



SunGuide Software User's Group Design Review Meeting Minutes



Date: November 7, 2019

Time: 2:30 3:30 EST

Agenda:	
Topic	Led By:
3123 – Alert users when C2C missing for TVT generation	Tucker Brown
3333 – New interaction between the publish date of an event and the event list	Tucker Brown
4089 – Enhancement to allow multiple links to be combined as one for travel time calculations	Tucker Brown
4967 – SunGuide VDS data drift	Tucker Brown

Attendees:

Margaret Treiber, D1	Sheryl Bradley, D5
Tanesha Sibley, D2	Mark Laird, D6
Jason Evans, D2	Jared Roso, D7
Robert Briscoe, D3	Dan Buidens, D7
Kevin Mehaffy, D3	Tucker Brown, SwRI
John McFadden, COT	Christine Shafik, CO
Dee McTague, D4	Mark Dunthorn, CO
Jacques Dupuy, D4	Frances Ijeoma, CO
Jay Williams, D5	Karthik Devarakonda, CO
Shannon Watterson, D5	Nelson Melendez, CO
Eddie Grant, D5	

Discussion:

Item 1: 3123 – Alert users when C2C missing for TvT generation

Tucker Brown: This is an alert for when data becomes unavailable for TVT. Let's say you have two Districts connected to each other and one of them has a set of links configured and they decide to get rid of a detector or delete a particular link. There is no notification that goes to the remote district. So, districts can mess up travel times by changing configurations without telling another district. The issue is when a link is deleted from C2C, there is no way for a remote district to know that the link is no longer available. The request is to allow notification to go out if something like this is encountered. A way to check for this is to look for all the travel time cache in the links that we need and check to see if there are other links available from the same network. If none are available, the data source is probably not available and no notification should be sent. If there are links from that source available, send a notification to an email set in the config file and specify the link is no longer in the configuration. Resend at a configurable interval while the condition persists. Are there any questions or comments? Do you run into this frequently?

Jay Williams: We have had several situations in our District so we are definitely in favor of this enhancement.

Tucker Brown: Are you okay with an email? Is that enough?

Jay Williams: Yes, as long as the email recipients is a list that we can configure on our end.

Mark Laird: We are good with it since we requested it.

Tucker Brown: Is anyone opposed to this or do you think there is something better that can be done? Hearing none, there were two Districts who were on board with it so we will continue.

Item 2: 3333 – New interaction between the publish date of an event and the event list

Tucker Brown: The next one is how the user interface and specifically the event list handles the published data of an event. In certain Districts, I am not sure if it is universal across all of them, there is an operation rule in place that an event has to be updated every so often. There needs to be a new published version of the event on FLATIS with a reasonable date on it. Right now, you have to look at the events and see when they were last published to FLATIS and that would be the user's responsibility. Once they see that it is there they have to republish it which is a very manual process. The enhancement here would be to create a configurable interval for how much time can pass before alerting the user an update to FLATIS for an event should be sent. Every District could have a different one or you can set it to disable this entirely. There is some question as to how the user could be notified. If you use the event list, right now, you have the ability to change the color of the row when you own the event. As of 7.2 you have the ability to control the color of the rows themselves on basically any dialog. We are already doing coloring of the individual rows, so it is highly user-specific. It is not as simple as creating a new color that everyone would know that it is. But we could flash part of the event list to update it. We can also have a notification pop up to let the user know it hasn't been done. There are a few options of how people want to see it and I am open to other suggestions.

District: Is that going to be the timestamp from the time the event is created?

Tucker Brown: It is the last republished time to FLATIS so the last time you pushed activate.

District: So, it wouldn't help us to remember to do the initial publish but will help for reposting?

Tucker Brown: Correct. My hesitation in doing it with the initial would be the notifications asking to publish to FLATIS.

Mark Laird: I wonder if this is something we care about event type, like long-running scheduled construction events. Do we really want to keep getting notifications to update those? Is there anyone from operations who wants to comment on that? Maybe we exclude construction events.

Dee McTague: I agree, it would only be helpful for certain types of events.

Tucker Brown: What about a configurable list of event types that it applies to? I think that is better as an inclusion instead of exclusion.

Dee McTague: To be configurable by event type would be perfect.

Tucker Brown: So, what I heard was an inclusion list that would be set up by event type and the interval for which you want notifications.

Dee McTague: Yes, that would be great in a perfect world, having a configurable list.

Tucker Brown: It is not much of a jump to having it for each one. I heard District 4 would like it, is anyone else in favor of this?

Districts: Districts 3 and 5 like it.

Jared Roso: District 7 is in favor.

Tucker Brown: It sounds like there is a lot of interest in that. Any comments before we move forward?

Mark Dunthorn: Did we decide on the notification channel?

Tucker Brown: my personal preference for this would be a flashing or a user setting that allows them to configure the color for the event list. Does anyone have strong opinions on how they want the users to see this?

Shannon Waterson: I would suggest having flashing over the color configuration. The color change would be too subtle.

Tucker Brown: Do you want the whole row to flash or just the event number?

Shannon Waterson: I would say the entire row to flash. And I am assuming to resolve it, the operator would need to open the event and republish it?

Tucker Brown: The only way to end the event is to publish it with a timestamp or to republish which would also include a timestamp.

Shannon Waterson: Just to be clear if you terminate the response plan as well it will clear it?

Tucker Brown: Yes. It would only apply to active response plans.

Robert Briscoe: Would this include a shortcut site to republish?

Tucker Brown: Not just to republish, there is a button that gets you from the event list to the response plan to where you can review it before you republish it. We could stick one in, I just worry without having to directly review it before it goes in. The other part of that too is if you have an email in it and you say republish, the email doesn't necessarily get regenerated and could contain old information.

It sounds like we received good comments on this one. Let's move to the next one.

Item 3: 4089 Enhancement to allow multiple links to be combined as one for travel time calculations

Tucker Brown: This has to do with having multiple sources for links of roadway. The issue is travel time counts any links associated with the travel time and there is no concept of combining the data. Essentially you have two sources of data for the same section of road. If

you were attempting to build travel time and you add both of those in, it would could that section of roadway twice and you would have a bad travel time. There are some ways to work around this, for instance, you have a mile along a roadway and there are two sections of the same roadway for that mile. So, you could combine the two ½ mile sections to make one mile.

There is not a great way to combine them. It has come up that people would like to have a way to select multiple links that may be used in the travel time. Really this is in the discussion phase and there is no concrete proposal. There are multiple ways in which these can be combined. Texas has done it in a way that creates a priority queue. You set up a list of what you would like to have and it tries the first one. If it has something there then it uses it. In this case, if you have data on your top link, you use that one. If there is no data on your top link then it drops down to the next and asks if there is data on it. You don't actually combine the data but you get more sources to where if you lose a particular source you are still covered and you use a backup source to create your travel time.

There is also the concept of combining them where you take two links and use the average. There are ways to do user-defined where you can take percentages from each segment. Some of the data sources have confidence thresholds so you can choose if you want to use that. Not all sources have confidence thresholds. What I am implying here is that there are a lot of ways this could be done. If anyone has strong feelings about this or would like to propose something, we are open to that. We are also looking for feedback if they have this problem a lot and what we can do to fix it.

Jared Roso: In District 7 we have had this issue and I think I have expressed support for it before. When we have four lanes and have loop detectors on them we have to have two, which SunGuide sees as different detectors but we need to combine them because they are really one. For our use, the average would be sufficient.

Tucker Brown: Maybe that is an answer too, we allow people to combine links and select multiple ways for them to combine links. It could be an average or a percentage. We can make it so there are multiple options here. backlog priority queue wouldn't work for you in that case because you physically have side by side lanes. Maybe that is another option for someone else.

Mark Laird: Isn't part of the problem with combining detectors that they may not cover the same length of roadway.

Tucker Brown: Yes, that is a problem. The system how it is now can negate that problem by allowing you to set the custom links for those. Even if the affected area for that particular link is longer, you can apply that to a shorter area and still use that particular speed or you can lengthen it and use it as a different one. There are a couple of ways around that and that is a problem but if you are going to use different sources there is not a great way to sync those into an area.

Tucker Brown: Is John Hope on the call? Not hearing him but I know that District 5 has been doing some of this work of combining them. We can talk about some of the stuff that they have done to combine different sources. Does anyone else want to let me know if you have this problem? I just wanted to throw that one out there.

Moving onto the next one.

Item 4: 4967 – SunGuide VDS Data Drift

Tucker Brown: The issue is fractional parts of time are lost each poll cycle due to the process of reading the data, sending out updates, and then resetting the poll cycle timer. If you look at the ODS data and look at it over the course of a few days you can see you are missing fractional parts of time. If you are trying to do a comparison between the field device and SunGuide and you want to do a one-for-one match up there is manual work that needs to be done because of the data drifts. It has been requested that we set up a timer to constantly recur and instead of retriggering it for 20 seconds later, it retriggers it every 20 seconds. This was against the original design, it is doing it what it was designed to do. The problem is if you backlog it and it takes longer than 20 seconds to process it you are going to backlog CSS and you will have problems with the system. Based on what I am seeing on everyone's systems, especially with multithreaded or multicore processor, I don't really see this being a problem anymore. I think we can go to the recurring timer and negate the risk. FTE proposed this one and they were doing the data updates. I don't think they are on the call. Over time I think I have heard District 6 talk about this as well and there are probably others. I don't think anyone has a problem with this per say but I wanted to run it by everyone anyone.

District: When you say an exact interval do you mean an exact time?

Tucker Brown: Are you talking about the resetting currently? Right now, we set the timer up to trigger one time and one time only. When it hits that timer, we run the message and we reset the timer for another 20 seconds instead of firing one time only. The new ones are set up to fire every 20 seconds regardless of what we do and continue until we tell it to stop. With the firing every 20 seconds, you get a lot better consistency of data as opposed to manually updating it after every update.

Jared Roso: This is District 7, we support it too.

District 5: District 5 supports it as well.

Margaret Treiber: This is District 1, I am letting you make the decision because I don't know.

Tucker Brown: I believe we are good on that one. That should be it.

Mark Dunthorn: That is all that we have for today, any other questions or comments?

Jay Williams: We just had John Hope join if you want to circle back to the previous item?

Mark Dunthorn: Thank you, Jay. John, we did have a question about merging travel time links.

Tucker Brown: We were talking about how to combine TSS links and use them as travel time. We talked about either using a priority field determining if it has data to use that if it doesn't then it would use the second one. Or we could combine them and take an average or a percentage from each with a confidence threshold. I believe ICM is working with those, do you have any information on combining stuff like this?

John Hope: This could get complicated very quickly. Because of that, District 5 created a system a few years ago to specifically do this. It figures out how to combine it based on quality values that it calculates on a per-link basis. So, in short this isn't really needed in District 5 because we have a system in place.

Tucker Brown: So how does it feedback into the system and how do you use it as travel time?

John Hope: It is fed back into the system through Center-to-Center. It has its own defined network of links.

Tucker Brown: Is the system available for the other people to use?

John Hope: It is, it is owned by CT so anyone can use it. It would just need to be deployed elsewhere because it is designed to only talk to one SunGuide system.

Mark Dunthorn: Maybe John you could give us a presentation on it at a future SSUG.

John Hope: Sure, that would be a good idea.

Mark Dunthorn: Any other questions or comments? Hearing none, thank you all and we will talk to you in a few weeks.

New Action Items:

Action:	Responsible Person: