

# ISO/IEC JTC 1/SC 32 N 1062

Date: 2003-10-03

REPLACES: --

<p><b>ISO/IEC JTC 1/SC 32</b></p> <p><b>Data Management and Interchange</b></p> <p><b>Secretariat: United States of America (ANSI)</b></p> <p><b>Administered by Pacific Northwest National Laboratory on behalf of ANSI</b></p>
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available from the JTC 1/SC 32 WebSite <http://www.jtc1sc32.org/>

\*Pacific Northwest National Laboratory (PNL) administers the ISO/IEC JTC 1/SC 32 Secretariat on behalf of ANSI

# **BUSINESS PLAN FOR ISO/IEC JTC 1/SC32, Data Management and Interchange**

**PERIOD COVERED:** September 2002 to September 2003

**SUBMITTED BY:** Bruce Bargmeyer, Chairman JTC 1/SC 32

## **1. MANAGEMENT SUMMARY:**

### **1a CHAIRMAN'S REMARKS**

When plenary dates for an SC and for JTC 1 are out of phase, the SC chairman's use of this section for updating JTC 1 on SC status is required as a means to reflect developments since the business plan was approved. This section may also be used for any other remarks the chairman believes pertinent in regards to the SC's Business Plan, its projects, opportunities, risks or new initiatives.

### **1.1 JTC 1 SC32 STATEMENT OF SCOPE**

#### **JTC 1/ SC 32**

**Title:** Data Management and Interchange

**Area of Work:** Standards for data management within and among local and distributed information systems environments. SC 32 provides enabling technologies to promote harmonization data management facilities across sector-specific areas. Specifically, SC 32 standards include:

- 1) reference models and frameworks for the coordination of existing and emerging standards;
- 2) definition of data domains, data types and data structures, and their associated semantics;
- 3) languages, services and protocols for persistent storage, concurrent access, concurrent update and interchange of data;
- 4) methods, languages, services and protocols to structure, organize and register metadata and other information resources associated with sharing and interoperability, including electronic commerce.

#### **JTC 1/ SC 32/RG 01**

**Title:** Maintenance of Data Management and Interchange Standards

**Area of Work:** Maintenance of ISO/IEC Standards assigned to SC32 but not assigned to a specific SC32 Working Group, and enhancement of them as may be required by SC 32.

This Group is being disbanded once JTC 1 approves stabilization of a standard and ITTF finishes publication of the Reference Model for Data Management as a TR.

## **JTC 1/ SC 32/WG 01**

**Title:** Open-edi

**Area of Work:** Standardization in the field of generic information technology standards for open electronic data interchange needed to attain global interoperability among the information technology systems used by organizations. Such interoperability is viewed from both business and information technology perspectives.

Within this context the scope includes:

- 1 methodology and framework for identification and modelling of business activities through business scenarios and their components, such as roles, information bundles, and semantic components;
- 2 identification and specification of formal description techniques for describing classes of business requirements and their contextual and semantic specifications;
- 3 identification and specification of formal description techniques for developing business scenarios and their components;
- 4 identification and specification of information technology services and service interfaces for accomplishing business transactions;
- 5 identification and specification of facilities to manage business scenarios and their.

Note: Priority is on work required to support the needs of electronic commerce, electronic administration, electronic business, etc. The basis of work is the Open-edi Reference Model (ISO/IEC 14662). This Group will be renamed to "eBusiness".

## **JTC 1/ SC 32/WG 02**

**Title:** Metadata

**Area of Work:** To develop and maintain standards that facilitate specification and management of metadata. Use of these standards will enhance the understanding and sharing of data, information and processes to support, for example, interoperability, electronic commerce and component-based development. The scope shall include:

- a) a framework for specifying and managing metadata;
- b) specification and management of data elements, structures and their associated;
- c) specification and management of value domains, such as classification and code schemes;
- d) specification and management of data about processes and behaviour;
- e) facilities to manage metadata, for example: data dictionaries, repositories, information resource dictionary systems, registries and glossaries;
- f) facilities to exchange metadata, including its semantics, over the Internet, intranets and other media.

### **JTC 1/ SC 32/WG 03**

**Title:** Database Languages

**Area of Work:** The terms of reference of ISO/IEC JTC1/SC32/WG3 Database Languages are:

1. To develop and maintain languages for the dynamic specification, maintenance and description of database structures and contents in multi-user environments. The specifications may include the data type, behaviour and any integrity constraints on the contents of the defined structures. The specifications may include mechanisms for the creation and generation of new data types and behaviours so as to support the specification of other international standards.
2. To provide additional support for the integrity of database systems through transaction commitment, recovery, and security facilities.
3. To develop and maintain languages which provide for the storage, access and manipulation of data in database structures by multiple concurrent users. These languages may be computationally complete and may contain features for the packaging and storage of modules and procedures in database structures.
4. To provide interfaces for the languages developed to other standard programming languages.
5. To provide interfaces or access to other standards describing data types, behaviour or database content to users of the languages developed.

### **JTC 1/ SC 32/WG 04**

**Title:** SQL Multimedia & Application Packages

**Area of Work:** To specify packages of abstract data types for use in various application areas. Specify each package of abstract data type definitions using the facilities for user-defined type provided in the Database Language SQL/Foundation. This should include packages such as Full-Text, Spatial, Still Image, Still Graphic, Animation, Full Motion Video, Audio, Seismic, and Music.

## 1.2 PROJECT REPORT

### SC 32/RG 01 Maintenance of Data Management and Interchange Standards

1.32.01.01.00.00 ISO/IEC 10032:1995

Information technology - Reference Model of Data Management

1.32.05.02.00.00 ISO/IEC9579:2000 ed 2

Information technology - Remote database access for SQL (RDA/SQL). Edition 2.

### SC 32/WG 01 Open-edi

1.32.30.02.00.00 ISO/IEC FCD 14662

Information technology - Open-Edi Reference Model 2nd Edition

1.32.31.01.02.00 ISO/IEC CD 15944-2

Information technology - Business Agreement Semantic Descriptive Techniques Part 2: Registration of Scenarios and their Components

*Target Dates:* CD 2002-06 FCD 2003-03 DIS 2003-09 IS 2004-03

1.32.31.01.03.00 ISO/IEC WD 15944-3

Information technology - Business Agreement Semantic Descriptive Techniques Part 3: Open-edi Description Techniques

*Target Dates:* CD 2003-08 FCD 2004-01 DIS 2004-12 IS 2005-05

1.32.31.01.04.00 ISO/IEC WD 15944-4

Information technology - Business Agreement Semantic Descriptive Techniques Part 4: Business Transaction Scenarios - Accounting and Economic Ontology

*Target Dates:* CD 2003-07 FCD 2004-06 DIS 2004-11 IS 2005-05

1.32.31.01.05.00 ISO/IEC WD 15944-5

Information technology - Business Agreement Semantic Descriptive Techniques Part 5: Identification and Mapping of Various Categories of Jurisdictional Domains

*Target Dates:* CD 2003-07 FCD 2004-06 DIS 2004-11 IS 2005-05

1.32.30.01.00.00 ISO/IEC 14662:1997

Information technology - Open-Edi Reference Model

1.32.31.01.01.00 ISO/IEC 15944-1:2002

Information technology - Business Agreement Semantic Descriptive Techniques Part 1: Business Operational Aspects of Open-edi for Implementation

### SC 32/WG 02 Metadata

1.32.10.02.00.00 ISO/IEC FCD 5218

Information technology - Codes for the representation of human sexes (Revision of ISO 5218:1977)

*Target Dates:* CD 2001-04 FCD 2001-04 DIS 2003-03 IS 2003-12

1.32.14.03.01.00 ISO/IEC AWI 6523-1:200X

Information technology - Structure for the identification of organizations and organization parts - Part 1: Identification of organization schemes edition 3

*Target Dates:* CD FCD DIS IS

1.32.14.03.02.00	ISO/IEC AWI 6523-2:200x								
	Information technology - Structure for the identification of organizations and organization parts - Part 2: Registration of organization identification schemes								
<i>Target Dates:</i>	CD	FCD		DIS				IS	
1.32.15.02.01.00	ISO/IEC FCD 11179-1								
	Information Technology -- Metadata Registries (MDR) - Part 1: Framework								
<i>Target Dates:</i>	CD	2002-09	FCD	2003-04	DIS			IS	
1.32.15.02.02.00	ISO/IEC AWI 11179-2								
	Information technology -- Metadata Registries (MDR) - Part 2: Classification for administered items (Revision of ISO/IEC 11179-2:2000)								
<i>Target Dates:</i>	CD	2003-09	FCD		DIS			IS	
1.32.15.02.04.00	ISO/IEC FCD 11179-4								
	Information Technology -- Metadata Registries (MDR) - Part 4: Formulation of data definitions								
<i>Target Dates:</i>	CD	2001-12	FCD	2002-08	DIS	2003-09	IS	2004-04	
1.32.15.02.05.00	ISO/IEC CD 11179-5								
	Information Technology -- Metadata Registries (MDR) - Part 5: Naming and identification principles								
<i>Target Dates:</i>	CD	2002-08	FCD		DIS			IS	
1.32.15.02.06.00	ISO/IEC CD 11179-6								
	Information Technology -- Metadata Registries (MDR) - Part 6: Registration								
<i>Target Dates:</i>	CD	2003-02	FCD		DIS			IS	
1.32.15.03.03.00	ISO/IEC AWI 11179-3 ed3								
	Information technology -- Metadata Registries (MDR) - Part 3: Registry Metamodel and basic attributes 3rd Edition								
<i>Target Dates:</i>	CD	2004-06	FCD	2005-06	DIS	2005-12	IS	2006-06	
1.32.16.01.02.00	ISO/IEC WD 20943-2								
	Information technology - Achieving Metadata Registry Content Consistency - Part 2: XML Structured Data								
<i>Target Dates:</i>	CD	2003-12	FCD		DIS			IS	
1.32.16.01.03.00	ISO/IEC DTR 20943-3								
	Information technology - Achieving Metadata Registry Content Consistency - Part 3: Value Domains								
<i>Target Dates:</i>	CD	2001-12	FCD	2002-08	DIS	2003-04	IS		
1.32.16.01.04.00	ISO/IEC AWI 20943-4								
	Information technology - Achieving Metadata Registry Content Consistency - Part 4: Overview								
<i>Target Dates:</i>	CD	2003-12	FCD	2004-06	DIS	2004-12	IS	2005-06	
1.32.17.01.01.00	ISO/IEC AWI 20944-01								
	Information technology - Metadata Registry - Interoperability & bindings Part 1: Overview & framework								
<i>Target Dates:</i>	CD	2003-03	FCD		DIS			IS	
1.32.17.01.02.00	ISO/IEC AWI 20944-02								
	Information technology - Metadata Registry - Interoperability & bindings Part 2: Conformance								
<i>Target Dates:</i>	CD	2003-03	FCD		DIS			IS	
1.32.17.01.03.00	ISO/IEC AWI 20944-03								
	Information technology - Metadata Registry - Interoperability & bindings Part 3: Attribute Mapping								
<i>Target Dates:</i>	CD	2003-03	FCD		DIS			IS	

1.32.17.01.20.00	ISO/IEC AWI 20944-20								
	Information technology - Metadata Registry - Interoperability & bindings Part 20: Coding binding overview								
	<i>Target Dates:</i>	CD	2003-03	FCD		DIS		IS	
1.32.17.01.21.00	ISO/IEC AWI 20944-21								
	Information technology - Metadata Registry - Interoperability & bindings Part 21: XML Binding								
	<i>Target Dates:</i>	CD	2003-03	FCD		DIS		IS	
1.32.17.01.22.00	ISO/IEC AWI 20944-22								
	Information technology - Metadata Registry - Interoperability & bindings Part 22: DNVP Binding								
	<i>Target Dates:</i>	CD	2003-03	FCD		DIS		IS	
1.32.17.01.23.00	ISO/IEC AWI 20944-23								
	Information technology - Metadata Registry - Interoperability & bindings Part 23: ASN.1binding								
	<i>Target Dates:</i>	CD		FCD		DIS		IS	
1.32.17.01.24.00	ISO/IEC AWI 20944-24								
	Information technology - Metadata Registry - Interoperability & bindings Part 24: DCMI binding								
	<i>Target Dates:</i>	CD		FCD		DIS		IS	
1.32.17.01.40.00	ISO/IEC AWI 20944-40								
	Information technology - Metadata Registry - Interoperability & bindings Part 40: API binding overview								
	<i>Target Dates:</i>	CD	2003-03	FCD		DIS		IS	
1.32.17.01.41.00	ISO/IEC AWI 20944-41								
	Information technology - Metadata Registry - Interoperability & bindings Part 41: C binding								
	<i>Target Dates:</i>	CD	2003-03	FCD		DIS		IS	
1.32.17.01.42.00	ISO/IEC AWI 20944-42								
	Information technology - Metadata Registry - Interoperability & bindings Part 42: C++ binding								
	<i>Target Dates:</i>	CD	2003-03	FCD		DIS		IS	
1.32.17.01.43.00	ISO/IEC AWI 20944-43								
	Information technology - Metadata Registry - Interoperability & bindings Part 43: Java binding								
	<i>Target Dates:</i>	CD	2003-03	FCD		DIS		IS	
1.32.17.01.44.00	ISO/IEC AWI 20944-44								
	Information technology - Metadata Registry - Interoperability & bindings Part 44: Javascript binding								
	<i>Target Dates:</i>	CD	2003-03	FCD		DIS		IS	
1.32.17.01.45.00	ISO/IEC AWI 20944-45								
	Information technology - Metadata Registry - Interoperability & bindings Part 45: Perl binding								
	<i>Target Dates:</i>	CD	2003-12	FCD		DIS		IS	
1.32.17.01.46.00	ISO/IEC AWI 20944-46								
	Information technology - Metadata Registry - Interoperability & bindings Part 46: Lisp binding								
	<i>Target Dates:</i>	CD	2003-12	FCD		DIS		IS	
1.32.17.01.60.00	ISO/IEC AWI 20944-60								
	Information technology - Metadata Registry - Interoperability & bindings Part 60: Protocol binding overview								
	<i>Target Dates:</i>	CD	2003-12	FCD	2004-06	DIS	2004-12	IS	2005-06

1.32.17.01.61.00	ISO/IEC AWI 20944-61					
	Information technology - Metadata Registry - Interoperability & bindings Part 61: ODBC binding					
<i>Target Dates:</i>	CD	2003-12	FCD		DIS	IS
1.32.17.01.62.00	ISO/IEC AWI 20944-62					
	Information technology - Metadata Registry - Interoperability & bindings Part 62: DCTP binding					
<i>Target Dates:</i>	CD	2003-12	FCD		DIS	IS
1.32.17.01.63.00	ISO/IEC AWI 20944-63					
	Information technology - Metadata Registry - Interoperability & bindings Part 63: SOAP binding					
<i>Target Dates:</i>	CD	2003-12	FCD		DIS	IS
1.32.17.01.64.00	ISO/IEC AWI 20944-64					
	Information technology - Metadata Registry - Interoperability & bindings Part 64: WSDL binding					
<i>Target Dates:</i>	CD	2004-06	FCD		DIS	IS
1.32.18.01.00.00	ISO/IEC WD 18022					
	Information technology - IT enablement of coded domains					
<i>Target Dates:</i>	CD	2003-07	FCD	2004-06	DIS	IS
1.32.19.02.00.00	ISO/IEC AWI 14957					
	Information technology - Representation of data elements values: Notation of the format 2nd Edition					
<i>Target Dates:</i>	CD	2003-12	FCD		DIS	IS
1.32.22.01.01.00	ISO/IEC AWI 19763-01					
	Information technology - Framework for Metamodel interoperability Part 1: Reference model					
<i>Target Dates:</i>	CD	2003-09	FCD		DIS	IS
1.32.22.01.02.00	ISO/IEC AWI 19763-02					
	Information technology - Framework for Metamodel interoperability Part 2: Core (MOF/XML extensions)					
<i>Target Dates:</i>	CD	2003-12	FCD		DIS	IS
1.32.22.01.03.00	ISO/IEC AWI 19763-03					
	Information technology - Framework for Metamodel interoperability Part 3: Metamodel for ontologies					
<i>Target Dates:</i>	CD	2004-07	FCD		DIS	IS
1.32.22.01.04.00	ISO/IEC AWI 19763-04					
	Information technology - Framework for Metamodel interoperability Part 4: Metamodel for model mapping					
<i>Target Dates:</i>	CD	2004-07	FCD		DIS	IS
1.32.23.01.01.00	ISO/IEC AWI 19773-01					
	Information Technology--Metadata registries (MDR) Module Part 1: Contact and location information module for metamodel					
<i>Target Dates:</i>	CD	2003-12	FCD		DIS	IS
1.32.23.01.02.00	ISO/IEC AWI 19773-02					
	Information Technology--Metadata registries (MDR) Module Part 2: Relations information module for metamodel					
<i>Target Dates:</i>	CD	2003-12	FCD		DIS	IS
1.32.23.01.03.00	ISO/IEC AWI 19773-03					
	Information Technology--Metadata registries (MDR) Module Part 3: Security information module for metamodel					
<i>Target Dates:</i>	CD	2003-12	FCD		DIS	IS

- 1.32.24.01.00.00 ISO/IEC AWI 24706  
Information technology-Metadata for technical standards and specifications documents  
*Target Dates:* CD FCD DIS IS
- 1.32.25.01.00.00 ISO/IEC AWI 24707  
Information technology -- Common Logic (CL) – A Framework for a Family of Logic-Based Languages  
*Target Dates:* CD FCD DIS IS
- 1.32.02.02.00.00 ISO TR 9007:1987  
Information processing systems - Concepts and Terminology for the Conceptual Schema and the Information Base
- 1.32.10.01.00.00 ISO 5218:1977  
Information interchange - Representation of human sexes
- 1.32.11.01.00.00 ISO/IEC TR 9789:1994 type 3  
Information technology - Guidelines for the organization and representation of data elements for data interchange - Coding methods and principles
- 1.32.14.02.01.00 ISO/IEC 6523-1:1998  
Information technology - Structure for the identification of organizations and organization parts - Part 1: Identification of organization schemes
- 1.32.14.02.02.00 ISO/IEC 6523-2:1998  
Information technology - Structure for the identification of organizations and organization parts - Part 2: Registration of organization identification schemes
- 1.32.15.01.01.00 ISO/IEC 11179-1:1999  
Information technology - Specification and standardization of data elements - Part 1: Framework for the specification and standardization of data elements
- 1.32.15.01.02.00 ISO/IEC 11179-2:2000  
Information technology - Specification and standardization of data elements - Part 2: Classification for data elements
- 1.32.15.01.04.00 ISO/IEC 11179-4:1995  
Information technology - Specification and standardization of data elements - Part 4: Rules and guidelines for the formulation of data definitions
- 1.32.15.01.05.00 ISO/IEC 11179-5:1995  
Information technology - Specification and standardization of data elements - Part 5: Naming and identification principles for data elements
- 1.32.15.01.06.00 ISO/IEC 11179-6:1997  
Information technology - Specification and standardization of data elements - Part 6: Registration of data elements
- 1.32.15.02.03.00 ISO/IEC 11179-3  
Information technology -- Metadata Registries (MDR) - Part 3, Registry Metamodel and basic attributes
- 1.32.16.01.01.00 ISO/IEC TR 20943-1  
Information technology - Achieving Metadata Registry Content Consistency - Part 1: Data elements

- 1.32.19.01.00.00 ISO/IEC 14957:1996  
Information technology - Representation of data elements values: Notation of the format
- 1.32.21.01.00.00 ISO/IEC TR 15452:2000  
Information technology - Specification of Data Value Domain
- 1.32.40.01.00.00 ISO/IEC 10027:1990  
Information technology - Information Resource Dictionary System (IRDS) Framework
- 1.32.41.01.00.00 ISO/IEC 10728:1993  
Information technology - Information Resource Dictionary Systems (IRDS) Services Interface
- 1.32.41.01.00.01 ISO/IEC 10728 :1993/Amd 1:1995  
Information technology - Information Resource Dictionary System (IRDS) Service Interface -  
Amendment 1: C Language Binding
- 1.32.41.01.00.02 ISO/IEC 10728 :1993/Amd 2:1996  
Information technology - Information Resource Dictionary System (IRDS) Service Interface -  
Amendment 2: Ada language binding
- 1.32.41.01.00.03 ISO/IEC 10728 :1993/Amd 3:1998  
Information technology - Information Resource Dictionary System (IRDS) Service Interface -  
Amendment 3: CORBA IDL Binding
- 1.32.41.01.00.04 ISO/IEC 10728 :1993/Amd 4:1998  
Information technology - Information Resource Dictionary System (IRDS) Service Interface -  
Amendment 4: Remote Procedure Call IDL Binding
- 1.32.58.01.03.00 ISO/IEC 13238-3:1998  
Information technology - Data Management Export/Import Facilities - Part 3: Export/Import Facilities  
for IRDS

**SC 32/WG 03 Database Languages**

- 1.32.03.05.99.00 ISO/IEC 9075:2003/Cor 1  
Information technology- Database languages - SQL - Technical Corrigendum for SQL:2003  
*Target Dates:* CD FCD 2004-06 DIS IS 2004-12
- 1.32.03.06.01.00 ISO/IEC WDI 9075-1  
Information technology - Database Languages - SQL - Part 1: Framework (SQL/Framework)  
*Target Dates:* CD 2004-06 FCD 2005-06 DIS 2006-06 IS 2006-12
- 1.32.03.06.02.00 ISO/IEC WD 9075-2  
Information technology - Database Languages - SQL - Part 2: Foundation (SQL/Foundation)  
*Target Dates:* CD 2004-06 FCD 2005-06 DIS 2006-06 IS 2006-12
- 1.32.03.06.03.00 ISO/IEC WD 9075-3  
Information technology - Database Languages - SQL - Part 3: Call-Level Interface (SQL/CLI)  
*Target Dates:* CD 2004-06 FCD 2005-06 DIS 2006-06 IS 2006-12
- 1.32.03.06.04.00 ISO/IEC WD 9075-4  
Information technology - Database Languages - SQL - Part 4: Persistent Stored Modules (SQL/PSM)  
*Target Dates:* CD 2004-06 FCD 2005-06 DIS 2006-06 IS 2006-12

- 1.32.03.06.09.00 ISO/IEC WD 9075-9  
Information technology - Database Languages - SQL - Part 9: Management of External Data (SQL/MED)  
*Target Dates:* CD 2004-06 FCD 2005-06 DIS 2006-06 IS 2006-12
- 1.32.03.06.10.00 ISO/IEC WD 9075-10  
Information technology --Database Languages - SQL - Part 10: Object language bindings (SQL/OLB)  
*Target Dates:* CD 2004-06 FCD 2005-06 DIS 2006-06 IS 2006-12
- 1.32.03.06.11.00 ISO/IEC WD 9075-11  
Information technology --Database Languages - SQL - Part 11: Information and Definition Schemas (SQL/Schemata)  
*Target Dates:* CD 2004-06 FCD 2005-06 DIS 2006-06 IS 2006-12
- 1.32.03.06.13.00 ISO/IEC WD 9075-13  
Information technology --Database Language SQL - Part 13: SQL/JRT (for SQL:200n)  
*Target Dates:* CD 2004-06 FCD 2005-06 DIS 2006-06 IS 2006-12
- 1.32.03.06.14.00 ISO/IECWD 9075-14  
Information technology --Database Language SQL - Part 14: SQL/XML  
*Target Dates:* CD 2004-06 FCD 2005-06 DIS 2006-06 IS 2006-12
- 1.32.03.04.01.00 ISO/IEC 9075-1:1999  
Information technology - Database Language SQL - Part 1: Framework
- 1.32.03.04.01.01 ISO/IEC FDAM 9075 : Amd 1  
Information technology- Database languages SQL - Amendment 1: SQL/OLAP (for SQL:1999)
- 1.32.03.04.02.00 ISO/IEC 9075-2:1999  
Information technology - Database Language SQL - Part 2: Foundation (SQL:1999)
- 1.32.03.04.03.00 ISO/IEC 9075-3:1999  
Information technology - Database Language SQL - Part 3: Call-Level Interface
- 1.32.03.04.04.00 ISO/IEC 9075-4:1999  
Information technology - Database Language SQL - Part 4: Persistent Stored Modules
- 1.32.03.04.05.00 ISO/IEC 9075-5:1999  
Information technology - Database Language SQL - Part 5: Language Bindings
- 1.32.03.04.09.00 ISO/IEC 9075-9:2001  
Information technology - Database Language SQL - Part 9: Management of External Data
- 1.32.03.04.10.00 ISO/IEC 9075-10:2000  
Information technology --Database Language SQL - Part 10: Object language bindings (for SQL:1999)
- 1.32.03.04.13.00 ISO/IEC 9075-13:2002  
Information technology --Database Language SQL - Part 13: SQL/JRT (for SQL:1999)
- 1.32.03.04.99.00 ISO/IEC 9075:1999/Cor 1  
Information technology- Database languages - SQL - Technical Corrigendum 1 for SQL:1999/Cor 1:2000

- 1.32.03.04.99.02 ISO/IEC COR 9075  
Information technology- Database languages - SQL - Technical Corrigendum 2 for SQL:1999/Corr 2:2002
- 1.32.03.05.01.00 ISO/IEC FDIS 9075-1  
Information technology - Database Languages - SQL - Part 1: Framework (SQL/Framework)  
*Target Dates:* CD 2001-01 FCD 2002-02 DIS 2003-05 IS 2003-10
- 1.32.03.05.02.00 ISO/IEC FDIS 9075-2  
Information technology - Database Languages - SQL - Part 2: Foundation (SQL/Foundation)  
*Target Dates:* CD 2001-01 FCD 2002-02 DIS 2003-05 IS 2003-10
- 1.32.03.05.03.00 ISO/IEC FDIS 9075-3  
Information technology - Database Languages - SQL - Part 3: Call-Level Interface (SQL/CLI)  
*Target Dates:* CD 2001-01 FCD 2002-02 DIS 2003-05 IS 2003-10
- 1.32.03.05.04.00 ISO/IEC FDIS 9075-4  
Information technology - Database Languages - SQL - Part 4: Persistent Stored Modules (SQL/PSM)  
*Target Dates:* CD 2001-01 FCD 2002-02 DIS 2003-05 IS 2003-10
- 1.32.03.05.09.00 ISO/IEC FDIS 9075-9  
Information technology - Database Languages - SQL - Part 9: Management of External Data (SQL/MED)  
*Target Dates:* CD 2001-02 FCD 2002-02 DIS 2003-05 IS 2003-10
- 1.32.03.05.10.00 ISO/IEC FDIS 9075-10  
Information technology --Database Languages - SQL - Part 10: Object language bindings (SQL/OLB)  
*Target Dates:* CD 2001-01 FCD 2002-02 DIS 2003-05 IS 2003-10
- 1.32.03.05.11.00 ISO/IEC FDIS 9075-11  
Information technology --Database Languages - SQL - Part 11: Information and Definition Schemas (SQL/Schemata)  
*Target Dates:* CD 2001-01 FCD 2002-02 DIS 2003-05 IS 2003-10
- 1.32.03.05.13.00 ISO/IEC FDIS 9075-13  
Information technology --Database Language SQL - Part 13: SQL/JRT (for SQL:200n)  
*Target Dates:* CD FCD 2002-01 DIS 2003-05 IS 2003-10
- 1.32.03.05.14.00 ISO/IEC FDIS 9075-14  
Information technology --Database Language SQL - Part 14: SQL/XML (for SQL:200n)  
*Target Dates:* CD FCD 2002-03 DIS 2003-05 IS 2003-10

#### **SC 32/WG 04 SQL Multimedia & Application Packages**

- 1.32.04.02.02.00 ISO/IEC FDIS 13249-2  
Information technology - SQL Multimedia and Application Packages - Part 2: Full-Text 2nd ed  
*Target Dates:* CD 2001-06 FCD 2002-02 DIS 2003-05 IS 2003-08
- 1.32.04.02.03.00 ISO/IEC FDIS 13249-3  
Information technology - SQL Multimedia and Application Packages - Part 3: Spatial 2nd Edition  
*Target Dates:* CD 2001-06 FCD 2002-02 DIS 2003-05 IS 2003-08

- 1.32.04.02.05.00 ISO/IEC FDIS 13249-5  
Information technology - SQL Multimedia and Application Packages - Part 5: Still Image 2nd ed  
*Target Dates:* CD 2001-06 FCD 2002-02 DIS 2003-05 IS 2003-08
- 1.32.04.02.06.00 ISO/IEC AWI 13249-6  
Information technology - Database languages - SQL Multimedia and Application Packages - Part 6:  
Data Mining 2nd ed  
*Target Dates:* CD 2004-07 FCD 2004-12 DIS 2005-12 IS 2006-06
- 1.32.04.03.01.00 ISO/IEC AWI 13249-1  
Information technology - SQL Multimedia and Application Packages - Part 1: Framework 3rd ed.  
*Target Dates:* CD 2004-07 FCD 2004-12 DIS 2005-12 IS 2006-06
- 1.32.04.03.02.00 ISO/IEC AWI 13249-2  
Information technology - SQL Multimedia and Application Packages - Part 2: Full-Text 3rd ed.  
*Target Dates:* CD 2004-07 FCD 2004-12 DIS 2005-12 IS 2006-06
- 1.32.04.03.03.00 ISO/IEC AWI 13249-3  
Information technology - SQL Multimedia and Application Packages - Part 3: Spatial 3rd ed.  
*Target Dates:* CD 2004-07 FCD 2004-12 DIS 2005-12 IS 2006-06
- 1.32.04.03.05.00 ISO/IEC AWI 13249-5  
Information technology - SQL Multimedia and Application Packages - Part 5: Still Image 3rd ed.  
*Target Dates:* CD 2004-07 FCD 2004-12 DIS 2005-12 IS 2006-06
- 1.32.04.01.01.00 ISO/IEC13249-1:2000  
Information technology - SQL Multimedia and Application Packages - Part 1: Framework
- 1.32.04.01.02.00 ISO/IEC13249-2:2000  
Information technology - SQL Multimedia and Application Packages - Part 2: Full -Text
- 1.32.04.01.02.01 ISO/IEC COR 13249-2  
Information technology - SQL Multimedia and Application Packages - Part 2: Full-Text 1st Edition
- 1.32.04.01.03.00 ISO/IEC 13249-3:1999  
Information technology - SQL Multimedia and Application Packages - Part 3: Spatial
- 1.32.04.01.03.01 ISO/IEC COR 13249-3  
Information technology - SQL Multimedia and Application Packages - Part 3: Spatial 1st Edition
- 1.32.04.01.05.00 ISO/IEC 13249-5:2001  
Information technology - SQL Multimedia and Application Packages - Part 5: Still Image
- 1.32.04.01.05.01 ISO/IEC COR 13249-5  
Information technology - SQL Multimedia and Application Packages - Part 5: Still Image 1st Edition
- 1.32.04.01.06.00 ISO/IEC 13249-6:2002  
Information technology - Database languages - SQL Multimedia and Application Packages - Part 6:  
Data Mining
- 1.32.04.02.01.00 ISO/IEC 13249-1:2002  
Information technology - SQL Multimedia and Application Packages - Part 1: Framework 2nd ed.

## 1.3 COOPERATION AND COMPETITION

A complete listing of SC 32 liaisons is listed in the following tables. SC 32 is continually reevaluating its liaisons and assessing areas of internal and external cooperation and competition. SC 32 has requested JTC 1 to remove the liaisons that have not expressed an interest in the work of SC 32.

### Internal Liaison Membership

CEN/ISSS EC	Information Society Standardization System
CEN/ISSS MM	Information Society Standardization System
CEN/TC 310 AMT	Advanced Manufacturing Technologies
IEC 93	Design Automation
ISO/IEC JTC 1/SC 2	Coded character sets
ISO/IEC JTC 1/SC 6	Telecommunications and information exchange between systems
ISO/IEC JTC 1/SC 7	Systems Engineering -ODP & Modelling Languages
ISO/IEC JTC 1/SC 7/WG 1	Software engineering/Life cycle management
ISO/IEC JTC 1/SC 22	Programming languages
ISO/IEC JTC 1/SC 22/WG 20	Programming languages/Internationalization
ISO/IEC JTC 1/SC 24	Computer Graphics and Image Processing
ISO/IEC JTC 1/SC 25/WG 1	Home Electronic Systems
ISO/IEC JTC 1/SC 27	IT Security Techniques
ISO/IEC JTC 1/SC 29	Coding of audio, picture, multimedia and hypermedia information
ISO/IEC JTC 1/SC 31	Automatic identification and data capture techniques
ISO/IEC JTC 1/SC 34	Document Description and Processing Languages
ISO/IEC JTC 1/SC 35	User Interfaces
ISO/IEC JTC 1/SC 36	Information Technology for Learning, Education & Training
ISO/TC 12	Quantities, units, symbols, conversion factors
ISO/TC 37	Terminology (principles and coordination)
ISO/TC 37/SC 2	Terminology and other language resources - Terminography and Lexicography
ISO/TC 37/SC 3	Terminology/Computer Applications
ISO/TC 46	Information and documentation
ISO/TC 46/SC 3	Information and documentation/ Terminology
ISO/TC 46/SC 4	Information and documentation/Computer applications
ISO/TC 46/SC 11	Archives / Records Management
ISO/TC 46/WG 2	Information and documentation/Coding of country names and related entities
ISO/TC 68	Banking, securities and other financial services
ISO/TC 68/SC 2	Banking, securities and other financial services/ Security management
ISO/TC 154	Documents and data elements in administration, commerce and industry
ISO/TC 184	Industrial automation systems and integration
ISO/TC 184/SC 4	Industrial automation systems and integration/ Industrial data
ISO/TC 204	Transport Information and Control Systems
ISO/TC 211	Geographic information/Geomatics
ISO/TC 215	Healthcare Informatics

### External Liaison Membership Category - A

INTELSAT	International Telecommunications Satellite Organization
ISBT	International Society of Blood Transfusion
ITU-T	International Telecommunication Union - Telecommunication Standardization Sector
SITA	Societe Internationale de Telecommunications Aeronautiques (Airline Telecommunications & Information)
UN/ECE/CEFACT	UN/Economic Commission for Europe/CEFACT
UNCTAD	United Nations Conference of Trade and Development

### **External Liaison Membership Category - B**

CEPT	European Conference of Postal and Telecommunications Administrations
CERN	European Organization for Nuclear Research
CISAC	International Confederation of Societies of Authors and Composers
ECMA	An International Europe-based Industry Association for Standardizing Information and Communications
ESA	European Space Agency
ETDE	Energy Technology Data Exchange
EWICS	European Workshop on Industrial Computer Systems
IFIP	International Federation for Information Processing
IPTC	International Press Telecommunications Council
SWIFT	Society for Worldwide Interbank Financial Telecommunication
UNESA	UN-Under-Secretary for Economic and Social Affairs
UPU	Universal Postal Union
WIPO	World Intellectual Property Organization
WMO	World Metrological Organization

### **External Liaison Membership Category - C**

DCMI	Dublin Core Metadata Initiative
Eurostat	Eurostat
IEEE LTSC	Learning Technology Standards Committee
OECD	Organisation for Economic Co-operation and Development
OG	Open Group
OGC	Open GIS Consortium
OMG	Object Management Group
W3C	World Wide Web Consortium

## **2.0 PERIOD REVIEW**

Excellent progress has been made in developing SQL, SQL MM, RDA, Open-Edi, Metadata Registry standards, and we expect that progress to continue in the future. Excellent progress has been made in developing SQL. The remaining parts of the SQL:1999 standards have been completed. An aggressive schedule for the next complete revision of ISO/IEC 9075 has been set with a target end date of fall 2003.

## **2.1 MARKET REQUIREMENTS**

Market requirements for SC 32 standards are driven by the rapid pace of hardware and software advancement as well as by the explosive growth of World Wide Web/Internet/Intranet/Extranet applications. These drive a stream of market requirements that are addressed by SC 32 standards for data management and interchange, including metadata management. The data management market continues to grow rapidly in line with the geometric increase in the volume of data stored and served.

An SC 32 study period has found an increasing market demand for semantics management. This is needed for data in databases, EDI messages, text in documents (which may be stored in databases), the semantic web, etc. While there are several ISO standards for various terminology content and structure, there is little connection between those standards and their potential use for data management and interchange. SC 32 is exploring the market requirements for semantics management and potential extensions to existing standards in order to articulate and then fill the unmet need.

Users are driving the market demand for metadata registries that describe the structure and meaning data. Major organizations are implementing metadata registries according to SC 32 standards and in the process are creating demand for extensions and broader coverage. This work is especially driven by the public access requirements of users and by market forces requiring the capability to share metadata between organizations.

The market demand for SQL database products remains strong. The clear acceptance of the SQL:1999 standards by the database vendors is very encouraging. The development of new parts and new features within the 9075 family of standards continues to be driven by perceived market priorities; the effort applied and the scheduling of the various parts has been adjusted accordingly.

Market demand of EDI and electronic commerce products grows as firms struggle to move into the electronic marketplace. Standards for EDI functions are necessary to facilitate this demand. The SC 32 work related to Open edi work and metadata registries is supporting JTC 1 involvement with the ISO IEC UN/ECE MoU Management Group.

Each part of SQL/MM standards is based on explicit requirements from a domain market. Especially, SQL/MM Part 2: Spatial specifying Spatial Data Management received much attention from TC 204, TC 211, and OGC (Open GIS Consortium) and is being developed under close coordination with TC 211 and OGC. Thus, we believe that our standards meet real market requirements.

## 2.2 ACHIEVEMENTS

The following projects have completed or are in Stage 5 – Publication

- 1.32.16.01.03.00 ISO/IEC DTR 20943-3  
Information technology - Achieving Metadata Registry Content Consistency - Part 3: Value Domains
- 1.32.04.02.02.00 ISO/IEC FDIS 13249-2  
Information technology - SQL Multimedia and Application Packages - Part 2: Full-Text 2nd ed
- 1.32.04.02.03.00 ISO/IEC FDIS 13249-3  
Information technology - SQL Multimedia and Application Packages - Part 3: Spatial 2nd Edition
- 1.32.04.02.05.00 ISO/IEC FDIS 13249-5  
Information technology - SQL Multimedia and Application Packages - Part 5: Still Image 2nd ed
- 1.32.31.01.01.00 ISO/IEC 15944-1:2002  
Information technology - Business Agreement Semantic Descriptive Techniques Part 1: Business Operational Aspects of Open-edi for Implementation
- 1.32.04.01.06.00 ISO/IEC 13249-6:2002  
Information technology - Database languages - SQL Multimedia and Application Packages - Part 6: Data Mining
- 1.32.04.02.01.00 ISO/IEC 13249-1:2002  
Information technology - SQL Multimedia and Application Packages - Part 1: Framework 2nd ed.
- 1.32.15.02.03.00 ISO/IEC 11179-3:2003  
Information technology -- Metadata Registries (MDR) - Part 3, Registry Metamodel and basic attributes
- 1.32.16.01.01.00 ISO/IEC TR 20943-1  
Information technology - Achieving Metadata Registry Content Consistency - Part 1: Data elements

The following projects are completing Stage 4 – Approval Stage by being submitted to ITTF for final vote.

- 1.32.03.05.01.00 ISO/IEC FDIS 9075-1  
Information technology - Database Languages - SQL - Part 1: Framework (SQL/Framework)
- 1.32.03.05.02.00 ISO/IEC FDIS 9075-2  
Information technology - Database Languages - SQL - Part 2: Foundation (SQL/Foundation)
- 1.32.03.05.03.00 ISO/IEC FDIS 9075-3  
Information technology - Database Languages - SQL - Part 3: Call-Level Interface (SQL/CLI)
- 1.32.03.05.04.00 ISO/IEC FDIS 9075-4  
Information technology - Database Languages - SQL - Part 4: Persistent Stored Modules (SQL/PSM)

- 1.32.03.05.09.00 ISO/IEC FDIS 9075-9  
Information technology - Database Languages - SQL - Part 9: Management of External Data (SQL/MED)
- 1.32.03.05.10.00 ISO/IEC FDIS 9075-10  
Information technology --Database Languages - SQL - Part 10: Object language bindings (SQL/OLB)
- 1.32.03.05.11.00 ISO/IEC FDIS 9075-11  
Information technology --Database Languages - SQL - Part 11: Information and Definition Schemas (SQL/Schemata)
- 1.32.03.05.13.00 ISO/IEC FDIS 9075-13  
Information technology --Database Language SQL - Part 13: SQL/JRT (for SQL:200n)
- 1.32.03.05.14.00 ISO/IEC FDIS 9075-14  
Information technology --Database Language SQL - Part 14: SQL/XML (for SQL:200n)

The following project completed Stage 3 – Committee Stage with FCD ballot

- 1.32.15.02.01.00 ISO/IEC FCD 11179-1  
Information Technology -- Metadata Registries (MDR) - Part 1: Framework
- 1.32.15.02.04.00 ISO/IEC FCD 11179-4  
Information Technology -- Metadata Registries (MDR) - Part 4: Formulation of data definitions
- 1.32.30.02.00.00 ISO/IEC FCD 14662  
Information technology - Open-Edi Reference Model 2nd Edition
- 1.32.10.02.00.00 ISO/IEC FCD 5218  
Information technology - Codes for the representation of human sexes (Revision of ISO 5218:1977)

The following project progressing Stage 3 – Committee Stage with FCD ballot

-none-

The following project is progressing in Stage 3 – Committee Stage

- 1.32.15.02.05.00 ISO/IEC CD 11179-5  
Information Technology --Metadata Registries (MDR) - Part 5: Naming and identification principles
- 1.32.15.02.06.00 ISO/IEC CD 11179-6  
Information Technology -- Metadata Registries (MDR) - Part 6: Registration

1.32.31.01.02.00 ISO/IEC CD 15944-2  
Information technology - Business Agreement Semantic Descriptive Techniques Part  
2: Registration of Scenarios and their Components

## **2.3 RESOURCES**

Adequate resources are currently available for all projects. SC 32 actively seeks and recruits new participants.

### **3.0 FOCUS NEXT WORK PERIOD**

SC 32 has refined its program of work to ensure that it is focusing on those standards that will meet market requirements. SC 32 plans to continue to focus on developing standards for SQL, SQL/MM, eBusiness and data semantics. SQL work is expected to be particularly active. The metadata registry market is very active, driving rapid development of all parts of ISO/IEC 11179.

Database Languages (WG 3) work is active with the focus on a completely revised set of ISO/IEC 9075 parts as well as two new parts addressing more Java support and XML support. WG 3 has assumed some of the projects from the former WG 5.

The Open-Edi (soon to be eBusiness) (WG 1) is concentrating on the second part of ISO/IEC 15944: Information technology - Business Agreement Semantic Descriptive Techniques Part 2: Registration of Scenarios and their Components, and the fourth part of ISO/IEC 15944: Information technology - Business Agreement Semantic Descriptive Techniques Part 4: Business Transactions and Scenarios – Accounting and Economic Ontology and ISO/IEC 18038 Identification, mapping and IT-enablement of existing standards for widely used encodable value domains. A key characteristic of commerce world-wide is that it makes extensive use of enumerated lists, code sets, etc. representing possible choices of common aspects in business transactions. The problem is that most of these code sets in use world-wide are paper-based and, even if available in electronic form, lack a computer-processable version. The objective of this standardization work is (1) the development of a tool to facilitate the creation of IT-enabled versions of existing sets of “codes representing X”, and (2) to do so, in a manner which will support localization and multilingual requirements of the marketplace.

The Metadata Working Group (WG 2) is progressing with revisions to the ISO/IEC 11179 family of metadata registry standards. Part 3 of ISO/IEC 11179 was revised to incorporate a structure of a metadata registry and is now at IS level. An immediate update is already underway, responding rapid advances in this field. Technical reports on metadata registry content are progressing. The content TR addresses the exchange of metadata among ISO/IEC 11179-based registries that depends not only on standard-conforming software, but also on contents that are compatible across registries. The goal of this project is to produce Technical Reports that will promote a common understanding of the content of metadata registry data elements so that they can be shared among registries. The intent is to provide guidance by example in registering data elements. WG 2 is working to demonstrate use of XML for accessing and interchanging information in 11179 conformant data registries. We expect that specific XML tags and data structures will be algorithmically derived from the normative UML data model specified in 11179 part 3. T Work is also underway to foster interoperability between ISO/IEC 11179 metadata registries, XML registries, Universal Description, Discovery and Integration (UDDI) registries, database catalogs, ontology registries and CASE tool repositories.

The WG 2 work is positioned to meet the deeper semantic management aspects of data management and interchange. This includes provision of semantics for the semantic web and management of XML schemas, tags, classification schemes, and associated metadata.

WG 2 sponsors an annual Open Forum on Metadata Registries. The sixth was held in Santa Fe, NM during 2003 with 250 people attending. The seventh will be held in Xien China in 2004.

### **3.1 DELIVERABLES:**

See section 1.2 for those projects with upcoming target dates.

## **3.2 STRATEGIES:**

SC 32 is focused on progressing its program of work as quickly and efficiently as possible. It is important that the committee keep its focus on meeting market requirements, and emphasize new projects that have well-defined, concrete objectives that are market driven.

SC 32 empowers its WGs by delegating everything that can be delegated to a WG, per JTC 1 directives, along with the relevant authority and responsibility. The SC does not impose any additional management overhead. SC 32 Plenary meetings accomplish those tasks required by the JTC 1 directives in as brief a time as possible. Only an opening and closing plenary are held with less than a half-day duration, each. Discussions are invited during a tutorial meeting and anytime outside of Plenary. All contentious issues are identified in advance and groups appointed to resolve the issue and prepare a recommendation before the Plenary. This strategy is intended to make the WGs as productive as their members can be.

SC32 maintains extensive contact with software developers and users to keep in close alignment with market forces.

The Working Groups continue to utilize electronic editing meeting in order to progress the work as fast as possible.

### **3.2.1 RISKS**

SC 32 is the result of JTC 1 creating a new Technical Direction on Data Management and Interchange, and is a combination of three committees with different traditions, work programs and personalities. Each of these three groups had their own priorities, and different strategies for achieving their objectives. Considerable progress was made in identifying and establishing critical inter- and intra-group understanding and liaisons. Some progress is being made on developing new standards that cut across the original organizational lines. Considerable effort is being given to avoid isolated work within the WGs. At current SC 32 meetings, each WG gives a tutorial on its work to the full committee.

There is always the risk that new project could be initiated that does not have clear objectives and concrete specifications. If this occurs, SC 32 would dilute its focus and might create incentive to produce important standards outside of SC 32 and JTC 1.

Overlapping scope of projects is an area that needs to be continually monitored and controlled. Changes in market requirements and ability to schedule plenary sessions at the appropriate moment may cause some perturbation in the work schedules. TC 211 is progressing OGC's Simple Feature Access SQL (SFA SQL). SFA SQL can be regarded as mere subset of SQL/MM Part 2: Spatial. Their aim is quick adaptation of SFA SQL specification under current DBMS environments. The next edition of SFA SQL should coincide with SQL/MM Part 2. However, if we lose technology leadership, we may lose control. Therefore, rapid development of the next edition is crucial factor of future success.

If SC 32 does not pursue its work aggressively, risks exist that essential capabilities will not be available in the marketplace to support important functions, or that the marketplace will produce multiple incompatible solutions in areas that common approaches and interoperability are essential to users.

The delegation of authority and responsibility to the WGs stands in contrast to the working of some of the SC/WG relationships that came into SC 32. This management style makes some participants uncomfortable, since it limits discussion time in Plenary meetings. There is a risk of missing some viewpoints that might be expressed in longer Plenary meetings.

SC 32 continues to have funding support problems for the Secretariat. Funds have been provided in limited increments without any long-term provision for continuation.

Other standards bodies are very active in areas related to SC 32 standards. SC 32 must be nimble to maintain its relevance and leadership.

### **3.2.2 OPPORTUNITIES**

The Internet, electronic commerce, the semantic web, object technologies, and XML represent major areas of opportunity where market forces are creating demand for SC 32 standards. We will continue to work with the others involved to identify the specific standardization needs and to respond with current and newly proposed standards.

XML represents a major area of opportunity where market forces are creating demand for standards and SC 32 is continually monitoring the work in this area and will react as soon as it sees an appropriate opportunity.

### **3.3 WORK PROGRAMME PRIORITIES**

Each WG establishes work programme priorities in their project plan, which is approved in the SC 32 Plenary. These can be seen in the material, above. For example, high priority is given to the standardization of an integrated/interoperable information processing environment.

The SC has established a priority of educating each working group about the work and ideas of the other work groups. The prior SC 32 meetings have shown that there is considerable interest in the synergy that can be developed within the committee. The next SC 32 meeting will again include tutorials from each work group.

## 4.0 PERFORMANCE

### JTC 1/SC 32 Performance (as of 2002-09-01)

SC 32 METRIC	1997	1998	1999	2000	2001	2002	2003
Attendance at Meetings <sup>1,7</sup>	N/A	47 <sup>6</sup>	57	73	62	53	47 <sup>9</sup>
New Standards Published <sup>2</sup>	2	4	8	4	5	1	5
Total Standards Published <sup>3</sup>	N/A	23	31	28	34	41	43
Active Projects <sup>4</sup>	N/A	40	42	38	44	77	64
New Projects <sup>5</sup>	N/A	0	4	4	0	13 <sup>8</sup>	3

<sup>1</sup>Average Meeting Attendance at Plenaries and Working Groups (where a plenary include a meeting of all working groups – if working groups do not meet during plenary meetings, a cumulative mean attendance to working group meeting should be used) (**Att. Plena.**)

<sup>2</sup>New Standards published (**NSP**)

<sup>3</sup>Total standards published (and currently valid) (**TSP**)

<sup>4</sup>Active projects (**AP**)

<sup>5</sup>New projects introduced (**NP**)

<sup>6</sup>This does not include the first Planning meeting of JTC 1/SC 32 in February 1998

<sup>7</sup>At the National Body level the Working Groups are obtaining considerable participation with electronic participation

<sup>8</sup>Project splits waiting justification then JTC 1 approval

<sup>9</sup>Plus 250 attendees at the Open Forum on Metadata Registries, held concurrent with the SC 32 meetings, The attendance number does not include several Open Forum attendees who are also SC 32 participants at the National Body level, but who were unable to remain a second week for the SC 32 meetings.