



UTMC Technical Specification TS003.002 change notes

3 December 2008

Reference: UTMCD015-1.0

Cover + 10 pages

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1 About this note

1.1 This document

1.1.1 On 3 December 2008, due process of revision and consultation having been followed, a revised version of the UTMC Framework Technical Specification TS003 was issued. The new version is to be published as TS003.002:2008. This document outlines the changes made in the revision.

1.1.2 This document has been produced under the Urban Traffic Management and Control (UTMC) initiative, on behalf of the UTMC Development Group (UDG) as maintainers and the Department for Transport (DfT) as publishers of the UTMC Technical Specification.

1.2 Overview

1.2.1 TS003 is a single document which consists of:

- A normative main text
- A series of (mostly informative) annexes

1.2.2 In the revision from TS003:2005 to TS003.002:2008, the changes have been made to update protocol references and contexts (eg internet standard RFC numbers).

1.2.3 Outdated informative material has been slimmed or removed to avoid confusion. The architecture discussion has been streamlined. A number of editorial changes have also been made, including adding detail on some previously unexplained acronyms.

1.2.4 Technically there are a few extensions (eg to include references to DATEX II and SIRI) and also, unusually, a few deletions. Specifically we have removed references to FTAM and telnet; FTP and SMTP are still included but are downplayed.

1.2.5 Changes are described in Section 2. The reference numbers refer to historical versions of the Issues List.

1.3 Procedure

1.3.1 The UTMC initiative welcomes comments for corrections, amendments and updates to the UTMC Specification.

1.3.2 An issues list is maintained. This, together with the current and historic versions of the Specification and any proposed update in consultation, will be available via the UTMC website.

1.4 Contact

- 1.4.1 The point of contact for matters relating to this revision of the UTMC Technical Specification and is:

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2 Change notes

| Ref | Summary of issue | Raised by | Date | Current status |
|-----|--|-----------------------------------|-----------|---|
| 1-8 | Various | Various | Various | Implemented in TS004.002 |
| 9 | Draft of unified UTC MIB | Project UG405 | 15 Nov 05 | Issue under discussion within supplier community |
| 10 | Request for allocation of range of TypeIDs in Common Sub-System Support Object (Annex D) | Serco | 21 Sep 06 | Implemented in TS004.003 |
| 11 | Changes to various items in data objects for practical purposes | Siemens, Mott Macdonald and Tenet | 10 Jan 07 | Implemented in TS004.003 |
| 12 | Proposed objects for public transport information inclusion | Interglossa | 16 Oct 06 | Issue under discussion within Joint Technical Group |
| 13 | Require a traffic counter MIB | Atkins | 27 Jun 07 | Draft MIB submitted - under discussion within S&SG |
| 14 | Require an ANPR MIB | Halcrow | 28 Sep 07 | Issue under discussion within supplier community |
| 15 | Require a rising bollard MIB | Manchester CC | - | No specific proposal yet |
| 16 | Update permitted/recommended architecture and technologies | HA | 9 Oct 07 | Changes to Framework implemented in TS003.002 Changes to TS004 still under discussion |
| 17 | Various clarifications and updates to TS003 | Heusch Boesefeldt | 9 Oct 07 | Changes implemented in TS003.002 except for the unspecific comments on: - the need for a common UI and visualisation framework - the requirement to move to a service oriented architecture |
| 18 | Various clarifications and updates to TS003 and TS004 | Mott Macdonald | 22 Oct 07 | Changes to Framework implemented in TS003.002 Objects in TS004 now redefined using UML |
| 19 | Field naming inconsistencies | Mott Macdonald | 8 Apr 08 | Corrected in draft TS004.004a:2008 |
| 20 | Update to unified UTC MIB | Peek/Siemens | 2 Jun 08 | Included in TS004.004 |
| 21 | Attribute definitions need clarifying | IPL | 8 July 08 | Included in TS004.004 |
| 22 | Request for allocation of SubSystem_TypeID namespace | Amey | 15 Aug 08 | Included in TS004.004 |

| | | | | |
|----|--------------------------|-------|----------|---|
| 23 | Various changes to TS004 | Tenet | 8 Oct 08 | Issues under discussion within supplier community |
|----|--------------------------|-------|----------|---|

A Specific proposals

A.1 Issue item 16

TS003

Make logical reference model less restrictive (especially uniqueness of Node B)
Update reference to permitted/recommended technologies, particularly SNMP v2, HTTPS, UML
Remove reference to outdated/unnecessary technologies, particularly SMTP, FTP

TS004

Rework data objects to be consistent with DATEX2

A.2 Issue item 17

Proposed changes

Acronyms (section 1.3) should be explained rather than simply expanded. Entries need to be updated (eg for DATEX) noting that the former CEN ENVs on DATEX I have officially been withdrawn by CEN. ITS stands for Intelligent Transport (not Traffic) Systems.

Organisational processes should be implemented to help encourage interoperability (specifically including a 'deprecation' regime).

Section 2.3.1 on statutory/legislative requirements should clarify requirements on the use of formal (ISO/CEN/BSI) standards. It should note the difference between standards (EN) and pre-standards (TS).

The Logical Reference Model (section 3.2) is confusing and does not add a great deal. The absence of a D-to-D link and an E-to-E link is too restrictive. The real message is that a hierarchy of systems with different interface requirements, which implies different technologies for the different layers (e.g. DATEX II for C2C, but not necessarily for C2I). This point should be made much more straightforwardly.

Section 4: UTMC users need a UI framework where a single, consistent visualisation of all data, services & business logic can be obtained even where individual application UIs are provided. Relevant frameworks from mainstream IT include the Eclipse Rich Client Platform (http://wiki.eclipse.org/index.php/Rich_Client_Platform).

Section 4.1.5 needs clarification or removal.

In the UTMC architecture (especially in sections 4 and 9) some central services are implied, e.g. the discussion about user authentication points towards a single-sign-on service. More generally, UTMC should be more aware of the IT mainstream move towards service oriented architectures, where data and business logic are encapsulated in services that are remotely accessible. (In paras D.6.6-7 it is indicated that UTMC, in common with DATEX II and SIRI, envisages two principal access types: stateless client pull and publish/subscribe.)

References to other specifications are inconsistent and should be made more robust. Specifically, there should be a statement (possibly in the introduction) on how a user should handle situations where a referred standard is obsoleted by another standard – particularly relevant with RFCs.

Add the DTEX 2 website datex2.eu to the list in section A.2.

Section D.2.8 needs clarification or removal.

Section D.7.4 needs revision: it is not true – or at least unnecessarily confusing – to claim that XML schemas as such support extensibility.

Observations on Section 7

Developers may prefer not to have specifications that go deeply into or below application layer “plumbing”.

A comparison of CORBA vs. XML base WebServices with pros and cons (section 7) would be helpful.

A.3 Issue item 18

Proposed changes

Drop first sentence of para 3.3.2 – it is unnecessary.

Amend Para 5.2.1 list to read:

- a) “Database objects” for communication between applications in Node B (and optionally between Nodes B and C) via the Common Database.
- b) “Internet objects” for communication between UTMC and external systems (i.e. between Node B and Node A).
- c) “MIB objects” for transport using a Management Information Base (MIB) over SNMP, between Nodes C and D (and optionally between Nodes B and C).

Amend para 5.2.4a) to read “XML Schema” rather than just “XML”

Amend para 6.1.3 to read “File transfer should not normally be provided in UTMC systems as an application layer service, although it may be used in system management. Where needed it should be as specified in RFC959 and associated documents.”

Simplify para 6.2.2 to read “A CORBA-compliant object brokerage service used to exchange UTMC Data Objects shall use the Internet Inter-ORB Protocol (IIOP) over TCP/IP.”

Clarify 6.3.3 first sentence to read “All user-visible names (tables, columns etc) must be as given in the logical data model (i.e. the data specification expressed as defined in 5.2.4).”

Amend paras 7.1.2 and 7.1.3 to read:

“7.1.2 For SNMP communications, the preferred transport level standard is the User Datagram Protocol (UDP) ...[text as before]...at the application level. It is also acceptable to

use the Transmission Control Protocol (TCP) as specified in RFC793 and associated documents.

“7.1.3 CORBA and HTTP communications shall use TCP for transport.”

Amend paras D.1.1 and D1.3 to refer to “XML/HTTP” rather than just “XML”.

Rephrase the beginning of para D.4.3 – it doesn’t currently make sense.

Observations

6.3.2 does not specify XML/HTTP query and subscription services. UTMC should have similar levels of specification for CORBA and XML/HTTP-based services. UTMC should either define the XML/HTTP services or disallow them.

D.2.7 says that SNMP is for “relatively ‘formal’ data”. This is an unclear statement.

D.2.8 could be taken as negative. This could be removed by a re-phrasing – it is reasonable to consider this functionality not in terms of routers but of straightforward applications.

In the longer term, a more uniform approach for TS004 would be to define all Objects with UML, which then have deterministic transformations to specific encodings: common database IDL/SQL, XML Schema, and possibly even SNMP MIBs.

A.4 Issue item 19

Proposed changes

In Fault Support Object, change SubSystemTypeID to read SubSystem_TypeID.

Fault type objects are inconsistently named XX_Faulttype, XX_FAULTTYPE and XX_FAULT_TYPES. Change all to read XX_FaultType.

A.5 Issue item 20

Proposed changes

Detector_Configuration SpeedThresholdDown is incorrectly described: it should read “...below which average speed is considered abnormal”.

TL_Definition and TR_Definition descriptions indicate the need for Start and End points, but only EastingEnd and NorthingEnd are provided. Add EastingStart and NorthingStart to each.

A.6 Issue item 23

Proposed changes

Declare ConfigurationDate as part of Object_Configuration primary key

Make the link between Day_TypeID and Date_TypeID one-to-many (and adjust keys appropriately)

Extend Object_Definition ShortDescription to 64 characters (from 32)

FaultType should have a primary key on both FaultType and Datasource_TypeID attributes

Rename Route_Profile and Route_Prediction as TR_Profile and TR_Prediction, for consistency with other naming. Ideally, represent profiles/predictions from SCOOT and ANPR separately.