deprecated artifacts and events cannot be carried forward forever.**



Version 2.6 & 2.7 Chapters*

1. Introduction
 2. Control
 3. Patient Administration
 4. Order Entry
 5. Queries
 6. Financial Management
 7. Observation Reporting
 8. Master Files
 9. Medical Records / Information Management
 10. Scheduling
 11. Patient Referral
 12. Patient Care
 13. Clinical Laboratory Automation
 14. Application Management
 15. Personnel Management
 16. Non-US Claims *(new to 2.6)*
 17. Materials Mgmt. *(new to 2.6)*
- Appendix:*
- A. *Data Definition Tables*
 - B. *Lower Layer Protocol*
 - C. *BNF Definitions*
 - D. *Glossary*



What's Planned for 2.7

- **HL7 Version 2.7 completed its 3rd round of Normative balloting in January 2009.**
- **All 17 chapters are reviewed and balloted in a final normative ballot of a standard**
- **Initial results at the January working group meeting was that the ballot was 4 votes short of approval**
- **Reconciliation may cause this close of a ballot to sway 4 negative votes to withdraw**
- **If not, there will be a 4th ballot initiating in May 2009.**
- **Conclusion: V2.7 will be published this year.**



Summary of Significant Additions / Changes for 2.7

- **Additions and updates to Data types and consistent support for OIDs in V2 Data types.**
- **Support to communicate conformance level certification at a message level**
- **Initiation of Consolidation in V2.7 of code-set tables to a single location in Chapter 2. Goal after final consolidation in 2.8 is the ability to separately ballot code-sets outside of a general 2.x ballot.**
- **New field added to support allergy comment information. Adding more fields to communicate who and when an allergy was created, modified, and inactivated.**
- **Provide changes to support harmonization of the Race, Ethnicity, Marital Status and Administrative Sex code tables with version**
- **ePrescription Enhancements**
- **Multiple Order IDs in order messages**
- **Result and Parent Result Identifier added to OBR**
- **Enhancement to Universal Service Identifier definition**
- **Order Number clarification on uniqueness**
- **Ability to apply an order to all specimens in a shipment**



Summary of Significant Additions / Changes for 2.7

- The Pharmacy and Immunization content has been moved to a new Chapter 4A.
- Specimen Shipment manifest message with associated new segments
- Patient Results Release Category
- Various field additions to OBX segment to support Performing Laboratory, Producer Address, and Medical Director Name.
- Addition of patient connected medical device reporting example
- A new Scheduling event to send a snapshot of a schedule that would reflect any changes made to scheduled (appointments) since the last time a batch interface ran.
- A suite of Messages called the Collaborative Care Message (CCM). These messages include the aspects of (a) being able to share information without requiring a transfer of care and (b) can pertain to a group of people rather than just individuals and are therefore suitable for public health notifications/request as well as patient centric care.
- Field additions to Authorization segment to support discipline and treatment units



Questions?

