Hyosung SSL/TLS Configuration Guide For DPL Customers

Proper SSL/TLS Setup for your Hyosung ATM

Using DPL's Hercules Wireless Modem
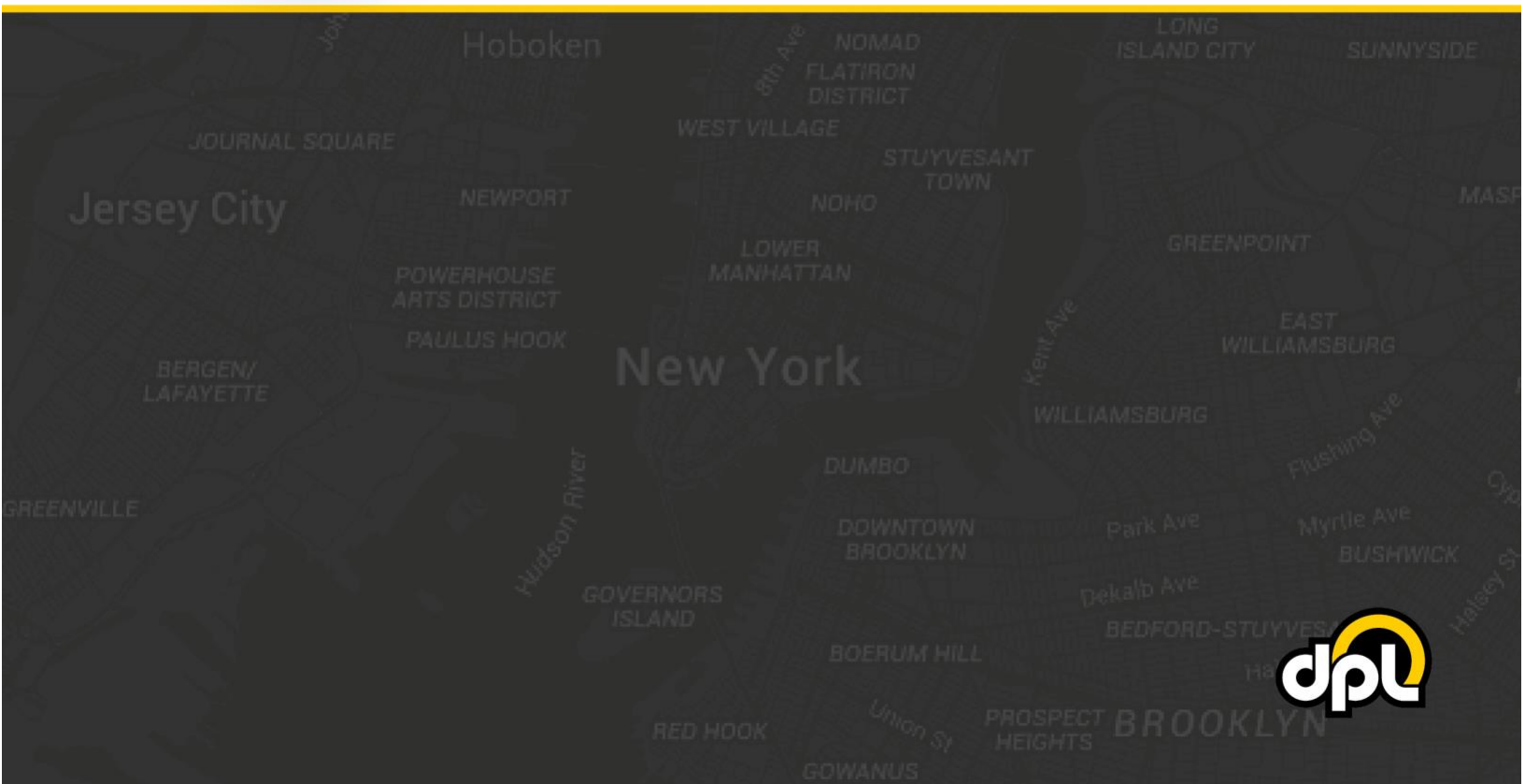
Table of Contents

Purpose

This guide instructs DPL customers on how to properly configure SSL/TLS on Hyosung ATMs using a Hercules wireless modem. This guide is based on the Hyosung MoneyMax MX2600SE – the required steps for your model may vary. The document will take you through:

- Installing the DPL **rootcert.pem** file

- Setting up address-based host setup

- Enabling SSL/TLS

- Enabling certificate validation

By the end of the document you will have a securely connected ATM that should be resilient to Man-in-the-Middle (MITM) attacks involving tampering with the internal link between the ATM and the Hercules modem installed in your unit.

Prerequisites

To successfully complete the following steps you will need:

- To ensure your Hercules wireless modem and ATM have the latest firmware updates. If unsure, please contact DPL's technical support department.

- The DPL **rootcert.pem** or a **rootcert.pem** provided by your payment processor

Examples of the required information will be provided in the steps below.

Steps

1. ATM TCP/IP Setup

Before setting up SSL/TLS, confirm you are on a TCP/IP ATM configured for DHCP or static IP as instructed below.

NOTE: DHCP will enable dynamic allocation of the IP address from the Hercules modem that the ATM is plugged into. This is preferred as it means changes to the ATM are not required if changes are made to the Hercules modem. Static IP can be more stable for some older ATMs but requires manual ATM reconfiguration if the Hercules modem is updated to new addresses (or many other network topology changes).

   a) Use the ATM Operator Menu to navigate to the communication screen using the path listed below.

ATM Operator Menu > Customer Setup > Select Processor > Communication

NOTE: In order to use SSL/TLS the ATM will **need** to be capable of TCP/IP communication.

b) Enable either DHCP (preferred for newer installations) or a static IP (using information provided by the installation site or the Hercules modem being used) using the **DHCP En/Disable** button (and other buttons if using static).

ATM Operator Menu > System Setup > Terminal IP
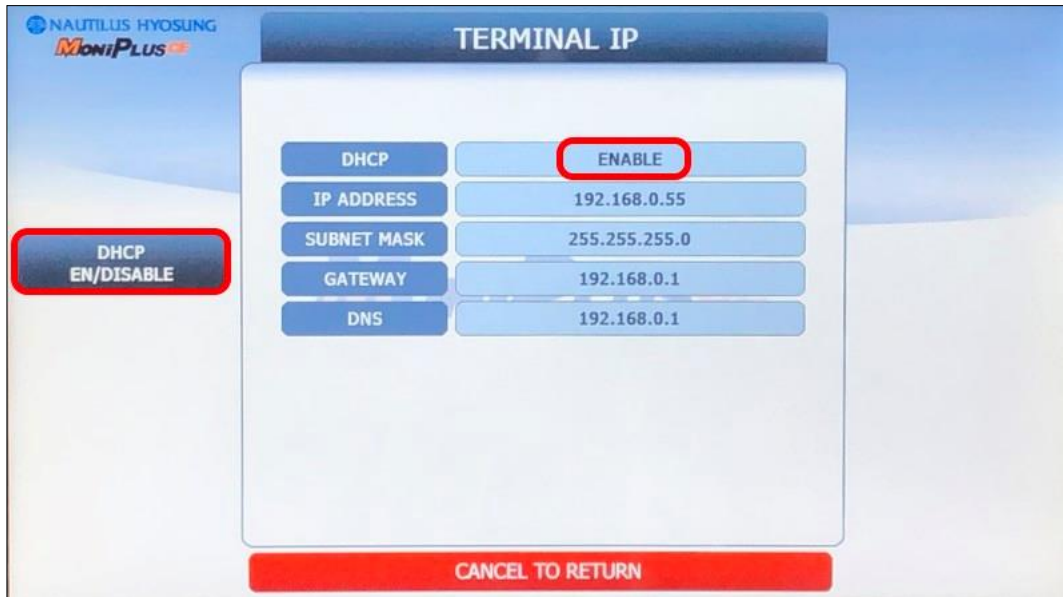
c) Once your information has been input, press the **Cancel** key to save the changes.

NOTE: If you have switched from Static to DHCP or vice versa, you may need to reboot the ATM now or after completing the remaining steps. See how to reboot your ATM under **"Testing SSL"** below.

Alternative: Static IP Configuration

The Hercules can also be used with a static IP configuration. If that is required, use the information provided below and your ATM will be connected to the Hercules. Use the **DHCP En/Disable** button to switch to static configuration and enter the following:

- **IP Address:** 192.168.0.55

- **Subnet Mask:** 255.255.255.0

- **Gateway:** 192.168.0.1

- **DNS:** 192.168.0.1

2. Enabling SSL/TLS Properly

In this section we will enable TLS 1.2 to secure the ATM against man-in-the-middle attacks on the Ethernet line and enable certificate verification to make sure the ATM is verifying the certificate chain.

a) Open the TCP/IP Type screen using the path listed below, then match up the information to the image using the highlighted buttons.

ATM Operator Menu > Customer Setup > Select Processor > TCP/IP Type

NOTE: The Hercules modem can use Visa Framed or Standard for the **Type**.

3. Installation of Root Certificate Files (rootcert.pem)

The **rootcert.pem** file is used to supplement the list of certificates already installed on your Hyosung ATM. The supplemental certificates are trusted chains used by payment processors that are not always preinstalled on ATMs. These will allow certificate validation to be enabled on the ATM for enhanced protection against logical attacks.

    a) Download the DPL **rootcert.pem** file (or the certificate chain indicated by your payment processor) and install it on a USB drive or SD card that is **2GB or less in size**. It should appear as depicted below.

NOTE: The 2GB drive size is a requirement for GenMega ATMs. They can have trouble accessing drives larger than 2GB. **WARNING:** This is important, if you don't have one, purchase a 2GB drive.

Adding Rootcert.pem to Root of USB Drive/SD Card
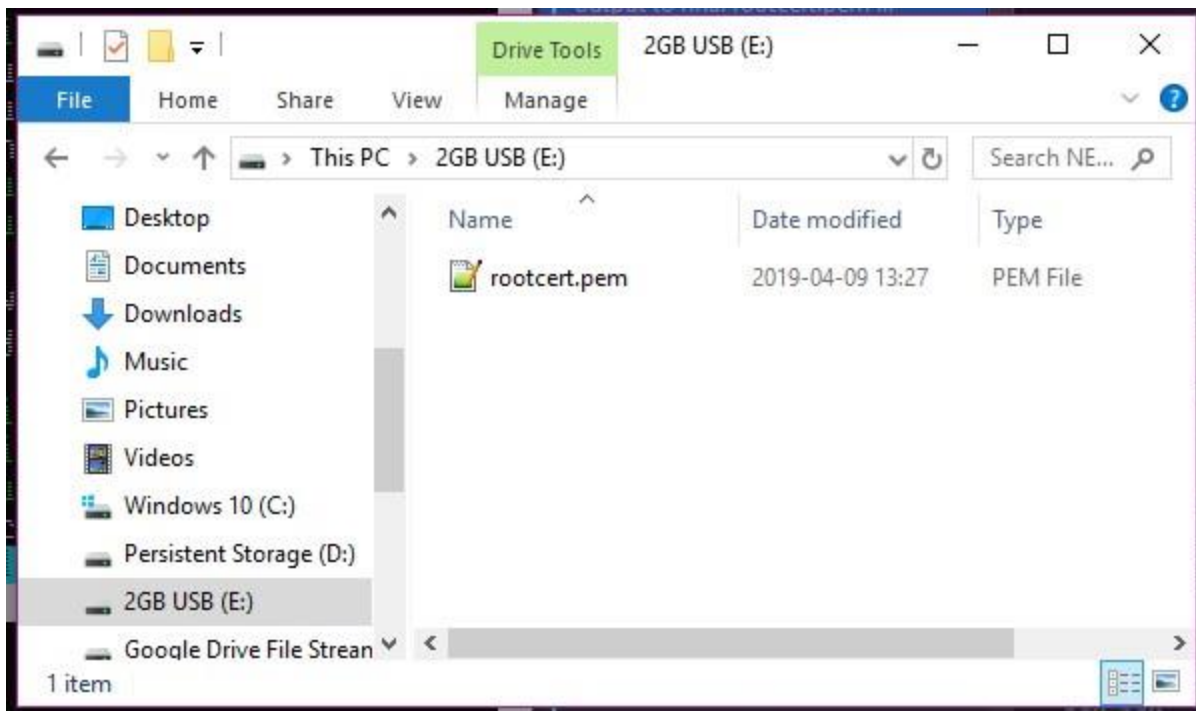
b) Plug the USB drive (or SD card) into the appropriate port on your Hyosung's control board (the green USB drive in our example). The Hyosung MoneyMax MX2600SE ports are as seen below. USB is on the right when viewing the ATM from behind.

Hyosung MoneyMax MX2600SE USB Port/SD Card Slot

c)   To install the new **rootcert.pem** navigate to the **TCP/IP Type** screen using the path listed below and press the **Download Cert. From USB** button.

NOTE: If you encounter an error at this stage, you either misnamed the **rootcert.pem** file or your USB drive or SD card is not 2GB or less and FAT formatted (see previous steps).

ATM Operator Menu > Customer Setup > Select Processor > TCP/IP Type

Once this is complete you should see an Operation Success displayed on screen.

4. SSL Host Configuration

In this section we will configure the host addresses for SSL/TLS. Configured the address fields to **tls.dplwireless.com** and the port fields to **8000.** DPL manages the connection from the Hercules modem through our secure network to your payment processor. Please contact our technical support department to configure the payment processor information for your Hercules modem or log in to the Hercules Portal to configure it yourself (learn how).

a) **Enable URL** with the button on the left. Then configure the settings with the data listed above using the highlighted buttons.

ATM Operator Menu > Host Setup > Host Address

5. Testing SSL

Test that SSL is configured properly on your ATM by completing either of the steps below:

- Perform a dummy transaction on the ATM

- Use the **Connect** button on the **TCP/IP** screen of the **Diagnostics** to test the connection

For the purposes of this document the **Connect** option of the **Diagnostics** mode will be used:

a) Navigate to the **TCP/IP** screen using the path listed below and press the **Connect** button. If everything is configured correctly a success message will be displayed. Ensure all the fields match the example below.

ATM Operator Menu > Diagnostics > Yes > TCP/IP

NOTE: If you encounter any issues use the **Reboot Now** button on the **Reboot / Shutdown** screen as seen below to reboot the ATM to ensure the TCP/IP information has taken effect.

ATM Operator Menu > System Setup > System Control > Reboot/Shutdown
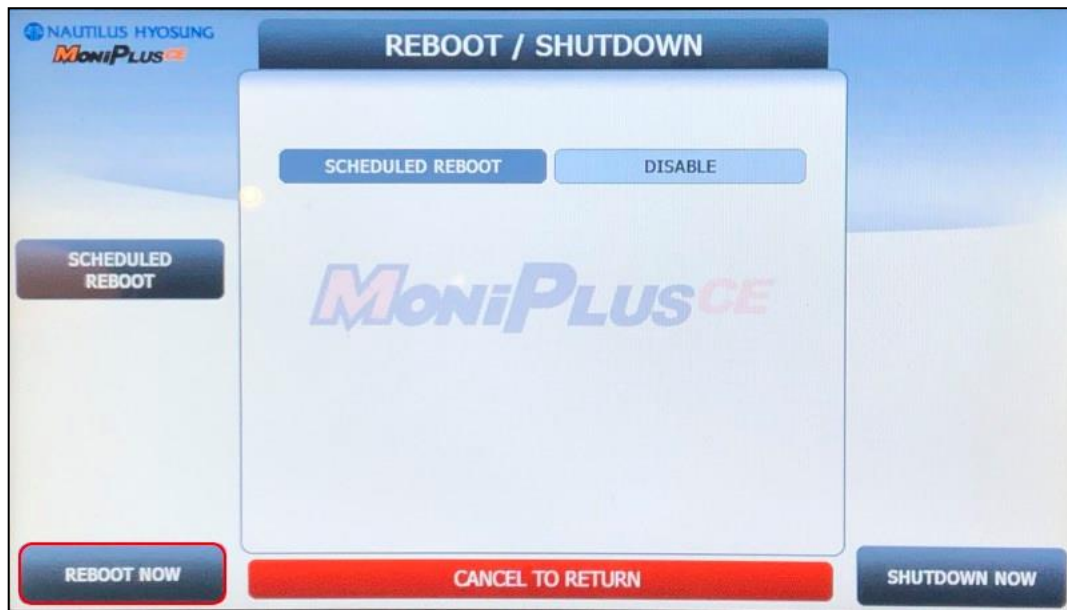
If there is a failure at this point, go back and double check all the configuration options from the previous steps. If you see **Operation Success** then congratulations, the ATM is now configured correctly.

Conclusion

After completing all the above steps your Hyosung ATM will be set to use SSL (TLS 1.2) on all transactions with the Hercules modem. This ensures that no third parties can listen on the line, get any usable data, terminate the SSL connection and proxy it out (MITM attack), or commit any other nefarious logical attack against outgoing data from your ATMs.