



GRID
PROTECTION
ALLIANCE

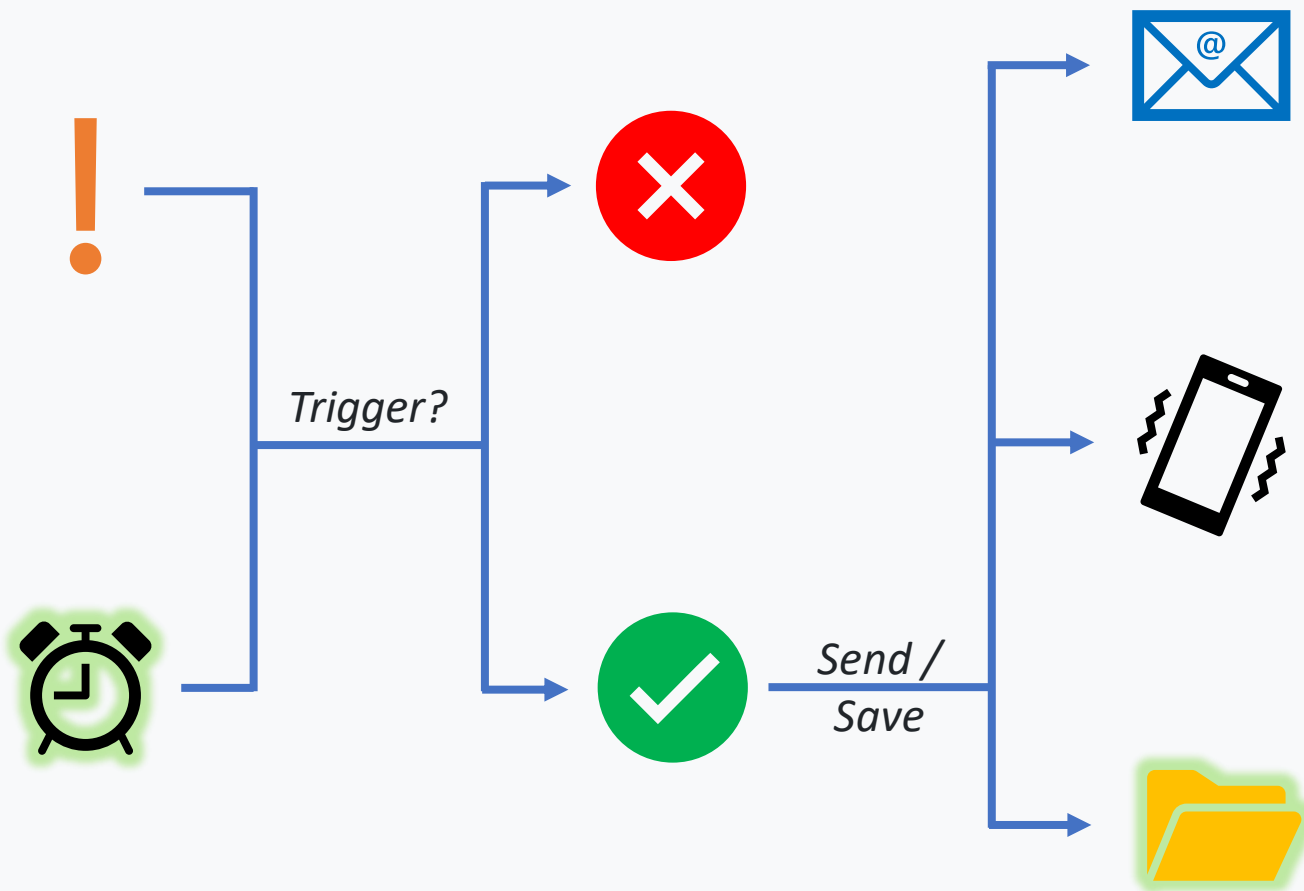
PQDashboard
User's Group

open **MIC** *open* **XDA**
System Center **miMD**
open **SEE** **System Event**
Browser
TrenDAP **POWER QUALITY** **Digest**



The openXDA Notifications

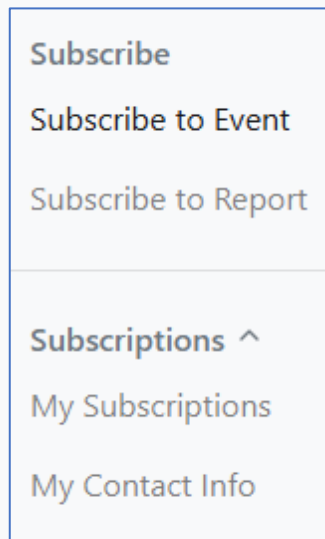
What's New in 3.0



- Scheduled notifications
- Control over which templates users can self-subscribe to
- Approval can be required per template, per asset group
- Save as file

Notification Pages

- Subscribe
- Configure
- Manage



"Viewer" Menu

A screenshot of the "Notification Pages" interface. The header shows a back arrow, the title "Notification Pages", and a "Sign out" link. The main heading is "Subscribe to an openXDA Event Notification". Below this is a progress bar with three steps: "Select Notification" (active, green circle), "Email" (grey circle), and "Success" (grey circle). The left sidebar contains links for "Subscribe", "Subscribe to Event", "Subscribe to Report", "Subscriptions ^", "My Subscriptions", "All Event Subscriptions", "My Contact Info", "System Settings ^", "Email Categories", "Event Notifications", "Reports", "Cell Carrier", and "Version 3.0.607". The main content area is titled "Step 1: Select a Notification". It features an "Asset Group" dropdown menu with "Other" selected, a "Notification Category" dropdown menu with "Event" selected, and a "Notification Template" dropdown menu with "Event Email" selected. Below the "Asset Group" dropdown is a table with three columns: "Name", "Num. Meters", and "Num. Assets". The table has one row with the value "AllAssets", "26", and "89". A "Next" button is located at the bottom right.

Name	Num. Meters	Num. Assets
AllAssets	26	89

What is it?

- Templated notifications built using data from and available to openXDA – including miMD and openMIC data
- XSL for formatting
- SQL, FTT, and PQI data sources
- Configurable triggers

Requires: Notification Pages web (IIS) application and SMTP server

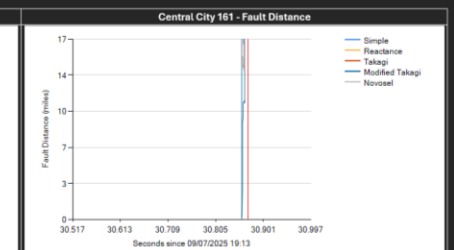
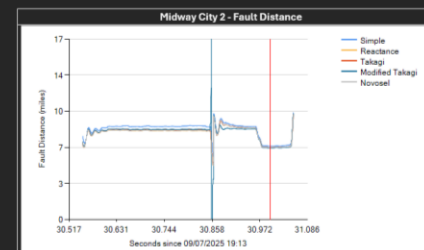
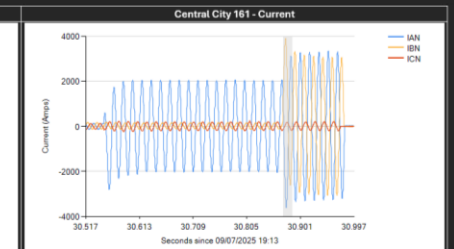
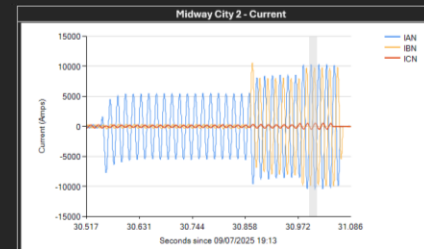
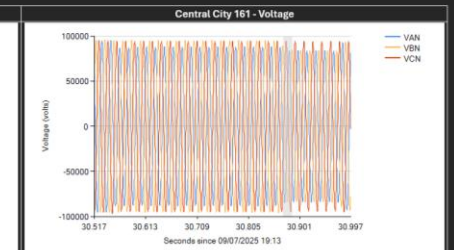
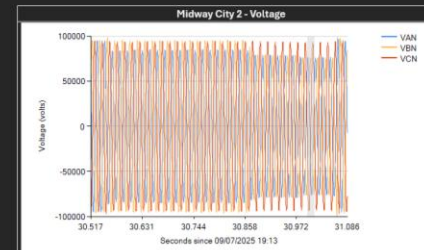
Fault detected on Keystone-Midway 161kV Line 1 (L1018)

openXDA@gridprotectionalliance.org
To: shu@gridprotectionalliance.org

Fault 1 - 2025-09-07 19:13:30.5497916

Station:	(S1008)	Central City 13kV (S1006)
DFR:	Midway City 2 (APP)	Central City 161 (APP)
File:	6250.dat	2070.dat
Breaker:		
Fault Type:	ABG	ABG
Inception Time:	19:13:30.5497916	19:13:30.5497903
Fault Duration:	518.958 msec (31.14 cycles)	430.208 msec (25.81 cycles)
Fault Current:	13828.7 Amps (RMS)	4705.7 Amps (RMS)
Distance Method:	Novosel	Takagi
Single-ended Distance:	Structure # (6.785 miles from)	Structure # (22.493 miles from Central City 13kV)
Click for fault report:	717257	717255

Probability of Fault Cause	
DFR:	Midway City 2 (APP) Central City 161 (APP)
Tree:	Low (Rf = 0.99) Low (Rf = 4.26)
Lightning:	No lightning found No lightning found
Insulation Flashover:	Undetermined Undetermined
Arrester Failure:	Undetermined Undetermined
Conductor Slap / Debris Midspan:	High (0.24) High (0.22)
Broken Conductor:	Low (0.96) Low (0.96)




Line Parameters:	Value:	Per Mile:
Length (Mi)	17.04	1.0
Pos-Seq Imp Z1 (Ohm)	17.5186478.37251*	1.0281478.37251*
(LLL,LLG,LL,LLG)	3.53094+317.1591	0.2072+31.0281
Zero-Seq Imp Z0 (Ohm)	64.0245477.4733*	3.7573477.4733*
Loop Imp ZS (Ohm)	13.0866+342.5004	0.8143+33.6679
Zero-Seq Imp ZS (Ohm)	33.0196477.7913*	1.9378477.7913*
(LG)	6.9828+332.2729	0.4098+31.8939

To manage your automated fault notification subscription, or to unsubscribe, click on this [link](#).

NOTICE: This electronic message transmission contains information that may be SENSITIVE, RESTRICTED, or CONFIDENTIAL. Any misuse or unauthorized disclosure can result in both civil and criminal penalties. If you are not the intended recipient, be aware that any disclosure, copying, distribution or any other action in reliance on the contents of this information is strictly prohibited. If you have received this message in error, please notify me immediately by email and delete the original message.

Notification Attributes - General

- Category – configurable groupings for templates to make selecting self-subscriptions easier
- File Path – specify the path where the file should be saved; the “email subject” is used as the file name

Name	File Path 
<input type="text" value="Download Report"/>	<input type="text"/>
Category	<input checked="" type="checkbox"/> Allow Self Subscription
<input type="text" value="Daily"/>	<input type="checkbox"/> Requires Approval
	<input type="checkbox"/> Send as a Text

Notification Attributes - Timing

Event Notifications (Triggered)

- Delay – the maximum and minimum amount of time to wait before sending
 - For double-ended fault notification

Minimum Delay ?

Maximum Delay ?

Reports (Scheduled)

- Cron-formatted schedule allows for granular control over timing

Schedule ?

Triggers and Filters

When an event is processed or the schedule indicates, openXDA checks the “Trigger SQL,” a SQL query that evaluates to a Boolean (1 or 0), to determine if the notification should be sent.

Event notifications also use a “Suppression SQL” that returns a list of events that should **not** trigger a notification to prevent flooding, e.g., “duplicate” events that happened on the same asset within a certain window.

Examples:

- Event notification that triggers on faults that were processed in the last 24 hours and more than 2 seconds apart on the same asset
- A scheduled report that only sends if updates are available since the last report

Data Sources

- Generic SQL available for both event and scheduled notifications
 - Requires connection string, data provider, query, and openXDA service account read access to the database
- EPRI Power Quality Investigator and open Fault Trace Tool available for event notifications
 - PQI returns affected equipment information for configured customers
 - FTT used to query the Fault Trace Tool and include GIS images and links in fault notifications
- HIDS (InfluxDB) and Azure available for scheduled
 - HIDS queries InfluxDB for trend data reports
 - Azure queries user job title and position to compare to the corresponding System Center Additional Field value for changes, e.g., to send reports to admins for application role adjustment

Template

- Leverages XML return from Data Source(s) to format the data into the desired presentation
- Allows for data transformation into HTML, plain text, or other XML-based formats (e.g., XML, KML, etc.)
- Charts with voltage, current, and fault distance values available
- Completely custom! If openXDA can retrieve it using a Data Source, it can be included

Important Notes About Texting

- Ensure your template is simple
- Carriers can often block mass messages as spam
 - Carrier plans
 - Mass notification systems
- Use the **Cell Carrier** page to manage cellular domains

Notification Pages Sign out

Subscribe to Event
Subscribe to Report

Subscriptions ^
My Subscriptions
All Event Subscriptions
My Contact Info

System Settings
Email Categories
Event Notifications
Reports
Cell Carrier

Version 3.0.613

Search:
Search Name Add Filter

Found 5 Cell Carrier(s)

Actions:
Add Cell Carrier

Name	Transform
Cricket Wireless	{0}@mms.cricketwireless.net
Google Fi	{0}@msg.fi.google.com
Republic Wireless	{0}@text.republicwireless.com
T Mobile	{0}@tmomail.net
Verizon	{0}@vtext.com

Subscribing

- Event and Report subscription looks much the same
- Select an Asset Group, Category, and Template
- If the Template is an email and no email is associated with the account, the user's address will need to be confirmed; same for phone number and text notifications
- If the template requires approval, the configured admin will be notified to approve or deny

Subscribe to an openXDA Event Notification

Select Notification

Email

Success

Step 1: Select a Notification

Asset Group ?

Other

Notification Category

Event

Notification Template

Event Email

Name	Num. Meters	Num. Assets
AllAssets	26	89

Next

Appendix – Relevant Settings

Name	Definition
Email.AdminAddress	•The email address of the administrator of the email system who receives system notifications for taking administrative actions, such as self-subscription approval and restoration of the email system after tripping the email flooding detection logic.
Email.BlindCopyAddress	•The email address placed on the To line when blind-copying email recipients. •Leave this field blank to disable blind-copy.
Email.EnableSSL	•Flag that determines whether to enable SSL when establishing communications with the SMTP server.
Email.FromAddress	•The email address placed on the From line of the emails sent by the System Center Notification service.
Email.MinimumChartSamplesPerCycle	•Sets the minimum number of samples in an email chart. •Values less than or equal to zero indicate no minimum threshold.
Email.Password	•The password used to authenticate to the SMTP server. •Remove this field from system settings if no authentication is required.
Email.SMTPServer	•The hostname or IP address of the SMTP server used for sending emails from the System Center Notification service.
Email.SummaryEmailSchedule	•The cron-formatted schedule that determines when MiMD summary emails will be sent. •See cron for information about cron format.
Email.Username	•The username used to authenticate to the SMTP server. •Remove this field from system settings or leave it blank if no authentication is required.
EventEmail.EmailDuplicateThresholdMinutes	•The number of minutes during which a duplicate email should not be sent.
EventEmail.Enabled	•Flag that determines whether the system will send event-triggered emails.
EventEmail.MaxEmailCount	•The maximum number of emails the system should send within the time range specified by EventEmail.MaxEmailSpan before automatically stopping the email processor. •Values less than or equal to zero will disable this functionality.
EventEmail.MaxEmailSpan	•The number of seconds that defines the time range over which emails will be counted to compare with the EventEmail.MaxEmailCount in order to detect email flooding. •Values less than or equal to zero will disable this functionality.
EventEmail.RestorationURL	•URL to re-enable the email processor after being stopped due to flooding.
Subscription.ConfirmSubject	•The subject line of the email sent to confirm a user’s email address.
Subscription.ConfirmTemplate	•The HTML-formatted body of the email sent to confirm a user’s email address.
Subscription.RequireConfirmation	•Flag indicating whether to require confirmation of a user’s email address.