

# Smart Monitoring and Management Services - Exception Management

*Identifying and handling the exception cases of the reefers.*

## Description

Rule engine, part of Copeland's smart monitoring and management services, is a powerful exception management tool that allows you to create highly customizable and configurable systems for complex event processing. With the rule engine, you can filter, improve and transform incoming data originated by IoT devices. Rule engine allows you to set specific conditions and trigger notifications when those conditions are met. You are also able to notify users of the problem.



Create New Rule

Rule Name: Supply Deviation  First Fulfill  All Data Required Active

Description: Temperature deviation between supply and setpoint on chilled cargo

Tag: Select

Conditions Actions Schedule

AND OR

Supply > DMT > Setpoint > Greater than > 0.5

Supply < DMT < Setpoint < Less than < -0.1

Save Cancel

There are three significant types of notification triggering:

- **Data Triggering** - We will use hourly data to generate data events. Example: notifying customers when the setpoint has reached a specific value.
- **Alarm Triggering** - The user can select the type of alarms and notify the repair technicians.
- **Time-based Triggering** - The user can use a time-based trigger with a data condition for receiving a message. Example: notifying customers when the setpoint has reached a specific value for the specified time.
- **Location Triggering** - The user can generate the location events using GeoZones. Example: notifying customers when a specific container arrives at the customer site.

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## Benefits of Exception Management

1. **Increase efficiency:** The most significant advantage of using rule engines is that they help make processes more efficient. By example, setting up notification of a specific reefer is unplugged more than 2 hours on the terminal.
2. **Improved precision:** The rule engine ensures everything is done correctly by verifying that all inputs are valid before sending a notification.
3. **Multi-channel communication:** The rule engine derives as an email for a list of users who are interested in this event with different templates (basic, enhanced, and SMS). The rule engine derives JSON files to the customer target via push notification.
4. **Traceability:** Will record all activities when creating, changing, or executing rules in a detailed and auditable way. Audit trails ensure traceability and execution statistics of the rules.

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