ZenLPR

License Plate Recognition System

ZenLPR™

BY VEER

INSTALLATION GUIDE

June 2018

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DOCUMENT HISTORY CHANGE

This section provides a summary of the various proposal versions with a list of changes within each version.

Version	Change Log
0.1	First Draft
0.2	Second Draft

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1- INTRODUCTION

1.1 Overview

This document is provided to serve as a guide for the full installation of ZenLPR™ and all its related components.

1.2 Purpose

The main purpose of this document is to reduce any possible manipulation mistakes, errors and misinterpretations during the software installation phase by the integration team.

1.3 Scope

This document covers the installation of ZenLPR™ and ARH Carmen FreeFlow™

1.4 Out of Scope

This document does not cover:

- Any 'third party' software mentioned in the pre-requisite
- Milestone™ Installation & Configuration
- Microsoft SQL Server™ Installation & Configuration
- Server Configuration
- Network communication
- Acceptance procedures
- Validation procedure
- Technical environment

Should any further information about the above topics be needed, please refer to the 'reference document' mentioned below (Section 3.2)

1.5 General Principles

All deliveries must be compliant with the '*Project's System Requirements*' *provided by the technical team (*Hardware resources*,* Operating system*,* System architecture …). *Whilst* at the same time respecting the operating methods and conditions.

Contractors have to be able to distinguish between a 'full installation' and a 'patch delivery installation'. It is worth noting that an update installation is different than a full system deployment in terms of procedures, any wrongful installation falls under the contractor's reliability. All deliveries must contain a 'Release Note Document' & and 'Installation Procedure'. Please refer to the latest version of the above-mentioned document for complete detailed information, where each software release has its own "Release Note Document" with the respective updated "Installation Document".

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2 INSTALLATION MANUAL

2.1 Pre-requisites

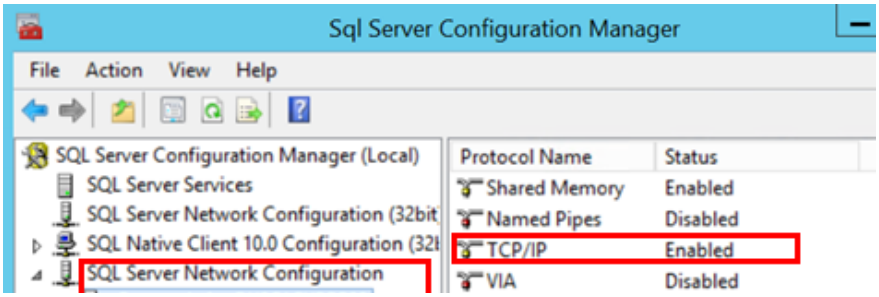
- **Operating System**:
  Windows Server 2012 or above, Windows 8 or above
- **Database:**
  Microsoft SQL Server 2012 or above (server edition is dependent on the size of the project, the number of simultaneous connections, and the data retention period effecting the database size)
  For more information, please check SQL SERVER website (https://www.microsoft.com/en-us/sql-server/sql-server-2017-editions)
- **System Requirements:** ZenLPR™ needs a minimum of 500MB RAM per stream
- **CPU and Storage:** dependent of the project size
- **Milestone version:** Milestone 2016 or above (any milestone version before 2016 is not supported by ZenLPR™)

2.2 Pre-Installation Tasks

Before starting the installation procedure

- A database user must be created as *SYSADMIN*
- SQL Authentication must be enabled

It is worth noting that if SQL Server is on a remote server, *TCP/IP* protocol should be enabled https://docs.microsoft.com/en-us/sql/database-engine/configure-windows/configure-a-server-to-listen-on-a-specific-tcp-port)



Before moving to the next step, make sure the machine has connectivity to the Milestone Management server and has connectivity to the SQL Server (in case it was on a remote server).

In case of a distributed LPR architecture, you will have many processing servers for LPR. ARH Carmen FreeFlow™ engine should be installed on all LPR Recognition servers. Installation of Carmen FreeFlow™ is found on section (Section 3.3) of this document Carmen FreeFlow™ Installation.

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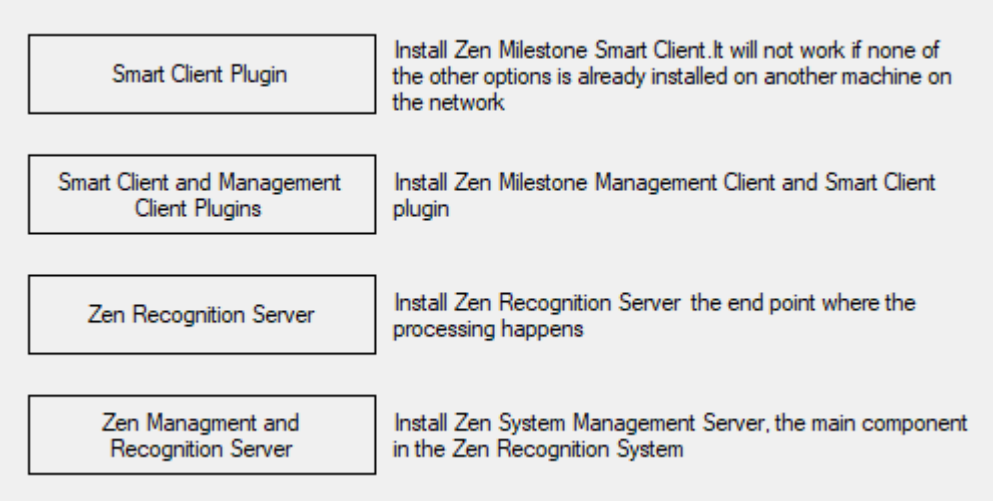
2.3 Installation Procedure

The installation procedure is divided into 4 categories: Client, Administration, Management, and Recognition.



- **Smart Client Plugin** helps monitor the recognition streams and get the history of past results
- **Smart Client and Management Client Plugin** is used to manage the System
- **Zen Recognition Server** (Standalone system) is the processing engine of ZenLPR™, taking advantage of the distributed processing capabilities.
- **Zen Management and Recognition Server** (standalone system) is used to activate and orchestrate the recognition servers' functionalities sharing some functionalities with the management

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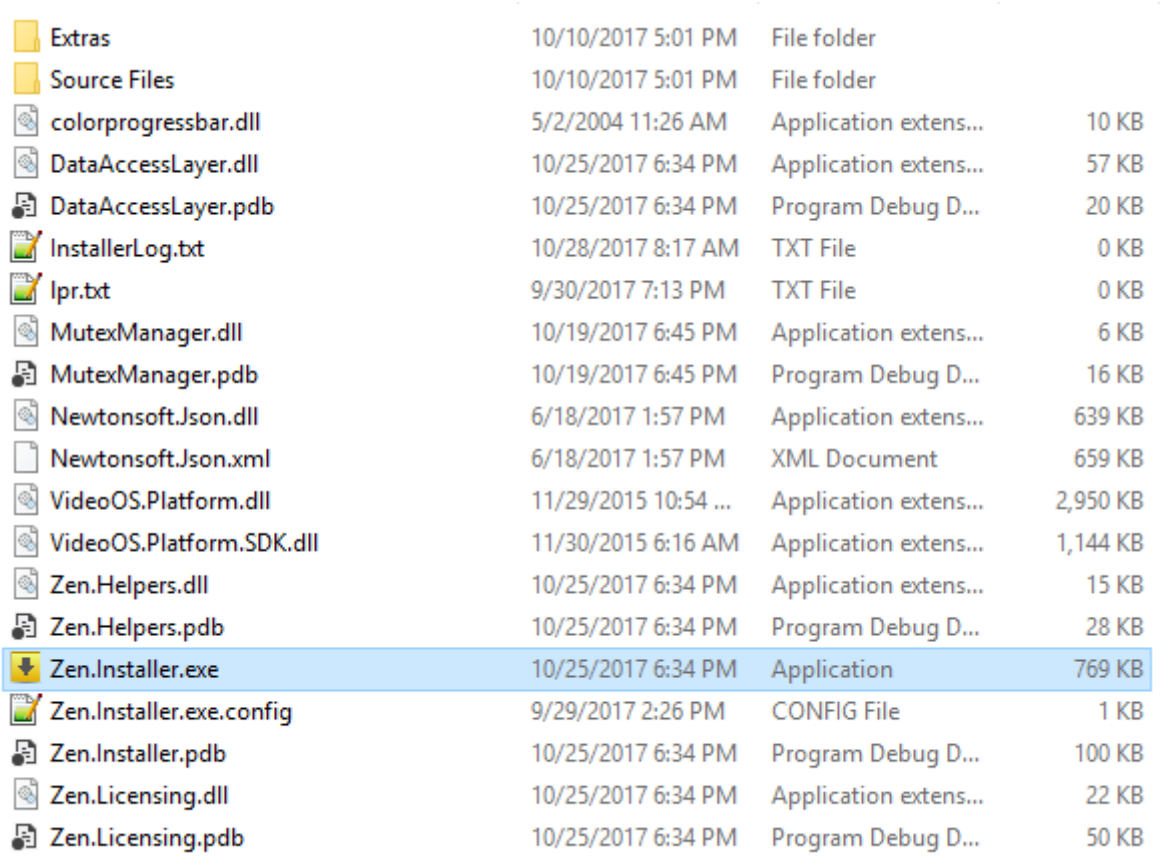
2.3.1 Installing Administration

1- Navigate to the ZenLPR™ Installation folder and double click on Zen.Installer



Extras	10/10/2017 5:01 PM	File folder	
Source Files	10/10/2017 5:01 PM	File folder	
colorprogressbar.dll	5/2/2004 11:26 AM	Application extens...	10 KB
DataAccessLayer.dll	10/25/2017 6:34 PM	Application extens...	57 KB
DataAccessLayer.pdb	10/25/2017 6:34 PM	Program Debug D...	20 KB
InstallerLog.txt	10/28/2017 8:17 AM	TXT File	0 KB
lpr.txt	9/30/2017 7:13 PM	TXT File	0 KB
MutexManager.dll	10/19/2017 6:45 PM	Application extens...	6 KB
MutexManager.pdb	10/19/2017 6:45 PM	Program Debug D...	16 KB
Newtonsoft.Json.dll	6/18/2017 1:57 PM	Application extens...	639 KB
Newtonsoft.Json.xml	6/18/2017 1:57 PM	XML Document	659 KB
VideoOS.Platform.dll	11/29/2015 10:54 ...	Application extens...	2,950 KB
VideoOS.Platform.SDK.dll	11/30/2015 6:16 AM	Application extens...	1,144 KB
Zen.Helpers.dll	10/25/2017 6:34 PM	Application extens...	15 KB
Zen.Helpers.pdb	10/25/2017 6:34 PM	Program Debug D...	28 KB
Zen.Installer.exe	10/25/2017 6:34 PM	Application	769 KB
Zen.Installer.exe.config	9/29/2017 2:26 PM	CONFIG File	1 KB
Zen.Installer.pdb	10/25/2017 6:34 PM	Program Debug D...	100 KB
Zen.Licensing.dll	10/25/2017 6:34 PM	Application extens...	22 KB
Zen.Licensing.pdb	10/25/2017 6:34 PM	Program Debug D...	50 KB

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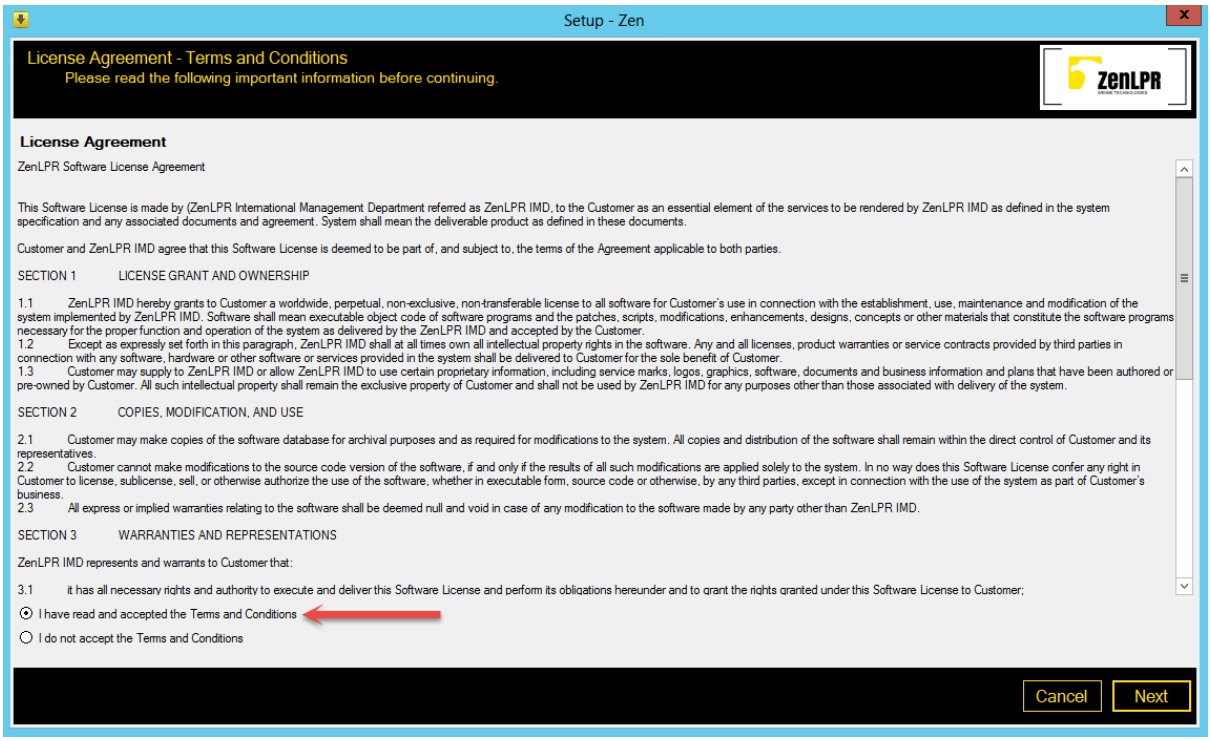
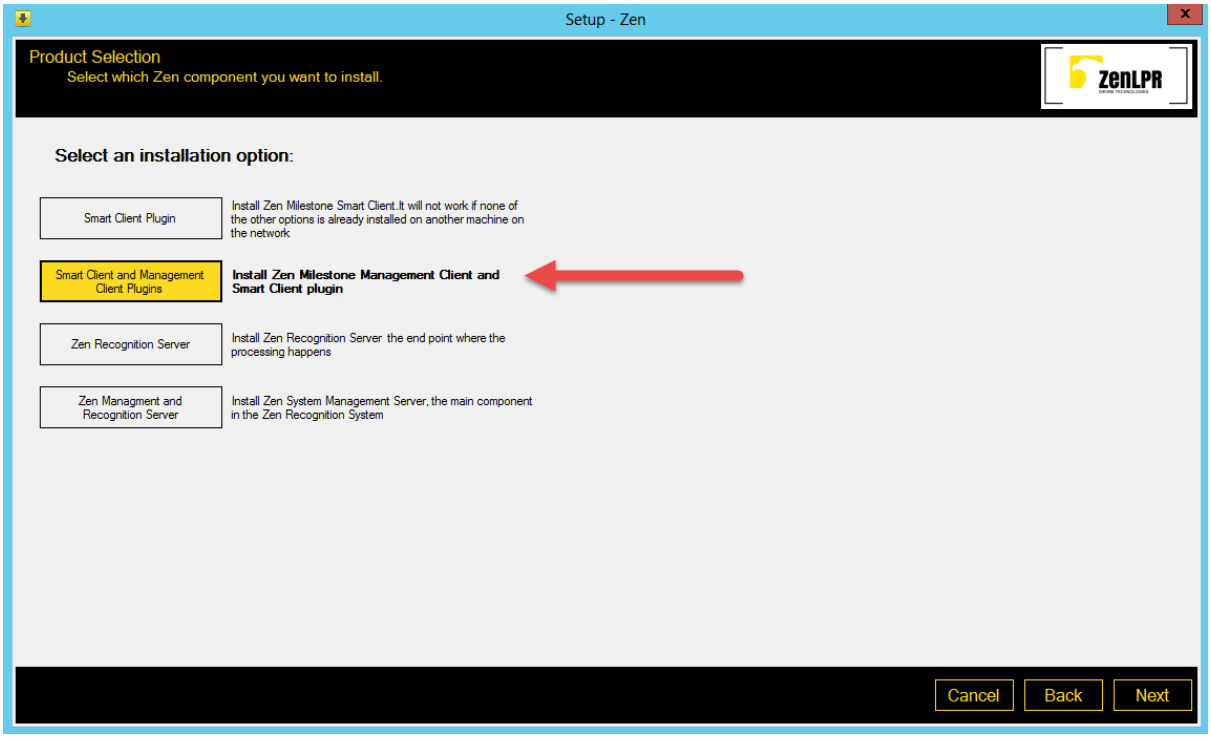
2- Read the License Agreement Carefully and if you agree, select the radio button “I have read and accepted the Terms and Conditions” then click on Next at the bottom right of the form



3- Select the “*Smart Client and Management Client Plugins*” button, then click on Next at the bottom right of the form (Smart client and management client plugins should be the first to be installed)



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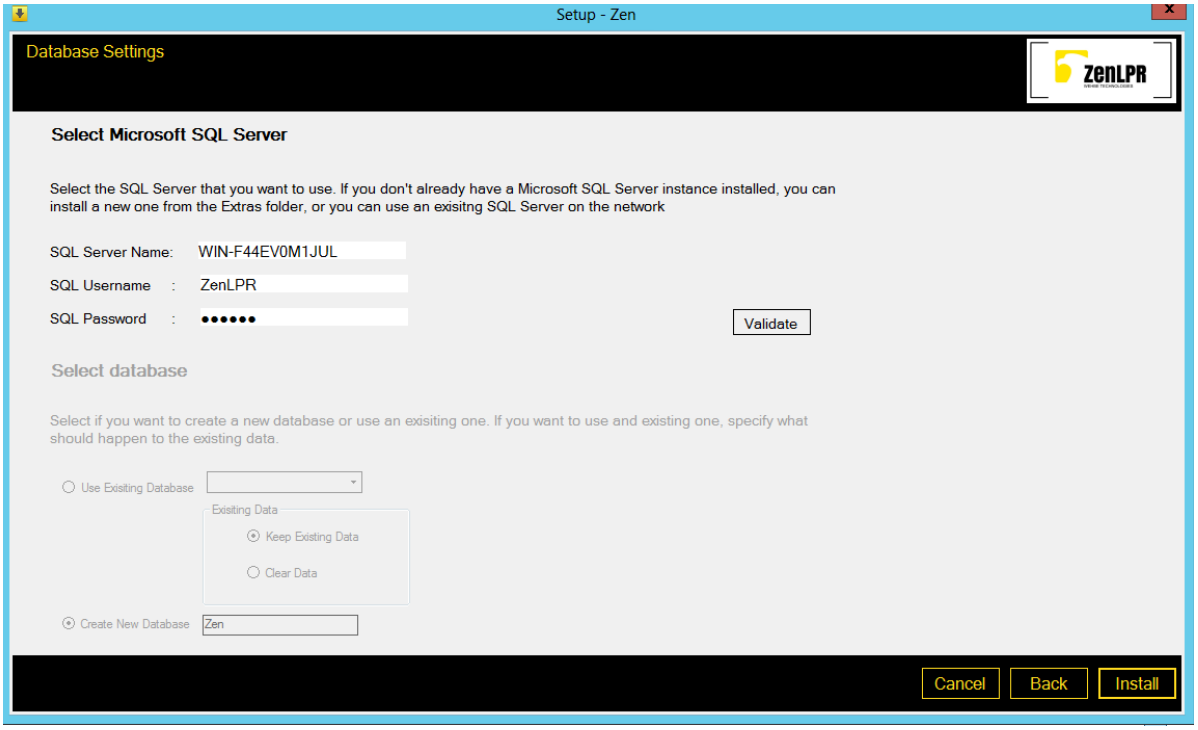
4- Fill in the **SQL Server name** and instance name

In this case, we are using the default SQL Instance (MSSQLSERVER), which means we don't have to add it. However, in the SQL server name we can fill: "\MSSQLSERVER", then the SQL User and password, mentioned in section 2.2 Pre-Installation Tasks page 6 and click Validate to check connectivity with the server.



Note that If the connection is successful then the Database selection is enabled, otherwise you will receive an error message indicating the error

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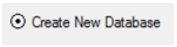
5- Selecting or creating database

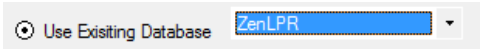
In case you are installing ZenLPR™ for the first time

- select “Create New Database” 

- fill the name of the database to be created.

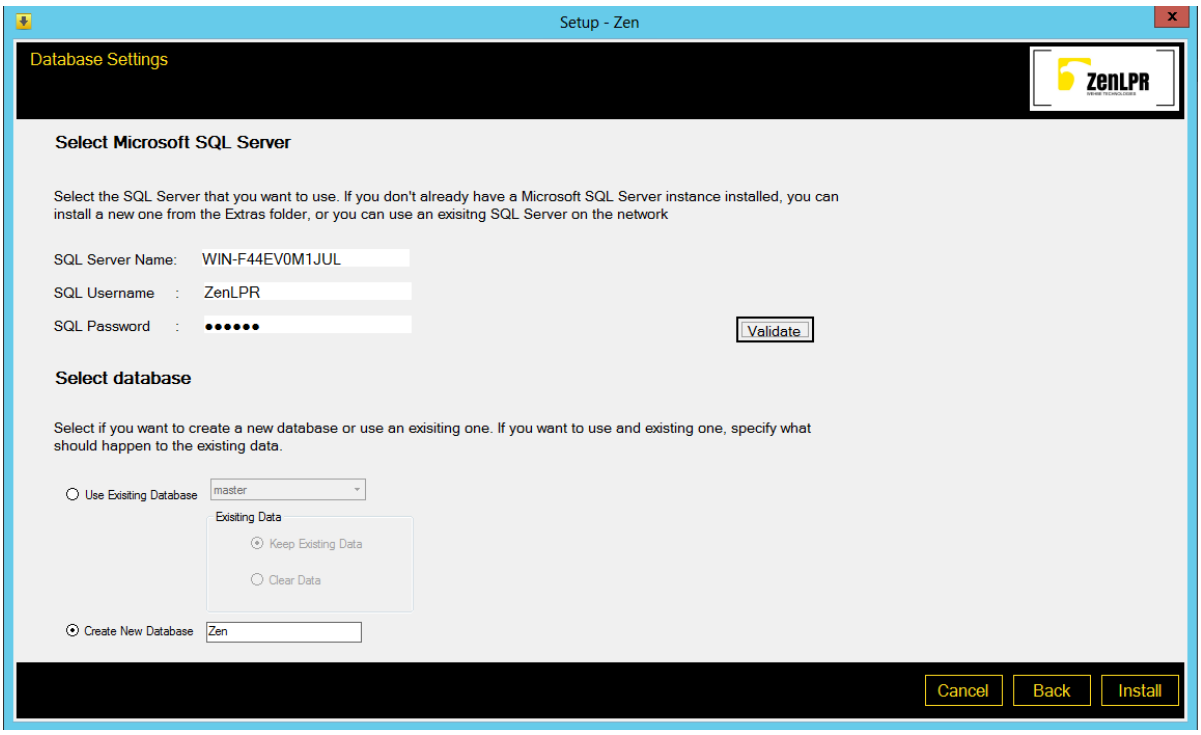
If the database already exists and is compatible with this version V5.0.1

- select “Use Existing Database”
- choose the already existing database from the drop down



If this is an installation of another component (refer to section 2.3.1 page 7) in the same system then select the existing database.

Once you are done with the database connectivity and credentials, click



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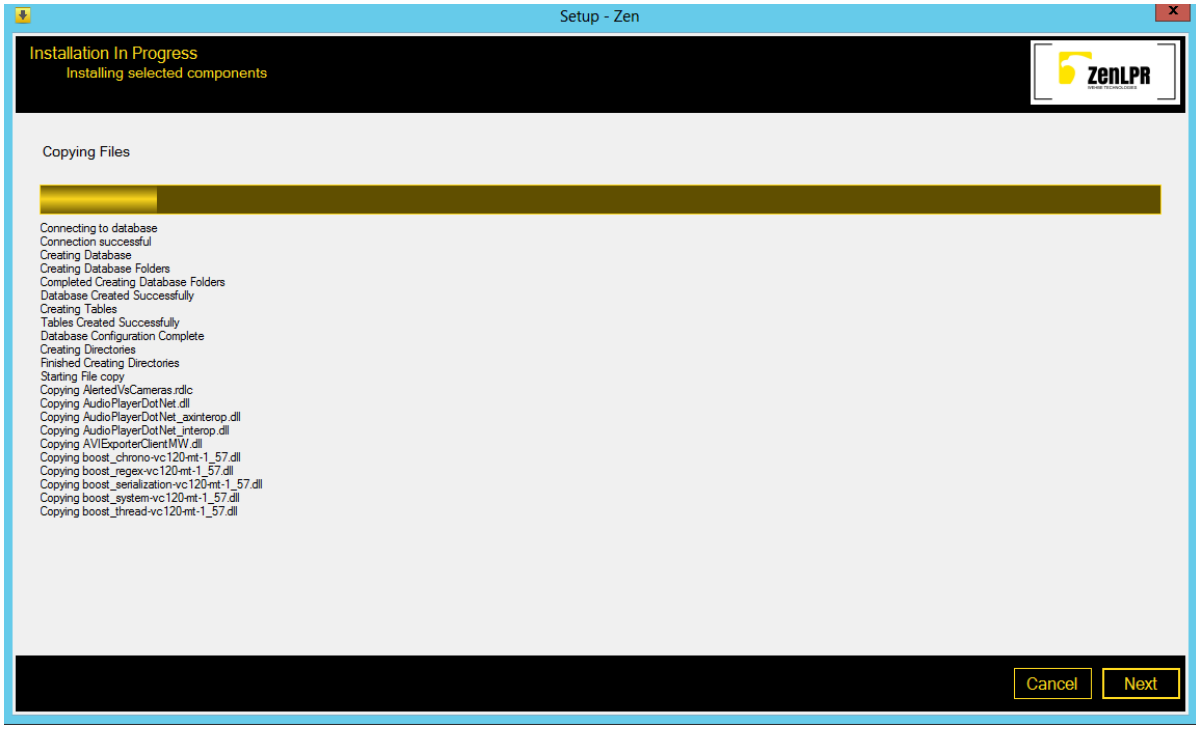
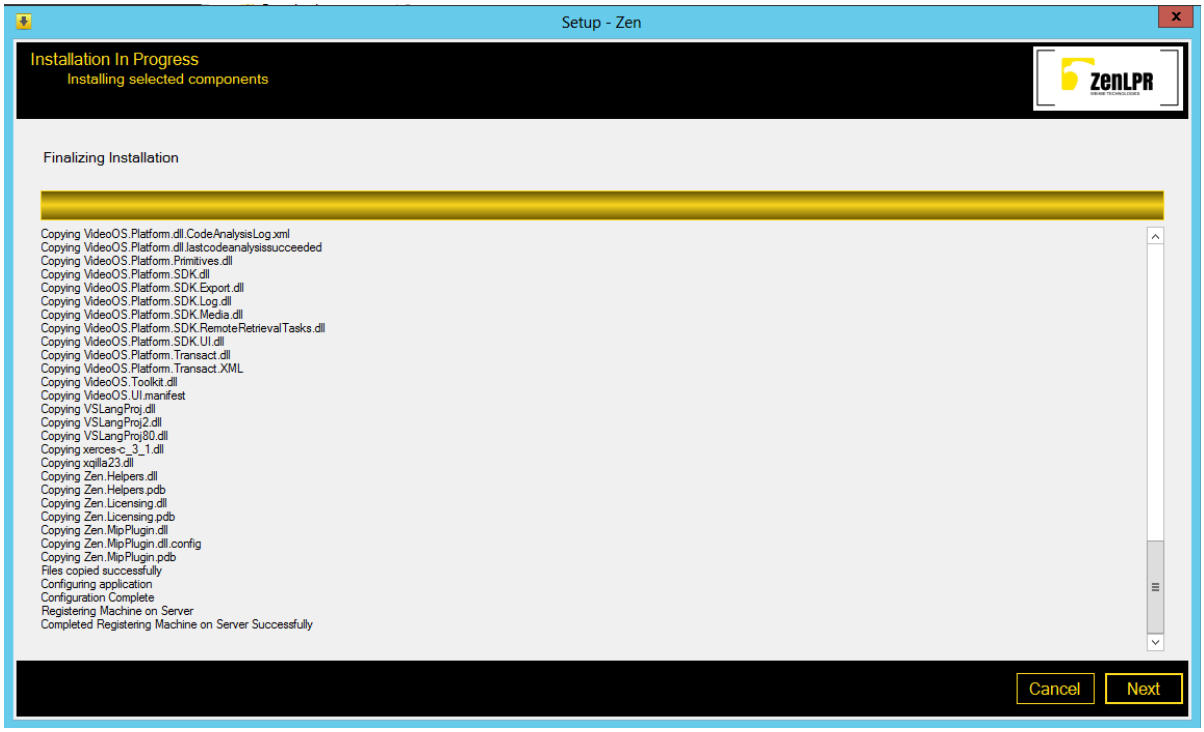
6- When the Installation starts, you will have the below progress bar, wait until all components are done



7- Once completed (progress bar completely filled) click Next



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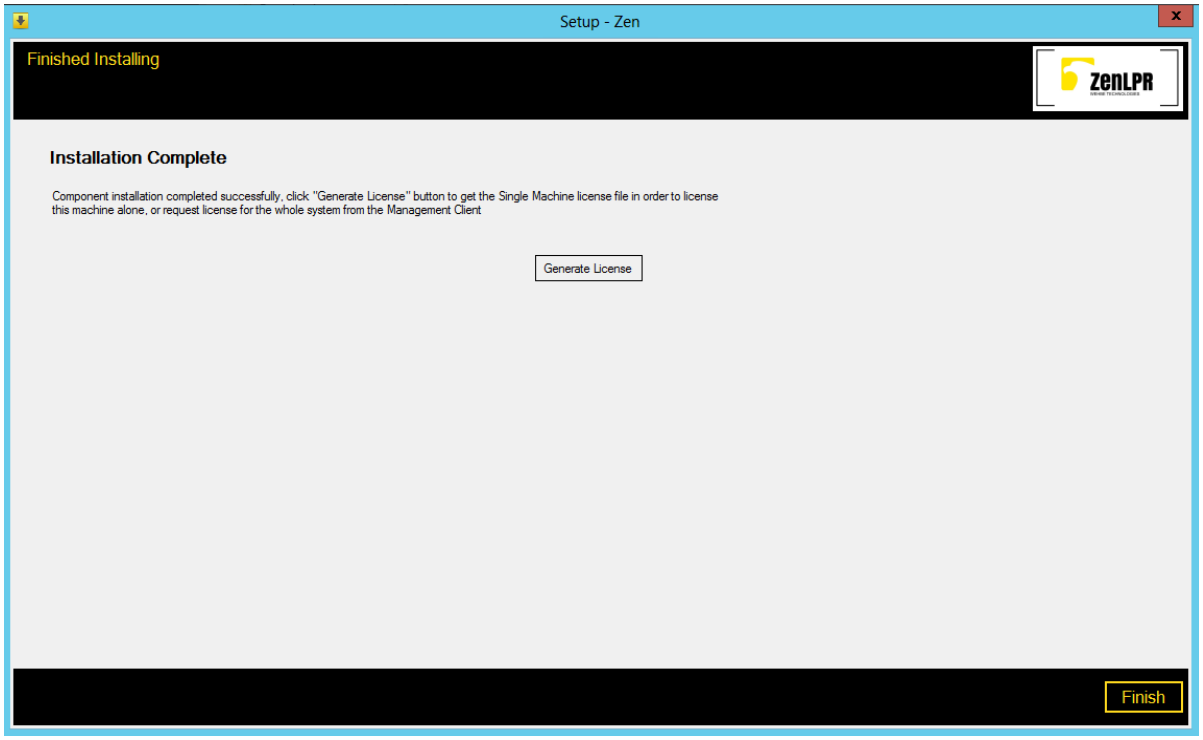
8- If this machine is an added device to a previously existing licensed system then Hit Generate License to generate a request file (e.g. : XXX.lrq) to be emailed to VEER in order to receive the needed License to be activated on this machine for a full operation. Then click Finish.



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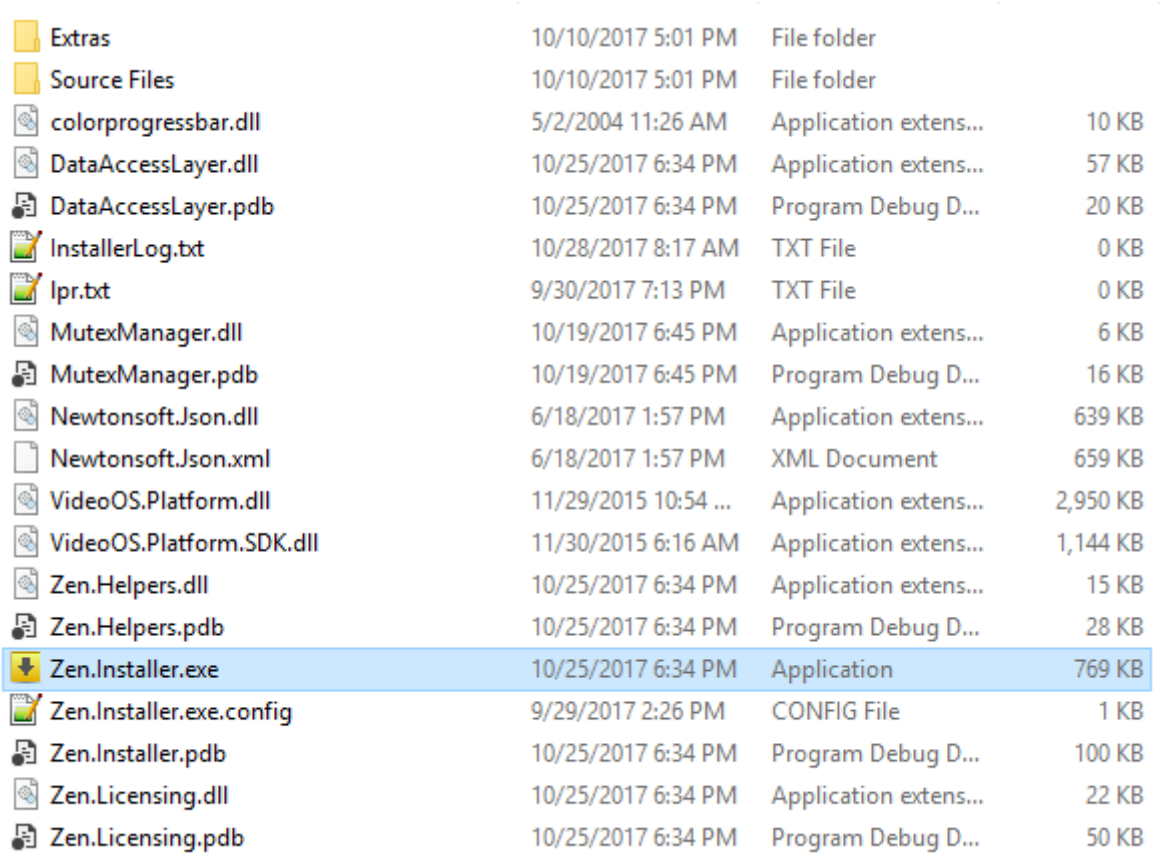
2.3.2 Installing Client

1- Navigate to ZenLPR™ Installation folder and double click on Zen.Installer



Extras	10/10/2017 5:01 PM	File folder	
Source Files	10/10/2017 5:01 PM	File folder	
colorprogressbar.dll	5/2/2004 11:26 AM	Application extens...	10 KB
DataAccessLayer.dll	10/25/2017 6:34 PM	Application extens...	57 KB
DataAccessLayer.pdb	10/25/2017 6:34 PM	Program Debug D...	20 KB
InstallerLog.txt	10/28/2017 8:17 AM	TXT File	0 KB
lpr.txt	9/30/2017 7:13 PM	TXT File	0 KB
MutexManager.dll	10/19/2017 6:45 PM	Application extens...	6 KB
MutexManager.pdb	10/19/2017 6:45 PM	Program Debug D...	16 KB
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VideoOS.Platform.SDK.dll	11/30/2015 6:16 AM	Application extens...	1,144 KB
Zen.Helpers.dll	10/25/2017 6:34 PM	Application extens...	15 KB
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Zen.Installer.exe	10/25/2017 6:34 PM	Application	769 KB
Zen.Installer.exe.config	9/29/2017 2:26 PM	CONFIG File	1 KB
Zen.Installer.pdb	10/25/2017 6:34 PM	Program Debug D...	100 KB
Zen.Licensing.dll	10/25/2017 6:34 PM	Application extens...	22 KB
Zen.Licensing.pdb	10/25/2017 6:34 PM	Program Debug D...	50 KB

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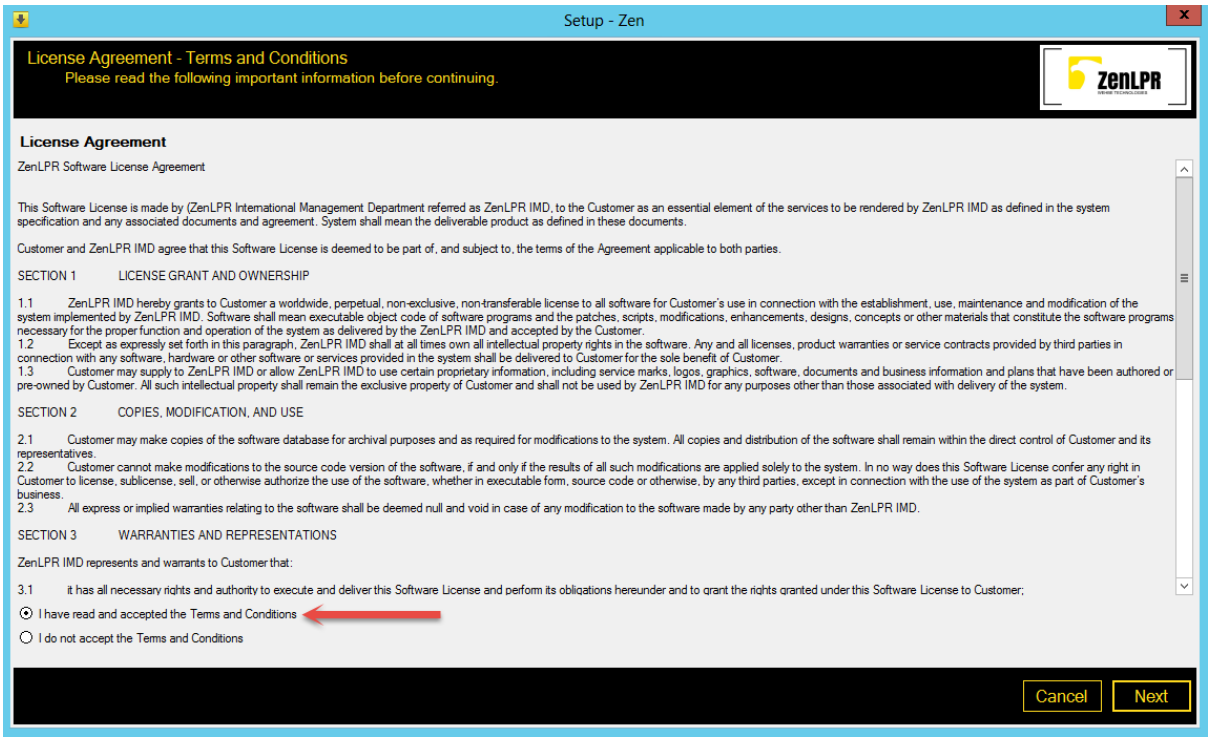
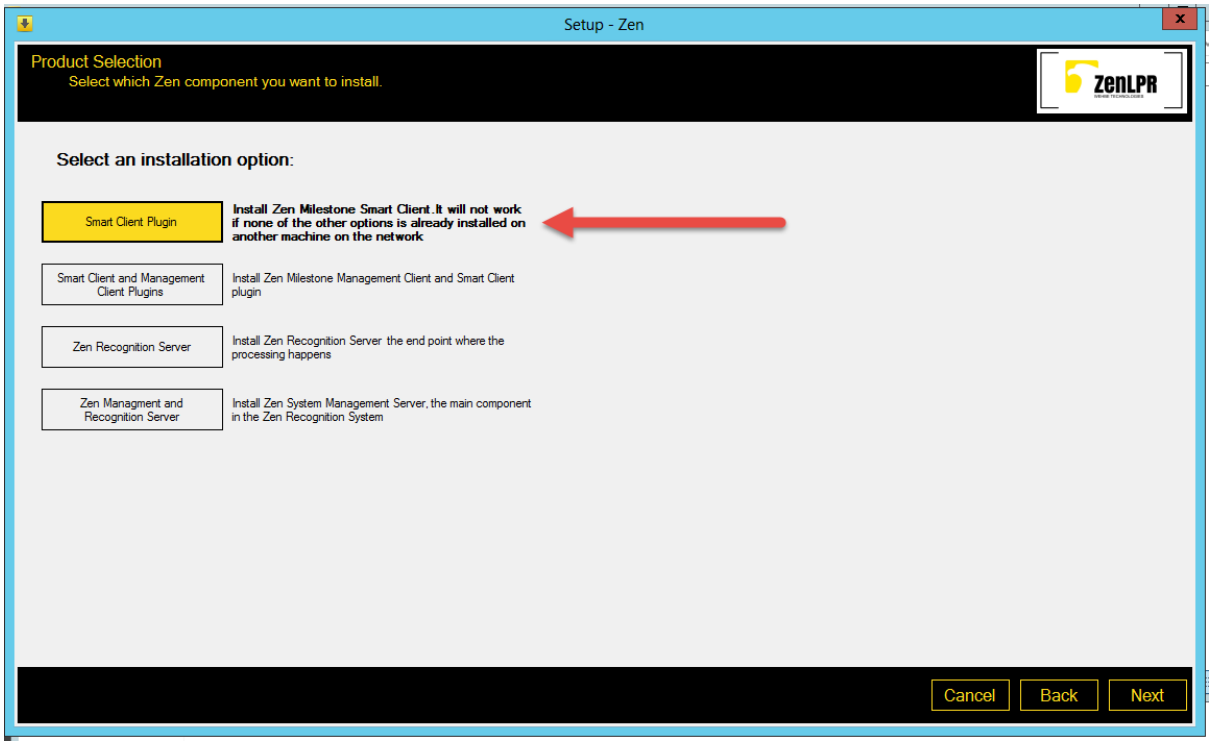
2- Read the License Agreement Carefully and if you agree, select the radio button “I have read and accepted the Terms and Conditions” then click on Next at the bottom right of the form



3- select “*Smart Client Plugin*” and click “next” at the bottom right of the form



4- Select Microsoft SQL Server

- Fill the SQL server name

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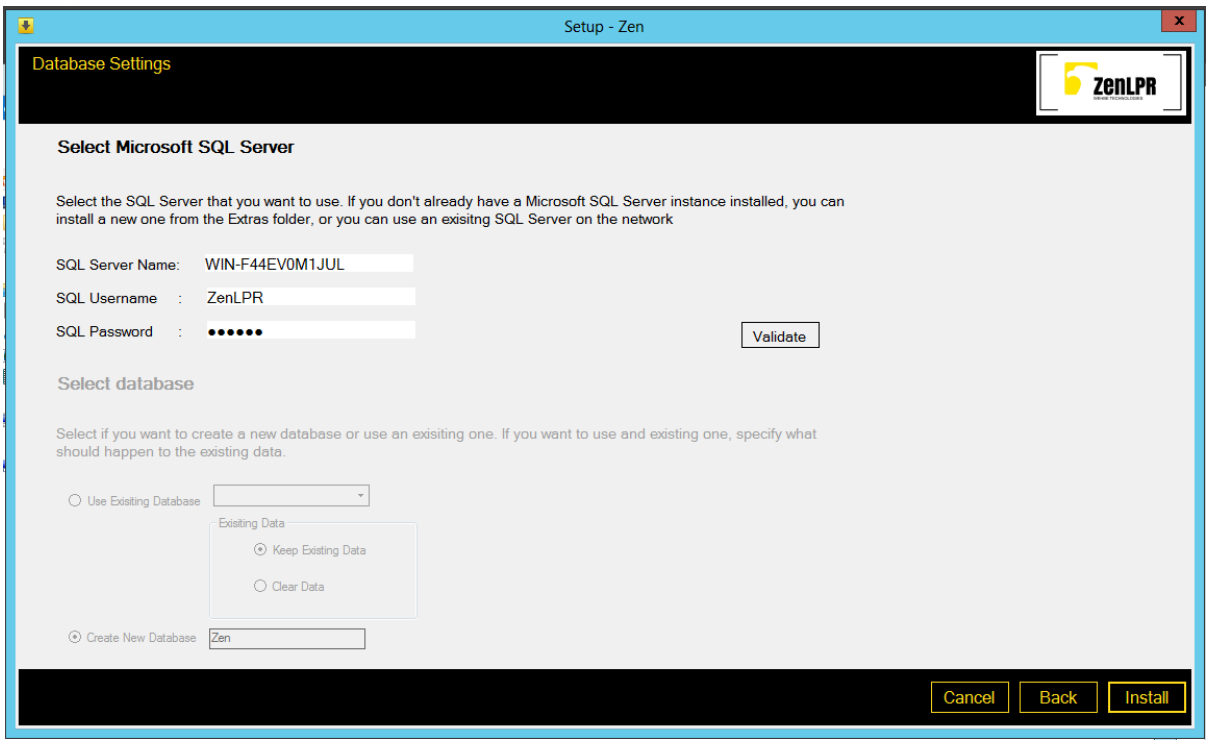
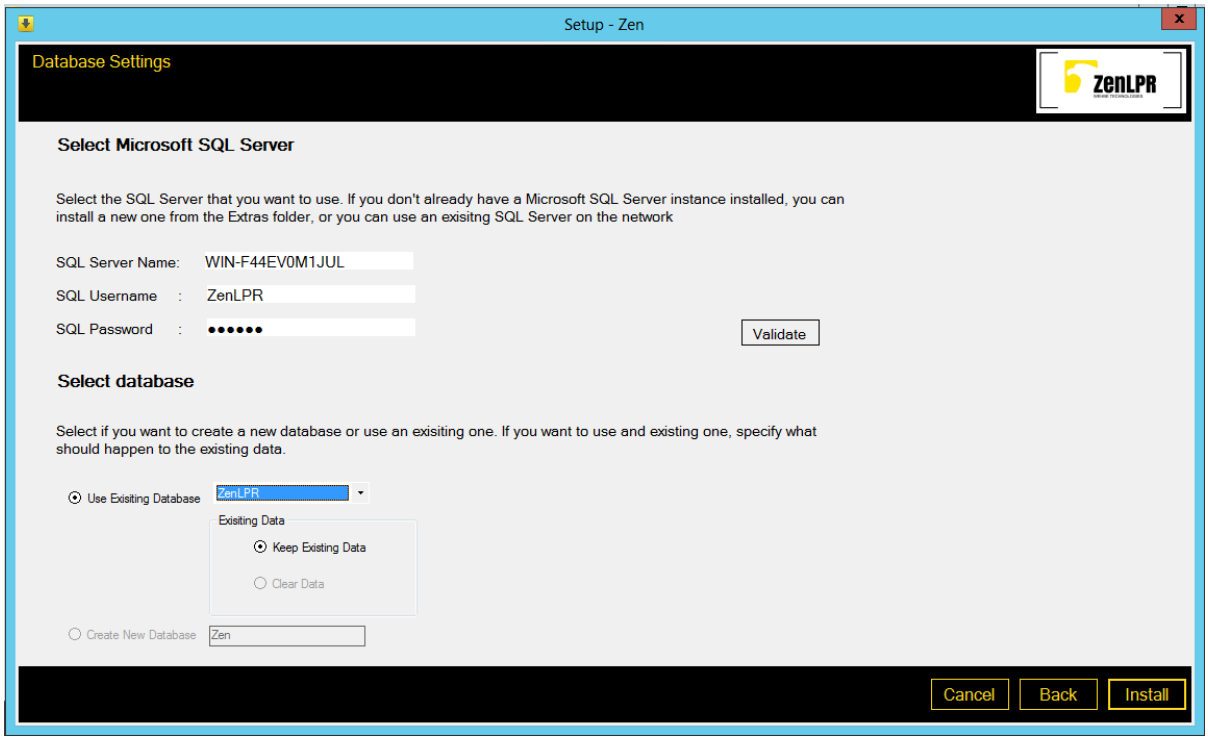
- Fill the SQL Username
- Fill password, mentioned in section 2.2 Pre-Installation Tasks
- click Validate to check connectivity with the server. If connection successful then the Database selection will be enabled



5- In the client installation, only “use existing database” is enabled since administration recognition and management are already installed, select an existing database then click install at the bottom right of the form



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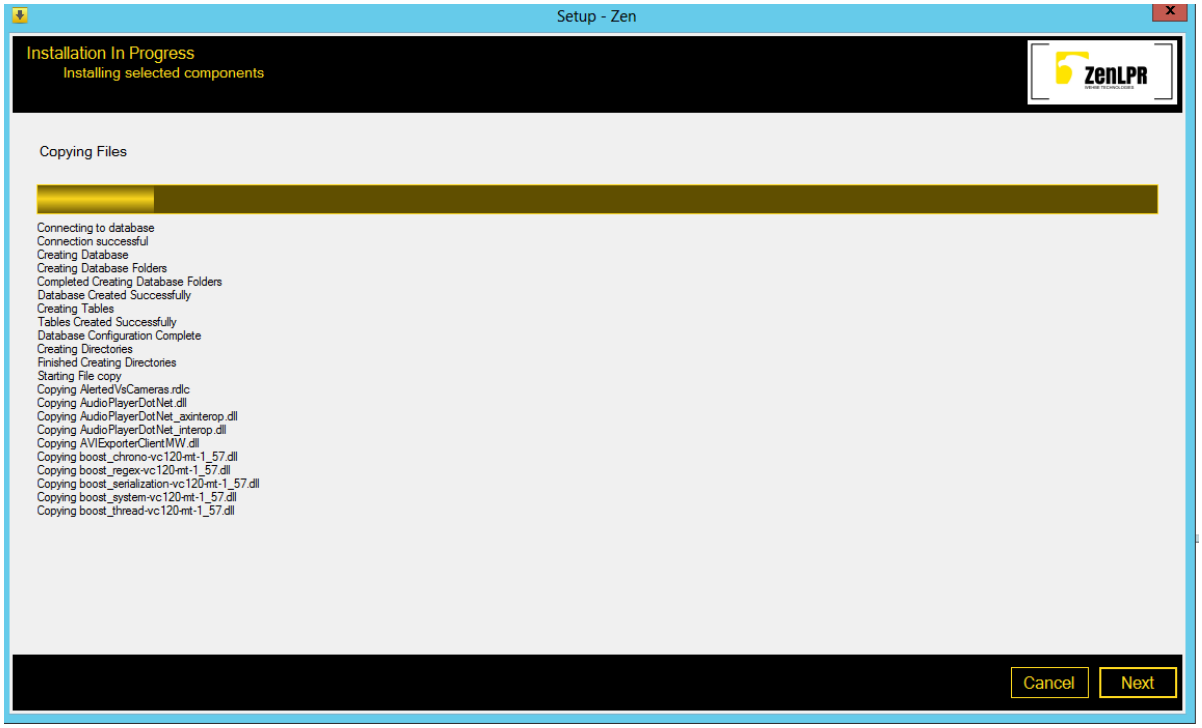
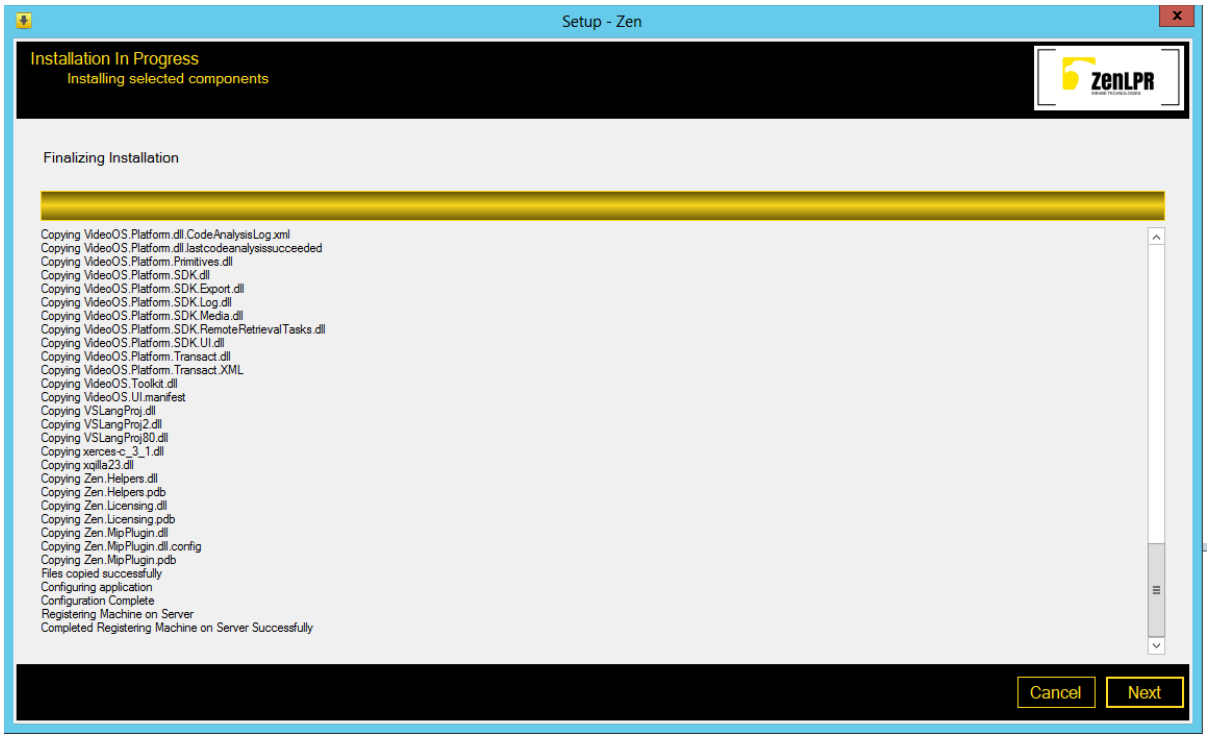
6- When the Installation starts, you will have the below progress bar, wait until all components are done



7- When all components are installed click on next at the bottom right of the form



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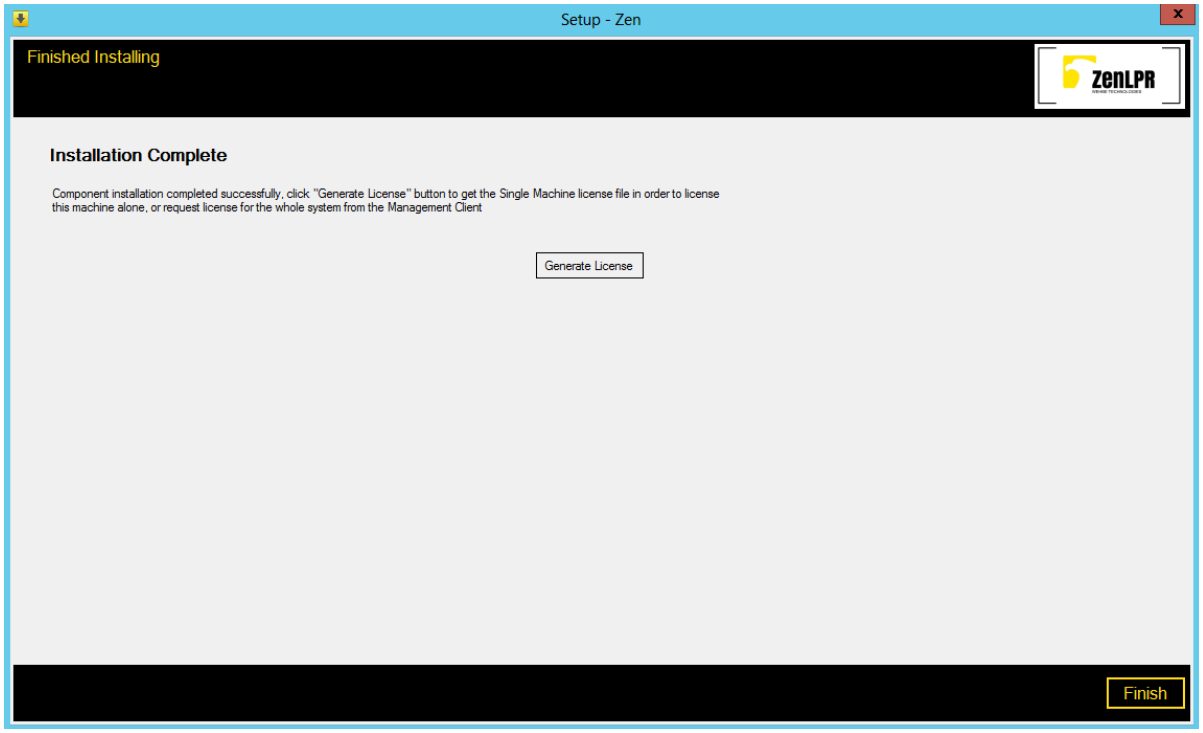
Click finish at the bottom right of the form



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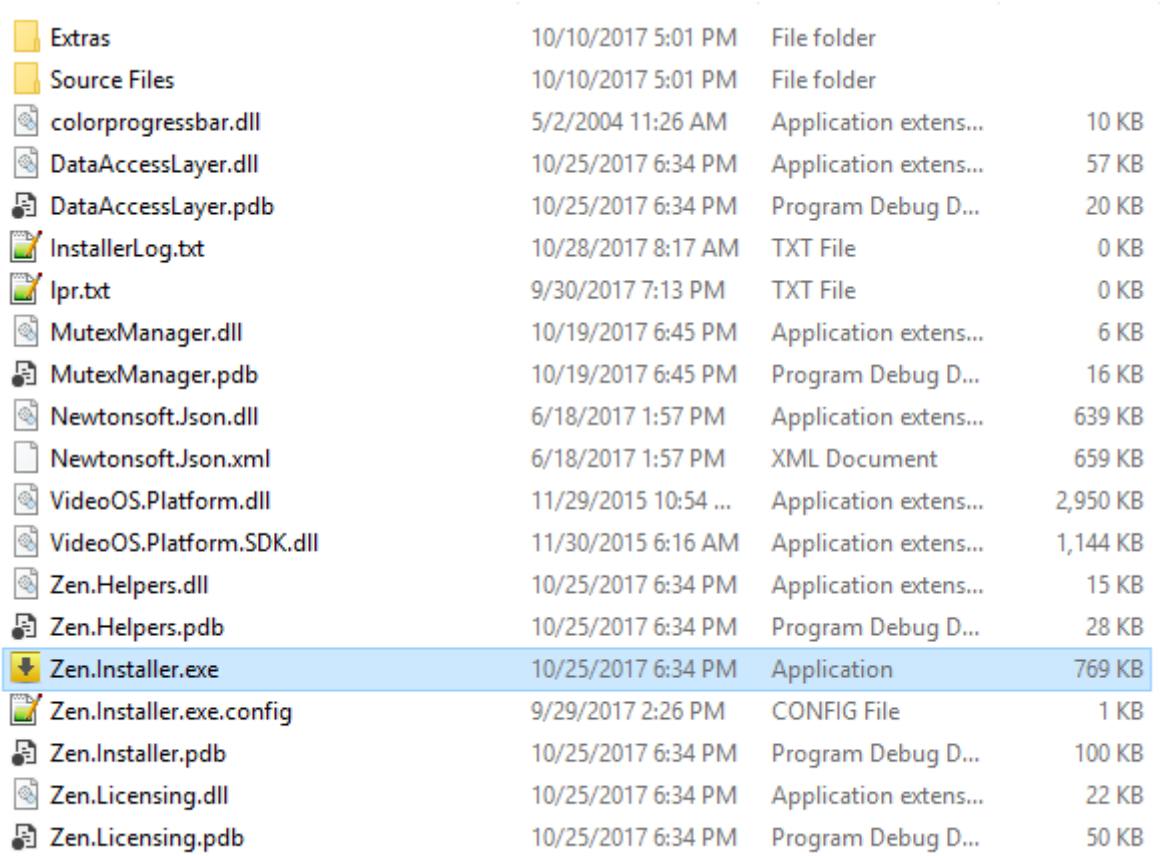
2.3.3 Installing Management

1- Navigate to ZenLPR Installation folder and double click on Zen.Installer



Extras	10/10/2017 5:01 PM	File folder	
Source Files	10/10/2017 5:01 PM	File folder	
colorprogressbar.dll	5/2/2004 11:26 AM	Application extens...	10 KB
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InstallerLog.txt	10/28/2017 8:17 AM	TXT File	0 KB
lpr.txt	9/30/2017 7:13 PM	TXT File	0 KB
MutexManager.dll	10/19/2017 6:45 PM	Application extens...	6 KB
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Newtonsoft.Json.dll	6/18/2017 1:57 PM	Application extens...	639 KB
Newtonsoft.Json.xml	6/18/2017 1:57 PM	XML Document	659 KB
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VideoOS.Platform.SDK.dll	11/30/2015 6:16 AM	Application extens...	1,144 KB
Zen.Helpers.dll	10/25/2017 6:34 PM	Application extens...	15 KB
Zen.Helpers.pdb	10/25/2017 6:34 PM	Program Debug D...	28 KB
Zen.Installer.exe	10/25/2017 6:34 PM	Application	769 KB
Zen.Installer.exe.config	9/29/2017 2:26 PM	CONFIG File	1 KB
Zen.Installer.pdb	10/25/2017 6:34 PM	Program Debug D...	100 KB
Zen.Licensing.dll	10/25/2017 6:34 PM	Application extens...	22 KB
Zen.Licensing.pdb	10/25/2017 6:34 PM	Program Debug D...	50 KB

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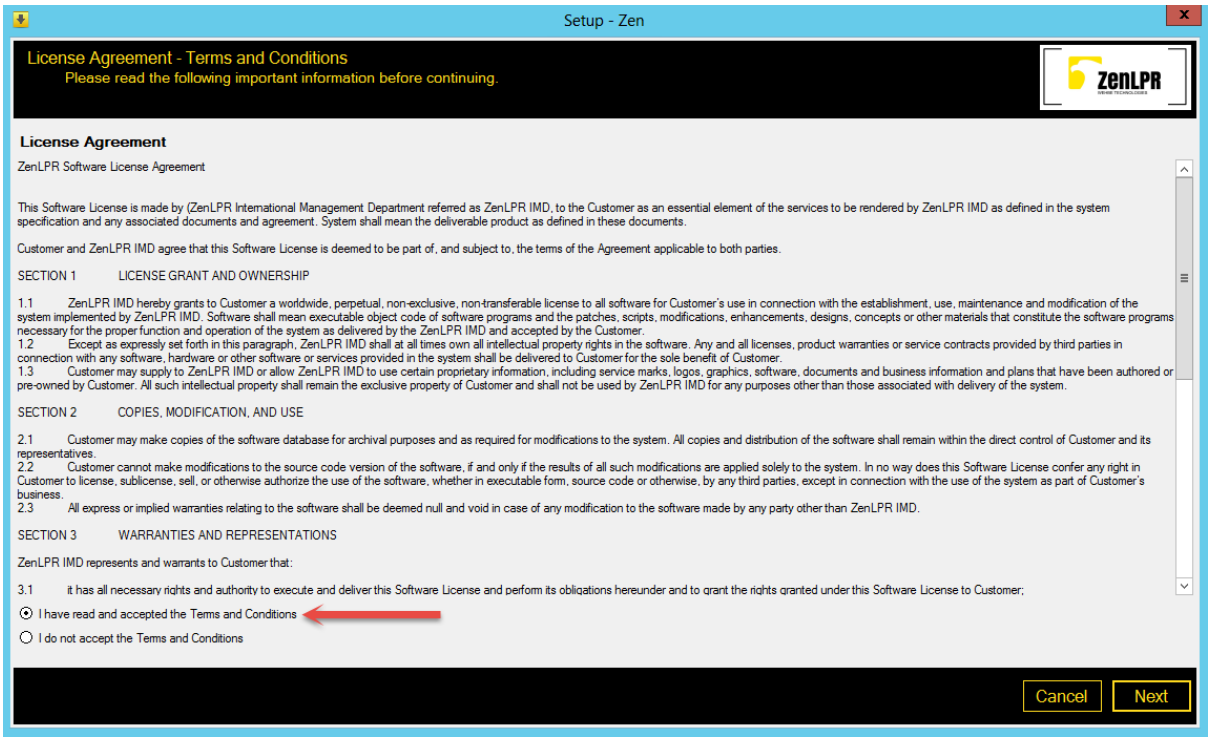
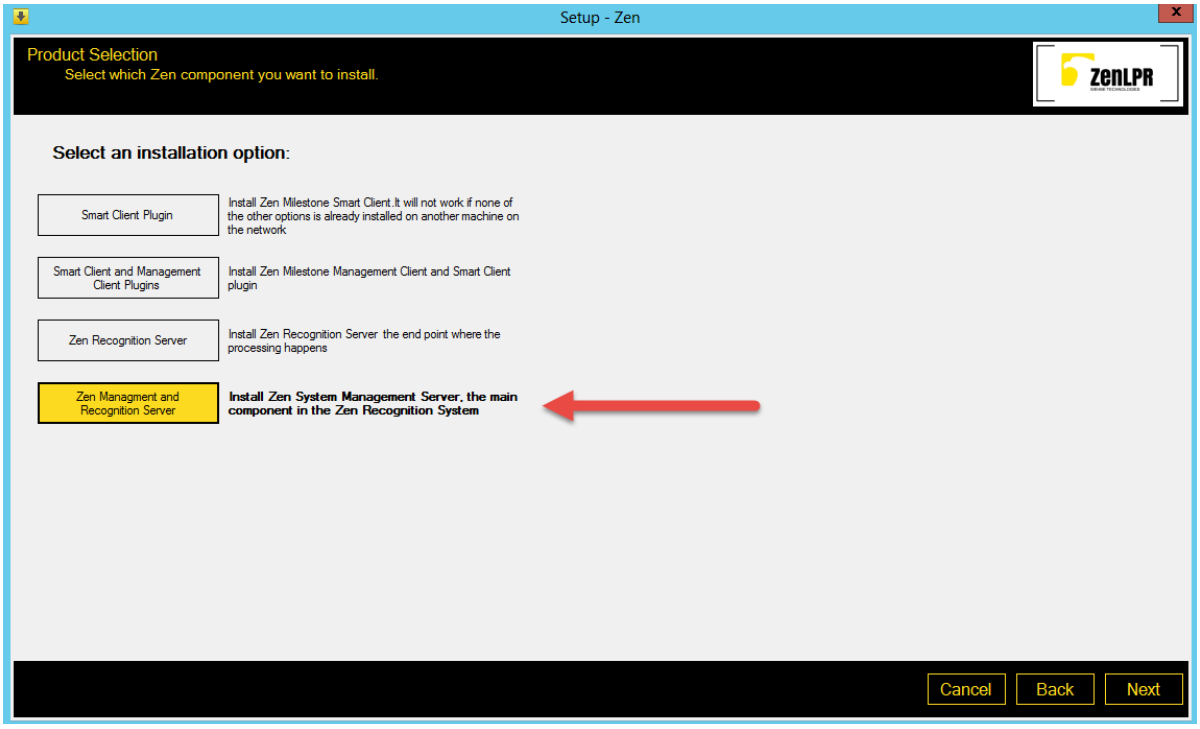
2- Read the License Agreement Carefully and if you agree, select the radio button “I have read and accepted the Terms and Conditions” then click on Next at the bottom right of the form



3- select “*Zen Management and Recognition Server*” then click on Next at the bottom right of the form



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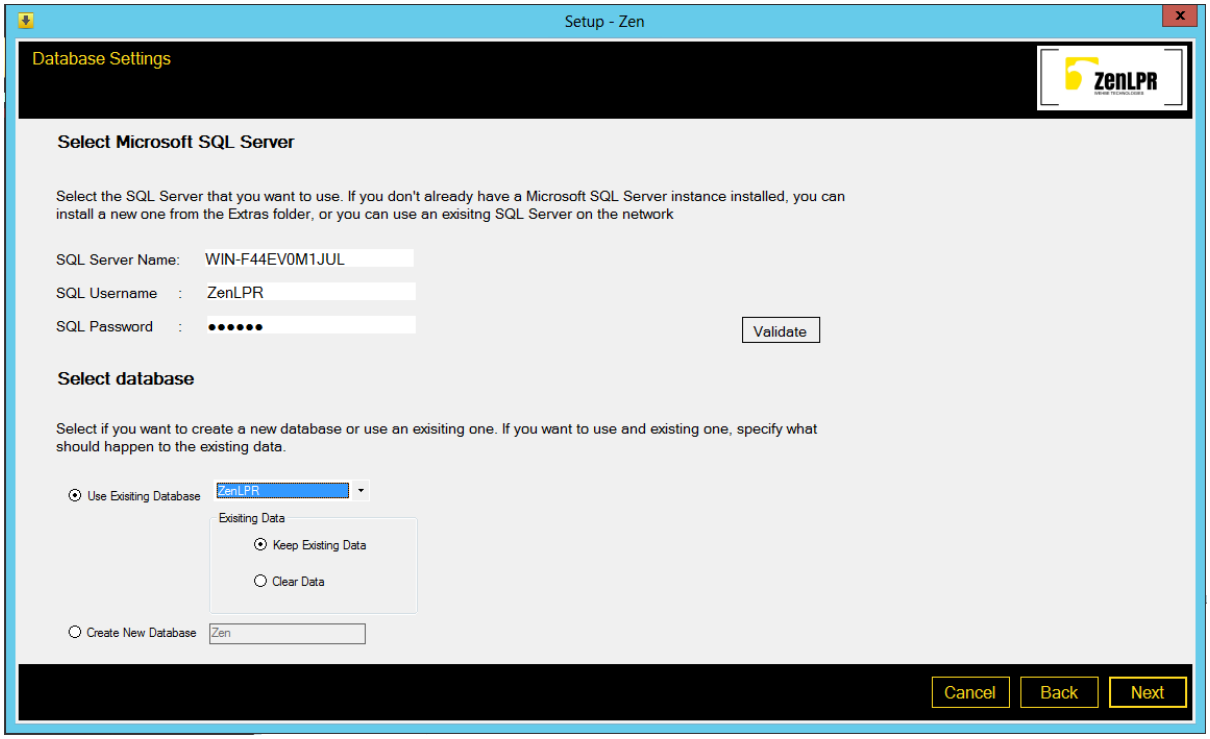
4- Fill in the SQL Server name and instance name, then the SQL User and password, mentioned in section 2.2 Pre-Installation Tasks
Click Validate to check connectivity with the server. If connection successful then the Database selection will be enabled



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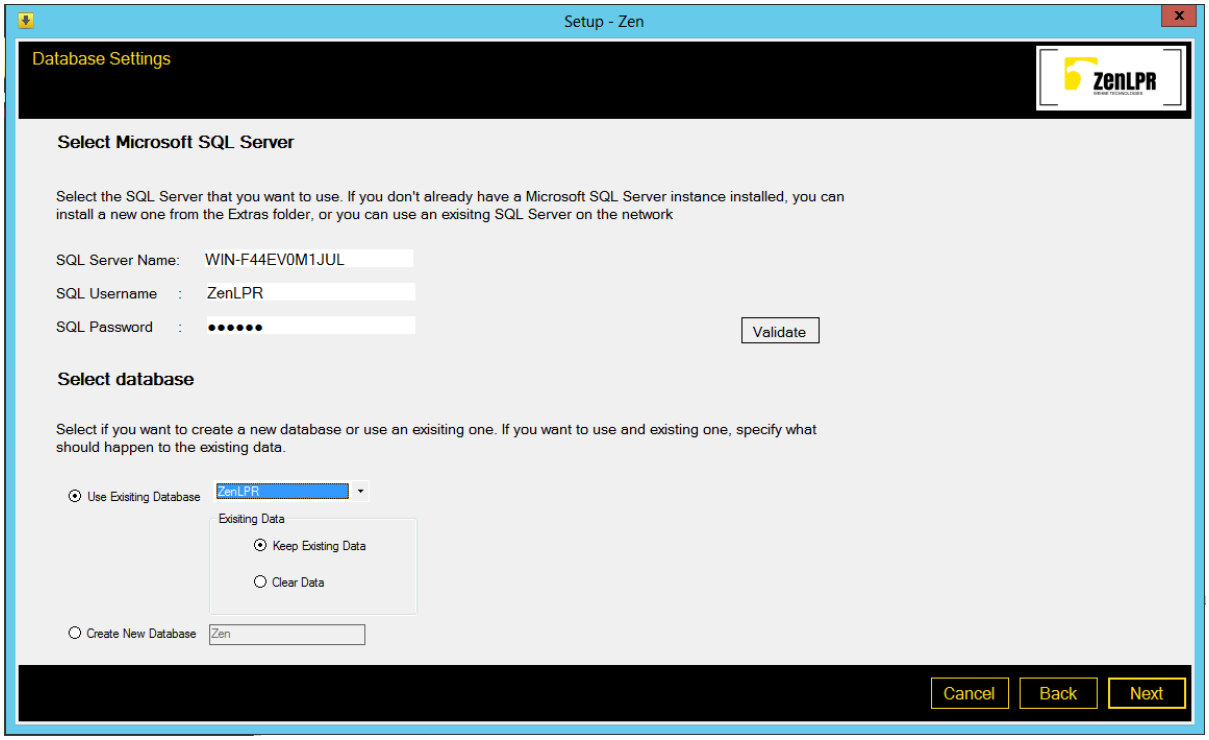
5- If this is a fresh installation then you should select “Create New Database” and input the name of the database to be created. If the database already exists and is compatible with this version V5.0.1 then select “Use Existing Database” and select it from the Dropdown list, or if this is an installation of another component in the same system, then select the created database. Click on Next at the bottom right of the form



6- select the destination folder to install the system, and fill the Milestone Server name or IP Address along with the user used to login to Milestone, either an authenticated windows user or a basic user,

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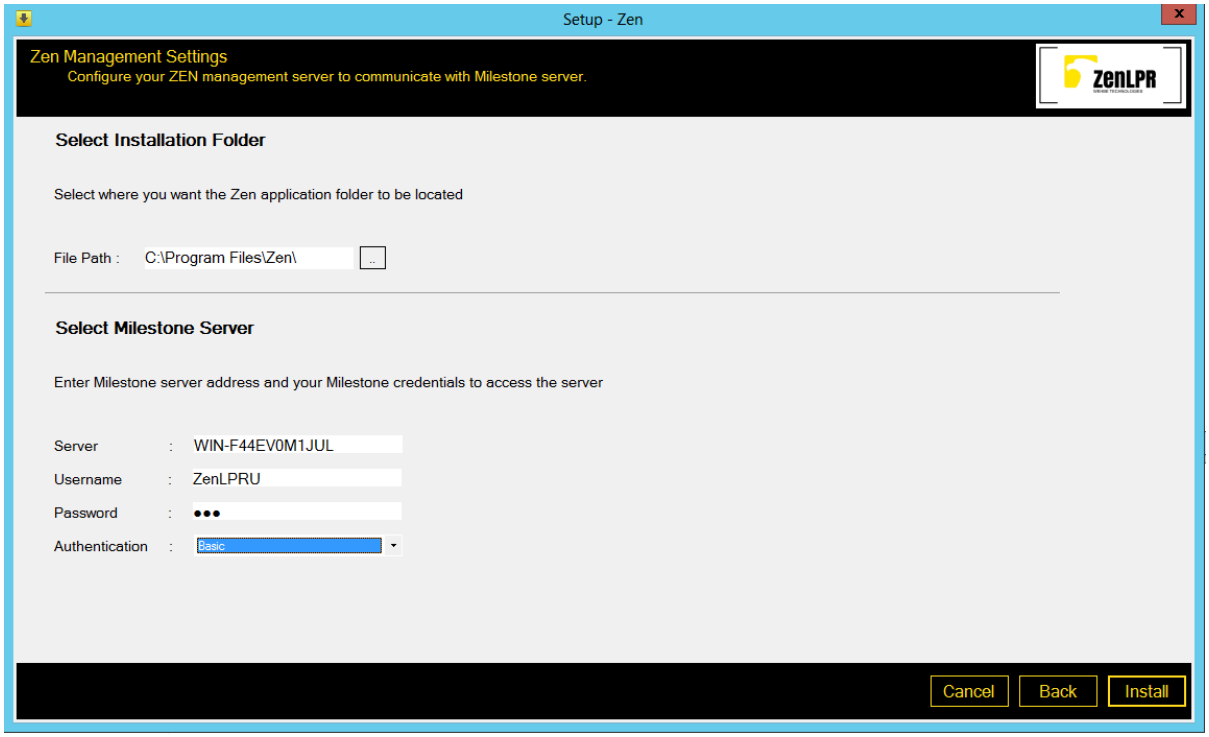
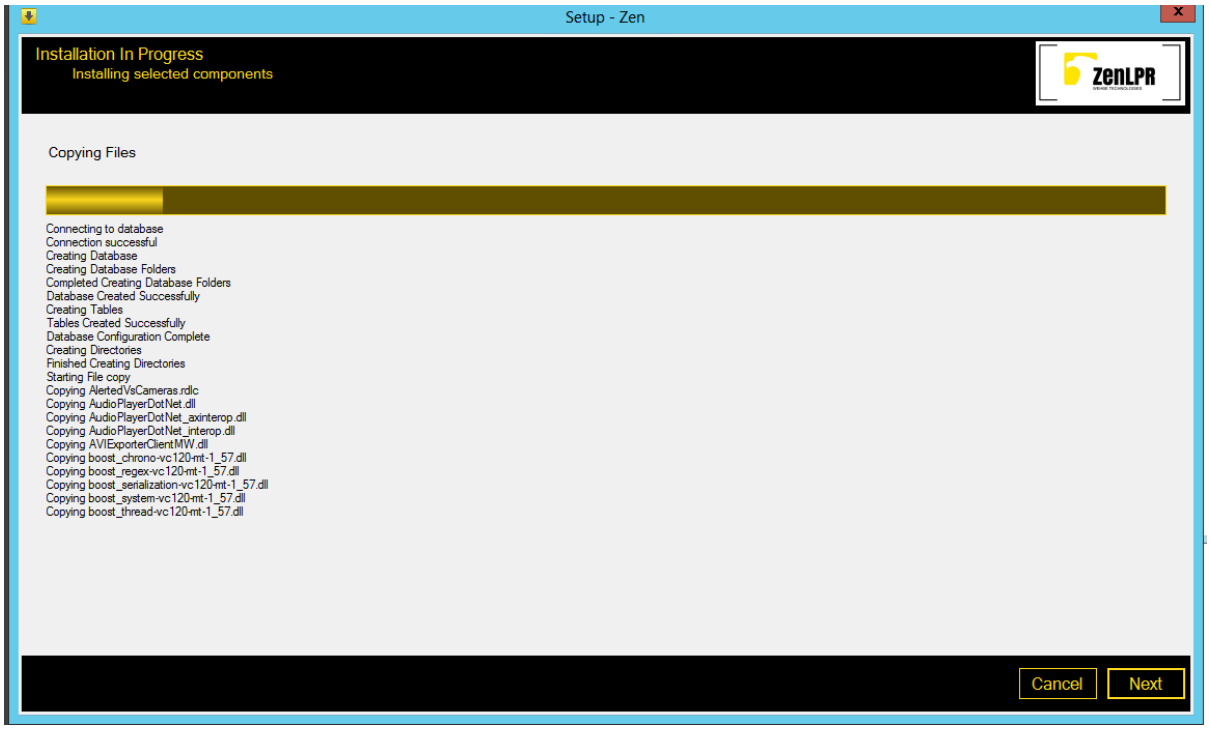
while also selecting the type of user selected. Then click on install at the bottom right of the form



7- Installation should start and look like this, and once finished the progress bar will be full



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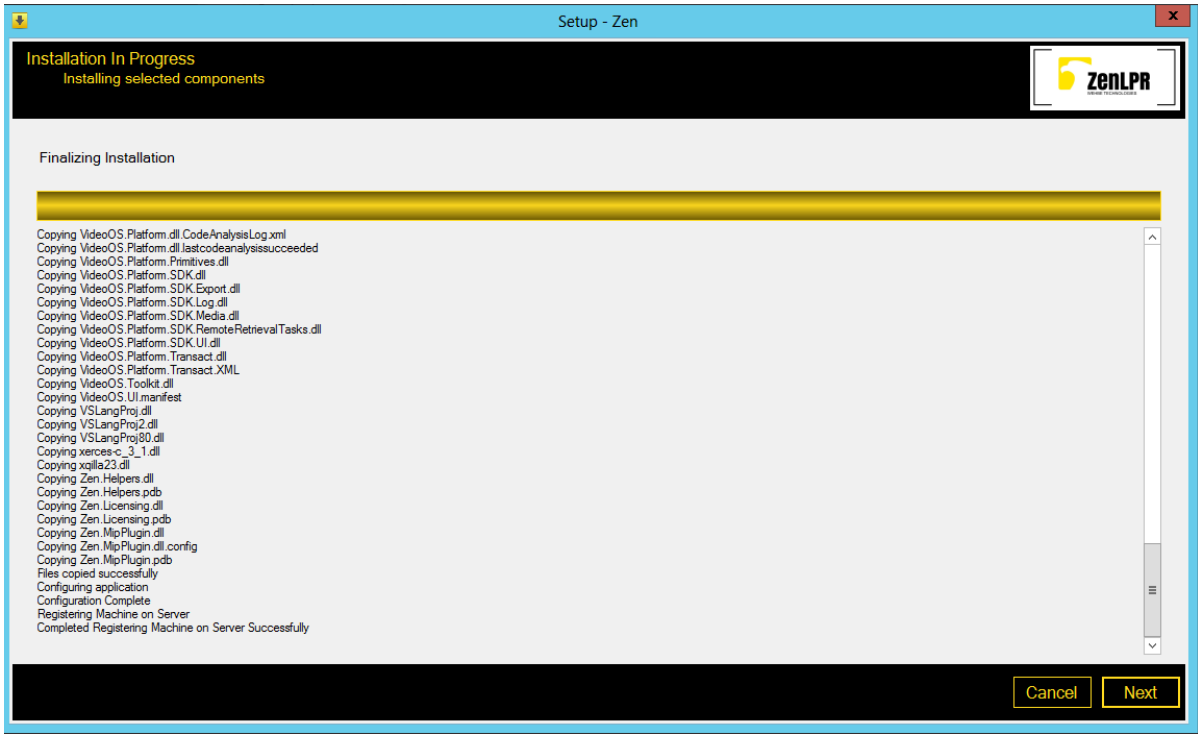
8- Once complete click next at the bottom right of the form



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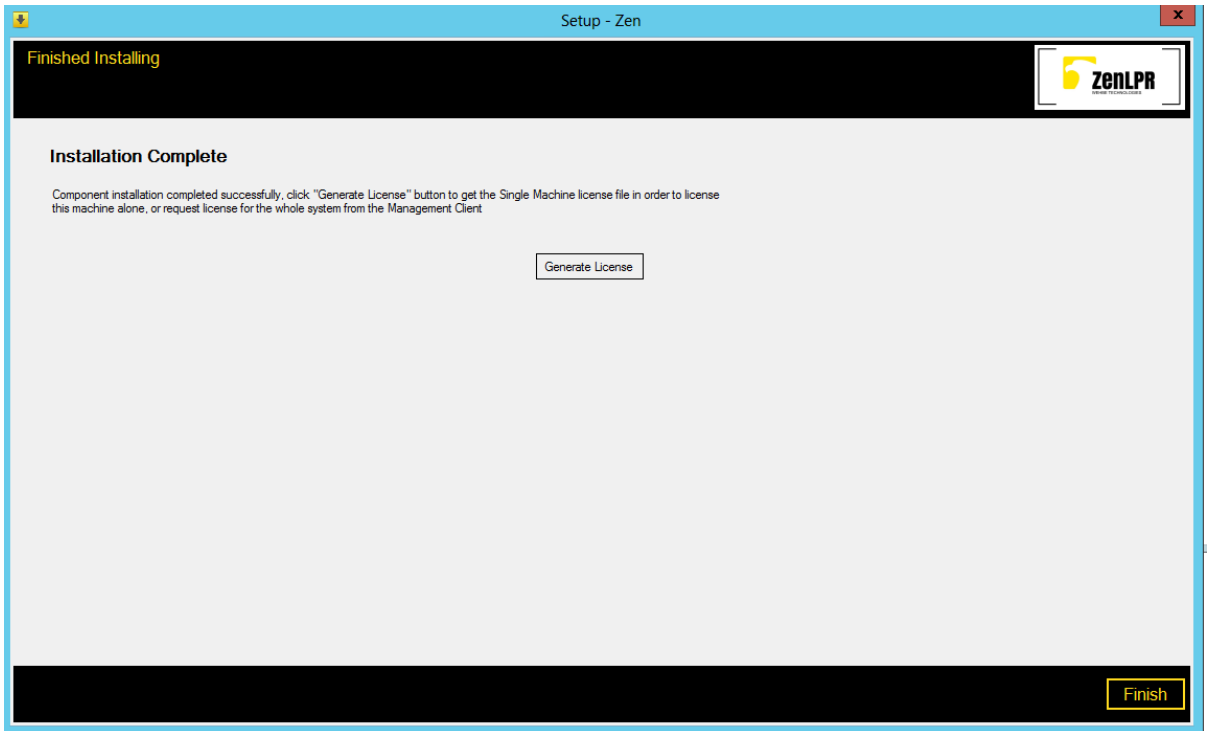
9- If this machine is an added device to a previously existing licensed system, then Hit Generate License to generate a request file to be emailed to VEER in order to receive the License to operate this machine. Then click Finish at the bottom right of this form.



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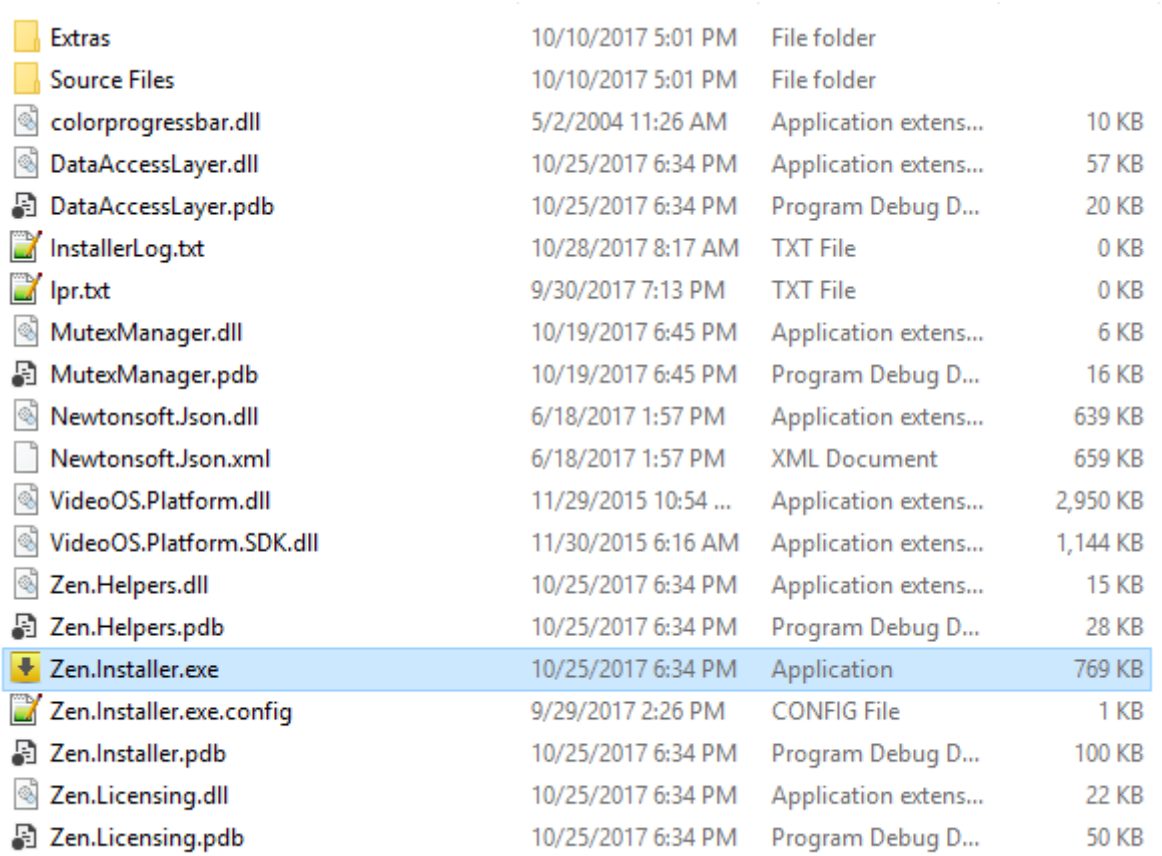
2.3.4 Installing Recognition

1- Navigate to ZenLPR Installation folder and double click on Zen.Installer



Extras	10/10/2017 5:01 PM	File folder	
Source Files	10/10/2017 5:01 PM	File folder	
colorprogressbar.dll	5/2/2004 11:26 AM	Application extens...	10 KB
DataAccessLayer.dll	10/25/2017 6:34 PM	Application extens...	57 KB
DataAccessLayer.pdb	10/25/2017 6:34 PM	Program Debug D...	20 KB
InstallerLog.txt	10/28/2017 8:17 AM	TXT File	0 KB
lpr.txt	9/30/2017 7:13 PM	TXT File	0 KB
MutexManager.dll	10/19/2017 6:45 PM	Application extens...	6 KB
MutexManager.pdb	10/19/2017 6:45 PM	Program Debug D...	16 KB
Newtonsoft.Json.dll	6/18/2017 1:57 PM	Application extens...	639 KB
Newtonsoft.Json.xml	6/18/2017 1:57 PM	XML Document	659 KB
VideoOS.Platform.dll	11/29/2015 10:54 ...	Application extens...	2,950 KB
VideoOS.Platform.SDK.dll	11/30/2015 6:16 AM	Application extens...	1,144 KB
Zen.Helpers.dll	10/25/2017 6:34 PM	Application extens...	15 KB
Zen.Helpers.pdb	10/25/2017 6:34 PM	Program Debug D...	28 KB
Zen.Installer.exe	10/25/2017 6:34 PM	Application	769 KB
Zen.Installer.exe.config	9/29/2017 2:26 PM	CONFIG File	1 KB
Zen.Installer.pdb	10/25/2017 6:34 PM	Program Debug D...	100 KB
Zen.Licensing.dll	10/25/2017 6:34 PM	Application extens...	22 KB
Zen.Licensing.pdb	10/25/2017 6:34 PM	Program Debug D...	50 KB

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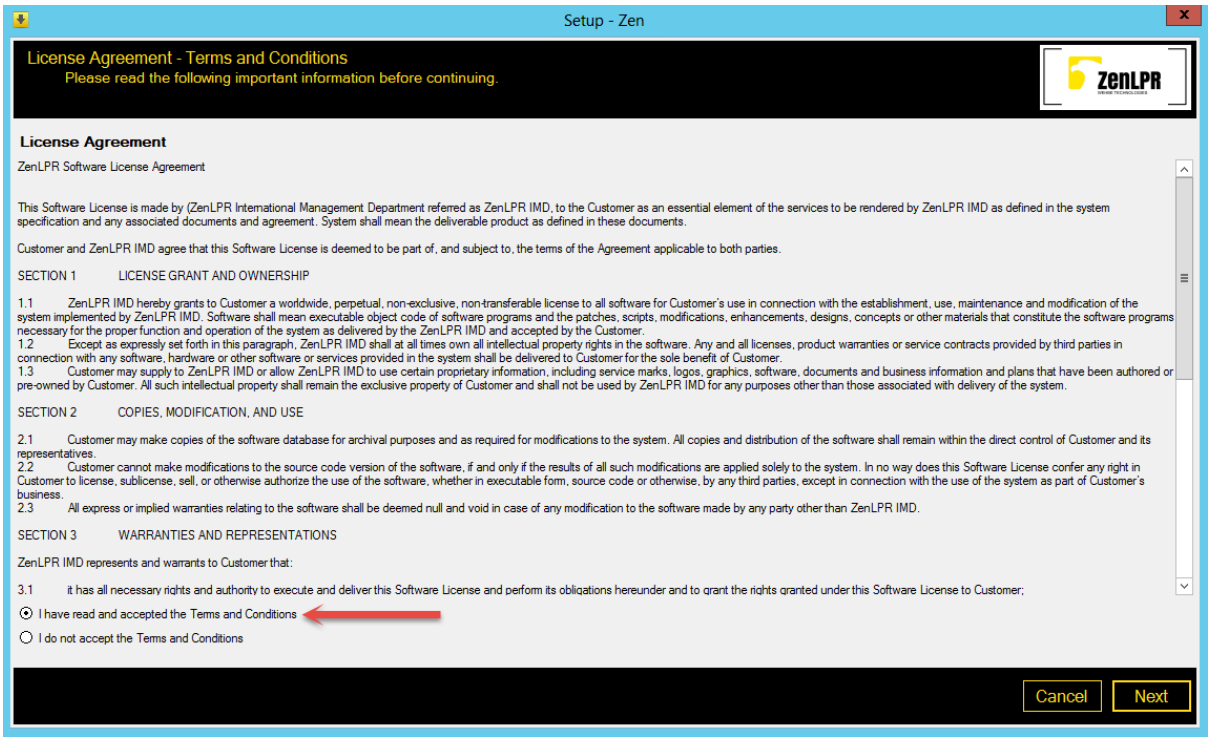
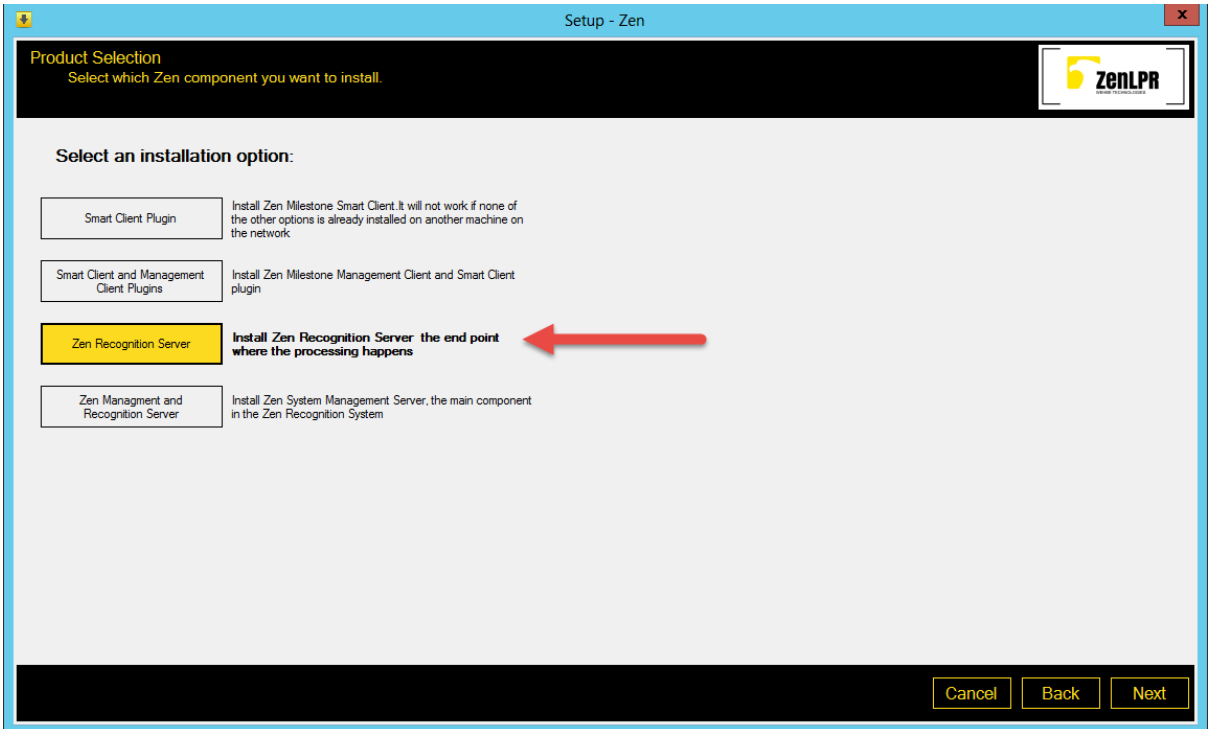
2- Read the License Agreement Carefully and if you agree, select the radio button “I have read and accepted the Terms and Conditions” then click on Next at the bottom right of the form



3- select “*Zen Management and Recognition Server*” then click on the next bottom at the bottom right of the form



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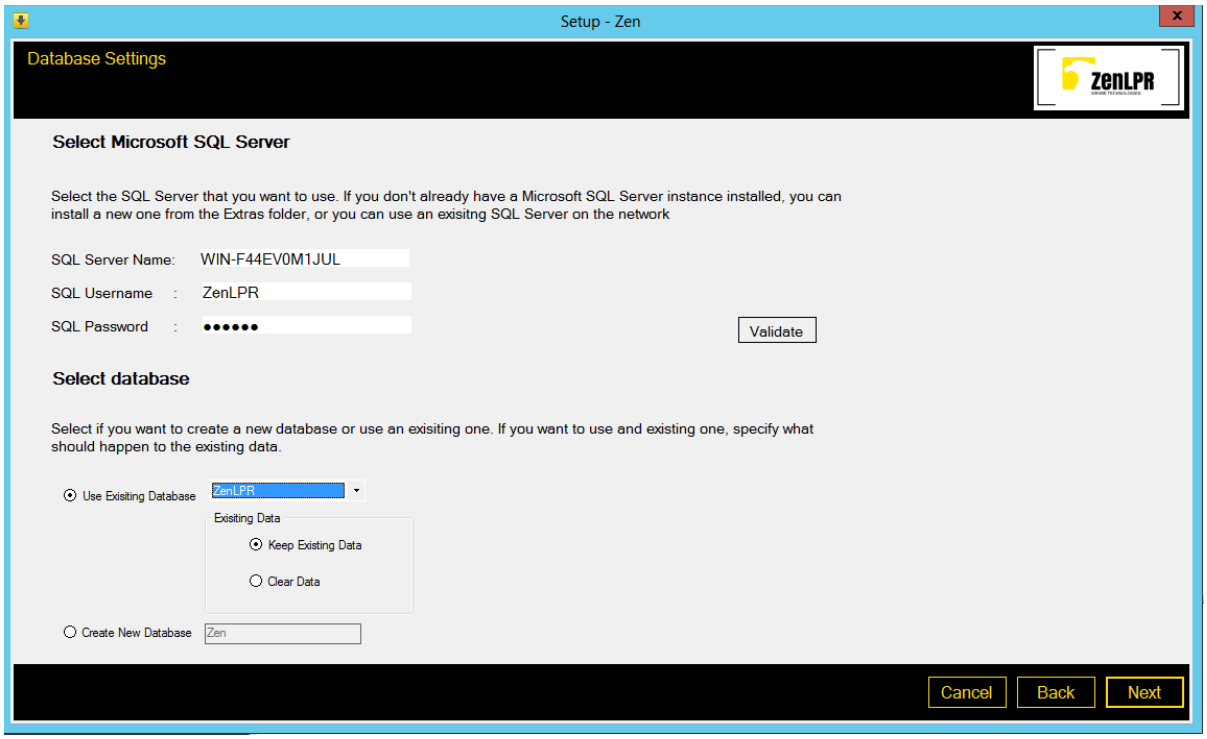
4- Fill in the SQL Server name and instance name, then the SQL User and password, mentioned in section 2.2 Pre-Installation Tasks and click Validate to check connectivity with the server. If connection successful then the Database selection will be enabled



5- If this is a fresh installation then you should select “Create New Database” and input the name of the database to be created. If the database already exists and is compatible with this version V5.0.1 then select “Use Existing Database” and select it from the Dropdown list, or if this is an installation of another component in the same system, then select the created database

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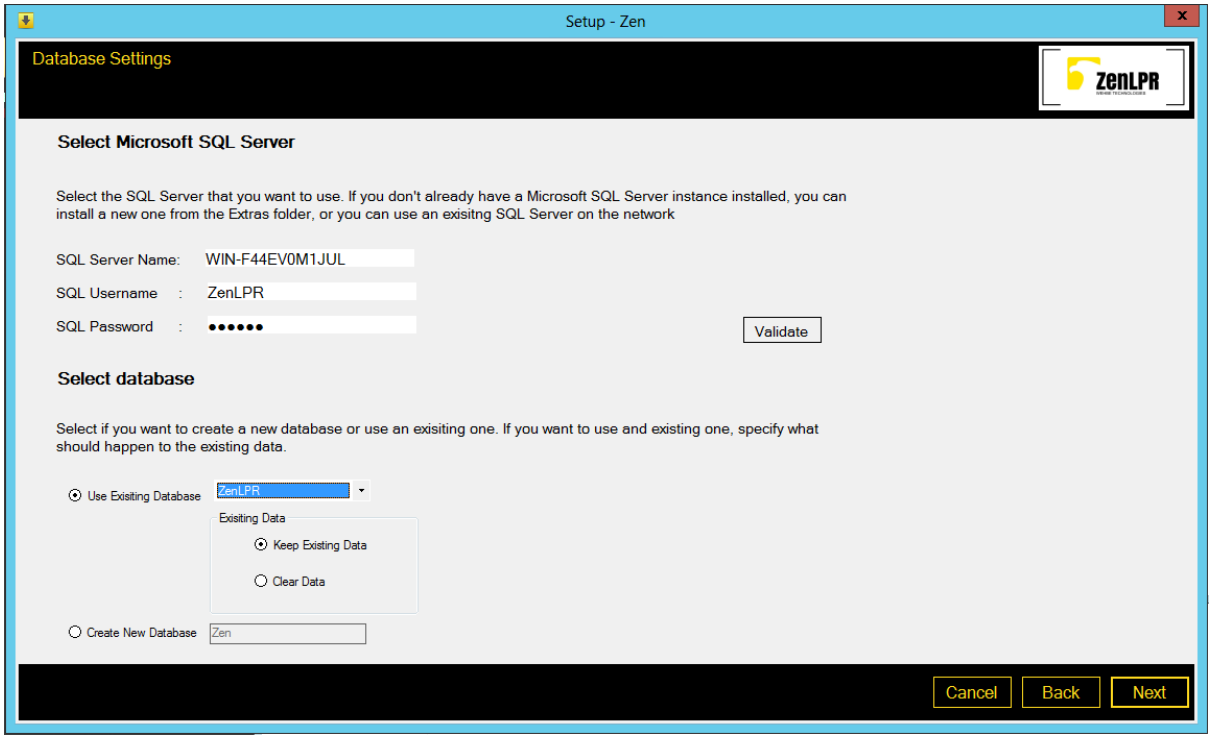
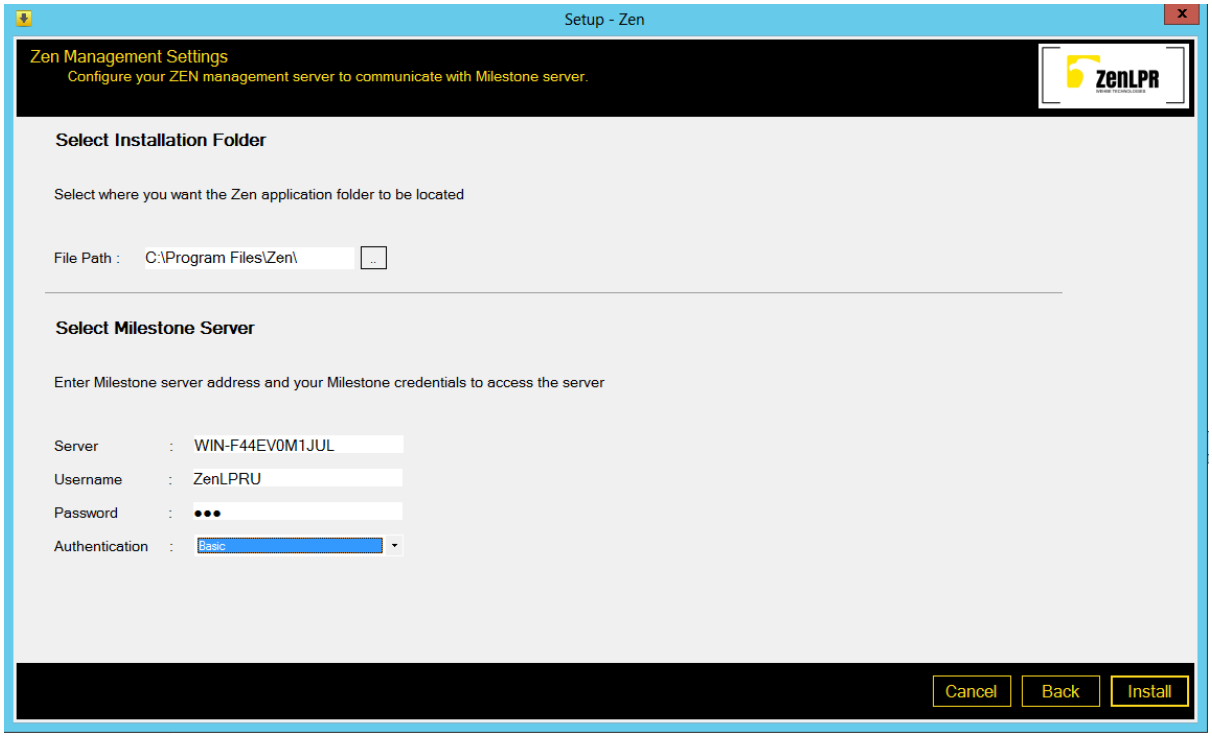
Click next on the bottom right of the form



6- Now select the destination folder to install the system, and fill the Milestone Server name or IP Address along with the user used to login to Milestone, either an authenticated windows user or a basic user, while also selecting the type of user selected. Then hit Install at the bottom right of the form



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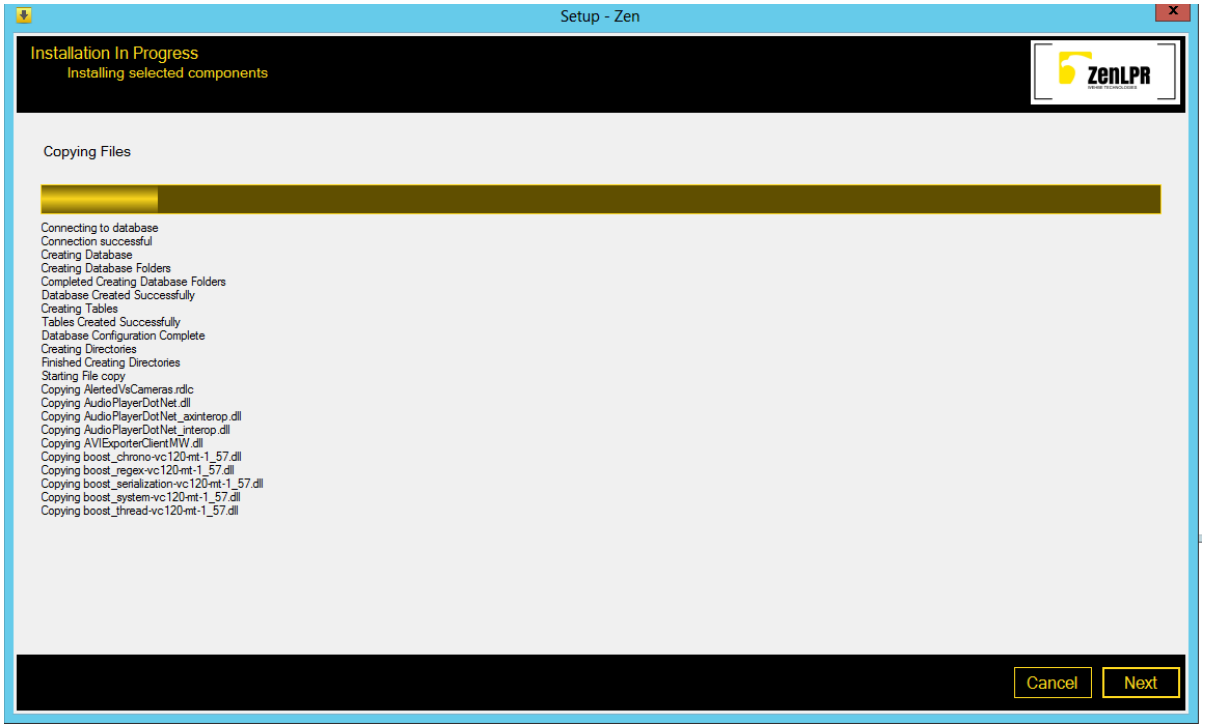
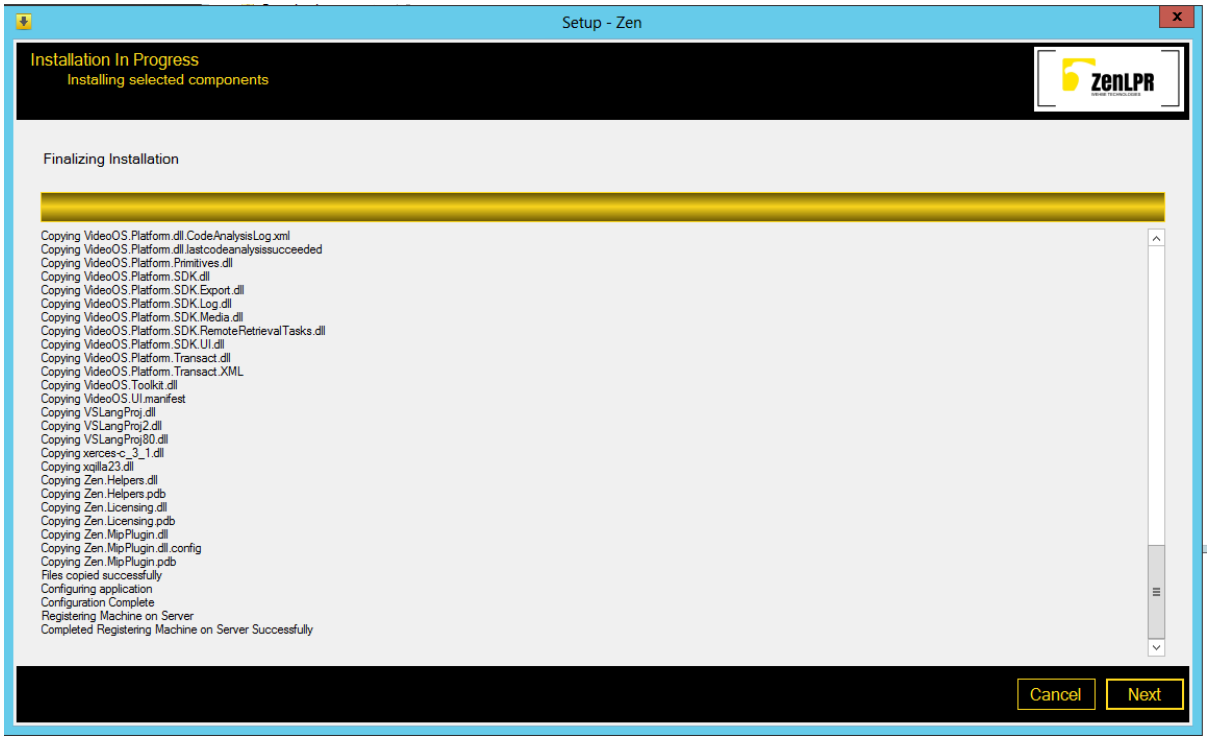
7- Installation should start and look like this, and once finished the progress bar will be full



8- Once complete click on the next bottom at the bottom right of the form



9- If this machine is an added device to a previously existing licensed system, then Hit Generate License to generate a request file to be emailed to VEER in order to receive the License to operate this

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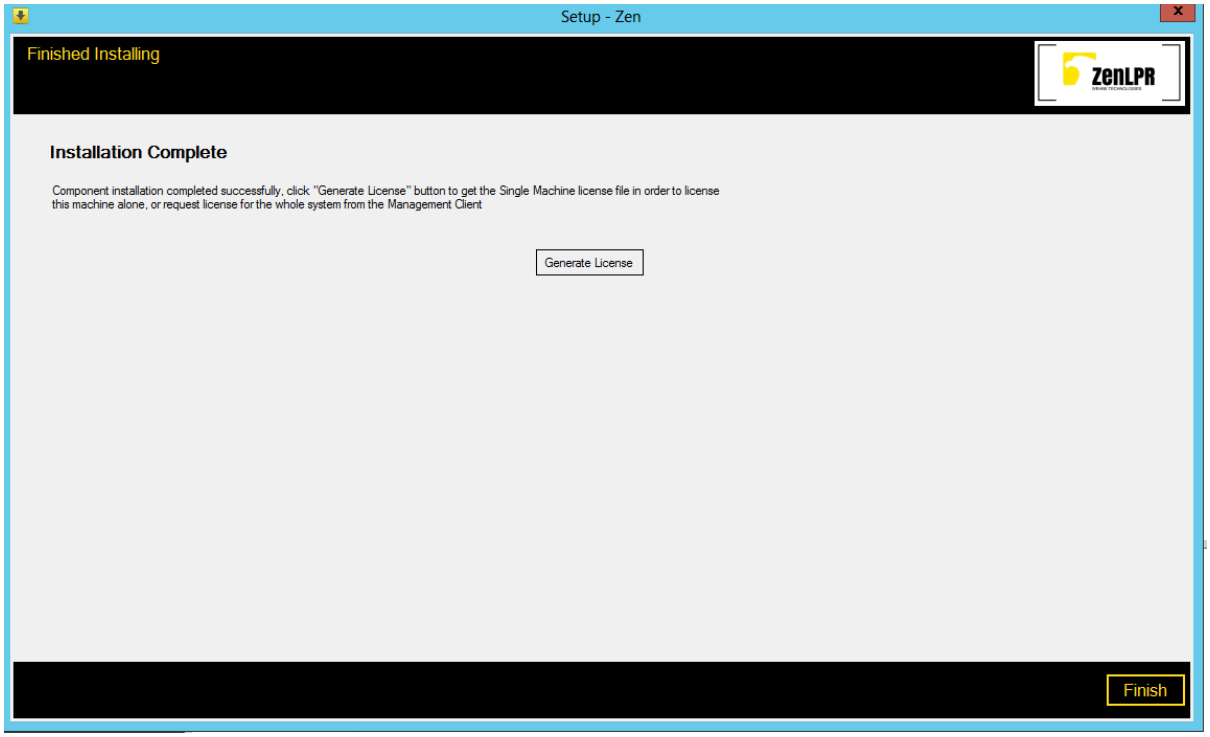
machine. Then click on the finish button at the bottom right of the form



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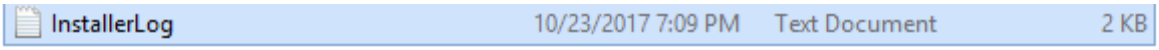
2.4 Basic Troubleshooting

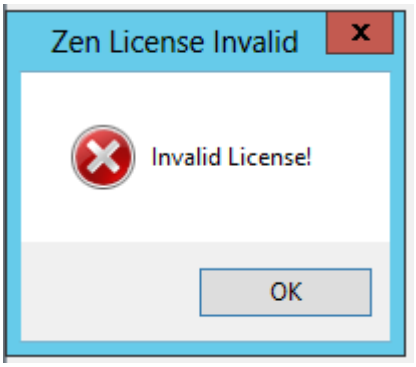
Most errors that occur are caused by windows permission. In case any errors occur during the installation, refer to InstallerLog.txt



In case a shortcut isn't created after completing either Zen Management or Zen Recognition Servers, then navigate to the installation directory and create a shortcut of "Zen Recognition Server.exe"

2.5 Post-Installation

After installing all the components of the system, a license the system and make it operational. After the installation and upon opening either Milestone Smart Client or Milestone Management Client or Zen Management for the first time, you will get the following error



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In order to license the system, follow those steps:

Open Milestone Management Client

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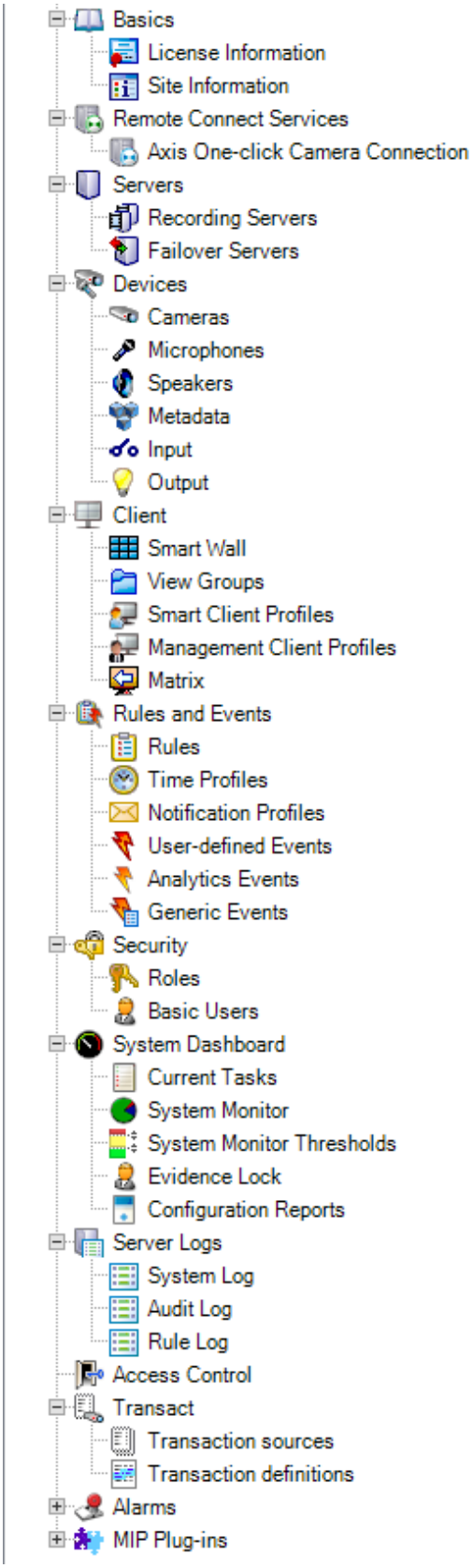
2.5.1 In the left panel, at the bottom of the tree, expand the MIP Plugins



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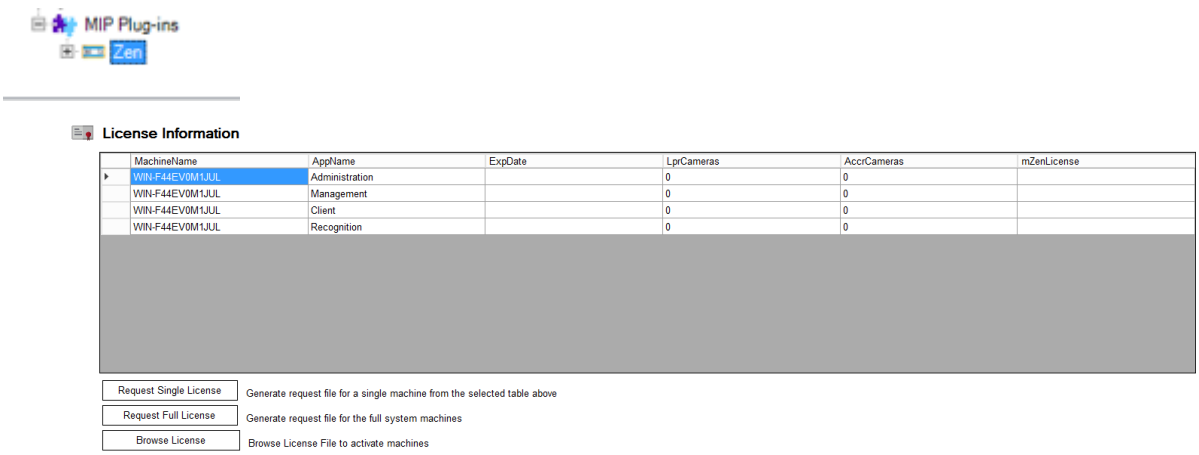
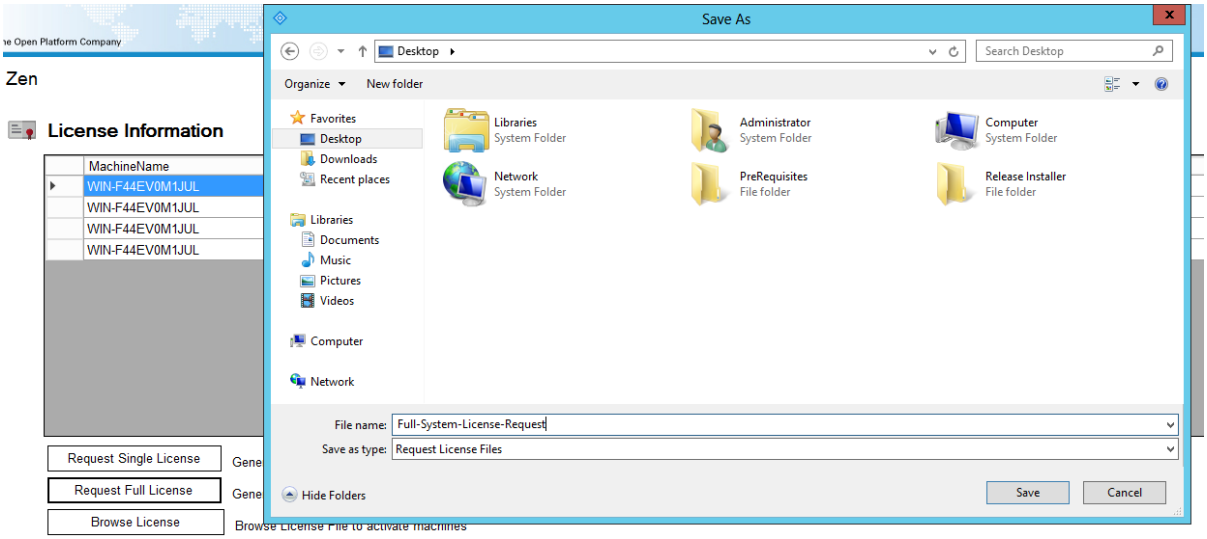
2.5.2 select Zen as shown, and the following window will be displayed on the right



2.5.3 Click 'Request Fill License' and set the location to save the ".zrf" file



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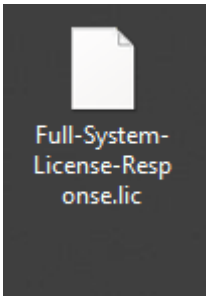
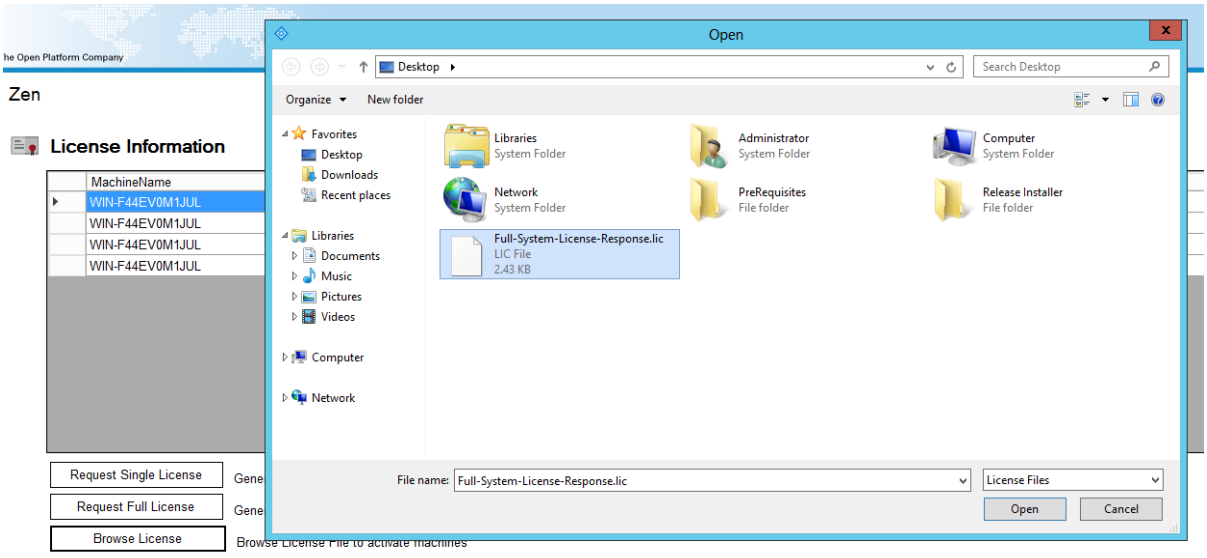
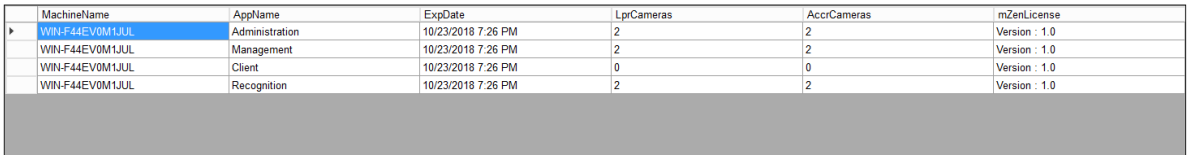
2.5.4 Email the generated file to VEER anpr@veertec.com

2.5.5 After receiving the ".lic" file, open the same window and click Browse License





2.5.6 When the system is licensed it will display in the same window the license information



MachineName	AppName	ExpDate	LprCameras	AccrCameras	mZenLicense
WIN-F44EV0M1JUL	Administration	10/23/2018 7:26 PM	2	2	Version : 1.0
WIN-F44EV0M1JUL	Management	10/23/2018 7:26 PM	2	2	Version : 1.0
WIN-F44EV0M1JUL	Client	10/23/2018 7:26 PM	0	0	Version : 1.0
WIN-F44EV0M1JUL	Recognition	10/23/2018 7:26 PM	2	2	Version : 1.0

2.5.7 close the Management Client and open it again to gain access to the Zen Functionality

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2.6 Technical Tests

To perform technical test:

- Try adding a server and activating a camera
- try adding an alert type to validate that the connectivity with the database is working (ref to ZenLPR Admin Guide)
- try opening Zen Recognition Server and validate that there are no errors while starting the system (ref to ZenLPR Admin Guide).

2.7 Uninstall or Roll-Back

In order to uninstall the ZenLPR system, depending on which component is installed on the machine follow the below instructions

2.7.1 The Client
Just delete the folder located at "C:\Program Files\Milestone\MIPPlugins\Zen.MipPlugin"

2.7.2 The Administration
Just delete the folder located at "C:\Program Files\Milestone\MIPPlugins\Zen.MipPlugin"

2.7.3 The Management
Delete the folder where the system is installed

2.7.4 The Recognition
Delete the folder where the system is installed

2.7.5 Removing the database
Login to the SQL Server Management Studio and connect to the used SQL Server Address with instance name then Delete the created database being used by ZenLPR

ZenLPR doesn't store anything in the registry or in the AppData of any system it is installed on, so removing the files where it is installed removes everything related to ZenLPR

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3 ADDITIONAL INFORMATION

3.1 Acronyms, Abbreviations

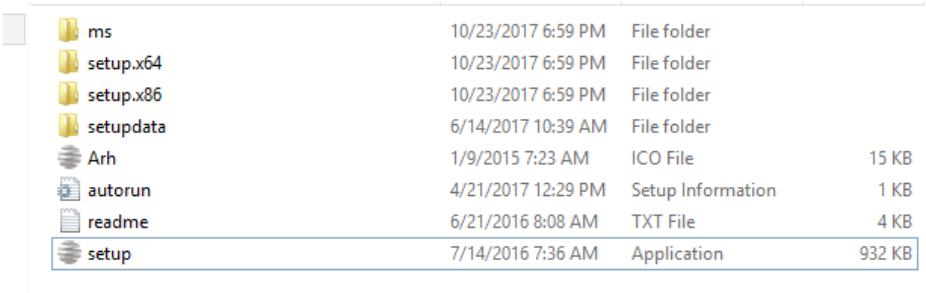
The Client: refers to the plugin that is used in Milestone Smart Client
The Administration: refers to the plugin that is used in Milestone Management Client
The Management: refers to the ZenLPR Management Server
The Recognition: refers to the ZenLPR Recognition Server that is a standalone application or included in The Management

3.2 Reference Documents

Carmen FreeFlow Installation Document
Milestone Installation Document
ZenLPR Admin Document
ZenLPR User Guide

3.3 Carmen FreeFlow Installation

3.3.1 Navigate to the Carmen FreeFlow engine folder supplied to you with the ZenLPR Installation files, and go to setup.



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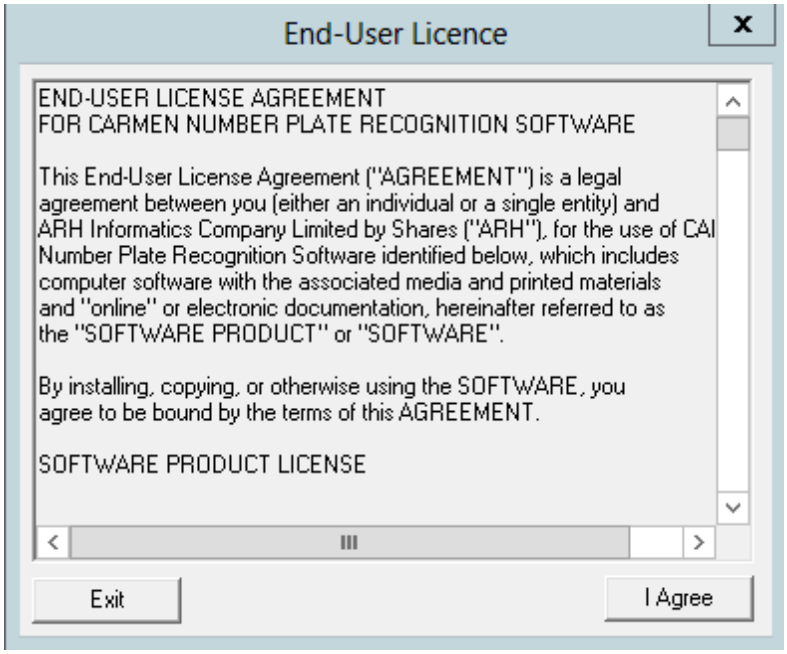
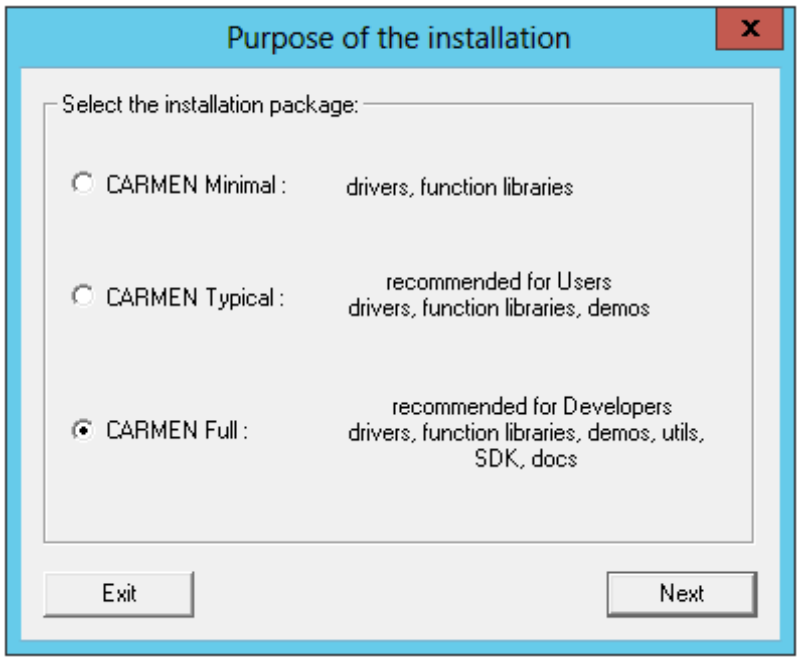
3.3.2 Agree on license agreement



3.3.3 Select CARMEN FULL



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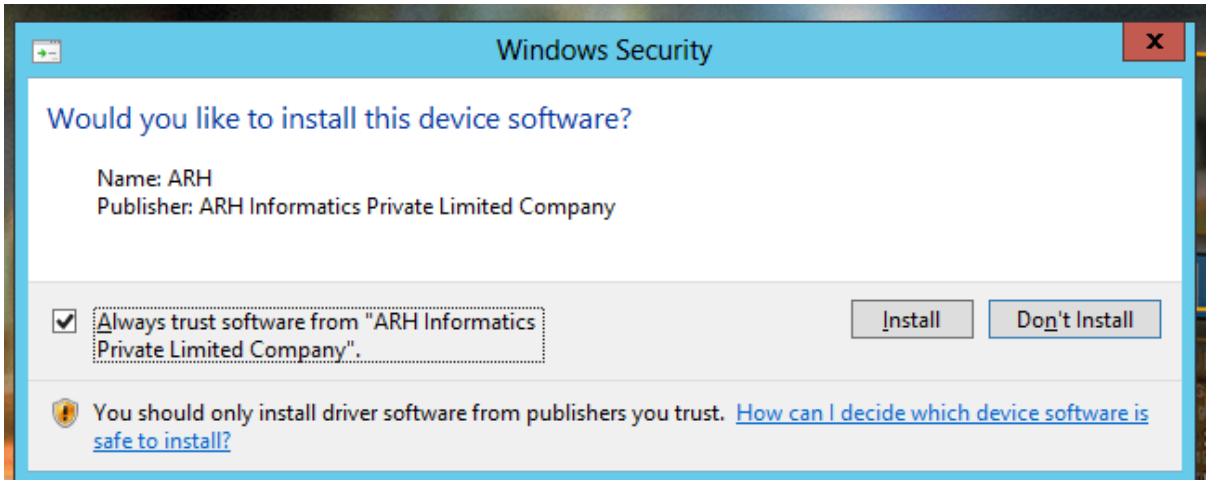
3.3.4 While installation is running, you will be prompted with the following popup

Make sure to select “Always trust software from ARH Informatics Private Limited Company” then click install.



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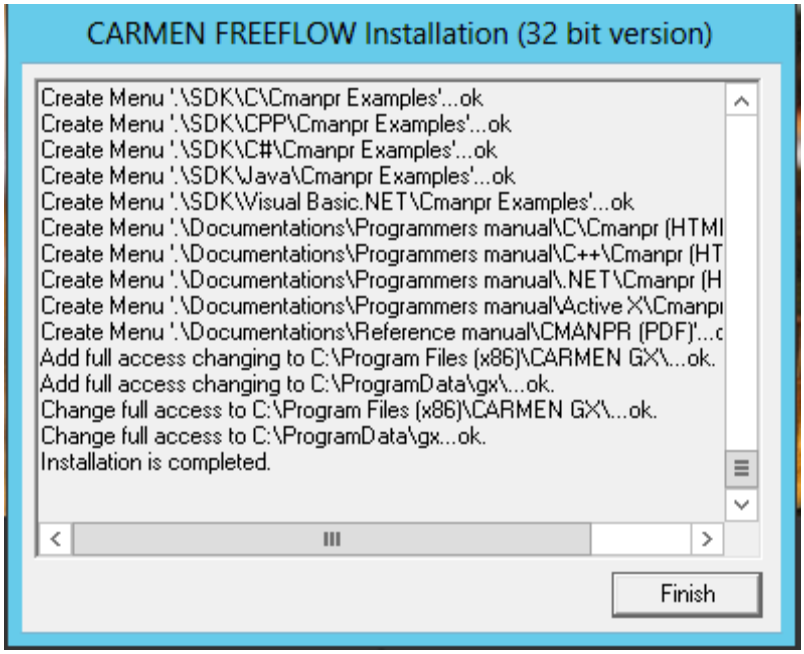
3.3.5 Installation Complete, click Finish



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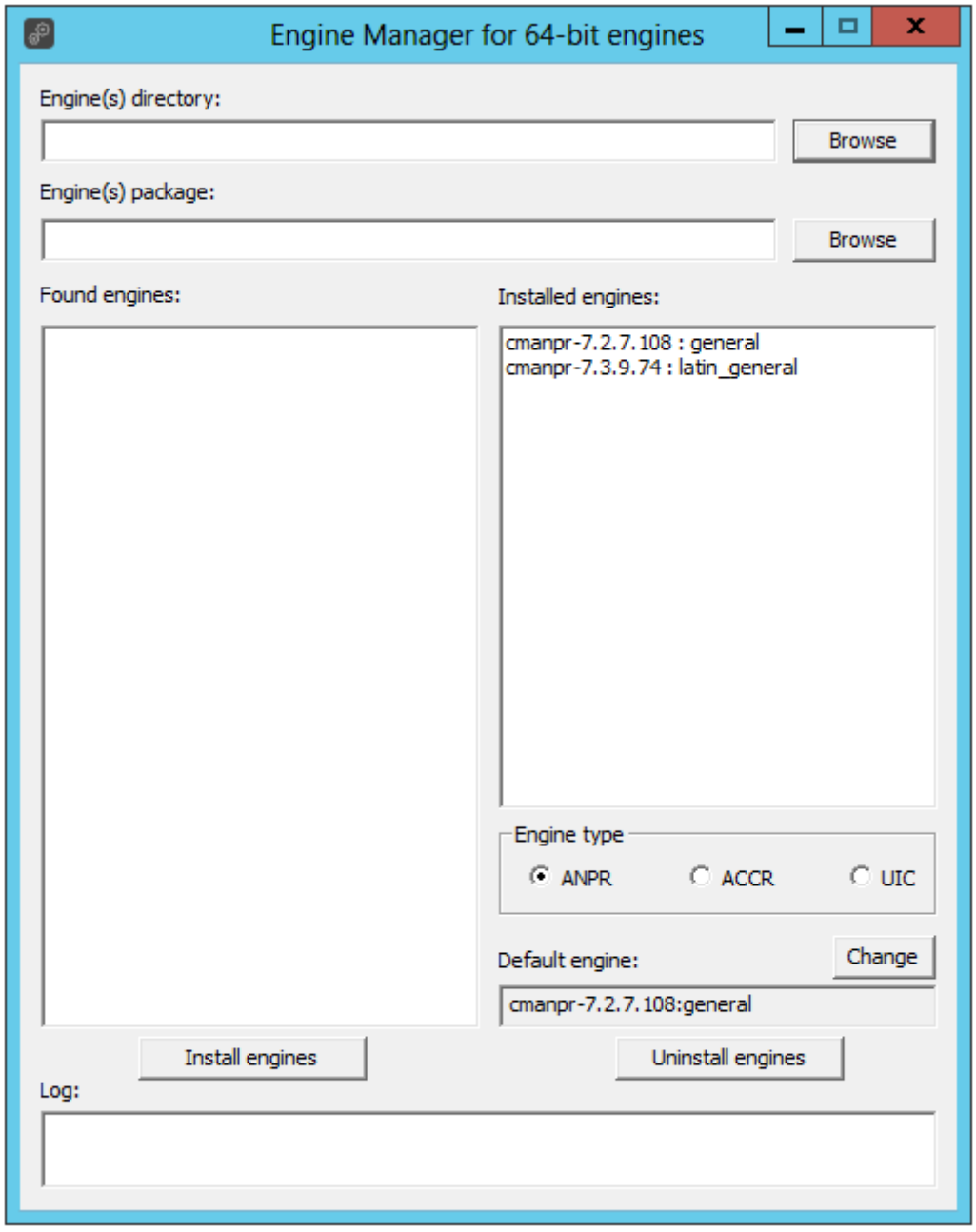
3.3.6 Now adding the supplied country engine, hit Start -> Engine Manager (x64), and this window should open



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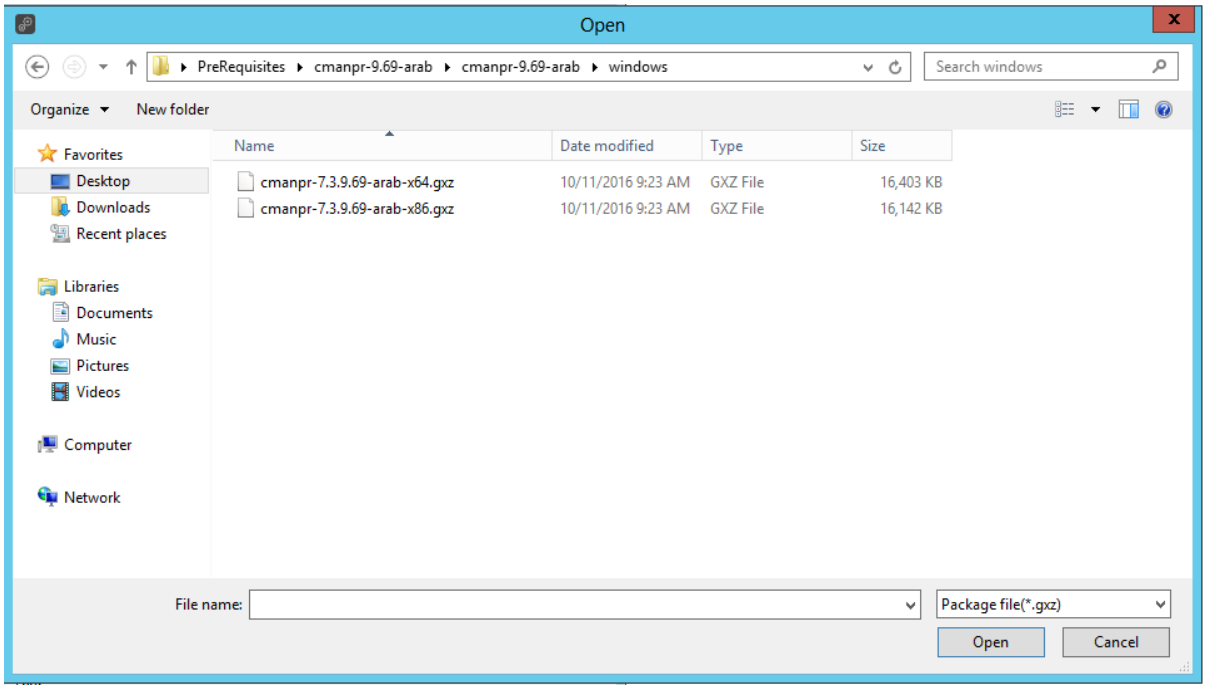
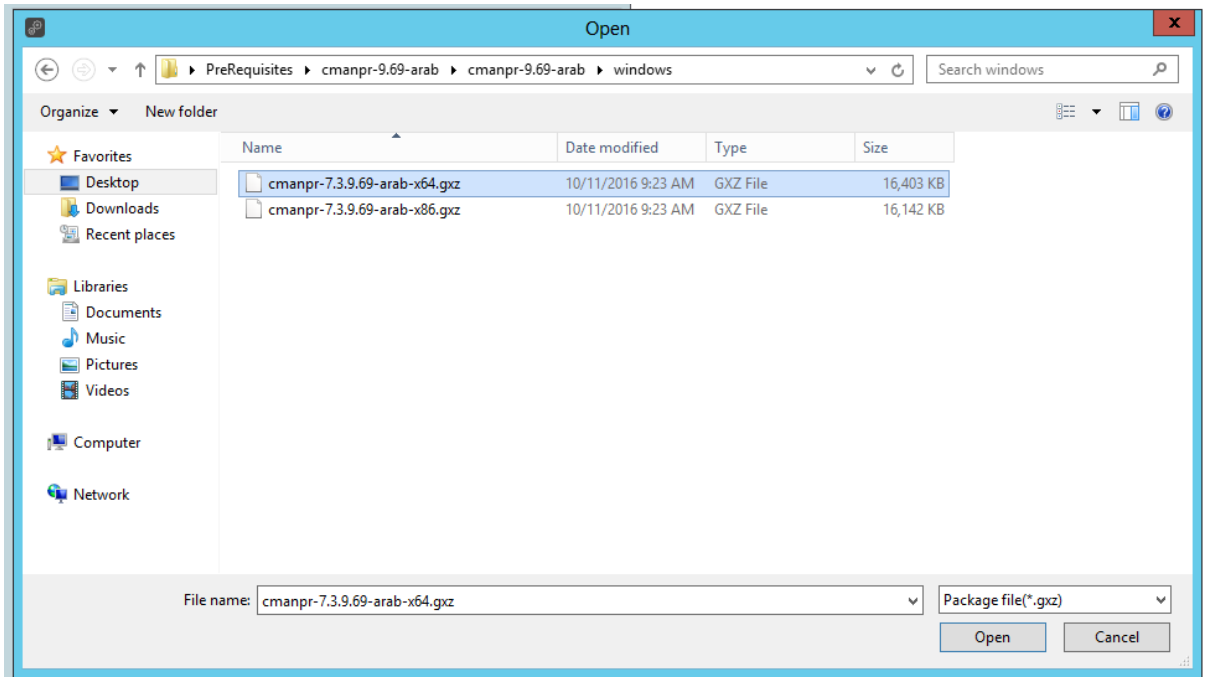
3.3.7 Click “Browse” which is next to “Engine(s) Package” and navigate to the folder where your country engine is located, usually provided along with ZenLPR



3.3.8 Select the engine with x64



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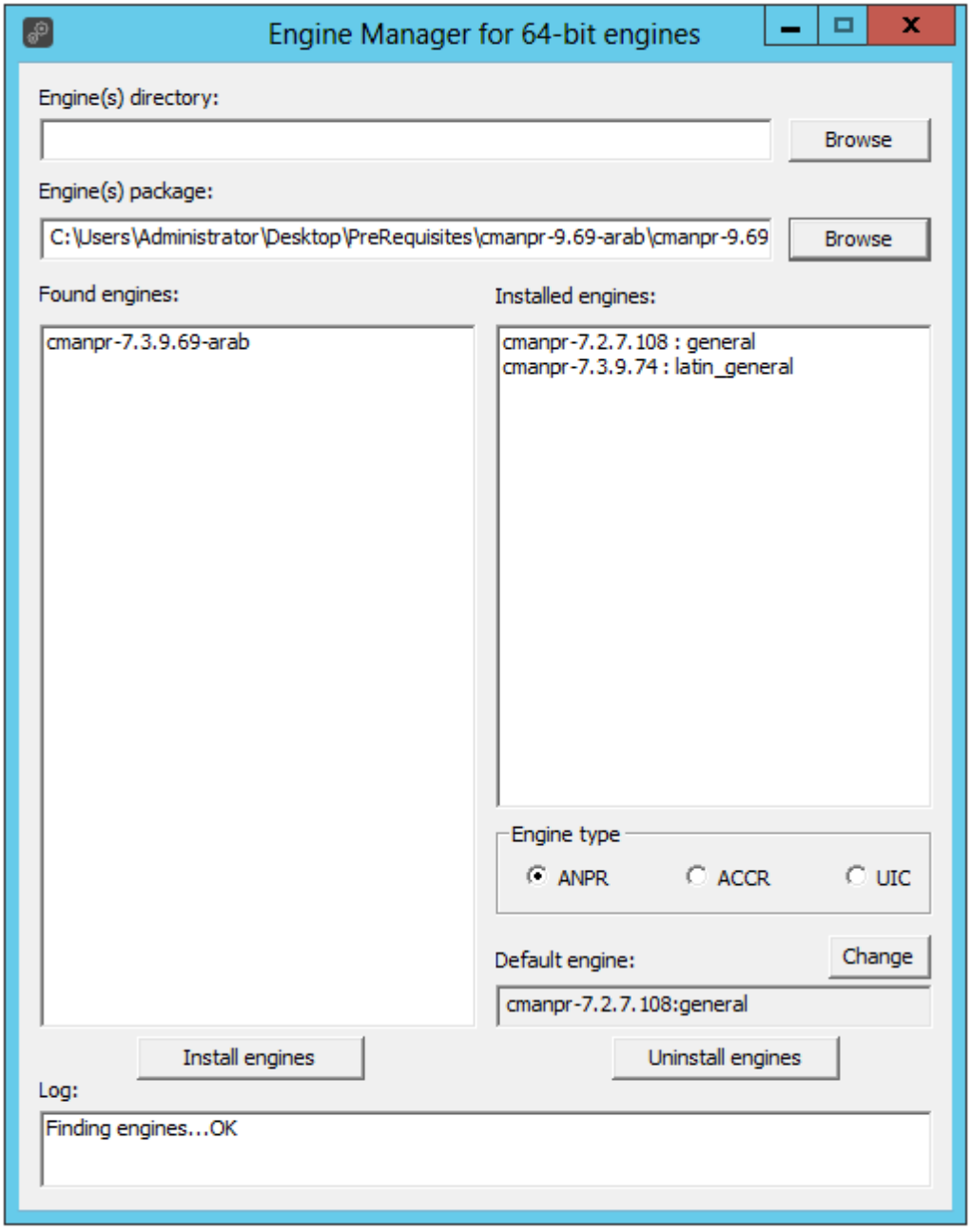
3.3.9 The engine name should appear on the left as displayed



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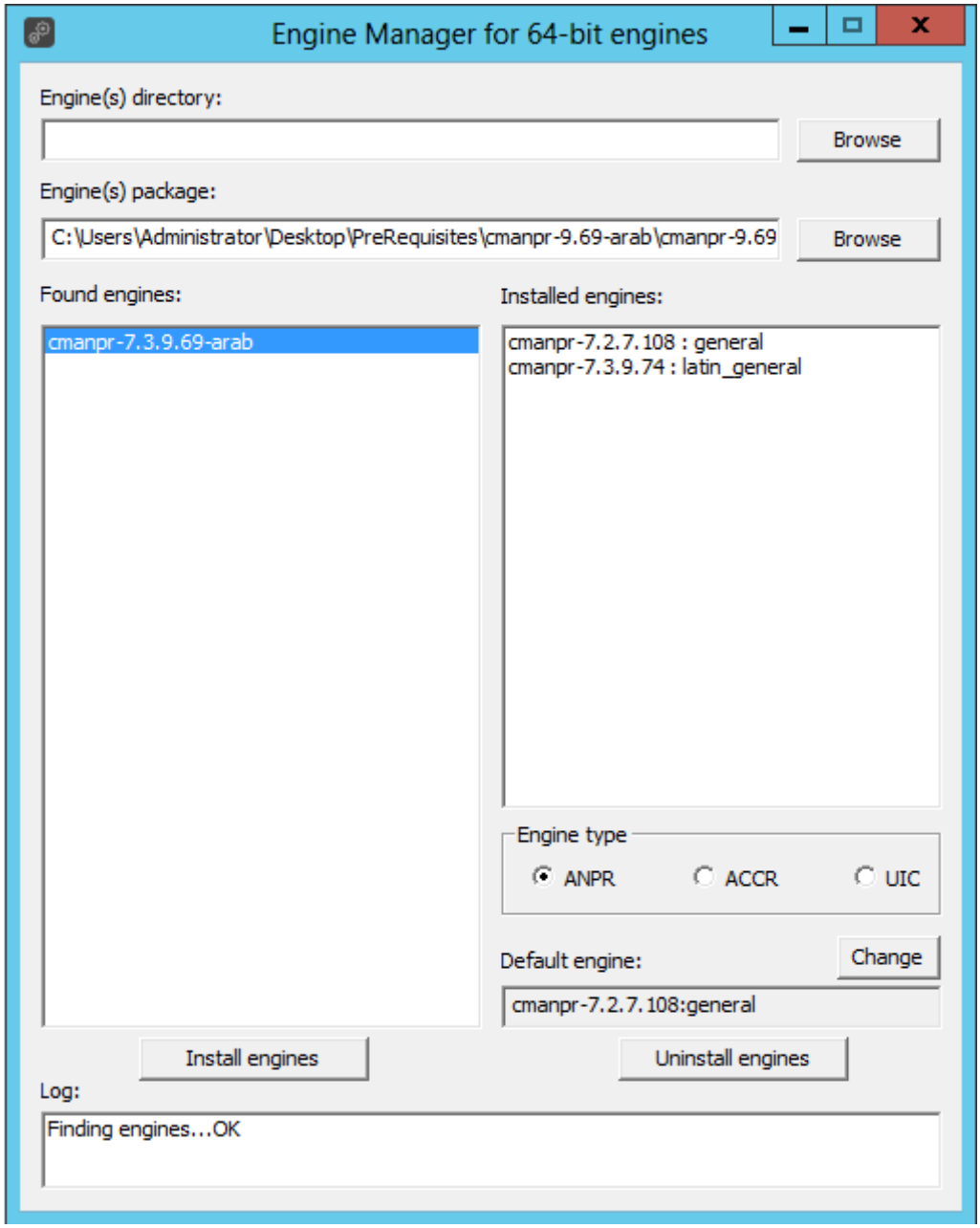
3.3.10 Select the engine from the list on the left and hit “Install Engines”



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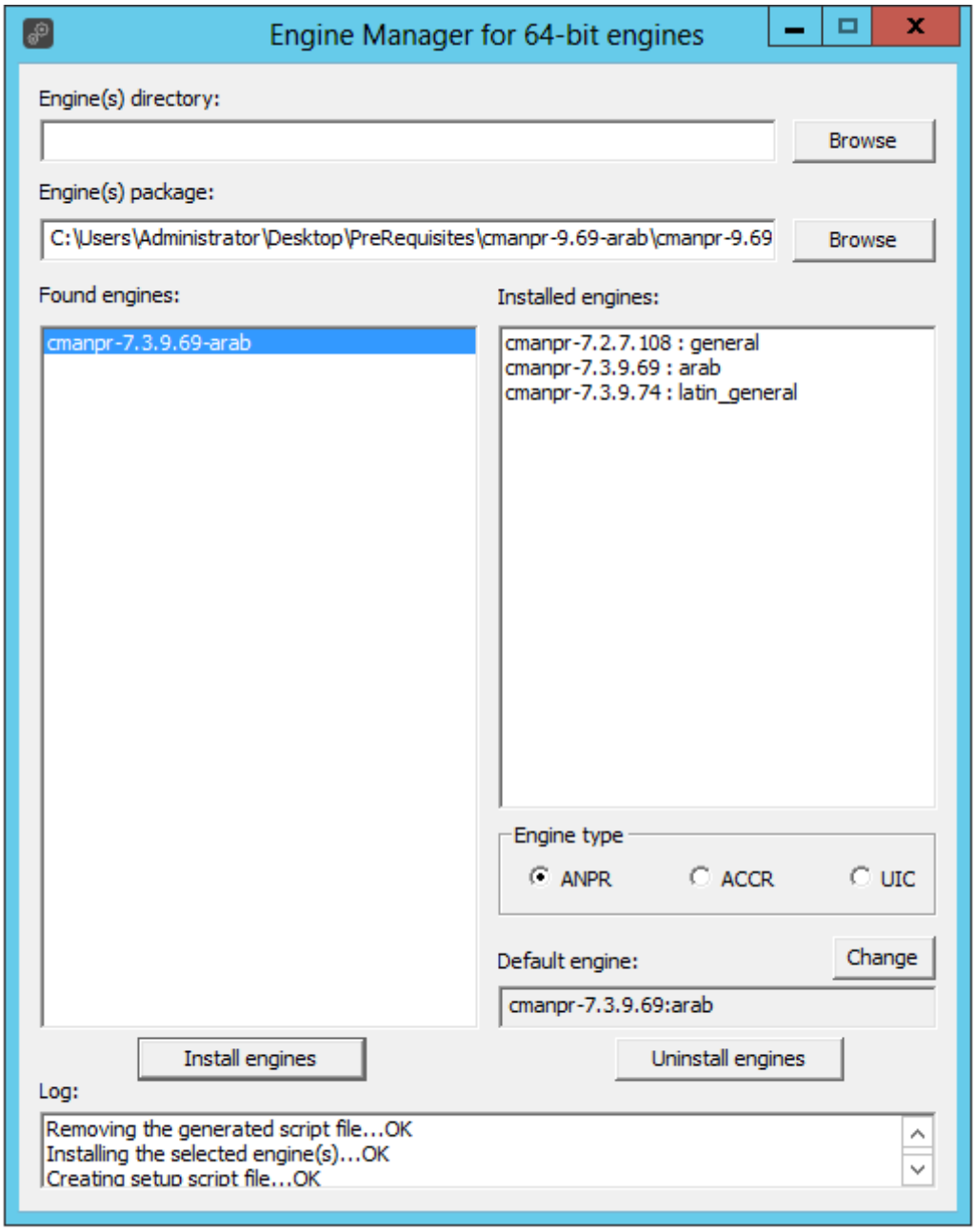
3.3.11 After completing successfully, the screen should be like this with the engine name in the “Default Engine”



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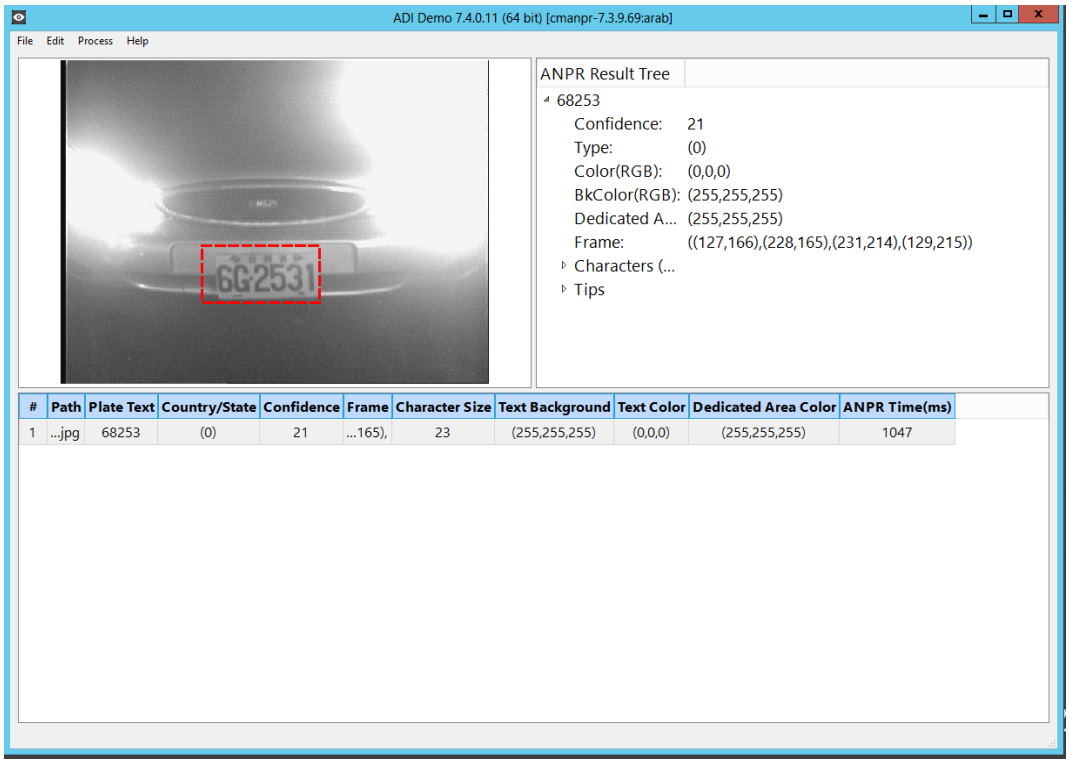
3.3.12 Next plugin the ARH Dongle in the server in order to make sure it is activated and the engine is running correctly. After plugging in, type “ANPR Demo for Images(x64)” in the start menu and open, the following window should open and display the rectangle on the plate with the result below and the added engine name should be displayed in the title of the window. If this is not the case, please refer to Carmen Installation manual or contact support before proceeding.



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4 CONTACT INFORMATION

For further information concerning any clarifications you might need, email us on

Support@veertec.com	Support
Info@veertec.com	Client Service

You can always contact us using the below information:

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Dbayeh-Lebanon
Tel: (+961) 3 670 089
Tel: (+961) 4 541 140

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