Consolidated Health Informatics

Standards Adoption Report:
MESSAGING STANDARDS: Connectivity

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- **Summary**

- **Part I – Sub-team & Domain Scope Identification** – basic information defining the team and the scope of its investigation.

- **Part II – Standards Adoption Recommendation** – team-based advice on standard(s) to adopt.

- **Part III – Adoption & Deployment Information** – supporting information gathered to assist with deployment of the standard (may be partial).

Summary

Domain: Messaging Standard for Connectivity

Standards Adoption Recommendation:
The Institute of Electrical and Electronics Engineers 11073 (IEEE 11073) Series

SCOPE

This standard specifically addresses the requirement for two devices to automatically configure a connection for successful operation, independent of connection type. The standard defines a device-to-device internal messaging system and work is underway to allow seamless connection to HL7 enabled devices.

RECOMMENDATION

The NCVHS August 2000 report and ANSI-HISB inventory served as background to identify existing standards. No additional standards were identified beyond these sources. Hence, the standards considered by the workgroup were those found in that report. This standard only applies within an agency. We do not foresee inter-agency access to these devices, but see the exchange of information gathered by these devices between agencies being accomplished using traditional HL7 messaging from their clinical information systems. No equivalent existing or developing standard for this vital device-to-device component of interoperability was found.

OWNERSHIP

The IEEE 1073 General Committee owns the standard and is chartered under the IEEE Engineering in Medicine and Biology Society.

APPROVALS AND ACCREDITATIONS

The IEEE standards have been approved through an ANSI-approved organizational balloting process. IEEE works in close coordination with HL7, DICOM, ANSI, and ISO.

ACQUISITION AND COST

IEEE standards are available either in electronic or printed forms and may be purchased on-line at the http://shop/ieee.org/store.

REVISION HISTORY

DATE	VERSION	COMMENT
3/23/2003	Public Document	Final Recommendation
7/12/2006	1.1	Updated Standard Name (1073 to 11073)

Part I – Team & Domain Scope Identification

Target Vocabulary Domain

National Committee on Vital and Health Statistics (NCVHS) Patient Medical Record Information (PMRI) Messaging Standards Recommendations of 2/27/02

Describe the specific purpose/primary use of this standard in the federal health care sector (100 words or less)

The emerging Institute of Electrical and Electronics Engineers (IEEE) 1073 series of standards pertains to connectivity. The 1073 series name was changed in 2006 to 11073 to be in sync with the International Standards Organization (ISO) naming convention. The standard specifically addresses the requirement for two devices to automatically configure a connection for successful operation, independent of connection type. The standard defines a device-to-device internal messaging system and work is underway to allow seamless connections to HL7 enabled devices.

Sub-domains *Identify/dissect the domain into sub-domains, if any. For each, indicate if standards recommendations are or are not included in the scope of this recommendation.*

Domain/Sub-domain	In-Scope (Y/N)
Instrument Data Exchange	Y

Information Exchange Requirements (IERs) *Using the table at appendix A, list the IERs involved when using this standard.*

Patient Demographic Data
Care Management Information

Team Members *Team members' names and agency.*

Name	Agency/Department
Steven Steindel	HHS/CDC
Steven Wagner	VHA
Nancy Orvis	DoD
Jorge Ferrer	HHS/CMS
Marco Johnson (Alternate)	DoD
Lisa Hines (Alternate)	HHS/CMS
Ken Rubin (Alternate)	VHA

Work Period *Dates work began/ended.*

Start	End
May 2002	January 2003

Part II – Standards Adoption Recommendation

Recommendation *Identify the solution recommended.*

The workgroup recommends the Council adopt the emerging Institute of Electrical and Electronics Engineers (IEEE) 11073 series of standards for connectivity. The standard specifically addresses the requirement for two devices to automatically configure a connection for successful operation, independent of connection type. The standard defines a device-to-device internal messaging system and work is underway to allow seamless connections to HL7 enabled devices.

Ownership Structure *Describe who "owns" the standard, how it is managed and controlled.*

The IEEE 11073 General Committee is chartered under the IEEE Engineering in Medicine and Biology Society, and works closely with other national and international organizations, including HL7, NCCLS, ISO TC215, CEN TC251, and ANSI HISB.

Participation in IEEE 11073 standards development is open to all interested, with a majority of the work being accomplished electronically and in conference calls. Membership in the IEEE 11073 General Committee, which allows formal voting on all 11073 business (e.g., project approvals, creating of working groups, etc.), is offered upon attendance to your second Working Group meeting. Typically, the General Committee meets three times a year, alternating between eastern, central, and western locations in the U.S. In order to formally vote during IEEE standard balloting, you have to be an IEEE Standards Association member.

Summary Basis for Recommendation *Summarize the team's basis for making the recommendation (300 words or less).*

The NCVHS sent a letter to the Secretary, DHHS in February 2002 recommending adoption of specific standards based on current status and the August 2000 report. It is this letter that formed the basis for the above recommendations. Interoperability between federal health care systems was the primary factor in forming these recommendations to the CHI Council and any deviations from the NCVHS recommendations reflect this consideration.

Conditional Recommendation *If this is a conditional recommendation, describe conditions upon which the recommendation is predicated.*

We note that this standard should only apply within an agency and recommend that the Council support use. We hope that this support will encourage greater deployment. We do not foresee inter-agency access to these devices, but see the exchange of information gathered by these devices between agencies being accomplished using traditional HL7 messaging from their clinical information systems. No equivalent existing or developing

standard for this vital device-to-device component of interoperability was found.

Approvals & Accreditations

Indicate the status of various accreditations and approvals:

Approvals & Accreditations	Yes/Approved	Applied	Not Approved
Full SDO Ballot	Y	N	
ANSI	N	N	NA

Options Considered *Inventory solution options considered*

No equivalent standard identified.

Current Deployment

Deployed in Europe. In investigational deployment only in the United States. Good industry support.

Part III – Adoption & Deployment Information

Provide all information gathered in the course of making the recommendation that may assist with adoption of the standard in the federal health care sector. This information will support the work of an implementation team.

Existing Need & Use Environment

Measure the need for this standard and the extent of existing exchange among federal users. Provide information regarding federal departments and agencies use or non-use of this health information in paper or electronic form, summarize their primary reason for using the information, and indicate if they exchange the information internally or externally with other federal or non-federal entities.

Column A: Agency or Department Identity (name)
Column B: Use data in this domain today? (Y or N)
Column C: Is use of data a core mission requirement? (Y or N)
Column D: Exchange with others in federal sector now? (Y or N)
Column E: Currently exchange paper or electronic (P, E, B (both), N/Ap)
Column F: Name of paper/electronic vocabulary, if any (name)
Column G: Basis/purposes for data use (research, patient care, benefits)

Department/Agency	B	C	D	E	F	G
Department of Veterans Affairs						
Department of Defense						
HHS Office of the Secretary						
Administration for Children and Families (ACF)						
Administration on Aging (AOA)						
Agency for Healthcare Research and Quality (AHRQ)						
Agency for Toxic Substances and Disease Registry (ATSDR)						
Centers for Disease Control and Prevention (CDC)						

Centers for Medicare and Medicaid Services (CMS)						
Food and Drug Administration (FDA)						
Health Resources and Services Administration (HRSA)						
Indian Health Service (IHS)						
National Institutes of Health (NIH)						
Substance Abuse and Mental Health Services Administration (SAMHSA)						
Social Security Administration						
Department of Agriculture						
State Department						
US Agency for International Development						
Justice Department						
Treasury Department						
Department of Education						
General Services Administration						
Environmental Protection Agency						
Department of Housing & Urban Development						
Department of Transportation						
Homeland Security						

Number of Terms

Not Applicable

Range of Coverage

Not Applicable – messaging standards

Acquisition: *How are the data sets/codes acquired and use licensed?*
IEEE standards are available either in electronic or printed forms, and may be purchased on-line at the http://shop.ieee.org/store/. Many of the 11073 standards are available in draft form (i.e., they haven't "passed ballot") and are available from http://www.ieee1073.org/index.html.

Cost

What is the direct cost to obtain permission to use the data sets/codes? (licensure, acquisition, other external data sets required, training and education, updates and maintenance, etc.)

Not applicable – intended for use by equipment vendors. Cost may be embedded in product cost, but should be very modest. Standards are available from ISO at a cost of less than $100.

Systems Requirements

Is the standard associated with or limited to a specific hardware or software technology or other protocol?

Yes – this standard will be implemented on specific medical devices by vendors. End user systems will interface to devices using this standard.

Guidance: *What public domain and implementation and user guides, implementation tools or other assistance is available and are they approved by the SDO?*

No public domain standards, user guides or implementation tools were found.

Is a conformance standard specified? Are conformance tools available?
A conformance standard was not found nor were tools.

Maintenance: *How do you coordinate inclusion and maintenance with the standards developer/owners?*
Standard is developed and it is unclear how this will be addressed. The government is a user of this standard and needs to be part of the standard development process.

What is the process for adding new capabilities or fixes?

Continual review of developing standard through meetings and communication to standard developers.

What is the average time between versions?
Unknown – not fully implemented.

What methods or tools are used to expedite the standards development cycle?
Meetings of workgroups held several times/year in connection with other widely attended meetings (e.g.: HL7, IEEE) and are open..

How are local extensions, beyond the scope of the standard, supported if at all?
No.

Customization: *Describe known implementations that have been achieved without user customization, if any.*

None.

Mapping Requirements

Not applicable – messaging standard.

Compatibility

Identify the extent of off-the-shelf conformity with other standards and requirements:

Conformity with other Standards	Yes (100%)	No (0%)	Yes with exception
NEDSS requirements	NA		
HIPAA standards	NA		
HL7 2.x			Y - intended

Implementation Timeframe

Emerging standard.

Gaps

Emerging standard, gaps not identified

Obstacles

Emerging standard. Not widely deployed in US.

Appendix A

Information Exchange Requirements (IERs)

Information Exchange Requirement
Customer Demographic Data
Encounter (Administrative) Data
Beneficiary Financial / Demographic Data
Customer Health Care Information
Care Management Information
Customer Risk Factors
Referral Information
Body of Health Services Knowledge
Tailored Education Materials
Patient Schedule
Beneficiary Tracking Information
MHS Direction
Provider Demographics
Patient Satisfaction Information
Case Management Information
Cost Accounting Information
Population Member Health Data
Population Risk Reduction Plan
Provider Metrics
Improvement Strategy
Resource Availability
Beneficiary Inquiry Information
Labor Productivity Information
Clinical Guidelines
Customer Approved Care Plan