



Inova Solutions
A Geomant Company

LightLink Desktop and OnTrack Time Zone Solution Guide

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1. Overview

This document details how our Desktop Presenter client and OnTrack Display will function when operating in different time zones. LightLink operates on several types of output devices (Desktop Presenter clients, Broadcaster clients, OnTrack wallboard displays) and can send messages with various kinds of schedules (start now, end in five minutes, end at 10:30 am, play only on Fridays). LightLink is designed to work with the output devices in the same time zone as the OCM that sends messages to them. However, we have system configurations that operate outside of that design and this document illustrates some of the behaviors that can occur as a result of time zone differences.

The Broadcaster clients and Desktop Presenter clients will base the message schedules on their system's local time and time zone. If the time zone of the Output Channel Manager (OCM) is different than the time zone of the client then there will be message start and stop differences. Messages are sent to the clients based on the time of OCM, but the client will evaluate the schedule based on its own local system time.

The OnTrack wallboard display receives its time from the OCM and does not base the message schedule on the time zone in which the display physically resides. The display is completely oblivious to time zone location and is only aware of the OCM time.

The following are common scenarios that represent Desktop Presenter and OnTrack message scheduling.

1.1. Desktop Presenter Example 1A

- OCM located in EST zone
- Client located in CST zone
- Current time is 9AM EST (8AM CST)
- A Message Editor message is created with a Start Now/End Never schedule.

When the message is sent with a start time of "now", the OCM interprets "now" as its local time and includes that in the message without any time zone information. In this example 9:00 AM EST is the "now". The message arrives at the client desktop that is located in CST and the client evaluates the start time by comparing it to the current local system time. The start time is 9:00 AM and the current time in CST is 8:00 AM. The message will not start playing for another hour, until 9:00 AM (CST time)... in other words the message will not actually start playing "now" in the CST time zone, but instead starts an hour later when it's actually 9:00 AM CST.

The start time difference described above extends proportionately across time zones, according to their offsets. But since the ending criteria is "Never", the message will not stop until manual intervention occurs (and is thus not affected by time zones).

1.2. Desktop Presenter Example 1B

- OCM located in CST zone
- Client located in EST zone
- Current time is 9AM CST (10AM EST)
- A message is created with a Start Now/End Never schedule.

When the message is sent with a start time of “now”, the OCM uses 9:00 AM CST as the “now”. The message arrives at the client desktop that is located in the EST zone and the client evaluates the start time by comparing it with the current local system time. The start time is 9:00 AM, but the current time on the client is 10:00 AM EST. Thus, the message will begin playing immediately because the time to start has passed, and the message should already have been playing.

Extending this example, if a Desktop client were installed in PST zone, the message would not start playing for another 2 hours because the message timestamp is 9:00 AM and the current time in PST is 7:00 AM.

1.3. Desktop Presenter Example 2A

This second example explains the functionality when a message schedule has a defined start time and/or end time. The same considerations apply from the Start Now/End Never examples, in that the Desktop Presenter client will evaluate the start and end times in the message compared to its current local system time.

- The OCM is located in EST zone
- Client is located in CST zone
- Current time is 9AM EST (8AM CST)
- A message is created with Start at 9:00 AM/End at 11:00 AM schedule.

When the message is received by the desktop client, the message start time is evaluated at the client located in the CST zone and compared against the current system time. The start time is 9:00 AM and the current system time is 8:00 AM CST. The message will not begin playing until 9:00 AM CST. However, the OCM monitoring what messages should be playing will stop the client playing that message at 11:00 AM EST, which means from the standpoint of the client in the CST zone, the message will play from 9:00 AM – 10:00 AM CST. This is important to understand: the message will only play for 1 hour because of the difference in time zones. This effect is exacerbated when the client is farther away from the OCM in terms of time zones.

1.4. Desktop Presenter Example 2B

- The OCM is located in CST zone
- Client is located in EST zone
- Current time is 9AM CST (10AM EST)
- A message is created with Start at 9:00 AM/End at 11:00 AM schedule.

When the message is received by the desktop client, the start time is evaluated at the client located in the EST zone and compared against the current local system time. The start time is 9:00 AM and the current system time is 10:00 AM EST. The message will immediately begin to play as the start time (9:00 AM) for the message has already passed. And as defined, the message will play until 11:00 AM. This is important to understand. Again, the message will only play for 1 hour (10am to 11am EST) because of the difference in time zones.

This functionality could cause confusion if the message schedule was to play for only an hour – Start at 9:00 AM/End at 10:00 AM (OCM in CST zone). This message would conceivably never play on Desktop Presenter (EST zone) as the start time and end time will be the same.

1.5. OnTrack Displays Example 1

- OCM located in EST zone
- Display located in CST zone
- Current time is 9AM EST (8AM CST)
- A Message Editor message is created with a Start Now/End Never schedule.

The OnTrack wallboard displays function differently than the Desktop Presenter clients. The display connects back to the OCM and bases its time on the OCM time zone. For example, the OCM is located in EST and the display is physically located in CST. A message is created with Start Now/End Never schedule. The “now” time is 9:00 AM (EST). Because the OnTrack display bases the time from the OCM this message will start “now” – the effective time at the display is 9:00 AM, but for the people viewing the display their time is 8:00 AM (CST).

1.6. OnTrack Displays Example 2

- OCM located in CST zone
- Display located in EST zone
- Current time is 9AM CST (10AM EST)
- A Message Editor message is created with a Start Now/End Never schedule.

The OCM is located in the CST time zone. The wallboard display is physically located in the EST time zone. A message is created with Start Now/End Never schedule. The “now” time is 9:00 AM (CST). Because the OnTrack display bases the time from the OCM this message will start “now” – the time at the display is 9:00 AM. It does not matter that the time in EST time zone is actually 10:00 AM – the display is only aware of the OCM time and not its physical location.

2. Supervisor Time Zone Reference Point

The physical location of a Supervisor client does not affect the message scheduling functionality within the software. However, the end-users operating the Supervisor software in different time zones to send messages must be aware of how the software functions. The message schedules are set in the editors without regard to time zone; those schedules are then interpreted by each Output Channel Manager and each destination device relative to the time each knows about.

2.1. Supervisor Desktop Example

- The OCM is located in EST zone
- Client is located in CST zone
- Supervisor client in CST zone
- Current time is 9AM CST (10AM EST)
- A message is created with Start at 9:00 AM/End at 11:00 AM schedule.

Given the same criteria as the “Desktop Presenter Example 2A” example from above, let’s explore using the Supervisor when operating in the CST zone. When opening Message Editor and selecting the schedule of Start at 9:00 AM/End at 11:00 AM – this is obviously in CST time in terms of where the Supervisor is operating, but the software doesn’t know about the different time zones. When the user hits “Send” at 9:00 AM CST, the OCM reads the message schedule (9:00-11:00), compares that to its local time, 10:00 AM EST, and begins sending the message to the destination devices and clients. When it is 11:00 AM EST, the OCM will stop playing the message and delete it from all destinations and clients.

The end result is that the CST desktop client gets a message that begins playing at 9:00 AM CST but will end at 10:00 AM CST.

2.2. Supervisor OnTrack Example

- OCM located in EST zone
- Display located in CST zone
- Supervisor in CST zone
- Current time is 9AM EST (8AM CST)
- A message is created with a Start at 9:00AM/End at 11:00 AM schedule.

Let’s look at using the Supervisor client when operating in the CST zone and sending to an OnTrack display in EST. When the user selects Start at 9:00 AM/End at 11:00 AM, the software doesn’t know about the different time zones. The message starts playing at 9:00 AM EST in this case because, as stated before, the display connects back to the OCM and bases its time on the OCM time zone. The message stops playing at 11:00 AM EST. So from the CST vantage point of standing in front of the display, the message on the board starts playing at 8:00 AM CST and ends at 10:00 AM CST.