Table of Contents

Configuration Settings

This is a list of system configuration values that can be customized for your instance of Global AlertLink. These settings primarily affect the user interface experience and messaging. If no preferences are indicated the default values will be used. Contact your implementation manager if you have any questions.

How many lines per page should be displayed on the component listings?

The component listing consists of News & Updates, Contacts, Documents, Plans, Events, Resources, Forms, Messages, and Reports. Choices are 5, 10, 25, or 50 lines in data and table views.

Indicate the sorting preference for the following components:

News {title, date}:{asc, desc}

Contacts {firstname, lastname,title}:{asc, desc}

Plans {name, interruption level, severitylevel}:{asc, desc}

Documents {name, date}:{asc, desc}

Events {name, status, eventdate, interruption level, severitylevel}:{asc,desc}

Resources {name, description}:{asc, desc}

Messages {timesent, title, subject}:{asc, desc}

Reports {name}:{asc, desc}

Should the web browser auto complete feature be set on or off?

This setting applies to authentication fields.

What should be the maximum length of SMS?

Text messages are typically restricted to a shorter length than other types of electronic notification devices. If a text message is very long the recipient of the message may have difficulty reading the message because some devices break the message down into multiple shot messages. 150 characters is a typical setting.

What should be the maximum length of emails?

The typical setting for this is 4,000 characters.

What should be the maximum length of phone call messages?

This applies to both live and voice mail deliveries and is usually set to 2,000 characters.

Should there be a prompt for missing pass phrases?

Pass phrases are typically used by administrators to validate the identity of a user when they have locked themselves out of the system or forgotten their password.

Once the GAL session expires is there a URL that the user should be directed to?

URL: _____

Upon user logout is there a URL that the user should be directed to?

This could be your corporate web site.

URL: _____

What is the name and email address of the GAL system administrator?

If the user tries to access an area that they do not have privileges to the administrator's name and email address will be presented to the use.

Name: _____

Email: _____

Should screen auto refresh be enabled? If so, at what interval (seconds)?

Vital Signs

Forms

My Tasks

Messaging

Visual Editor

Custom Forms View

This is useful in a control or command center environment. Be aware that setting consumes resources from the hosting web server.

At what interval, (days prior, date of, past due), should review reminders be sent?

This feature sends a user an email reminding them that is time to review a plan that they are responsible for maintaining.

Should URL links to reviews be included in reminders?

URLs may be embedded in the email recipient's email to facilitate quick and accurate links to the plans that they're responsible.

Should the user's login ID or user name be displayed in the page header?

This gives you the ability to display either the user name or full name in the upper right-hand area of the screen.

Are there any special requirements for password settings?

Minimum length

Minimum number of digits (0-9)

Minimum number of upper case letters (A-Z)

Minimum number of lower case letters (a-z)

Minimum number of special characters (!@# etc.)

This may not be applicable if you are utilizing SSO.

Are passwords allowed to be reused? If so after how many iterations? At what interval (days) should passwords expire?

About Properties

Item properties include the objects owner, when the object was added and by whom, and when the object was last updated and by whom. Assigning an object an owner, does not give that user any additional privileges or permissions to the object. It does provide a mechanism to associate objects with GAL users. Prior to GAL Release 7.9, the object owner was responsible for any review assignments.

About Reviews

Note: This information is based on reviews in GAL Release 7.9 and up.

Reviews allow users to pro-actively create and maintain a review schedule for Global AlertLink objects. On the Properties tab of any object, you can create a schedule that meets your requirements. Reviews enable you to ensure that your plans, forms, documents, resources and contacts are periodically checked for accuracy and currency.

Review type is defined in Referential Data and can be customized to your needs. Reviews can be triggered by schedule or dependency and assigned to individual users or roles who, in turn, can automatically be notified when they are assigned a review. When you create a review schedule, you must assign it to a user or role before it will be created.

If your review notification message does not include a link to the item you are reviewing, you may not have authority to that object. reviews assigned to roles that are empty will also not receive review notification messages.

In addition, reminder notifications will be sent a number of days prior and after the due date depending upon your configuration settings.

When dependent reviews deny a scheduled review, a past due notification will be sent again to the reviewer of the scheduled review even though the reviewer completed the review. Denying a review restarts the review cycle from the point of the last completed review. See below for an example.

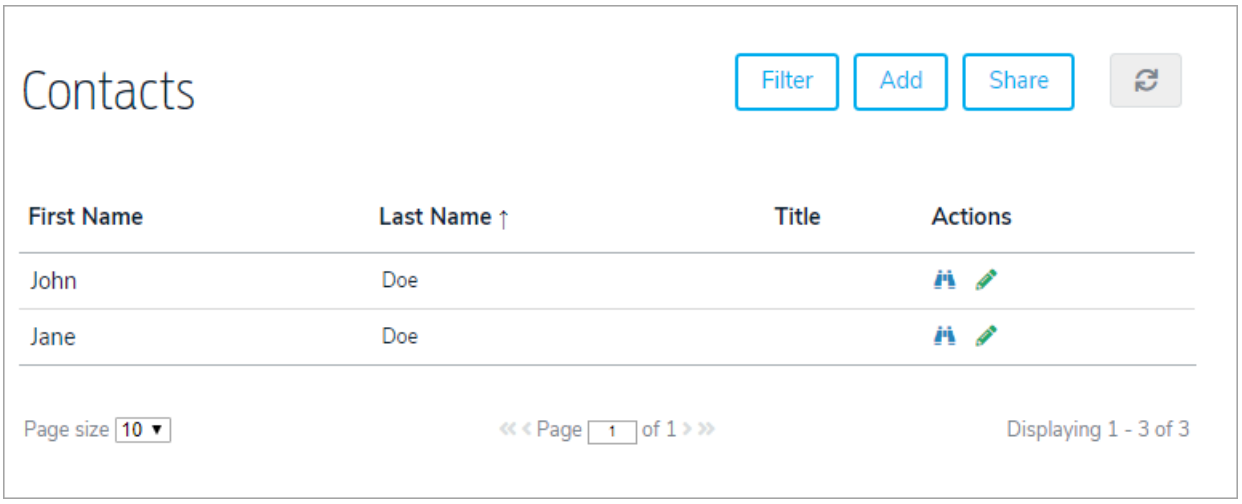
About Sharing

Global AlertLink allows you to share a number of data items across the entire enterprise. You may share individual items or groups of items. Sharing currently applies to:

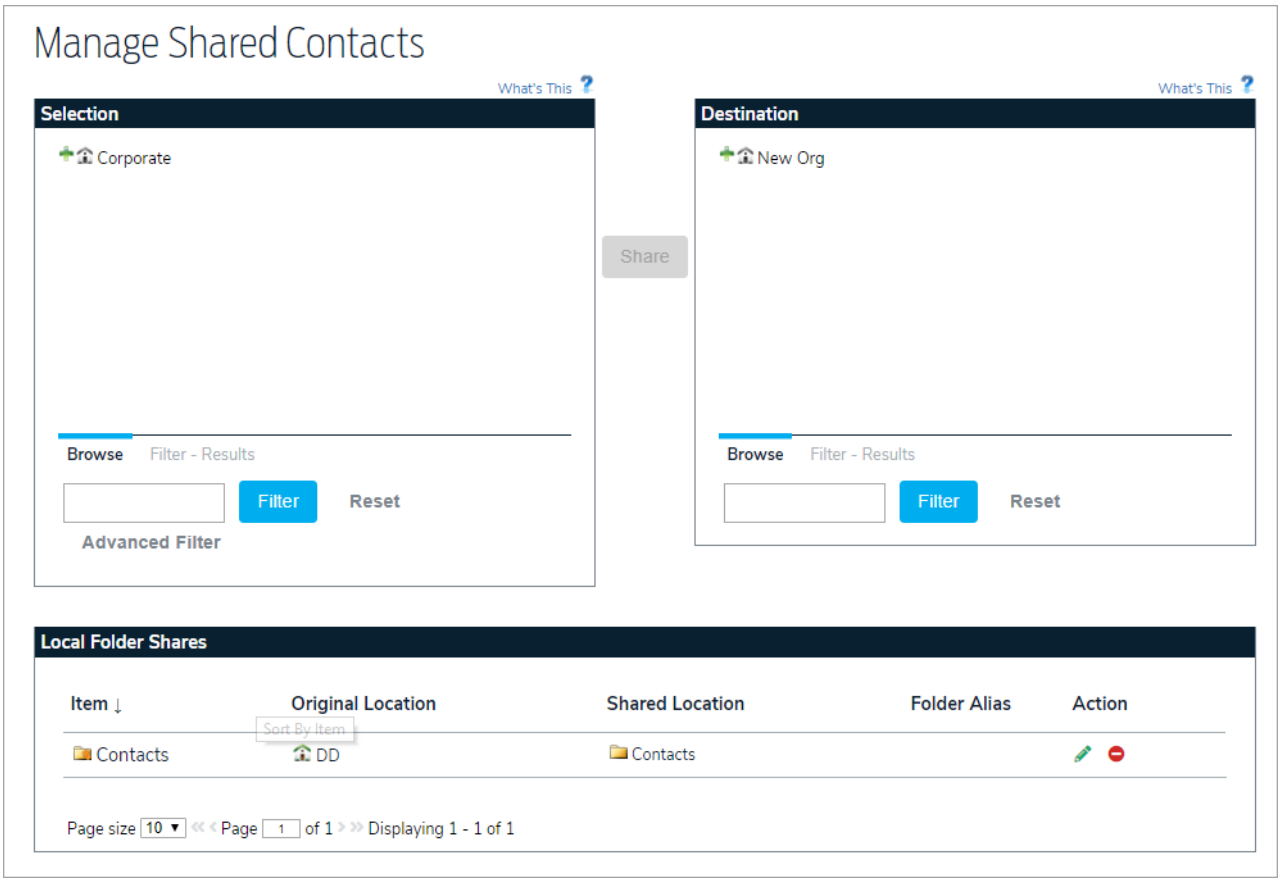
- Contacts
- Documents
- Resources
- Forms

By sharing an item, you are creating a link to the original. Sharing an item does not duplicate the item. A change in one area automatically updates all other areas where that item is shared.

To share an individual record or folder, click Share.



Select one or many folders or individual records from the left box by simply clicking on the name of the folder/record. Next, select the folder from the right box where you would like to Share the data into. You may only select one destination from the right. Click Share. Shared folders will appear in the Local Folder Shares section (you may need to refresh your browser). Only shared folders will appear in this section.



Once a share is created on a folder, you may change the name of the shared folder in the destination location. To do so, simply enter the alias name in the Alias field. You may only create aliases for folders, not individual records.

In order to more easily manage and recognized items that are shared, a unique icon will appear to represent any record or folder that is shared. These unique icons will designate that the item is shared at the current location. The origin will show standard icons.

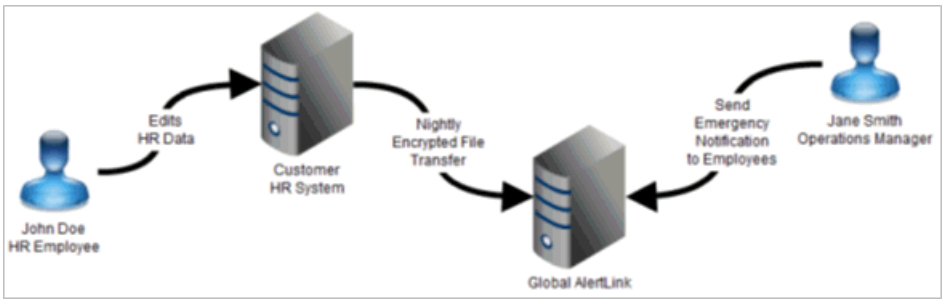
	Standard Contact
	Shared Contact
	Standard Document
	Shared Document
	Shared Resource
	Standard Resource

	Shared Folder
	Standard Folder
	Shared Form
	Standard Form

About Relationships

Data Import Overview

Global AlertLink allows for several types of data to be imported into the system through a flexible and dynamic import system. Global AlertLink can support one-time/initial data loads, as well as ongoing data maintenance. The Global AlertLink implementation team will work with you to implement your data management process. Data can be managed in an external system, and imported into Global AlertLink on an ongoing basis, users can maintain their data directly in Global AlertLink through the easy to use web interface, or you can implement a hybrid scenario maintaining some data externally and some using the web interface.



Hierarchy Management

The import process can automatically define the system hierarchy. By including organization and folder information in the data import files, the import process will automatically create system hierarchy and folder structure to contain the data.

Frequency

Data imports can be scheduled to occur based on your need. Most customers provide a nightly or weekly data feed to maintain the data within Global AlertLink. Additionally, some customers import data on an as needed basis, and initiate manual data feeds as necessary.

File Transfer Methods

Files may be “pushed” to the Global AlertLink server, or we can “get” files from your server. “Pushing” files provides the greatest control, and allows you the flexibility to perform ad-hoc updates when needed. We support both the FTP and SFTP protocols for file transfers. Your implementation manager will work with you during the implementation phase to configure one or both of these options.

Folders

Global AlertLink provides a set of sub-folders for customers utilizing FTP or SFTP to transfer files into. Note that these folders are configured for, and represent individual data import jobs. Your implementation manager will work with you to identify the correct folder for each data import job.

Scheduling

Data imports are automatically processed when received by the Global AlertLink server. Typical data imports have little or no impact on system performance. However, we recommend customers schedule data feeds to occur at a time that will have the least impact on system usage. For domestic customers, we recommend early morning (12:00am – 3:00am) data feeds. For international customers, or customers with multiple locations, we recommend scheduling the data feed during an off-peak time for the end users of the system.

Data Feeds

Initial Data Feed

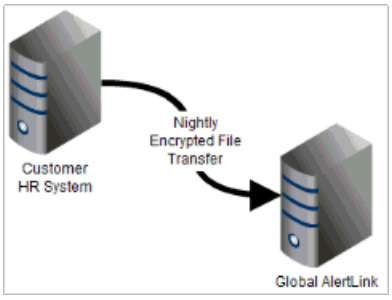
If you plan to maintain your data using the Global AlertLink interface, you may want to consider a one-time/initial data load. This will allow us to provision Global AlertLink, and have it “ready to go” the first time you log in. One-time data feeds are exactly like ongoing data feeds in their setup.

Ongoing Data Feed

If you plan to maintain your data in an external system, and use it in Global AlertLink, then we will provision an ongoing data feed to maintain the data in Global AlertLink. Ongoing data feeds allow data to remain current in Global AlertLink, while being maintained in an external system, such as a Human Resources or Accounting system.

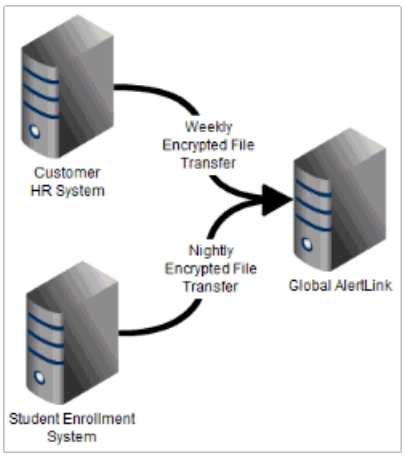
Single Data Feed

Global AlertLink supports both single and multiple data feeds. This can be used to support a variety of customer requirements. An example of a single data feed would be employee data being feed into Global AlertLink from a Human Resources system.



Multiple Data Feeds

Some customers have multiple external sources of data. To accommodate feeding data from multiple source locations, Global AlertLink supports multiple data feeds. For example, a college or university may have a data feed for employees from a Human Resources system, and a second data feed of students from an enrollment system. Each data feed works independently; however, data can be imported into the same organization in Global AlertLink. In this example, the customer can define a campus as an organizational unit that receives data feeds from two external systems.



Data Import Files & Data Types

Files

Each data feed should consist of one data file. Each data file should contain all of the necessary (required) fields to maintain a unique record, and each line in the file should represent one record. For instance, a contact data feed should contain one row for each contact, and the row should have all of the contact's information (first name, last name, etc.), as well as the organization they belong to, the folder they are to be placed in, and their contact methods.

In the event that you need to separate data into multiple files, such as Organization data and Contact data in two files, you will need to set up multiple data feeds. In this case it is important to schedule the data feeds so that the data is loaded into Global AlertLink in the proper order (organizations, folders, contacts, contact methods, and then shares). For example, contacts cannot be imported if the organizations they are to be imported into do not exist.

Data Types

Global AlertLink supports importing a variety of data types. These include, but are not limited to:

- Organizations
- Folders
- Contacts
- Contact Methods
- Resources
- User Accounts
- Shares
- Roles
- Relationships
- Custom Fields (Note: For custom field imports, we can only import fields that are not scoped to individual folder(s) in throughout the hierarchy)

Supported Contacts & Contact Method Properties

GAL supports a wide range of properties for contacts and contact methods. Contact method types can be customized, and additional methods can be added. By default, the import process supports:

- Work Phone
- Alternate Work Phone
- Work Fax
- Work Email
- Work SMS
- Home Phone
- Alternate Home Phone
- Home Email
- Home SMS
- Mobile Phone
- Mobile Email
- Mobile SMS

Supported Resources Properties

We support a wide range of properties for resources. Resources can be customized and additional fields can be added. By default, the import process supports:

- Title
- Resource Type
- Resource Priority
- Description
- Version
- Manufacturer Name
- Manufacturer Number
- Serial Number
- Resource Identifier
- Internal Reference Code
- Resource Count
- Specifications
- Notes
- Location Id
- Location

Role Imports

Roles are a reserved folder type. Contacts can be shared into these folders (assigned a role), but they MUST have an associated user account prior to the Role share. Even though roles can be imported, Role privileges and permissions are not assigned through the imports.

Example

Because of the nature of roles (organizations and folders too) and the amount of dependencies/configuration that can be associated with them, the behavior of the importer would allow them to be created, but not deleted during an import. Even if they are removed from the feed, a role will persist. They can, however, be deleted through the GUI as would normally be the case.

So, if an import contains the role once, it will be created, and it will stay in the system. However, subsequent runs with the same Role and a different ParentOrgId would cause the role to move under a new org.

Because roles will not be deleted, you must populate the ParentOrgId column with the correct value for this role, or any moves made in the GUI will be undone during the next import.

For more clarification, we've listed some examples below and runs through most of the typical scenarios that come to mind.

First Import

ParentOrgId|RoleCustomerId|RoleTitle

GAL| RoleId1|Role1

GAL|RoleId2|Role2

Role1 and Role2 are created in the root org (customerId = 'GAL')

Second Import

ParentOrgId|RoleCustomerId|RoleTitle

GAL| RoleId1|Role1

Even though Role2 was removed from the feed and is not currently being managed by the import, it persists in the system. This import effectively doesn't change anything, as Role2 will not be deleted, and Role1 (currently the only row in the file) already existed.

Third Import

ParentOrgId|RoleCustomerId|RoleTitle

GAL| RoleId3|Role3

In this import, Role3 will be created, but nothing will change with Roles 1 and 2. The import is not currently managing them, but as Roles are not deleted in the system, the only change here is the addition of Role3 to the root organization.

Fourth Import

ParentOrgId|RoleCustomerId|RoleTitle

OrgId2| RoleId1|Role1

GAL|RoleId2|Role2

GAL| RoleId3|Role3

In this example, Role2 and Role3 will remain unchanged, but the import will attempt to move Role1, as its ParentOrgId has changed. In this scenario, nothing happens with 2 and 3, but 1 will now be under OrgId2, as long as OrgId2 exists.

Some more examples follow with regard to moving roles. Please assume we are starting from scratch again (first import):

First Import

ParentOrgId|RoleCustomerId|RoleTitle

GAL| RoleId1|Role1

This import will create Role1 under the root org (OrgCustomerId = 'GAL')

At this point, please assume the import has completed successful and that role was created under the root org, but before the next import someone moves Role1 under a new org (let's say OrgId2 again). So Role1 now has an OrgCustomerId = 'Org2Id'.

Second Import

ParentOrgId|RoleCustomerId|RoleTitle

GAL| RoleId1|Role1

Since the same feed was run, and this row specifies that the parent of Role1 is 'GAL', Role1 will move back under that org, effectively undoing the move made in the GUI. The correct thing to do if you want your feed to be cumulative would be to control the movement of these roles using the importer as follows.

Relationship Imports

Relationship imports can be setup for Resource objects in GAL.

Item1Id|Item2Id|ItemRelationshipType|Notes|Description

Item1Id:The ID of the first item. Must match ID of item in Global AlertLink

Item2Id:The ID of the second item. Must match ID of item in Global AlertLink

ItemRelationshipType: The name of the referential data item that represents the type of relationship to create

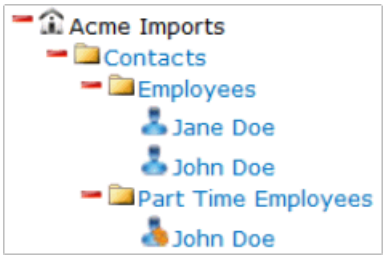
Notes: a notes field for the relationship

Description: a description field for the relationship

We could set up an import using onlyItem1Id|Item2Id|ItemRelationshipType. They are required (and ItemRelationshipType could certainly be eliminated on the map if you only had one relationship type).

Sharing Data

During the import process, data can be shared to multiple locations (organizations or folders). The shared destination can be determined from the data file, be a static destination, or be dynamically set using a processing rule (see the section on processing rules for more information). In the following scenario, corporate has specified that all employees should be placed in an “Employees” folder, however part time employees should also be placed in a “Part Time Employees” folder. An example header row and data row are included for a data file to perform this import.



Processing Rules

Global AlertLink's import process is highly flexible and customizable. Our engineers will work with you to set up processing rules that can manipulate your data automatically. These processing rules can apply simple changes as well as very complex and sophisticated data rules. A common example of a simple data change would be to "trim" whitespace from each field (first name, last name, etc.). However, some customers have a need to manipulate the data to apply business rules during the import. Consider the following scenario: Corporate has specified that during the data import, all employees should be listed in an "Employees" folder for each organizational unit. However, the Director of Accounting also needs to see his/her employees separated by business function and would like Accounts Payable employees to be listed in an Accounts Payable folder, while accounts receivable employees will be listed in an Accounts Receivable folder. To accommodate this scenario, our engineers will define an import processing rule to separate the data.

Note that these processing rules allow our engineers to work with you to dynamically adjust your data to accommodate a variety of data changes such as specifying:

- Which organization or folder to list a contact under;
- Which organization or folder to share a contact to;
- The overriding a contact method (phone, SMS or email) with a "default" value; and
- How to clean or sanitize the data.

If you have a special data manipulation need, contact us.

Hide Standard Fields

GAL now allows users to hide the standard fields associated with the following GAL components:

GAL Component	Fields that can be hidden
News	AuthorName, Publish Date, Summary, Desc, Notes
Documents	AuthorName, Publish Date, Leadin, Desc, Notes
Contacts	Site, Department, Title, Organization, Notes, Alternate Contact Name, Alternate Contact Phone, Alternate Contact Relationship
Plan	Include GIS Selection, Description
Event	Status, Description
Resources	Version, Notes, Qty1-5, Internal Reference Code, Specifications, Resource Count, Resource Identifier, Serial Number, Mfg. Number, Mfg. Name, Description, Site, Recovery Priority

These are configuration settings that can be customized for each component.

Note: A new enhancement allows the user to see any custom fields associated with the GAL object without clicking the Add & Continue button. This will make it much easier to add data in the User Interface or from a Custom Form.

White List Instructions

To ensure delivery of Global AlertLink's password resets, task notifications, decision notifications, alerts, and other important communications, please add Global AlertLink as a safe sender to your corporate email system. Below is the information your email administrator will need to do so.

Please be sure to have your email administrator white list all of the following domains to ensure that Global AlertLink electronic notifications are not caught by your corporate email filter.

BY DOMAINS (recommended method):

*.alertlink.com *.globalalertlink.com

BY IP ADDRESS (subject to change):

- 173.248.176.54
- 198.61.212.210

Additionally, to ensure the reception of text messages include the following:

SHORT CODES

- 24639 54292 78098 29276 91011 44515 35658

INTERNATIONAL LONG NUMBERS

- 491771787786 (Germany-based)
- 447786202181 (UK-based)
- 447781488123 (UK-based)
- 447537401782 (UK-based)
- 447537401775 (UK-based)
- 10657001072402 (China-based)
- 852649656880 (Hong Kong-based)
- 616529 (Kingdom of Saudi Arabia-Mobily network)
- 712022 (Kingdom of Saudi Arabia - Zain network)
- 805220 (Kingdom of Saudi Arabia - STC network)
- 447860041040
- 6477253663
- 6477253664
- 6477253665
- 6477253666

Weather Alerts

GAL can monitor for weather alerts from the National Weather Service and to send messages/activate plans based on location (latitude/longitude) and alert type. There is a separate charge for Weather Notifications based on the number of weather alert types and locations. For more information regarding weather notifications, contact support@resolver.com.

When GAL receives a weather alert that matches a location that is being monitored, a message or a plan can be activated.

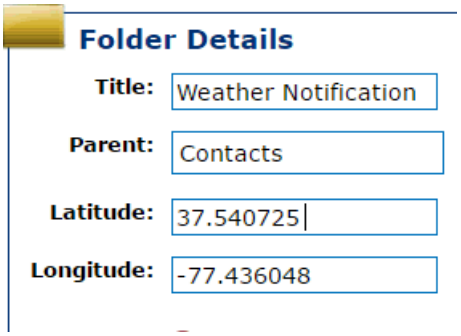
You can monitor for one or multiple weather alert types per location. Each alert type can be set up to send a specific message or activate a unique plan. For a list of weather alert types available from the National Weather Service, click here.

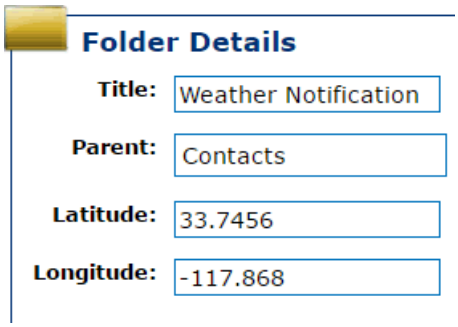
Send A Message

Let's say that you have 5 locations within your enterprise that you want to monitor for weather alerts. Each location wants to monitor for tornado warnings, 2 locations want to also monitor for severe storm warnings, and 1 location wants to monitor for flood watch as well.

Location #	Weather Alert 1	Weather Alert 2	Weather Alert 3
1	Tornado Warning		
2	Tornado Warning	Severe Storm Warning	
3	Tornado Warning	Severe Storm Warning	Flood Watch
4	Tornado Warning		
5	Tornado Warning		

Here is our organization hierarchy:





If GAL receives an alert corresponding to any of the lat/long coordinates associated with our weather notification folders, any contacts in those folders receive the message associated with that alert type. This message is a system configuration value and cannot be changed within the user interface.

Sample Messages

The message text for a tornado warning event:

<setting name="Message_TornadoWarning" serializeAs="String">

<value>Tornado Warning: This is a message from the Emergency Operations Center. A TORNADO WARNING IS IN EFFECT for your location. Please notify management to implement CODE BLACK procedures. </value>

</setting>

In addition, you can add a footer to each message:

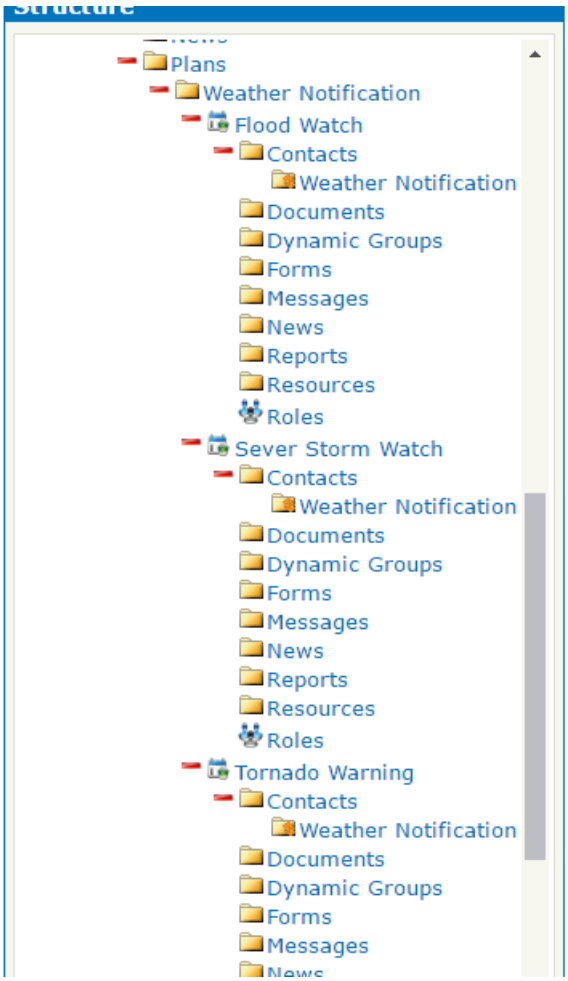
<setting name="Message_Footer" serializeAs="String">

<value>To report injuries or damage please call our Emergency Line at 555-555-1111. If you have any questions regarding these alerts please contact the Emergency Management team at emergencyoperations@company.com.</value>

</setting>

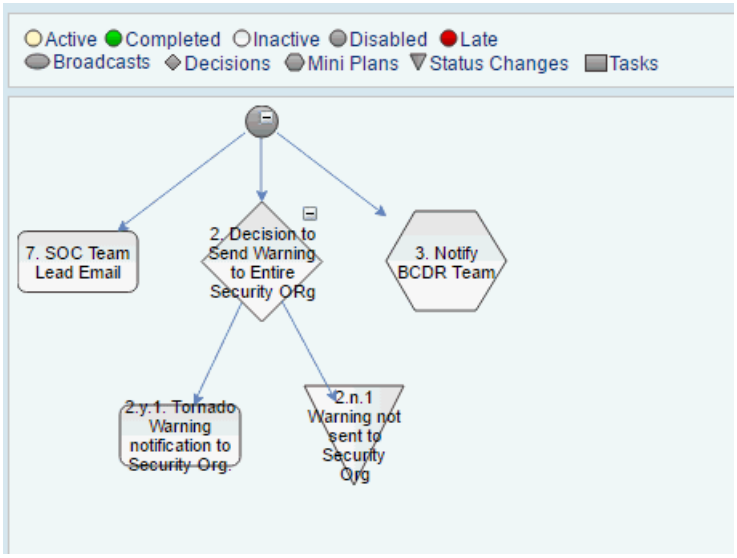
Activate a Plan

When GAL is configured to activate a plan when a monitored weather alert type is received, the user has the flexibility to assign tasks, make decisions, send broadcast messages, merge mini plans, etc. for each alert.



For Location 3, we have created a Weather Notification Plan folder and have built a plan for each weather alert type being monitored at that location. In addition, we have shared the Weather Notification folder into each plan.

This is a plan created for the tornado warning alert:



When a tornado warning is issued by the National Weather Service, (www.weather.gov), this plan, Tornado Warning, is activated and broadcast messages are sent out to the SOC team and the BCDR team is notified by merging in a mini plan. In addition, a decision has been assigned as to whether or not to send a tornado warning notification message to the entire security organization.

Broadcast messages within a plan can include as message substitutions, variables, provided by the National Weather Service, that will allow the user to create tailored messages for their users.

For example, the notification message to the SOC team could look like this:

This is an automated email in reference to: ${FORM:title} ${FORM:summary} This event is effective from ${FORM:effective} This event expires at ${FORM:expires} This event has an urgency rating of ${FORM:urgency}, a severity level of ${FORM:severity}, and a certainty expectation of ${FORM:certainty}. This event is expected to impact the following area: ${FORM:areaDesc} This is the National Weather Service link to the event: ${FORM:link} To view the event and determine the impacted location(s), use this link: ${SYSTEM:EVENTLINK}

The SMS to the team might say:

${FORM:title} ${FORM:summary} See your email for further details.

Full Text: (Notice the "," at the end of each line to pause the message as it is spoke on the phone)

This is an automated message to the Security Team ${FORM:title},, ${FORM:summary},, This event is effective from ${FORM:effective}, This event expires at ${FORM:expires}, Check your email for further information.

Here is the voicemail message: (Likewise, the ".." inserts a pause in the spoken text)

This is a message from the National Weather Service. ${FORM:title}.. ${FORM:summary}.. This event is effective from ${FORM:effective}.. This event expires at ${FORM:expires}.. Check your email for further information.

Variables provided by the National Weather Service, that can be substituted into the message, include:

NWS Variable	Description
title	A string which uniquely identifies the message
summary	A brief human-readable headline containing the alert type and valid time of the alert, e.g. Winter Storm Warning issued March 18 at 12:17PM PDT expiring March 18 at 6:00PM PDT by NWS
link	A hyperlink where additional information about the alert can be found, e.g. www.weather.gov
id	A string which uniquely identifies the message, e.g. NWS-130404-301701-246008
event	The text denoting the type of the subject event in the alert message, e.g. Tornado Warning, Flood Watch
effective	The effective date and time of the information in the alert message, e.g. 2011-05-24T16:49:00-07:00 (refers to May 24, 2011 at 4:49:00 PM Pacific Daylight Time) Note: +,- designates ahead/behind UTC time
expires	This is the time at which the information in the message should be considered stale and no longer used, e.g. 2012-05-30T09:30:00-04:00 (refers to May 30, 2012 at 9:30 AM Eastern Daylight Time)
status	The code denoting the appropriate handling of the alert message, e.g. Actual, Test, Exercise
msgtype	The code denoting the nature of the alert message, e.g. Alert, Update, Cancel

category	The code denoting the category of the subject event in the alert message, e.g. Geo, Met, Safety, Fire, Health
urgency	Urgency of the subject event of the alert message, e.g. Immediate, Future, Expected
severity	Severity of the subject event of the alert message, e.g. Extreme, Severe, Moderate, Minor, Unknown
certainty	Certainty of the subject event of the alert message, e.g. Observed, Likely(>50%), Possible(<50%), Unlikely
areaDesc	The text describing the affected area of the alert message, e.g. whether the location is a county, parish, borough, or independent city
polygon	The paired values of points defining a polygon that delineates the affected area of the alert message, e.g. <polygon>Lat,Lon Lat,Lon Lat,Lon Lat,Lon [; Lat,Lon...]</polygon>
geocode	The geographic code delineating the affected area of the alert message, e.g. 3-digit FIPS county, 2-letter State identifier
parameter	Denotes additional information associated with the alert message

GAL Weather Notification Configuration Settings

GAL needs to be configured to support Weather Notifications. These are some of the basic settings:

Polling interval in seconds. See Engineer for any changes:

<setting name="Polling_Interval" serializeAs="String">

<value>17</value>

List of keywords for matching the monitored alerts (deprecated):

<setting name="Monitored_Alerts" serializeAs="String">

<value>xThunderstorm,xTornado,xWinter,xBlizzard,xTsunami</value>

</setting>

If activating messages, the folder ID where messages will be stored:

<setting name="MessageFolderID" serializeAs="String">

<value>694</value>

</setting>

If activating plans, set to true. If sending messages, set to false:

<setting name="Launch_Event" serializeAs="String">

<value>False</value>

</setting>

The name of the folder where selected weather folders will be shared when activating an event:

<setting name="Event_Folder_Share_Name" serializeAs="String">

<value>Contacts</value>

</setting>

The plan ID to activate when launching events (default value, see weather specific plan IDs below)

<setting name="PlanID_To_Launch" serializeAs="String">

<value>0</value>

</setting>

Each of the following plan ID settings are to contain the plan ID to activate for the respective weather event type. If using messages only, set to 0, e.g.

<setting name="PlanID_ThunderstormWarning" serializeAs="String">

<value>0</value>

</setting>

If using messages, set the com types for each weather event type. You may customize the communication methods to be used by event weather type. For example, if the client wants work email and phone to be notified for tornado watch, set Com_Types_Tornado_Warning to 10,30 (representative of the com type ids in the client instance. Separate by comma if more than one value.

<setting name="ComTypes_ThunderstormWatch" serializeAs="String">

<value>30</value>

</setting>

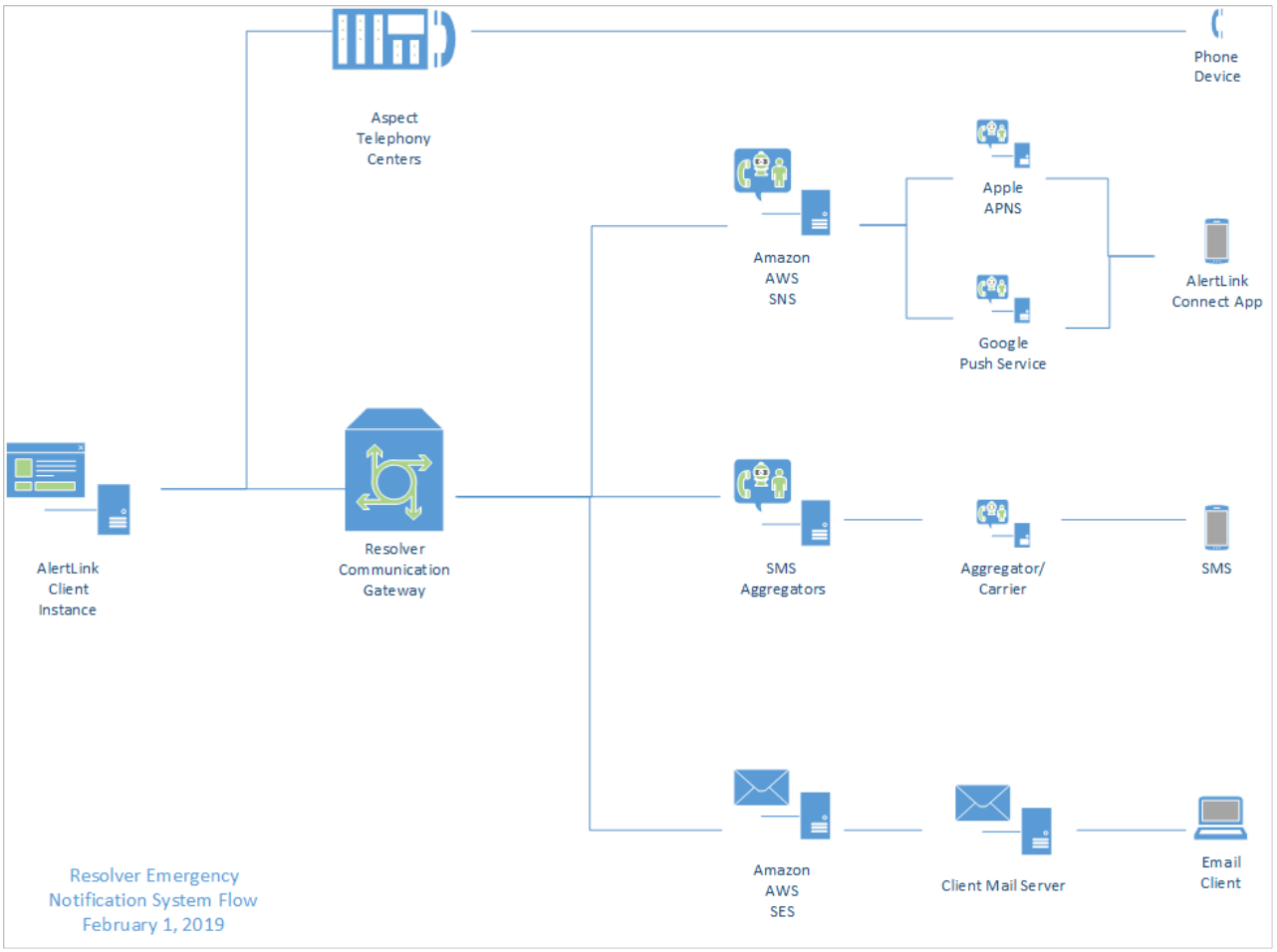
About Resolver's Emergency Notification Service

Resolver's emergency notification platform offers the ability to easily send thousands of messages through a variety of channels, including:

- Telephony;
- Email;
- SMS (text); and
- Push.

This document provides additional information about these channels, facts about our providers, and an overview of how responses are handled.

IMPORTANT NOTE: This document does not define service-level agreements or guaranteed delivery speeds. Refer to your contract or contact your CSM for more details.



A diagram illustrating how messages flow through the channels.

Telephony

Telephony messages are processed directly from your AlertLink instance to the telephony application, which is hosted with Aspect.

With data centers around the world that provide advanced availability, Aspect is a global leader in telephony communications, offering a 100% network uptime guarantee, connectivity to most countries and exchanges, and redundant voice systems with real-time automated failover.

Some other benefits of using Aspect include:

- n + k modular tiered architecture.
- Native high-performance SIP telephony.

- Pre-deployed redundant capacity.
- Redundant power.
- Geographic failover on components and call routing.

Our standard offering is a shared platform, with access to 200 shared telephony ports. This means that you can expect a maximum of 200 concurrent calls. As your calls disconnect, new calls are activated.

Example 1: 400 telephone numbers with a 30-second message length = 1 minute, plus processing time, to complete the job.

Example 2: 400 telephone numbers with a 1-minute message length = 2 minutes, plus processing time, to complete the job.

Telephone Message Responses

Once recipients select their response from the available options, those responses are posted back to our platform using web services and will appear in the interface within seconds of occurring.

Email

All emails flow from your AlertLink instance to our Communication Gateway, where they're processed based on a defined set of rules, before being routed through AWS's Amazon Simple Email Service (Amazon SES). Though AWS doesn't offer a guaranteed SLA, their email services are widely distributed and highly reliable.

Because email throughput varies based on factors such as message size, recipient email server capacity, spam filtering, etc., Resolver cannot provide specific metrics; however, our tests have shown consistent throughput of approximately 50 - 100 emails per second.

For information on improving email delivery, see our recommendations for whitelisting and email delivery optimization.

Email Message Responses

Recipients reply with the response indicated in the in the email. This response follows normal email processing, which travels from your client device, to your email server, then to Resolver's email server. Once it arrives at our email server, it's parsed to determine the details, then posted to our platform via web services. Due to the multiple steps in the standard email process, responses can be delayed in appearing in the interface by a few seconds to a few minutes.

SMS

All SMS traffic flows from your AlertLink instance to our Communications Gateway, where it's routed and processed based on a specific set of rules that determine which aggregation service is used.

Our primary SMS aggregator is Infobip, which provides mobile delivery channels and connections to carriers around the globe. For specific country and carrier support, see our coverage list.

Some other benefits of our SMS providers include:

- 55+ offices worldwide.
- 190 countries covered.
- 9 private cloud locations.
- 7 R&D centers.
- 99.99% platform uptime.
- 400+ operator partnerships.

Note that SMS delivery varies by location. At this time, between 150 to 200 messages per second, not including processing time, can be expected in the United States and Canada. Similar speeds can be achieved in other countries; however, due to carrier variances, specific throughputs cannot be provided.

SMS Message Responses

Recipients reply with the response indicated in the in the SMS. Upon sending, the message will travel from your device to your carrier and from there

can take several routes, depending upon your location and your carrier's connections. Finally, the response is collected by our aggregator and the information is automatically posted via web services to our platform. Due to the multiple steps in the standard SMS process and several carrier network variables, responses can be delayed by a few seconds up to a few minutes before they appear in the interface.

Push

All push traffic flows from your AlertLink instance to our Communication Gateway, where it's routed, processed, then sent to Amazon Simple Notification Service (SNS). Though AWS doesn't offer a guaranteed SLA for SNS, their services are widely distributed and highly reliable.

Amazon SNS connects directly to Apple APNS (Apple Push Notification Service) and Firebase FCM (Firebase Cloud Messaging) and push notifications are **not** guaranteed by either Apple or Firebase. As such, Resolver cannot provide throughput guarantees for this service; however, Apple and Firebase limit the size of their push notifications, which results in excellent delivery speeds that are typically faster than other channels.

Push Message Responses

Push messages are delivered directly to the AlertLink Connect mobile application, where recipients choose their responses from the options shown in the app. Once submitted, the app communicates directly to our platform through web services. Responses then appear in the interface within seconds.