APPLICATION PROGRAMMING INTERFACE (API) WORKING GROUP (WG) MEETING
TUESDAY-WEDNESDAY, 03/11/14-03/12/14

ATTENDEES

Ralph Boaz, Pillar Consulting *
Wolfgang Buckel, Siemens
Peter Ragsdale, Consultant *
Andy Zhang, Wapiti Microsystems *
Ken MacLeod, Naztec
George Chen, LADOT *
Gary Duncan, Econolite
Robert Helliar, Econolite *
Siva Narla, ITE
Alan Judkiewicz, Noblis
Mark Simpson, Peek
Peter Skweres, MnDOT *
Kyle Irvin, Telvent *
Jarrid Gross, E-VIEWS Safety Systems *
Grant Gardner, Intelight
Herasmo Iniguez, Caltrans *
Douglas Tarico, McCain *
Mike Gallagher, Intelight
Jean Johnson, NEMA
Guest (Tue only)
Guest (Tue only)

VOTING MEMBERS AND RECENT ATTENDEES NOT PRESENT

Schopp, Bruce, NEMA
Brian Collum, Siemens
James Kinnard, Adaptive Solutions
Craig Gardner, Intelight
Clyde Neel, Naztec
Joe Palsa, Clary
Robert Rausch, TransCore *
John Thai, City of Anaheim *
Neal Smith, NYSDOT *

VOTING SUMMARY

WG VOTING MEMBER

#1 #2 #3 #4 #5 #6

MOTIONS

0/0/0 0/0/0 0/0/0 0/0/0 0/0/0 0/0/0

TOTALS (YES/NO/ABSTAIN)

[* indicates a voting member of the Working Group.]
[Action items are assigned using the form "[ACTION: LASTNAME]".]
[Motions voted on formally by the working group are identified by "MOTION #".]

GENERAL

Douglas Tarico and George Chen chaired the meeting.
Introductions led by Ralph Boaz. Present were 9 of 13 voting members with 21 participants overall.
SDO meeting conduct guidance provided by Siva Narla.
The API Reference Implementation (APIRI) Software Design Document (SDD) and a Walkthrough Workbook were distributed prior to the meeting.

PROJECT STATUS – Ralph Boaz

Ralph Boaz stated that we were approximately 2 weeks behind schedule but this was recoverable.
• This meeting took place a week later in the schedule.
• Allen Judkiewicz asked when the APIVS ConOps could be expected. Ralph Boaz stated that it will be sent out by 3/21 or sooner.
• ITE will track project schedule and actual dates on their web site so project has transparency.

WALKTHROUGH OF THE APIRI SOFTWARE DESIGN DOCUMENT (SDD) – Michael Gallagher
• Michael Gallagher and Grant Gardner led a review of the design elements of the APIRI software.
• Mike likes the approach of the software design that was described and prototyped in previous API projects. Consensus of the WG has been that the kernel-level driver approach is a good one.
• It was suggested that the definitions of the types of user’s (i.e. Operational User and User Developer) be examined to see if these are adequate.
• It was suggested that the version of the ATC Standard be stated explicitly as version 6.X because version 5.2b did not require the kernel level SDLC driver.
• It was suggested that the term “programmatic” be replaced.
• It was suggested that the introductory portions of the SDD contain a description of the use of the “views” concept of the SDD and how the document is laid out.
• It was suggested that page numbers be added to the document.
• Discussed whether the FIO messages could utilize a pub/sub mechanism. It was decided that the pub/sub concept is at an application level and is out of scope for us the API software.
• It was suggested that in the development of the FIO software that the manner in which the software is organized should facilitate the use of other communications methods for the future such as Ethernet.
• It was discussed that it is incumbent on the manufacturers to perform testing of the APIRI software on their own controller units.
• Siva Narla asked what he needs to make sure that we get the manufacturer participation. It was noted that it was in the manufacturer’s best interest to participate and at least two have volunteered. It was suggested that we get something in writing. [ACTION: NARLA]
  – It was suggested that within the vendor commitment document, we state that testing will be an iterative process and that we will let the vendors know what type of testing is desired at each stage. We will likely have a simple Diagnostic and Test (DAT) program to exercise some aspects of the API software. [ACTION: INTELIGHT]
• It was discussed that ATC 5401 states that the API software needs exclusive access to the SDLC ports. However, it was discussed that the API should not preclude the use of single-purpose applications which access the controller BSP directly instead of using the API. We don’t want vendors to be asked to provide controllers without the API, so it should be possible for the API to be present but dormant if not used. Need a paper or statement on how this is done. [ACTION: INTELIGHT]
• FIO API Detail Design
  – It was discussed that the there is a need for a new “set outputs” transaction mechanism. It was also suggested that a method also be desired to allow applications to synchronize with the FIO, for example notification of when the outputs have been set. [ACTION: INTELIGHT]
  – A method for applications to specify message timeouts needs to be added. [ACTION: INTELIGHT]
  – A sentence stating that the cabinet messages in the table in Section 3.4.3 of the SDD are automatically handled based on message type. [ACTION: INTELIGHT]
  – The term “jiffy” should be replaced in Figure 5 of the SDD. [ACTION: INTELIGHT]
  – References to appendix A should be to the ATC 5201 Standard. [ACTION: INTELIGHT]
  – It was suggested that we have a mechanism to know when we are overloading the scheduler. Note the API time slices the information to some degree. Need to have some graceful way to tell apps that the scheduler is not keeping up. Add tables with frames and rates to SDD. Adding timeout to the messages which are passed to the scheduler. [ACTION: INTELIGHT]
  – There needs to be a figure showing the overall design similar in detail to Figure 3 in Section 4. [ACTION: INTELIGHT]
  – Have some real world examples for vendors as part of the outreach process. [ACTION: INTELIGHT]
• TOD Detailed Design
  – Verified that there must be a way to set time without being root.
– Mike mentioned that there is a way in Linux to use capabilities/permissions so that an application can run non-root but still have time setting capabilities.
– It was noted that the Controller WG is changing its spec for ATC TOD driver, particularly in regard to external/GPS time sources, so the API Standard may need to be changed accordingly.
– Jean Johnson sent NTCIP 1201v03 to the API WG. Need to consider whether the BSP and API are compatible with NTCIP 1201 in regards to time and DST.
– Selection of time source affects all applications, so it should be exposed in the API configuration utility. [ACTION: API WG]
– Intelight will give recommendations on TOD discussions. [ACTION: INTELIGHT]

• FPUI Detailed Design
  – Need to have an application management capability to enable, disable and order the startup of applications. [ACTION: API WG]
  – It was discussed that it was desirable to be able to assign a window to an application. [ACTION: API WG]
  – Figure 3 in the SDD needs to be clarified. [ACTION: INTELIGHT]
  – Need to update API FPUI open and read to include handles so exclusive access can be enforced. [ACTION: INTELIGHT]
  – Need to have a limit on the refresh rate? Needs to be handled in a “graceful” manner. The standard is OK. [ACTION: INTELIGHT].
  – Intelight to propose that the configuration manager for the Ethernet configuration be changed to split ENET1 and ENET2. [ACTION: INTELIGHT]
  – The SDD needs to reference in the SDD the operation to the Configuration Manager. [ACTION: INTELIGHT]

• The various proposals from this review should be circulated by Wednesday, 3/17. [ACTION: INTELIGHT]
• We will need to develop the rules for updating the API standard and/or the APIRI. [ACTION: API WG]

REVIEW OF APIRI OPEN SOURCE SOFTWARE (OSS) CONCEPT PAPER
• Drop “through the integration with and between these elements.” [ACTION: BOAZ]
• Add “of” before word “quality.” [ACTION: BOAZ]
• Replace references to “programmatic” to “C language.” [ACTION: BOAZ]
• Under Project Description section…
  – Add “industry” after transportation. [ACTION: BOAZ]
  – In success factor #1, replace the word “industry” with “open.” [ACTION: BOAZ]
  – Objective 1 change “API 5401” to “ATC 5401.” [ACTION: BOAZ]
  – Add in a new objective (#3) to establish the proper licensing for the software. May use GPL and LGPL as an example. It is likely that whatever is suggested will have to be reviewed by an attorney. [ACTION: BOAZ/NARLA]
  – Under the objective to develop a website, add the processes for proposed modifications, review, commitment, etc. Add rules/process for becoming a member. Add a style guide. [ACTION: BOAZ]
• Discussed that the name of the website should not be APIRI since many projects have an API. [ACTION: BOAZ]

CLOSING ITEMS
• The focus should first be on the things that affect the design and completion of the SDD. [ACTION: INTELIGHT]
• Peter Ragsdale asked for additional days for making comments. Siva Narla extended the comment time to Tuesday, 3/18.
• Proposed items for the WG which were assigned to Intelight during the review of the SDD should be circulated Wednesday, 3/19. [ACTION: INTELIGHT]

NEXT MEETINGS/TELECONFERENCES
• Teleconference to be held Friday, March 21, 2014, to use the Walkthrough Workbook to review the SDD. [ACTION: BOAZ]