Introduction

This package contains the Resilient Plugin to the Data Feed extension. This Data Feed extension allows one to maintain "replica" data for Resilient incidents, artifacts, tasks, notes, etc. in another instance of Resilient or another Organization in the same instance of Resilient. The updates are performed in near real-time.

Refer to the documentation on the Data Feed extension for use cases supported and configuration options. Also refer to the other Data Feed plugins which can be used in combination.

Features

- Transfer incident data between two instances of Resilient
- Transfer incident data between two Organizations within the same Resilient instance
- Transfer incident data to more than one Resilient instance at the same time.
- Synchronized incident data objects include: Artifacts, Attachments, Notes, Milestones, Tasks and Datatables.

License

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Installation

The integration package contains Python components that are called by the Resilient platform. These components run in the Resilient Circuits integration framework. The package also includes Resilient customizations that will be imported into the platform later. You perform these installation procedures at the Resilient integration server.

Install the Python Components

Complete the following steps to install the Python components:

• Ensure that the environment is up-to-date, as follows:

```
sudo pip install ——upgrade pip
sudo pip install ——upgrade setuptools
sudo pip install ——upgrade resilient—circuits
```

• Run the following commands to install the package:

```
unzip rc_data_feed_plugin_resilient-<version>.zip
[sudo] pip install --upgrade rc_data_feed-plugin_resilient-<version>.tar.gz
```

• Configure Resilient-circuits

The Resilient Circuits process runs as an unprivileged user, typically named **integration**. If you do not already have an integration user configured on your appliance, create it now. Complete the following steps to configure and run the integration:

• Using sudo, switch to the integration user, as follows:

```
sudo su - integration
```

• Use one of the following commands to create or update the resilient-circuits configuration file. Use –c for new environments or –u for existing environments.

```
resilient-circuits config -c
or
resilient-circuits config -u [-l rc-data-feed-plugin-resilient]
```

• Import custom fields to retain source organization and incident ids:

```
resilient-circuits customize -l rc-data-feed-plugin-resilient
```

Note: Perform an export and reimport of these customizatons into the target Resilient instance in order to use them. See app.config parameter: sync_reference_fields.

Edit the resilient-circuits configuration file, as follows:

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- o In the [resilient] section, ensure that you provide all the information required to connect to the Resilient platform.
- In the [feeds] section, define the feed(s) you intend to use and create separate sections for each feed. For example: feed_names=resilient_feed
- In the [resilient_feed] section, configure the settings for your Resilient environment.

```
[feeds]
  feed_names=resilient_feed
  reload=True
  # feed_data is the default queue that will be listened to
  queue=feed_data
  [resilient_feed]
  class=ResilientFeed
  # provide configuration information to the target Resilient and Organization
  host=localhost
  #proxy host=
  api_key_id=
  api_key_secret=
  #email=
  #password=
  port=443
  org=
 cafile=false
  # identify a sqlite db file to retain mapping between resilient instances.
  db_sync_file=/path/to/file
  # optional comma separated list of fields to allow incidents to sync. ex. incident_type_ids in
['Phishing']
  matching_incident_fields=
  # when using matching_incident_fields, specify whether 'all' or 'any' field needs to match to accept
  matching_operator=all
  # optional comma separated list of fields to exclude from an incident. Sections of fields can be
used: pii,gdpr,hipaa,cm
  exclude_incident_fields=
  # optionally include references within the incident to source org_id and incident_id. Values
True/False
  sync_reference_fields=True
```

ResilientFeed Class

This class allows you to write all incoming data to another Resilient Organization. Incidents, Artifacts, Attachments, Datatables, Notes, Milestones and Tasks (including task notes, and attachments) are copied. The following configuration items are supported:

Key	Values	Description
class	ResilientFeed	Indicates that the section is for an Resilient synchronization.
host, #proxy_host, api_key_id, api_key_secret, #email, #password, port, org, cafile		Specify the connection values similar to the <code>[resilient]</code> section for connection to the target resilient
db_sync_file	/path/to/file	Absolute path to a file to retain mapping information between the two Resilient instances
matching_incident_fields	plan_status == 'C', custom_field > 5	Optional comma separated list of comparison tuples to determine the criteria for synchronizing an incident and it's tasks, artifacts, etc. Use the syntax: <field> <operator> <value>. Operator may be one of: ==, >=, <=, <, >, in, 'not in', is, and 'is not'. None can be used for <value>. Make sure to separate each <field> <operator> <value> with spaces.</value></operator></field></value></value></operator></field>
matching_operator	any all	When using matching_incident_fields, either all fields or any field needs to match for incident synchronization
exclude_incident_fields	severity_code, date_started, custom_field, etc.	Optional comma separated list of fields and field sections to exclude when synchronizing an incident.
sync_reference_fields	True False	Specify True to add information to the target incident to maintain the orginal org id and incident id. Fields are df_org_id and df_inc_id , respectively

Requirements

• This functionality has been tested with Resilient instances >= v30

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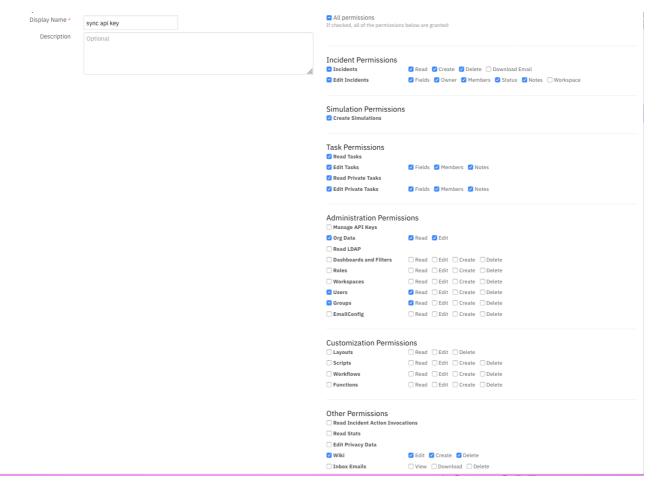
- The target Resilient instance must be at the same version or greater than the source Resilient instance
- The target Resilient instance must have the same set of custom fields, incident types, playbooks (tasks and phases) in order to synchronize incident data. Use the export/import functionality under Adminstrator Settings.
- The target Resilient instance should have the same users and groups defined. For any user or group not found, incident and task ownership as well as member lists will be left empty.
- To synchronize datatables in real time, create rules specifying the feed_data message destination in order to changes.

Setup Steps

- 1. Ensure Resilient version requirements are met for both the source and destination instances
- 2. Perform the manual duplication of custom fields, incident types, phases and tasks, etc. by exporting these configurations from the Resilient source instance and importing them to the target Resilient instance.
- 3. Manually recreate the users and groups needed in the target Resilient instance.
- 4. Configure the app.config settings with the settings for the target Resilent instance and, optionally, the criteria for the types of incidents to synchronize and fields to exclude.
- 5. Run resilient-circuits run to confirm connectivity to both instances of Resilient (with reload=False).
- 6. The best way to test is to set reload=False under [feeds] in your app.config file, and in the source Resilient instance, run the Data Feeder: Sync Incidents rule to synchronize a small number of incidents.

Considerations

- If real-time synchronization remains in place, changes in the source Resilient data will overwrite any changes made in the target Resilient instance data.
- Deleting a source incident, task, artifact, etc. will also delete the matching target information.
- Synchronization of incidents may fail if newer required fields were created that were not present on these older incidents. Same is true for newer 'on close' created fields. This can be overcome by changing the fields from required to optional.
- Unoffical timing tests shows creating incident data can take .3-.5 seconds each data type. Consider the time it will take for all your incident data to synchronize when using reload=True.
- Review the permissions given to target resilient user or api_key. They must have the appropriate values to read and write incidents, artifacts, attachments, comments, milestones, tasks, and datatables. In addition, some incidents have wiki entries associated with them. Finally, older versions of Resilient also intermix simulation incidents. Provide the permission to create those as necessary.



Limitations

- This solution is not intended for bidirectional synchronization.
- Unfortunately, the create date of the original incident is lost when the target incident is synchronized.
- Timer data cannot be synchronized

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- Presently, artifacts with custom artifact types cannot synchronize.
- Deleting a source incident task attachment presently doesn't synchronize.
- Incident email messages (via the built-in Inbound Email Connectors) do not synchronize.
- It's presently not possible to restrict synchronization of incident elements such as tasks, artifacts, notes, etc. when using reload=all and the action Data Feeder: Sync Incidents.

Syncrhonization Methods

Three methods exist for synchronizing incident data:

- reload=True This app.config setting will syncrhonize all incidents (including those closed) each time resilient-circuits is run. Review performance considerations above in [Considerations].
- real-time changes If the automatic rules for incident, artifact, tasks, etc. are enabled, then any change to a object will perform the synchronization to the target organization. Note: Datatable rules need to be created in order to synchronize them in real-time.
- Data Feeder: Sync Incidents function This function allows one to specify the range of incident data to synchronize. This is useful to limit the range of incidents to transmit.

Behavior

Unexpected behaviors can occur and are detailed here.

- If an incident is originally filtered via the matching_incident_fields setting, all incident data are filtered. If in the future that incident changes so that the matching criteria passes, at the time the incicident is changed, only the incident is synchronized. To include all the other data elements such as tasks, artifact, attachments, etc., use the Data Feeder: Sync Incidents function.
- Attachments cannot be updated

SQLite Database

A sqlite database is used to maintain a mapping of incident data between the source and target Resilient instances. Two tables are maintained for this purpose:

• data_feeder_sync - contains specific ids for source and target instances and status. The fields are as follows:

 $type_name \quad org1 \quad org1_inc_id \quad org1_type_id \quad org2 \quad org2_inc_id \quad org2_type_id \quad last_sync \quad status$

Status can be one of active, filtered, deleted.

• data_feeder_retry - failures to create a data element are retried when the parent element is synchronized. For example, this is needed when tasks appear for synchronization before the incident. Once the incident is synchronized, all the dependent elements will be retried. The schema is as follows:

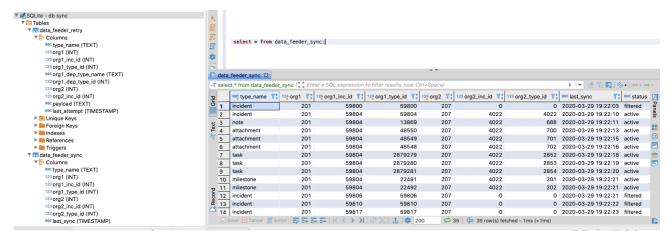
type_name org1 org1_inc_id org1_type_id org1_dep_type_name org1_dep_type_id org2 org2_inc_id payload last_attempt

Troubleshooting SQLite DB

There are many tools to view the db tables, including open-source solutions. DBeaver is one open-source application supporting many different database types including sqlite.

Use the following SQL statements for problem diagnostics:

- select * from data_feeder_sync where org2=
- select * from data_feeder_retry where org2=



Troubleshooting Tips

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Synchronization could fail for the following reasons:

- Missing custom fields, custom incident_types, phases, etc. Ensure you have exported and re-imported these customizations into the target Resilient instance. Also check the permissions set on your target Resilient user account or api token associated with incident, artifact, task, etc. creation, including creating wiki pages.
- Artifacts with custom artifact types cannot be synchronized at this time.
- Older incident fields missing required fields defined at a later point in time. The only remedy is to modify the definition of the fields from required to optional and then resync the field using the rule Data Feed: Sync Incidents.
- Matching criteria filtered the incident. Review the values specified in matching_incident_fields and the value specified in matching_operator
- Change the log level to debug to receive additional troubleshooting information on synchronization issues
- Changes to tasks, artifacts, notes, etc. before the incident is synchronized.
 - If the log displays a message such as: Incident not found. Queued to retry task:xxx->xxx to xxx Run the incident action: Data Feeder: Sync Incidents to synchronize the incident and all it's related tasks, artifacts, notes, etc.

[resilient]
loglevel = DEBUG

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