



Datacard® Maxsys™ Card Issuance System

Contactless Smart Card SmartWare Coupler Update Guide

July 2005

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Revision Log
Contactless Smart Card
SmartWare Coupler Upgrade Guide

Revision	Date	Description of Changes
A	June 2004	First release of this document.
B	October 2004	Updated various topics.
C	July 2005	Updated for SCPM 3.3 release.



Updating the SmartWare Coupler

The Datacard® Maxsys™ Contactless Smart Card module couplers are manufactured for Datacard by SmartWare. The couplers incorporate a modular software architecture that allows SmartWare, Datacard, and customer-developed components to be loaded onto the couplers. The SmartWare software application SmartCfg is used to load software components onto the couplers.

This manual provides the information necessary to install and configure SmartWare components and update the SmartWare coupler.

Introduction to the SmartWare Components

Each Maxsys Contactless Smart Card module coupler contains the following SmartWare components.

- **Boot:** This component handles booting the coupler.
- **Safe:** This component is a backup version of the operating system that is used in case the operating system is not available.
- **MLOS:** This component is the coupler operating system.
- **Card Object:** This component handles communication between the coupler and the card.

Each coupler also contains the following Datacard component:

- **CommandHandler:** This component communicates between the coupler and Maxsys Production Control. It must be present for an IP address to be assigned to the coupler.

At run-time, an additional Datacard component is downloaded to the coupler:

- **SCPMUS.SRE** (also known as XLUS): This component communicates between the coupler and SCPM.

The Maxsys Smart Card Tools CD contains SmartWare and Datacard software components, the SmartCfg application, a contactless SCPM application, instructions for running the application to verify that the contactless couplers are working properly, and this manual.

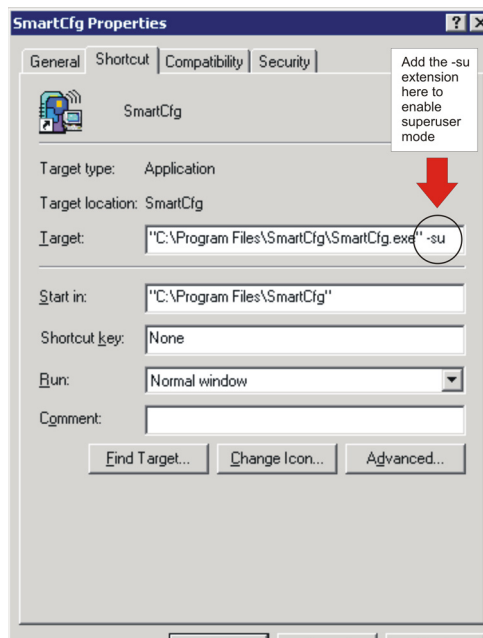
Configuring SmartCfg

SmartCfg is generally installed on the Maxsys Controller at the factory. If it has not been installed on your system, run the installation program and accept all defaults. Once SmartCfg is installed, use the procedures in this section to configure SmartCfg.

Operating in Superuser Mode

Superuser mode must be enabled to allow the user to edit the smart card configuration file, and to erase and load packages. Complete the following procedure to start SmartCfg in superuser mode.

1. Locate the shortcut for the SmartCfg file icon on the desktop.
2. Right-click on the icon and select **Properties**.
3. In the Target box, add **-su** to the end of the string as shown in the example below.



4. Click **OK** to save the changes.
5. Repeat the process for the shortcut in the Start menu (**Start | Programs | SmartCfg | SmartCfg Application**).



The procedure described will work only for the shortcut on which it is performed. If there are other shortcuts present at your site, make the **-su** change to the target property of each shortcut you use to start SmartCfg.

Configuring the Local MLOS.ini File

Perform the following procedure to configure the local MLOS.ini file.

1. From the main menu, select **Options | Local Mlos.ini | Configuration Wizard**. The MLOS Configuration Wizard dialog box appears.
2. Click **Ethernet**.
 - A. In the Protocol section, select **MLPIP**.
 - B. For IP address, select the Maxsys Controller internal LAN IP address (for example, 172.27.0.254).
 - C. For IPBase, enter **172.27.X.0**.
 - The first two sets of numbers must correspond to the first two sets of numbers in the Controller's IP address (172.27 in the example above).
 - The third number is the number of the module that you will be updating. For example, if the Contactless Smart Card module that you are updating is the fourth module in the system, you would enter 4, etc.
 - The fourth number should be set to zero.
3. Select the **Save** icon to apply the parameters. Select **Yes** at the confirmation dialog. The MLOS will restart and trigger the detection/scan process.

Updating the Couplers

Each version of SCPM is tested with specific versions of SmartWare and Datacard components. If you are upgrading SCPM, you will need to upgrade the Maxsys Contactless Smart Card coupler components. The SmartWare Couplers on the Maxsys Contactless Smart Card module are updated using the SmartCfg utility. Use the following procedures to download updated components for the coupler.

Extracting the Updated Components from the CD

Before the components can be downloaded to the coupler, the updated files must be extracted from the Smart Card Tools CD.

The following naming convention is used for SmartWare updates:

- *Object_Version.exe* where *Object* is the name of the object and *Version* is the version of the object.

For example, MLOS_v2R21u.exe includes MLOS version 2r21u in a self-extracting zip file. Double-clicking the file runs the setup utility that extracts the files and creates a default directory structure in the PC's root directory. In this structure, the folder name for each object includes the version number. The SmartCfg application reads this directory structure and automatically makes these file available for loading to the SmartWare couplers once they've been extracted.

Command Handler updates are always named CMDHANDLERPPF.sre, and the version of Command Handler is included in the DCCVersions.txt file. Command Handler may be updated directly from the CD or copied to a directory on the Maxsys Controller using the convention described above; for example, C:\CmdHandler\v3r3051.

Use the following procedure to extract the updated components from the CD to the PC.

1. Browse to the folder on the Maxsys Smart Card Tools CD called **UltraSmart**.
2. Double-click on the component you wish to extract.
3. Click **Accept** to accept the license agreement.
4. Click **Install** to extract the file.
5. Repeat steps 2 through 4 for each of the components to be updated.

Downloading Updated Components to the Couplers


Use the following procedure to download the updated components to the contactless couplers.

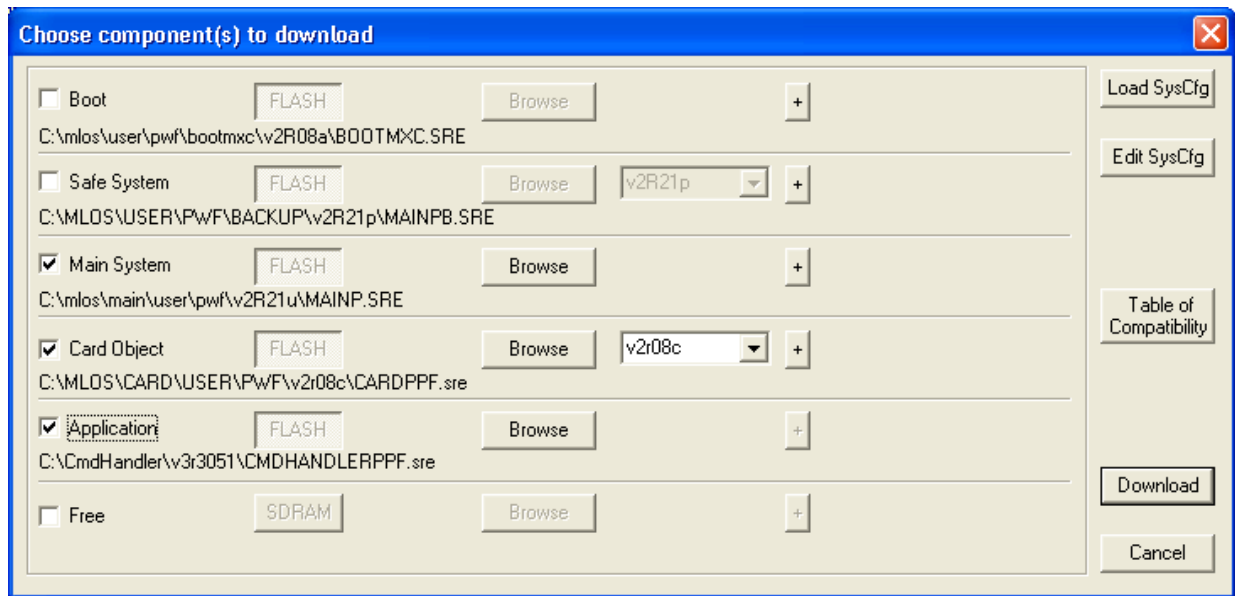


Caution: You must complete the steps in this procedure without interruption. Should a power-cycle occur during this process, the coupler will become disabled and special service procedures will be required to restore the coupler to a working state.



Caution: Do not perform or initiate a “scan” process at anytime while performing this procedure.

1. From the SmartCfg main screen, select the couplers you wish to update.
 All of the couplers can be selected at the same time by clicking on the first and last couplers in the list while holding down the **Shift** key.
2. From the main menu, select **Readers | Load Packages**. The Choose components to download dialog appears.

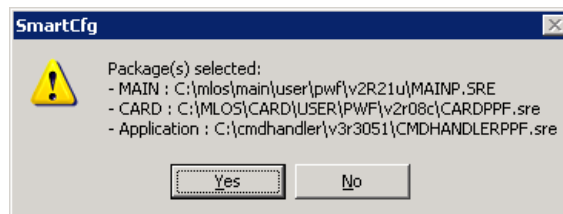


- Place a check mark in the "Application" option box of the components that you wish to update. This will cause the **Browse** button and drop-down list to become enabled.



Select only the components that were extracted in the previous section.

- Click the **Browse** button and navigate to the location of the file you wish to update.
- Once you have selected the locations of all the files to be downloaded, click the **Download** button. A confirmation dialog will appear that displays the name of the file to be downloaded.



- Click **Yes** to download the components to the coupler. The progress of this download can be monitored via the status pane in the lower part of the program window.



If an error occurs, try downloading the components for each coupler individually.

7. When complete, the Reboot Reader dialog will appear. Click **No** so that the reader (coupler) will not be rebooted.
8. To verify that the update was successful, select **Readers | Create Configuration Report**. A report will appear that shows the installed components. Verify that the new components are loaded, and then close SmartCfg.
9. When prompted, select **No** to discard the report.
10. Reset the machine so that the new software can be used. From the Maxsys Production screen, right-click on the module icon, and then select **Reset**.
11. Reset the Controller to update all modules in the system.

Recovery Procedure

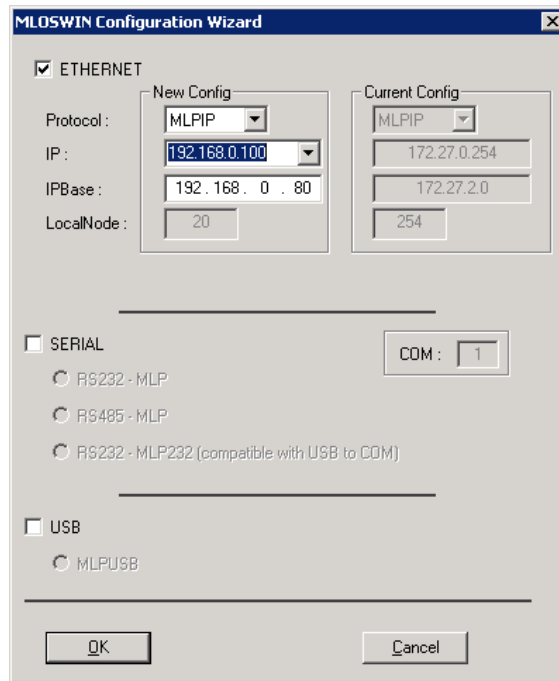
If loading the components fails and a coupler is no longer visible in SmartCfg, it may be necessary to reload the MLOS or CommandHandler. Perform the following procedures to recover the disabled coupler(s).

Adding an IP Address to the Internal LAN Network Adapter

1. From the start menu, select **Start | Settings | Control Panel | Network Connections | Internal LAN**. The Internal LAN Status dialog box appears.
2. Select **Properties**. The Internal LAN Properties dialog box appears.
3. In the "connection" list, select Internet Protocol (TCP/IP) and then select **Properties**. The Internet Protocol (TCP/IP) Properties dialog box appears.
4. Select **Advanced**. The Advanced TCP/IP Settings dialog box appears.
5. Under IP Addresses, click **Add**. The TCP/IP Address dialog box appears.
 - For IP Address, enter **192.168.0.100**.
 - For Subnet Mask, enter **255.255.0.0**, and then click **Add**.
6. Click **OK** to close the Advanced TCP/IP Settings dialog box.
7. Click **OK** to close the Internet Protocol (TCP/IP) Properties dialog box.
8. Click **Close** on the Internal LAN Properties dialog box to enable new setting.
9. Click **Close** on the Internal LAN Status dialog box.

Run SmartCfg to Recover the Coupler

1. Open the SmartCfg utility from one of the shortcuts that was configured for superuser mode in the previous section.
2. From the main menu, select **Options | Local Mlos.ini | Configuration Wizard**. The MLOS Configuration Wizard dialog box appears.
3. Click **ETHERNET**.
 - For Protocol, select **MLPIP**.
 - For IP, select **192.168.0.100** (The IP Base value will change to 192.168.0.80).



The MLOSWIN Configuration Wizard dialog box is shown. It has a title bar with a close button. The 'ETHERNET' section is checked. Under 'New Config', the Protocol is set to 'MLPIP', IP is '192.168.0.100', IPBase is '192.168.0.80', and LocalNode is '20'. Under 'Current Config', the Protocol is 'MLPIP', IP is '172.27.0.254', IPBase is '172.27.2.0', and LocalNode is '254'. The 'SERIAL' section is unchecked, with options for RS232-MLP, RS485-MLP, and RS232-MLP232 (compatible with USB to COM), and a COM port set to '1'. The 'USB' section is unchecked, with an option for MLPUUSB. At the bottom are 'OK' and 'Cancel' buttons.

4. Click **OK**. The Save New Settings to C:\Program Files\SmartCfg\MLOS.INI dialog box appears. Click **Yes**.
5. The Restart dialog box appears. Click **Yes**. The program will initiate the coupler detection process.
6. Open SmartCfg and select **Reader(s) | Create Configuration Report**. Inspect the report to identify the components missing from the coupler(s).
7. Download any missing components using the procedure described in "Downloading Updated Components to the Couplers" on page 4.
8. When you are finished, reset SmartCfg as described in "Configuring the Local MLOS.ini File" on page 3.
9. Remove the default IP address added to the internal LAN adapter in the previous section.

