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SLC4075TechNote208\_DatabaseAndEthernetAddressModificationProcedure.docx

Rev. 10/19/23

**SLC4075 TechNote208 TouchScreen Gateway (TSGW) Database Modification Procedure**

The SLC4075 is supplied with a default database that includes the initial SLC4075 functionality for your installation. The unit requires additional configuration if the following optional features are desired:

- Ethernet parameters need to be changed for BACnet I/P or Modbus TCP/IP
- User accounts and password
- Additional alarm notifications
- Additional configuration items or modified startup parameters.

**Backup User-modified Data**

It is recommended that data that has been modified via the front panel or BMS be copied down before proceeding to upload the new database. Particularly important information is PID, SPM, and CLL settings (if equipped).

**Extracting and/or Modifying the Database**

**Determine the model type of the unit**

1. Determine if your TSGW is a Kadet G300 series OR a CR1000 series. This information may be found on the TSGW on Page 15 or Page 17 with the title of “G304 Information” or “Platform Information”. An alternate method to determine the model type is to inspect the connectors on the bottom of the unit. If there are 4 RJ45 rectangular connectors and a single USB connector, the unit is a CR1000, otherwise it is a G300 unit.
  - a. For a Kadet G304 or G307 download the latest, free **Crimson 3.0** software and manual from <http://redlion.net/crimson-30>
  - b. For a CR1000 model, download the latest, free **Crimson 3.1** software and manual from <http://redlion.net/crimson-31>  
**Although Crimson 3.2 is available, DO NOT CONTINUE TO USE V3.1, as V3.2 is NOT completely compatible with our implementation.**
2. **Open Crimson 3.x**
  - a. Obtain the original database from the boiler manufacturer, or extract it from an operational unit.
  - b. To load an existing database located on your PC.
    - i. File:Open... the applicable, \*.cd3 (Kadet G300) or \*.cd31 (**CR1000**) database, where \* is an identifying name.
  - c. To extract the database, continue with the following instructions.
3. **Determine the method to Update or Extract the database.**
  - a. **Method 1 – USB Cable (CR1000 only)**
    - i. The database is configured using a laptop or PC running Windows.
    - ii. In Crimson Link; Options menu, select USB
  - b. **Method 2 – Ethernet cable:**
    - i. The database is configured using a laptop or PC running Windows.
    - ii. Change the IP address on the PC to **192.168.0.99** and net mask to **255.255.255.0 (subnet prefix length = 9)**, so that it resides on the same network as the default IP address of the TSGW.
  - c. **Method 3 – SD Card (G307 Or CR1000 units only):**
    - i. A 2 GB unit is available from Selectronix. Order SLC4030.
    - ii. **Size Requirements**
      1. **G307: 2GB or smaller and FAT16 file system**

- a. Larger capacity SD cards may be used, but they must be formatted for a FAT16 file system. Use Crimson 3.0 to format the card, which will format it as a FAT16 file system with a 2 GB partition.
- 2. **CR1000: Large capacity SD cards may be used**, but must be formatted with the FAT32 file system.
  - a. Crimson 3.1 formats the card as a FAT32 file system.
- iii. Verify that the desired database image has been loaded on this card.

#### 4. Change the I/P Address of the unit

- a. To change the **I/P address of the unit from the default IP of 192.168.0.104 for the first time**
  - i. In the lower part of the Navigation Pane, click on the **Communications Tab**.
  - ii. In the upper part of the Navigation Pane, click on Network
  - iii. In the center pane, **Communications – Network**
  - iv. Click on the **Ethernet** tab
  - v. Change the Port Settings, as desired
- b. **For subsequent updates or extraction of the database of the TSGW using TCP/IP:**
  - i. In the center pane, **Communications – Network**
  - ii. Click on the **Download** tab
  - iii. Change the Remote address to the **same IP address entered in the Ethernet Port Settings**
  - iv. Click on the **Ethernet** tab
  - v. Port Settings; Port Mode to Manual
  - vi. Enter the current network settings of the TSGW.

#### 5. Change the BACnet Instance ID

- a. **To change the instance ID from the default 7000,**
  - i. In the lower part of the Navigation Pane, click on the **Communications Tab**.
  - ii. In the upper part of the Navigation Pane, click on **Protocol 1 – BACnet UDP/IP**
  - iii. In the main window, **Communications – Network – Protocol 1, Configuration section**, change the **Device ID**.

#### 6. To extract the database

- a. Select menu item 'Link'
- b. Select menu item 'Extract'
- c. See the communication activity with the TSGW, then name and save the file to your PC

#### 7. To Modify the database

- i. Make any other desired database changes
- b. When all the database changes have been made, select and click on File; Save or click on the floppy disk icon.,

## **Step-by-step Instructions for Updating the Revised Database**

### **1. Method 1 – USB Cable**

- a. On the Link menu item, select <Update>

### **2. Method 2 – Ethernet cable:**

- a. In Crimson, in the lower left window, Navigation Pane
  - a. Select the **Communications** Tab
  - b. In the upper left window, select the **Network** item.
  - c. In the center window, select the **Ethernet** tab and configure the applicable parameters
  - d. If you are not changing the default IP address, skip the next step
  - e. From your network administrator, request a static IP and other required network information OR set the initial Port Mode to “Configured via DHCP or APIPA”. The unit will request an IP on power up. Note that after this IP is assigned, it is recommended that you request that the network administrator reserve that IP address for this specific unit. The Port Mode can then be changed to Manual Configuration with the assigned network information.
  - f. The default IP address of the TSGW is **192.168.0.104** and is used for the updating of the database. This address is programmed in the delivered database. ***If the IP address of the TSGW has been changed, then subsequent uploads will use the new IP address. The laptop used for uploading must also be on the same network as the TSGW.***
  - g. **If the default IP address is changed**, change the *Download IP address* for *subsequent* unit updates:
    - i. Select **Communications Tab; Network item; Download tab** and change **IP Download** to the **desired Remote address**.
- b. Connect a laptop using a standard Ethernet patch cable. Verify that the connection LED on the RJ45 connector indicates an active connection.
- c. **Select top menu, Link;Update**
- d. See “Status”
  - a. “Writing device firmware block nnnn”, where nnnn is approximately
  - b. “Do not power off the target device during this process.”

### 3. Method 3 – SD Card (G307 Or CR1000 units only):

#### Excerpt from the Crimson User Manual

“A Crimson-specific item on the File menu is Save Image. This command allows the creation of a file that can subsequently be used to update the database in a terminal via a memory card or USB memory stick. The file contains a non-editable form of the database, plus any firmware and boot loader updates required for execution. Placing an image file called `image.ci3` in the root directory of the target device’s memory card and then resetting the device will update the boot loader, firmware and database using the image file contents. Note that image files can optionally contain upload information, thereby allowing an editable version of the database file to be extracted from a terminal.”

#### a. Creating Image And Storing To SD Card

- i. Run applicable Crimson 3.X
- ii. Insert the SD card into the card reader of the PC
- iii. Load the desired G307K2 (\*.cd3) or CR1000 (\*.cd31) database
- iv. Select File;Save Image...
- v. **Enter “image.ci3” (It must this exact name without the “”)**
- vi. Select <Save>
- vii. See “The image file can be built as to support database upload. Do you want to include support for this feature”
  1. Select <Yes> or <No> as desired.

#### b. TSGW Updating Image From SD Card (G307)

- i. Turn off TSGW power
- ii. On the back of the unit, open the access plug and set the DIP switches to Up Up Dn Up
- iii. Insert SD card into the slot on the bottom of the unit, with the contacts towards the front of the unit until it clicks.
- iv. Turn the power on
- v. See “System Menu”
- vi. To select a menu item, press and hold until it turns green, then release
- vii. Select <Database Utilities>
- viii. See “Database Utilities”
- ix. Select <Database Image Menu>
- x. Select <Load Image from Memory Card>
- xi. See “Are you sure you want to continue?”
- xii. Select <Yes>
- xiii. See reboot and see System menu
- xiv. Press <Continue>
- xv. See “Reset DIP switches to continue”
- xvi. Press <OK>
- xvii. See “VERIFYING IMAGE ON MEMORY CARD”
- xviii. See “LOADING DATABASE”
- xix. Once it loads, power the unit off
- xx. Set the DIP switches to normal Dn Dn Dn Up and close the access port plug
- xxi. Power up the TSGW and verify the modified database loads

**c. TSGW Updating Image From SD Card (CR1000)**

- i. Turn off TSGW power
- ii. On the left side of the TSGW (viewed from the rear of the unit), insert the SD card with the contacts oriented towards the front of the unit, into the slot until it clicks.
- iii. Turn the power on
- iv. See “VERIFYING IMAGE ON MEMORY CARD”
- v. See “LOADING FROM MEMORY CARD”
- vi. See “LOADING IMAGE”
- vii. Note that the memory card may be left in the unit. On power up, the boot process checks the signature of the database, and if the same as the loaded database, it proceeds directly to “LOADING IMAGE”.

**d. For more information on Loading a Database Using an Image File, see**

**<https://support.redlion.net/hc/en-us/articles/360041091252-Crimson-3-0-and-3-1-Loading-a-Database-Using-an-Image-File>**

## **Configuration Complete**

### **TIP1: Verifying the Ethernet Parameters of the PC and Crimson**

1. If you are using the Ethernet method of updating, and the TSGW displays a communications error:
  - a. Verify that the Link Options is set to TCP/IP
  - b. Verify that the Communications;Network;Download tab is set to the current IP address of the TSGW
  - c. Verify that your PC has an IP address in the same subnet as the TSGW:
    - i. Open a command box by typing <cmd> in the window next to the Start Button
    - ii. In the command box, type <ipconfig> and verify that the applicable IP address.
2. Close and re-open Crimson
3. Re-load the database
4. Re-try the upload process.

### **TIP2: Set Clock time on the TSGW**

A convenient way to set the time on the TSGW is to select **Link;Set Time**.

### **TIP2: Mount and Dismount Memory Card**

View and modify the contents of the SD on the host PC, *when the SD card is installed in the unit*.

1. Load a database into Crimson 3.1
2. Connect the touchscreen with a USB cable.
3. Link;Options;USB
4. Link;Mount Flash
  - a. On the host PC, see the SD card appear in File Explorer as a USB drive
5. Link;Unmount Flash
  - a. On the host PC, the SD card no longer appears in File Explorer.
6. Link;Format Flash
  - a. *Use to format and verify that the SD card is compatible with Crimson, which is an absolute MUST.*