# Liebert® Communications Card

## Mass Firmware and Configuration Update Tool

User Guide

### Technical Support Site

If you encounter any installation or operational issues with your product, check the pertinent section of this manual to see if the issue can be resolved by following outlined procedures. For additional assistance, visit https://www.Vertiv.com/en-us/support/.

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# 1 OVERVIEW

The Mass Configuration Tool (MCT) enables users to quickly and easily update the firmware or common configuration on one or more Liebert® IntelliSlot™ Unity™ Cards. The latest firmware update files are available on the Vertiv website. The Major features include:

- Search (scan) an IP address range to find IS-UNITY cards
  - Save the IP address range searches for future use card updates
  - Multiple subnet files can be concatenated
- Network Timeout
  - The timeout is configurable to facilitate widely distributed networks (example – GXT UPS systems at multiple bank or store locations)
- Mass firmware updates (1000 cards max.)
- Mass common configuration updates (1000 cards max.)
  - The configuration import file supports an automatic reboot directive.
- Batch size (a large update can be executed in smaller batches)
- Create Log File (Operation log)

As a supplement to the IS-UNITY Card User Manual, this guide describes how to access and navigate the tool. Prior to using this tool, please see the IS-UNITY Card User Manual for instructions to install and operate the IS-UNITY card.

## 1.1 Minimum Requirements

The following are the minimum requirements to use the tool:

- IS-UNITY card firmware version
  - Minimum version for mass firmware update is 2.0.0.0
  - Minimum version for mass configuration update is 7.0.0.0
- 1 GHz or faster 32-bit (x86) or 64-bit (x64) processor
- .NET framework 4.0 or higher
- Microsoft® Windows™ 7 or later
- Network access to the cards using HTTP/HTTPS protocol communications. RADIUS, TACACS+, LDAP, and Kerberos remote authentication protocols are supported.

## 1.2 Using the Tool

The MCT file is available at https://www.vertivco.com/en-us/support/software-download/monitoring/liebert-intellislot-communications-interface-cards/

To download the MCT:

1. Download the zip file to a folder on your computer.
2. Extract the files from the folder.
3. Double-click LiebertCommunicationsCardMCT.exe to open the application.

Figure 1.1 Mass Configuration Tool Controls and Information

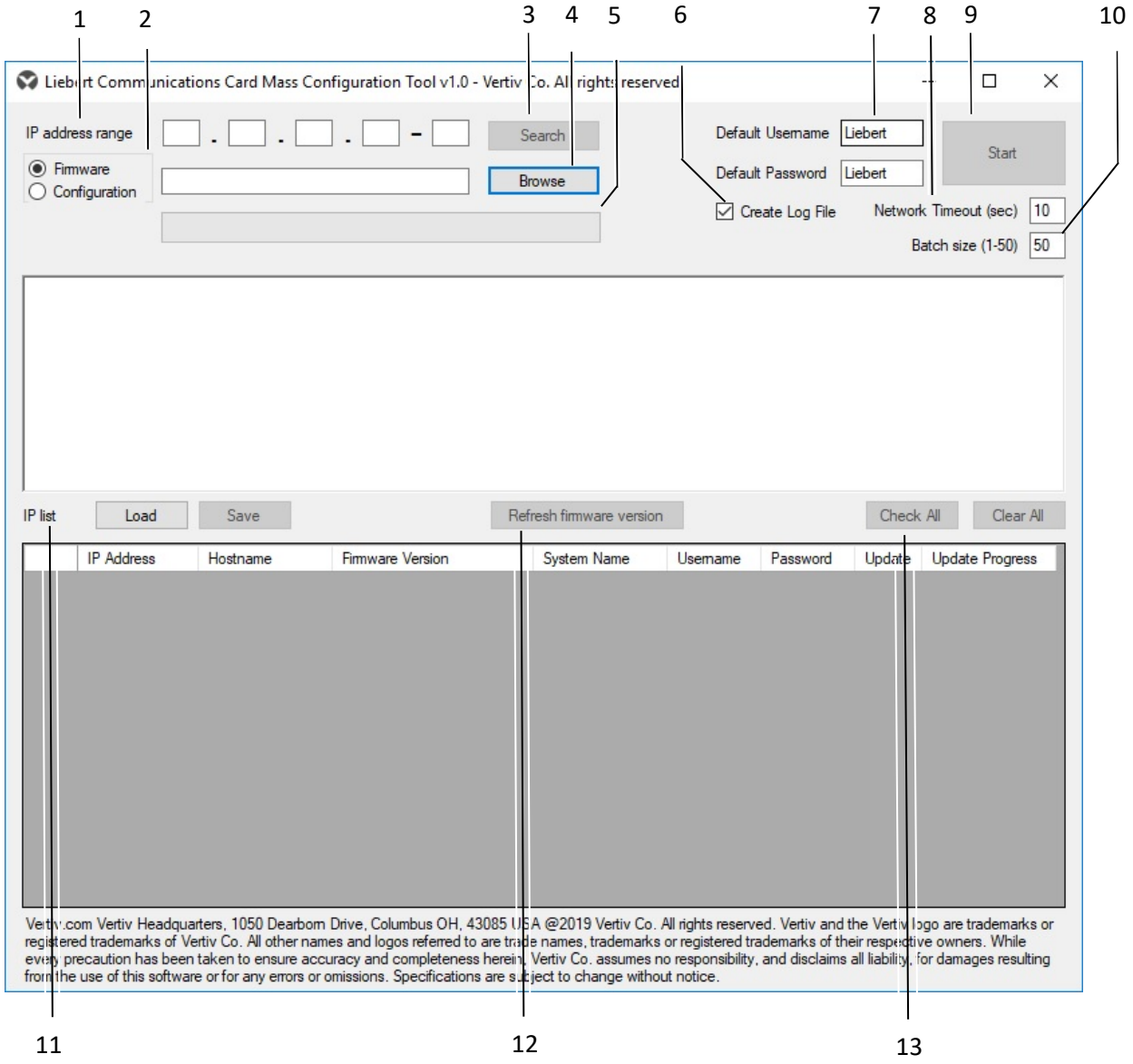



Table 1.1 Mass Configuration Tool Description

| NUMBER | NAME | DESCRIPTION |
|---|---|---|
| 1 | IP address range | IP subnet to scan including begin and end address |
| 2 | Firmware<br>Configuration | Operation type |
| 3 | Search | Initiate IP address search (device discovery) to find Vertiv cards on a given network subnet address range |
| 4 | Browse | Open file finder dialogue to select a firmware or configuration file |
| 5 | Progress bar | Visual indication of update progress |
| 6 | Create Log File | Operation log |
| 7 | Log in Credentials | Default (global) administrator Username and Password |
| 8 | Network timeout | Amount of time the application will wait for a response from a given IP address |
| 9 | Start | Initiates the Firmware or Configuration update to the selected cards in the Update column |

Table 1.1 Mass Configuration Tool Description (cont.)

| NUMBER | NAME | DESCRIPTION |
|---|---|---|
| 10 | Batch size | Number of cards to update at a time. A failure in any batch will prevent the next batch from executing |
| 11 | IP list | A .csv file that can be saved after searching an IP range. The saved .csv file or a customer provided text (.txt) file can be loaded. |
| 12 | Refresh firmware version | Manual refresh of current firmware version |
| 13 | Check All<br>Clear All | Following an IP range search, the user can select or de-select all cards for update in the Update column. |

### 1.2.1 Device discovery (IP address range search)

The Unity cards on a network are discovered using the IP address range search feature. The available IS-UNITY cards will be shown in the IP list area of the application interface – Figure 1.2.

The IP list can be saved to a .csv file using the *Save* button. Multiple .csv files from different IP subnets can be manually combined/concatenated to form a single composite list. The .csv list can be loaded for future operations thereby eliminating the need to search again. Also, an existing IP list can be loaded in a text (.txt) file format – Figure 1.3. The maximum length is 1000 IP addresses.

Figure 1.2 IP list area populated following a search

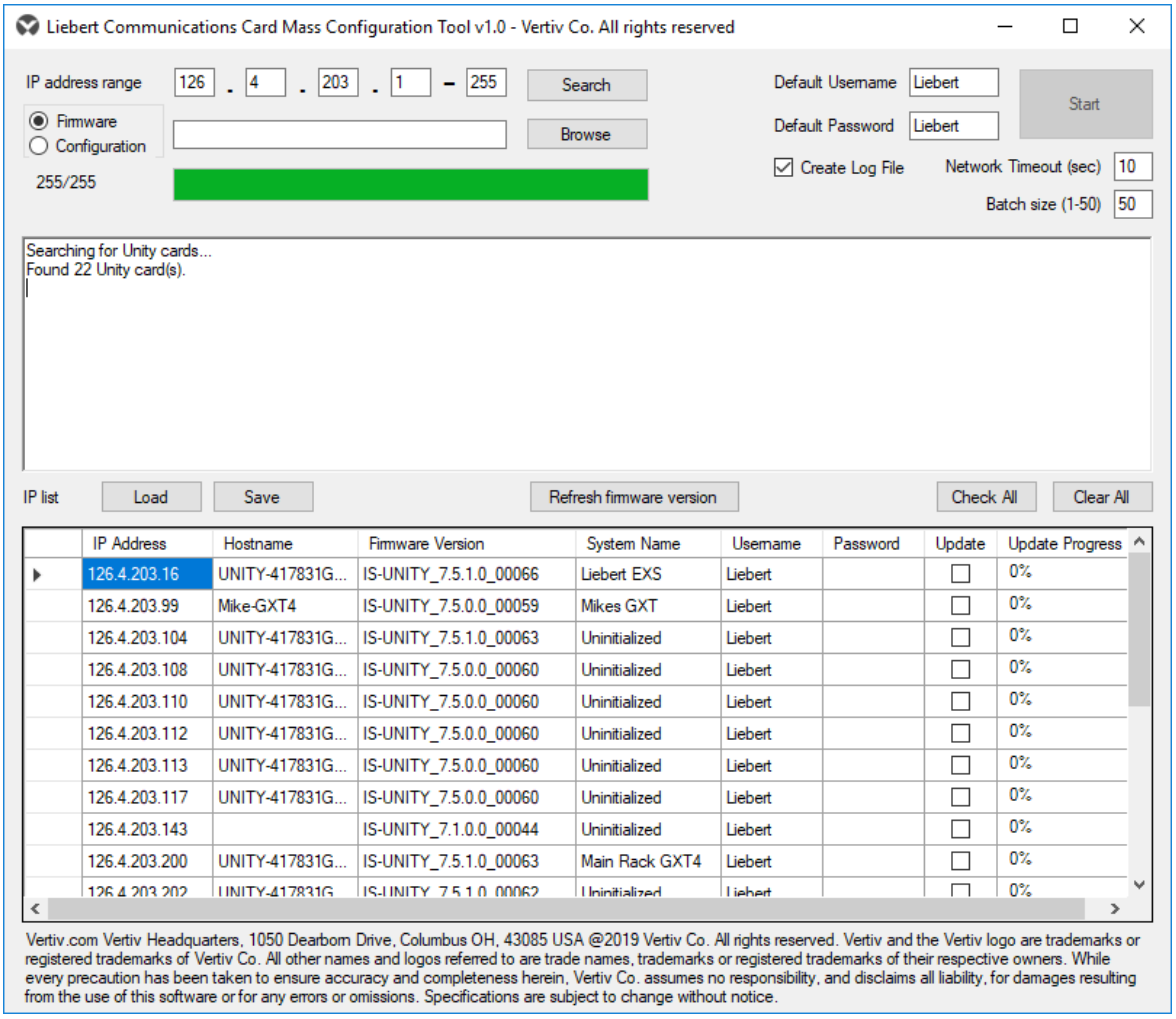
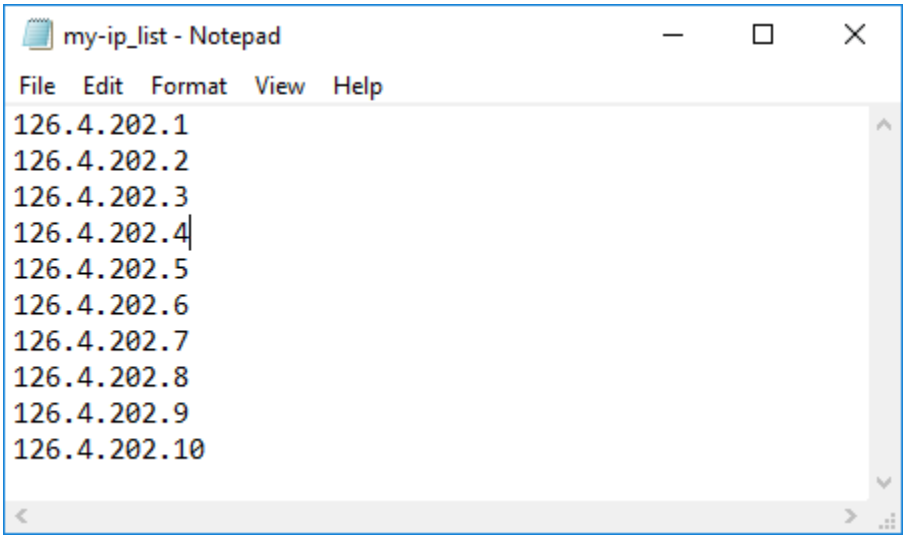



Figure 1.3 IP list example in a .txt format



### 1.2.2 Firmware Update

Download the firmware update file from the following Vertiv web site location: https://www.vertivco.com/en-us/support/software-download/monitoring/liebert-intellislot-communications-interface-cards/ (This tool is located at the same location)

- Using the *Browse* button, navigate to the location of the firmware download to select the file.
- Select the cards to updated. The cards can be selected using the *Check All* button. Or, the cards can be selected individually using the *Update* checkboxes. (Figure 1.4 shows two cards selected).
- Enter the card admin credentials that are different than the Default Username/Password (See example in Figure 1.4 where: Username = “LiebertRep"; Password = “RepDemo”).
- Click the Start button to begin the firmware update process.
- Figure 1.5 shows the application state following a successful firmware update.

Figure 1.4 Firmware file selected, and cards selected to be updated.

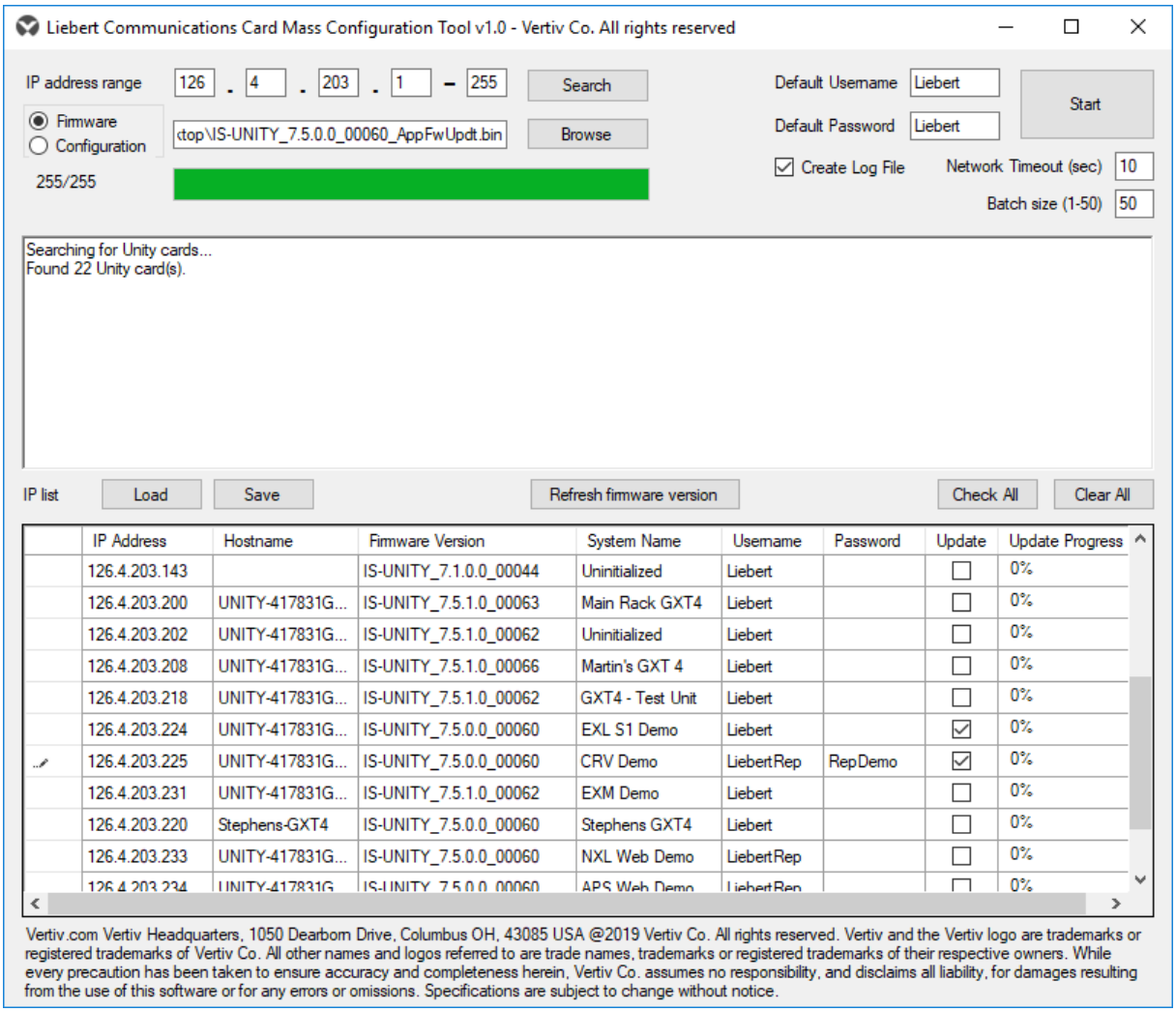
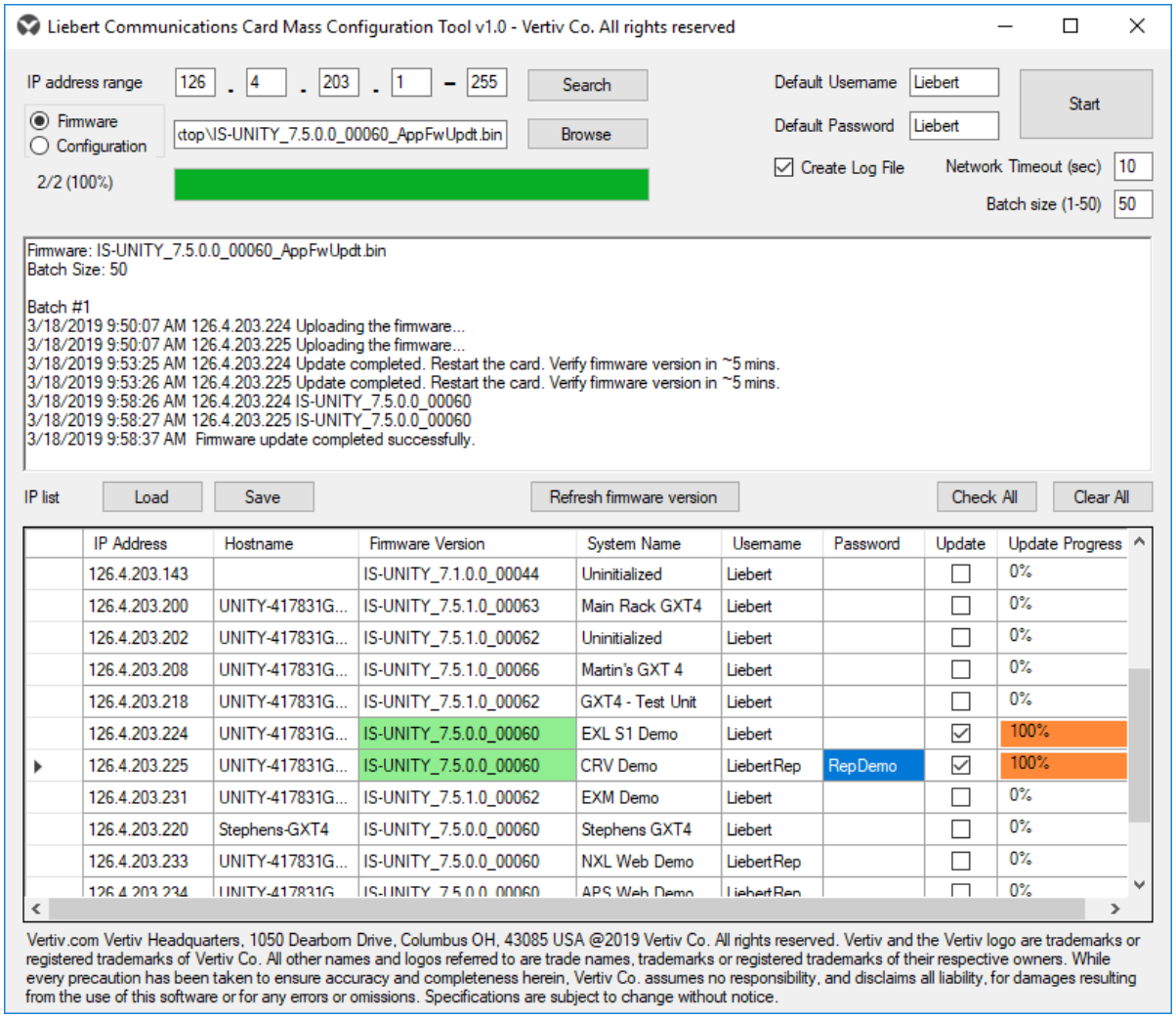


Figure 1.5 Firmware update completed for selected cards.



### 1.2.3 Configuration File Import

A common configuration import file is a file that contains one or more configuration parameters that a user desires to propagate to many IS-UNITY cards.

The common configuration file can be created by:

- Editing an exported configuration file from an IS-UNITY card that contains the desired configuration parameters. Delete the uncommon (unwanted) parameters and save-as a unique filename. It is best not to import unnecessary configuration parameters.
- Create a Configuration Import file by copying the common configuration example in Appendix A of this document. Then edit to add or delete parameters as needed to create the desired configuration.

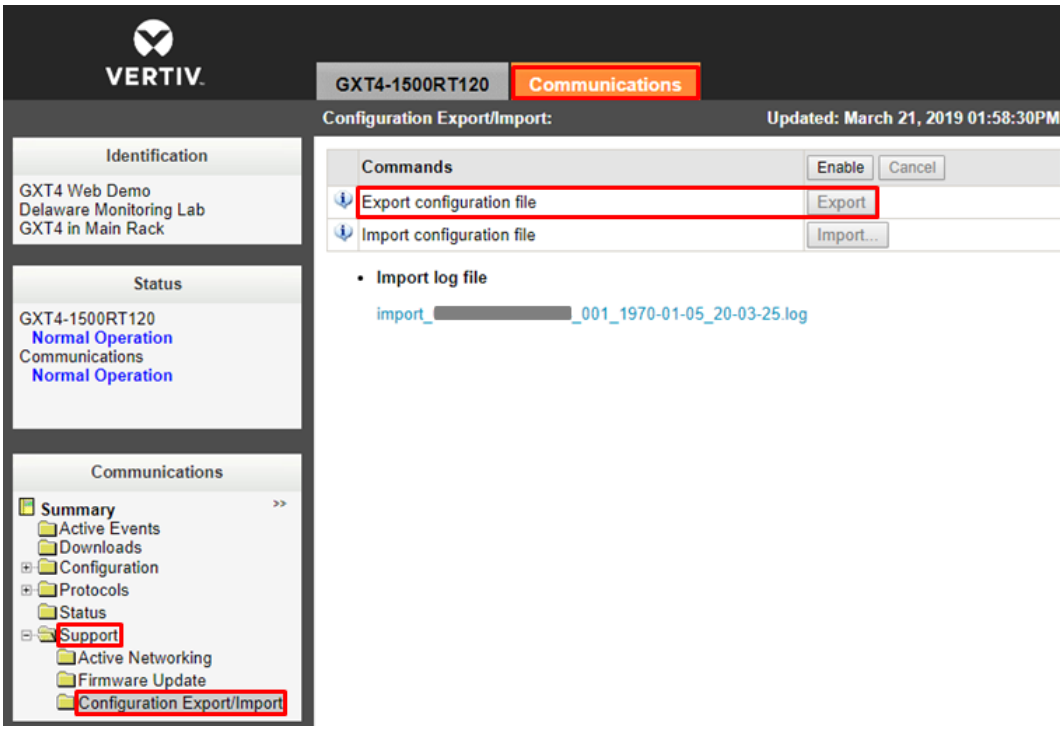
NOTE: If you add sensitive data such as passwords to the file, we recommend that you use an HTTPS connection if the card is used on a non-secured or public network to ensure that the file is encrypted when transmitted.

#### 1.2.3.1 Exporting a configuration file from the IS-UNITY card

Navigate to the IS-UNITY card Configuration Export/Import web page as shown in Figure 1.6 below. The Export configuration operation saves the IS-UNITY card configuration to a computer file system drive. The file may be edited and used to import common parameter settings to other IS-Unity cards. Please refer to the IS-UNITY user manual for further details on exporting a configuration file from the card.

- Click Enable and enter a user name and password.
- Click Export.
- The configuration export file is downloaded to a browser default or selected location.

Figure 1.6 Web page for exporting a configuration file.



#### 1.2.3.2 Important security considerations of the Exported Configuration File

An exported configuration file contains all the IntelliSlot communication card configuration settings (Communication tab) ***except*** passwords and other secrets. Managed-device settings (UPS, Power Distribution, Thermal Management systems, etc. are not contained in the file.

**Passwords and other secrets are not exported**. Protected values are shown as asterisks and the lines are commented-out. To use the file as a complete, importable back-up file, you must replace the asterisks (*) with your password/secret values and un-comment the lines. You can also reference the header of the export file for additional details.

**NOTE**: Do not import an un-modified export file from one card to another. This could cause a duplicate IP address or other unintended duplications.

**NOTE**: When using sensitive data such as passwords or secrets in an import file, it is recommended that you use an HTTPS connection if the card is used on a non-secure or public network.

### 1.2.4 Configuration Export/Import File Format

The exported file is self-describing using commented lines and includes the following format designations:

- Filename is formed using the card MAC address (X's below), date stamp and time stamp.
    - Example: config_XX-XX-XX-XX-XX-XX_2019-02-24_21-52-10.txt
- # precedes comments.
- Parameters and their values are not commented. A colon (:) separates the parameter and value. Effectively, a key:value pair.
- Double quotes (") enclose all text-based values
- Numeric and enumerated values are not enclosed in double quotes
- Brackets ([]) indicate the folder that contains the parameters
- User password and other secrets are hidden in the export file, and the line is commented to prevent inadvertent import. To import a new password or other secret, un-comment the line and enter the new password. Because secrets are text strings, they must be enclosed in double quotes (").
- **Reboot Directive** – This directive ("RebootAfterImport") instructs the IS-UNITY card to reboot after the configuration import is completed. This directive is enabled by default for IS-UNITY_7.5.1.0_00066 firmware release and higher. For a lower firmware version than this release, the Reboot Directive is disabled by default. Please ensure that the Reboot Directive is enabled (uncommented) to automatically reboot the card following an import.

```
#### Begin informational header
# Date: Sun Feb 24 21:52:10 2019
#
# Reboot Directive
#   In an import file, RebootAfterImport reboots the card automatically after
#   import.  Delete the line or disable it with a pound sign (#) if you want to#
manually reboot the card.
RebootAfterImport
#
```

### 1.2.4.1 Configuration Export/Import - parameter: setting examples

Below are examples (in bold) of all the **parameter: setting** (key: value) pair formats that are used in the import (and export) files.

**NOTE:** The minimum lines required to change one parameter is:

1) One Folder enclosed in an open and close bracket ([])
2) One parameter and setting (key: value pair).

**NOTE:** The commented lines facilitate a self-describing file. However, they are not required for the import file.

- **Text** based settings are always enclosed in double quotes (")

  [System]
  # System Name
  # End user assigned name for the system
  # maximum length: 64
  **System Name: "Import Test"**
  # Contact Information
  # End user assigned contact information for the system
  # maximum length: 50
  **Contact Information: "Vertiv Representative"**
  # System Location
  # End user assigned location of the system
  # maximum length: 50

  **System Location: "Columbus Ohio"**
  # System Description
  # End user assigned description for the system
  # maximum length: 50
  **System Description: "Example"**

- **Enumerated** values are used without punctuation

  [Time Service]
  # External Time Source
  # The external source to use for time synchronization.
  # 0: NTP Server
  # 1: Modbus System
  # 2: BACnet System
  # 3: Velocity Management System
  # 4: LIFE (TM) Watch Station
  # 5: YDN23 System
  # 6: Remote Services System
  **External Time Source: 0**

- **Numeric** values are used without punctuation

  [Authentication.RADIUS]
  # Timeout
  # The timeout for an authentication query to be answered.
  # range: 0 to 65535 sec
  **Timeout: 3**

- **IP Address**

  [Network.IPv4]
  # IPv4 Protocol
  # Enable or disable IPv4.
  # 0: disabled
  # 1: enabled
  IPv4 Protocol: 1
  # IP Address Method
  # Method by which the system acquires a network address.
  # 0: Static
  # 1: DHCP
  # 2: BOOTP
  IP Address Method: 0
  # Static IP Address
  # Manually assigned network address.
  # IP address in standard form
  **Static IP Address: 126.4.203.251**

*The following is an example of a password or secret in an **Export** file. They are exported as 8 asterisks "********"*

- **Passwords and Secrets** are always *exported* as asterisks and commented.

  [Local User.1]
  # User Name
  # Case sensitive string containing printable ASCII characters excluding: \:'<>~?#, double quote, and space
  # maximum length: 30
  # minimum length if not blank*: 1
  # *This setting can be cleared with a blank string.
  User Name: "Liebert"
  # User Password
  # Case sensitive string containing printable ASCII characters excluding: \:'<>~?#, double quote, and space
  # maximum length: 30
  # minimum length if not blank*: 1
  # *This setting can be cleared with a blank string.
  # ** Protected value not displayed. Uncomment following line to import new value:
  **# User Password: "********"**
  # Authorization for User
  # User access privilege level - No Access, General User, Administrator
  # 0: No Access
  # 1: General User
  # 2: Administrator
  Authorization for User: 2

*The following is an example of a password or secret in an **Import** file. The actual password/secret is shown.*

- **Passwords and Secrets -** the actual password/secret text enclosed in double quotes is required for importing.

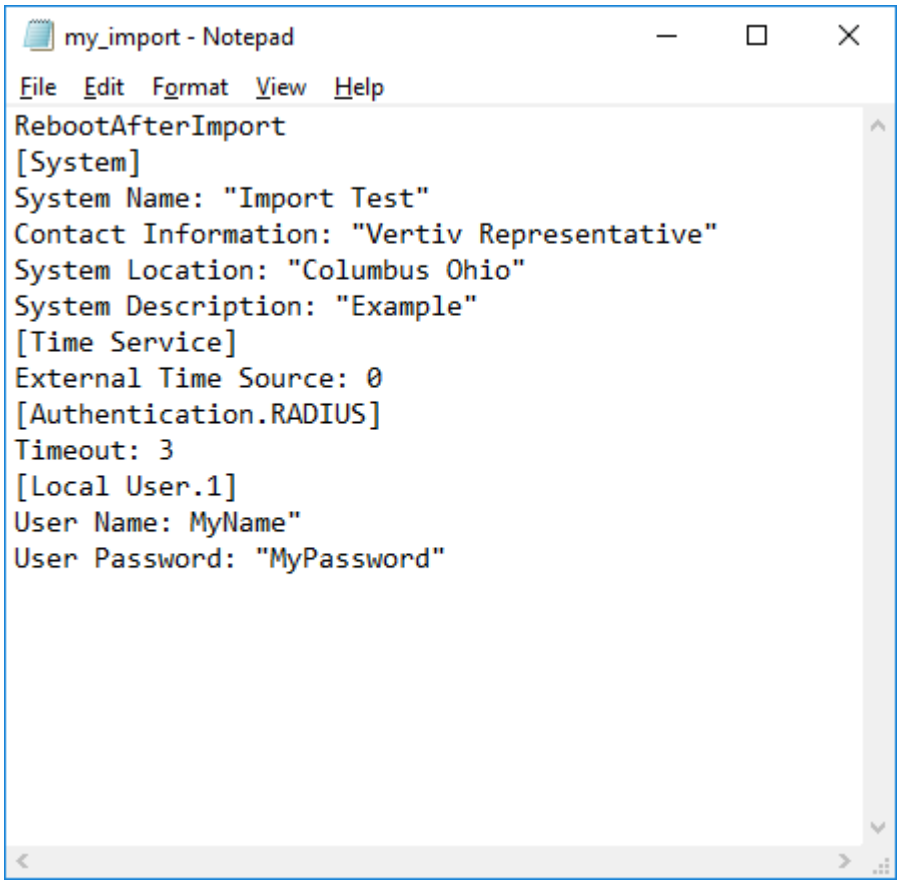
  [Local User.1]
  # User Password
  # Case sensitive string containing printable ASCII characters excluding: \:'<>~?#, double quote, and space
  # maximum length: 30
  # minimum length if not blank*: 1
  # *This setting can be cleared with a blank string.
  # ** Protected value not displayed. Uncomment following line to import new value:
  **User Password: "Liebert"**

#### 1.2.4.1.1 Import file example with no comments

An example of an import file using the examples above with all comments removed. This style is useful after The user becomes very familiar with the file syntax. Until then, it is recommended to retain some or all comments. Also see Figure 1.7

RebootAfterImport
[System]
System Name: "Import Test"
Contact Information: "Vertiv Representative"
System Location: "Columbus Ohio"
System Description: "Example"
[Time Service]
External Time Source: 0
[Authentication.RADIUS]
Timeout: 3
[Local User.1]
User Name: MyName"
User Password: "MyPassword"

Figure 1.7 Example of a configuration Import file with no comments.



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