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Deltek PPM Encryption Conversion Utility

Conversion Guide

March 2023

Revised: December 2025

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This edition published December 2025.

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Overview

New releases of all Deltek PPM Products have been upgraded to support newer, more secure protocols for storing passwords and other sensitive credentials that are used to access network resources, such as database and email servers.

Attention: Each PPM product is shipped with this tool (**PPMEncryptionConverter.exe**) and its location may vary per product. For more information, see the Run the PPM Encryption Conversion Utility section in this document.

When upgrading from older versions of PPM Products to new versions, PPM Products will continue to use the previous protocols by default to ensure compatibility with older versions of PPM Products. Therefore, a separate conversion process is required to upgrade existing PPM Product configuration files and data sources to enable the use of the new protocols.

To support the conversion process, PPM products include a new PPM Encryption Conversion Utility application that is designed to perform the upgrade of existing PPM Product configuration files and data sources to enable the use of the new protocols.

Note: Deltek strongly recommends that you run the latest PPM Encryption Conversion Utility application to upgrade existing PPM Product configuration files and data sources to enable the use of the new protocols.

Note: New installations of PPM Products and data sources are pre-configured to use the new protocols by default. New installations do not need to run the PPM Encryption Conversion Utility.

PPM Encryption Conversion Utility

The PPM Encryption Conversion Utility is designed to scan a computer for all copies of installed PPM Products and validate if the PPM Products have been upgraded to compatible versions that support the new protocols. It also validates any configuration files and databases that are shared by the PPM Products are eligible to be upgraded to support the new protocols.

These validations are designed to ensure that the upgrade is only performed when all installed PPM Products are compatible with the new protocols, which guarantees that environments with a mix of new PPM products and older PPM products will continue to function properly until all installed versions of PPM products are compatible with the new protocols.

If configuration files and databases that are shared by PPM Products are eligible to be upgraded, the PPM Encryption Conversion Utility performs the necessary upgrades to the configuration files and databases to enable the use of the new protocols.

Note: The PPM Encryption Conversion Utility must be run on all computers that have PPM Product configuration files on them to upgrade the configuration files to support the new protocols.

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Product	Computers To Run Conversion Utility
Acumen	Computers with Acumen installations maintaining datasources.dat (only necessary if the Publishing Metrics feature is in use)
Acumen Touchstone	Computer hosting the Application server
Cobra	Computers with Cobra installations
PM Compass	Computers hosting PMC application server and computers hosting PMC process server
Open Plan	Computers with Open Plan server installations or machines where Open Plan is installed locally
wInsight Analytics	Computers with wInsight Analytics installations maintaining datasources.dat

Supported PPM Product Versions

The following table displays the versions of PPM products that support the updated hashing and encryption protocols.

Note: The versions listed below are the minimum supported versions. Subsequent cumulative update (CU) releases within the listed major or minor release will be supported unless otherwise specified.

Product	Version
Acumen	8.9 or later
Acumen Touchstone	8.2 or later **Attention:** For version 8.11, additional steps are required. For details, see the *Deltek Acumen Touchstone 8.11 Installation & Administration Guide*.
Cobra	8.5 or later
Open Plan	8.7
PM Compass	8.4 Cumulative Update 02 or later
wInsight Analytics	8.3.2 or later

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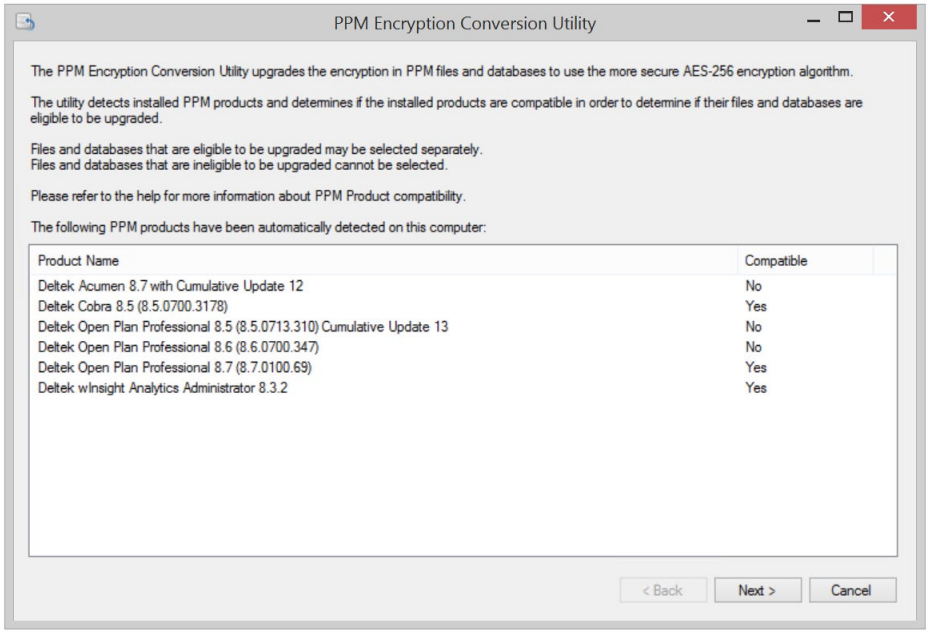
User Interface

The PPM Encryption Conversion Utility has two main screens, an introduction screen and a details screen.

Introduction Screen

The introduction screen displays a list of all PPM Products that are installed along with the product version. It also displays a status value, indicating if the product is compatible with the new protocols. A value of **Yes** indicates the product is compatible with the new protocols and a value of **No** indicates the product is not compatible with the new protocols.

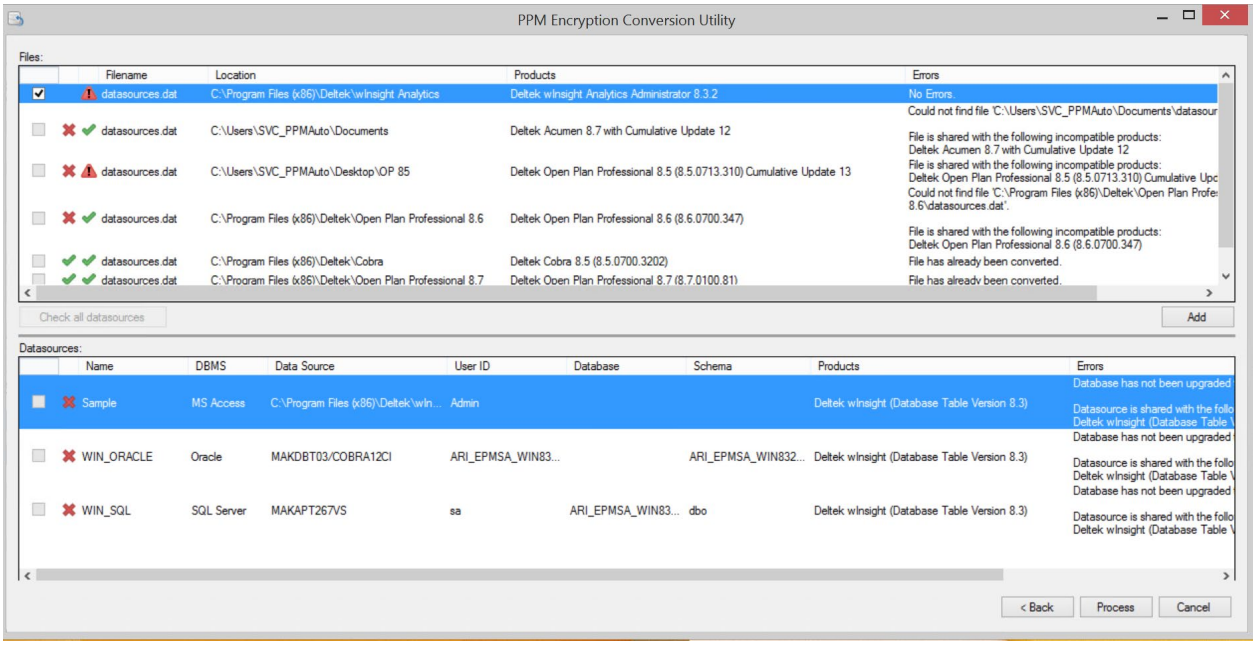
Additionally, you can display the installation location of each product by hovering your mouse cursor over the product name in the list.



Details Screen

The details screen displays two grids that contain the configuration files and data sources that are in use by the installed PPM Products.

> **Note** You can access this screen by clicking **Next** on the Introduction screen.



Attention: PPM products use different files where encrypted and hashed data is stored. For more information, see the Updated Files and Data section in this document.

Files Grid

The **Files** grid displays the configuration files that are in use by the installed PPM Products and the location of the files.

- The **Products** column displays the products that use the configuration file. If a configuration file is shared with multiple products, each product that is sharing the file is displayed as a separate line in the column.
- The **Errors** column displays any validation errors that prevent the file from being selected to be upgraded.
- Icons are displayed next to the file name of a configuration file to provide a simple visual indication of the conversion status of the file.

  Attention: For more information, see the Conversion Status Icons section in this document.

  - If the configuration file is validated as eligible to be upgraded, the corresponding selection checkbox is selected by default.
  - If the configuration file is validated as not eligible to be upgraded, the selection checkbox is disabled, and the validation errors are displayed in the **Errors** column. You can also view the errors by hovering your mouse cursor over the icons that are displayed next to the filename of the configuration file.

Selecting a configuration file in the grid displays the data sources that are defined in the selected configuration file in the **Datasources** grid and validates that the data sources are eligible to be converted.

Check all datasources Button

The **Check all datasources** button allows you to validate the status of all data sources in all configuration files at once instead of selecting each configuration file separately in the **Files** grid.

Add Button

The **Add** button allows you to add more encrypted files to convert. Clicking this button displays the Add a Datasources.dat, Databases.enc, or IdeaBlade.ibconfig dialog box, which accesses the C:\ folder by default. The next time you add more files, however, it defaults to the last location you accessed.

Datasources Grid

The **Datasources** grid displays the data sources that are defined in the selected configuration file in the top grid.

- The **Name**, **DBMS**, **Data Source, UserID**, **Database**, and **Schema** columns display the configuration properties for a data source. If the data source is shared with multiple products, each product that is sharing the data source is displayed as a separate line in the column.
- The **Errors** column displays any validation errors that prevent the data source from being selected to be upgraded.
- Icons are displayed next to the name of a configuration file to provide a simple visual indication of the conversion status of the data source.

  Attention: For more information, see the Conversion Status Icons section in this document.

- If the data source is validated as eligible to be upgraded, the corresponding selection checkbox is selected by default.
- If a data source is validated as not eligible to be upgraded, the selection checkbox is disabled, and the validation errors are displayed in the **Errors** column. You can also view the errors by hovering your mouse cursor over the icons that are displayed next to the name of the data source.

Attention: A database is not compatible for conversion if it has not been upgraded to include the **ENCRYPTPROTOCOL** and **HASHPROTOCOL** columns in the WST_PRD table or the values of those fields have not been set to the new protocol values. For more information, see the Updated Files and Data section in this document.

Process Button

The **Process** button allows you to perform the upgrades to the configuration files and databases to enable the use of the new protocols.

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Conversion Status Icons

The details screen of the PPM Encryption Conversion Utility allows you to select the database configuration files and data sources to convert. Each line in the **Files** grid displays two icons, the first of which represents the status of the file and the second of the data source in that file.

Icon	Description
(Blank)	The file or data source is eligible for conversion.
	An error prevents the file or data source from being eligible for conversion.
	The file or data source has been converted.
	The status of the data sources in a file has not been evaluated. The status is updated to one of the other colors (green or red) when you select the file.
	One or more data sources are eligible for conversion.
	One or more data sources have an error that prevents them from being eligible for conversion.

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Run the PPM Encryption Conversion Utility

You need to run this tool under the following conditions:

- You have an environment with existing PPM products.
- All PPM products have been upgraded to a version that supports the new hashing and encryption protocols.

Note: You do not need to run the tool when all files and databases have already been converted.

- The **UserID** and **Password** value in each data source are encrypted with AES1 protocol (the value starts with **000001**).
- All configuration files and data sources on the details screen are disabled and the **Errors** column displays "File/Datasource has already been converted."
- The WST_UPD table in the database contains the _PASSWORDHASHPROTOCOL = 1 and _ENCRYPTIONPROTOCOL = 4 categories.

To run the PPM Encryption Conversion Utility:

1. Navigate to the location of the PPM Encryption Conversion Utility. The location may vary for each PPM product.

Product	Location
Acumen	C:\Program Files\Deltek\Acumen <supported version>\ PPMEncryptionConverter or On the **Start** menu, click **Deltek Acumen <supported version> » Deltek PPM Encryption Converter**
Acumen Touchstone	C:\Program Files\Deltek\Acumen Touchstone\PPMEncryptionConverter
Cobra	C:\Program Files (x86)\Deltek\Cobra\ or On the **Start** menu, click **Deltek Cobra <supported version> » Deltek PPM Encryption Converter**
Open Plan	*For 64-bit:* C:\Program Files\Deltek\OpenPlan <supported version>\ *For 32-bit:* C:\Program Files(x86)\Deltek\Open Plan <supported version>\
PM Compass	C:\Program Files\Deltek\EPMSA\

	or On the **Start** menu, click **Deltek PM Compass» PPM Encryption Conversion Utility**.
wInsight Analytics	*For 64-bit:* C:\Program Files\Deltek\wInsight Analytics\ *For 32-bit:* C:\Program Files(x86)\Deltek\wInsight Analytics\

2. Double-click **PPMEncryptionConverter.exe** or click the corresponding shortcut from the **Start** menu.

   It automatically detects all installed PPM products on your machine and determines whether the installed products are compatible (meet minimum supported version) to determine if their files and databases are eligible for upgrade.

   > **Attention:** For more information, see the Supported PPM Product Versions section in this document.

   Upon launching the encryption conversion utility, it creates the PPM Encryption Converter folder for backup files in the C:\Users\<User Name>\Documents\Deltek\PPM Encryption Converter. This folder contains <Backup> folders using the **yyyymmdd_hhmmss** name format, which refers to the date and time when the conversion utility is launched (for example, 20221116-194029). Each <Backup> folder contains the Backup sub-folder and the PPMEncryptionConverter.log (which is created after the conversion process).

3. On the introduction screen of the PPM Encryption Conversion Utility dialog box, click **Next**.
4. On the details screen, review and confirm the selections of the configuration files and data sources that are eligible for conversion.

   > **Note:** For those products with compatible versions, you can select the files and data sources separately. If the files and databases are ineligible for upgrade, you cannot select them. If there is an error in any of the files or data sources, the corresponding checkbox is disabled and not selected.
   >
   > Alternatively, you can click **Check all datasources** to validate the status of all data sources in all configuration files at once instead of selecting each configuration file separately.

   > **Note:** If you need to add more encrypted files to convert, click **Add**.

   > **Attention:** Different icons display beside the available files and data sources to indicate their conversion status. For more information, see the Conversion Status Icons section in this document.

5. Click **Process**.

> **Note:** If there is no configuration file selected in the **Files** grid and no data source is selected in the **Datasources** grid, the **Process** button is disabled.

- During the conversion process, the PPM Encryption Conversion Utility creates a copy of the database configuration file in the Backup folder. The backup name has the **<n>.<filename>** format, where **<n>** represents a number starting from 1 to make the backup files unique (such as, 1.datasources.dat, 2.ideablade.ibconfig, and 3.databases.enc).

  It also creates a file named FileMapping.txt, which contains the mappings of both the backup and original files. The mapping follows the **<backup file> (<original file>)** format. For example, 1.datasources.dat (C:\Program Files (x86)\Deltek\Cobra\datasources.dat).

- After the conversion process, the WST_UPD (*for all products*), WST_CFG (*for Cobra and Open Plan*), and WST_UPF (*for Acumen Touchstone and Open Plan*) tables are updated.

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Installation and Conversion Scenarios

The term “old PPM products” in the following table refers to those products that still use the previous (outdated) encryption and hashing protocols.

When installing...	Run the conversion utility tool?
A new PPM product into a new environment with no other PPM products or has other new PPM products	You do not need to run the tool. If you run it, no conversion happens because encrypted data is already using the new protocols.
A new PPM product into an environment with old PPM products	You do not need to run the tool. If you run it, nothing happens until all PPM products are new (or in a version that supports the updated hashing and encryption protocols).
An old PPM product into an environment with new PPM products	You can still install the old PPM product, but you will not be able to log on to it. You do not need to run the utility tool. If you run it, the conversion does not change anything to the old PPM product. Encrypted data is already using the new protocols for new PPM products.

When upgrading...	Run the conversion utility tool?
An old PPM product to it latest version in an environment with other old PPM products	You do not need to run the tool. If you run it, nothing happens until all PPM products are considered new (supporting the updated hashing and encryption protocols).
An old PPM product to its latest version in an environment with other new PPM products	You need to run the tool. When you run it, it converts encrypted data using the new protocols for all PPM products.

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Updated Files and Data

PPM products use different files to store encrypted and hashed data.

Files	Acumen Touchstone	Cobra	Open Plan	PM Compass	wInsight Analytics
Datasources.dat	✓	✓	✓	✓	✓
IdeaBlade.ibconfig		✓			
Databases.enc				✓	
SQL Databases	✓	✓	✓	✓	✓

Note: For Acumen Touchstone, you need to add the Datasources.dat file manually to access it by clicking **Add** at the bottom of the **Files** grid.

Running the encryption conversion utility updates the following files to use the new encryption protocols (which it does by re-encrypting the previously encrypted values using the new encryption protocols):

File	Description
Datasources.dat	This file stores user names and passwords for database connections for the following PPM products: ▪ Acumen ▪ Acumen Touchstone ▪ Cobra ▪ EPM SA (EPM Security Administrator) ▪ PPM Administrator ▪ Open Plan ▪ wInsight Analytics The user names and passwords used for the database connections are re-encrypted using the new protocols. The following sections are added to the file: ▪ **[ProductEncryptionProtocols]** - It allows each product to specify the encryption protocol that it supports by adding a key to the section in the **ProductId=<EncryptionProtocol>** form. ▪ **[EncryptionProtocol]** - It contains the key **EncryptionProtocol=<EncryptionProtocol>** that indicates the

	encryption protocol the .dat file is currently using to allow products to use the correct protocol when writing encrypted values to the .dat file.
Databases.enc	This file stores usernames and passwords for database connections for PM Compass. The user names and passwords for the database connections are re-encrypted using the new encryption protocols. **Attention:** If you have multiple PM Compass process servers, you can configure PM Compass to use one datasources.enc. If you have not performed this configuration, you need to run the encryption conversion utility on all PM Compass process servers. For more information on configuring a shared databases.enc, see the *Deltek PM Compass Advanced Administration Guide*. PM Compass 8.3 and higher install databases.enc already encrypted. An upgrade from a previous version upgrades the encryption. If you copy databaeses.enc from a previous version into a new install, you have to run this encryption conversion utility.
IdeaBlade.ibconfig	This file stores the password for the Cobra Data Tool. The password used for the Data Tool is re-encrypted to use the new protocol. **Important:** Updating this file makes the Data Tool password case-sensitive (which was not case-sensitive in the old versions). Make sure that the password used in logging on to the Data Toolis in uppercase. **Note:** The ideaBlade.ibconfig used by the Cobra Web service and the PM Compass Integration does not store the Data Tool password and, therefore, this file does not need to be encrypted.
Connection Information	PPM products that store data in Oracle and MS SQL Server databases store the database connection information in an encrypted file: ▪ Acumen ▪ Acumen Touchstone ▪ Cobra ▪ EPM Security Administrator ▪ PPM Administrator ▪ Open Plan ▪ PM Compass ▪ wInsight Analytics To allow PPM products to specify the encryption and password hash protocols that each product supports, the WST Table upgrade scripts add the following fields to the WST_PRD table:

	▪ **ENCRYPTPROTOCOL = 1** ▪ **HASHPROTOCOL = 4** To allow PPM products to determine the configured protocols that they use when writing encrypted or hashed data to the database, the following rows are available in the WST_UPD table: ▪ **_ENCRYPTIONPROTOCOL** ▪ **_PASSWORDHASHPROTOCOL** **Note:** Initially, **_ENCRYPTIONPROTOCOL** and **_PASSWORDHASHPROTOCOL** are set to **0**. After the conversion process, they are set to **1** and **4**, respectively. For Acumen Touchstone, the first 8 characters of the values for the **DEFAULTFOOTERTEMPLATE**, **EMAILSETTINGS**, and **PLATFORMSETTINGS** categories in the WST_UPF table should be **00000100** after conversion. **Note:** All encrypted values are encrypted to use the new protocol and hashed passwords are updated upon user login after conversion.

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Change Passwords

After a PPM data source has been upgraded by the PPM Encryption Conversion Utility, users are prompted to update their password the very first time they log on to the converted data source using a PPM product. This is a necessary step to update the users stored password to use the new password protocol for storing user passwords.

The first time the users log on to the converted data source with a PPM product, the product displays the Change Password dialog box to allow them to enter their existing password again or create a new password.

Note: Users are permitted to enter their existing password again if desired. It is not necessary to create an entirely new password.

Note: Users must complete the Change Password step to use the PPM product with the converted data source. If they choose to cancel the Change Password step, they return to the Login dialog box.

Data Tool

When the Data Tool encrypted the Data Tool password using the old protocol, the password was not case-sensitive, and it was stored in uppercase. When users entered their password in the Data Tool Login dialog box, the Data Tool converted the entered password to uppercase and then compared it with the stored password.

When the PPM Encryption Conversion Utility converts the stored password, it still stores the password in uppercase. The Data Tool now recognizes that the stored password is using the new protocol. As a result, it no longer converts the entered password to uppercase before comparing it to the stored password.

Note: During the conversion of Cobra and Open Plan, the Data Tool password is changed to all uppercase characters. You should log on to the Data Tool using the prior password in uppercase. Deltek recommends that you change your password to the Data Tool after the encryption.