Oracle® Payment Interface
Oracle Hospitality RES 3700 MICROS Gateway
Device Handler Installation Guide
Release 6.1
E84913-01

February 2017
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Preface

This document describes how to install Oracle Payment Interface (OPI) Release 6.1 with the Oracle Hospitality RES 3700 MICROS Gateway Device Handler (MGDH) and it explains how to configure RES 3700 for OPI with MGDH.

Audience

This document is intended for installers and system administrators of OPI and MGDH.

Customer Support

To contact Oracle Customer Support, access My Oracle Support at the following URL: https://support.oracle.com

When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received and any associated log files
- Screen shots of each step you take

Documentation

Oracle Hospitality product documentation is available on the Oracle Help Center at http://docs.oracle.com/en/industries/hospitality/

Revision History

<table>
<thead>
<tr>
<th>Date</th>
<th>Description of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2017</td>
<td>Initial publication</td>
</tr>
</tbody>
</table>
1 Pre-Installation

Before You Start the Installation

Verify that your environment meets the following requirements:

- The application requires .NET Framework version 4.0 or higher.
- Upgrading from previous versions of MGDH to MGDH version 6.1.0.9 is not supported.
- Upgrading from previous versions of MPG/OPI to OPI version 6.1.0.9 is not supported.
- If a previous MGDH installation exists, go to Programs and Features and uninstall the previous MGDH installation. Then install the new MGDH.
- Verify with the merchant whether they use TSR (table service) or QSR (quick service), or both. (No tips allowed in QSR.)
- Verify with the merchant whether they would like “Refund” functionality activated or not. The merchant needs to control the privilege for this function.
- Verify with the merchant whether they would like “Sale&Cash” functionality activated. This allows a guest to get cash back with their purchase. This is only available for QSR.
- Make sure Microsoft Visual C++ 2010 is installed on the PC where MGDH and OPI will be installed.
- At least 6 GB of free disk space is required for OPI installation.
- You must install both MGDH and OPI as an Administrator.
- You will need to enter the user name and password of a Windows local admin during the installs.
- You will need to know a Micros database user name and password to install both MGDH and the Pay@Table portion of OPI.

Obtain the following information before installing the software:

- Confirm Merchant ID’s
- Confirm receipt header details
- Tender Media numbers for each card type
- IP of OPI Server
- IP of POS Server
- SQL Root Password may be needed if there is an existing MySql already in place
- Workstation ID’s and IP’s that will integrate to a PINPAD
**Note:** If the MGDH setup software is run on a 3700 server with legacy MGDH files present in the CAL Files folders, manually remove these files before installation. Otherwise, the files deployed via the new CAL Packages will be constantly overwritten by the legacy files in the CAL Files folders and unexpected results will occur.

For example, check Micros\Res\CAL\WS5A\Files\CF\Micros\Etc for any legacy MGDH files. If found, delete all legacy MGDH files. In addition, check in the similar location for other workstation types. Lastly, if there is a Bin folder in Files, then check that folder as well.
Installing MGDH

To install MGDH:

1. In Microsoft Windows, log in as an administrator, and then run the MGDH_OPI_6.1.0.9.exe file.
2. Click Next.
3. Select the install location, and then click Next.
4. Enter a database user name and password, and then click Next. It may take 10–20 seconds to connect to the database.

5. Select the currency, and then select the RVC Mode. QSR revenue centers do not allow tips.

6. To use one merchant ID, select Single MerchantID, enter the merchant ID, and then click Next.

7. To use multiple merchant IDs, select Multiple Merchant ID, and then click Next.

8. Enable all revenue centers that use MGDH.

9. If you selected Multiple Merchant ID, enter the merchant ID for each revenue center.

10. For Mode, select TSR or QSR for each revenue center. Tips are not allowed in QSR.
11. For each revenue center, click **Edit**, and then enter the revenue center headers and footers.

![Image of header editor](image1)

12. Select the tender from the drop-down for each card type. If you do not have a specific tender listed, leave that entry blank. Gift Cards are not supported in OPI 6.1, so leave that blank.

![Image of tender map](image2)
13. Select **VoidMode**, change the default selections if necessary, and then click **Next**.

![VoidMode Selection](image)

14. Edit print options if necessary, and then click **Next**.

15. Enter the IP address of the computer that hosts OPI, and then click **Next**.

![Server Options](image)
16. On the POSEOD Options screen, enter the IP address of the computer that hosts, enter the merchant IDs, and then click Next.

17. Click OK, and then click Install on the Setup – MGDH OPI Solution package screen.

18. If necessary, edit configuration files, and then click Next.

19. Click Next.

20. Select No to continue with the OPI installation.

POSCFG Configuration for MGDH

Employee Class / Refund

The ability to perform a refund is controlled by the SIM privilege 4 option. To access, select Employee Classes > Privileges > Privilege Options.

Only enable this option with the merchant’s permission and only for the employee class they specify.
Interfaces

To access interfaces, select **Poscfg > Devices > Interfaces**.

Use the following parameters:
- **Number:** 7
- **System Name:** Chip&PIN Interface
- **Outgoing Message Name:** Chip&PIN
- **Timeout:** 120
- **Network Node:** RES Server
- **Number ID Digits:** 9
- **SIM Interface:** enable
- **Type:** TCP
### Touch Screens

To access touch screens, select **POSCFG > Devices > Touchscreen Designer**.

- Link every Void key to SIM inquire number 17.
- Link credit card tender keys to the correct SIM inquire # using the values below.

The buttons for TSR are listed as the following:

- **[CC SALE]**: SIM INQ #1
- **[Tip Adjust]**: SIM INQ #3
- **[CC Refund]**: SIM INQ #4 (Recommended refund method.)
- **[Refund(m)]**: SIM INQ #11
- **[CC Auth]**: SIM INQ #8
• [CC Final]: SIM INQ #9
• [CC Voice]: SIM INQ #12
• [Tab Auth]: SIM INQ #13
• [Balance Inq]: SIM INQ #16
• [Reprint]: SIM INQ #7
• [Repost]: SIM INQ #19
• [Void(e)]: SIM INQ #17
• [Manual Auth]: SIM INQ #18
• [Sale + Tip]: SIM INQ #2 (Supports tipping from the PED. If tipping from the PED is allowed, use INQ #2 instead of INQ #1.)

Note: [Void(e)] is a special button. It exists on POS 3700 only. For other POS platforms, it is not needed. All void buttons need to be replaced with it.

The buttons for QSR are listed as the following:
• [CC Sale]: SIM INQ #1
• [SALE&CASH]: SIM INQ #5
• [CC Refund]: SIM INQ #4 (Recommended refund method.)
• [Refund(m)]: SIM INQ #11
• [CC Voice]: SIM INQ #12
• [Balance Inq]: SIM INQ #16
• [Reprint]: SIM INQ #7
• [Repost]: SIM INQ #19
• [Void(e)]: SIM INQ #17

Note: [Void(e)] is a special button. It exists on POS 3700 only. For other POS platforms, it is not needed. All void buttons need to be replaced with it.

Note: No manual entry for QSR.
**Tender Media**

Setup the following for credit cards.

![Tender Media Setup](image)

**Notes:**

- Assume paid in full.
- Reference required.
- Charged Tip: Set to 0 None if all RVCs are QSR mode.
- Charged Tip: Set to **Link a Tip** service charge if some RVCs are TSR mode.

The following Tender / Media Tabs should be left blank (no options enabled):

- Presets
- CC Tender
- Credit Auth | Authorization
- Credit Auth | Preambles
On the PMS tab, enable **Allow 19 reference characters**.
Verify the merchant wants cash back functionality before configuring this.

Cash back is supported for QSR revenue centers only.

Sales | Tender / Media | Tender:

- Assume paid in full.
- Reference required.
- Service Charge - 0 None.
- Debit Card
- Prompt for Cashback Amount
• Allow 19 reference characters.
• MPG.inc must have this value:
  Promptcashback = True
Cash Back Service Charge

The cash back tender also requires a cash back service charge, though it is not directly linked to the cash back tender.

Setup the following service charge.

- **Name** = “CashBack SVC”
- **General Tab:**
  - Menu Level Class = all levels
  - Print Class = Guest check
- Options Tab:
  - Amount
  - Reset Itemizers
Service Charge
Non-Revenue Cash Back

POSEOD

To verify POSEOD files are properly configured, go to
Micros\Res\Pos\Scripts\poseod \ and verify the contents of the following files:

- MGDH.inc
  Verify the server IP address and port are correct for the computer that hosts OPI.

- POSEOD.inc
  Verify 0R is the code for RES 3700. Other POS types use a different code.
  Verify the Merchant ID is correct. The following example shows a merchant ID and code. Separate multiple merchant IDs with the pipe symbol and no spaces (for example, |0R|3700000001|3700000002 |).
To run POSEOD manually, double-click the Micros\Res\Pos\Scripts\poseod\poseod.exe file. A DOS CMD window flashes briefly.

To verify POSEOD ran successfully, open the OraclePaymentInterface\log\transaction.log file and confirm BATCH and APPROVAL appear with the correct time stamp at the bottom of the file.

<table>
<thead>
<tr>
<th>BATCH</th>
<th>00 APPROVAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGM RSA</td>
<td>00 APPROVED</td>
</tr>
<tr>
<td>MGM RSA</td>
<td>00 APPROVED</td>
</tr>
<tr>
<td>MGM RSA</td>
<td>00 APPROVED</td>
</tr>
</tbody>
</table>

Configuring POSEOD to run as part of a scheduled RES autosequence:

**Autosequences**

1. Poscfg | System | External Programs
• New record named: POSEOD
• User Interface: Console
• Run Style: Normal
• Working directory: $(MICROS_DIR_POS)\Scripts\Poseod
• Command line: $(MICROS_DIR_POS)\Scripts\Poseod\Poseod.exe

2. Call the above external program during the End of Night autosequence, but before printing occurs. (So that if printing fails, it will not prevent POSEOD from running.)

Note: You can schedule POSEOD using Windows Task Scheduler.

Installing OPI

You cannot upgrade from earlier versions of OPI and MPG to OPI 6.1. Remove earlier versions of the software before installing OPI 6.1. The MySQL part of the installation fails if a ProgramData\MySQL folder from an older release is on the computer when you install OPI 6.1.

Uninstalling the Old Version of OPI and MPG

1. Run POSEOD with the old version to verify all previous transactions have been batched. Verify the batch was approved in the transaction.log.
2. Save a backup of the current OPI and MPG folder structure.
3. Open the %OPI_HOME%/bin/MicrosGatewayConfig.exe file and save a screen capture of the ServerXX values.
4. Save a screen shot of the POS record you are using and its values (for example, posRes1).
5. Uninstall these components through Microsoft Programs and Features:
   • MPG
   • MySQL if no other products are using it
   • MySQL community
6. Rename the C:\ProgramData\MySQL folder to MySQL_Old.
   If you do not see the C:\ProgramData folder, enable Windows Explorer > Tools > Folder Options > View > Show hidden files, folders, and drives, and then close and re-open Windows Explorer.
7. Restart the computer.
8. Install OPI.

Installing OPI for the MGDH Solution

1. Double-click the Oracle Payment Interface-6.1.0.9.exe file, and then advance through the installation wizard.

2. On the Choose communication channel screen, select POS and MGDH.
3. Enter a certificate password.
4. Enter a date and time for the OPI service to restart on a weekly basis.
5. Select the install location.
6. Select the location for the source code files and license, and then click Next.

![Image ofSetup - Oracle Payment Interface with configuration options]

7. Click Install.
8. Enter a Microsoft Windows administrator user name and password, and then click Login.
9. Specify interface and mode settings:
   - Select Enable from the POS Interface drop-down.
   - Select the OPI Mode:
     - To configure communicate directly to the pinpads, select Terminal.
     - To communicate to the pinpads through a third party, select Middleware, and then go to the Middleware.
10. Select POS Configuration.
11. Click Add New Property to create a Merchant ID.
12. Specify merchant settings as follows:
   - Select POSRES from the POS Type drop-down.
   - Type the Merchant ID value. The value must match the Merchant ID value used for the MGDH installation.
   - If using Pay@Table, go to Pay@Table.
   - Enter merchant information, and then click Next.

13. Click Add Terminal.

14. Enter terminal information:
   - Workstation ID: Workstation obj_num in POS Configurator.
   - IP: Pinpad IP address. If using a simulator instead of a PED, enter the IP address of the computer where the simulator is running.

15. Repeat steps 13 and 14 to add more terminals, and then click Next.

16. Click Exit.

17. On the MICROs Gateway Service Configuration dialog box, click Yes to save your changes.

18. Select Yes to restart the computer.
Running the OPI Config.exe File for Terminal Mode and Pay@Counter

1. Go to <drive>:\OraclePaymentInterface\bin\config.exe, and then log in as a local administrator.

2. In the About pane, expand Oracle Payment Interface.
   The dll entry shows the MGDH installation as mode 3 and the OPI listening port as 5098.
   The pinpadAddress2 value is formatted as follows:
   - Merchant ID = 3700000001
   - WS ID = 99
   - Pinpad IP = 10.39.176.89

3. Select server0Q, and then change the Port value to the port the pinpad is listening on.

4. For vx6702, the MICROS KDSController service uses port 5023. Change this port value to an unused port value even if not using Pay@Table (for example 8992.)

5. Exit config.exe, and then save your changes.

6. Restart the OPI service.
   If changes are made in Config.exe, the “OPI Service” needs to be restarted. But the “OPI Service Utility” service does not need to be restarted. The system is now ready for a test transaction.
During the OPI installation, there is a step to select the **OPI Mode**: 

- **Terminal**: OPI communicates directly to the pinpads.
- **Middleware**: OPI controls the pinpads by communicating through a third party.

Access the screens shown in the following steps by launching `OraclePaymentInterface\bin\OPIconfigurationWizard.exe`.

If using Middleware, follow these directions to finish the OPI with the MGDH installation.

1. Specify interface settings as follows:
   - Select **Enable** from the **POS Interface** drop-down.
   - Select **Middleware** from the **OPI Mode** drop-down.
   - In the **PrimaryHost** field, type the IP address of the third party that controls the pinpads.
   - In the **BackupHost** field, type the IP address of the third party backup.

2. Select **POS Configuration**.
3. Click **Add New Property**.
4. Specify property settings as follows:
• Select POSRES from the POS Type drop-down.

• In the Merchant ID field, type the Merchant ID. This value must match the Merchant ID value used during the MGDH installation.

• If not using Pay@Table, leave it set to Disable.

• If using Pay@Table, go to Pay@Table.

5. Enter merchant information, and then click Next.

6. Click Exit.

7. On the MICROS Gateway Service Configuration dialog box, click Yes.

8. Click Yes to restart the computer.

Middleware Config.exe

No additional changes to Poscfg are needed, as they were completed in Configuration for MGDH.

1. Double-click OraclePaymentInterface\bin\config.exe, and then log in with the administrator credentials used during setup.

2. In the About pane, expand Oracle Payment Interface.

3. Select server0Q, and then change the Port value from 8080 to the port the pinpad is listening on. Update these values as highlighted in the following screen capture:

   • HostMode = true
   • Host = PrimaryHost IP given during setup
   • Host2 = BackupHost IP given during setup
4. For **vx6702**, the MICROS KDSController service uses port 5023. Change this port value even if not using Pay@Table to an unused port value (for example, 8992.)

5. Exit config.exe, and then save your changes.

6. Restart the OPI Service.

   If you made changes in Config.exe, restart the OPI Service. The OPI Service Utility service does not need to be restarted. The system is ready to use.

---

**Pay@Table**

This section discusses enabling and configuring Pay@Table for the MGDH and OPI solution.

A normal workstation that most merchants have is referred to in the OPI configuration as Pay@Counter.

Pay@Table terminals use Transaction Services. You can have Pay@Counter or Pay@Table terminals or both.

Access the screens in this procedure by opening `OraclePaymentInterface\bin\OPIconfigurationWizard.exe`. The screens can be seen and used both during the middle of the OPI installation and after the OPI installation.

If you are enabling Pay@Table, follow these directions to complete the installation steps that were begun in the previous OPI Installation section.
1. Enable Pay@Table. The Pay@Table certificate is provided by the partner and is part of the partner validation process.

2. Enter and confirm a Pay@Table Cert Password.

3. Configure the following settings:
   - **Name**: Name of the DB, micros.
   - **Host**: IP address of the RES server. If OPI is installed on the RES server, then 127.0.0.1 is OK. If OPI is installed on another computer, enter the actual IP address of the RES server.
   - **Port**: 2638.
   - **Max pool**: 40
   - **User**: Micros DB user account
   - **Password**: Password for the DB user account.

4. Configure Tender Configuration settings as follows:
   - Use the object numbers of the Credit card tenders you configured for OPI in Poscfg | Sales | Tender Media. These values can also be referenced in Micros\RES\POS\Etc\MPG.inc.
   - For tender types you do not have, leave them blank.
   - Gift cards are not supported in OPI 6.1.0.9, so leave GiftCard blank.
   - **ServiceNum** is the object number of the Print Check tender having Type = Service total.
5. Click Next.

6. Select Pay@Table Device from the Device Type drop-down, and then click Add Pay@tableTerminal.

7. Enter a Mobile Device ID. The mobile device ID is an arbitrary ID assigned to a P@T terminal.

8. Select Query by Check or Table. Query by Table brings up all checks open at the table.

9. Click OK.

10. Repeat steps 6 through 9 to add more terminals.

11. Click Next.

12. Click Exit.

13. On the MICROS Gateway Service Configuration dialog box, click Yes to save your changes.

14. Open the OraclePaymentInterface\bin\Config.exe file.

**Pay@Table Config.exe**

No additional changes to Poscfg are needed because you completed them in Configuration for MGDH.

**Config.exe**

1. Double-click the OraclePaymentInterface\bin\config.exe file, and then log in with the administrator credentials used during the installation.

2. In the About pane, expand Oracle Payment Interface.

3. For terminal47, note the following:
   - Key = Mobile Device ID
   - OR = 3700
   - 3700000001 = Merchant ID
   - _1_C = The _1 is a Revenue Center value and is unused in RES, but defaults to 1.

   The _C means this is a Query by Check terminal. The Query by Table Terminals do not show the “_1_C”.
4. Select **vx6702**, and then change the port value to the port that connects to the
pinpad for Terminal Mode or the port that connects through the third party
in Middleware Mode.

The MICROS KDSController service uses port 5023. Change this port to an
unused port if you are not using Pay@Table to some unused port value (for
example, 8992).

5. Exit Config.exe, and then save your changes.

6. Restart the OPI Service.

7. Restart the MICROS KDS Controller Service.

The system is ready for a test transaction.
3  POS Workstation Procedures

TSR Transactions

CC Sale
Ring food, and then select CC sale.

Tip Adjust
1. Verify Micros\Res\Pos\Etc\MPG.inc has this line:
   TipAdjust = TRUE
2. Re-open a closed check that was paid using credit auth and credit final.
3. Type a new tip amount (for example, 5.00), select the tender payment in
   Ops detail, and then select Tip Adjust.
   The tender amount must be selected when Tip Adjust is selected. Tip
   Adjust does not work if Signature verify is enabled.

CC Refund
Begin the check, select Void, ring a menu item, select a reason code (if
prompted), and then select CC Refund.

Refund (m)
1. Begin a check, add food, CC auth and CC final.
   You need the RRN number from this CC voucher in step 3.
2. Begin check, select Void, ring a menu item, select a reason code (if
   prompted), and then select Refund (m).
3. Enter the RRN number (when prompted) from the original Credit Card
   voucher from step 1.

CC Auth
1. Ring food and the service total.
2. Pick up that check and select CC auth. Service total.

CC Final
Pick up the CC Auth check from above and select CC final, and then answer the
tip prompt.

CC Voice
1. Begin check, ring food, and then select CC voice.
2. Enter then approval code.

**Tab Auth**
1. Begin check, select **Tab Auth**, Service total.
2. Pick up that check, ring $10.00 of food. Enter 13.00, and then select **CC final**.
3. Ops prompts Tip Amount is USD 3.00? Press the Enter key.

**Balance Inquire**
Begin the check, select **Bal Inq**, and swipe the card when prompted.

**Reprint**
Pick up an open check that already has a CC auth and select **Reprint**.

**Repost**
Use Repost if the final tender is interrupted. The following is an example of when to use it:

(Employee Class = Server table view)
1. Employee Classes | Guest checks | Other employee’s checks, Enable "Pick up others chk"
2. Employee Classes | Guest checks | Other employee’s checks, Disable "Tender Media to others chk"
3. 1, sign in, ring $10.00 food, Auth CC, service total.
4. Sign in as a DIFFERENT employee of same Emp class (Svr table view)
   104 = John
5. John picks up Sally’s check, select **CC Final**.
6. OK Error msg that kept paid check from closing.
7. Select **CC repost**. OK prompts.

**Void (e)**
1. Begin check, ring $10.00 food, and select **CC Sale**.
2. Re-open that closed check, select the CC tender in Ops detail window and select Void (Inq #17).

**Manual Auth**
Begin check, ring $10.00 food, select **Manual auth**, Enter approval code when prompted.
Partial Auth

1. Begin check, ring $10.00 food, enter 5.00 and select CC auth.
2. Enter 5.00 and select CC Final.
   Selecting CC final pays the entire amount due even if only part of the check amount has been authorized. So an amount must be entered prior to selecting CC final if only a partial payment is desired.

POSEOD

1. Verify Res\pos\scripts\poseod\MGDH.inc is pointing to OPI server IP address and correct port.
2. Verify Res\pos\scripts\poseod\POSEOD.inc has the correct POS type (RES = “0R” zero R) and Merchant ID value.
3. Double-click poseod.exe.
4. Check the Transaction.log file for "Batch" "Approval".
   For more complete information on POSEOD configuration, scheduling and verification click here.

QSR Transactions

CC Sale

Ring food, and then select CC sale.

SALE&CASH

1. Ring food, and then select Sale&Cash.
2. Answer prompt for how much cash back.

CC Refund

Begin check, select Void, ring a menu item, select a reason code (if prompted), and then select CC Refund.

Refund (m)

1. Begin a check, add food, CC auth and CC final.
   You need the RRN number from this CC voucher in step 3.
2. Begin check, select Void, ring a menu item, select a reason code (if prompted), select Refund (m).
3. Enter the RRN number (when prompted) from the original Credit Card voucher (step 1).
**Balance Inquire**

Begin check, select **Bal Inq**, and then swipe the card when prompted.

**Reprint**

Pick up an open check that already has a CC auth and select **Reprint**.

**Repost**

Repost is meant to be used if the final tender gets interrupted. The following is an example of when it might be used.

(Employee Class = Server table view)

1. Employee Classes | Guest checks | Other employee’s checks, Enable "Pick up others chk"
2. Employee Classes | Guest checks | Other employee’s checks, Disable "Tender Media to others chk"
3. 1, sign in, ring $10.00 food, Auth CC, service total.
4. Sign in as a DIFFERENT employee of same Emp class (Svr table view) 104 = John
5. John picks up Sally’s check, select **CC Final**.
6. OK Error mssg that kept paid check from closing.
7. Select **CC repost**. OK prompts.

**Void (e)**

1. Begin check, ring $10.00 food, and then select **CC Sale**.
2. Re-open the closed check, select the CC tender in Ops detail window and select Void (Inq #17).
4 Utilities

OPI Configuration Wizard

Use the OPI wizard can be to:

- Enable or Disable PMS or POS interfaces.
- Change from Terminal mode to Middleware mode and vice versa.
- Enable Pay@Table
- Add Pay@Table terminals
- Add Pay@Counter terminals
- Add a new Merchant ID
- Edit an existing Merchant ID

1. Open 
   OraclePaymentInterface\bin\OPIconfigurationWizard.exe.
2. Log in as an administrator.
3. If necessary, update interface and mode settings as described in Middleware.
4. Restart the OPI service.

Config.exe

Open OraclePaymentInterface\bin\config.exe, and then log in as a local administrator.

The following tables describe the settings accessible from config.exe:

**card**

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amex</td>
<td>2 3400000000 3499999999 13 0 0</td>
<td>AMEX card schema.</td>
</tr>
<tr>
<td>JCB</td>
<td>4 3528000000 3589999999 16 0 0</td>
<td>JCB card schema.</td>
</tr>
<tr>
<td>Mastercard</td>
<td>1 5100000000 5599999999 16 1 0</td>
<td>MasterCard card schema.</td>
</tr>
<tr>
<td>Visa</td>
<td>0 4000000000 4999999999 16 1 0</td>
<td>Visa card schema.</td>
</tr>
</tbody>
</table>

**currency**

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>036</td>
<td>036</td>
<td>AUD</td>
</tr>
</tbody>
</table>
### dll

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode</td>
<td>3</td>
<td>Default value, OPI use HTTPS for POS request.</td>
</tr>
<tr>
<td>Port</td>
<td>5098</td>
<td>Default port for POS request.</td>
</tr>
</tbody>
</table>

### ifc8

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CpPolicy</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Dp_pms_connection_check</td>
<td>true</td>
<td></td>
</tr>
<tr>
<td>Pms_check_inactive_interval</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>Pms_inactive_gate</td>
<td>313</td>
<td></td>
</tr>
<tr>
<td>TotalMerchantNumber</td>
<td>0-n</td>
<td>Total merchant number for OPERA, depends on merchant configuration.</td>
</tr>
</tbody>
</table>

### ifc8x

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condition_code</td>
<td>42</td>
<td>Default value.</td>
</tr>
<tr>
<td>Currency_code</td>
<td>840</td>
<td>Merchant currency code, please refer to chapter 4.</td>
</tr>
<tr>
<td>Currency_code_decimal</td>
<td>2</td>
<td>Currency decimal.</td>
</tr>
<tr>
<td>Device_merchant_id</td>
<td>xxxxxxxx</td>
<td>OPERA Chain and Property ID.</td>
</tr>
<tr>
<td>ExternalMode</td>
<td>true</td>
<td>Default value.</td>
</tr>
<tr>
<td>Merchant_city</td>
<td>xxxxxx</td>
<td>Merchant city, maximum is 13 characters.</td>
</tr>
<tr>
<td>Merchant_country</td>
<td>xx</td>
<td>Merchant country, please refer chapter 4.</td>
</tr>
<tr>
<td>Merchant_id</td>
<td>MGS-OPERA</td>
<td>Default value.</td>
</tr>
<tr>
<td>Merchant_name</td>
<td>xxxxxxxx</td>
<td>Merchant name, maximum is 25 characters.</td>
</tr>
<tr>
<td>Merchant_type</td>
<td>7011</td>
<td>Merchant MCC code.</td>
</tr>
<tr>
<td>PaymentCode_0</td>
<td>VA</td>
<td>Visa transaction code in OPERA.</td>
</tr>
<tr>
<td>PaymentCode_1</td>
<td>MC</td>
<td>MasterCard transaction code in OPERA.</td>
</tr>
<tr>
<td>----------------</td>
<td>--------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>PaymentCode_10</td>
<td>CU</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_11</td>
<td>DD</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_12</td>
<td>DL</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_15</td>
<td>GC</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_17</td>
<td>MD</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_18</td>
<td>ME</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_19</td>
<td>VE</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_2</td>
<td>AX</td>
<td>AMEX transaction code in OPERA.</td>
</tr>
<tr>
<td>PaymentCode_21</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_24</td>
<td>VP</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_25</td>
<td>AL</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_26</td>
<td>EC</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_29</td>
<td>MX</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_3</td>
<td>DC</td>
<td>Diners transaction code in OPERA.</td>
</tr>
<tr>
<td>PaymentCode_32</td>
<td>PC</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_4</td>
<td>JC</td>
<td>JCB transaction code in OPERA.</td>
</tr>
<tr>
<td>PaymentCode_40</td>
<td>BC</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_9</td>
<td>CC</td>
<td></td>
</tr>
<tr>
<td>Pms_server_ip</td>
<td>xx.xx.xx.xx</td>
<td>OPERA IFC8 server IP.</td>
</tr>
<tr>
<td>Pms_server_port</td>
<td>xxxx</td>
<td>OPERA IFC8 server port.</td>
</tr>
<tr>
<td>SwitchID</td>
<td>0Q</td>
<td>Default value.</td>
</tr>
<tr>
<td>Terminal_id</td>
<td>OPERA1</td>
<td>Default value.</td>
</tr>
<tr>
<td>User3</td>
<td>********</td>
<td>OPERA IFC8 encryption key.</td>
</tr>
</tbody>
</table>

**master**

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>systemType</td>
<td>1</td>
<td>Default value.</td>
</tr>
</tbody>
</table>
### parameter_level

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
<td>US</td>
<td></td>
</tr>
<tr>
<td>Instance</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Region</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Solution</td>
<td>OPI</td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>OnSite</td>
<td></td>
</tr>
</tbody>
</table>

### payment

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
<td>US</td>
<td></td>
</tr>
<tr>
<td>Dll</td>
<td>0/1</td>
<td>Enable or disable port for POS. 0 is disable port, 1 is enable port.</td>
</tr>
<tr>
<td>Opera</td>
<td>0</td>
<td>Default value.</td>
</tr>
<tr>
<td>Opera2</td>
<td>0</td>
<td>Default value.</td>
</tr>
<tr>
<td>OptionByte2</td>
<td>true</td>
<td>Default value.</td>
</tr>
<tr>
<td>OptionByte4</td>
<td>true</td>
<td>Default value.</td>
</tr>
<tr>
<td>Pos</td>
<td>0</td>
<td>Default value.</td>
</tr>
<tr>
<td>Pos9700</td>
<td>0</td>
<td>Default value.</td>
</tr>
<tr>
<td>RefreshTime</td>
<td>0 29 0**?</td>
<td>OPI refresh time to reload merchant configuration and purge history transaction data.</td>
</tr>
<tr>
<td>RemoveDevice4</td>
<td>0/1</td>
<td>Enable or disable port for Pay@Table device. 0 is disable port, 1 is enable port.</td>
</tr>
<tr>
<td>Running_mode</td>
<td>0</td>
<td>Default value.</td>
</tr>
<tr>
<td>Server</td>
<td>0Q</td>
<td>Default value.</td>
</tr>
<tr>
<td>TimeZone</td>
<td>America/New_York</td>
<td>Merchant time zone, follow Java time zone format.</td>
</tr>
<tr>
<td>Ifc8</td>
<td>0/1</td>
<td>Enable or disable function for OPERA IFC8 interface. 0 is disable function, 1 is enable function.</td>
</tr>
</tbody>
</table>
### pinpadAddress2

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xxxxxxxxx_xx</td>
<td>TID IP</td>
<td>PED mapping list, please refer to chapter 4.</td>
</tr>
</tbody>
</table>

### posApi

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Century</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>CommandSleep</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>CommandSleep2</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Currency</td>
<td>840</td>
<td>Merchant currency code, please refer to chapter 4.</td>
</tr>
<tr>
<td>Mode</td>
<td>2</td>
<td>RES IIS mode, default value.</td>
</tr>
<tr>
<td>NeedAdjustReceipt</td>
<td>false</td>
<td>Default value, doesn’t allow Pay@Table modify exist check.</td>
</tr>
<tr>
<td>PCommand</td>
<td>NO_E_PAYMENT</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_0</td>
<td>xxx</td>
<td>Visa tender number in POS configuration.</td>
</tr>
<tr>
<td>PaymentCode_1</td>
<td>xxx</td>
<td>MasterCard tender number in POS configuration.</td>
</tr>
<tr>
<td>PaymentCode_10</td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_11</td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_12</td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_15</td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_18</td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_19</td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_2</td>
<td>xxx</td>
<td>AMEX tender number in POS configuration.</td>
</tr>
<tr>
<td>PaymentCode_21</td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_24</td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_25</td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_26</td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_29</td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td>Key</td>
<td>Value</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------</td>
<td>-------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>PaymentCode_3</td>
<td>xxx</td>
<td>Diners tender number in POS configuration.</td>
</tr>
<tr>
<td>PaymentCode_32</td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_4</td>
<td>xxx</td>
<td>JCB tender number in POS configuration.</td>
</tr>
<tr>
<td>PaymentCode_40</td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td>PaymentCode_9</td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td>RoomPosting</td>
<td>xxx</td>
<td>Room posting tender number in POS configuration.</td>
</tr>
<tr>
<td>ServiceNum</td>
<td>xxx</td>
<td>“Save check” tender number in POS configuration.</td>
</tr>
<tr>
<td>SimphonyVersion</td>
<td>2.5</td>
<td>Simphony version definition.</td>
</tr>
<tr>
<td>Timeout</td>
<td>30</td>
<td>Timeout value for OPI connect to POS transaction service.</td>
</tr>
<tr>
<td>Url</td>
<td><a href="http://xxxx">http://xxxx</a></td>
<td>RES transaction service URL.</td>
</tr>
</tbody>
</table>

**posRes**

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TotalMerchantNumber</td>
<td>0-n</td>
<td>Total merchant number for RES, depend by merchant configuration.</td>
</tr>
</tbody>
</table>

**posResX**

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condition_code</td>
<td>42</td>
<td>Default value.</td>
</tr>
<tr>
<td>Currency_code</td>
<td>840</td>
<td>Merchant currency code, please refer to chapter 4.</td>
</tr>
<tr>
<td>Currency_code_decimal</td>
<td>2</td>
<td>Currency decimal.</td>
</tr>
<tr>
<td>Device_merchant_id</td>
<td>xxxxxxx</td>
<td>CMID, assig by OPI installer.</td>
</tr>
<tr>
<td>Merchant_city</td>
<td>xxxxx</td>
<td>Merchant city, maximum is 13 characters.</td>
</tr>
<tr>
<td>Merchant_country</td>
<td>xx</td>
<td>Merchant country, please refer to chapter 4.</td>
</tr>
<tr>
<td>Key</td>
<td>Value</td>
<td>Description</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>Merchant_id</td>
<td>MGS-POS 3700</td>
<td>Default value.</td>
</tr>
<tr>
<td>Merchant_type</td>
<td>5812</td>
<td>Merchant MCC code.</td>
</tr>
<tr>
<td>Pos_type</td>
<td>posRES</td>
<td>POS version definition.</td>
</tr>
<tr>
<td>SwitchID</td>
<td>0Q</td>
<td>Default value.</td>
</tr>
<tr>
<td>Terminal_id</td>
<td>POS3700</td>
<td>Default value.</td>
</tr>
</tbody>
</table>

### posSybase1

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>InitIdle</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>MaxPool</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>MaxWait</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>MinIdle</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>ResDB</td>
<td>Micros</td>
<td>RES DB name, default value.</td>
</tr>
<tr>
<td>ResHost</td>
<td>xx.xx.xx.xx</td>
<td>RES Server IP.</td>
</tr>
<tr>
<td>ResPassword</td>
<td>*******</td>
<td>RES DB user password.</td>
</tr>
<tr>
<td>ResPort</td>
<td>2638</td>
<td>RES Server Sybase database port, default value.</td>
</tr>
<tr>
<td>ResUser</td>
<td>******</td>
<td>RES DB user name.</td>
</tr>
</tbody>
</table>

### server0Q

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ConnectTimeout</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Host</td>
<td>xx.xx.xx.xx</td>
<td>3rd PSP middleware IP.</td>
</tr>
<tr>
<td>HostMode</td>
<td>true/false</td>
<td>OPI work for PED directly connection mode or middleware connection mode. For PED connection set to “true”, for middleware connection set to “false”.</td>
</tr>
<tr>
<td>Port</td>
<td>8080</td>
<td>Port for 3rd PSP PED or middleware.</td>
</tr>
<tr>
<td>Timeout</td>
<td>60</td>
<td>Timeout value for OPI send request to 3rd PSP PED or middleware.</td>
</tr>
<tr>
<td>Key</td>
<td>Value</td>
<td>Description</td>
</tr>
<tr>
<td>-----</td>
<td>-------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>0</td>
<td>0Q</td>
<td>-1</td>
</tr>
<tr>
<td>1</td>
<td>0Q</td>
<td>-1</td>
</tr>
<tr>
<td>11</td>
<td>0Q</td>
<td>-1</td>
</tr>
<tr>
<td>2</td>
<td>0Q</td>
<td>-1</td>
</tr>
<tr>
<td>3</td>
<td>0Q</td>
<td>-1</td>
</tr>
<tr>
<td>4</td>
<td>0Q</td>
<td>-1</td>
</tr>
<tr>
<td>8</td>
<td>0Q</td>
<td>-1</td>
</tr>
</tbody>
</table>

**terminal47**

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>xxxxxxx</td>
<td>xx_xxxxxxxx_x</td>
<td>Please refer to chapter 4 for Pay@Table device mapping.</td>
</tr>
</tbody>
</table>

**vx6702**

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CertPass</td>
<td>********</td>
<td>Pay@Table certificate password.</td>
</tr>
<tr>
<td>PayAtTableServer</td>
<td>0Q</td>
<td>Default value.</td>
</tr>
<tr>
<td>Port</td>
<td>5023</td>
<td>Default port for Pay@Table device request.</td>
</tr>
<tr>
<td>UseDeviceRRN</td>
<td>true</td>
<td>Default value.</td>
</tr>
<tr>
<td>UseSSL</td>
<td>true/false</td>
<td>Pay@Table connection mode, default is “true” to use HTTPS for Pay@Table request.</td>
</tr>
</tbody>
</table>
Troubleshooting

Troubleshooting Issues

**Situation 1:** Unable to launch config.exe on Server 2008 R2.
**Solution:** Right-click on config.exe and select Run as Administrator.

**Situation 2:** Cannot communicate to OPI after installation.
**Test:** Verify you can telnet to the OPI PC on port 5098 from another computer.
Example: From CMD prompt: telnet 172.23.25.16 5098
Where 172.23.25.16 is the IP address of the OPI server.
If you cannot telnet to the OPI port, try the following:
- Restart the OPI Service.
- Temporarily by pass the firewall.
- Verify OPI is listening on port 5098.
- Open CMD prompt: C:\>netstat > c:\temp\ports.txt and then search for 5098.

**Situation 3:**

This generic error message can be caused by several things.

**Solution 1:**
Restart the OPI Service and try again.

**Cause 2:**
If the system.log shows the following message, the cause is likely a Java security update:

[GATEWAY RESPONSE] GenericJSONProcessor : Can not decrypt
java.security.InvalidKeyException: Illegal key size
Not all Java updates cause this error, but security updates can cause it. For example, Java 8 update 111 causes this issue.

**Solution 2:**

- Stop the OPI service.
- Go to the link below and download jce_policy-8.zip.
  
  [link](http://www.oracle.com/technetwork/java/javase/downloads/jce8download-2133166.html)

- Unzip the file and copy the two files to your Java security folder.
  - Local_policy.jar
  - US_export_policy.jar

  **Example:** C:\Program files\Java\jre(your current version)\lib\security\n
- Start the OPI service.

**Situation 4:**

If you have more than one card settlement driver, and you decide to clear sales totals, manually delete the batch history of those drivers to avoid future batch settlement issues. This is a very rare configuration and situation.

When sales totals are cleared, and a new batch is created it is batch 1. The existing batch 1 is found in batch history and all batches for that settlement driver are automatically deleted. This is by design, as it prevents duplicate batch numbers. But if a second settlement driver exists that does not have a batch 1, that driver’s batch history is not automatically cleared.

**Solution:**

After clearing sales totals open the registry to HKLM\Software\Wow6432Node\MICROS\Common\CCS\DrvrCfg\ and open each Drvr# record. Example: Drvr5.
If the Drvr# folder contains a History folder, delete the entire History folder.
If there is no History folder, nothing needs to be done for that driver.
Repeat this for every Drvr# record.

**Not Supported**

- Gift cards
- Top Up Auth
- Void a Refund (RES limitation)
- CC voice / Manual entry in QSR revenue center
- Backup OPI Server
## 6 Appendix

### Currency List

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
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### Country Code

<table>
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<tr>
<th>Country</th>
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<tr>
<td>Austria</td>
<td>AT</td>
</tr>
</tbody>
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Canada CA
Denmark DK
Germany DE
France FR
Hong Kong HK
Ireland IE
Italy IT
Japan JP
Korea, Republic of KR
Macau MO
Malaysia MY
Maldives MV
Mexico MX
New Zealand NZ
Philippines PE
Qatar QA
Switzerland CH
Thailand TH
United Kingdom GB
United States US

PED Mapping Format

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMID_WS</td>
<td>TID_IP</td>
</tr>
</tbody>
</table>

POS Format

- CMID: Need match `Device_merchant_id` in merchant configuration.
- WS: POS workstation number.
- TID: Terminal ID.
- IP: PED IP.
**OPERA Format**

- CMID: Need match `Device_merchant_id` in merchant configuration.
- WS: OPERA client name, cannot contain “_” and space.
- TID: Terminal ID.
- IP: PED IP.

**Pay@Table Mapping Format**

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTID</td>
<td>Product_CMID_RVC or Product_CMID_RVC_Option</td>
</tr>
</tbody>
</table>

**Format**

- PTID: Pay@Table device ID.
- Product: POS definition, 2 characters.
- 0R: RES; 0F: 9700; 1Z: Simphony 1 & 2; 1N: IFC8
- CMID: Need match `Device_merchant_id` in merchant configuration.
- RVC: RVC number in POS activates Pay@Table function.
- Option: By default, Pay@Table picks up check by table number. If option C is attached, allows check pickup by check number.