



IPC-2 Reference Build Guide

Recommendations for IPC installation using a Reference build

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Table of Contents

1	Introduction	4
2	Building a Reference Installation - Windows.....	5
2.1	Pre-requisites	5
2.1.1	Java path	5
2.1.2	YESEFT path	5
2.1.3	Pinpad Connection Options.....	5
2.1.4	USB Driver	5
2.2	Create a Reference Build.....	6
2.2.1	Install the supplied IPC-2 using the installer	6
2.2.2	Configure IPC-2.....	6
2.2.3	Validate the IPC-2 Reference Build.....	6
2.2.4	Copy the YESEFT Reference directory to the secondary till	6
3	Using the Reference Build in Production	8
3.1	Configure the IPC-2 instance with its unique MID/TID.....	8
3.2	Start the IPC-2 application.....	8
4	Appendix 1	9



1 Introduction

The classic method of installing IPC-2 is via the installer provided. The installer creates the required directories, checks and locates pre-requisites such as JRE, and creates executable scripts suitable to the environment for IPC-2 startup etc. The next step is to use the configuration utility to configure IPC-2 for the correct pinpad, pinpad connection option, and a myriad other options.

However, to run the installer and configuration utility individually on every till in a large merchant estate is too time-consuming to be a practical option. This guide details how the merchant can create a reference installation of IPC-2, where IPC-2 components are installed and pre-configured as far as possible. The reference installation may be copied to all the tills in the estate in advance of IPC-2 go-live. Some tasks remain to be completed individually on each till to set IPC-2 live, however these are reduced to a minimum and may be scripted to allow an unattended go-live process.



2 Building a Reference Installation - Windows

The steps to building and validating a reference installation are detailed below. The desired outcome is to produce a directory – YESEFT - that contains all required IPC-2 components. This directory can then be copied to all the tills in the estate.

2.1 Pre-requisites

The process described must be implemented on a reference till that will have the same environment as the production tills in the estate.

2.1.1 Java path

The IPC-2 installer creates scripts used at IPC-2 startup containing references to the full path of JRE. The location of JRE should be exactly the same for the reference till as for the tills in the estate.

2.1.2 YESEFT path

The IPC-2 installer creates scripts used at IPC-2 startup containing references to the full path of the directory in which it is directed to install IPC2 – this is the YESEFT directory. The YESEFT directory contains all the components of IPC-2 and can be copied to other tills in the estate. However it must be copied such that its full path on the destination till is the same as its full path on the reference build.

2.1.3 Pinpad Connection Options

For serial and USB connected pinpads, IPC-2 is configured to use particular COM port via an entry in one of its configuration files. At startup IPC-2 sends a command to the pinpad on the configured port, and if it receives the expected response, it will continue the startup process. If no response/unexpected response is returned, IPC-2 will then hunt through any other COM ports available one by one. For each COM port detected it will send a pinpad command and wait to receive the expected response. It will continue this process until a pinpad is detected, or it has cycled through all the available COM ports.

It is recommended therefore, that to reduce the time taken to complete the IPC installation and startup for a new (or rebuilt) till, the pinpad should be installed on the same COM port as was installed on the reference build.

2.1.4 USB Driver

For USB connected pinpads only it is required to install a USB driver provided by the pinpad manufacturer. Please discuss with your Worldpay contact.

2.2 Create a Reference Build

2.2.1 Install the supplied IPC-2 using the installer

Refer to the IPC-2 PA-DSS Implementation/Integration Guide for instructions – in particular Appendix 3 –IPC Installation Guide

When installation is complete, the IPC-2 installer will have created a YESEFT folder in your selected location.

2.2.2 Configure IPC-2

Run the IPC-2 configuration tool, YESEFTConfig.bat, and change default configuration settings as required e.g. pinpad type, pinpad connection port, socket ports, receipt ports, print merchant receipt etc

At this point the Reference YESEFT directory is complete.

Please note that it is important that the Reference YESEFT directory on the reference till is never configured with test, or live MID/TID details. It should never be progressed beyond step 2.2.2.

2.2.3 Validate the IPC-2 Reference Build

To validate the build you will require a second test till i.e. a machine different to the one on which the reference build has been created. For ease of reference this till shall be referred to as the secondary till.

This validation process requires that the till be connected to a test TID to prove that all IPC-2 components and parameters are set correctly and IPC-2 is able to initialise and complete a transaction.

To complete the steps to validate the reference build you will require

- a pinpad powered up and connected to the secondary till
- internet connectivity to be available to secondary till on the following urls

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

<https://194.72.158.227/soap/servlet/rpcrouter>

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

<https://80.69.5.198/soap/servlet/rpcrouter>

2.2.4 Copy the YESEFT Reference directory to the secondary till

- For integration testing you will have been supplied with a test 'terminal.emv.properties' file by your Worldpay contacts. Copy this file into the YESEFT directory you have now created on the secondary till
(Note: this step is required only because we will be working with a test TID in this process. This step is not required for production installation of IPC-2)
- Configure IPC-2 for the test EMBOSS MID and TID by running EMBOSS-Setup.bat. For a scripted installation process use EMBOSS-Setup-NC.bat.
- Use StartPOSServer.bat to start IPC-2



- d) this will cause IPC-2 to contact the Worldpay Payment Hub service and pull down centrally held configuration details for that TID. If all is well, IPC-2 will initialise successfully.

Note: because this instance of IPC-2 is configured with test MID/TID you are likely to run into a problem with 'Multiple Terminal Installation' which causes IPC-2 to fail to initialise. This problem happens because, for security considerations, IPC-2 is built not to allow the same TID to be configured on more than one client machine. Whilst this is desirable for live TIDs, it causes a problem with test TIDs, of which there are a finite number, and multiple teams could be using the same one. To get around this issue for test TIDs only, we have developed a process that will allow IPC-2 to initialise even if the TID is in use elsewhere. To workaround this issue please follow the steps detailed in the Appendix 1.

- e) Test IPC-2 on the secondary till by performing a few card transactions e.g. a sale and refund with Chip card for online approval, a Sale and Refund with a contactless card. There is no requirement for exhaustive testing of transactions at this stage.

If testing reveals a problem with the Reference build, go back to Step 2.2.2, change the configuration as required, and repeat the succeeding steps.

- f) Once the Reference build correct, zip the YESEFT directory from the reference till and copy to all of the tills in the estate (renaming any previously existing YESEFT directory to a backup name)



3 Using the Reference Build in Production

Once the Reference build is present on all the tills, the remaining step is to configure each IPC-2 installation with its unique MID/TID details (as below). This step is performed when the till is ready to go live.

Pre-requisites for a successful installation are

- a pinpad powered up and connected to the production till
- the till must have connectivity to the urls detailed in section 2.2.3.

This is because on the first startup IPC-2 connects to the Worldpay Payments Hub to pull down files containing information unique to its identity. It cannot complete first-time initialisation without those files.

3.1 Configure the IPC-2 instance with its unique MID/TID

This is using done using EMBOSS-Setup.bat, or for a scripted installed, use EMBOSS-SETUP-NC.bat

Please note that the MID you will use at this stage is the EMBOSS MID supplied by YESpay. This is separate to the outlet/store MID which is supplied to you by the acquirer. The acquirer MID is not relevant at this stage and should not be used. If you have any queries please discuss with your Worldpay contact.

3.2 Start the IPC-2 application

This will cause IPC-2 to connect with the pinpad and also to contact the Worldpay Payments Hub and pull down centrally held configuration details for that TID.

IPC-2 will then initialise and be ready to perform card transactions.



4 Appendix 1

When working with test MID/TIDs you are likely to run into a problem with 'Multiple Terminal Installation' which causes IPC-2 to fail to initialise. This problem happens because, for security considerations, IPC-2 is built not to allow the same TID to be configured on more than client machine. Whilst this is desirable for live TIDs, it causes a problem with test TIDs, of which there are a finite number, and multiple teams could be using the same one. To get around this issue for test TIDs only, we have developed a process that will allow IPC-2 to initialise even if the TID is in use elsewhere. To workaround this issue please follow the steps below

- a) Copy all the files present in C:\YESEFT\CommonFiles\conf folder and paste these files in C:\YESEFT\conf folder. There are 2 files
- b) Copy all the files **except instance.properties** present in C:\YESEFT\CommonFiles\properties folder and paste the files in C:\YESEFT\properties folder. There are 3 files.
- c) Run StartPOSServer.bat file to start IPC-2.

Note: This workaround works for test TIDs only. If you attempt it for a live TID it will cause IPC-2 to become non-functional. If you take the step of scripting this workaround whilst working with test TIDs please ensure that the script is not carried forward into the production environment