

TITLE: Discussion on Q3/013: The rôle of WG3 in database profiling

SOURCE: Q3/013 meeting, Ottawa, 27 July 1995

STATUS: Liason to SGFS, EWOS, OIW, AOW,
Network Management Forum

ACTION: For information and comment

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Reference: ISO/IEC JTC1/SC21 N8909, (Also WG3 N1763)
Proposal for Registration of Question Q3/13,
The Role of WG3 in Profiling Database Standards.

The first meeting to discuss question Q3/013 “The role of WG3 in profiling database standards” was held in Ottawa on 27 July 1995. A copy of the full text of the question and informal notes recording the ongoing discussion are attached. A further meeting on this question is scheduled for the JTC1/SC21 meeting in Kansas City in May 1996.

Comments contributing to the discussion are encouraged.

Informal record of the meeting held in Ottawa to discuss Q3/013, 27 July 1995

Attending: Len Gallagher, John Hadjioannou (chair), Gerard Joseph, Kenji Suzuki, Bruno Traverson, Hiroshi Yamamoto.

JH summarized SC21 N8909 (WG3 N1763rev): "Proposal for Registration of Question Q3/13, The Role of WG3 in Profiling Database Standards".

By way of introduction, participants described work done to date in developing profiles of WG3 standards, which include (partly aligned) RDA profiles in EWOS and OIW, the X/Open SQL profile, the NIST profile for SQL (FIPS 127), which is reasonably aligned with the X/Open profile, the SQL Access Group profiles for RDA, which emphasize services rather than protocols, and the NIST profile for SQL Environments (FIPS 193), which emphasizes servers and defines a subset of SQL known as Minimal SQL. The last is available via the Internet:

<ftp://speckle.ncsl.nist.gov/isowg3/FIPSDocs/fips193.ps>

It was observed that few of these profiling activities are currently viable.

Q3/013 is divided into three parts:

a) What are the requirements for WG3 or other organizations to develop profiles for database standards?

Traditionally and conceptually, profiles were the means by which (i) regional groupings of users such as large government organizations got to specify their particular needs, which were assumed to vary on a regional basis, and (ii) the OSI standards shed enough of their notorious optionality to become implementable. After the profiling process led to various divergent regional profiles, the concept of an International Standardized Profile (ISP) emerged within ISO to align those variants, which then led to the reinvolvement of the original WGs in the harmonization process.

It was noted that one important profiling activity was not taking place, namely the provision of database profiles for heterogeneous interworking.

Even fewer than 10 years ago, there was not the global perspective that obtains today, and consequently there was still a notion that a "generic" standard was all that ISO should deliver, further specification being a localized responsibility. Today, there is general consensus that *any* pair of implementations of a given standard, located anywhere in the world, could potentially have a need to interwork, and that such arbitrary interworking should be facilitated by the development of a single universally agreed standard. Such a view suggests that there is now less of a need for profiling in the traditional sense, and more of a need for WG3 standards to clearly and unambiguously specify a set of capabilities designed to maximize interoperability from the outset. The challenge seems to be to nail down the optimal level of function that is sufficient to make the base standard meaningfully implementable while leaving appropriate room for implementer discretion.

Since the meeting had only representatives from RDA and DBL, it was felt that CSMF and IRDS may have some views on this issue.

b) What is the impact of profiling on the way WG3 standards are developed?

Looking around the WG3 standards, it is clear that one group, viz., DBL, has consciously developed its standards with the concept of profiling in mind. For example, SQL standards have always defined "levels" of conformance, corresponding to increasing levels of functionality. Further, commencing with SQL/92, DBL has enunciated precise notions ("implementation-defined" and "implementation-dependent") of what lies

within the scope of implementer discretion, and wherever possible has additionally tried to quantify the set of choices available (e.g., a range of values, or a binary decision) so as to facilitate the specification or restriction of such choices in referencing profiles. Certain capabilities, e.g., limits of various kinds, should not generally be prescribed in base standards, as they can change as technology develops.

RDA has not employed such a notion, but partitions its functions into Functional Units, which are individually selectable by an implementer, and the selection of which would be a natural focus of attention for a profile writer. In determining what functions within FUs should be mandatory for implementers, RDA has tended to enforce maximal functionality at the server, in accordance with the principle that all clients should be able to interoperate with all servers, leaving more scope for discretion, and hence for profiling, at the client.

Certain key principles emerge in the development of profile-oriented base standards:

1. The level of discretion allowed to implementers should be expressed in the base standard as precisely as possible.
 - a)
2. Reasonable interworking capability should be maximized in the base standard.
 - a)
3. A precise conformance statement (e.g., a PICS) should be produced as soon as possible after, and preferably simultaneously with, the publication of the base standard.

c) What should be WG3's involvement in future work on profiling?

In general, to the extent that profiling will continue to be necessary, an SC21 WG should not have a prior rôle in that process. If there is a subsequent need to harmonize divergent profiles, then WG3 will be involved in the definition of the relevant ISP. An additional area of profiling activity, prompted by other recent developments, could be to adopt widely accepted industry profiles (e.g., X/Open's SQL profile) as ISO fast-track standards.