

## **Draft** MINUTES

### COMBINED ATMS DATA DICTIONARY (TMDD) and MESSAGE SET FOR EXTERNAL TMC COMMUNICATION STEERING COMMITTEE MEETING

Baltimore, Maryland

June 14 – 15, 2001

*Thursday, February 8*

#### **I. Welcome, Introduction and Review Agenda – Jim Wright**

Acting chair Karoly welcomed the members of the committee and started the round of self introductions.

10 of the 14 TMDD committee members were present.

#### **II. General Progress/Status Report – Les Jacobson**

Les Jacobson summarized progress since the February meeting in San Antonio. The action items from that meeting were reviewed:

- The change table was submitted by Charlie Berger.
- All steps needed for the TMDD and MS/ETMCC ballots were completed, the documents needed for the ballots were produced, and the ballots sent out.
- Les sent out acknowledgement of receipt of the comments from the tmdd.org website bug reports.
- Les updated the TMDD strategic plan.

Les provided the status report. The MS/ETMCC and TMDD standards were updated and sent out for comment in late March/early April. The comment period closed in mid-May. There was discussion about a project to expedite the revision of the message set. A proposal was produced to revise the message set in an expedited fashion. Members of the TMDD committee met with FHWA and their representatives for a program review and to discuss the expedited message set project. There was continued effort on the data registry.

### III. Organization Reports

James Cheeks provided the ITE report.

- ITE hosted a TMDD program review in April. James thanked the committee for the work of the committee members at that meeting. We were able to show the committee work and our progress toward an updated standard at the review. There is still more work to do, especially the expedited work to update the message set.
- James mentioned that ITE, AASHTO, and FHWA have discussed expedited standards in 6 areas: signals, center-to-center communications, DMS, transit, environmental sensors, incident management. Efforts to expedite the standards development process in all 6 areas will require considerable coordination. ITE and AASHTO have talked to representatives of the ATIS and IM standards efforts about coordination during the expedited projects.
- Attendance at the TMDD meetings will be very important. Let James know if you are not able to continue to participate and disseminate information within your organization.
- ITE has established a TMDD registrants list. All interested parties should sign up for the list on the ITE website. Registrants don't have to be actively involved in the TMDD. Registrants will receive all committee information and will be able to provide comments on the effort. A broad involvement in the registrants list will be important to the expedited process.
- ITE needs more consultant input. James passed around a list for identifying projects that are using the standards or are planning to use the standards.
- The USDOT established a new standards website with lots of good standards related information. The website was redesigned and is user friendly. The URL for the site is: <http://www.its-standards.net>.

USDOT produced an ITS Resource Guide. It is available on the web and in print.

- The ITE webmaster is ready to update the TMDD list. Committee members need to update their e-mail addresses. Steve suggested that we set up the list serve as a subscription service.

The committee discussed the expedited standards work. James mentioned that USDOT and the SDOs are looking at the best ways to move the standards forward and get the standards implemented. The processes will differ by application area. There will need to be considerable coordination as the 6 standard areas are accelerated.

Bo Strickland provided the AASHTO report.

- AASHTO is going ahead with 3 proposals for expediting standards processes: signals, DMS, NTCIP C2C. ITE will submit the others. AASHTO's aim is to expedite deployment. NEMA has some out of the box thinking in terms of deployment. The SDOs are responding to a direct appeal from JPO. JPO added 3 new efforts to expedite: ESS, transit, and incident management.
- AASHTO is hosting a meeting in Kansas City with 15 CEOs of state DOTs involved in aggressive operations programs. AASHTO is trying to identify an operational strategy within the AASHTO structure and find a home for operations within AASHTO. The result may be a set of recommended changes.
- The ATS subcommittee meeting is in August.

#### **IV. Proposed Project to Expedite Message Set for External TMC Communication Work and Committee Discussion – John Wintermute**

James Cheeks introduced the expedited standards process and the accelerated project to update the MS/ETMCC.

The committee discussed the proposal at some length. There was concern voiced over:

- The role of the committee in reviewing and/or approving the selection of the contractor and in reviewing cost information. The consensus of the group was that they were comfortable reviewing the technical aspects of the project and the level of effort, but not the costs, labor rates, or contractors involved.
- The need to coordinate with other standards efforts and determine that impact that the accelerated effort would have on them.

Attachment A includes more detail on this discussion.

#### **Proposal For Support Services to the TMDD Committee**

John Wintermute presented the proposal for the expedited work to update the MS/ETMCC. John addressed what he thought would be key industry questions and key proposal questions. He also presented the proposal content. (John's presentation is available on the [tmdd.org](http://tmdd.org) website.) Attachment B consists of notes of John's presentation.

The committee discussed the proposal.

- Regardless of whether the operational system applies messages or CORBA, the same requirements apply. However, they have different ways to exchange data to meeting these requirements.

- Bo Strickland mentioned that the importance of this work to CORBA may be understated. He showed a diagram of the relationship between the message set and CORBA work. NTCIP C2C group is proposing an effort to develop a CORBA standard for center-to-center communications.
- There was a question of the role of the committee in the proposed effort. The role will be the same as it has always been: the committee is the owner of the standard. There was a follow on question about what items would stay with the working group and what items would be elevated to the full committee. The working group will decide when to take things to the whole committee. They could also bring in expertise not on the working group. They will need to communicate project status to the larger committee periodically. The committee will have the opportunity to review all the work products. Status reports will go on the web. All of the committee members will be invited to conference calls and meetings. The working group is made up of those who are committed to being involved and will take the time to work on the project. Joe Stapleton suggested that we identify specific people to help out the working committee on specific issue areas. Joel Markowitz suggested that the committee give the working group specific examples of what issues to elevate to the full committee. Peter Davies suggested that we take any issues that affect another standard to the pertinent standards committees. The committee discussed the need for a higher level of electronic communication.
- The roles of the current committee consultants are really not changed. They will still bring products of the committee forth to ballot.
- There was a question of what the format of the proposed work will take. The intent is for Farhad and Charlie to turn the information provided into a ballotable document under existing contracts. Joel would like to have a change table to help the committee understand the final product. Dave Kelley asked that the information be in ASN.1 as early as possible so he can clearly understand it. Peter said that there would be benefit from the consultant team to produce information as close to the finished form as possible. That would reduce the risk of re-work after Farhad and Charlie translate the effort. Dave Kelley would like the contractor to program the database to output in ASN.1. This might take a couple of days of effort and should be included in Task 3.
- Dave Kelley will map ATIS to TMDD and identify data elements that are of importance to ATIS. Changes to those elements will necessitate changes to ATIS. There could be similar efforts with all the other standards. IMDD has a year old database that shows the linkages already.
- The committee discussed what the output of the expedited process will look like and how much work will be needed to use the output to create the ballot version of the standard. The committee suggests that the output be in ASN.1 so it will be easy to incorporate in the standard.
- The committee discussed the TMDD meetings and who should attend the 2-day public workshop in conjunction with the October TMDD meeting.
- The committee discussed the number of reviews and review time needed. John is expecting three reviews on the operational requirements document, two before the workshop and one during. Joel would like to see a schedule as soon as possible.

John asked the committee how much time they'd need for review and the response was that it depends on what is being reviewed. John will put together a conceptual schedule, assuming 10 working days for committee review.

- Bob Rausch asked about the meeting for Transcom, CARS, and TXDOT. Is this using project funds to help those deployments update their work? If so, it doesn't have anything to do with developing the standard. Others disagreed and stated that working with those stakeholders is important to the standard. It might better be called outreach and broaden it to other invitees. We'll call it a deployment workshop. John said that the purpose is to provide specific feedback to those agencies that provided a lot of input to the process. The feedback would be what things changed in the standards and why. It would be useful in providing input on how to put together an RFP to update their system to be compliant. It would also help them in knowing what they'd have to specify in an RFP if they wanted to deploy their initial system elsewhere in their jurisdiction and be compliant. Joel would like to have a guidance, or tips, document that would help deployers implement the lessons learned from this effort. This effort will be moved to be after task 4.

### **Schedule of Deliverables**

- Public Review Forum for Operations Guide – Atlanta Meeting of TMDD (October)
- Completed Operations Guide – December 15, 2001
- Complete electronic standards files – January 15, 2002 – Should allow standards to be sent to ballot by March 30th

### **What is Next?**

- Committee Recommendation to ITE
- Funding approval for the task
- Start Work
  - Sign Subcontracts
  - Work Kickoff
    - *Resource load the schedule and use real dates*
    - *Finalize public forum dates with committee*
    - *Coordinate other outreach activities with committee*

## **V. Relationship Between Proposed Work and Existing Committee Work**

The committee discussed a couple of on-going efforts and the effects the expedited work will have on them.

For the Concept of Operations, the expedited effort will take precedence and supercede Steve Dellenback's efforts. The expedited effort will provide support to XML and CORBA work, also.

For the message set comparison matrix, the new comparison includes TXDOT and Transcom data dictionaries and messages. We can use this matrix to easily see where new items need to be added to the standard and where changes need to be made.

## **VI. CARS and FORETELL and How They Use TMDD & MS/ETMCC**

Peter Davies provided an update on CARS and FORETELL. CARS has grown to 8 states. Version 2 is planned incorporate the expedited TMDD work. CARS represents a lot of operational experience, especially from Washington and Minnesota. Peter demonstrated FORETELL and CARS from the web. The CARS implementation uses the ITIS codes. Information input on CARS will generate icons that will carry over to FORETELL using TMDD data elements and ERM messages. The transport mechanism is DATEX.

In Minnesota, they are using XML to transfer information to a website called TripUSA.com. They will be doing additional work on XML to support ERM and similar messages. During flooding events, the site got a significant number of hits (20,000 per day), especially from the media and major companies.

Bob Rausch asked if the DATEX implementations for CARS/FORETELL, Transcom, and TxDOT can interoperate. Peter said he doubted it. Bob brought up that the effort discussed today focused on cleaning up message sets. Bob wanted to know if there needed to be work to harmonize DATEX. John Wintermute said that when all deployments upgrade to version 19 of DATEX, they will be interoperable. (All have planned to upgrade to version 19.) Peter has funding to upgrade CARS to TMDD and MS/ETMCC version 3 (expedited effort) and DATEX version 19, as long as version 3 moves quickly enough.

## **VII. Current MS/ETMCC and TMDD Versions Out for Comment**

The comment period closed in May. There was a question about whether there is value in publishing the initial standard or carrying version 2 through to completion. The consensus of the committee is that there is not. We'll wrap the disposition of comments in with the coordination between the committee consultants and the expedited team. The result of the expedited work will reflect the comments received on the last balloted version of TMDD and MS/ETMCC. Charlie and Farhad will develop the disposition

table. The table will be sent out with the public comment version of the expedited product. We'll e-mail AASHTO and the ITE registrants list with the status.

**Action:** Charlie and Farhad will develop the disposition of comment table for the newly balloted version of the TMDD and MS/ETMCC

## **VIII. TMDD and standards training**

ITE wants to make sure that steering committee members get the word out about the training sessions. ITE is also working on producing new courses. The committee asked if the expedited effort will be incorporated. The instructors will try to incorporate as they can, but the courses will need updating to fully take the new work into account.

Acting Chair Karoly recessed the meeting.

## **June 15, 2001**

Acting Chair Karoly called the second day of the meeting to order.

## **IX. Report from the NEMA Testing Summit – Al Karoly**

Al went over the agenda and discussed the highlights of the meeting. The summit was organized into the following areas.

- Conformity assessment
- How to qualify as a testing facility
- What agencies want out of testing
- How to write specs
- NTCIP & controller testing tools
- Integrator's perspective
- Session on where we go from here.

Bo Strickland said that NEMA, AASHTO, and ITE met after the summit. The conclusions were:

- We need to know the volume of business for a testing lab.
- States say they will accept self-certification. They will need help in self-certification.

- States may need some acceptance criteria, which will be a subset of all the requirements

The group identified the following action items:

- Survey industry and agencies to determine need for a testing lab.
- The group will receive a cost proposal from the University of New Hampshire.
- Ask NIST for criteria for self-certification.
- Develop acceptance criteria.

Bob Rausch said that it looks like a majority of states rely on testing from other states.

Bo mentioned that articles are being written on the summit and committee members should look to see when those are available.

Bob Rausch and John Wintermute discussed the website testing approach for C2C that came up in the April 30 program review. Who would own and operate such a site? It could be a TMC pooled fund project. It would need to support DATEX, XML, and CORBA. The first step would be to do a project to establish requirements. A working group was established to look into this – John Wintermute, Bob Rausch, Cathy McGhee, and Al Karoly. The group will put together a project statement.

**Action:** The working group above, will develop a project statement for a website that could be used for testing C2C deployments against the appropriate standards.

## **X. Actions from Yesterday**

Summary of comments regarding the expedited work:

- The committee doesn't want to review cost and personnel.
- The committee wants to review schedule and level of effort.
- The committee would like to see more on coordination with other standards efforts. The proposal should identify points of coordination along the way, and send the standard in ASN.1 notation to other standards committees. Send the issues to be discussed in any teleconferences to committees and invite them to participate if they are interested. Solicit interest in messages from other standards committees up front and track how comments are dealt with.
- Output of database will be ASN.1
- Lessons learned material will be prepared, but won't set up as regional meetings. Will keep meetings with the sites involved.

- Include assumptions list or risk assessment in proposal.
- Work group will send all material to all the committee and ask for comments.

Committee members voiced concern over meeting the schedule because of review time.

The committee discussed timing for input from other SDOs. The proposal will include a month for turn around from other SDO committees. We'll ask for a point of contact for each committee.

The committee discussed what the other accelerated proposals are including and what's the level of detail. Ed Seymour went over the NTCIP template for the expedited work proposal. It includes risks, relationships, and dependencies.

In order to share information among all who need to be involved, information will be sent to the ITE registrants list (TMDD, NTCIP, C2C).

The committee agreed to the concept as discussed at the meeting.

**Action:** John Wintermute will modify proposal and send to James Cheeks (ITE) and Bo Strickland (AASHTO). They'll take the proposal to FHWA and send to the committee.

John said that there will still be time to review and modify the work plan after the contract is signed and before work begins.

## **XI. TMDD Strategic Plan**

Les Jacobson presented the changes to the plan, responding to comments received since the February meeting. Committee approved the nested version of the plan that lists all of the strategies and actions under each of the objectives.

## **XII. Presentation of Transcom Regional Architecture**

Rob Bamford showed screens from New York area Regional Architecture (RA) incident screens. The function of the RA is information sharing, not command and control. The RA uses TMDD elements and messages, but pre-dated IEEE 1512 so it does not directly reflect the Incident Management Data Dictionary and Message Set.

The RA also shares transit incidents. They used TCIP to the extent appropriate for the RA. Construction and special event information is also included. The RA can tailor alarms received through user-selected filters. Verification of alarm being received is important and should be included in the incident management message set standard.

Transcom uses a private network using frame relay with 52 agencies and 48 servers. The network is fully meshed. There is an archival server at Transcom.

### **XIII. Future Meetings**

- A. October 18 – 19 in Georgia – Workshop for expedited work. We'll then plan a webconference on October 22 to discuss the results of the workshop. The next TMDD meeting will be in Las Vegas on November 8.
- B. Reserved a meeting time in Chicago during ITE, on 8/22 at 1:00.

Acting Chair Karoly adjourned the meeting.

**Attachment A**  
**Committee Discussion of the Proposed Expedited Project to Update the MS/ETMCC**

Ed Seymour raised an issue about the committee role. Joe Stapleton said that he was uncomfortable with an approval role for the committee because he doesn't understand the way the project got introduced and put together. James said that the need for fast action has led him to use processes that haven't been used by the committee before. Bo indicated that AASHTO will support the proposal if the committee does. Bo asked about the commitment from FHWA for speedy approval.

James said that he has been working with FHWA and ITE can do the work without additional funds, if necessary. James is looking to the committee to comment on scope, time, and level of effort (cost).

Joe asked how we have changed the process to allow sole sourcing. He indicated that he was willing to review and vote on the process if he understands the contracting process. He voiced concern over the competitive selection process.

James said that there was precedent for ITE to select the consultant that they thought would do the best job without going through a formal RFP process.

Ed Seymour said that he was comfortable reviewing and commenting on the technical aspects of the proposal, but not cost.

James said that he is asking for the committee to do something new. James is trying to get a standard that reflects the lessons learned from field deployments. The request to contract in the manner proposed comes from the client, FHWA.

Joe said that he is not sure of the ramifications of this selection process to committee members. He is uncomfortable reviewing costs and being seen as part of the selection process until he knows that there are no ramifications.

Al Karoly mentioned the normal approach is to review technical aspect first and cost comes later.

Bo Strickland mentioned that the FHWA provided a list of people to contract with to ITE and AASHTO. AASHTO is asking the opinion of this committee.

Joel Markowitz said that he favored the accelerated review and development process to get field experience. He also suggested that we do a "mini risk analysis" to see if this is process going to harm the credibility of the committee and to determine if there are other aggressive deployers of this standard that can participate in the accelerated process. Joel also voiced concern over how to get comments from other standards efforts within the context of their standard activities. We need specific tasks in the proposal to accomplish that. Finally, Joel wants us to find out what impact this has on other committee activities.

Al asked about the role of the working group that will support the accelerated effort. Bo said that the working group would act as the representative of the committee for day to day contact and direction.

Bo said that there may be other deployers that should be included and we should look for those deployments. The issue of coordination is also a good one. He wanted to know if the committee thought that there should be funding included for those efforts.

Joe said he has no problem with identifying requirements, reviewing the technical aspect of the proposal, and reviewing the resources needed to complete the effort, if there were no names and no costs included. He doesn't want the TMDD committee to be identified as the selection committee unless he knows that he can do it legally.

Bob Rausch said that his major concern is making sure that the process is open and that the results go into the public domain. He'd like to be involved, but practicality indicates that there can't be more people involved. He wants to make sure there is not an additional marketing advantage to the development team and that the process is open.

Manny Insignares said that he is concerned that there may be some components developed that will end up being proprietary.

Joel would like to see some sort of industry review group and asked for more agency involvement. The latest version of the proposal doesn't deal with the toolkit and how open it will be or how open any of the other products will be. Will it feed the data registry?

Al agreed with the need to get a tight circle of reviewers.

Ed said he is willing to talk about technical aspects, but not staff or rates.

Al asks that we stay away from those cost and selection related aspects.

Charlie said that his efforts have fed from the needs of the committee. When his contract runs low on funds, he takes that to ITE, not the committee. The committee doesn't ever review his costs. He also said that if we put time and cost aside, we should be able to deal with the proposal.

**Attachment B**  
**Notes of John Wintermute's Presentation on the Proposed Expedited Project to Update the MS/ETMCC**

**Industry Questions**

- Will message set deployments be a viable Center-to-Center solution in the future?

Standard message sets will be successfully deployed if

- The Standards add message dialogs and the messages can do the functions the systems require.
- The FHWA rulemaking goes forward.
- There is an off-the-shelf DATEX-based data exchange product.
- Why are system operations important to the data exchanges?  
System Operations are the only test of a message set.
  - Messages need to accomplish the functions people do.
  - Best engineering practices indicate that clear requirements are essential to the quality of the final product.
  - Good requirements save money because you don't have as many defects.
- What are the deployment issues for deployed systems when a standard is updated?

Deployment issues for updates to standards:

- Need up-front analysis of the affect on the system (Time, Cost, & Down Time)
- Need to look at upgrades to Operating Systems, Databases, Development tools, and other COTS Software.
- C2C changes require regional consensus and understanding.

**Key Proposal Questions**

- Who are the stakeholders and what results will they get from this effort?

Stakeholders:

- AASHTO Membership
- ITE Membership

- FHWA
- NTCIP Committees
- SAE Committees
- Traveling Public
- TRANSCOM
- TxDOT
- CARS Pool
- Other Operating agencies
- Consultants
- System Integrators
- Product Vendors

#### Stakeholder Gains:

- Lower Project Risk
- Easier to write/review system specs
- Easier to respond to RFPs
- Lower overall cost for systems
- Promoting sales of systems vs. sales of software development.
- Shorter deployment times
- What new products are being produced and how can they be used?

New products are the key to this effort.

- Message dialogs will allow systems to be interoperable.
- Operational requirements will allow a lookup of functions to yield a list of required message dialogs (Bottom-up)
- Architecture references will allow for mapping from a desired market package to message dialogs. (Top-down)

## **Staffing**

5 Companies with experience in deploying the message set.

Prime Role: Project Management, Technical development, Outreach

Operations Role: Leveraging operations knowledge and contacts into content for the Operations Guide

Technical Developers Role: Technical Development, Outreach

NTCIP C-2-C Developer Role: Development of UML Sequence Diagrams for Operational Requirements Document

John then walked the committee through the technical proposal text.