

**ISO/IEC JTC 1/SC32 WG3 N0050**  
**WG3 YYJ-001**

Date: June 4th 2001

L2/01-254

ISO

International Organization for Standardization

**ISO/IEC JTC 1/SC 32**  
**Data Management and Services**  
**WG3 Database Languages**

**Secretariat: USA (ANSI)**

- Title:** Minutes of the ISO/IEC JTC 1/SC 32/WG 3 Meeting  
Perth, Western Australia, Australia, April 30<sup>th</sup> - May 11<sup>th</sup>, 2001
- Author:** Phil Brown (UK)
- Status:** Output document from WG 3 Meeting

## 1 Introduction Of Participants

<b>Delegate</b>	<b>National Body</b>
Mark Ashworth	Canada (April 30 <sup>th</sup> to May 8 <sup>th</sup> )
Don Bartley	Australia
Phil Brown	UK
Charles Campbell	USA (from May 3 <sup>rd</sup> )
Stephen Cannan	Netherlands WG3 Convenor
Hugh Darwen	UK
George Feuerlicht	Australia (April 30 <sup>th</sup> to May 2 <sup>nd</sup> )
Jutta Kreys	Germany
Takashi Kotera	Japan
Krishna Kulkarni	USA
Jim Melton	USA -- Project Editor
Jim Murray	Australia
Bill O'Connell	Canada (Monday April 30 <sup>th</sup> to Friday May 4 <sup>th</sup> )
Åke Persson	Sweden (Monday April 30 <sup>th</sup> to Monday May 7 <sup>th</sup> )
Baba Piprani	Canada (from Monday May 7 <sup>th</sup> )
Friedemann Schwenkreis	Germany (Monday April 30 <sup>th</sup> only)
Takaaki Shiratori	Japan (April 30 <sup>th</sup> to May 4 <sup>th</sup> )
Masashi Tsuchida	Japan
Fred Zemke	USA

## 2 Distribution Of Documents

All documents for the meeting, including those produced during the meeting, were placed in an electronic repository that was accessible to all participants.

The final document register for the meeting, combined with that for the CD Editing Meeting held concurrently, is attached as Appendix B to these minutes.

## 3 Selection Of Secretary And Drafting Committee

Phil Brown agreed to act as secretary

Mark Ashworth agreed to take the minutes for the morning of the first day until Phil Brown arrived.

## 4 Approval Of Agenda

Three items were added to the final draft Agenda that had been published by the Convenor before the meeting:

- 20.1 Possible problem mapping between XML and SQL (PER-120)
- 20.2 An extension to the Transaction Model (PER-122)
- 20.3 New application package 13249/XML Type (PER-122)

The Agenda, as amended, was approved. Items were not necessarily discussed in Agenda order.

The final Agenda is attached as Appendix A to these minutes.

## 5 Minutes From Previous Meeting

### 5.1 Minutes of the JTC 1/SC 32 WG3 Meeting Helsinki, Finland, October 2<sup>nd</sup> – October 13<sup>th</sup>, 2001

(WG3 N0043, PER-001)

Don Bartley noted that text describing the agreed basis for holding the meeting in Perth, Australia, was missing from the minutes. The missing text, which was discussed at the Helsinki, Finland, meeting, follows:

The purpose of this note is to outline the manner in which meeting costs would be covered at the May 2001 WG3 interim meeting in Perth, WA.

In Santa Fe, January 2000, we discussed the idea of hosting the May 2001 interim meeting in Australia.

In 1998 Australia hosted an editing meeting in Coolangatta, on the Queensland Gold Coast. This meeting required only minimal resources and no photocopying and limited printing capability. A low room rate with the hotel was negotiated. The cost to hire a meeting room and the charges for morning and afternoon teas (tea, coffee and biscuits) were rolled into the room rates of all participants. This resulted in a room rate around AUD \$100 per night – which compared extremely favourably with rates for reasonable (mid range) CBD Sydney hotels.

Following the Coolangatta meeting we realised that, if we were prepared to operate in a similar minimalist way and to cover the meeting costs in a similar fashion, then we could have more flexibility with the meeting location. The default Australian location being Standards Australia meeting rooms which in 1998 were in a suburb of Sydney (Strathfield) and required transport by bus, train, taxi or private car. Currently (“as we speak”, September/October 2000) Standards Australia is moving to the Sydney CBD – no committee meetings have yet been conducted there but will begin from late October.

In Santa Fe, we discussed a number of possible locations and decided to hold the May 2001 meeting in Perth, Western Australia. Preliminary hotel investigations show a very favourable hotel rate compared to Sydney CBD costs. To hold the meetings in Perth we need to agree on the following:

1. There will be minimal support, no facilities for photocopying, possibly no printing facilities;
2. Participants stay in the hotel selected;
3. The hotel will roll in the meeting room and other “meeting costs”, such as morning and afternoon teas, into the room rate;
4. I will negotiate a group rate with a hotel

I would distribute hotel and related information by December 2000 / January 2001.

It was noted that the document log for the Helsinki meeting contained in PER-001 was incomplete.

### 5.2 Minutes of the JTC 1/SC 32 WG3 Meeting Electronic, March 26<sup>th</sup> - March 30<sup>th</sup>, 2001

(WG3 N0049, PER-093)

Jim Melton expressed appreciation for the way that Stephen Cannan reported on the minutes.

### 5.3 Review of action items from minutes

Action items from PER-001:

1. (Fred Zemke) – Fred supplied the information. Jim Melton said that it was in the SD. **DONE**
2. (Stephen Cannan) – The new checklist item is not in the SD. **NOT DONE**
3. (Stephen Cannan) – (SD9) a revised version was published. **DONE**

4. (Jim Melton) – Minutes directory is up-to-date, Jim reports that this is ongoing. **ONGOING**
5. (Chuck Campbell) – Not done, Chuck reports that it will be worked on at this meeting. **ONGOING**
6. (Chuck Campbell) – **ONGOING**
7. (Chuck Campbell) – **ONGOING**
8. (Chuck Campbell) – **ONGOING**

Action items from PER-093:

There were no action items recorded.

## **6 Administrative Matters**

### **6.1 Calling Notice for SC 32/WG 3 Meeting, Perth, Australia (WG3 N0046, SC32N00602)**

Noted.

### **6.2 Meeting Arrangements for SC 32/WG 3 Meeting, Perth, Australia (PER-014)**

Noted.

### **6.3 Mailing List (SD-001)**

Germany noted there is an entry on list for Peter Pistor at IBM. This is no longer valid. SD-001 was circulated for review and update.

### **6.4 WG3 Document Log (SD-002)**

Noted.

### **6.5 WG3 Projects (SD-003)**

Noted.

### **6.6 Guidelines for Submission of Proposals (SD-004)**

Publication of new version (2000-12-14) noted.

### **6.7 WG3 Current Schedule (SD-005)**

Publication of new version (2000-12-10) noted.

### **6.8 Template for Submission of Ballot Comments (SD-006)**

Publication of new version (2000-12-13) noted.

### **6.9 Procedures for E-mail Ballots (SD-007)**

Noted.

### **6.10 Registry of Values for the SQL Standard (SD-008)**

Publication of new version (2001-2-22) noted.

### **6.11 Consolidated Meeting List and Document Register (SD-009)**

Publication of new version (2001-3-3) noted.

### **6.12 Miscellaneous facts about the SQL standard (SD-010)**

Noted that the document does not exist yet.

### **6.13 Guidelines for Meeting LAN connection (SD-011)**

It was noted that the document does not exist yet.

### **6.14 ISO 9075-1 SQL/Framework CD (PER-003)**

Noted.

**6.15 ISO 9075-2 SQL/Foundation CD (PER-004, PER-022)**

Noted.

**6.16 ISO 9075-3 SQL/CLI CD (PER-005)**

Noted.

**6.17 ISO 9075-4 SQL/PSM CD (PER-006)**

Noted.

**6.18 ISO 9075-7 SQL/Temporal WD (PER-007)**

Noted.

**6.19 ISO 9075-9 SQL/MED CD (PER-008, PER-024)**

Noted.

**6.20 ISO 9075-10 SQL/OLB CD (PER-009, PER-023)**

Noted.

**6.21 ISO 9075-11 SQL/Schemata CD (PER-010, PER-025)**

Noted.

**6.22 ISO 9075-13 SQL/JRT FCD (PER-011)**

Noted.

**6.23 ISO 9075-14 SQL/XML WD (PER-012)**

Noted.

**6.24 Consolidated Editors Notes (PER-013)**

It was noted that the document did not exist.

## **7 National Body Opening Comments**

### **7.1 Australia**

Welcome to Perth. The maps on the wall indicate the correct way to view the world with the centre of the map having the Indian Ocean to the west and the Pacific to the east or vice versa to be more correct.

Australia is happy to host this meeting. Although we have limited resources and our activity in the SQL family of standards is very low we remain very interested in the work. We are unlikely to produce major technical documents. Our contribution is likely to be comment on the work of others. Notwithstanding this, we would like to see rapid progression of the new parts XML and JRT.

This group must strive to achieve a SQL/2002 target. We hope that the editing meetings for parts 1,2,3,4,9,10,11 can make substantial progress at this meeting.

Australia had hoped to conduct a WG3 Seminar in Sydney just prior to this meeting, something along the lines of "SQL, XML, Java – Standard fabric for a changing World". At Helsinki we received a good reaction to this proposal but were unable bring it together in time. Regardless, Australia thanks those who were prepared to be involved and we hope that we would get a similar reaction if such an opportunity were to surface at some future time.

(Note added after opening National Body comments) Australia would like to recognise the contribution of Friedemann Schwenkreis to WG3. We are sorry to see him depart and wish him well in the future.

### **7.2 Belgium**

Not present

### **7.3 Brazil**

Not present

#### **7.4 Canada**

Canada is very pleased to see SQL/JRT progress to FCD and an SQL/XML Working Draft produced out of the E-meeting.

Canada looks forward to a successful SQL editing meeting and progression out of this meeting but we recognize that there are still many ballot comments that need addressing and lots of work to do. We are especially pleased to see a paper on the agenda to put Multiset support back into SQL.

One member of the Canadian Delegation has not arrived yet. Baba Paprani will be joining the meeting later this week.

Canada renews its welcome of our new participants from Germany and Japan and looks forward to working with them at future meetings.

Canada is saddened to hear that Friedemann Schwenkreis is leaving the committee, he will be missed. Canada wishes him all the best in future endeavors.

Canada would like to thank the Australia N.B. and especially Don Bartley for organizing this meeting here in Perth.

#### **7.5 China**

Not present.

#### **7.6 Czech Republic**

Not present.

#### **7.7 Denmark**

Not present.

#### **7.8 Finland**

Not present.

#### **7.9 France**

Not present.

#### **7.10 Germany**

Germany would like to introduce Ms. Jutta Kreyss to the group. Jutta will represent the German National Body in WG3 from now on. Germany would like to ask all participants, and in particular the Convenor and the Editor, to help her get familiar with the rules, procedures, and traditions of the group.

Germany is pleased with the progress made in the electronic meeting and we are looking forward to future meetings in cyberspace. We agreed to discuss three (discussion) papers on XML at this meeting. Germany would like to see WG3's position on the topics raised to be able to decide on future actions.

#### **7.11 Italy**

Not present.

#### **7.12 Japan**

Japan is pleased to see the recent progress in WG3 activities, especially in emerging area, such as interoperability with Java and XML, and also discussions related to recent enhancement in Unicode. Japan expects our SQL standard body to incorporate these technologies with reflecting vital application scenario and requirements in this industry. We are going to prepare follow-on papers to resolve remaining comments as our contribution during the weeks.

We would like to thank Australia for organising this meeting in Australia.

#### **7.13 Netherlands**

The Netherlands is encouraged by the number of delegates to this meeting. The Netherlands looks forward to another busy meeting but one which will also turn out to be as enjoyable as our previous Coolangatta meeting.

#### **7.14 Norway**

Not present.

#### **7.15 Republic of Korea**

Not present.

#### **7.16 United Kingdom**

We really came to Perth for the CD editing meeting. We regret that we have no written contributions for the WG meeting, even for SQL/Temporal. We also regret that, for lack of resources rather than lack of interest, we have not really engaged ourselves in the recently introduced new parts on XML and Java. Nevertheless, we recognize the importance of this work and hope that progression of both parts will proceed smoothly and in a timely fashion.

#### **7.17 United States**

USA is pleased with the thorough reviews by the national bodies on the CD ballots of SQL-200n Parts 1,2,3,4,9,10, and 11 as well as a number of contributions to address these ballot comments. We are especially happy to see the continued participation and contributions from Sweden.

USA is also pleased with the recent completion of an electronic WG3 meeting. We believe this meeting broke new grounds and offers promising means to progress de-jure standards activities faster.

USA hopes that the current SQL-200n CD Editing meetings succeed in addressing all the ballot comments on SQL Parts 1,2,3,4,9,10, and 11. USA is keen to work with other national bodies to maintain the current project milestones for the SQL-200n publication schedule, which calls for the initiation of final CD Ballot on all these parts out of this meeting.

Finally, as agreed to by this body in Matsue during the discussion of YGJ-035, US delegates have been directed to request this body to defer action on conformance-related matters till the FCD editing meeting. In addition, USA would like to request for a waiting period of at least 48 hours for any papers submitted during this editing meeting that claim to address comment numbers 113, 114, 301, 304, and 305.

#### **7.18 Austria**

Not present.

#### **7.19 Russian Federation**

Not present.

#### **7.20 Sweden**

Sweden is pleased with the progress made during the Helsinki meeting.

Sweden hopes that the outcome of this meeting will result in a significant reduction of Possible Problems.

## **8 Liaison**

### **8.1 XML Query Requirements (PER-070)**

Chuck Campbell reported on events in W3C and presented an overview of the XML papers. He gave brief reviews of the documents identified under Agenda items 8.1 to 8.10 and requested comments on them from WG members. Specific points on individual papers are noted below under the appropriate agenda item.

Chuck reported that there was a Technical Coordination meeting in Boston in March 2001. There are efforts in W3C to improve technical coordination developments and terminology in different technical areas. There has been a perception that there has been undue emphasis recently on meetings to interchange information rather than to make technical progress.

Jim Melton advised that everyone was welcome to submit comments on any of the public W3C documents.

Jim Melton commended the W3C XSL-FO document as an example of the way to present a specification.

Chuck suggested that the W3C XML work will be influential and widely adopted in the industry in the near term.

The Semantic Web is a major area of current interest in the W3C. The objective is to connect everyone to everything all the time.

Chuck said that he was still drafting his presentation of XML for the Victoria SC32 meeting. It was not yet ready for exposure to the WG, but he would be placing drafts on the Web at [www.sql99.org](http://www.sql99.org).

**8.2 XML Query Data Model (PER-071)**

See 8.1.

**8.3 XML Query Use Cases (PER-072)**

These are being developed on the basis of business experience and requirements rather than from a purely theoretical background.

**8.4 XML Query Algebra (PER-073)**

Significant work is being done in this area at Aberdeen University in Scotland.

**8.5 XQuery: A Query Language for XML (PER-074)**

This is a first attempt at presenting a W3C query language. Microsoft and Oracle are early implementors of this specification.

**8.6 XML Protocol Requirements (PER-075)**

This is early work. The current debate is over use of the use of the Microsoft-owned SOAP, with some challenge to use of the name. The objective of the protocol is to give structure to non-blocked communication on the World Wide Web.

**8.7 XML Schema Requirements (PER-076)**

The schema documents are candidate recommendations and are almost ready for publication. Later versions of the documents on this agenda have recently been published.

**8.8 XML Schema Part 0: Primer (PER-077)**

This is an essential introduction to the other XML Schema documents.

**8.9 XML Schema Part 1: Structures (PER-078)**

This is not as well organised as it might be. This and Part 2 are Recommendations, with a status in W3C roughly equivalent to an IS.

**8.10 XML Schema Part 2: Datatypes (PER-079)**

Due to the diverse background of those involved, there are significant problems of terminology in this area.

**8.11 USECASE: An Automated Data Warehouse based on SQL Standard Based Architecture (PER-192)**

Baba Piprani introduced PER-192. It is a presentation given by a user to the Standards Council of Canada describing use of SQL92 facilities in the efficient and effective implementation of a data warehouse.

## **9 Technical Corrigenda**

**9.1 SQL Technical Corrigendum #5 (PER-002R1)**

It was noted that PER-002 reflected corrections up to the Helsinki meeting and that PER-002R1 incorporates a number of corrections that have been recognised as necessary since the Helsinki meeting.

**9.2 Adoption of changes made in Editing Meetings**

Motion: That changes to the Committee Draft documents and the SQL Technical Corrigendum made during the Perth Editing meeting should be accepted into the current working drafts of the standard and the TC.

Proposed United States, seconded United Kingdom, carried unanimously.

**9.3 TC Changes (PER-098R1)**

Fred Zemke introduced PER-098R1 and described the changes that it proposed for inclusion in the TC. The TC Editor noted some editorial corrections.

Adoption of PER-098R1 as amended, was proposed by the United States, seconded by Canada and accepted unanimously.

**9.4 TC Changes from PER-126 (PER-126R2)**

Fred Zemke introduced PER-126R2 and described the TC changes that it proposes.

Adoption of PER-126R2 was proposed by the United States, seconded by Canada and accepted unanimously.

**9.5 TC Changes from PER-172 (PER-172)**

Hugh Darwen introduced changes made in PER-172 and proposed that they should be included in the TC.

Adoption of PER-172 was proposed by the United Kingdom, seconded by Canada and accepted unanimously.

**9.6 TC Changes from PER-175 (PER-175)**

Hugh Darwen introduced changes made by PER-175 and proposed that they should be included in the TC.

Adoption of PER-175 was proposed by the United Kingdom, seconded by the United States and accepted unanimously.

## **10 Framework (SQL/Framework WD 9075-1)**

### **10.1 Adoption of changes made in Editing Meetings**

See 9.1

## **11 Foundation (SQL/Foundation WD 9075-2)**

### **11.1 Adoption of changes made in Editing Meetings**

See 9.1

## **12 CLI (SQL/CLI WD 9075-3)**

### **12.1 Adoption of changes made in Editing Meetings**

See 9.1

## **13 Persistent Stored Modules (SQL/PSM WD 9075-4)**

### **13.1 Adoption of changes made in Editing Meetings**

See 9.1

## **14 Temporal SQL (SQL/Temporal WD 9075-7)**

No contributions received.

## **15 Management Of External Data (SQL/MED WD 9075-9)**

### **15.1 Adoption of changes made in Editing Meetings**

See 9.1

## **16 Object Language Bindings (SQL/OLB WD 9075-10)**

### **16.1 Adoption of changes made in Editing Meetings**

See 9.1

## **17 Information and Definition Schemas (SQL/Schemata WD 9075-11)**

### **17.1 Adoption of changes made in Editing Meetings**

See 9.1

## **18 Replication (SQL/Replication WD 9075-12)**

No contributions were received.

Jim Melton reported that there had been no significant progress on this topic in the USA and it was likely that the USA would be proposing to SC32 that the project be withdrawn.

## **19 Routines and Types Using the Java™ Programming Language (SQL/JRT WD 9075-13)**

No contributions were received.

## **20 XML Related Specifications (SQL/XML WD 9075-14)**

### **20.1 Possible Problems with mappings between XML and SQL (PER-120)**

Jutta Kreys presented PER-120 and requested feedback from the WG on this, PER-121 and PER-122.

Fred Zemke said he regarded PER-120 as a commentary on the initial project proposal. He suggested that the industry was unlikely to tackle the problem of mapping the whole of SQL onto XML.

There was consensus that not all round trips between SQL and XML would preserve all information, with data portability being more difficult to achieve than identifier portability.

### **20.2 An Extension to the Transaction Model (PER-121)**

Jutta Kreys introduced PER-121 and requested comments on the proposal for long transactions.

Stephen Cannan commented that requirements were often for checkout at the object level rather than at the row level. Engine support for multiple-row, multiple-table checkout would bring greater advantages to the user than a single-row facility as described in the paper.

Jim Melton commented that most current SQL implementations have a transaction model that is oriented towards locking of small numbers of rows for relatively short times. He warned that in the past efforts to pursue the approach described in PER-121 in relational database management systems had not been seen as potentially commercially successful.

Krishna Kulkarni commented that the paper made some premature assumptions about the way in which documents would be stored in a database.

Baba Piprani commented that we have considered long transactions and versioning several times over a period of many years without coming to a conclusion about whether or how it the facilities can be included in the SQL standard.

Don Bartley said that there was a requirement for DBMS support of long transactions in his business environment, but that current mainstream DBMS products did not address it.

Jim Melton reminded the group of the ISO Transaction Processing (TP) standards and their lack of success.

### **20.3 New Application Package 13249-x: XML\_TYPE (PER-122)**

Jutta Kreys introduced PER-122.

Jim Melton said that he agreed that XML was probably sufficiently important to justify its own data type. However, he doubted that WG4 as it currently operated was an effective environment for this work. He said that the US believed that there would be a better chance of success if the work were managed by WG3. He added that there was also debate within the US as to whether the XML data type functionality should be developed as a facility within the SQL engine or as an external, user-defined, type.

Jim Murray asked whether there were any established principles for deciding whether a data type should be standardized as a pre-defined type or a user-defined type. The consensus was that there were no formal criteria.

Tsuchida-san said that the Japanese opinion was that there were technical reasons why the data type should be developed as a facility of the SQL engine.

Jutta Kreys said that, so far, there was no German proposal for initiation of a WG4 project on XML\_TYPE.

Don Bartley suggested that there were customer-oriented arguments for the facility to be developed with the vendor-independence of a user-defined type.

## **21 New Project Proposals**

### **21.1 Maintenance of ISO/IEC 2382 (JTC1 N6397, PER-088)**

Stephen Cannan reported that Doug Mann, the SC32 Secretariat, had requested an opinion for JTC1 on the maintenance of various parts of ISO/IEC 2382 by WG3.

The WG was not enthusiastic about taking on the work, but recognised that it was the appropriate home for some of the parts of ISO/IEC 2382, in particular parts 4, 5, 6 and 17.

Stephen Cannan said that he would respond to the SC32 Secretariat to the effect that WG3 doubted the value of these standards, but reluctantly recognised that it was the appropriate home for them.

Later in the meeting, Jim Melton reported that he had determined that there had been a vocabulary group in the USA, but it was currently inactive.

## **22 Liaison Statements To Other Groups**

No requirements for liaison statements were identified.

## **23 WG3 Recommendations To SC32**

### **23.1 Items of Work, Editors, and Target Dates**

No requirements for change were identified

### **23.2 Requests for Ballots and Document Circulation**

Krishna Kulkarni reported that the US position was that the XML part was not in a suitable state for ballot. It was agreed that the WG would not exercise the permission that had been granted to it by SC32 to initiate a ballot before the Victoria meeting.

The Convenor stated that if the publication process for the TC was not initiated at Victoria then it would not be possible to publish the TC significantly before the publication of the next version of the standard. National bodies should therefore come to the Victoria meeting prepared to take a decision on publication of the TC.

### **23.3 Liaisons and Representatives**

No requirements were identified.

**23.4 Time and location of working group/editing meetings**

**(PER-139R1)**

Jutta Kreyss introduced PER-139R1.

She recommended Berlin as the first choice of location for the WG intermediate meeting in late 2002, following the May 2002 SC32 plenary in Korea. The WG agreed unanimously to accept tentatively the German offer of Berlin in October 2002 as the location of the interim meeting following the SC32 Plenary meeting in Korea. Precise timing of the meeting depends on the timing of the Korea plenary.

**24 ACTION ITEMS**

No action items were identified.

**25 ADJOURN**

The meeting closed at 16.06 UTC+8 on Friday May 11<sup>th</sup> 2001.

## Appendix A: Final Agenda

### ISO/IEC JTC1/SC32 WG 3 Meeting 30<sup>th</sup> April – 11<sup>th</sup> May, 2001 Perth, Western Australia, Australia

- 1 Introduction Of Participants**
- 2 Distribution Of Documents**
- 3 Selection Of Secretary And Drafting Committee**
- 4 Approval Of Agenda**
- 5 Minutes From Previous Meeting**
  - 5.1 Minutes of the JTC 1/SC 32 WG3 Meeting Helsinki, Finland, October 2nd - October 13th, 2001  
(WG3 N0043, PER-001)
  - 5.2 Minutes of the JTC 1/SC 32 WG3 Meeting Electronic, March 26th - March 30th, 2001  
(WG3 N0049, PER-093)
  - 5.3 Review of action items from minutes
- 6 Administrative Matters**
  - 6.1 Calling Notice for SC 32/WG 3 Meeting, Perth, Australia (WG3 N0046, SC32N00602)
  - 6.2 Meeting Arrangements for SC 32/WG 3 Meeting, Perth, Australia (PER-014)
  - 6.3 Mailing List (SD-001)
  - 6.4 WG3 Document Log (SD-002)
  - 6.5 WG3 Projects (SD-003)
  - 6.6 Guidelines for Submission of Proposals (SD-004)
  - 6.7 WG3 Current Schedule (SD-005)
  - 6.8 Template for Submission of Ballot Comments (SD-006)
  - 6.9 Procedures for E-mail Ballots (SD-007)
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  - 6.14 ISO 9075-1 SQL/Framework CD (PER-003)
  - 6.15 ISO 9075-2 SQL/Foundation CD (PER-004, PER-022)
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  - 6.22 ISO 9075-13 SQL/JRT FCD (PER-011)
  - 6.23 ISO 9075-14 SQL/XML WD (PER-012)
  - 6.24 Consolidated Editors Notes (PER-013)
- 7 National Body Opening Comments**
  - 7.1 Australia
  - 7.2 Belgium
  - 7.3 Brazil
  - 7.4 Canada
  - 7.5 China
  - 7.6 Czech Republic
  - 7.7 Denmark
  - 7.8 Finland

- 7.9 France
- 7.10 Germany
- 7.11 Italy
- 7.12 Japan
- 7.13 Netherlands
- 7.14 Norway
- 7.15 Republic of Korea
- 7.16 United Kingdom
- 7.17 United States
- 7.18 Austria
- 7.19 Russian Federation
- 7.20 Sweden

## **8 Liaison**

- 8.1 XML Query Requirements (PER-070)
- 8.2 XML Query Data Model (PER-071)
- 8.3 XML Query Use Cases (PER-072)
- 8.4 XML Query Algebra (PER-073)
- 8.5 XQuery: A Query Language for XML (PER-074)
- 8.6 XML Protocol Requirements (PER-075)
- 8.7 XML Schema Requirements (PER-076)
- 8.8 XML Schema Part 0: Primer (PER-077)
- 8.9 XML Schema Part 1: Structures (PER-078)
- 8.10 XML Schema Part 2: Datatypes (PER-079)
- 8.11 USECASE: An Automated Data Warehouse based on SQL Standard Based Architecture (PER-192)

## **9 Technical Corrigenda**

- 9.1 SQL Technical Corrigendum #5 (PER-002R1)
- 9.2 Adoption of changes made in Editing Meetings
- 9.3 TC Changes (PER-098R1)
- 9.4 TC Changes from PER-126 (PER-126R2)
- 9.5 TC Changes from PER-172 (PER-172)
- 9.6 TC Changes from PER-175 (PER-175)

## **10 Framework (SQL/Framework WD 9075-1)**

- 10.1 Adoption of changes made in Editing Meetings

## **11 Foundation (SQL/Foundation WD 9075-2)**

- 11.1 Adoption of changes made in Editing Meetings

## **12 CLI (SQL/CLI WD 9075-3)**

- 12.1 Adoption of changes made in Editing Meetings

## **13 Persistent Stored Modules (SQL/PSM WD 9075-4)**

- 13.1 Adoption of changes made in Editing Meetings

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## **16 Object Language Bindings (SQL/OLB WD 9075-10)**

- 16.1 Adoption of changes made in Editing Meetings

## **17 Information and Definition Schemas (SQL/Schemata WD 9075-11)**

- 17.1 Adoption of changes made in Editing Meetings

## **18 Replication (SQL/Replication WD 9075-12)**

## **19 Routines and Types Using the Java(tm) Programming Language**

(SQL/JRT WD 9075-13)

**20 XML Related Specifications (SQL/XML WD 9075-14)**

20.1 Possible Problems with mappings between XML and SQL (PER-120)

20.2 An Extension to the Transaction Model (PER-121)

20.3 New Application Package 13249-x: XML\_TYPE (PER-122)

**21 New Project Proposals**

21.1 Maintenance of ISO/IEC 2382 (JTC1 N6397, PER-088)

**22 Liaison Statements To Other Groups**

**23 WG3 Recommendations To SC32**

23.1 Items of Work, Editors, and Target Dates

23.2 Requests for Ballots and Document Circulation

23.3 Liaisons and Representatives

23.4 Time and location of working group/editing meetings (PER-139R1)

**24 ACTION ITEMS**

**25 ADJOURN**

## Appendix B: Document Register

### ISO/IEC JTC1/SC32 WG 3 Meeting 30<sup>th</sup> April – 11<sup>th</sup> May, 2001 Perth, Western Australia, Australia

Document Prefix: WG3 PER-

No.	Source	Title	Agenda	Avail.?
001	Campbell	Minutes from Helsinki, Finland WG Meeting	WG5.1	Y
002R1	Cannan	Technical Corrigendum #5 WD	WG9.1	Y
003p	Melton	ISO 9075-1 SQL/Framework CD	WG6.14 EM5.3	Y
004p	Melton	ISO 9075-2 SQL/Foundation CD	WG6.15 EM5.4	Y
005p	Melton	ISO 9075-3 SQL/CLI CD	WG6.16 EM5.5	Y
006p	Melton	ISO 9075-4 SQL/PSM CD	WG6.17 EM5.6	Y
007p	Melton	ISO 9075-7 SQL/Temporal WD	WG6.18	Y
008p	Melton	ISO 9075-9 SQL/MED CD	WG6.19 EM5.7	Y
009p	Melton	ISO 9075-10 SQL/OLB CD	WG6.20 EM5.8	Y
010p	Melton	ISO 9075-11 SQL/Schemata CD	WG6.21 EM5.9	Y
011	Melton	ISO 9075-13 SQL/JRT FCD	WG6.22	Y
012	Melton	ISO 9075-14 SQL/XML WD	WG6.23	Y
013	Melton	Consolidated Editors Notes	WG6.24	Y
014	Bartley	Meeting Arrangements	WG6.2 EM5.2	Y
015	USA	Correcting the specification of FLOOR and CEIL functions (H2-2000-570)	EM9.66	Y
016	USA	Bug Fix for dependent SQL-invoked routine (H2-2000-571)	EM9.31	Y
017	USA	Conceptual simplification of type precedence lists (H2-2000-572)	EM11.43	Y
018	USA	Follow-up to SAF-046 and HEL-055 (H2-2000-573)	EM9.104	Y
019	USA	A small correction for object views (H2-2000-574)	EM9.152	Y
020R2	NLD	Invoker's and Definer's rights for Schema Level Routines	EM9.30	Y
021	Melton	ITTF Requests Regarding Incremental Part Construction	EM8.35 EM16.1	Y
022	Melton	Annex A text for Foundation	WG6.15 EM5.4	Y
023	Melton	Annex A text for MED	WG6.20 EM5.7	Y
024	Melton	Annex A text for OLB	WG6.19 EM5.8	Y
025	Melton	Annex A text for Schemata	WG6.21 EM5.9	Y
026	SWE	Swedish Ballot Comments	EM6.20	Y
027	SWE	Non-reserved word parsing problems (a TC-part might be included)	EM9.44	Y
028	SWE	Correcting a <schema definition> parsing problem (included TC-part)	EM9.169	Y
029	SWE	Orthogonality issue in <allocate cursor statement>	EM9.220	Y
030	SWE	Orthogonality issue in statement codes (included TC-part)	EM9.227	Y
031	SWE	Fixing Annex E	EM9.238	Y
032	SWE	Use the Unicode General Category classification	EM9.250	Y
033	SWE	Extend the time zone displacement range	EM9.352	Y
034	SWE	Reduce the number of <reserved word>s	EM9.45	Y
035	NLD	Netherlands Ballot Comments	EM6.13	Y

No.	Source	Title	Agenda	Avail.?
036	CAN	Canadian Ballot Comments for ISO/IEC CD 9075-1 (SQL/Framework)	EM6.4	Y
037	CAN	Canadian Ballot Comments for ISO/IEC CD 9075-2 (SQL/Foundation)	EM6.4	Y
038	CAN	Canadian Ballot Comments for ISO/IEC CD 9075-3 (SQL/CLI)	EM6.4	Y
039	CAN	Canadian Ballot Comments for ISO/IEC CD 9075-4 (SQL/PSM)	EM6.4	Y
040	CAN	Canadian Ballot Comments for ISO/IEC CD 9075-9 (SQL/MED)	EM6.4	Y
041	CAN	Canadian Ballot Comments for ISO/IEC CD 9075-10 (SQL/OLB)	EM6.4	Y
042	CAN	Canadian Ballot Comments for ISO/IEC CD 9075-11 (SQL/Schemata)	EM6.4	Y
043	USA	USA comments on CD 9075-1, -2, -3, -4, -9, -10, and -11 (H2-2001-012r2)	EM6.17	Y
044R1	USA	Fixes and enhancements to grouping (H2-2000-619)	EM9.84	Y
045	USA	Small fix for <drop data type statement> (H2-2001-015)	EM9.168	Y
046	USA	Correction for <row value expression> (H2-2001-022)	EM9.75	Y
047	USA	Define previously undefined symbols (H2-2001-016)	EM12.16	Y
048	USA	Handle vs. descriptor (H2-2001-017)	EM12.47	Y
049	USA	Remove DATA HANDLE H2-2001-018)	EM12.48	Y
050	USA	Fix editorial bugs (H2-2001-019)	EM12.49	Y
051	USA	Small fixes for the Information schema (H2-2001-020)	EM14.25	Y
052R1	DEU	German CD comments on 9075	EM6.10	Y
053R1	Melton	Consolidated Ballot Comments	EM5.17	Y
054R1	Sykes	SQL support for the Universal Character Set	EM8.4, EM8.6 EM8.30 EM9.2 EM9.372 EM9.373	Y
055	GBR	UK CD Ballot Comments	EM6.16	Y
056	Darwen	Generated Columns	EM9.194 EM9.245	Y
057R1	Darwen	Addressing Problems with <identifier chain>	EM9.58 EM9.81 EM11.6 EM11.7	Y
058R1	Darwen	Addressing Problems with <set function specification>	EM9.64 EM9.65	Y
059R1	Darwen	Allowing Outer References in <select list>s	EM9.89	Y
060	Darwen	TC for null returned by type preserving function	EM9.121	N
061	Darwen	Nested Savepoint Levels	EM9.217	Y
062R2	Darwen	Addressing problems with exception handling	EM9.187 EM9.188 EM911.10 EM11.16 EM11.19	Y
063	Darwen	Rearranging General Rules for RESIGNAL	EM11.18	Y
064	Darwen	Qualifying Parameter and Variable References	EM9.57	Y
065	Darwen	Correcting an Incompatibility in <for statement>	EM11.13	Y
066	JPN	Japan Ballot Comments on CD 9075:200n	EM6.12	Y
067	Sykes	Updating terminology for Feature F691, "Collation and translation"	EM8.36 EM9.3	Y
068	Karlsson	Comments on CD 9075-1, SQL/Framework, of October 2000	EM6.20	Y
069	Karlsson	Comments on CD 9075-2, SQL/Foundation, of October 2000	EM6.20	Y
070	Campbell	XML Query Requirements	WG8.1	Y
071	Campbell	XML Query Data Model	WG8.2	Y
072	Campbell	XML Query Use Cases	WG8.3	Y
073	Campbell	XML Query Algebra	WG8.4	Y
074	Campbell	XQuery: A Query Language for XML	WG8.5	Y
075	Campbell	XML Protocol Requirements	WG8.6	Y
076	Campbell	XML Schema Requirements	WG8.7	Y
077	Campbell	XML Schema Part 0: Primer	WG8.8	Y
078	Campbell	XML Schema Part 1: Structures	WG8.9	Y

No.	Source	Title	Agenda	Avail.?
079	Campbell	XML Schema Part 2: Datatypes	WG8.10	Y
080	SC32	Results of SC32 Ballot on CD 9075/1-SQL/Framework	EM5.10	Y
081	SC32	Results of SC32 Ballot on CD 9075/2-SQL/Foundation	EM5.11	Y
082	SC32	Results of SC32 Ballot on CD 9075/3-SQL/CLI	EM5.12	Y
083	SC32	Results of SC32 Ballot on CD 9075/4-SQL/PSM	EM5.13	Y
084	SC32	Results of SC32 Ballot on CD 9075/9-SQL/MED	EM5.14	Y
085	SC32	Results of SC32 Ballot on CD 9075/10-SQL/OLB	EM5.15	Y
086	SC32	Results of SC32 Ballot on CD 9075/11-SQL/Schemata	EM5.16	Y
087	Cannan	Calling notice for CD Editing Meeting (SC32 N00610)	EM5.1	Y
088	JTC1	Maintenance of ISs developed by SC1	WG21.1	Y
089	Darwen	TC for null returned by type preserving function	EM9.121	Y
090	Darwen	Addressing problems with identity columns	EM9.135	Y
091	Darwen	Addressing problems with <all fields reference>	EM9.88	Y
092	Darwen	Multiple Assignment	EM9.129 EM9.199	Y
093	Cannan	Minutes from E3A WG Meeting	WG5.2	Y
094	Sykes	Unfinished business from CWB-051, re. SQL_TEXT - Proposal for Editing meeting	EM9.341	Y
095	Sykes	Changes to Schemata CD for character sets - Proposal for Editing meeting	EM8.22, EM8.30 EM9.17, EM9.54	Y
096	Sykes	Notes on Comments #40 (GBR-P02-030) and #77 (USA-P02-022) - Discussion for Editing meeting	EM8.22, EM9.17, EM9.54	Y
097	Persson	TC for <regular expression>	EM9.354	Y
098R1	USA	Restoring multisets (H2-2001-059)	EM9.12, EM9.13, EM9.244 EM9.306 EM9.371	Y
099	USA	<subtype treatment> for references (H2-2001-061)	EM9.70	Y
100R2	USA	Addressing comment #596 (USA-P11-004) (H2-2001-062)	EM14.18	Y
101	USA	Correcting the specification of data type identity (H2-2001-082)	EM9.355	Y
102	USA	Prepare enhancements (H2-2001-083)	EM9.218	Y
103	USA	BIGINT (H2-2001-084)	EM9.48	Y
104	USA	Enhancements for CREATE TABLE LIKE (H2-2001-085)	EM9.136	Y
105	USA	Against comment #182 (GBR-P02-310) (H2-2001-110)	EM9.145	Y
106	USA	Reorganizing Clause 6, Scalar Expressions (H2-2001-111)	EM8.38	Y
107	USA	Deleting the bit types (H2-2001-115)	EM9.46 EM9.69	Y
108R1	USA	Relaxing restrictions on IN and OUT parameters (H2-2001-116)	EM9.170	Y
109	USA	Implementation-defined elements for SQL/MED (H2-2001-041)	EM12.15	Y
110	USA	Fixes to error handling in SQL/MED (H2-2001-057)	EM12.14	Y
111	USA	Getting OUT: parameter handling in SQL/MED (H2-2001-058)	EM12.13	Y
112	Brown, P	Alternative to the PER-015 correction to the specification of FLOOR and CEIL functions	EM9.66	Y
113R2	Brown, G	Foreign Tables Without Wrappers	EM12.37	Y
114	USA	Analysis of SQL3 collection type comments (H2-2001-060)	EM9.13	Y
115	Keyss	Removing a spurious paragraph and GR	EM9.37, EM9.38, EM9.39	Y

No.	Source	Title	Agenda	Avail.?
116	Kreyss	Adressing miscellaneous comments about predicates	EM9.10, EM9.101, EM9.102, EM9.106, EM9.109, EM9.110, EM9.111, EM9.112, EM9.113	Y
117	Kulkarni	Closing miscellaneous Foundation and PSM comments (H2-2001-132)	EM9.49	Y
118	Cannan	Resolving some simple Schemata comments	EM14.1	Y
119	Cannan	Resolving the Schemata conformance comments	EM14.23	Y
120	Purtz	Possible Problems with mappings between XML and SQL	WG20.1	Y
121	Purtz	An Extension to the Transaction Model	WG20.2	Y
122	Purtz	New Application Package 13249-x: XML_TYPE	WG20.3	Y
123	WG4	Removing restrictions on Datalink	EM12.50	Y
124	WG4	A ballot comment to 9075-2 from WG4	EM9.381	Y
125	Zemke	Amendments to PER-057	EM9.58	Y
126R2	Zemke	Fixing BOOLEAN ambiguities	EM9.72, EM9.73, EM9.99, EM9.103, EM9.108	Y
127	Darwen	Preventing a Type from being a proper supertype of itself	EM9.160	Y
128	Darwen	Deleting Definition of Nonreferentially Based	EM9.5	Y
129	Persson	Resolving #450	EM11.15	Y
130	Darwen	Deletion of SQL-statements that Possibly Contain SQL	EM9.35	Y
131R1	Kaufman	Distinct types and <instantiable clause>	EM9.165	Y
132R1	Schwenkreis	Response to instances of user-defined types (DEU-P01-002)	EM8.13	Y
133	Schwenkreis	Response to client modules and SQL-Agent (DEU-P01-003)	EM8.15	Y
134R2	Zemke	Response to PER-091	EM9.88	Y
135	Cannan	Minor rewording of collation in Framework	EM8.23	Y
136	Murray	Removal of unreferenced normative references	EM12.2	Y
137	Darwen	Clarifying default value	EM14.17	Y
138	Bartley	Resolving Seq#010 Locators, 011 Descriptor area both in Framework	EM8.24, EM8.25	Y
139	Kreyss	Proposed locations for WG3 2003	WG23.4	Y
140	Cannan	Fixing PP SCHERM-003 (HEL-075)	EM14.6	Y
141	Ashworth	Fixing Part merge instructions in PSM 4.2 SQL-invoked routine	EM11.1	Y
142	Kaufman	Keyword ordering for create type	EM9.161	Y
143	Kulkarni	Addressing USA-P02-058	EM9.122	Y
144	Darwen	Adding a constraint to the Info-schema	EM14.13	Y
145	Kreyss	Adding syntax rule to prohibit NOT INSTANSIABLE FINAL	EM9.163	Y

No.	Source	Title	Agenda	Avail.?
146	Melton	Resolutions by the dozen	EM8.12, EM8.17, EM8.18, EM8.29 EM8.30, EM8.37, EM8.39, EM9.18, EM9.22, EM9.41, EM9.50, EM9.83, EM9.154, EM9.156, EM9.263, EM9.265, EM9.272, EM9.273, EM9.278, EM9.280, EM9.286, EM9.291, EM9.303, EM9.315, EM9.318, EM11.39, EM12.3, EM13.23, EM9.356, EM9.357, EM 9.359, EM9.360, EM9.361, EM9.362, EM9.363, EM9.364, EM9.365, EM9.366, EM9.369, EM9.370, EM9.372, EM9.374, EM9.375, EM9.376, EM9.378, EM9.379, EM9.380, EM11.33	Y
147	Darwen	Standard collation names	EM14.16	Y
148	Cannan	Solving the PP's added by PER-118	EM14.26	Y
149	Shiratori	Correction to SET clause	EM9.129, EM9.199	Y
150	Kulkarni	Cleanup of <dereference operation>	EM9.63	Y
151	Zemke	The comments on functional dependencies	EM9.24, EM9.25, EM9.26	Y
152	Kulkarni	Cleanup of <subtype treatment>	EM8.12 EM9.71	Y
153	Murray	Removal of unnecessary exceptions from P09 21.2	EM12.12	Y
154	Darwen	Read Permission DB means SQL-medicated	EM12.6	Y
155R2	土田 Tsuchida	Amendment to <target specification> and <assignment statement>	EM9.56, EM11.11, EM11.12	Y
156	Michels	Fixing <explicit table>	EM9.94, EM9.97	Y
157R1	Kreys	Cleanup of definition of non-doublequote character	EM9.43	Y

No.	Source	Title	Agenda	Avail.?
158	Michels	Addressing USA-P02-042	EM9.91	Y
159	Darwen	Another immediate containment problem	EM9.96	Y
160	Zemke	Further thoughts on PER-146	EM8.12 EM8.18 EM9.18, EM9.22 EM9.83 EM9.369 EM9.370	Y
161	Darwen	Addressing minor problems with datalinks	EM12.8, EM12.10	Y
162	Darwen	Addressing problems with Successful Completion	EM9.226	Y
163R1	Darwen	Addressing Problems with Statement Atomicity	EM9.185, EM11.9	Y
164	Cannan	Updating SQL_LANGUAGES table and the Object Identifier	EM10.8 EM15.11 EM15.15 EM15.19 EM15.23 EM15.28	Y
165	Cannan	Fixing Part merge instructions in PSM 4.4 Tables	EM11.2	Y
166	Cannan	Making use of the ROWS_PROCESSED_POINTER in CLI	EM10.5	Y
167	Cannan	Removing temporary CLI updates from OLB	EM13.16	Y
168	Cannan	Removing redundant text from the OLB Conformance Clause	EM13.26	Y
169	Darwen	Admitting a FK may be composite	EM9.149	Y
170	Darwen	Putting in some colons	EM9.353	Y
171	Kulkarni	Closing more miscellaneous comments	EM8.32, EM8.33, EM9.16, EM9.33, EM9.36, EM9.42, EM9.74, EM9.92, EM9.173, EM9.209, EM9.338, EM11.23, EM11.32, EM11.35, EM11.37, EM11.44, EM11.45	Y
172	Darwen	Bringing <signal statement> into the Modern World	EM11.22	Y
173R1	Cannan	Fixing some problems with grant and revoke	EM9.178, EM9.181, EM9.182 EM9.183	Y
174	Zemke	The source language character set	EM9.43, EM9.369	Y
175	Darwen	Putting general containment to good use	EM9.200	Y
176	Zemke	Host bindings for Booleans and LOBs	EM9.114 EM9.115 EM9.189 EM9.190 EM9.353	Y
177	Kulkarni	Addressing #168, #237, and #239	EM9.131, EM9.195, EM9.197	Y
178	小寺 Kotera	Closing SEQ#255	withdrawn	N
179R1	Campbell	Response to USA-P10-001 Reference to JDBC 3.0	EM13.1	Y
180R2	Campbell	Response to NLD-P10-002, Require DBMS support for UNICODE.	EM13.3	Y
181	Michels	Cleanup of type precedence list for Ref types	EM9.118	Y

No.	Source	Title	Agenda	Avail.?
182	Michels	Defining updatable columns for a base table	EM9.126	Y
183	Darwen	A Correction to PER-028	EM9.169	Y
184	Campbell	Response to USA-P10-002 rules regarding parameter mode determination in Subclause 10.6.6	EM13.12	Y
185	Darwen	Possible Problem with updateable cursor	EM9.382	Y
186	Darwen	TREAT for Rows and Collections	EM9.383	Y
187	Zemke	An alternative solution for #096	EM9.67	Y
188	Darwen	A MULISET UNION Language Opportunity	EM9.384	Y
189	Kostamaa	Addressing Comment 211	EM9.173	Y
190	Kreyss	Optional Transaction mode for <start transaction statement>	EM9.216	Y
191	Campbell	Update in (OLB-WD) in 4.22.8 Cursor declaration to resolve Seq#558	EM13.13	Y
192	Piprani	USECASE: An Automated Data Warehouse based on SQL Standard Based Architecture	WG8.11	Y
193	Piprani	Fix Seq#282 + Misc Schema Fix	EM14.4	Y
194	小寺 Kotera	Closing Seq#222	EM9.184	Y
195R1	Kreyss	Closing of the language opportunity ballot comments with no action	EM18.3	Y
196	Campbell	Closing PER-053R2 Sequence Number 569 as a Language Opportunity	EM13.19	Y
197	USA	USA position on LO-type comments	EM18.3	Y
198	Murray	Using numeric literals with overloaded routines	EM9.47	Y
199	Melton	Unicode Escape Sequences for SQL	EM9.376	Y
200	Campbell	Investigate HEL-044R1's <merge statement> for impact on SQL/OLB	EM13.18	Y
201	Bartley	Resolving Seq#027	EM9.4	Y