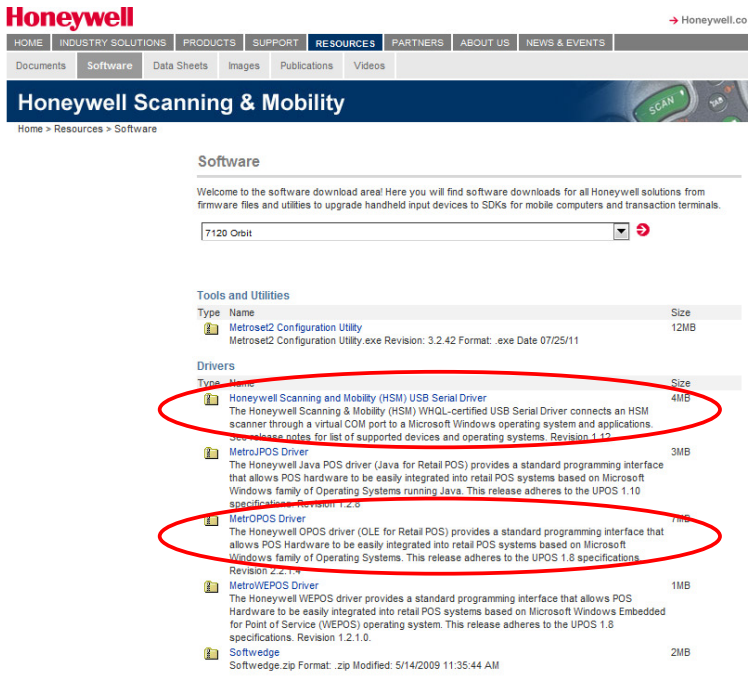
Configuring Honeywell USB Scanners for MetrOPOS.

This Whitepaper details the steps required to configure a USB scanner for use with the MetrOPOS driver. Unlike RS232 connected devices which can be programmed directly from the OPOS Administrator utility, USB devices need to be programmed in a different way.

MetrOPOS supports two USB modes depending on the interface type of the scanner - 'Full speed USB' (IBM-OEM or IBM SurePOS) mode or USB Serial (POS USB) which requires a bi-directional Windows driver.
Details of the interface type can be found on the scanner rating label. Note: A low speed USB scanner can only be programmed as USB Serial. This will be indicated as 'LS USB' and will have a '38' interface identification.

Both MetrOPOS and a USB serial driver can be downloaded from the Honeywell Scanning & Mobility website at http://www.honeywellaidc.com/en-GB/Downloads/Pages/default.aspx Select 'Software' and then select the required scanner to open its software page.



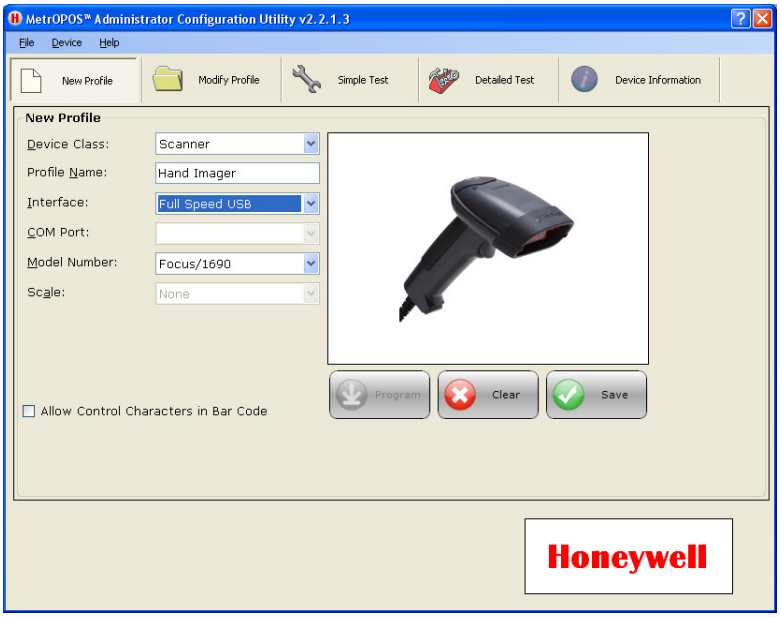
Once downloaded, install MetrOPOS following the on screen prompts.
If using USB serial, follow the installation guide provided with the USB serial driver and complete the installation.

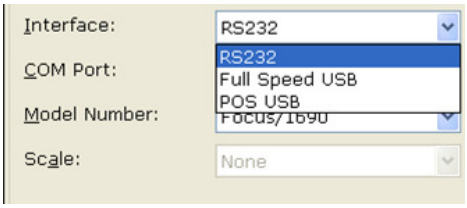
Full Speed USB connection.

This provides the most straightforward OPOS connection method as is utilises the HID driver which comes as part of the Windows operating system. It also requires no programming on the

scanner side to provide the correct OPOS data formatting. If your device is full speed USB it is recommended to use this connection method.

To set up the scanner in this way start by creating a new profile, giving it the name of your choice. Click the 'New Profile' tab to begin.





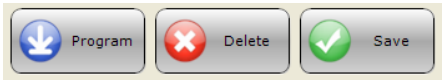
Select 'Full Speed USB' from the 'Interface' list.
Select the 'Model Number' and then save the profile

To set up the scanner interface, scan the 'Load Integrated Full Speed USB Defaults' (999970) below. This code can also be found on page 15-1 of the 'Metro-select Single Line Configuration Guide' or page P1 of the 'Metro-select configuration guide'.

Load Integrated Full Speed
USB IBM/OEM Defaults

USB Serial (POS-USB) connection.

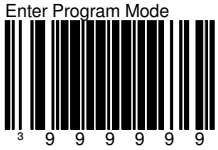
Before a USB scanner configured for USB serial can work with OPOS it needs to be programmed with specific OPOS formatting. As mentioned previously RS232 scanners can be programmed directly from OPOS Administrator using the 'Program' button which will download the OPOS settings to the device.



For USB Serial however the scanner needs to be programmed manually. This can be done using Metroset if you know the required settings or by scanning the codes below in the numbered order.

1.

Enter Program Mode



2.

POS USB Mode

3.

UPC Formatting

4.

Transmit LRC

5.

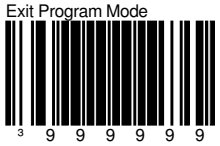
Enable Nixdorf ID

6.

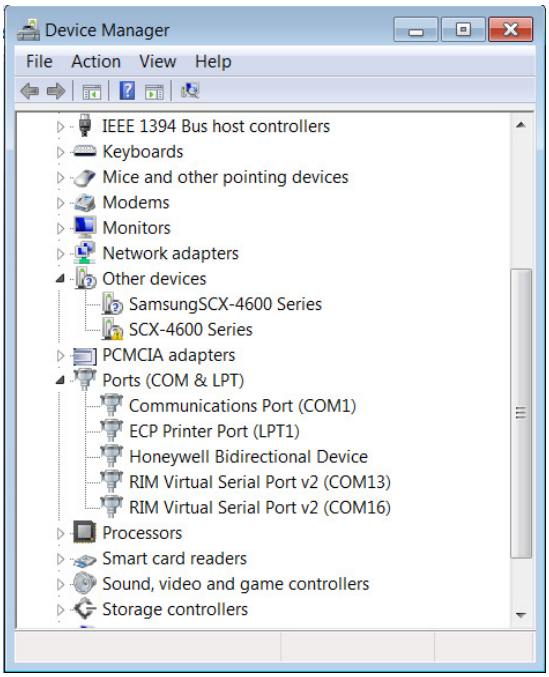
STX-ETX Data Frame

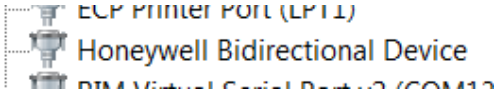
7.

Exit Program Mode

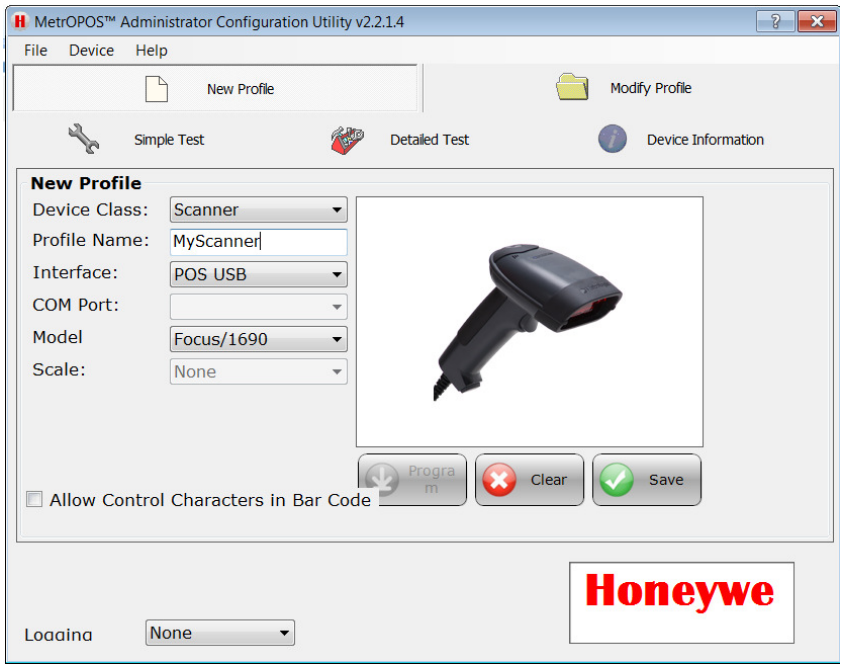


Once the scanner is programmed, provided the USB driver is correctly installed, the scanner will automatically install and will appear in the 'Ports' section of Windows Device Manager as shown below.



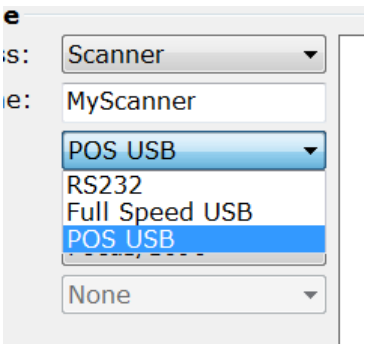


In MetrOPOS Administrator, click the 'New Profile' tab, enter a profile name of your choice and select the model.

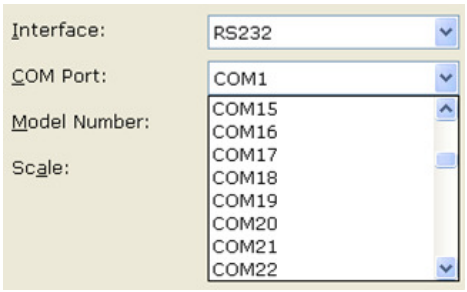


A common question when using the bi-directional windows driver is: Should POS-USB be selected in OPOS or should RS232 be selected and then select the virtual com port assigned by the Windows driver?

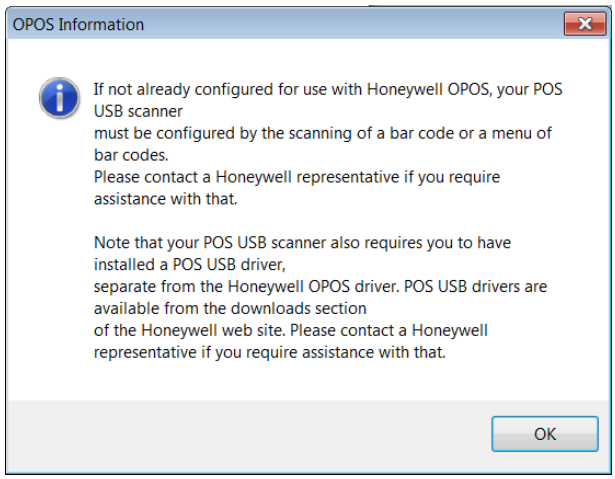
The answer is that either will work but with one main difference. If you select RS232 and the relevant com port, OPOS will expect the device to always be available on that port. If someone plugs the device into a different USB port, a different com port number will more than likely be assigned to the device.



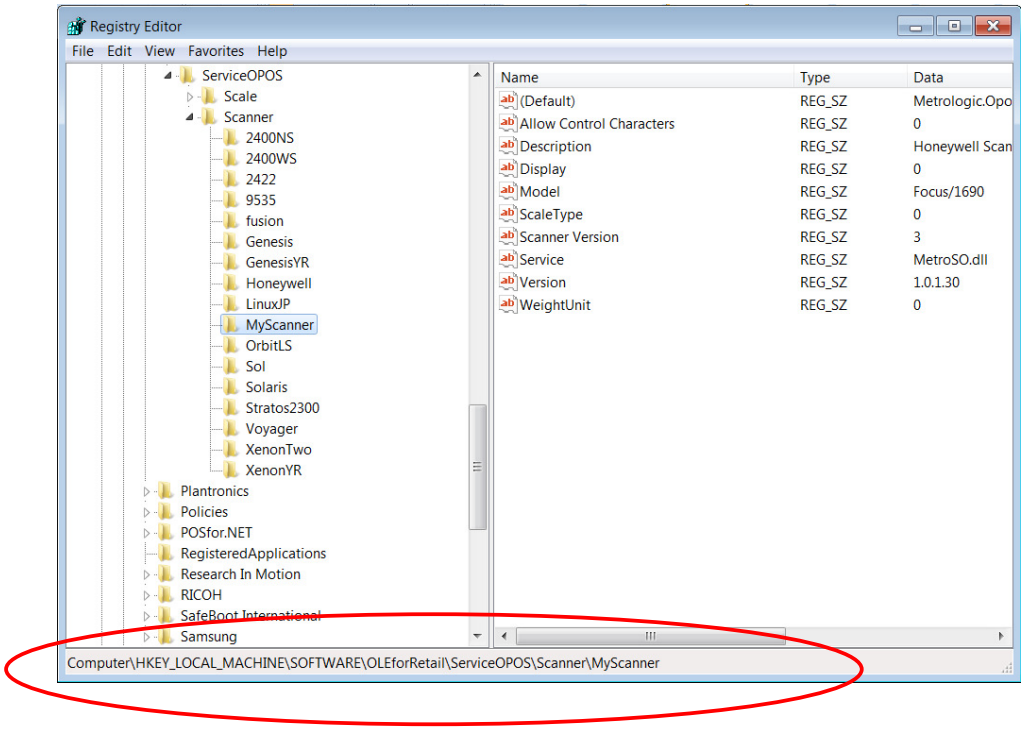
By selecting POS-USB in the OPOS Administrator this scenario can be prevented. If the device cannot be found on the com port it was last found on, OPOS will look on other com ports for the device. Once found the new com port will be saved into the device profile in the registry.



When you have completed the new profile click the 'Save' button to create the necessary Windows registry OPOS profile settings. If you selected POS-USB as the interface you will see the following message. Click OK to continue.



You can view the created profile by opening the registry and looking for the following (see the registry path/location ringed in the screenshot below). To open the registry click the Windows 'Start' button, select 'Run', type 'Regedit' into the prompt and click OK.



Expand the folder view until you reach the scanner profile you created.

An OPOS application or the MetrOPOS test utilities will use the information in this registry profile when establishing a connection to the scanner. Providing the scanner always conforms to the profile, the scanner should always communicate with the host application correctly.

Testing the connection.

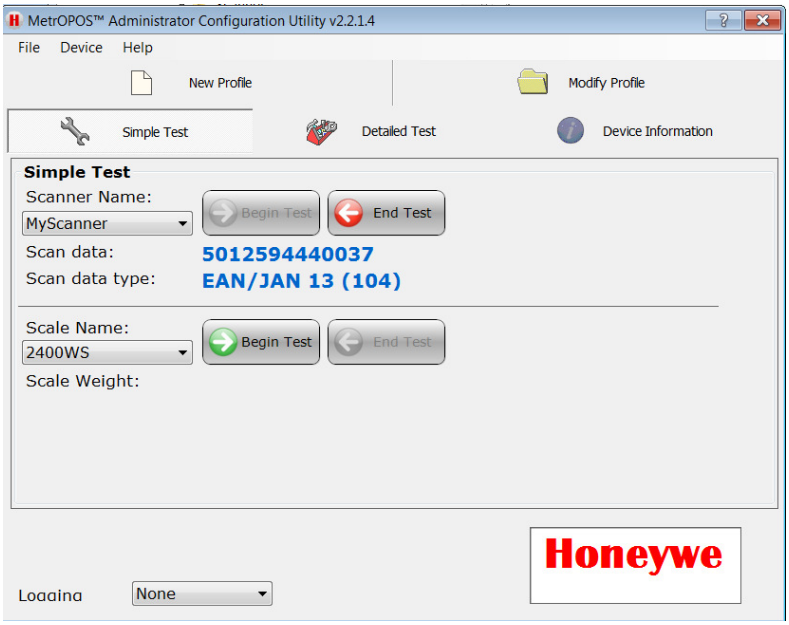
MetrOPOS Administrator provides tools for testing the connection which utilise the same function calls that will be used in all OPOS based applications.

There are two test utilities available in MetrOPOS

'Simple test' combines a number of operations into two button presses – 'Begin Test and 'End Test'

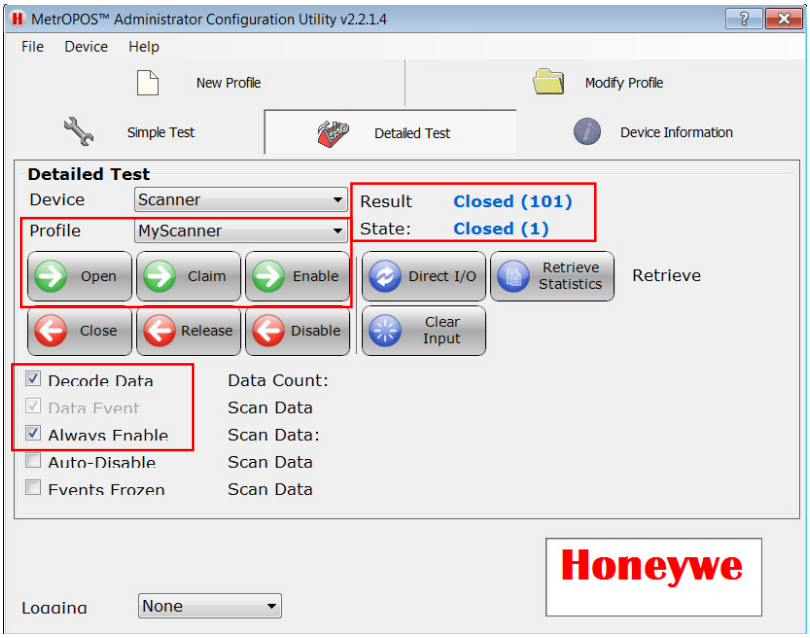
'Detailed test' provides a more comprehensive set of commands to trigger individual operations each of which is testing a particular OPOS programming function call.

Simple Test.



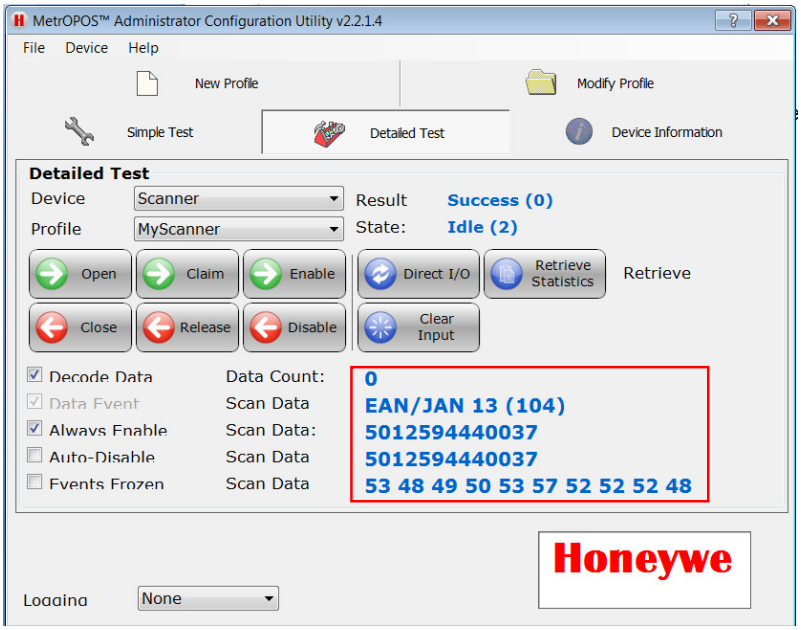
Simply select the required scanner profile and click the 'Begin Test' button and scan a sample bar code.
The data should appear in blue along with the code type.
When testing is complete click the 'End Test' button.

Detailed test



Select the ‘Detailed Test’ tab. Select the scanner profile and click the Open, Claim & Enable buttons in that order.
The ‘Result’ field should say ‘Success’ and the ‘State’ field should say ‘Idle’.

Tick the boxes for ‘Decode Data’, ‘Data Event’ and ‘Always Enable’ and the scan a sample barcode. The data should appear as shown below in ASCII and hex formats and should include the barcode type details.

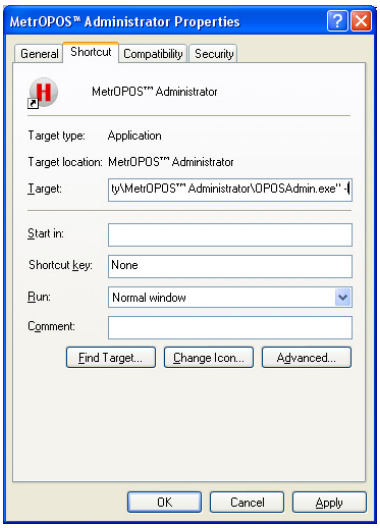


When testing is complete, click the ‘Disable’, ‘Release’ & ‘Close’ buttons to close the OPOS connection.
Providing you have followed the setup steps provided in this document, the above tests should be successful.

Note: A successful setup and test with the OPOS administrator does not guarantee success when connecting with the customer’s application but failure here will certainly result in failure further forward.

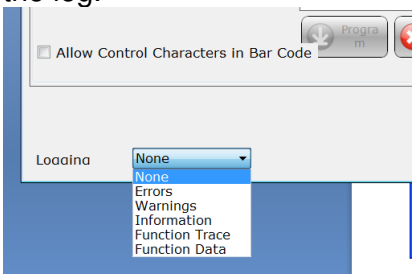
OPOS Diagnostics and Troubleshooting.

To assist with OPOS diagnostics troubleshooting, there is a logging facility which can be enabled in the OPOS Administrator.

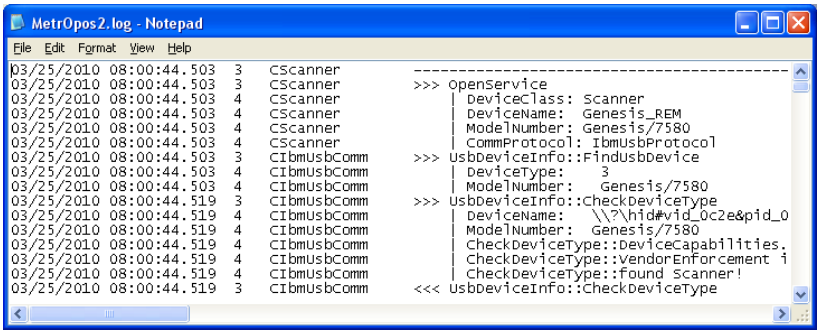


This is a hidden feature which requires a command line switch '-l' adding to the shortcut path as shown here.

When you re-open the Administrator program an additional drop down box at the foot of the screen will allow selection of different logging levels. 'Function Data' will provide the most verbosity in the log.

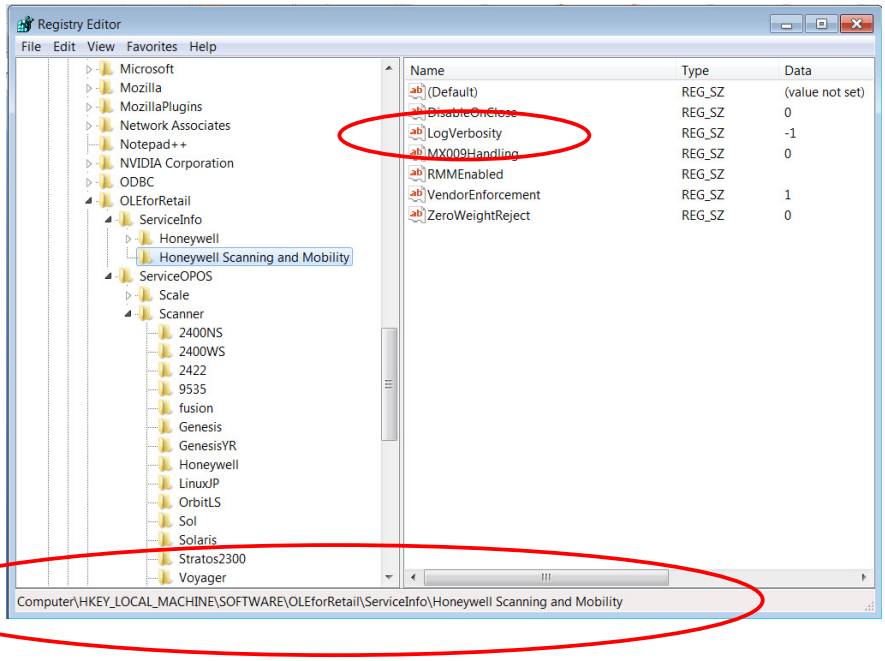


Log files will be saved in the location where your shortcut resides so if it's on the desktop that's where your file will be created.



As a hidden feature, the logging feature should only be enabled by or under the supervision of an HSM representative.

To enable logging without using MetrOPOS Administrator, for example if testing an actual OPOS application, you can set a key in the registry.



The LogVerbosity key controls the logging level and can be set with values of 0 to 4 which correspond to the logging levels available in the drop down list in OPOS Administrator. Setting 4 provides the most detailed logging and combines all the other levels.

Note: If you set the logging level in the registry and then open MetrOPOS Administrator without including the '-l' switch in the shortcut, the logging will be set back to '-1' which is the disabled state.

Revision History

Rev	*Date*	*Changed by:*	*Details / Comments*
V1.0	03/09/2011	Chris Ingram	Document created
V2.0	21/12/2011	Chris Ingram	Updated with more details