



IPC Upgrade

Client and PED Firmware upgrade

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Document Status

Version	Status	Revision Date	Description of Change
0.1	Draft	05/02/2016	First Draft
1.0	Published	24/02/2016	Initial Version
1.1	Published	08/03/2016	Updated for IPC-2 v 1.1.1
1.2	Published	18/03/2016	Added section on rollback of IPC-2 upgrade and PED firmware upgrade
1.3	Draft	29/03/2016	Updated Screen shot Included Contents Page
1.4	Published	07/04/2016	Page 6 added in Worldpay Payments Hub Page 9 New Screen shot showing IPP350 CTL
1.4	Published	07/04/2016	Page 6 added in Worldpay Payments Hub Page 9 New Screen shot showing IPP350 CTL
1.5	Published	26/07/2016	Sections re-ordered such that EVT to IPC-2 upgrade section is moved to the end.

Document Sign-off

Version	Status	Date	Approved by	Job Designation
1.2	Published	21/03/2016	Baljit Jackson	Client Implementation Manager
1.4	Published	08/04/2016	Baljit Jackson	Client Implementation Manager
1.5	Published	26/07/2016	Baljit Jackson	Client Implementation Manager

Reference Documents

Filename	Description	Location

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1 Introduction

Following PA-DSS certification during the course of 2015, the EasyVTerminal application was re-launched with a different name and versioning methodology. EasyVTerminal is now renamed as **IPC (Integrated Payment Client)**.

This document is intended as a guide for merchants and integrators to help them with upgrading EVT, or versions of IPC, to the latest version of IPC client and, if required, also update the firmware for the PED (Pin Entry Device).



2 The IPC software and firmware upgrade process

The IPC upgrade process starting from IPC-2 v 111 (and above) downloads components from the Worldpay Payments Hub (WPH) and deploys these to upgrade the IPC software to the latest version. The process can also download and deploy a PED firmware upgrade component to upgrade the locally connected IPP350 or Vx820 PED.

There are separate downloads for the software upgrade and the PED firmware upgrade.

Download is controlled by flags set on the local IPC software and also set per TID on the Worldpay Payments Hub (WPH). At the WPH there are separate flags for software and firmware upgrade per TID. There are set by the Worldpay Support team under your instruction.

Before starting the upgrade process, please send the list of terminal IDs (TID) to Account Manager/Client Delivery Manager and Support (support@yes-pay.com) requesting software/firmware/both upgrade. Our team will then mark the TIDs for respective upgrade(s) on our WPH servers and confirm when done.

Once a confirmation is received follow the steps detailed in section 5 below to upgrade IPC for the flagged TIDs



3 PED firmware upgrade process

The firmware upgrade process of the PED is initiated by IPC-2 (see instructions section 5). If the PED receives the complete upgrade package, it will unpack the files, apply them, restart and be available with the upgraded firmware version.

The firmware upgrade process supports the Ingenico ipp350 PED and the Verifone Vx820 PED.

Ingenico IPP350

The firmware employed by the Ingenico ipp350 PED is named RAM.

The currently available ipp350 firmware upgrade is: RAM 0902 to RAM 0973.

For the ipp350 PED, if at any point the upgrade fails, the PED will wholly revert to the original firmware version. There is no partial application of upgrade files possible.

IPC is able to detect that the firmware upgrade process has failed. If this situation occurs it will retry the upgrade for a further 2 times as necessary. In the unlikely event that the upgrade process fails 3 times IPC will advise via on-screen and log file messages.

Verifone Vx820

The firmware employed by the Verifone Vx820 PED is named VIPA 7816

The currently available Vx820 firmware upgrade is: VIPA 7816 4.0.5.6 to 4.0.5.7

For the Vx820 PED, the firmware upgrade is comprised of 3 separate modules named as EOS, OS and CTLS. Each module is uploaded to the PED separately: If at any point the upload of any module fails, IPC will retry for a further two times.

In the unlikely event that the module upgrade process fails 3 times the entire upload process will be aborted and IPC will advise via on screen and log file messages. There is no rollback possible from a partially completed VIPA 7816 upload. In the unlikely event of this a partial upgrade the firmware upload process should be attempted again.

Please Note: - Once EVT has been upgraded to IPC-2 v 111 (and above) it will fail to initialise for *contactless operation* (i.e. where IPP350-CTLS pinpad has been selected in YESEFTConfig) with an ipp350 PED of firmware version lower than RAM 0973. In this scenario it is necessary to either replace the PED or roll IPC-2 back to the original version.



4 Connections for upgrade

The software and firmware upgrade components are downloaded from www.yes-pay.net via a https connection.

The https connection supports TLS 1.0, 1.1 and 1.2. Connection via SSL is not supported.

The SSL certificate that enables the https connection is based on the domain name www.yes-pay.net.

For networks that do not support DNS, please ensure that you create an entry in the PC's hosts file (also `lmhosts` if required) to map the domain name www.yes-pay.net to its ip address. This will allow the ip address to be resolved to the domain name and allow the https handshake to succeed.

e.g. the entry in hosts should be

80.69.5.198 www.yes-pay.net



5 Instructions for IPC software and PED firmware Auto upgrade

Please make sure the host PC has access to below URLs on port 443.

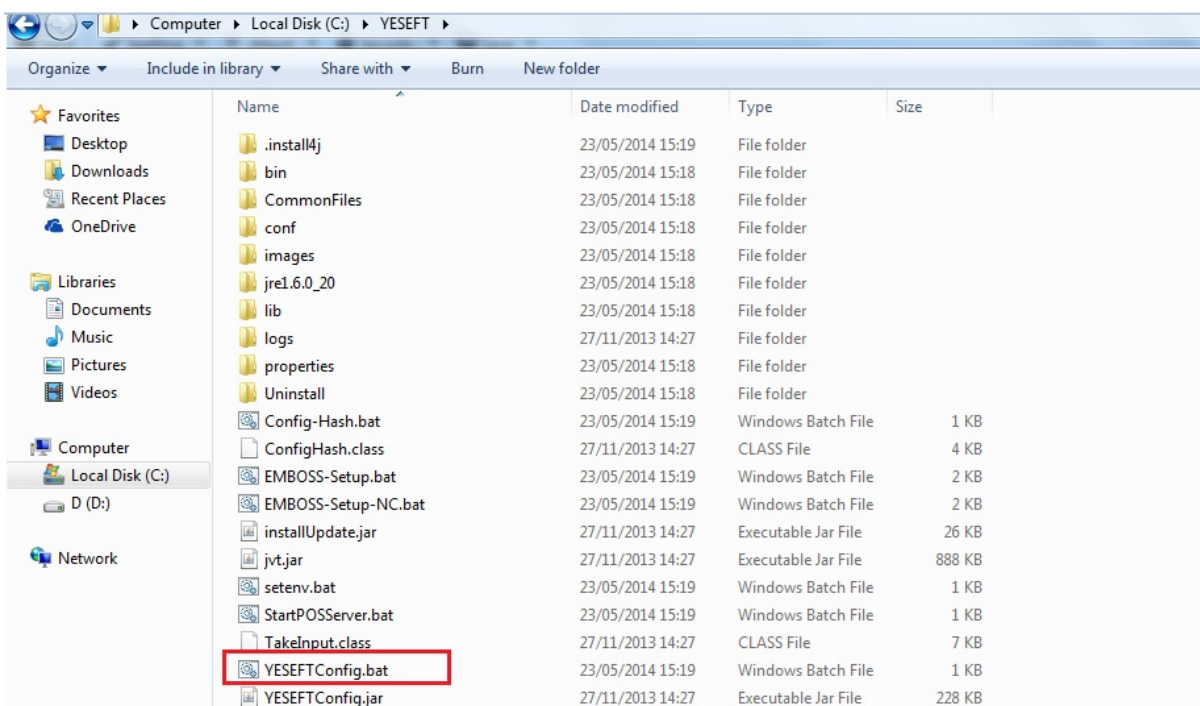
<https://primary.yes-pay.net/soap/servlet/rpcrouter>

<https://www.yes-pay.net/soap/servlet/rpcrouter>

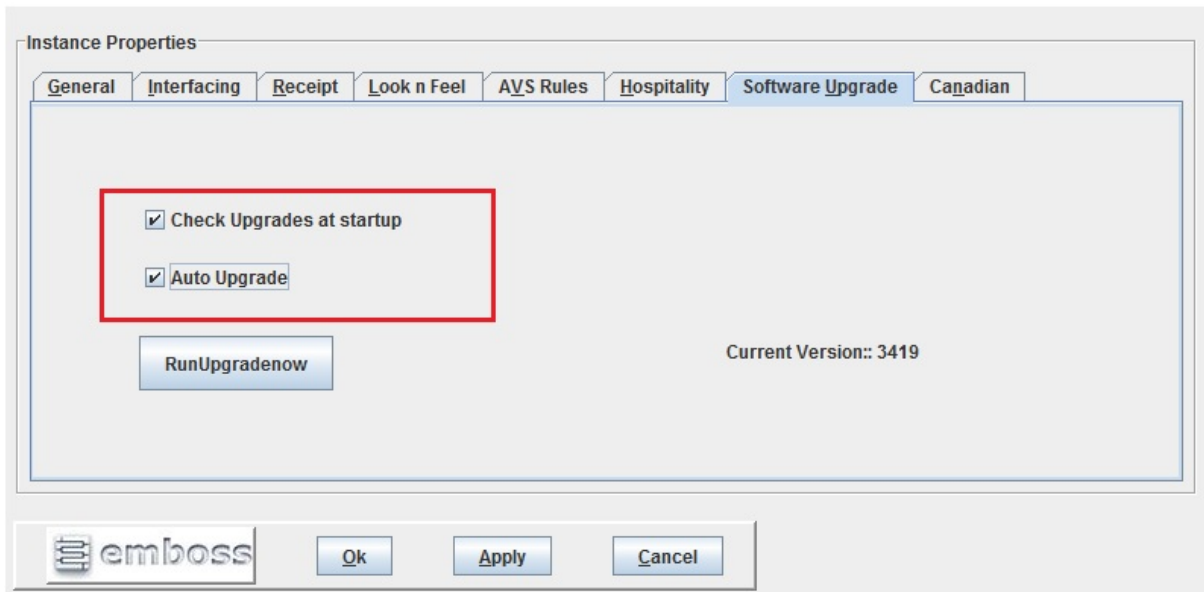
1. Close EVT/IPC from the system tray, if initialized.



2. Run the file "YESEFTConfig.bat" from the location C:\YESEFT on your system.



3. Go to Software Upgrade tab and check the Auto upgrade option and then click apply and Ok to save the changes.



4. Run "StartPOSServer.bat" from the location C:\YESEFT – this will start IPC.
5. On IPC startup, the value of the upgrade flags at WPH is checked, and if a either software or firmware (or both) upgrade flags are set, the auto upgrade procedure will commence.
6. When the upgrade is complete, IPC restarts as the new version. If a PED firmware upgrade has been performed, the PED is also restarted.
7. The progress of the upgrade process can be monitored via the logs provided - see details below.

All the logs related to the upgrade can be found in the C:\YESEFT\logs folder.

There log messages are found in 2 files – upgrade.log and yescps.log.

upgrade.log Software upgrade commences

```
"19-Feb-2016 15:43:37,111 [main] INFO
yes.yeseft.softwareupgrade.UpgradeUtilStartupGUI - Entering GUIMain
```

upgrade.log: Verification of files downloaded from WPH

```
"19-Feb-2016 15:43:39,616 [Thread-1] ERROR
yes.yeseft.softwareupgrade.impl.URLDownloader - Send to Software Upgrade
request
"19-Feb-2016 15:43:40,882 [Thread-1] ERROR
yes.yeseft.softwareupgrade.impl.URLDownloader - File verification
successful.
```

upgrade.log: The software upgrade files are extracted from the downloaded file

```
"19-Feb-2016 15:43:40,897 [Thread-1] ERROR
yes.yeseft.softwareupgrade.impl.ZipUpgrader - inside extracting zip file
...
"19-Feb-2016 15:43:40,913 [Thread-1] ERROR
yes.yeseft.softwareupgrade.impl.ZipUpgrader - inside Upgrade and
extracting zip file and return the status : true
"19-Feb-2016 15:43:40,913 [Thread-1] ERROR
yes.yeseft.softwareupgrade.UpgradeManager - status.....true
"19-Feb-2016 15:43:40,913 [Thread-1] ERROR
yes.yeseft.softwareupgrade.UpgradeUtilStartupGUI - Inside Upgrade
Done...
"19-Feb-2016 15:43:43,914 [Thread-1] ERROR
yes.yeseft.softwareupgrade.UpgradeUtilStartupGUI - Inside restart IPC...
```

upgrade.log The firmware files are extracted from the downloaded file

```
"19-Feb-2016 15:44:04,100 [Thread-1] ERROR
yes.yeseft.softwareupgrade.impl.ZipUpgrader - inside extracting zip file
"19-Feb-2016 15:44:04,116 [Thread-1] ERROR
yes.yeseft.softwareupgrade.impl.ZipUpgrader - Name of file ::
FirmwareUpgrade.zip
"19-Feb-2016 15:44:04,116 [Thread-1] ERROR
yes.yeseft.softwareupgrade.impl.ZipUpgrader - path::
C:\YESEFT\FirmwareUpgrade.zip
"19-Feb-2016 15:44:04,116 [Thread-1] ERROR
yes.yeseft.softwareupgrade.impl.ZipUpgrader -
Getname:::RAM0922toRAM0973/
```

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upgrade.log: IPC is restarted when the upgrade is successful

```
"19-Feb-2016 15:44:04,772 [Thread-1] ERROR
yes.yeseft.softwareupgrade.UpgradeUtilStartupGUI - Inside Upgrade
Done...

"19-Feb-2016 15:44:07,777 [Thread-1] ERROR
yes.yeseft.softwareupgrade.UpgradeUtilStartupGUI - Inside restart IPC...
```

yescps.log: Firmware upgrade commence starts

```
19-Feb-2016 15:44:10,951 [Thread-2] ERROR [TID:22980012] C:\YESEFT/logs
- ***** FirmwareUpgrade process started *****
```

yescps.log: Firmware upgrade progress messages

```
19-Feb-2016 15:44:12,633 [Thread-2] ERROR [TID:22980012] C:\YESEFT/logs
- adding extra files from pinpad into removeFileName array
19-Feb-2016 15:44:12,633 [Thread-2] ERROR [TID:22980012] C:\YESEFT/logs
- Delete extra pinpad files
19-Feb-2016 15:44:12,633 [Thread-2] ERROR [TID:22980012] C:\YESEFT/logs
- Delete files :8445670103L0
19-Feb-2016 15:44:12,930 [Thread-2] ERROR [TID:22980012] C:\YESEFT/logs
- Response code :Successful command
19-Feb-2016 15:44:12,930 [Thread-2] ERROR [TID:22980012] C:\YESEFT/logs
- Delete files :8442970306A0
19-Feb-2016 15:44:13,211 [Thread-2] ERROR [TID:22980012] C:\YESEFT/logs
- Response code :Successful command
19-Feb-2016 15:44:13,492 [Thread-2] ERROR [TID:22980012] C:\YESEFT/logs
- Response code :Successful command
19-Feb-2016 15:44:13,774 [Thread-2] ERROR [TID:22980012] C:\YESEFT/logs
- Response code :Successful command
```

yescps.log: Firmware upgrade successfully loaded into PED

```
19-Feb-2016 16:04:39,438 [Thread-2] ERROR [TID:22980012] C:\YESEFT/logs
- ***** Firmware Files loaded Successfully, Firmware Upgrade Done *****
...
19-Feb-2016 16:04:46,836 [Timer-1] ERROR [TID:22980012] C:\YESEFT/logs -
firmwareVersion no:::::0973
```

yescps.log: failed firmware upgrade

is always flagged with a message containing the literal Upgrade Failed *****

```
e.g. ***** NullPointerException while loading Firmware Files, Upgrade
Failed *****
```



Vx820 upgrade logs

```
21-Apr-2016 17:08:17,805 [Thread-2] ERROR [TID:22980012] C:\YESEFT/logs -
yes.yeseft.transaction.wrapper.verifone.VerifoneTransactionWrapper@35bf7e,,1,Verifone
Wrapper Initilized,

21-Apr-2016 17:08:17,956 [Thread-2] ERROR [TID:22980012] C:\YESEFT/logs -
yes.yeseft.terminal.dataloader.verifone.VerifoneDataLoader@1f00d57,,1,Updating Verifone
Terminal Configuration In : TRMDOL.CFG,

21-Apr-2016 17:08:18,009 [Thread-2] ERROR [TID:22980012] C:\YESEFT/logs -
yes.yeseft.terminal.dataloader.verifone.VerifoneDataLoader@1f00d57,,1,Updating Verifone
In : ICCDATA.DAT,
Initialization Sucessful

.
.
.
.

21-Apr-2016 17:09:35,481 [Thread-2] ERROR [TID:22980012] C:\YESEFT/logs - Inside P2PE
HeartBeat:

21-Apr-2016 17:09:35,481 [Thread-2] ERROR [TID:22980012] C:\YESEFT/logs - Inside Polling
Agent :::;::: :::::

21-Apr-2016 17:09:35,481 [Thread-2] ERROR [TID:22980012] C:\YESEFT/logs - Inside
readConfigurationData:::

21-Apr-2016 17:09:35,481 [Timer-1] ERROR [TID:22980012] C:\YESEFT/logs - Inside
processingPEDCmdnd:::

21-Apr-2016 17:09:35,481 [Timer-1] ERROR [TID:22980012] C:\YESEFT/logs - Inside checking
Transaction Status for HB::

21-Apr-2016 17:09:35,481 [Timer-1] ERROR [TID:22980012] C:\YESEFT/logs - Inside 7816

21-Apr-2016 17:09:35,762 [Timer-1] ERROR [TID:22980012] C:\YESEFT/logs - inside
Notification API to Send HB:::

21-Apr-2016 17:09:36,465 [Timer-1] ERROR [TID:22980012] C:\YESEFT/logs - Pinpad serial
no:::325011498

21-Apr-2016 17:09:36,465 [Timer-1] ERROR [TID:22980012] C:\YESEFT/logs - firmwareVersion
no:::4.0.5.7

21-Apr-2016 17:09:36,465 [Timer-1] ERROR [TID:22980012] C:\YESEFT/logs - Message Type
Identifier ::: heartbeat

21-Apr-2016 17:09:36,465 [Timer-1] ERROR [TID:22980012] C:\YESEFT/logs - Payment Capture
Device (TID)::: 022980012

21-Apr-2016 17:09:36,465 [Timer-1] ERROR [TID:22980012] C:\YESEFT/logs - Model Type
Identifier ::: VX820
```



6 IPC Upgrade Rollback

The IPC upgrade, whether performed via a software download from WPH, or via the mini-installer, also includes the functionality to back up and restore in case something goes wrong.

When the upgrade process runs, it backs up all the important files and moves them into the backup folder (which can later be restored by simply copying and pasting into C:\YESEFT).

A new version.txt is created once the upgrade is successful.

Windows (C:) > YESEFT

Name	Date modified	Type	Size
.install4j	15/03/2016 10:01	File folder	
BackupFiles	15/03/2016 10:01	File folder	
bin	15/03/2016 10:01	File folder	

These are the files and directories that are saved in the Backup folder.

Windows (C:) > YESEFT > BackupFiles

Name	Date modified	Type	Size
CommonFiles	15/03/2016 10:01	File folder	
images	15/03/2016 10:01	File folder	
jre1.6.0_20	15/03/2016 10:00	File folder	
lib	15/03/2016 10:01	File folder	
properties	15/03/2016 10:01	File folder	
AutoConfig.jar	14/03/2016 17:52	JAR File	259 KB
EMBOSS-Setup.bat	15/03/2016 10:01	Windows Batch File	2 KB
EMBOSS-Setup-NC.bat	15/03/2016 10:01	Windows Batch File	2 KB
JreMove.bat	14/03/2016 17:52	Windows Batch File	1 KB
jvt.jar	15/03/2016 10:01	JAR File	1,010 KB
setenv.bat	15/03/2016 10:01	Windows Batch File	1 KB
StartPOSServer.bat	15/03/2016 10:01	Windows Batch File	1 KB
YESEFTConfig.bat	15/03/2016 10:01	Windows Batch File	1 KB
YESEFTConfig.jar	15/03/2016 10:01	JAR File	256 KB
yespay-cps.jar	15/03/2016 10:01	JAR File	3,261 KB



In case, the user wants to downgrade back to the previous version they can do so by simply copying all the files and directories from the backup folder and pasting them back into the C:\YESEFT replacing the existing files.

Once the files/directories are successfully restored, run YESEFTConfig.bat to create the correct version.txt of YESEFTConfig.bat.

7 Upgrading from EVT 3.4.x.x. to IPC

Upgrading EVT to IPC is possible only with EVT 3.4.1.9 and above. Other versions of EVT can not be upgraded. In these cases a new install of IPC-2 is required. A change of PED might also be required as IPC-2 supports only the following PEDs

- Vx820 with firmware VIPA 7816 4.0.5.6 and above
- iWL250
- ipp350

The upgrade of EVT 3.4.1.9 comprises the following tasks

- the EVT to IPC-2 upgrade – this is the upgrade of the software application
 - 1) To upgrade the software application an executable file, the Mini-Installer, is provided. **It is not possible to upgrade EVT without using mini-installer**
 - 2) This executable file must be deployed and run on each host PC where EVT is installed. The Mini-Installer upgrades any version of EVT from EVT-3.4.1.9 to IPC-2 1.1.1.
 - 3) **To upgrade EVT beyond IPC-2 v 1.1.1 requires an additional upgrade step**
 - 4) Once the EVT instance is upgraded to IPC-2 1.1.1, subsequent upgrades may be performed via a download of upgrade files from the Worldpay Payments Hub (WPH) i.e. there is no further requirement to deploy and run an executable file on the PC. (This is known as the Auto-Upgrade process). Alternatively such upgrade can be performed by running another mini-installer (supplied by Worldpay).
- where Ingenico ipp350 PEDs are deployed with the EVT software, a firmware upgrade of the PED is required.
 - 1) The firmware upgrade is deployed by the IPC-2 1.1.1 and hence it must be initiated after successful upgrade of EVT to this version.
 - 2) **Please Note: - Once EVT has been upgraded to IPC-2 v 1.1.1 or above it will fail to initialise for *contactless operation* with an ipp350 PED of firmware version lower than RAM 0973. This is where i.e. where IPP350-CTLS pinpad has been selected in YESEFTConfig. If the firmware upgrade of the PED does not succeed, it is necessary to either replace the PED or roll IPC-2 back to the original version.**

8 IPC-2 Software Upgrade via Mini-Installer

Please note that upgrade via the Mini-Installer is mandatory when upgrading from any version of EVT to any version of IPC-2. The mini-installer will perform the upgrade from EVT-3.4.1.9 to IPC-2 v 1.1.1.

To upgrade to a later version of IPC-2 requires an additional upgrade step.

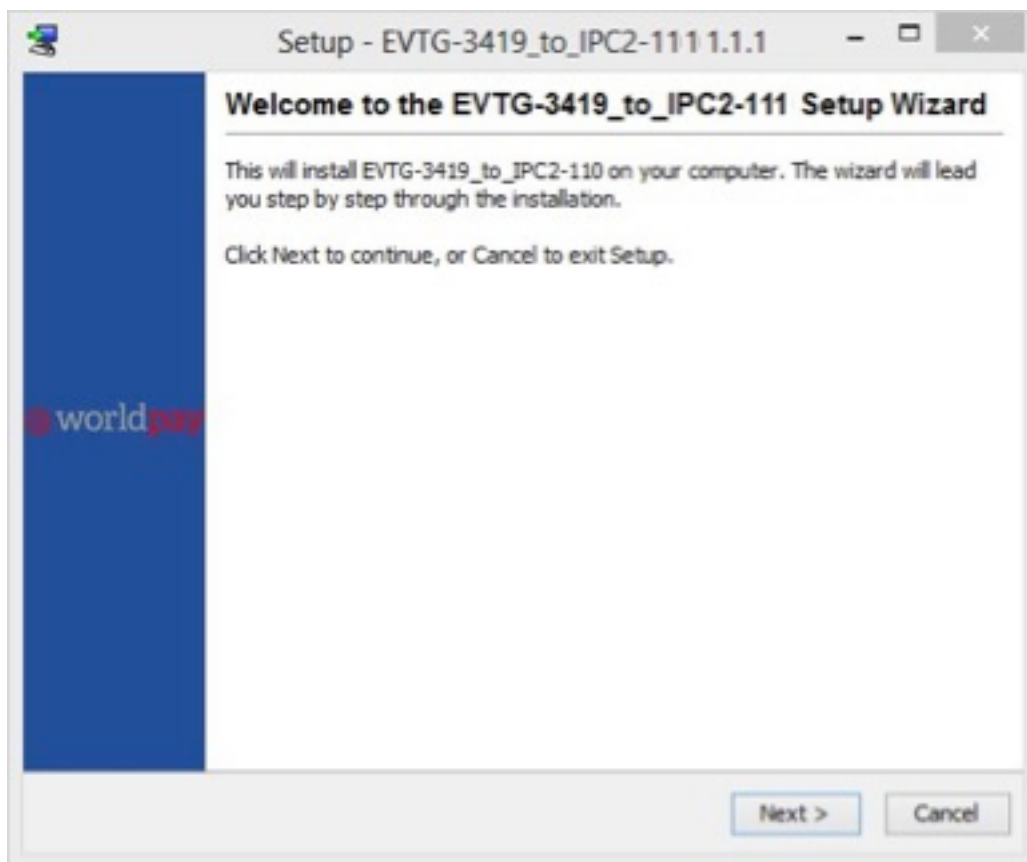
Please make sure you have administrative privileges before starting the upgrade process.

The mini-installer runs in two modes of operation: attended mode where input is required to prompts; or silent mode where the installer runs without default settings and does not prompt for user input

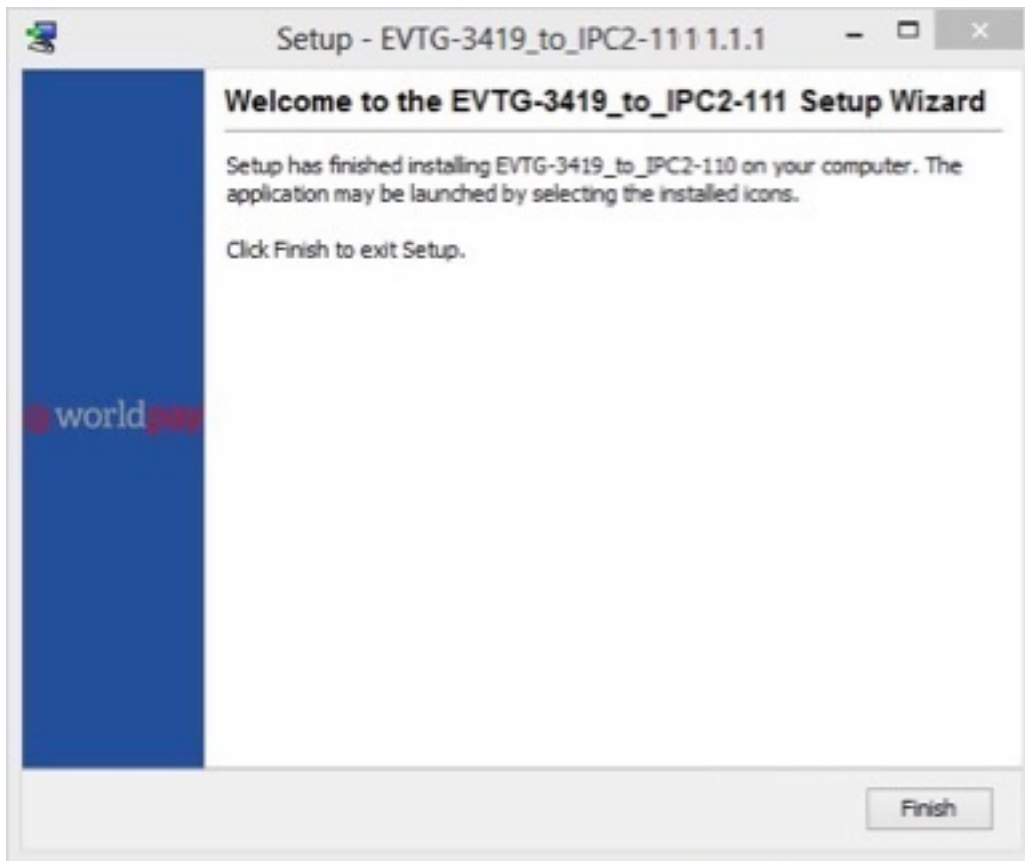
8.1 Running the mini-installer in Attended mode

8.1.1 Execute Mini-Installer executable file on the host PC host.

8.1.2 From the welcome screen click Next

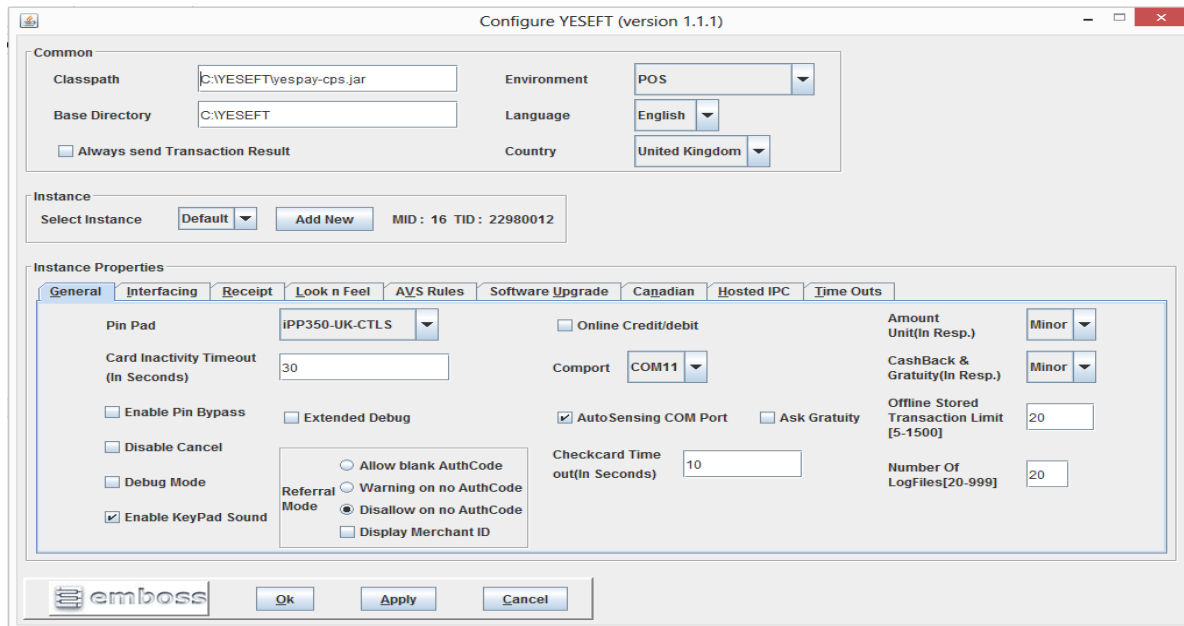


8.1.3 Click finish after the setup is done to exit.



8.1.4 After this process is successfully completed, the client software will be updated to the new IPC-2 version. The version can be checked by running YESEFTConfig.bat, or by inspecting the contents of YESEFT/version.txt

In the YESEFTConfig utility, the version is displayed on the top of the window (as shown in the screenshot below)



8.2 Running the mini-installer in Silent mode (Windows)

8.2.1 Open up Command window and change directory to where the min-installer is located.

8.2.2 Execute the installer using followed -q switch will run the min-installer in background.

Example

```
C:\>EVTG-3419_to_IPC2-111_Upgrader.exe -q
```