Intrado
Information to Insight

EGW SOAP Interface Description

Issue No. 10

June 30th, 2020

Notice

Intrado Corporation
1601 Dry Creek Drive
Longmont, CO 80503

720.494.5800

Trademark Information

Trademark Ownership

Product Updates

It is the policy of Intrado to improve products as new technology, software, hardware, and firmware become available. Intrado, therefore, reserves the right to change specifications without prior notice. All features, functions, and operations described herein may not be available in the version of the product you are using.

CONTENTS

1 Introduction

The EGW SOAP server is part of the provisioning tools that are used to provision ERL and endpoint records. It can also be used to set-up and maintain ports, switches, subnets, WLAN Controllers and access points. There are three different methods:

- **Administrative Dashboard:** A batch file is uploaded using the EGW web interface.
- **FTP:** The batch file is uploaded to the EGW FTP server.
- **SOAP interface:** A web services interface can be established to upload the data to the EGW following the WSDL specifications.

There are two principal applications for provisioning using the SOAP server:

- Create a webpage to send SOAP provisioning requests to the EGW
- Use scripts to automatically retrieve information from various information sources and then upload it to the EGW using SOAP provisioning requests*

*By using scripts it is possible to periodically upload the phone inventory to track IP phone moves, as an alternative to using layer2/3 discovery.

This document provides all of the instructions that are necessary to activate and maintain the SOAP provisioning service for the V2 interface. The V2 interface includes support for PIDF-LO location fields and enables worldwide mode operation (service in UK/Europe). The following topics are covered:

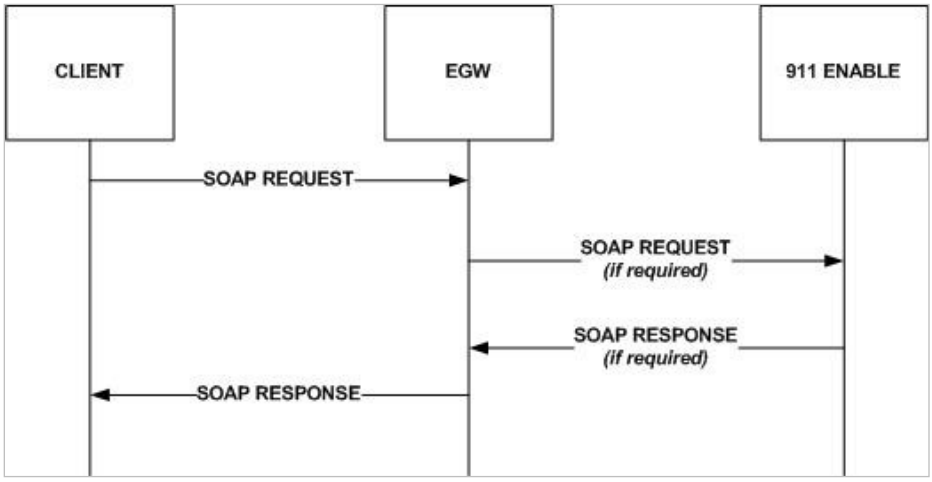
- SOAP service activation
- Function calls for ERLs and endpoints
- Responses and Error Codes
- Validation

1.1 Related Documents

- EGW System Guide

2 About the EGW SOAP Server

The EGW SOAP Server enables ERLs and endpoints to be provisioned in the EGW. When an ERL record is provisioned it must be validated by Intrado's real-time address validation service. For this reason, SOAP requests and responses occur between the Client, EGW and Intrado. In all other cases, requests and responses only occur between the Client and the EGW. Examples of Client/EGW transactions include endpoint additions, moves and changes. The diagram below illustrates SOAP requests and responses.



2.1 About SOAP

SOAP is an XML-based protocol used to exchange information between computers. Since XML is a machine independent protocol, SOAP may be used to send messages between servers running different platforms and using different programming languages. For example, SOAP enables transactions between a Windows Server using ASP and a Linux Server using PHP. If you are unfamiliar with the WSDL and SOAP standards, please read the following article:

http://www.developer.com/services/article.php/1602051/WSDL-Essentials.htm

2.2 WSDL Specification

The location of the .wsdl can be found under the sections in this document that discuss the specific SOAP requests.

2.3 How to Activate the SOAP Interface

The EGW Dashboard is used to activate the SOAP provisioning service using the EGW SOAP Server.

To activate the SOAP interface:

1. Click on **Configuration>Advanced>SOAP Server**
2. Enable **SOAP Server Locations** and **SOAP Server Endpoints**
3. Provide a username and password for locations and endpoints

By default, the username and password for **SOAP Locations** and **SOAP Endpoints** are set to **DEFAULT_SOAP_USER** and **DEFAULT_SOAP_PWD**, respectively. This can be changed according to your needs.

Using the SOAP Server settings page, you can also enable/ disable SOAP Sever for the following:

- **3rd Party Layer 2**
- **Layer 2**
- **WLAN**
- **Subnets.**

You must provide a username and password for each SOAP Server, as described in the steps above. Default username and passwords are not set for these entities.

Note: When you send function calls to the EGW SOAP Server the username/password that you provided in Step 3 above must match those provisioned using the Dashboard

2.4 Security

The EGW SOAP XML service is protected to ensure that only authorized customers can use it. There are various levels of security.

1. A required API username (Username field) and API password (Password field)
2. Secure Sockets Layer (SSL) data transport

A failure of authenticated security at any one of these levels denies access to the Intrado API service.

2.5 Sending Requests

SOAP requests must be sent to the EGW SOAP server using the POST method. GET type requests will be rejected.

3 ERL Requests, Responses and Error Codes for US/Canada

3.1 Overview

SOAP Server Location:

To send requests to the server on the EGW, use the following url:

https://[theEGWip]/custSoapLocationsV2/index.php

WSDL:

To obtain the wsdl,

https://[theEGWip]/soapschemas/EGW/custSoapLocationsV2/custSoapLocations.wsdl
Where [theEGWip] is the IP address of the EGW on your network.

3.2 ERL Requests

This section describes the Intrado operations related to ERL Provisioning:

- validateAddressRequest
- qryLocationRequest
- addOrUpdateLocationRequest
- deleteLocationRequest
- qryELINRequest
- qryELINStatRequest

3.2.1 validateAddressRequest

Fields required to validate an address.

Field name	Description	Required?
EGW soap username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
EGW soap password	The password to connect to the EGW. Max. 25 characters.	Yes
HNO	House number, numeric part only. Street number or Building number. Example 800, 600, 3891	Y
HNS	House number suffix. Example: 12, a, 2134	N
PRD	Prefix Directional. Leading street direction. Example: W, SE, N, NE	N
RD	Primary road or street. Street name. Example: Sunset, Magnolias, 44	Y
STS	Street suffix. Example: ST, BLVD, HWY	N
POD	Post Directional. Trailing street suffix. Example: W, SE, N, NE.	N

LOC	More precise information about the location. Alphanumerical between 1 and 50 characters. Ex.: Suite 200, Floor 2, Unit 341.	N
A3	City, township, shi (JP) Example: New York, Los Angeles, Chicago.	Y
A1	The state or province or county of the location. Some countries require it to be the Abbreviated state name (2 letters) while others require it to be the full name. The validation is Country specific.	Y
country	The ISO 3166 Ex.: US, USA, CA. **Note:** For CA, ensure "Canadian Addresses Enabled" is set to Yes on Dashboard global settings.	Y
PC	Postal Code for most countries and the zip code for the United States. Validation is based on the Country specifications. Example: 10044, H4P 2R9	Y
NAM	The name of the customer. This field will appear on the PSAP screen as the "Name". Between 1 and 60 characters.	N
Force CSZ	Setting which allows addresses to be validated using City, State and Zip Code Only (CSZ). Must be set to "0" or "1". If set to "1", CSZ entries will be permitted.	Y

3.2.2 qryLocationRequest

Fields required to query a location.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
password	The password to connect to the EGW. Max. 25 characters.	Yes
erl_id	The ERL ID representing the location. Numbers, letters and underscores. Max.31 characters	Yes

3.2.3 qryLocationbyMatchingERLIDRequest

This is the request to return all provisioned ERLs matching a given ERL ID.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Y
password	The password to connect to the EGW. Max. 25 characters.	Y
erl_id	The ERL ID representing the location. Numbers, letters and underscores. Max.31 characters.	Y

	*Note: When erl_id is specified as *, all provisioned ERLs as returned. When the erl_is is specified as a string, it is treated as a partial entry and all provisioned ERLs matching the partial string are returned.*	

3.2.4 qryELINRequest

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Y
password	The password to connect to the EGW. Max. 25 characters.	Y
ELIN	ELIN number. If multiple ERLs are associated, more than one ERL will be returned in the results.	Y

3.2.5 qryELINStatRequest

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Y
password	The password to connect to the EGW. Max. 25 characters.	Y
ELIN	ELIN number. If left blank will return total number of ELINs in the ELIN pool, as well as amount of ELINs currently available. If you provide a range it will return only the amount of ELINs remaining for that range in the ELIN pool If you provide an ELIN it will return 0 or 1 to tell you if its available or not for dynamic assignment.	Y

3.2.6 addOrUpdateLocationRequest

Fields required to add/update a location.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Y
password	The password to connect to the EGW. Max. 25 characters.	Y
erl_id	The ERL ID representing the location. Numbers, letters and underscores. Max. 31 characters.	Y
HNO	House number, numeric part only. Street number or Building number. Example 800, 600, 3891	Y
HNS	House number suffix. Example: 12, a, 2134	N
PRD	Prefix Directional. Leading street direction. Exemple: W, SE, N, NE	N
RD	Primary road or street. Street name. Example: Sunset, Magnolias, 44	Y
STS	Street suffix. Example: ST, BLVD, HWY	N
POD	Post Directional. Trailing street suffix. Exemple: W, SE, N, NE.	N

Field Name	Description	Required?
LOC	More precise information about the location. Alphanumerical between 1 and 50 characters. Ex.: Suite 200, Floor 2, Unit 341.	N
A3	City, township, shi (JP) Example: New York, Los Angeles, Chicago.	Y
A1	The state or province or county of the location. Some countries require it to be the Abbreviated state name (2 letters) while others require it to be the full name. The validation is Country specific.	Y
country	The ISO 3166 alpha-2. Ex.: US, CA. United States, Canada.	Y
PC	Postal Code for most countries and the zip code for the United States. Validation is based on the Country specifications. Example: 10044, H4P 2R9	Y
NAM	The name of the customer. This field will appear on the PSAP screen as the “Name”. Between 1 and 60 characters.	N
local_gateway_enabled	Defines if the location will be going through a local trunk or not. Values: 1 = Yes 0 = No If not defined, default is 0.	N
direct_call_delivery (security desk call route setting)	Setting which determines call routing for the security desk route. 0 = Call Monitoring 1 = Direct Call Delivery 2 = Security Desk Dial Plan Only ** When set to 0, default setting of Call Monitoring will be used, if a Security Desk is configured at the Dashboard. The security desk is referenced by the Security Desk Name (Position 14) specified for the ERL record. When set to 1, security desk call routing feature will use Direct Delivery. If 2 is set, the security desk feature will only apply to calls made to a security desk dial plan number (e.g. 511, 888). If the ERL setting is 2, and a security desk number is dialed, the call will route as a direct delivery call to the on-site security desk. With this configuration, a call from the same ERL to the emergency number (e.g. 911) will not route to the security desk. **Please note that option 2 (Security Desk Dial Plan Only) is not available for EGW in World Wide mode.	N
elin	ELINs for the ERL. Must be 10 digit numbers for US and CA but can be between 3 to 15 digits for other countries. Ex.: 1000000000, 3333333333, 2323232323. Or [1] or [2] or [3], etc to use the dynamic ELIN feature. The same ELIN can be used for multiple ERLs. **Note:** Dynamic ELIN feature does not work for countries other than US and CA.	N

Field Name	Description	Required?
	ELINs for the ERL. May be defined statically or dynamically. **Static assignment** To statically assign ELINs, enter the ELIN numbers (must be 10 digit numbers and comma delimited). e.g. 1000000000, 3333333333, 2323232323. **Dynamic assignment (ERS call delivery only)** Add the amount of ELINs, enclosed in parentheses, which you would like the EGW to assign to this ERL. The EGW will select available ELINs from the ELIN pool based on this number. For example, [1],[2],[3] An error will be generated if the ELIN pool has been exhausted. **Note:** Dynamic ELIN management should be reserved for enterprises with on-site security PS-ALI databases, or for enterprises that use local trunking to route all 911 calls within a single PSAP jurisdiction. **Multiple ERLs per ELIN** It is possible to assign multiple ERLs to the same ELIN number. However, you are not able to assign a dynamic ELIN from the ELIN pool to more than one ERL. A dynamic ELIN can only be assigned to one ERL at a time. If you attempt this operation an error is returned.	
security_desk name	The name identifier of the security desk (if any). Letters and underscores.	N
crisis_email	Distribution list which will receive an email when 911 is dialed from the ERL. Comma delimited for multiple entries. e.g. john@enterpriseabc.com, jane@enterpriseabc.com.	N
url_data	The url link can contain static and dynamic variables that will point to ERL data that you would like to deliver with Desk Alert or Crisis Alert notifications. This ERL data provided in the url link can be used to integrate with other systems. The URL Variables can be used with this form: ${*variable_name*} **Accepted characters:** All alphanumeric (a-z, A-Z, 0-9) and these characters: .~/?#@=%+&	N

- **Sample PHP Script**

```
<?php

// disable cache for testing.
ini_set("soap.wsdl_cache_enable", "0");
```

```
define('CUSTOMER_USER',  'egw_soap_user_change_me'); define('CUSTOMER_PASS',
'egw_soap_password_change_me');

define('ERL_SOAP_URL',
'https://egw_ip_address_change_me/custSoapLocationsV2/');
define('ERL_SOAP_WSDL',
'https://egw_ip_address_change_me/custSoapLocationsV2/custSoapLocations.wsdl');

$args = array (
      'trace'        => true,
      'exceptions'    => true,
      'location'      => ERL_SOAP_URL
);

$soapClient = new SoapClient(ERL_SOAP_WSDL, $args);

$params = array(
      'username'                  => CUSTOMER_USER,
      'password'                  => CUSTOMER_PASS,
      'erl_id'                    => "egw_location",
      'local_gateway_enabled'        => false,
      'civicAddress' => array(
                                    "LOC"          => "EGW
LOCATION",
                                    "HNO"          => "100",
                                    "RD"           => "MAIN ST",
                                    "A3"           => "NEW YORK",
                                    "A1"           => "NY",
                                    "country"      => "USA",
                                    "PC"           => "10044"

      )
);

$result = $soapClient->addorUpdateLocationRequest($params);

if (isset($result->status)) {
      if ($result->status != 0) {
            echo "ERROR\n\n";
            echo
"============================================================\n";
            print_r($result);
            echo
"============================================================\n\n";
      }
      else {
```

```
            echo "OK\n\n";
            echo
"============================================================\n";
            print_r($result);
            echo
"============================================================\n\n";

      }
}
else {
      echo "Result status from soap call is missing!\n"; }

echo "Request XML:\n" . $soapClient->__getLastRequest() . "\n"; echo "Response XML:\n" . $soapClient-
>__getLastResponse() . "\n";

?>
```

3.2.7 deleteLocationRequest

Fields required to delete a location.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
password	The password to connect to the EGW. Max. 25 characters.	Yes
erl_id	The ERL ID representing the location. Numbers, letters and underscores. Max. 31 characters.	Yes

3.3 ERL Responses

Functions will return a status of 0 or -1 to indicate the success or failure of the SOAP request. An "errorReturned" message is also returned which indicates the specific cause of the problem. The errorReturned" message for 0 is "ok".
The functions in the table below return additional response fields.

Function Name	Response Fields
validateAddressRequest	• alternatives • address_status
qryLocationRequest	• locationInfo
addOrUpdateLocationRequest	• alternatives • address_status
qryELINRequest	• LocationInfo
qryELINStatRequest	• LocationInfo

3.3.1 Alternatives

Field	Description
houseNumberRange->low	If a house number with a range is returned, this field will contain the smaller number of the range.
houseNumberRange->high	If a house number with a range is returned, this field will contain the larger number of the range.
houseNumber	If a single house number is returned, this field will contain the number.
streetName	This field will contain a street name.
city	This field will contain a city.
state	This field will contain a state.
zipCode	This field will contain a zip code.

3.3.2 Address_status

Field	Description
position_status	Indicates how much of the address was used to determine the latitude and longitude for purposes of call routing. It will be set to either "*Full Address*" or "*City, State, and Zip Code only*". (US ONLY)
civic_status	Indicates how much of the address passed civic address validation. It will be set to either "*Preferred Full Address*" or "*Full Address*" or "*City, State, and Zip Code only*". (US ONLY)
msag_status	Indicates whether an MSAG-valid form of the address is available at the time of the request. It will be set to either "*Found*" or "*Not found*". (US ONLY)
routing_status	Indicates the routing path of a 911 call for the address at the time of the request. (US ONLY) • **None** – Intrado cannot currently determine how to route a 911 call for the Subscriber. • **Ten Digit** – The 911 call is routed using the NENA i1 standard. The call is routed to a 10 digit PSAP administrative line number, and the callback number is automatically displayed. • **Selective Router** – A 911 call is routed via a Selective Router using the ESQK & ESRN numbers. • **VoIP** – The 911 call is routed using VoIP, bypassing the Selective Router.* *Not currently applicable.
responder_type	Indicates the type of responder that would answer a 911 call for the Subscriber's address at the time of the request. (US ONLY). • **Unknown** – The responder type could not be determined. Note: This type will only be used if there is a provisioning/configuration error. • **PSAP** – The responder is a PSAP for North American 911. • **Response Center** – The responder is an Emergency Call Response Center (ECRC). The ECRC determines the location and callback number of the calling party and completes call routing to the appropriate PSAP. • **Recorded Message** – the 911 call is routed to a recorded message. • **Carrier Operated** – This responder is operated by (or on behalf of) the carrier, and Intrado does not know any of the characteristics of this responder. Typically this type of responder is used as the "default responder" for a Carrier, provided by the Carrier.

3.3.3 LocationInfo

Field	Description
Erl_id	The ERL ID representing the location. Numbers letters and underscores. Max. 31 characters.
HNO	House number, numeric part only. Street number or Building number. Example 800, 600, 3891
HNS	House number suffix. Example: 12, a, 2134
PRD	Prefix Directional. Leading street direction. Example: W, SE, N, NE
RD	Primary road or street. Street name. Example: Sunset, Magnolias, 44
STS	Street suffix. Example: ST, BLVD, HWY
POD	Post Directional. Trailing street suffix. Example: W, SE, N, NE.
LOC	More precise information about the location. Alphanumerical between 1 and 60 characters. Ex.: Suite 200, Floor 2, Unit 341.
A3	City, township, shi (JP) Example: New York, Los Angeles, Chicago.
A1	The state or province or county of the location. Some countries require it to be the Abbreviated state name (2 letters) while others require it to be the full name. The validation is Country specific.
country	The ISO 3166 alpha-2. Ex.: US, CA. United States, Canada.
PC	Postal Code for most countries and the zip code for the United States. Validation is based on the Country specifications. Example: 10044, H4P 2R9
NAM	The name of the customer. This field will appear on the PSAP screen as the “Name”. Between 1 and 60 characters.
Local_gateway_enabled	Setting which enables/disables local trunking for the location. 1 = Yes 0 = No
Direct_call_delivery	Setting which enables/disables direct call delivery for the location. Setting this field to 1 removes data from Intrado. 1 = Yes 0 = No
Elins	ELINs for the ERL. Must be 10 digit numbers and comma delimited. Ex.: 1000000000,3333333333,2323232323. ELINs must be unique throughout all locations. An error will be generated if an ELIN is already assigned to another location.
Security_desk_name	The name identifier of the security desk. Letters and underscores.
Security_desk_phone	Phone number that rings the security desk.

Crisis_alert_email	Distribution list which will receive an email when 911 is dialed from the ERL. Comma delimited for multiple entries. Ex: john.smith@aol.com, jane.smith@aol.com
url_data	The url link can contain static and dynamic variables that will point to ERL data that you would like to deliver with Desk Alert or Crisis Alert notifications. This ERL data provided in the url link can be used to integrate with other systems. The URL Variables can be used with this form: ${*variable_name*}
Location_last_updated	Date and time that the location was last updated. Eg. 2008-12-01 13:01:10

3.4 ERL Error Codes

All possible error codes for ERLs.

Error name	Description	Validate	Query	Add/ Update	Delete
ok	The entry is successful.	X	X	X	X
invalid_auth	Invalid username or password.	X	X	X	X
service_disabled	SOAP Server Locations has not been enabled in the EGW settings.	X	X	X	X
invalid_building_number (1)	Format of the building number is invalid.	X		X	
invalid_street_name (2)	Format of the street name is invalid.	X		X	
invalid_city (3)	Format of the city is invalid.	X		X	
invalid_state (4)	Format of the state is invalid.	X		X	
invalid_country (5)	Format of the country is invalid.	X		X	
invalid_zip_code (6)	Format of the zip code is invalid.	X		X	
invalid_postal_code (7)	Format of the postal code is invalid.	X		X	
force_csz_invalid (8)	Value must be 0 or 1.	X		X	

Error name	Description	Validate	Query	Add/ Update	Delete
local_trunking_not_allowed (9)	License Key prohibits local trunking setting.			X	
only_local_trunking_is_allowed (10)	License Key only allows local trunking locations to be added.			X	
Invalid_erl_id (11)	Format of the erl id is is invalid.		X	X	X
invalid_local_trunking (12)	Value must be either 0 or 1.			X	
invalid_direct_call_delivery (13)	Value must be either 0 or 1.			X	
invalid_customer_name (14)	The customer name entered was invalid.			X	
invalid_elin (15)	One of the ELINs entered was invalid.			X	
invalid_security_desk_name (16)	The security desk could not be found in the database.			X	
invalid_crisis_email (17)	One of the email addresses is invalid.			X	
invalid_url_data (18)	The format of the URL Data is invalid.			X	
local_trunking_requires_elin (19)	A unique ELIN was not specified for the local trunking setting.			X	
direct_call_delivery_requires_security_desk (20)	A security desk was not assigned for the direct delivery setting.			X	
conflict_local_trunking_direct_call_delivery (21)	Direct call delivery and local gateway cannot be enabled at the same time.			X	
invalid_location (22)	Format of the location is invalid.			X	
address_already_exists (23)	The address already exists.			X	
location_doesnt_exists (24)	The location does not exist.		X	X	X
addr2pos_cszOnly (25)	Address can only be validated using City State and Zip (CSZ).	X		X	
addr2pos_failed (26)	Address failed validation process.	X		X	

Error name	Description	Validate	Query	Add/ Update	Delete
cannot_delete_endpoint_found (27)	Cannot delete the location because one or more endpoints are assigned to it.				X
elin_exist_another location (28)	One of the ELIN numbers is already set to another ERL ID, or is an existing Extension-Bind number.			X	
soap_error (29)	A soap error occurred during the process. Please try again. If problem persists, check Alarm logs for more information on the error. Contact Intrado for support.	X		X	X
invalid_license_key (30)	License key is invalid. Please contact the Intrado support team.			X	
ssl_must_be_enabled (31)	Send requests using HTTPS to ensure a secure connection.	X	X	X	X
canadian_address_requires_elin (32)	You cannot provision a Canadian address without an ELIN				
_elin_already_set	One of the ELINs that you tried to assign to the ERL is in the dynamic ELIN pool. Dynamic ELINs cannot be assigned to more than one ERL at a time.			X	
Elin_pool_exhausted	ELIN pool is exhausted or dynamic ELIN pool is empty.			X	
Dynamic_elin_not_allowed	The EGW is currently not configured for use with the dynamic ELIN feature.			X	
Unsupported data in field detected (33)	One of the header values is invalid. The message in the error report will provide the value, and header.	X		X	

Error name	Description	Validate	Query	Add/ Update	Delete
Security desk is set to desk alert only (34)	Direct call delivery setting not applicable. The specified security desk is set to Desk Alert Only.			X	
invalid_character_in_field_%PIDFLONAME%	An invalid character was used in one of the PIDF-LO fields.	X		X	
Invalid url variable	The format of the url variable is invalid.	X		X	

4 Endpoint Requests, Responses and Error Codes for US/Canada

4.1 Overview

SOAP Server Location:

To send requests to the SOAP server on the EGW, use the following URL:

https://[theEGWip]/custSoapEndpointsV2/index.php

WSDL:

To obtain the wsdl,

https://[theEGWip]/soapschemas/EGW/custSoapEndpointsV2/custSoapEndpoints.wsdl

Where [theEGWip] is the IP address of the EGW on your network.

4.2 Endpoint Requests

This section describes the operations related to ERL Provisioning:

- addOrUpdateEndpointRequest
- qryEndpointRequest
- deleteEndpointRequest
- generateReportRequest

Note: For the following endpoint requests, an endpoint or MAC must be included.

4.2.1 addOrUpdateEndpointRequest

Fields required when adding or updating endpoints.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
password	The password to connect to the EGW. Max. 25 characters.	Yes
ip_pbx_name	Name of the IP-PBX that the endpoint will be added to.	Yes
extension	The extension of the phone. Either extension, MAC or device name must be present. Alphanumerical up to 50 characters.	Conditional (either extension,

		MAC or device name must be present)
mac_address	The MAC address of the phone. Either extension or MAC must be present. Hexadecimal and must be 12 characters in length. Ex.: AB02FC91AC0F	Conditional (either extension, MAC or device name must be present)
device_name	The device name of the phone. eg. CSFJohnDoe. Alphanumeric up to 50 characters and supports underscore (_), dash (-), or dot (.).	Conditional (either extension, MAC or device name must be present)
erl_id	The ERL ID to which the endpoint will be added to. Leave blank to set to call center mode.	No
ip_address	The current IP address of the phone. Must be IPv4.	No
display_name	The display name of the phone. Alphanumerical up to 32 characters.	No
timestamp	The UNIX timestamp representing the time at which the endpoint values were discovered. The time of batch processing is always after the time of endpoint discovery. The RLM can be used to update an endpoint before processing of the last uploaded batch file. To account for this, the timestamp ensures that the RLM file will not be overwritten. If timestamp is not included, the time at which is batch file is processed will be used instead, and the RLM file will be overwritten. Time must be in UNIX format. Ex.: 1208791332 represents April 21st 2008 15:22:12.	No

4.2.2 qryEndpointRequest

Fields required when querying an endpoint.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
password	The password to connect to the EGW. Max. 25 characters.	Yes

ip_pbx_name	Name of the IP-PBX that the endpoint will be added to.	Yes
endpoint	The endpoint identifier of the phone. Typically an extension number or DID. Alphanumerical up to 50 characters.	Conditional (either extension, MAC or device name must be present)
mac_address	The MAC address of the phone. Hexadecimal and must be 12 characters in length. Ex.: AB02FC91AC0F	Conditional (either extension, MAC or device name must be present)
device_name	The device name of the phone. eg. CSFJohnDoe. Alphanumeric up to 50 characters and supports underscore (_), dash (-), or dot (.).	Conditional (either extension, MAC or device name must be present)

4.2.3 deleteEndpointRequest

Fields required when deleting an endpoint.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
password	The password to connect to the EGW. Max. 25 characters.	Yes
ip_pbx_name	Name of the IP-PBX that the endpoint will be added to.	Yes
endpoint	The endpoint identifier of the phone. Typically an extension number or DID. Alphanumerical up to 50 characters.	Yes *
mac_address	The MAC address of the phone. Hexadecimal and must be 12 characters in length. Ex.: AB02FC91AC0F	Yes *
device_name	The device name of the phone. eg. CSFJohnDoe. Alphanumeric up to 50 characters and supports underscore (_), dash (-), or dot (.).	Conditional (either extension, MAC or device name must be present)

4.2.4 generateReportRequest

Field name	Description	Required
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
password	The password to connect to the EGW. Max. 25 characters.	Yes
reportCode	Possible values are exportBatch, onSiteSummary, or offSiteSummary. The on-site and off-site summary reports provide complete information run down for the various endpoints provisioned in the EGW (eg. Associated IP-PBX name, extension, MAC address etc.) The export batch report is a batch file formatted to replace a damaged configuration or move an existing configuration to a new machine.	Yes

4.3 Endpoint Responses

Functions will return a status of 0 or -1 to indicate the success or failure of the SOAP request. An "errorReturned" message is also returned which indicates the specific cause of the problem. The "errorReturned" message for 0 is "ok." The functions in the table below return additional response fields.

Function Name	Response Fields
qryEndpointRequest	EndpointInfo

4.3.1 Endpoint Info

Field	Description
Endpoint	The endpoint identifier of the phone. Typically an extension number or DID. Alphanumerical up to 50 characters.
Mac_address	The MAC address of the phone. Hexadecimal and must be 12 characters in length. Ex.: AB02FC91AC0F

device_name	The device name of the phone. eg. CSFJohnDoe. Alphanumeric up to 50 characters and supports underscore (_), dash (-), or dot (.).
Ip_pbx_name	Name of the IP-PBX that the endpoint will be added to.
Ip_address	The current IP address of the phone.
Erl_id	The ERL ID to which the endpoint will be added to. Leave blank to set to call center mode.
Display_name	The display name of the phone.
Endpoint_last_updated	Date and time that the endpoint was last updated. Eg. 2008-12-01 13:01:10
HNO	House number, numeric part only. Street number or Building number. Example 800, 600, 3891
HNS	House number suffix. Example: 12, a, 2134
PRD	Prefix Directional. Leading street direction. Example: W, SE, N, NE
RD	Primary road or street. Street name. Example: Sunset, Magnolias, 44
STS	Street suffix. Example: ST, BLVD, HWY
POD	Post Directional. Trailing street suffix. Example: W, SE, N, NE.
LOC	More precise information about the location. Alphanumerical between 1 and 60 characters. Ex.: Suite 200, Floor 2, Unit 341.
A3	City, township, shi (JP) Example: New York, Los Angeles, Chicago.
A1	The state or province or county of the location. Some countries require it to be the Abbreviated state name (2 letters) while others require it to be the full name. The validation is Country specific.
country	The ISO 3166 alpha-2. Ex.: US, CA. United States, Canada.
PC	Postal Code for most countries and the zip code for the United States. Validation is based on the Country specifications. Example: 10044, H4P 2R9
NAM	The name of the customer. This field will appear on the PSAP screen as the “Name”. Between 1 and 60 characters.
Local_gateway_enabled	Setting which enables/disables local trunking for the location. 1 = Yes 0 = No
Direct_call_delivery	Setting which enables/disables direct call delivery for the location. Setting this field to 1 removes data from Intrado. 1 = Yes 0 = No
Customer_name	The name of enterprise. This field will appear on the PSAP screen as the “Name”. Between 1 and 60 characters.
Elins	ELINs for the ERL. Must be 10 digit numbers and comma delimited. Ex.: 1000000000,3333333333,2323232323.

	ELINs must be unique throughout all locations. An error will be generated if an ELIN is already assigned to another location.
Security_desk_name	The name identifier of the security desk. Letters and underscores.
Security_desk_phone	Phone number that rings the security desk.
Crisis_alert_email	Distribution list which will receive an email when 911 is dialed from the ERL. Comma delimited for multiple entries. Ex: john.smith@aol.com jane.smith@aol.com
url_data	Information that will appear in the Crisis Email Alert. Eg. URL or database query. All characters accepted except semicolons.
Location_last_updated	Date and time that the location was last updated. Eg. 2008-12-01 13:01:10

4.4 Endpoint Error Codes

All possible error codes for Endpoints.

Error name	Description	Query	Add/Update	Delete
ok	The entry is successful.	X	X	X
Ip_pbx_not_found	The IP-PBX name entered is invalid.	X	X	X
Invalid_endpoint	The Endpoint format is invalid.	X	X	X
Invalid_mac_address	The MAC address format is invalid.	X	X	X
Invalid device name	The device name format is invalid.	X	X	X
Location_doesnt_exists	The ERL ID entered is invalid.		X	
Invalid_ip_address	The IP Address is invalid.		X	
Invalid_display_name	The display name is invalid.		X	
Invalid_timestamp	The timestamp specified was not in the valid UNIX format.		X	
Endpoint_or_mac_doesnt_exist	Endpoint and MAC address could not be found.	X		X
requires_endpoint_or_devname_or_mac_address	The Endpoint ID was not specified. Either endpoint, MAC or device name must be present.	X	X	X
Ssl_must_be_enabled	Send requests using HTTPS to ensure a secure connection.	X	X	X
invalid_auth	Invalid username or password.	X	X	X
service_disabled	SOAP Server Endpoints has not been enabled in the EGW settings.	X	X	X

5 Layer2 Requests, Responses and Error Codes

5.1 Overview

The custSoapswitches SOAP Interface is a web service to Add, Update, Delete, Query and Report Swicthes and their ports to the EGW.

SOAP Server Location:

To send requests to the server on the EGW, use the following url:

https://[theEGWip]/custSoapSwitches/index.php

WSDL:

To obtain the wsdl,

https://[theEGWip]/soapschemas/EGW/custSoapSwitches/custSoapSwitches.wsdl

Where [theEGWip] is the IP address of the EGW on your network.

The custSoapswitches SOAP interface enables you to perform the following functions:

- Add and update switches and ports
- Delete switches and ports
- Query switches and ports
- Generate reports of all the available switches and ports.

5.2 Layer 2 Requests

5.2.1 AddSwitchRequest

The **AddSwitchRequest** is used to add switches and ports to the EGW. The following parameters apply when performing the **AddSwitchRequest**:

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Maximum 25 characters.	Yes
password	The password to connect to the EGW. Maximum 25 characters.	Yes
switch_ip	IP address of the switch. Must be IPv4.	Yes
snmp_version	The SNMP version of the controller. Can be 1, 2c or 3. If left empty, EGW considers the SNMP version as 2c.	No
snmp_community	The SNMP Community string value for the controller. Alphanumeric and special characters accepted. Must be between 1 and 25 characters. .	No
snmp_security_name	Security name required only for SNMP Version 3. Alphanumeric up to 50 characters.	No

snmp_security_level	Security level required only if SNMP Version 3 is chosen. Must be one of the following: • NoAuthNoPriv • AuthNoPriv • AuthPriv	No
snmp_auth_protocol	MD5 or SHA. Required for SNMP version 3.	Yes (for SNMP version 3)
snmp_auth_passphrase	Auth Passphrase required if Security Level set at authNoPriv and authPriv. Alphanumeric between 1 and 50 characters.	No
snmp_encrypt_protocol	DES or AES. Required for SNMP version 3.	No
snmp_encrypt_passphrase	Encrypt passphrase required if Security Level set at authPriv. Alphanumeric between 1 and 50 characters.	No
snmp_port	SNMP port value. Must be a numerical value between 1 and 65535.	Yes
snmp_timeout	Amount of time (in seconds) that the EGW will spend attempting to scan the switch. Must be a numerical value between 1 and 65535.	Yes
snmp_retry_count	Number of attempts the EGW will initiate before declaring that the switch is unreachable. Must be a numerical value between 1 and 65535.	Yes
switch_erl	ERL ID of the switch. Alphanumerical value between 1 and 31 characters.	No
switch_type	Type of switch. Possible values: • **Auto Detect**: If no specific Switch Type is specified, the EGW will attempt to auto-detect the MIB supported by the switch on the next scan. • **Cisco**: Layer 2 Discovery model that provides support for Cisco switches. • **Juniper**: Layer 2 Discovery model that provides support for Juniper. • **Bridge-MIB**: Layer 2 Discovery model that provides support for switches that use the Bridge MIB. • **Q-Bridge-MIB**: Layer 2 Discovery model that provides support for switches that use the Q-Bridge MIB. • **PhyBridge-PoLRE-MIB**: Layer 2 Discovery model that provides support for Phybridge • **PhyBridge-UniPhyer-MIB**: Layer 2 Discovery model that provides support for Phybridge. • **3-COM-Bridge-MIB**: Layer 2 Discovery model that provides support for switches that use the 3-COM-Bridge-MIB. • **3-COM-Q-Bridge-MIB**: Layer 2 Discovery model that provides support for switches that use the 3-COM-Q-Bridge-MIB.	No

switch_is_scannable	Setting that determines whether the switch can be scanned or not. Possible values: • enable • disable	No
log_level	Parameter that controls the log verbosity of scan tasks. Possible values: • OFF • FATAL • ERROR • WARN • INFO • TRACE • ALL	No
switch_description	A short description of the switch. Alphanumerical value between 1 and 31 characters.	No
switch_vendor	Vendor name of the switch. Alphanumerical value between 1 and 25 characters.	No
switch_trunk_port_detecti on	Parameter that enables/disables trunk port detection for the switch. Possible values: • enable • disable	No
switch_scan_voice_vlans	Parameter that enables/ disables scanning of specific VLANs on the network: • enable • disable	No
switch_voice_vlans	Identifying integer that defines the VLANs that direct voice traffic. Must be a numerical value between 1 and 65535.	No
switch_port_name	Name of the port on the switch. Alphanumerical value between 1 and 31 characters.	Yes
switch_port_erl	ERL that will be applied to the port on the switch. Alphanumerical value between 1 and 31 characters.	Yes
is_trunk_port	Parameter that indicates whether the port is a trunk port. Possible values: • no • yes	No

Response

The AddSwitchResponse returns the response code as well as any applicable messages. Possible values are:

Response	Description and possible values

Status	Depending on the outcome of the operation, one of the following Status codes might be returned: • 200 (returned for Success) • 400 (returned for Bad Request) • 401 (returned for Unauthorized) • 404 (returned for Not Found) • 500 (returned for Internal Server Error)
Message	Message maybe returned to further inform the user of any additional details related to the operation.
ErrorMessage	Any applicable error messages are returned as well.

5.2.2 DeleteSwitchRequest

The **DeleteSwitchRequest** deletes the switch and/ or ports on the EGW. A switch and its ports can be deleted by specifying its ERL ID or by specifying a combination of the switch IP and/or the port names. The following conditions apply:

- If **switch_ip** and **switch_port_name** are provided, then only the specified port is deleted.
- If **switch_ip** is specified and * (wildcard) is specified as the **switch_port_name**, then all the ports belonging to the switch are deleted.
- If only the **switch_ip** is specified, then the switch as well as all the ports belonging to the ports are deleted.

The following parameters are of importance when deleting switches and/or trunk ports:

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Maximum 31 characters.	Yes
password	The password to connect to the EGW. Maximum 31 characters.	Yes
switch_ip	IP address of the switch. Must be IPv4.	Yes
switch_port_name	The switch port name can be either the name of the port, in which case the specified port for the specified switch will be deleted. If the port name is specified as *, all the ports will be deleted. If the port name is missing the switch and all its ports will be deleted. Alphanumerical value between 1 and 255 characters.	No
switch_or_port_erl	All the switches (and their ports) that have the matching ERL will be deleted. Next all the ports (and NOT their switches) that have the matching ERL will be deleted. Alphanumerical value between 1 and 31 characters.	No

Response

The DeleteSwitchResponse returns the response code as well as any applicable messages. Possible values are:

Response	Description and possible values

Status	Depending on the outcome of the operation, one of the following Status codes might be returned: • 200 (returned for Success) • 400 (returned for Bad Request) • 401 (returned for Unauthorized) • 404 (returned for Not Found) • 500 (returned for Internal Server Error)
Message	Message maybe returned to further inform the user of any additional details related to the operation.
ErrorMessage	Any applicable error messages are returned as well.

5.2.3 UpdateSwitchRequest

The **UpdateSwitch** SOAP request updates the switch and port information on the EGW. The following parameters are of interest when performing the update operation.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Maximum 25 characters.	Yes
password	The password to connect to the EGW. Maximum 25 characters.	Yes
switch_ip	IP address of the switch. Must be IPv4.	Yes
snmp_version	The SNMP version of the controller. Can be 1, 2c or 3. If left empty, EGW considers the SNMP version as 2c.	No
snmp_community	The SNMP Community string value for the controller. Alphanumeric and special characters accepted. Must be between 1 and 25 characters. .	No
snmp_security_name	Security name required only for SNMP Version 3. Alphanumeric up to 50 characters.	No
snmp_security_level	Security level required only if SNMP Version 3 is chosen. Must be one of the following: • NoAuthNoPriv • AuthNoPriv • AuthPriv	No
snmp_auth_protocol	MD5 or SHA. Required for SNMP version 3.	Yes (for SNMP version 3)
snmp_auth_passphrase	Auth Passphrase required if Security Level set at authNoPriv and authPriv. Alphanumeric between 1 and 50 characters.	No
snmp_encrypt_protocol	DES or AES. Required for SNMP version 3.	No
snmp_encrypt_passphrase	Encrypt passphrase required if Security Level set at authPriv. Alphanumeric between 1 and 50 characters.	No
snmp_port	SNMP port value. Must be a numerical value between 1 and 65535.	Yes

snmp_timeout	Amount of time that the EGW will spend attempting to scan the switch. Must be a numerical value between 1 and 65535.	Yes
snmp_retry_count	Number of attempts the EGW will initiate before declaring that the switch is unreachable. Must be a numerical value between 1 and 65535.	Yes
switch_erl	ERL ID of the switch. Alphanumerical value between 1 and 31 characters.	No
switch_type	Type of switch. Possible values: • **Auto Detect**: If no specific Switch Type is specified, the EGW will attempt to auto-detect the MIB supported by the switch on the next scan. • **Cisco**: Layer 2 Discovery model that provides support for Cisco switches. • **Juniper**: Layer 2 Discovery model that provides support for Juniper. • **Bridge-MIB**: Layer 2 Discovery model that provides support for switches that use the Bridge MIB. • **Q-Bridge-MIB**: Layer 2 Discovery model that provides support for switches that use the Q-Bridge MIB. • **PhyBridge-PoLRE-MIB**: Layer 2 Discovery model that provides support for Phybridge • **PhyBridge-UniPhyer-MIB**: Layer 2 Discovery model that provides support for Phybridge. • **3-COM-Bridge-MIB**: Layer 2 Discovery model that provides support for switches that use the 3-COM-Bridge-MIB. • **3-COM-Q-Bridge-MIB**: Layer 2 Discovery model that provides support for switches that use the 3-COM-Q-Bridge-MIB.	No
switch_is_scannable	Setting that determines whether the switch can be scanned or not. Possible values: • enable • disable	No
log_level	Parameter that controls the log verbosity of scan tasks. Possible values: • OFF • FATAL • ERROR • WARN • INFO • TRACE • ALL	No
switch_description	A short description of the switch. Alphanumerical value between 1 and 31 characters.	No

switch_vendor	Vendor name of the switch. Alphanumerical value between 1 and 25 characters.	No
switch_trunk_port_detection	Parameter that enables/disables trunk port detection for the switch. Possible values: • enable • disable	No
switch_scan_voice_vlans	Parameter that enables/ disables scanning of specific VLANs on the network. Possible values: • enable • disable	No
switch_voice_vlans	Identifying integer that defines the VLANs that direct voice traffic. Must be a numerical value between 1 and 65535.	No
switch_port_name	Name of the port on the switch. Alphanumerical value between 1 and 31 characters.	Yes
switch_port_erl	ERL that will be applied to the port on the switch. Alphanumerical value between 1 and 31 characters.	Yes
is_trunk_port	Parameter that indicates whether the port is a trunk port. Possible values: • no • yes	No

Response

The UpdateSwitchResponse returns the response code as well as any applicable messages. Possible values are:

Response	Description and possible values
Status	Depending on the outcome of the operation, one of the following Status codes might be returned: • 200 (returned for Success) • 400 (returned for Bad Request) • 401 (returned for Unauthorized) • 404 (returned for Not Found) • 500 (returned for Internal Server Error)
Message	Message maybe returned to further inform the user of any additional details related to the operation.
ErrorMessage	Any applicable error messages are returned as well.

5.2.4 QuerySwitchRequest

The **QuerySwitch** SOAP request is used to query the EGW to return all switches and port names that match the criteria specified.

The following fields can be specified to perform this request in the following order:

- switch_id
- switch_ip
- switch_or_port_erl

Note: The sequential order of the fields applies when performing the request and all other fields are ignored, even if provided. In other words, if the **controller_ip** is provided and the **switch_or_port_erl** is provided, only the **switch_ip** field will be used to perform the request.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Maximum 31 characters.	Yes
password	The password to connect to the EGW. Maximum 31 characters.	Yes
switch_id	Identifier for the switch.	No
switch_ip	IP address of the switch. Must be IPv4.	Yes
switch_port_name	Either the switch name or the port name can be speicified. The switch port name can be either the name of the port, in which case the specified port for the specified switch will be deleted. If the port name is specified as *, all the ports will be deleted. If the port name is missing the switch and all its ports will be deleted. Alphanumerical value between 1 and 255 characters.	No
switch_or_port_erl	All the switches (and their ports) that have the matching ERL will be deleted. Next all the ports (and NOT their switches) that have the matching ERL will be deleted. Alphanumerical value between 1 and 31 characters.	No

Response

The **QuerySwitchResponse** returns the response code as well as the switch and port information that ypou queried the EGW for. Possible values are:

Response	Description and possible values
Status	Depending on the outcome of the operation, one of the following Status codes might be returned: • 200 (returned for Success) • 400 (returned for Bad Request) • 401 (returned for Unauthorized) • 404 (returned for Not Found) • 500 (returned for Internal Server Error)
Message	Message maybe returned to further inform the user of any additional details related to the operation.
ErrorMessage	Any applicable error messages are returned as well.
Lowest SwitchIDReturned	Lowest identifier of the switch
HighestSwitchIDReturned	Highest identifier of the switch.
CountOfSwitchesReturned	Number of switches provisioned on the EGW that match the criteria entered.
TotalNumberOfSwitches	Number of switches provisioned on the EGW that match the criteria entered.
switch_id	Identifier of the switch.

switch_ip	Current IP address of the switch. Returned in IPv4 format.
snmp_version	SNMP version of the switch is returned.
snmp_community	SNMP community string of the switch. Applies only for SNMP version 2c.
snmp_security_name	SNMP security name of the switch is returned. Applies only for SNMP version 3.
snmp_security_level	SNMP security level for the switch is returned. Applies only for SNMP version 3.
snmp_auth_protocol	SNMP Auth Protocol for the switch is returned. Applies only for SNMP version 3.
snmp_auth_passphrase	SNMP auth passphrase of the switch is returned. Returned only for SNMP version 3.
snmp_encrypt_protocol	SNMP Encrypt protocol of the switch is returned. Applies only for SNMP version 3.
snmp_encrypt_passphrase	SNMP encrypt passphrase of the switch is returned. Returned only for SNMP version 3.
snmp_port	SNMP port of the switch is returned.
snmp_timeout	Amount of time (in seconds) that the EGW spends attempting to scan the switch.
snmp_retry_count	Number of attempts the EGW will initiate before declaring that the switch is unreachable.
switch_erl	ERL ID of the switch is returned.
switch_type	Type of switch is returned.
switch_is_scannable	“enable” or “disable” is returned depending on the setting on the switch.
log_level	Log level verbosity that was set for the switch is returned.
switch_description	Description of the switch is returned.
switch_vendor	Vendor name of the switch is returned.
switch_trunk_port_detection	“enable” or “disable” is returned based on whether trunk port detection was enabled or disabled for the switch.
switch_scan_voice_vlans	“enable” or “disable” is returned based on whether scanning of specific voice VLANs was enabled or disabled on the network.
switch_voice_vlans	Identifying integer of the voice VLAN is returned.
switch_port_name	Port name of the switch is returned.
switch_port_erl	ERL ID of the port is returned.
is_trunk_port	“no” or “yes” is returned depending on whether the port is a trunk port.

5.2.5 ReportSwitchRequest

The ReportSwitchRequest is used to generate a report of switch and port details that are currently provisioned on the EGW. Reports can be generated in text format and batch format.

The following are the fields relevant to generate reports on the EGW:

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Maximum 25 characters.	Yes
password	The password to connect to the EGW. Maximum 25 characters.	Yes

ReportSwitchEntry	Format that you want the report to be generated in. Possible values are: • exportBatch • exportBatchCSV "exportbatch" generates the report in the text file format whereas "exportbatchCSV" generates the report in CSV file format.	Yes

Response

Response	Description and possible values
Status	Depending on the outcome of the operation, one of the following Status codes might be returned: • 200 (returned for Success) • 400 (returned for Bad Request) • 401 (returned for Unauthorized) • 404 (returned for Not Found) • 500 (returned for Internal Server Error)
Message	Message maybe returned to further inform the user of any additional details related to the operation.
ErrorMessage	Any applicable error messages are returned as well.

6 Layer2 Third Party Requests, Responses and Error Codes

6.1 Overview

SOAP Server Location:

To send requests to the Third Party SNMP SOAP server on the EGW, use the following URL:

https://[IP of EGW]/custSoapSNMP/index.php

WSDL:

To obtain the wsdl,

https://[theEGWip]/soapschemas/EGW/custSoapSNMP/custSoapSNMP.wsdl

Where [theEGWip] is the IP address of the EGW on your network.

This is the web service to add, update, query and delete SNMPs to the EGW.

Note: *The EGW SOAP Server will not be active if EGW is in lockdown mode.*

The custSOAPSNMP SOAP interface enables you to perform the following functions:

- Add or Update third part SNMP data
- Query third party SNMP data
- Delete third party SNMP data
- Generate a report of available third party SNMP data.

The capabilities are implemented using the following interfaces:

Complex types	Simple types
Authentication	postime
SNMPEntry	EthernetMacAddress
userResponse	IPv4
qryUserResponse	ReturnCodeType
reportSNMPrequest	ReportSNMPEntry
addOrUpdateSNMPRequest	
deleteSNMPRequest	
qrySNMPRequest	

6.2 Third Party Requests

This section describes the operations related to Third Party SNMP provisioning.

- addOrUpdateSNMPRequest
- deleteSNMPRequest
- qrySNMPRequest
- reportSNMPrequest

6.2.1 addOrUpdateSNMPRequest

Fields required to provision third party SNMP data.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
password	The password to connect to the EGW. Max. 25 characters.	Yes
SWITCH_IP	Unique IP Address among the switch	Y
PORT_NAME	Port Name	Y
MAC	Device(s) connected	Y

Note: the SNMPEntry is comprised of switch ip, port name and mac. For MAC, max occurs is unbounded. The SOAP Collection may contain one or multiple entries. For more information, see the wsdl file.

6.2.2 deleteSNMPRequest

Fields required to delete third party SNMP data.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
password	The password to connect to the EGW. Max. 25 characters.	Yes
SWITCH_IP	Unique IP Address among the switch	Y
PORT_NAME	Port Name	Y
MAC	Device(s) connected	Y

Note: the SNMPEntry is comprised of switch ip, port name and MAC. For MAC, max occurs is unbounded. The SOAP Collection may contain one or multiple entries. For more information, see the wsdl file.

6.2.3 qrySNMPRequest

Fields required to query third party SNMP data.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
password	The password to connect to the EGW. Max. 25 characters.	Yes
SWITCH_IP	Unique IP Address among the switch	Conditional. At least one field from SNMPEntry must be present (switch ip, port name or mac)
PORT_NAME	Port Name	Conditional. At least one field from SNMPEntry must be present (switch ip, port name or mac)
MAC	Device(s) connected	Conditional. At least one field from SNMPEntry must be

		present (switch ip, port name or mac)

Note: *The SNMPEntry is comprised of switch ip, port name and mac. For MAC, max occurs is unbounded. The SOAP Collection may contain one or multiple entries. For more information, see the wsdl file.*

6.2.4 reportSNMPRequest

The reportSNMPRequest function enables the user to generate a report of the third party SNMP switches. The following fields are required to generate a report of third party SNMP data.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
password	The password to connect to the EGW. Max. 25 characters.	Yes
ReportSNMPEntry	Possible value is exportBatch. This report provides a complete information run down for the various SNMP switches added in the EGW, The export batch report is a batch file formatted to replace a damaged configuration or move an existing configuration to a new machine.	Yes

6.3 Third Party Responses

Functions will return a status number and message to indicate the success or failure of the SOAP request (see table below). The functions in the table below return additional response fields.

Function Name	Response Fields
qrySNMPRequest.	ThirdParySNMP Info

6.3.1 Third Party SNMP Info

Field Name	Description
SWITCH_IP	Unique IP Address among the switch
PORT_NAME	Port Name
MAC	Device(s) connected

6.4 Third Party SNMP Responses

6.4.1 Response Descriptions

Status number	**Text string**	**Description**
500	Error acquiring lock _LOCK_SOAP_SNMP_GLOBAL_	SOAP processing queuing mechanism failure.

Status number	Text string	Description
400	Soap Request must be https	Connection to the EGW must be https. Http connections are not accepted.
401	SOAP SNMP account mismatch. Please use the same account information that is configured on the EGW Dashboard.	SOAP credentials must match those configured at EGW Dashboard.
400	Switch IP does not respect the IPv4 dot-decimal format specified in the WSDL for [name of the request]	IP address must respect the following regex form: ^(25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)\.(25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)\.(25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)\.(25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)$
400	Mac address does not respect the IEEE 802 format specified in the WSDL for [name of the request]	MAC address must respect the following regex form: ^(((([a-fA-F0-9]{2}-){5})([a-fA-F0-9]{2}))|((([a-fA-F0-9]{2}:){5})([a-fA-F0-9]{2}))|([a-fA-F0-9]{12}))$
400	Missing Switch IP and/or Port Name mandatory field in [name of the request]	
400	Missing Mac mandatory field in [name of the request]	Will occur if the mac is specified in the request but the value is empty.
400	Unexpected XML parsing exception. Please review your SOAP request.	Occurs if SOAP request is delivered in invalid format.
500	no message. This happens if an exception is caught during the process of the soap. This is a server failure and will be log to investigate. This is unexpected.	Unexpected exception due to server error during SOAP processing. Server failure is logged.
	404 no message.	Valid request.
200	no message.	The request is successful.

7 Subnet Requests, Responses and Error Codes

To send requests to the SOAP server on the EGW, use the following url:

https://<yourEGWIP>/custSoapSubnets/index.php
To obtain the wsdl:

https://<yourEGWIP>/soapschemas/EGW/custSoapSubnets/custSoapSubnetsSimple.wsdl,

where ***yourEGWIP*** is the IP address of the EGW on your network.

This is the web service to add, update, query and delete subnets from the EGW.

The custSOAPSubentsSimple SOAP interface enables you to perform the following functions:

- Add or update subnets
- Query subnets
- Delete subnets
- Generate a report of subnets.

7.1 Subnet Requests

This section describes the operations related to ERL Provisioning:

- *addOrUpdateSubnetRequest*
- *qrySubnetRequest*
- *deleteSubnetRequest*
- *reportSubnetRequest*

7.1.1 addOrUpdateSubnetRequest

This function is used to add/modify one or more Subnets. At a minimum, the subnets are identified by Erl_id and subnetMaskIP.

Note: Erl_id is a value that cannot be directly updated by the addOrUpdateSubnetRequest, since a new entry will be created.

If updating subnetmaskLists, any previously provisioned subnet masks will have to be included in the request.

Field Name	Description/Example	Required?
username	adminUser	Y
password	adminPass	Y
Erl_id	LOC56. Multiple subnets may be added in the soap request.	Y
subnetMaskIP	192.168.0.0. Multiple subnet masks may be added to the subnet in the soap request. (tuples)	N
subnetMaskNum	16	N

7.1.2 qrySubnetRequest

This function is used to query one or more Subnets.

This function is used to query the subnets. When an ERL ID is entered, the subnets associated with this specific ERL ID are returned.

Field Name	Description/Example	Required?
username	adminUser	Yes
password	adminPass	Yes
subnetID	This is equivalent to the ERL ID. When the ERL ID is entered, the Subnets that are associated with that particular ERL ID will be returned. 32 characters with a * (special characters) are accepted.	Conditional. At least one field must be provided.

7.1.3 deleteSubnetRequest

This function is used to delete one or more Subnets.

If two or more IDs are specified, the expected result is the intersection.

Field Name	Description/Example	Required?
username	adminUser	Yes
password	adminPass	Yes
Erl_id	LOC56. Multiple erl ids can be deleted in a single request. For each erl id, the subnet data will be deleted if the erl id meets the criteria of the submitted subnetIdent fields.	Conditional. At least one field must be provided.

7.1.4 reportSubnetRequest

This function is used to generate a report for Subnets. The following are the fields required to create a report for subnets.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
password	The password to connect to the EGW. Max. 25 characters.	Yes
ReportSubnet	Possible values are: • exportBatch • exportBatchCSV This report provides a complete information run down for the various subnets added in the EGW, The export batch report is a batch file formatted to replace a damaged subnet configuration or move an existing configuration to a new machine.	Yes

7.2 Subnet Response Codes

All possible error codes for Subnets.

Error name	Description
200	OK. Successfully added/modified/deleted subnets

400	Bad Request Please use HTTPS
401	Unauthorized The subnet soap service is not activated.
401	Unauthorized The username/password for the subnet soap service is invalid.
404	Not Found The ERL ID provided does not exist
500	Internal Server Error The tenant soap service has encountered an unexpected exception:

7.3 qrySubnetRequest Responses

Additional responses are possible for qrySubnetRequest

Field	Description
Erl_id	LOC56
subnetMaskIP	192.168.0.0
subnetMaskNum	16

8 WLAN Requests, Responses and Error Codes

8.1 Overview

The **custSoapWireless SOAP** interface is a web service used to **Add**, **Update**, **Delete**, **Query** and **Report** WLAN Controllers and Access points to the EGW.

SOAP Server Location:

To send requests to the server on the EGW, use the following URL:

https://[theEGWip]/custSoapWireless/index.php

WSDL:

To obtain the WSDL, enter the following in your browser:

https://[theEGWip]/soapschemas/EGW/custSoapWireless/custSoapWireless.wsdl

Where [theEGWip] is the IP address of the EGW on your network.

Note: The EGW SOAP server will not be active if the EGW is in lockdown mode.

The custSOAPWireless interface enables you to perform the following functions:

- Add or update WLAN controllers and Access points.
- Delete WLAN controllers and Access points.
- Query WLAN controllers and Access points
- Generate a report of WLAN controllers and access points.

The capabilities are implemented using the following interfaces:

This section describes the SOAP operations related to WLAN controller and Access Point provisioning:

- AddWirelessController
- UpdateWirelessController
- DeleteWirelessController
- ReportWirelessController

8.1.1 AddWirelessControllerRequest

The AddWirelessControllerRequest is used to add WLAN controllers and Access Points to the EGW.

Fields for provisioning WLAN controllers and access points to the EGW:

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Maximum 25 characters.	Yes
password	The password to connect to the EGW. Maximum 25 characters.	Yes
controller_ip	The current IP address of the controller. Must be IPv4.	Yes
snmp_version	The SNMP version of the controller. Can be 1, 2c or 3. If left empty, EGW considers the SNMP version as 2c.	No

snmp_community	The SNMP Community string value for the controller. Alphanumeric and special characters accepted. Must be between 1 and 25 characters. .	Yes (if snmp_version set to 2c or blank)
snmp_security_name	Security name required only for SNMP Version 3. Alphanumeric up to 50 characters.	Yes (required for SNMP V3)
snmp_security_level	Security level required only if SNMP Version 3 is chosen. Must be one of the following: • NoAuthNoPriv • AuthNoPriv • AuthPriv	Yes (if snmp_version set to 3)
snmp_auth_protocol	MD5 or SHA. Required for SNMP version 3.	Yes (required for SNMP V3)
snmp_auth_passphrase	Auth Passphrase required if Security Level set at authNoPriv and authPriv. Alphanumeric between 1 and 50 characters.	Yes (required for SNMP V3)
snmp_encrypt_protocol	DES or AES. Required for SNMP version 3.	Yes (required for SNMP V3)
snmp_encrypt_passphrase	Encrypt passphrase required if Security Level set at authPriv. Alphanumeric between 1 and 50 characters.	Yes (required for SNMP V3)
snmp_port	SNMP port value. Must be a numerical value between 1 and 65535.	No
controller_erl	Default value of the ERL assigned to the controller. Alphanumeric between 1 and 31 characters. Emergency Response Location Identifier. Alphanumeric between 1 and 31 characters in length. The ERL either applies to the Controller or to the access point depending on the setting of Position 10. The ERL applied to the Controller is the Default ERL. The ERL applied to the access point, is the specific ERL that is associated to the access point.	No
ap_scannable	Setting that determines whether the Access Point needs to be scanned or not. Accepted values: • enable • disable	No
controller_vendor	Vendor name of the controller. Must be one of the following: • Aruba • Cisco • Generic Maximum of 25 alphanumeric characters accepted here.	Yes
multi_bssid_mask	Value that directs the EGW to ignore certain BSSID MAC digits when processing the device BSSID data. Possible values: • 0 • -1 • -2	No

	• 1 • 2	
ssid_name	A single SSID or a list of SSIDs that limit the scanning to specified SSIDs.	Yes
is_ssid_selected	Value that enables or disables SSID to be selected. Accepted values: • no • yes	No
ap_name	AP of the WLAN controller. Alphanumeric between 1 and 25 characters.	No
controller_ap_erl	ERL ID of the WLAN controller or the access point. Alphanumeric characters accepted here.	Yes
controller_ap_location	Location information of the WLAN controller or the access point. Alphanumeric characters accepted here.	No
ap_mac	Mac address of the AP.	Yes
ap_bssid	BSSID of the Access Point. Use the Access Point BSSID to create an AP entry in the wireless network map. Alphanumeric up to 17 characters. For multiple BSSIDs per AP, specify the comma separated list of BSSIDs (e.g. Aruba deployments). To support this configuration, AP_MAC (Mac address of the access point) must also be specified.	No

***Note**: The **ap_name**, **ap_mac** and **ap_erl** fields are mandatory if you wish to add access points to the controller you are creating.*

Response

The AddWirelessControllerResponse returns the response code as well as any applicable messages.

Response	Description and possible values
Status	Depending on the outcome of the operation, one of the following Status codes might be returned: • 200 (returned for Success) • 400 (returned for Bad Request) • 401 (returned for Unauthorized) • 404 (returned for Not Found) • 500 (returned for Internal Server Error)
Message	Message maybe returned to further inform the user of any additional details related to the operation.

8.1.2 UpdateWirelessControllerRequest

The UpdateWirelessControllerRequest is used to update the WLAN controller information and access points to the EGW.

Fields for provisioning WLAN controllers and access points to the EGW:

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Maximum 25 characters.	Yes
password	The password to connect to the EGW. Maximum 25 characters.	Yes
controller_ip	The current IP address of the controller. Must be IPv4.	Yes
snmp_version	The SNMP version of the controller. Can be 1, 2c or 3. If left empty, EGW considers the SNMP version as 2c.	No
snmp_community	The SNMP Community string value for the controller. Alphanumeric and special characters accepted. Must be between 1 and 25 characters. .	Yes (if snmp_version set to 2c or blank)
snmp_security_name	Security name required only for SNMP Version 3. Alphanumeric up to 50 characters.	Yes (required for SNMP V3)
snmp_security_level	Security level required only if SNMP Version 3 is chosen. Must be one of the following: • NoAuthNoPriv • AuthNoPriv • AuthPriv	Yes (required for SNMP V3)
snmp_auth_protocol	MD5 or SHA. Required for SNMP version 3.	Yes (required for SNMP V3)
snmp_auth_passphrase	Auth Passphrase required if Security Level set at authNoPriv and authPriv. Alphanumeric between 1 and 50 characters.	Yes (required for SNMP V3)
snmp_encrypt_protocol	DES or AES. Required for SNMP version 3.	Yes (required for SNMP V3)
snmp_encrypt_passphrase	Encrypt passphrase required if Security Level set at authPriv. Alphanumeric between 1 and 50 characters.	Yes (required for SNMP V3)
snmp_port	SNMP port value. Must be a numerical value between 1 and 65535.	No
controller_erl	Default value of the ERL assigned to the controller. Alphanumeric between 1 and 31 characters. Emergency Response Location Identifier. Alphanumeric between 1 and 31 characters in length. The ERL either applies to the Controller or to the access point depending on the setting of Position 10. The ERL applied to the Controller is the Default ERL. The ERL applied to the access point, is the specific ERL that is associated to the access point.	No
ap_scannable	Setting that determines whether the Access Point needs to be scanned or not. Accepted values: • enable • disable	No
controller_vendor	Vendor name of the controller. Must be one of the following:	Yes

	• Aruba • Cisco • Generic Maximum of 25 alphanumeric characters accepted here.	
multi_bssid_mask	Value that directs the EGW to ignore certain BSSID MAC digits when processing the device BSSID data. Possible values: • 0 • -1 • -2 • 1 • 2	No
ssid_name	A single SSID or a list of SSIDs that limit the scanning to specified SSIDs.	Yes
is_ssid_selected	Value that enables or disables SSID to be selected. Accepted values: • no • yes	No
ap_name	AP of the WLAN controller. Alphanumeric between 1 and 25 characters.	No
controller_ap_erl	ERL ID of the WLAN controller or the access point. Alphanumeric characters accepted here.	Yes
controller_ap_location	Location information of the WLAN controller or the access point. Alphanumeric characters accepted here.	No
ap_mac	Mac address of the AP.	Yes
ap_bssid	BSSID of the Access Point. Use the Access Point BSSID to create an AP entry in the wireless network map. Alphanumeric up to 17 characters. For multiple BSSIDs per AP, specify the comma separated list of BSSIDs (e.g. Aruba deployments). To support this configuration, AP_MAC (Mac address of the access point) must also be specified.	No

Response

The UpdateWirelessControllerResponse returns the response code as well as any applicable messages.

Response	Description and possible values
Status	Depending on the outcome of the operation, one of the following Status codes might be returned: • 200 (returned for Success) • 400 (returned for Bad Request) • 401 (returned for Unauthorized) • 404 (returned for Not Found)

	• 500 (returned for Internal Server Error)
Message	Message maybe returned to further inform the user of any additional details related to the operation.

8.1.3 DeleteWirelessControllerRequest

This operation deletes the WLAN controllers and its Access points. This is done by specifying the ERL ID of the controller or the ERL ID of the Access point.
The order in the table below must be followed when specifying the element for the delete operation.

Furthermore, the following conditions apply:

- If **controller_ip** is provided and the **ap_name** is specified, then only the access point is deleted.
- If **controller_ip** is provided and and **ap_name** is input as * (wildcard), then all the access points under the controller are deleted.
- If only the **controller_ip** is provided, then the controller as well as all the APs underneath it are deleted.
- If **controller_or_ap_erl** is provided, meaning the ERL ID of the access point or the ERL ID of the WLAN controller, then the controllers and access points that match the ERL ID are deleted.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Maximum 25 characters.	Yes
password	The password to connect to the EGW. Maximum 25 characters.	Yes
controller_ip	The current IP address of the controller. Must be IPv4.	No
ap_name	AP of the WLAN controller. Alphanumeric between 1 and 25 characters.	No
controller_or_ap_erl	ERL ID of the WLAN controller or the Access Point. All the controllers (and their APs) that have the matching ERL will be deleted. Next all the APs (and NOT their controllers that have the matching ERL will be deleted.) Must be alphanumeric between 1 and 31 characters.	No

***Note**: For the delete operation, it is mandatory to enter the **controller_ip** or the **controller_or_ap_erl.** Both the parameters can be provided but specifying at least one is mandatory.*

Response

Response	Description and possible values
Status	Depending on the outcome of the operation, one of the following Status codes might be returned: • 200 (returned for Success) • 400 (returned for Bad Request) • 401 (returned for Unauthorized)

	• 404 (returned for Not Found) • 500 (returned for Internal Server Error)
Message	Message maybe returned to further inform the user of any additional details related to the operation.

8.1.4 QueryWirelessControllerRequest

QueryWirelessControllerRequest is used to query the EGW to return all WLAN controllers or Access points that match the criteria specified.

The following fields can be specified to perform this request in the following order:

- controller_id
- controller_ip
- controller_or_ap_erl
- ap_mac
- ap_bssid

Note: The sequential order of the fields applies when performing the request and all other fields are ignored, even if provided. In other words, if the controller_ip is provided and the ap_mac is provided, only the controller_ip field will be used to perform the request.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Maximum 25 characters.	Yes
password	The password to connect to the EGW. Maximum 25 characters.	Yes
controller_id	ID of the controller. If this field is specified, then the controllers will be returned from the specified controller ID upto the next batch (matching the criteria) else the first batch (matching the criteria) will be returned. Only integer values accepted here.	No
controller_ip	The current IP address of the controller. Must be IPv4. The controller IP can be specified as either its complete IP or partial IP. Specify * to match any IP. All the controllers matching the IP will be returned.	No
controller_or_ap_erl	The controllers and the APs will be matched against the specified erl and all the matching controllers and their APs will be returned.	No
ap_mac	Mac address of the AP. Not required for Cisco controllers. All the controllers matching the AP MAC will be returned	No

ap_bssid	BSSID of the Access Point. Use the Access Point BSSID to create an AP entry in the wireless network map. Alphanumeric up to 17 characters. For multiple BSSIDs per AP, specify the comma separated list of BSSIDs (e.g. Aruba deployments). To support this configuration, AP_MAC (Mac address of the access point) must also be specified. The controllers and the APs will be matched against the specified AP BSSID and all the matching controllers and their APs will be returned. The BSSID MASK will be applied while applying the search criteria.	No

***Note**: If all the non-mandatory fields are left empty to perform the **queryWirelessControllerRequest**, then all the controllers and access points in your network configuration are returned.*

Response

Response	Description and possible values
Status	Depending on the outcome of the operation, one of the following Status codes might be returned: • 200 (returned for Success) • 400 (returned for Bad Request) • 401 (returned for Unauthorized) • 404 (returned for Not Found) • 500 (returned for Internal Server Error)
Message	Message maybe returned to further inform the user of any additional details related to the operation.
controller_id	ID of the controller is returned.
controller_ip	IP address of the controller is returned.
snmp_version	SNMP version of the controller is returned.
snmp_community	SNMP Community string of the controller is returned.
snmp_security_name	SNMP Security name of the controller is returned.
snmp_security_level	SNMP Security level of the controller is returned.
snmp_auth_protocol	SNMP auth protocol of the controller is returned.
snmp_auth_passphrase	SNMP auth passphrase of the controller is returned. Returned only for SNMP version 3.
snmp_encrypt_protocol	SNMP Encrypt protocol of the controller is returned. Applies only for SNMP version 3.
snmp_encrypt_passphrase	SNMP encrypt passphrase of the controller is returned. Returned only for SNMP version 3.
snmp_port	SNMP port of the controller is returned.
controller_erl	ERL ID of the controller is returned.
ap_scannable	Enable or Disable is returned.
controller_description	Description of the controller.
controller_vendor	Name of the vendor of the controller is returned. Aruba, Cisco or Generic.
multi_bssid_mask	Multiple BSSID mask configured for the controller is returned.
ssid_name	Name of the SSID of the controller is returned.

is_ssid_selected	Yes or No is returned.
ap_name	Name of the access point is returned.
controller_ap_erl	ERL ID of the controller or the access point.
controller_ap_location	Location information about the controller or the access point.
ap_mac	MAC address of the access point.
ap_bssid	BSSID of the access point.

8.1.5 ReportWirelessControllerRequest

The ReportWirelessControllerRequest is used to generate a report of all WLAN discovery details provisioned on the EGW. Reports can be generated in text format and batch format.

The following are the fields relevant to generate reports on the EGW:

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Maximum 25 characters.	Yes
password	The password to connect to the EGW. Maximum 25 characters.	Yes
ReportWirelessControllerEntry	Format that you want the report to be generated in. Possible values are: • exportBatch • exportBatchCSV "exportbatch" generates the report in the text file format whereas "exportbatchCSV" generates the report In CSV file format.	Yes

Response

Response	Description and possible values
Status	Depending on the outcome of the operation, one of the following Status codes might be returned: • 200 (returned for Success) • 400 (returned for Bad Request) • 401 (returned for Unauthorized) • 404 (returned for Not Found) • 500 (returned for Internal Server Error)
Message	Message maybe returned to further inform the user of any additional details related to the operation.

Appendix A EGW WorldWide Mode

ERL Requests, Responses and Error Codes for Worldwide Mode

To send requests to the SOAP server on the EGW, use the following url:

https://[theEGWip]/custSoapLocationsV2/index.php

To obtain the wsdl,

https://[theEGWip]/soapschemas/EGW/custSoapLocationsV2/custSoapLocations.wsdl

Where [theEGWip] is the IP address of the EGW on your network.

ERL Requests

This section describes the operations related to ERL Provisioning:

- validateAddressRequest
- qryLocationRequest
- addOrUpdateLocationRequest
- deleteLocationRequest

validateAddressRequest

Fields required to validate an address.

Field name	Description	Required?
EGW soap username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
EGW soap password	The password to connect to the EGW. Max. 25 characters.	Yes
HNO	House number, numeric part only.	No
HNS	House number suffix	No
BLD	Building (structure)	No
PRD	Leading street direction	No
RD	Primary road or street	No
STS	Street suffix	No

POD	Trailing street suffix	No
RDSEC	Road section	No
RDBR	Road branch	No
RDSUBBR	Road sub-branch	No
PRM	Road pre-modifier	No
POM	Road post-modifier	No
LMK	Landmark or vanity address	No
LOC	More precise information about the location. Alphanumerical between 1 and 50 characters. Ex.: Suite 200, Floor 2, Unit 341.	No
FLR	Floor	No
UNIT	Unit (apartment, suite)	No
ROOM	Room	No
PLC	Place-type	No
ADDCODE	Additional code	No
SEAT	Seat (desk, cubicle, workstation)	No
A2	County, parish, gun (JP), district (IN)	No
A3	City, township, shi (JP)	No
A4	City division, borough, city district, ward, chou (JP)	No
A5	Neighborhood, block	No
PCN	Postal community name	No
A1	The state or province or county of the location. Some countries require it to be the Abbreviated state name (2 letters) while others require it to be the full name. The validation is Country specific.	No

country	The ISO 3166 alpha-2. Ex.: US, CA, FR, ST.	Yes
PC	Postal Code for most countries and the zip code for the United States. Validation is based on the Country specifications.	No
POBOX	Post office box	No
NAM	The name of the customer. This field will appear on the PSAP screen as the “Name”. Between 1 and 60 characters.	No

qryLocationRequest

Fields required to query a location.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
password	The password to connect to the EGW. Max. 25 characters.	Yes
erl_id	The ERL ID representing the location. Numbers, letters and underscores. Max.31 characters	Yes

addOrUpdateLocationRequest

Fields required to add/update a location.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
password	The password to connect to the EGW. Max. 25 characters.	Yes
erl_id	The ERL ID representing the location. Numbers, letters and underscores. Max. 31 characters.	Yes
HNO	House number, numeric part only.	Yes
HNS	House number suffix	No
BLD	Building (structure)	No
PRD	Leading street direction	No
RD	Primary road or street	Yes
STS	Street suffix	No
POD	Trailing street suffix	No
RDSEC	Road section	No
RDBR	Road branch	No
RDSUBBR	Road sub-branch	No
PRM	Road pre-modifier	No
POM	Road post-modifier	No
LMK	Landmark or vanity address	No
LOC	More precise information about the location. Alphanumerical between 1 and 50 characters. Ex.: Suite 200, Floor 2, Unit 341.	No
FLR	Floor	No
UNIT	Unit (apartment, suite)	No
ROOM	Room	No
PLC	Place-type	No
ADDCODE	Additional code	No
SEAT	Seat (desk, cubicle, workstation)	No
A2	County, parish, gun (JP), district (IN)	No
A3	City, township, shi (JP)	No
A4	City division, borough, city district, ward, chou (JP)	No
A5	Neighborhood, block	No
PCN	Postal community name	No
A1	The state or province or county of the location. Some countries require it to be the Abbreviated state name (2 letters) while others require it to be the full name. The validation is Country specific.	No
country	The ISO 3166 alpha-2. Ex.: US, CA, FR, ST.	Yes

PC	Postal Code for most countries and the zip code for the United States. Validation is based on the Country specifications.	No
POBOX	Post office box	No
NAM	The name of the customer. This field will appear on the PSAP screen as the “Name”. Between 1 and 60 characters.	No
local_gateway_enabled	Defines if the location will be going through a local trunk or not. Values: 1 = Yes 0 = No If not defined, default is 0.  **Note:** For UK/Europe, either local trunking or direct delivery must be enabled.	No
direct_call_delivery	Determines if a call made using this location will be directed to a security desk or not. Setting this field to 1 removes data from Intrado. 1 = Yes. 0 = No. 2 = Security Desk Dial Plan only. If not defined, default is 0. If 2 is set, the security desk feature will only apply to calls made to a security desk dial plan number (e.g. 511, 888). If the ERL setting is 2, and a security desk number is dialed, the call will route as a direct delivery call to the on-site security desk. With this configuration, a call from the same ERL to the emergency number (e.g. 911) will not route to the security desk.  **Note:** For UK/Europe, either local trunking or direct delivery setting must be enabled.	No
elin	ELINs for the ERL. Can be between 3 and 15 digits for other countries. Ex.: 1000000000,3333333333,2323232323.  **Note:** Dynamic ELIN feature is not applicable to UK/Europe.	No
security_desk	The name identifier of the security desk (if any). Letters and underscores.	No
crisis_email	Distribution list which will receive an email when 911 is dialed from the ERL. Comma delimited for multiple entries. e.g. john@enterpriseabc.com, jane@enterpriseabc.com.	No

url_data	The url link can contain static and dynamic variables that will point to ERL data that you would like to deliver with Desk Alert or Crisis Alert notifications. This ERL data provided in the url link can be used to integrate with other systems. The URL Variables can be used with this form: ${*variable_name*} **Accepted characters:** all alphanumeric (a-z, A-Z, 0-9) and these characters: .~/?#@=%+&	No

deleteLocationRequest

Fields required to delete a location.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
password	The password to connect to the EGW. Max. 25 characters.	Yes
erl_id	The ERL ID representing the location. Numbers, letters and underscores. Max. 31 characters.	Yes

ERL Responses

Functions will return a status of 0 or -1 to indicate the success or failure of the SOAP request. An "errorReturned" message is also returned which indicates the specific cause of the problem.

The errorReturned" message for 0 is "ok."The functions in the table below return additional response fields.

Function Name	Response Fields
qryLocationRequest	• locationInfo

LocationInfo

Field	Description
Erl_id	The ERL ID representing the location. Numbers, letters and underscores. Max. 31 characters.
HNO	House number, numeric part only.
HNS	House number suffix
BLD	Building (structure)
PRD	Leading street direction
RD	Primary road or street
STS	Street suffix
POD	Trailing street suffix
RDSEC	Road section
RDBR	Road branch
RDSUBBR	Road sub-branch
PRM	Road pre-modifier
POM	Road post-modifier
LMK	Landmark or vanity address
LOC	More precise information about the location. Alphanumerical between 1 and 60 characters. Ex.: Suite 200, Floor 2, Unit 341.
FLR	Floor
UNIT	Unit (apartment, suite)
ROOM	Room
PLC	Place-type
ADDCODE	Additional code
SEAT	Seat (desk, cubicle, workstation)
A2	County, parish, gun (JP), district (IN)
A3	City, township, shi (JP)
A4	City division, borough, city district, ward, chou (JP)
A5	Neighborhood, block
PCN	Postal community name
A1	The state or province or county of the location. Some countries require it to be the Abbreviated state name (2 letters) while others require it to be the full name. The validation is Country specific.
country	The ISO 3166 alpha-2. Ex.: US, CA, FR, ST.
PC	Postal Code for most countries and the zip code for the United States. Validation is based on the Country specifications.
POBOX	Post office box
NAM	The name of the customer. This field will appear on the PSAP screen as the “Name”. Between 1 and 60 characters.

local_trunking	Defines if the location will be going through a local trunk or not. Values: 1 = Yes 0 = No If not defined, default is 0.  **Note:** For UK/Europe, either local trunking or direct delivery must be enabled.
direct_call_delivery	Determines if a call made using this location will be directed to a security desk or not. Setting this field to 1 removes data from Intrado. 1 = Yes. 0 = No. 2 = Security Desk Dial Plan only. If not defined, default is 0. If 2 is set, the security desk feature will only apply to calls made to a security desk dial plan number (e.g. 511, 888). If the ERL setting is 2, and a security desk number is dialed, the call will route as a direct delivery call to the on-site security desk. With this configuration, a call from the same ERL to the emergency number (e.g. 911) will not route to the security desk.  **Note:** For UK/Europe, either local trunking or direct delivery setting must be enabled.
elin	ELINs for the ERL. Can be between 3 and 15 digits for other countries. Ex.: 1000000000,3333333333,2323232323.  **Note:** Dynamic ELIN feature is not applicable to UK/Europe.
security_desk	The name identifier of the security desk (if any). Letters and underscores.
crisis_email	Distribution list which will receive an email when 911 is dialed from the ERL. Comma delimited for multiple entries. e.g. john@enterpriseabc.com, jane@enterpriseabc.com.
url_data	Information that will appear in the Crisis Alert Email. e.g. URL or database query. **All characters are accepted.**
Loacation last updated	Date and time that the location was last updated. Eg. 2008-12-01 13:01:10

ERL Error Codes

Note: Some error names are only applicable for service in US/Canada and will not be generated by SOAP provisioning in UK/Europe mode.

All possible error codes for ERLs.

Error name	Description	Validate	Query	Add/ Update	Delete
ok	The entry is successful.	X	X	X	X
invalid_auth	Invalid username or password.	X	X	X	X
service_disabled	SOAP Server Locations has not been enabled in the EGW settings.	X	X	X	X
invalid_building_number (1)	Format of the building number is invalid.	X		X	
invalid_street_name (2)	Format of the street name is invalid.	X		X	
invalid_city (3)	Format of the city is invalid.	X		X	
invalid_state (4)	Format of the state is invalid.	X		X	
invalid_country (5)	Format of the country is invalid.	X		X	
invalid_zip_code (6)	Format of the zip code is invalid.	X		X	
invalid_postal_code (7)	Format of the postal code is invalid.	X		X	
force_csz_invalid (8)	Value must be 0 or 1.	X		X	
local_trunking_not_allowed (9)	License Key prohibits local trunking setting.			X	
only_local_trunking_is_allowed (10)	License Key only allows local trunking locations to be added.			X	
Invalid_erl_id (11)	Format of the erl id is is invalid.		X	X	X
invalid_local_trunking (12)	Value must be either 0 or 1.			X	
invalid_direct_call_delivery (13)	Value must be either 0 or 1.			X	
invalid_customer_name (14)	The customer name entered was invalid.			X	
invalid_elin (15)	One of the ELINs entered was invalid.			X	
invalid_security_desk_name (16)	The security desk could not be found in the database.			X	
invalid_crisis_email (17)	One of the email addresses is invalid.			X	
invalid_url_data (18)	The format of the URL Data is invalid.			X	

local_trunking_requires_elin (19)	A unique ELIN was not specified for the local trunking setting.			X	
direct_call_delivery_requires_security_desk (20)	A security desk was not assigned for the direct delivery setting.			X	
conflict_local_trunking_direct_call_delivery (21)	Direct call delivery and local gateway cannot be enabled at the same time.			X	
invalid_location (22)	Format of the location is invalid.			X	
address_already_exists (23)	The address already exists.			X	
location_doesnt_exists (24)	The location does not exist.		X	X	X
addr2pos_cszOnly (25)	Address can only be validated using City State and Zip (CSZ).	X		X	
addr2pos_failed (26)	Address failed validation process.	X		X	
cannot_delete_endpoint_found (27)	Cannot delete the location because one or more endpoints are assigned to it.				X
elin_exist_another location (28)	One of the ELIN numbers is already set to another ERL ID, or is an existing Extension-Bind number.			X	
soap_error (29)	A soap error occurred during the process. Please try again. If problem persists, check Alarm logs for more information on the error. Contact Intrado for support.	X		X	X
invalid_license_key (30)	License key is invalid. Please contact the Intrado support team.			X	
ssl_must_be_enabled (31)	Send requests using HTTPS to ensure a secure connection.	X	X	X	X
canadian_address_requires_elin (32)	You cannot provision a Canadian address without an ELIN				
_elin_already_set	One of the ELINs that you tried to assign to the ERL is in the dynamic ELIN pool. Dynamic ELINs cannot be assigned to more than one ERL at a time.			X	

Elin_pool_exhausted	ELIN pool is exhausted or dynamic ELIN pool is empty.			X	
Dynamic_elin_not_allowed	The EGW is currently not configured for use with the dynamic ELIN feature.			X	
Unsupported data in field detected (33)	One of the header values is invalid. The message in the error report will provide the value, and header.	X		X	
Security desk is set to desk alert only (34)	Direct call delivery setting not applicable. The specified security desk is set to Desk Alert Only.			X	
invalid_character_in_field_%PIDFLONAME%	An invalid character was used in one of the PIDF-LO fields.	X		X	
Invalid url variable	The format of the url variable is invalid.				

Endpoint Requests, Responses and Error Codes for Worldwide Mode

Overview

SOAP Server Location:

To send requests to the SOAP server on the EGW, use the following url:

https://[theEGWip]/custSoapEndpointsV2/index.php

WSDL:

To obtain the wsdl,

https://[theEGWip]/soapschemas/EGW/custSoapEndpointsV2/custSoapEndpoints.wsdl

Where [theEGWip] is the IP address of the EGW on your network.

Endpoint Requests

This section describes the operations related to ERL Provisioning:

- addOrUpdateEndpointRequest
- qryEndpointRequest
- deleteEndpointRequest
- generateReportRequest

Note: For the following endpoint requests, an endpoint or MAC must be included.

addOrUpdateEndpointRequest

Fields required when adding or updating endpoints.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
password	The password to connect to the EGW. Max. 25 characters.	Yes
ip_pbx_name	Name of the IP-PBX that the endpoint will be added to.	Yes
extension	The extension of the phone. Either extension or MAC must be present. Alphanumerical up to 50 characters.	Conditional (either extension, MAC or

	(a-z, A-Z), space ( ), digit (0-9), period (.), parenthesis(()), , pound(#), dash(-), underscore(_), at sign (@).	device name must be present)
mac_address	The MAC address of the phone. Either extension or MAC must be present. Hexadecimal and must be 12 characters in length. Ex.: AB02FC91AC0F	Conditional (either extension, MAC or device name must be present)
device_name	The device name of the phone. eg. CSFJohnDoe. Alphanumeric up to 50 characters and supports underscore (_), dash (-), or dot (.).	Conditional (either extension, MAC or device name must be present)
erl_id	The ERL ID to which the endpoint will be added to. Leave blank to set to call center mode.	No
ip_address	The current IP address of the phone. Must be IPv4.	No
display_name	The display name of the phone.	No
timestamp	The UNIX timestamp representing the time at which the endpoint values were discovered. The time of batch processing is always after the time of endpoint discovery. The RLM can be used to update an endpoint before processing of the last uploaded batch file. To account for this, the timestamp ensures that the RLM file will not be overwritten. If timestamp is not included, the time at which is batch file is processed will be used instead, and the RLM file will be overwritten. Time must be in UNIX format. Ex.: 1208791332 represents April 21st 2008 15:22:12.	No

qryEndpointRequest

Fields required when querying an endpoint.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
password	The password to connect to the EGW. Max. 25 characters.	Yes
ip_pbx_name	Name of the IP-PBX that the endpoint will be added to.	Yes
endpoint	The endpoint identifier of the phone. Typically an extension number or DID. Alphanumerical up to 50 characters.	Conditional (either extension, MAC or device name must be present)

mac_address	The MAC address of the phone. Hexadecimal and must be 12 characters in length. Ex.: AB02FC91AC0F	Conditional (either extension, MAC or device name must be present)
device_name	The device name of the phone. eg. CSFJohnDoe. Alphanumeric up to 50 characters and supports underscore (_), dash (-), or dot (.).	Conditional (either extension, MAC or device name must be present)

deleteEndpointRequest

Fields required when deleting an endpoint.

Field Name	Description	Required?
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
password	The password to connect to the EGW. Max. 25 characters.	Yes
ip_pbx_name	Name of the IP-PBX that the endpoint will be added to.	YES
endpoint	The endpoint identifier of the phone. Typically an extension number or DID. Alphanumerical up to 50 characters.	Conditional (either extension, MAC or device name must be present)
mac_address	The MAC address of the phone. Hexadecimal and must be 12 characters in length. Ex.: AB02FC91AC0F	Conditional (either extension, MAC or device name must be present)
device_name	The device name of the phone. eg. CSFJohnDoe. Alphanumeric up to 50 characters and supports underscore (_), dash (-), or dot (.).	Conditional (either extension, MAC or device name must be present)

generateReportRequest

Field name	Description	Required
username	The username to connect to the EGW. Numbers and letters. Max. 25 characters.	Yes
password	The password to connect to the EGW. Max. 25 characters.	Yes
reportCode	Possible values are exportBatch, onSiteSummary, or offSiteSummary. The on-site and off-site summary reports provide a complete information run down for the various endpoints provisioned in the EGW (eg. Associated IP-PBX name, extension, MAC address etc.) The export batch report is a batch file formatted to replace a damaged configuration or move an existing configuration to a new machine.	Yes

Endpoint Responses

Functions will return a status of 0 or -1 to indicate the success or failure of the SOAP request. An "errorReturned" message is also returned which indicates the specific cause of the problem. The "errorReturned" message for 0 is "ok."The functions in the table below return additional response fields.

Function Name	Response Fields
qryEndpointRequest	EndpointInfo

Endpoint Info

Field	Description
Endpoint	The endpoint identifier of the phone. Typically an extension number or DID. Alphanumerical up to 50 characters.

Mac_address	The MAC address of the phone. Hexadecimal and must be 12 characters in length. Ex.: AB02FC91AC0F
device_name	The device name of the phone. eg. CSFJohnDoe. Alphanumeric up to 50 characters and supports underscore (_), dash (-), or dot (.).
Ip_pbx_name	Name of the IP-PBX that the endpoint will be added to.
Ip_address	The current IP address of the phone.
Erl_id	The ERL ID to which the endpoint will be added to. Leave blank to set to call center mode.
Display_name	The display name of the phone.
Endpoint_last_updated	Date and time that the endpoint was last updated. Eg. 2008-12-01 13:01:10
HNO	House number, numeric part only.
HNS	House number suffix
BLD	Building (structure)
PRD	Leading street direction
RD	Primary road or street
STS	Street suffix
POD	Trailing street suffix
RDSEC	Road section
RDBR	Road branch
RDSUBBR	Road sub-branch
PRM	Road pre-modifier
POM	Road post-modifier
LMK	Landmark or vanity address
LOC	More precise information about the location. Alphanumerical between 1 and 60 characters. Ex.: Suite 200, Floor 2, Unit 341.
FLR	Floor
UNIT	Unit (apartment, suite)
ROOM	Room
PLC	Place-type
ADDCODE	Additional code
SEAT	Seat (desk, cubicle, workstation)
A2	County, parish, gun (JP), district (IN)
A3	City, township, shi (JP)
A4	City division, borough, city district, ward, chou (JP)
A5	Neighborhood, block
PCN	Postal community name
A1	The state or province or county of the location. Some countries require it to be the Abbreviated state name (2 letters) while others require it to be the full name. The validation is Country specific.
country	The ISO 3166 alpha-2. Ex.: US, CA, FR, ST.

PC	Postal Code for most countries and the zip code for the United States. Validation is based on the Country specifications.
POBOX	Post office box
NAM	The name of the customer. This field will appear on the PSAP screen as the “Name”. Between 1 and 60 characters.
local_trunking	Defines if the location will be going through a local trunk or not. Values: 1 = Yes 0 = No If not defined, default is 0.  **Note:** For UK/Europe, either local trunking or direct delivery must be enabled.
direct_call_delivery	Determines if a call made using this location will be directed to a security desk or not. Setting this field to 1 removes data from Intrado. 1 = Yes. 0 = No. 2 = Security Desk Dial Plan only. If not defined, default is 0. If 2 is set, the security desk feature will only apply to calls made to a security desk dial plan number (e.g. 511, 888). If the ERL setting is 2, and a security desk number is dialed, the call will route as a direct delivery call to the on-site security desk. With this configuration, a call from the same ERL to the emergency number (e.g. 911) will not route to the security desk.  **Note:** For UK/Europe, either local trunking or direct delivery setting must be enabled.
elin	ELINs for the ERL. Can be between 3 and 15 digits for other countries. Ex.: 1000000000,3333333333,2323232323.  **Note:** Dynamic ELIN feature is not applicable to UK/Europe.
security_desk	The name identifier of the security desk (if any). Letters and underscores.
crisis_email	Distribution list which will receive an email when 911 is dialed from the ERL. Comma delimited for multiple entries. e.g. john@enterpriseabc.com, jane@enterpriseabc.com.
url_data	Information that will appear in the Crisis Alert Email. e.g. URL or database query. **All characters are accepted.**

Location_last_updated	Date and time that the location was last updated. Eg. 2008-12-01 13:01:10

Endpoint Error Codes

All possible error codes for Endpoints.

Error name	Description	Query	Add/Update	Delete
ok	The entry is successful.	X	X	X
Ip_pbx_not_found	The IP-PBX name entered is invalid.	X	X	X
Invalid_endpoint	The Endpoint format is invalid.	X	X	X
Invalid_mac_address	The MAC address format is invalid.	X	X	X
Invalid device name	The device name format is invalid.			
Location_doesnt_exists	The ERL ID entered is invalid.		X	
Invalid_ip_address	The IP Address is invalid.		X	
Invalid_display_name	The display name is invalid.		X	
Invalid_timestamp	The timestamp specified was not in the valid UNIX format.		X	
Endpoint_or_mac_doesnt_exist	Endpoint and MAC address could not be found.	X		X
Requires_endpoint_or_mac_address	The Endpoint ID was not specified. Either endpoint or MAC must be present.	X	X	X
Ssl_must_be_enabled	Send requests using HTTPS to ensure a secure connection.	X	X	X
invalid_auth	Invalid username or password.	X	X	X
service_disabled	SOAP Server Endpoints has not been enabled in the EGW settings.	X	X	X