

SunGuide Software

User’s Group

Meeting Minutes

**Date: August 5, 2021**

**Time: 2:30-3:30 EST**

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| Agenda: |  |
| Topic | **Led By:** |
| SG-4941: Emails for Device Issues  SG-5810: Copy a SAS Plan  SG-5592: Data Archive is Not Correctly Rolling Up Bin Data  D3 8.0 DMS Issue  Failure Reporting of Issues | Tucker Brown  Tucker Brown  Tucker Brown  Tucker Brown  Tucker Brown |

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| Attendees: |  |
| Robbie Brown, D1  Justin Merritt, D1  Luis Hernandez, D1  Jason Evans, D2  Jason Summerfield, D2  Robert Lacy, D2  Tanesha Sibley, D2  Greg Reynolds, D3  Kevin Mehaffy, D3  Mark Nallick, D3  Robert Briscoe, D3  Amy DiRusso, D3  Neena Soans, D4  Dee McTague, D4  Jacques Dupuy, D4  Kyle Higgins, D5  Jay Williams, D5  Shannon Watterson, D5  John Hope, D5  Eddie Grant, D5  Jovanny Varela, D5  Sheryl Bradley, D5  Mark Laird, D6 | Alex Mirones, D6  Romona Burke, D7  Matt Mileto, D7  Sam Taylor, D7  Jessica Ogden, D7  Tony Abid, FTE  Jermaine Da Silva, FTE  Cherie Phillips, FTE  Brent Poole, CFX  Mark Dunthorn, CO  Carla Holmes, CO  Juan Abreut, CO  Karthik Devarakonda, CO  Jennifer Langford, CO  Tucker Brown, SwRI  AJ Skillern, SwRI |

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| Discussion: |  |

Carla Holmes: Welcome to the SSUG meeting for the purpose of taking notes this meeting will be recorded. Is there anyone else in the meeting that we missed during roll call?

**Item 1: SG-4941: Emails for Device Issues**

Tucker Brown: This is just a general enhancement there is no current behavior for this. The point of this is to detect larger system outages. The way this was described is that the user is allowed to define device groups (of any device types) and assign that device group to a specific email group. It will allow the user to define a percentage threshold for number of devices entering an error or failed state. There is also a potential for adding an alarm for this condition. The whole email and alarm would be considered one group and it could be turned on and off dynamically. If you know an entire section is down, you could turn off this alarm so you wouldn’t get it. The entire system wouldn’t be on and off automatically, but each rule would be. It is more for large scale outages and being able to detect those. Any comments or anything you would like to see with that.

Cherie Phillips: What is the frequency of the emails? Once you send the email notification, does it only send one, and even though they remain down you aren’t going to get another one or is it configurable?

Tucker Brown: It would probably send the initial one. What we have done in the past is set up a threshold that until it goes back to that threshold would it retrigger. Until that state recovers you would have only gotten the one. We could likely request for additional emails, but I am not sure if that is something you want to have in there.

John Hope: Would there be a way to check logging or archive to see when these alarms occurred?

Tucker Brown: Do you mean historically? Like if you want to go back later and say this condition occurred at this point?

John Hope: Yes.

Tucker Brown: Yes, we can do that.

John Hope: As far as the email groups, how do you envision that working?

Tucker Brown: There is a concept of email groups in the system, most likely it will just tie to one of those.

Carla Holmes: Tucker you did say that if someone did want to have emails sent daily, if nothing changes, would that be allowed?

Tucker Brown: Currently, no. The design is one and I was asking if anyone wanted the ability to do more than that.

Justin Merritt: The configurable option for frequency would be preferred. Would operators get alerts as well? Or would it just get sent out to the email group?

Tucker Brown: That would be an option. So, when you set this up, the email would be a default and you have the option to also turn on alerting to operators.

Carla Holmes: I do hear that we want the option for it to be configurable to send more than one email.

Justin Merritt: District One would like that option.

Cherie Phillips: FTE would like that option.

Kevin Mehaffy: District Three would.

Carla Holmes: So, do the districts support this enhancement overall?

Justin Merritt: District One does.

Romona Burke: District Seven does.

Dee McTague: District Four does.

Cherie Phillips: Turnpike does.

Greg Reynolds: Three does.

**Item 2: SG-5810: Copy a SAS Plan**

Tucker Brown: In certain cases, you would want to plan item or a schedule. You could set up one and it is a PSA or a list of DMS and you want to cancel that or put it in a different point. This enhancement is to allow a user to make a copy of a SAS Plan item. The name would change for uniqueness, but the devices or type would remain the same with the same configuration. It would also allow a user to make a copy of a SAS schedule. The schedule name and names of the scheduled items would change for uniqueness. The action they perform is the same. The names would be generated by the system by default, then you could go in and change them to what you want them to be.

Carla Holmes: Any questions or comments about that enhancement idea?

John Hope: District Five likes it.

Kevin Mehaffy: Three doesn’t object.

Jason Summerfield: District Two likes this.

Carla Holmes: It seems like it could save operator’s time. Anything else on this enhancement?

**Item 3: SG-5592: Data Archive is Not Correctly Rolling Up Bin Data**

Tucker Brown: This has to do with data archiving and classification data. The current state is that data archive takes an average of the bin data over the rollup period and stores the data in the database. It was brought to our attention that the numbers seemed a little weird, so we dug into what it was, instead of taking the volume and doing the total, it is taking an average per poll cycle and using that as the storage in the roll up. That is by requirement. It was pointed out that it is not a useful metric, and it is not something that is usable in the archive state. The request here is for this data type, calculating a total number of vehicles for the bin during the rollup period would make more sense and presumably be more useful. Need to confirm that no one is using this data currently and that this change would not impact other users.

John Hope: District Five and CFX would like to see this move forward. The current implementation makes the data not useful at all for a couple of reasons. Average volume is something that is never of any interest. Because the data is actually stored as integers there is a considerable amount that is precision lost. If you even try to take that average and try to calculate the total volume, in almost all cases it is going to be incorrect. We would definitely like to see this move forward.

Mark Laird: District Six agrees.

Sam Taylor: Not sure if you heard, my microphone is choppy but District Seven agreed to the previous SAS copy.

Carla Holmes: Does anyone have any thoughts on if this will impact any other users? Or is there support for this enhancement? I have heard from 5, 6, and 7.

Justin Merritt: District One is on board as well.

Jacques Dupuy: District Four supports it.

Brent Poole: CFX supports this as well as John stated earlier with District Five.

Greg Reynolds: District Three is okay with it.

Jason Summerfield: I think District Two is okay with it. I have one group of people I may need to ask if they are using the bin data now, but I am guessing they prefer to have it this way anyway.

Carla Holmes: Jason, when you figure that out will you put that comment in the JIRA ticket?

**Item 4: D3 8.0 DMS Issue**

Tucker Brown: This issue is something that happened as part of the D3 upgrade. Almost all of the Ledstar DMS went into a bad state where the system could no longer send messages to the device.

* Device could be polled
* Device would respond to an auto-configure request
* Failed to transition to a modifying state as part of posting a message
  + Message was never sent as the state transition is the 1st thing done
* Confirmed both in SunGuide and an external tool

The question is having anyone ever experienced anything like this? Either with Ledstar DMS where the DMS gets locked into a state or a power cycle? We are trying to look for other general things where people have seen this. It is unclear how they got into this state, and we can’t seem to reproduce it.

Carla Holmes: District Three did you have anything to add about the situation?

Robert Briscoe: Tucker nailed the entire situation. When we were able to power cycle the signs, they were able to accept messages.

Mark Laird: Does Ledstar have a mechanism to lock a message so it can’t be changed? For security or something?

Justin Merritt: We have had the same issue before with our Ledstars. I ended up adding remote power strips so I could reboot the controllers. I believe it is the Ledstars that have the controllers in the sign, I could be mistaken. The remote power strips helped it and the Ledstars hold the last sign that was polled to it. That was the problem, if you had a lane blocking incident it would hold those out there until we sent someone to go and reboot it until the remote power strips.

Cherie Phillips: Is it possible it could have been a firmware update?

Tucker Brown: The firmware on those is from 2010 but we confirmed with the TERL and that is the most current firmware for those devices. They were up to date with the TERL specs.

Jason Summerfield: District Two is fascinated by this and will be another datapoint because we are moving to 8.0 this weekend. We have the same type of Ledstar signs that D3 has. I can tell you afterwards. Did you happen to have them set in service when you brought SunGuide back up?

Tucker Brown: To my knowledge, we did not take the signs out of service before shutting down 7.2 and bringing them up in 8.0.

Jason Summerfield: After reading this and a brief conversation with Mark Nallick, I will do that and see what happens. I will put then out of service, do the upgrade and turn them on one-by-one. The only issues we’ve had with the Ledstars is that we have a had a couple of instances where a switch went bad that flooded out a network segment. Once we got it isolated and polled out, everything but the Ledstars came back up. It wasn’t anything we could reproduce because we would have had to blow up part of the network with a bad switch. It almost sounds like it got a burst of data when SunGuide came back up and that the ethernet stack fell over.

Tucker Brown: That’s the interesting part, is that it responded to polls and autoconfigure. As part of the technical response is that you have to send a message, to say that you are going to put it in a modifying state. The device then accepts that message and knows you will put it in a modifying state. Then it switches internally into the modifying state, then you can poll it to check to make sure it is in that modifying state. We would send it to state 6 and it is supposed to come back and say I think you meant state 2. What would happen is we would send it state 6 to the set operation and it would stay in 6 and never transfer to the modifying state. It also accepted the request for state 8 (no error). It was accepting request and responsive to other commands, the only thing it didn’t want to do was transfer into the modifying state.

Jason Summerfield: It almost sounds like it was set to local controller mode accidently.

Robert Briscoe: We were able to log into the controllers with the Ledstar software and it wouldn’t change the messages either, so it was just in a complete lock up state.

Jason Summerfield: But when they were completely offline, you could communicate with them right?

Tucker Brown: Right.

Robert Briscoe: Yes, we could log right into them.

Jason Summerfield: Okay, that is different than the weird thing I have seen.

Tucker Brown: The other thing, not sure if it is a general problem or not, but there is an NTCIP command to power cycle it. That was non-responsive from SunGuide and not from SunGuide, we tried to send those as a software reboot. I have not tested it since to see if it is working now.

Jason Summerfield: It is funny that a lot of time we see a sign that responds to ping, or we can poll it but sending it a message doesn’t work. You go back and a technician was in there and left it in local mode, so you have to set it to override. I don’t know why they would be set to local mode but that sounds like the state it was in.

Robert Briscoe: It wouldn’t let us do the pass pattern or any of the pixels. It wouldn’t let us do anything.

Cherie Phillips: Were the Ledstars put up as part of the same project or were they spread across multiple projects? FTE has had experiences where we have had issues with manufacturing stuff, and we had to replace part of the DMS.

Robert Briscoe: They were put up at different times and all over D3.

Carla Holmes: Could you identify the differences in the signs that had this issue versus the signs that didn’t? You said not all of them had this problem.

Robert Briscoe: Every Ledstar had the problem, and we have trailblazers and skylines.

Cherie Phillips: Do you have a polling software? We use Orien Solarwinds. Do you use something like that to see if you had any outage that occurred within last few months?

Robert Briscoe: There was no outage, everything was working perfectly fine until we shut down the service in SunGuide and when we turned on 8.0 is when the signs went into lockdown.

Carla Holmes: District One, you mentioned you had to go to the remote power strips, what triggered you to do that? Was it software upgrade related?

Justin Merritt: That is the point I didn’t catch; it was an issue with the Ledstar controllers which is why we added the remote power strips.

Carla Holmes: So, then you just reboot remotely, and it worked fine?

Justin Merritt: We had to reboot the actual controller to access it and clear the message.

John Hope: District Five experienced the same problem that District Three did but with us it happened with the installation of 7.2 but not 8.0. It was only the Ledstars, and we essentially had to do the same thing. In District Five’s case we had UPS backups and we were able to restart those. In the near future, District Five will have more Ledstar’s so this will likely happen again.

Brent Poole: CFX is also doing a DMS replacement project where it will replace some with Ledstar.

Jason Summerfield: Like I said I will try setting them out of service and seeing if that mitigates the problem. Other than that, it might be something we need to submit to the TERL. Thanks for letting us know because we have extra people on standby.

Cherie Phillips: We had 35 Ledstar’s and this has not been reported. I would be interested in working with anyone to replicate it. I tried to replicate it now but maybe I am not doing it correctly. I am happy to help any of the districts try to figure out what is going on.

Zach Arndt: I can’t say we had any Ledstar issues but after switching to 8.0 we did have some SESA retrofits installed and we had issues getting those to connect. We had to set the signs out of service then run the autoconfigure. That way it would work after we set them in service.

Jason Summerfield: Oh cool, I have some of those too.

Robert Briscoe: Whenever we went to 7.2, we had a similar issue with DMS signs, it was all of them and we did that same process (out of service ran the autoconfigure and put them back in service).

Amy DiRusso: Our team is available to trouble shoot with any district to try to recreate the issue. Just give us a head up, possibly not during hurricane season but we will work with you.

Carla Holmes: Is there anything in the SOGs to help with DMS to make sure nothing crazy happens? Addressing software upgrades or maintenance or anything? Any procedures that you have?

Robert Briscoe: We did test everything and look at the sub systems prior to the upgrade and we did not see any of these issues during testing. That is why it blindsided us.

Carla Holmes: It sounds like you handled it as well as you could, and now other districts know about it and thank you Amy for letting us use your situation to discuss with the group. Keep Central Office in the loop if any Districts go through and try to trouble shoot. Anything else before we move on?

John Hope: Tucker had mentioned details about the communications with this issue. What we care about, is there a software solution to this? Is there anything that can be done on the SunGuide side?

Tucker Brown: This situation allowed us to connect to it. But the problem is that it was accepting commands, but it wasn’t doing what it was supposed to do. No matter what there was no way to get the sign out of the state. We could send it a software reboot command and it would have reboot internally. It did not respond to that unfortunately which was one of the software solutions we could have done.

If that is the case, we will need to test that. Maybe there is a Ledstar firmware update that can happen to support the software reset.

Cherie Phillips: When it was originally in a bad state and you had someone go out and restart the devices, did you have another occurrence with this after you performed those steps?

Tucker Brown: No.

Carla Holmes: Any other questions or comments on this topic?

**Item 5: Failure Reporting of Issues**

Tucker Brown: This is more of an FYI and reminder for the reporting the failure type issues. Some Districts are making phone calls directly to SwRI staff when a failure occurs. CO requests that the RTMC personnel call the support line first 210-522-6883. The support line triggers an email and text alert to multiple staff members who would be able to help. Calling a SwRI staff member does not guarantee a response and may delay troubleshooting efforts because they are the only person that knows about it. If you could report any issues or failures to call the number, it will go out to multiple staff members. More urgent issues it is better to call that number since more people will get alerted. This screen some of you have seen in JIRA, it is in the top left Dashboard section. This describes what the issues are and tells you the contractually obligated response time to those issues. Just wanted to give you a reminder to call the support line if you have an issue and it will get handled.

Carla Holmes: Christine did want me to emphasize the importance of doing this because we do have performance measures tied to this. We are tracking their response times to the issues, so we have to follow this process. Does anyone have any questions?

John Hope: In the required response column, it says one hour only by phone. Does that mean they will respond within an hour if we call them? Or is that they are required to call back within an hour?

Tucker Brown: Correct. Both.

John Hope: So, if we submit a ticket through JIRA, we shouldn’t expect an hour response?

Tucker Brown: Correct. We try to monitor it the best we can, but it is not always monitored to give you that one hour response time like the phone. Contractually we only have it within an hour if someone calls the support line.

Carla Holmes: We have a few more minutes, are there any comments or announcements?

John Hope: We have an issue with different reports. We know CO has high priority items you are dealing with but a lot of the reports we have brought up are generated regularly and they are part of regular traffic operations. The department can’t function the way they need to without these reports. We need to get the reports fixed as soon as possible, especially upon a software upgrade.

Carla Holmes: I know there some report fixes in 8.1. I know there are some in hotfix 5 that is currently in testing at the TERL. Hopefully the ones you are interested in will be addressed with hotfix 5 which will be out next week. If there are specific ones that are critical, we can talk offline and make sure the high priority items are being taken care of.

John Hope: Okay. A related question, is it part of the IV&V to do progression testing of all of the reports? Because the most recent issues come from the SunGuide upgrade.

Tucker Brown: The major issue we are seeing are with time zones. The reporting system was changed to do those, and we ran those during acceptance and IV&V testing. Sometimes it is hard to see the correctness of the reports since the districts are familiar with their data. We are still seeing some issues with the blanks. We are also working on time threshold of dates along the boundary of a month. We are working on the timestamp and time zone issues. We will look into closer and figure out how to test them better going forward.

Carla Holmes: Clearing up defects and getting things resolved has been a focus on from the CO, we have been closing out JIRA issues, meeting with SwRI to resolve things. SwRI has brought on additional staff resources to help clear up some of the defects. It is something CO is working on resolving. We can talk with you offline to find out what reports you are most concerned about and prioritize those.

Mark Laird: One thing we do to check reports is to run the same report on the new and old version of the software and compare the results.

Tucker Brown: That is one of the tests we did for the time zone data. At the time, the tests were successful.

Carla Holmes: Any other questions or comments? Hearing none, we will meet again in two weeks.