



## **Software Migration Guide**

**Metrics ICV  
Version 4.1.0**

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# **Table of Contents**

Introduction .....	3
Changes to Metrics ICV .....	4
New Instrument Support.....	4
User Interface .....	5
New Test Algorithms .....	5
VBScript Integrated Development Environment .....	6
Upgrading from Metrics ICV 3.x to version 4.1 .....	7
Microsoft Windows XP SP3 Installation.....	7
Step 1: Backup the Previous Metrics ICV.....	7
Step 2a: Upgrading Metrics ICV 4.0 to 4.1 .....	8
Procedure to Upgrade ICV from 4.0 to 4.1 .....	8
Step 2b: Installing Metrics ICV (new install).....	15
Procedure to Install ICV .....	15
Upgrading from Metrics ICV version 2.1 and Older.....	25
Step 1: Backup the Previous Metrics ICV.....	25
Step 2: Convert Tests to Algorithms.....	26
Step 3: Modify Test Scripts .....	27

# **Installation of Metrics ICV 4.1**

## **Introduction**

The Metrics ICV version 4.1 software product has undergone a significant change in its structure. Now with support for Windows 7, all software modules have been completely ported and update to full 32-bit and all Visual Basic 6 components have be updated to VB.NET in Microsoft Visual Studio 2010.

Some of the modifications that were implemented are based upon years of email, support, and training observations regarding areas of past versions of Metrics ICV that were confusing. The new version of Metrics ICV makes a significant attempt to simplify the process of performing measurements for the causal as well as advanced users. Duplicate features, difficulty of using a probe station for automation, and integration have been addressed.

# Changes to Metrics ICV

The following discussion of the changes to Metrics ICV includes information as to why the changes were made. In addition, replacement functions or procedures are listed.

## ***New Instrument Support***

Metrics ICV 4.1 has added support for several new pieces of test and measurement equipment. These include:

### **Parameter Analyzers/CV Meters**

- Agilent B1505A Power Semiconductor Curve Tracer (HCSMU, HVSMU, DHCSMU, MFCMU ( support – no PGU support at this time)
- Keithley 2600A Series Source Measure Unit (multi-instrument support utilizing LXI interface)
  - KI 2601A, 2602A, 2611A, 2612A, 2635A, 2636A, 2657A
- Agilent B2900A Series Source Measure Unit (multi-instrument support utilizing LXI interface)
  - AT B2901A, B2902A, B2911A, B2912A

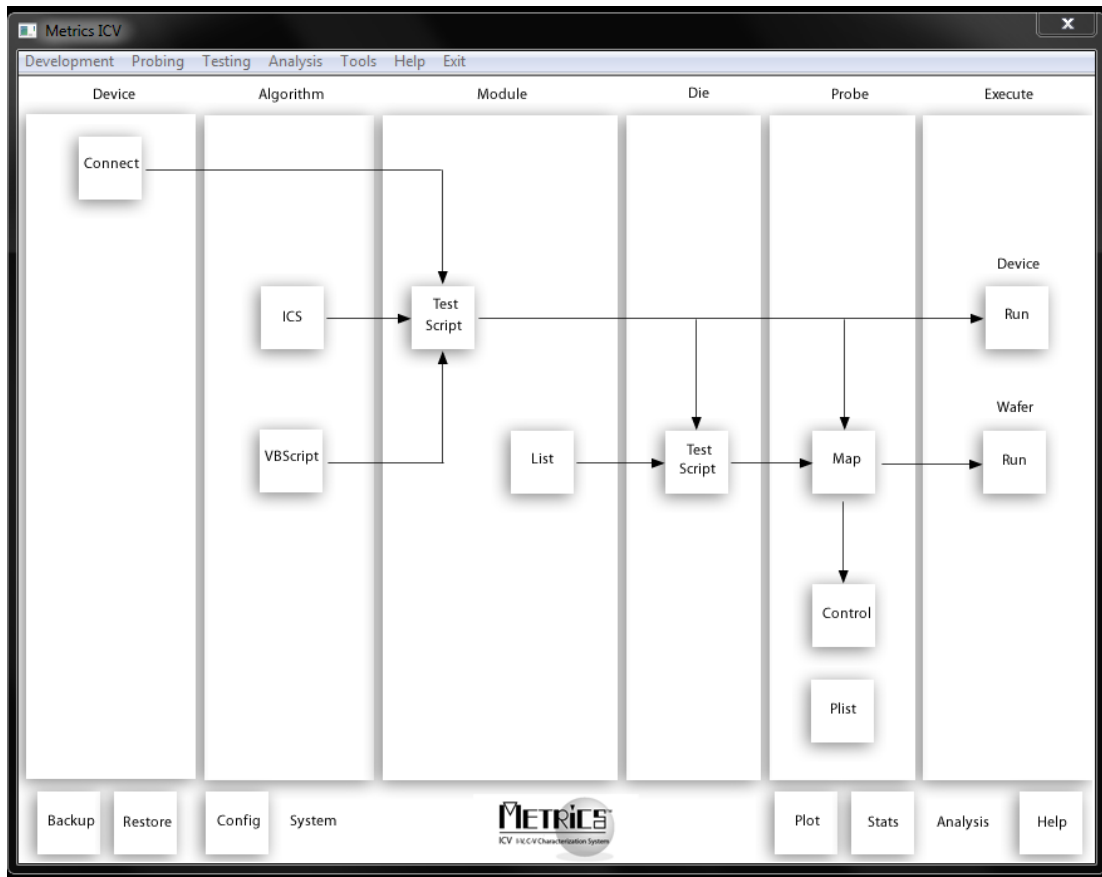
### **Thermal Controllers (requires IDE 4.1 license)**

- TMMCO Controllers via NetProbe
- Cascade controllers via Nucleus 4.x Thermal
- Cascade/Suss controllers via ProberBench 7.x Thermal

### **Probe Stations**

- 4-Dimensions CV92M mercury probe

## User Interface



The Metrics ICV 4.1 has a new navigation map that provides a work-flow based model for configuring and executing your tests. The original menu system is still available for advanced users and the functionality of the editors are basically the same as previous versions of the software so there will be a very small learning curve necessary to use this latest version of the software.

## New Test Algorithms

(Not included with the Metrics ICV Perpetual License)

The Metrics ICV Annual license is now the IDE (Integrated Development Environment) optional add-on product which includes test algorithms for CV Analysis, Wafer Level Reliability, Non-Volatile Memory testing, and other general test algorithms. In addition PGU libraries that support the Agilent 8110A 81110A are provided.

## ***VBScript Integrated Development Environment***

The Metrics ICV VBScript Algorithm support has undergone major enhancements. There is now an Integrated Developer Environment with libraries of control for IV instruments and switch matrix equipment. In addition a published interface is provided for the creation of new customer-designed probe and thermal drivers.

### **New Libraries:**

- Control for parameter analyzers
- Switching control
- Thermal Control
- Probing Control

## ***Upgrading from Metrics ICV 3.x to version 4.1***

Because there is no in-place upgrade for moving from Microsoft Windows XP to Window 7 operating system most installations will involve installing a new installation of Metrics ICV 4.1. In any case you will want to perform Step # 1 below to backup your user generated files from any previous version of Metrics ICV.

### ***Microsoft Windows XP SP3 Installation.***

For customers not wishing to move to Windows 7 and who will remain on Windows XP SP3 for a period of time the process to upgrade Metrics ICV 4.1 requires that you backup the previous version, uninstall Metrics ICV 3.x and then install Metrics ICV 4.1. You can then restore your backed up user files to the new installation to continue using Metrics ICV 4.1.

**NOTE:** Please be aware that Microsoft has announced the end-of-support for Windows XP to be April 2014. Due to this fact future versions of Metrics ICV will not support Windows XP. Also as of this date there will no longer be a bridge product available to customers for porting version 2.1 or older files as described in this guide.

To install Metrics ICV 4.1 on XP SP3, please perform the following steps:

### ***Step 1: Backup the Previous Metrics ICV***

The Metrics ICV setup program requires that you backup and uninstall the previous version. To do this, please perform the following steps:

**DO NOT LEAVE YOUR BACKUP ARCHIVE IN THE METRICS DIRECTORY!  
COPY THE BACKUP.ZIP FILE TO A DIFFERENT LOCATION LIKE A USB  
DRIVE.**

1. Go to the File Menu and select Backup
2. Enter the name of the backup ZIP archive in the default directory (i.e. C:\METRICS\ backup.zip)
3. Allow the backup utility to complete then copy the .ZIP file to another drive location.

After upgrading, some of the functions of the software will require that older projects or features be modified.

Metrics ICS files are now be stored in the windows file system. Existing tests should be opened and then saved in the Metrics\ics\projects directory.

## ***Step 2a: Upgrading Metrics ICV 4.0 to 4.1***

The installation program for the Metrics ICV software installs all components necessary to run Metrics ICS. If you install the software you will be able to run the trial version of the software with the request and delivery of a trial codeword, you will have to enter the permanent codewords in both Metrics ICV and the included Metrics ICS after this time in order to continue using the software.

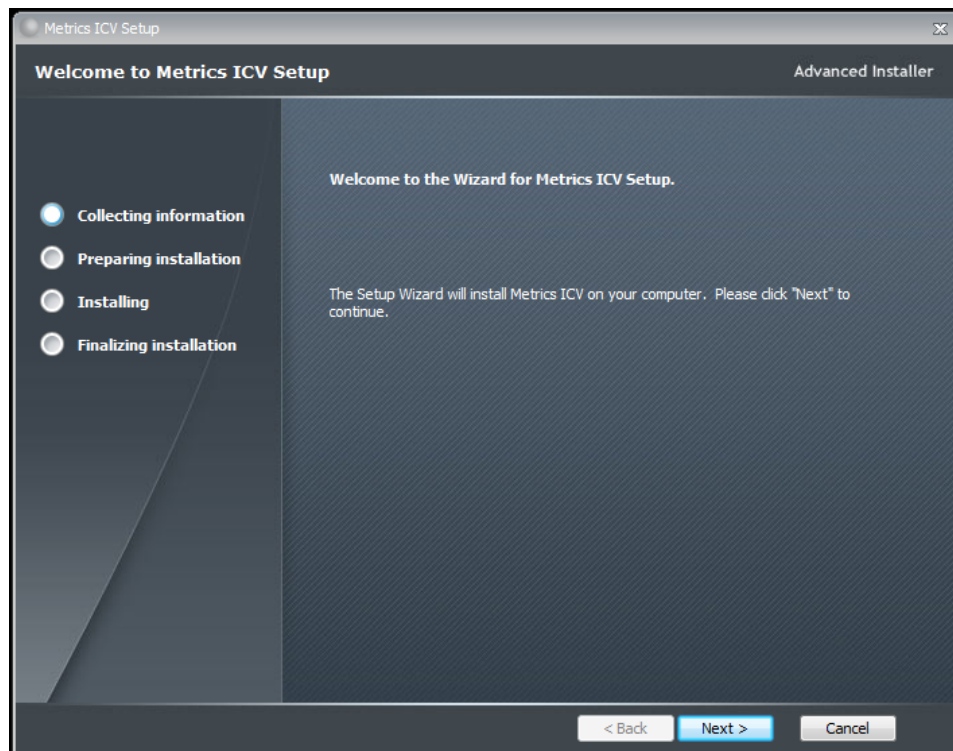
### **Obtain a Codeword**

This codeword is obtained by registering your software with Metrics Technology. Please visit our website at [www.metricstech.com](http://www.metricstech.com) to register your software and obtain the codeword.

## ***Procedure to Upgrade ICV from 4.0 to 4.1***

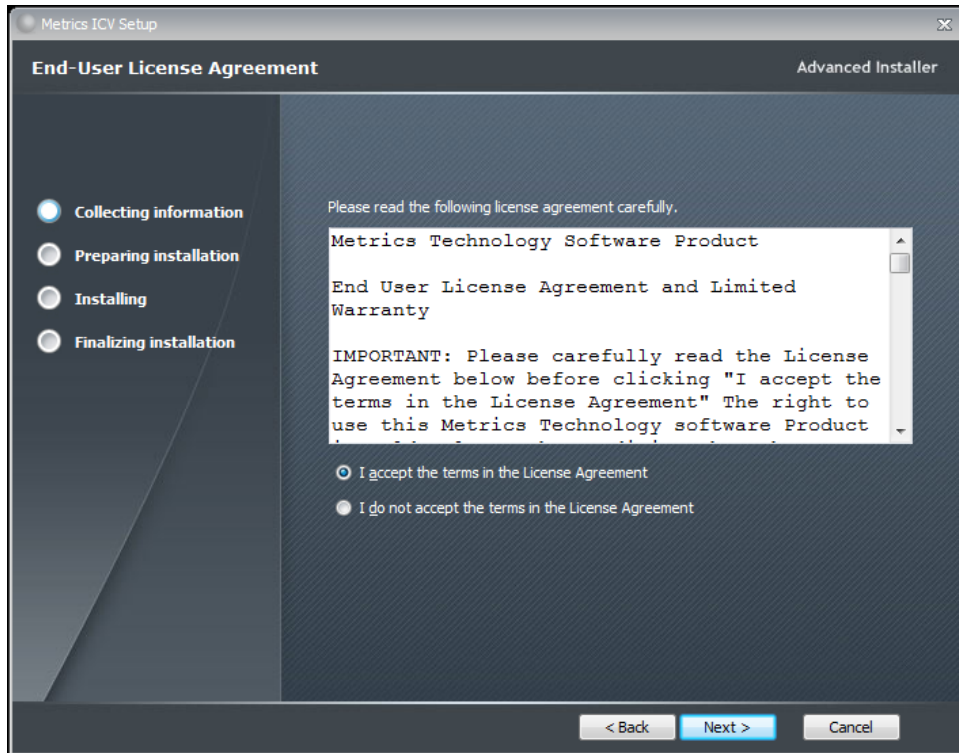
1. Download the Metrics ICV installer MTICV-41.EXE to the hard drive of your computer.
2. Select the **MTICV-41.exe** application icon to start the installation program.

**NOTE:** The installer may take up to 10 seconds or longer to uninstall the previous version of the software before displaying the Welcome panel.

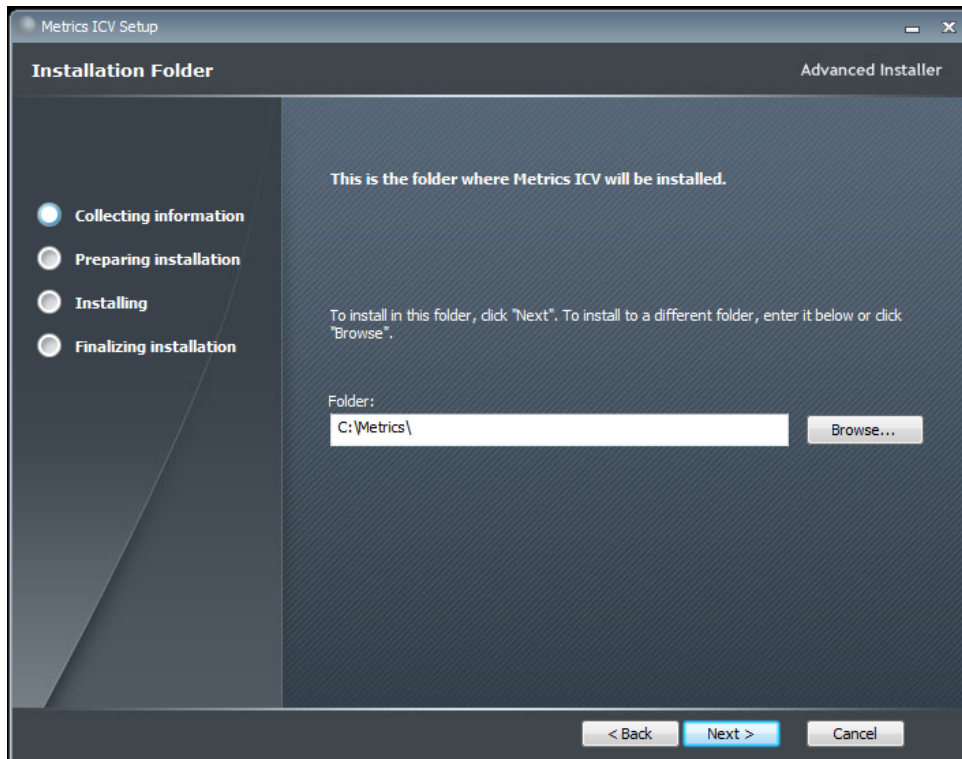


3. Click **Next** button on the "Welcome" panel.



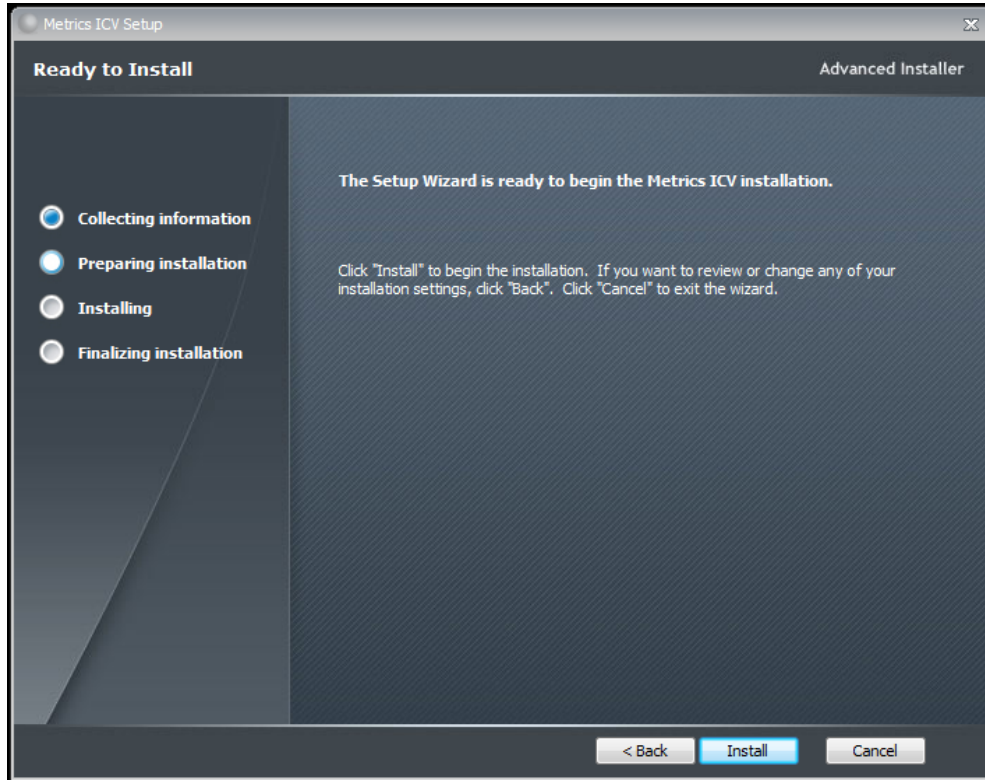


4. Read the "Software License Agreement" and click the **I agree to the terms in the License Agreement** button to agree to the terms. Then click **Next**.



5. Choose "destination location" for installation and click the **Next** button.

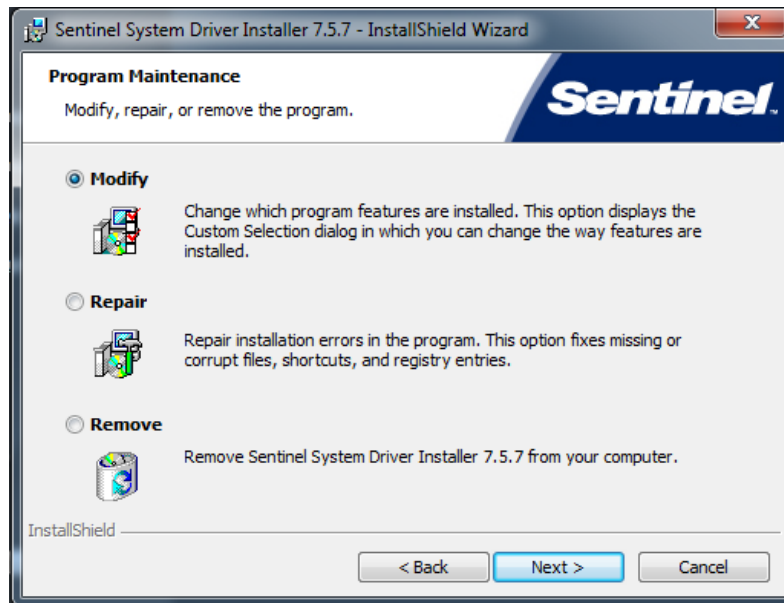
**NOTE:** It is recommended to select the default C:\Metrics\ as the location to maintain compatibility with previous versions of the software backups.



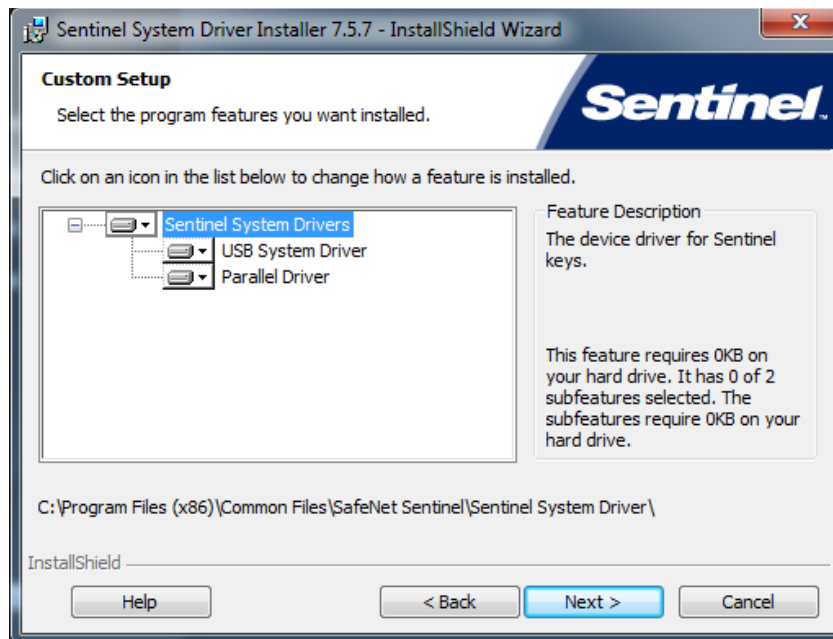
6. Click the **Install** button to begin the Metrics ICV installation.



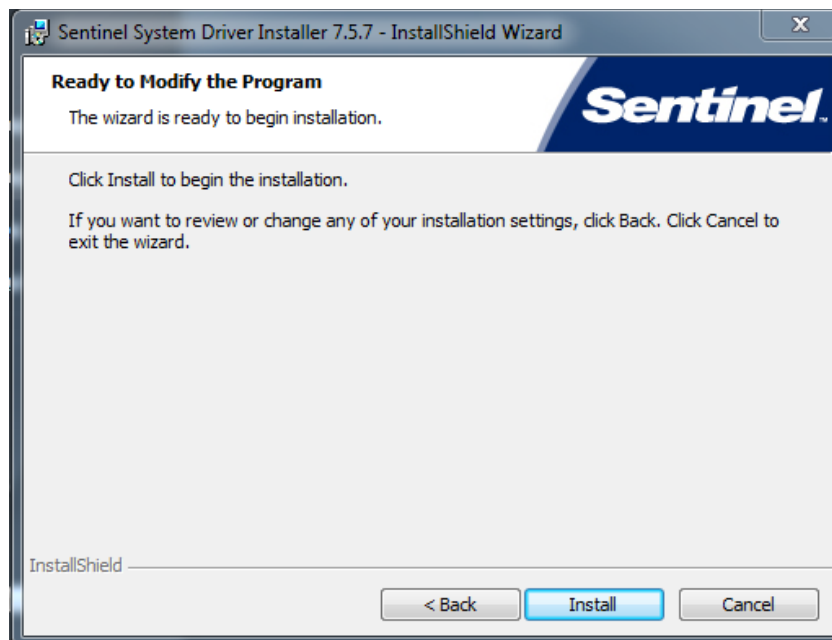
7. The Safenet Sentinel Pro driver installation will now be started to install the security license components.



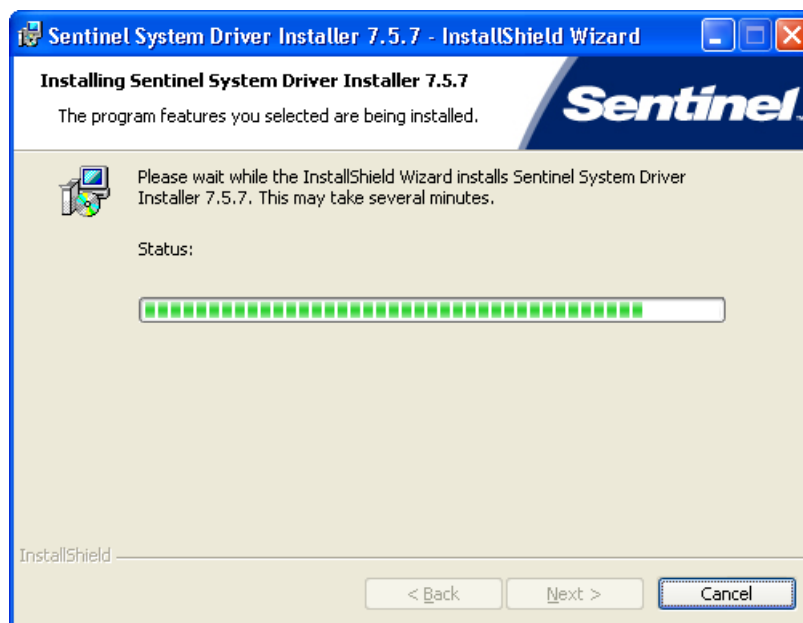
8. Select **Modify** setup type and click the **Next** button.



9. Select **Custom** setup type and click the **Next** button.



10. Click **Install** to start the Sentinel Driver installation.

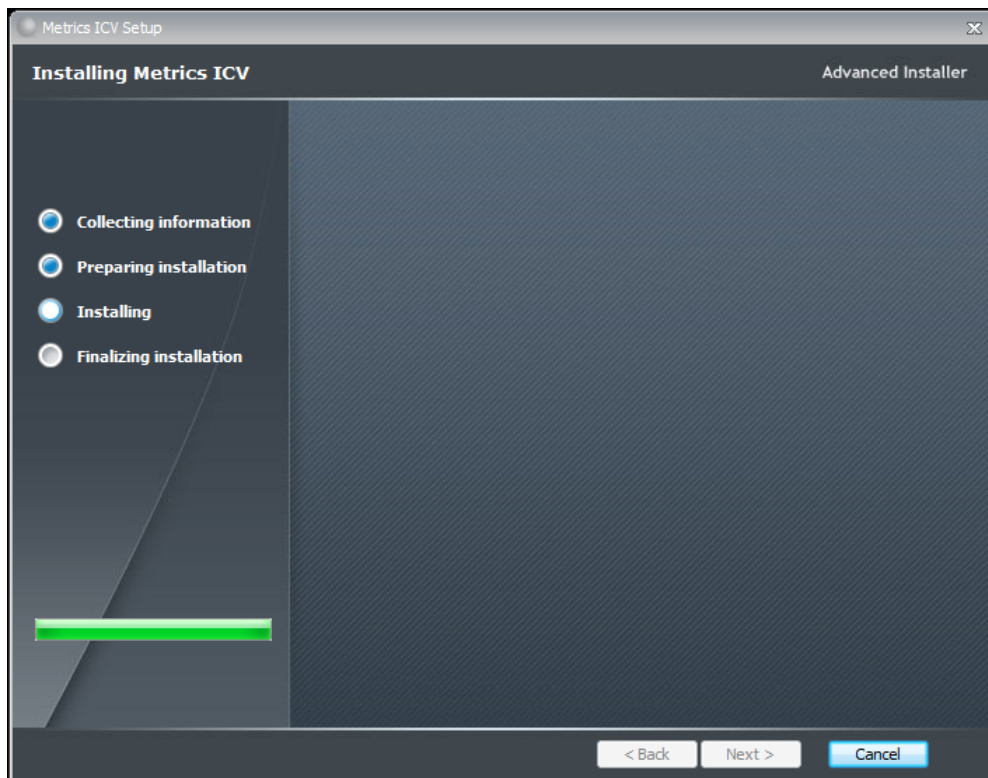


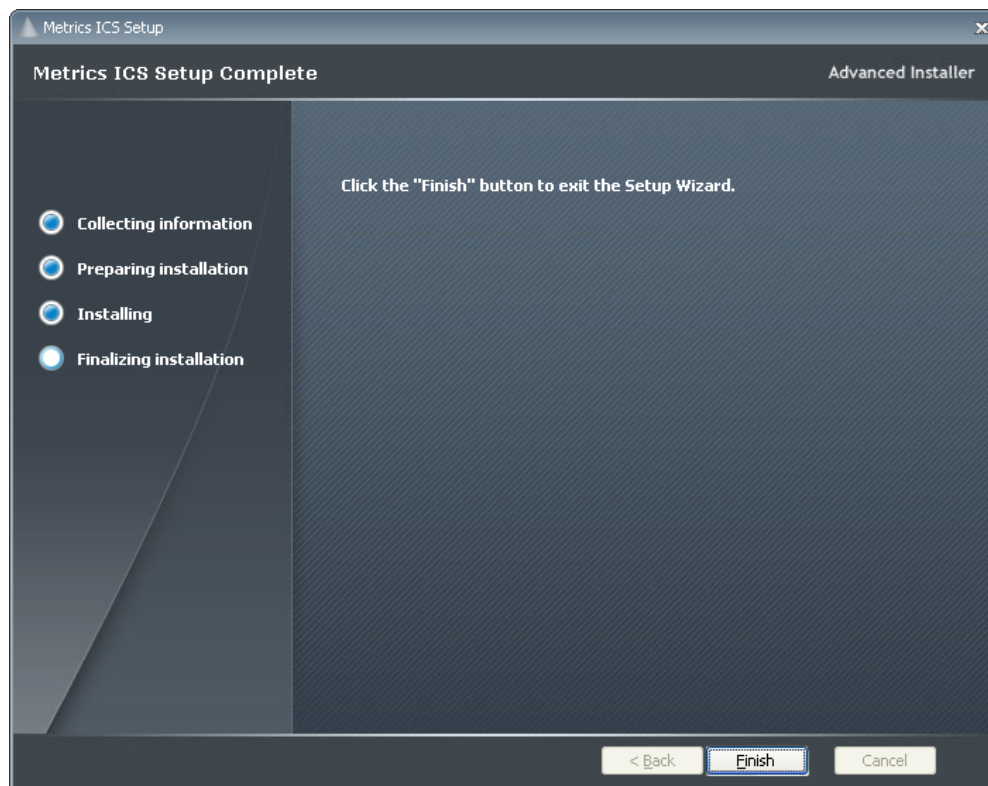
11. Allow the installation to complete.



Then click **Finish** to continue with the Metrics ICS installation.

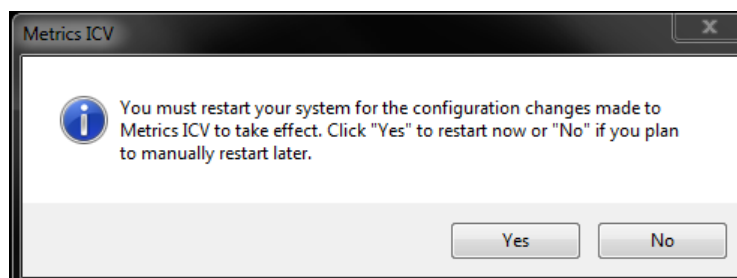
12. Allow the Metrics ICV installation to complete.





Then click **Finish** to complete the installation.

13. After the installation is finished, re-start the computer.



14. Connect the USB Security Key to the USB port of your computer. The Windows Hardware Manager should detect the USB device as Safenet USB SuperPro/UltraPro and should automatically install the driver for the device.

**NOTE:** It is recommended the security plug be connected directly to the computer instead of through a USB hub or keyboard port if possible.

## ***Step 2b: Installing Metrics ICV (new install)***

The installation program for the Metrics ICV software installs all components necessary to run Metrics ICV. If you install the software you will be able to run the trial version of the software with the request and delivery of a trial codeword, you will have to enter the permanent codewords in both Metrics ICV and the included Metrics ICS after this time in order to continue using the software.

### **Obtain a Codeword**

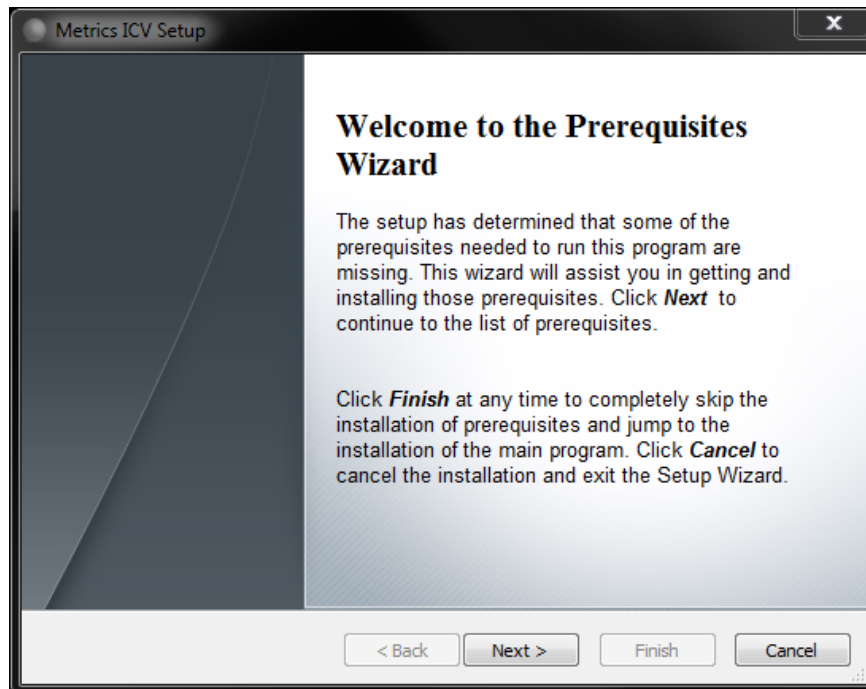
This codeword is obtained by registering your software with Metrics Technology. Please visit our website at [www.metricstech.com](http://www.metricstech.com) to register your software and obtain the codeword.

## ***Procedure to Install ICV***

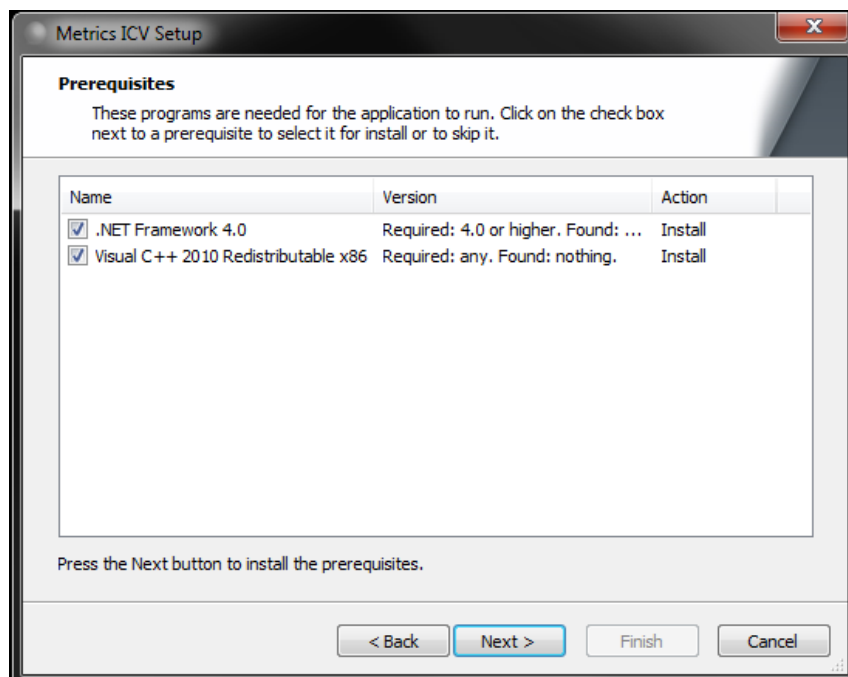
1. Insert the Metrics ICV install CD into the CD-ROM drive of your computer.
2. The CD-ROM should automatically start the **Setup.exe** installation program. If the installation does not start automatically then select right click on the CD drive icon in Windows Explorer and then select "explore". Select the **Setup.exe** application icon to start the installation program manually.

The installation will check for any prerequisites and start the Prerequisites Wizard to install the necessary software. Please note installation of some of these software components requires acceptance of the 3<sup>rd</sup> Party license agreements displayed during installation. Installation of some components can take some time so you should allow more time for installation if these components are not already installed on your workstation PC.



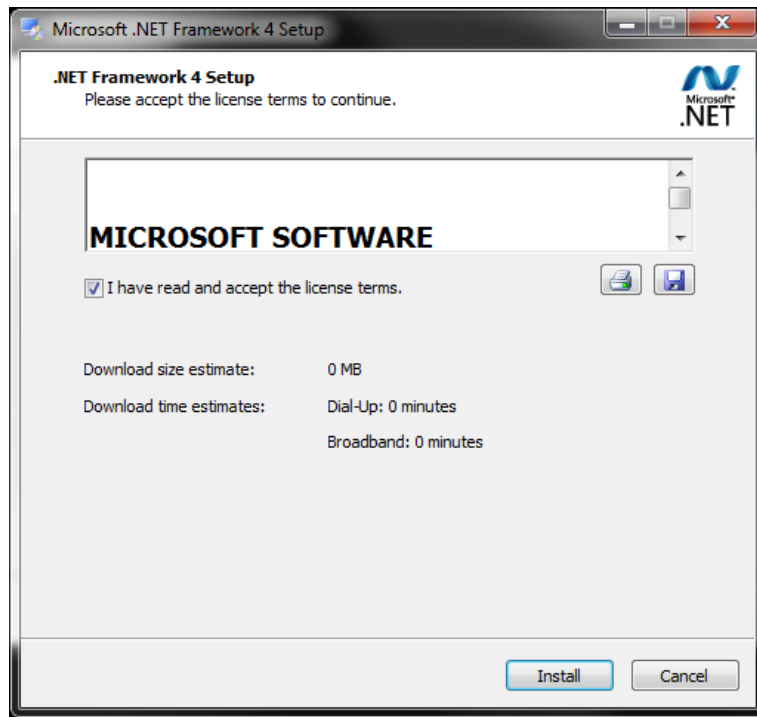


3. Click **Next** button on the "Welcome" panel.

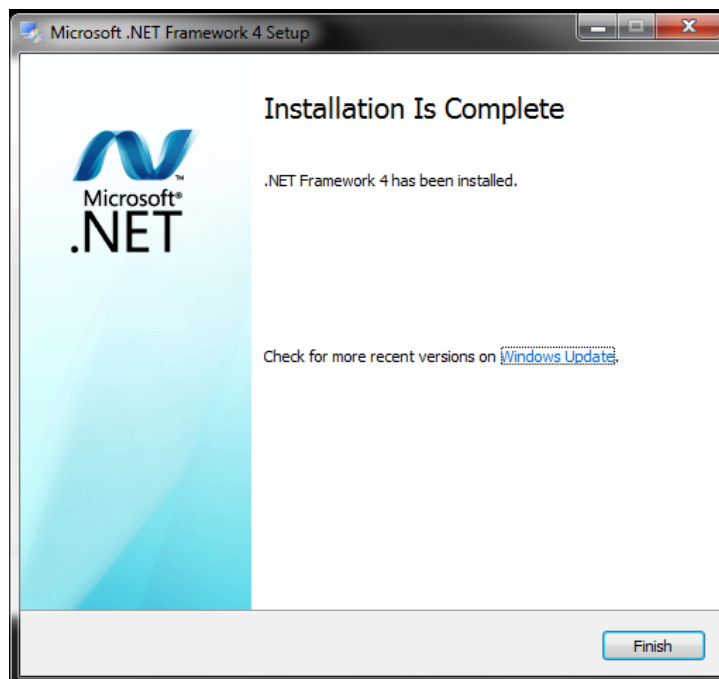


4. Click **Next** button on the "Prerequisites" panel.

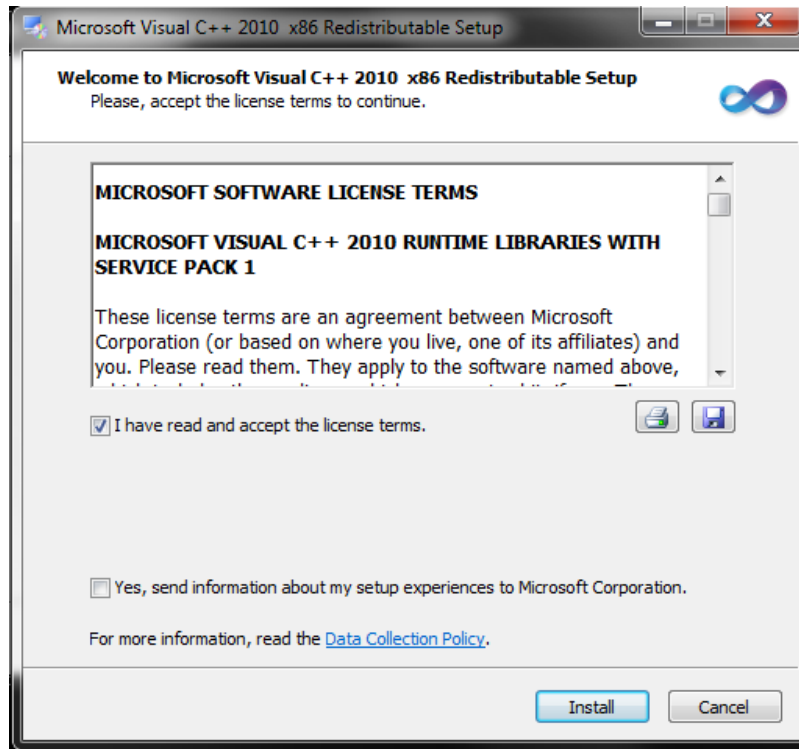




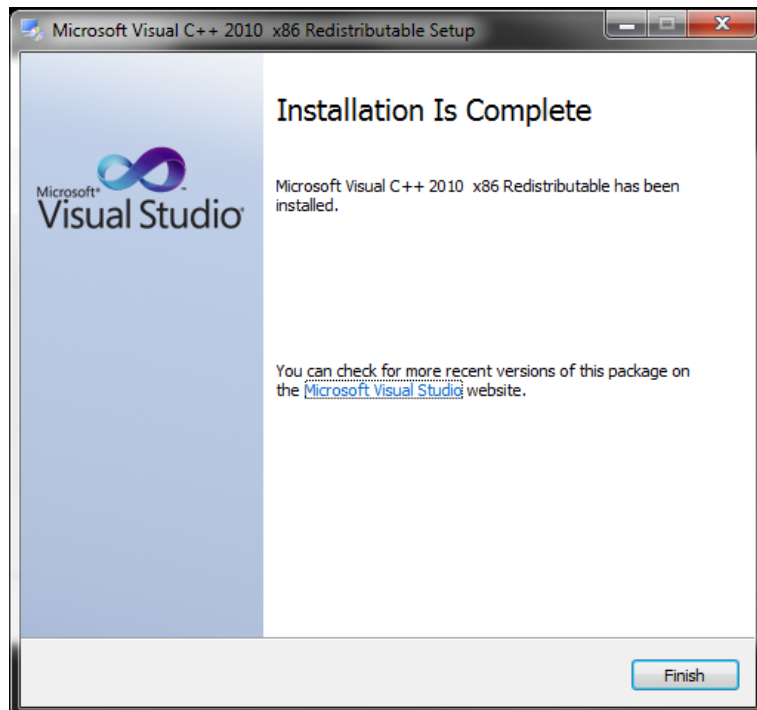
5. Click **I have read and accept the license terms** then click the **Install** button on the "Microsoft .NET Framework" panel.



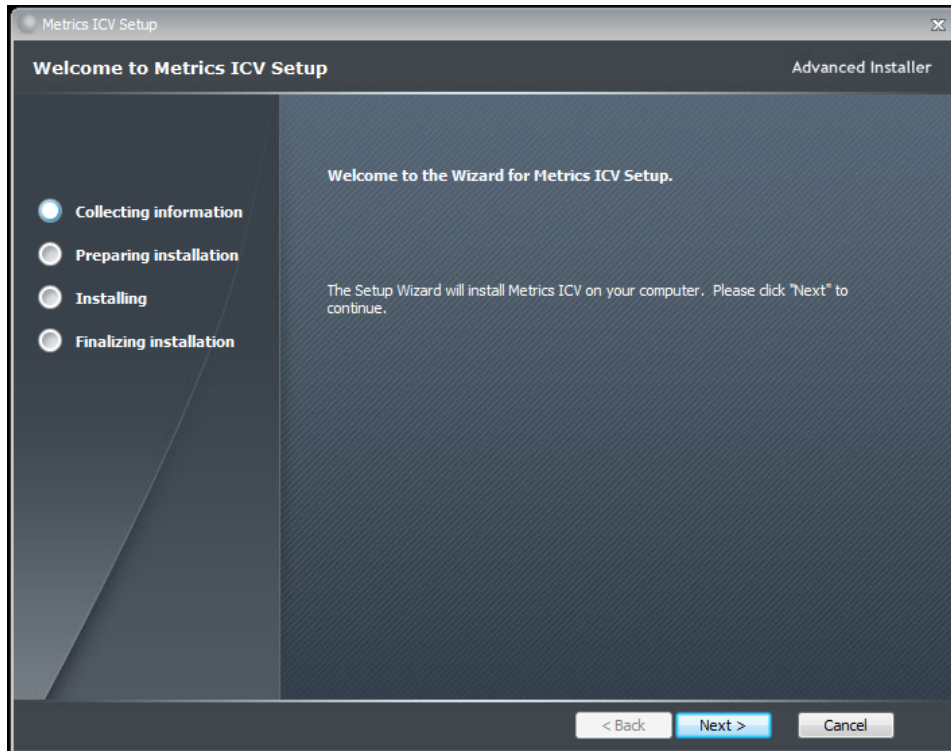
6. Click **Finish** to continue.



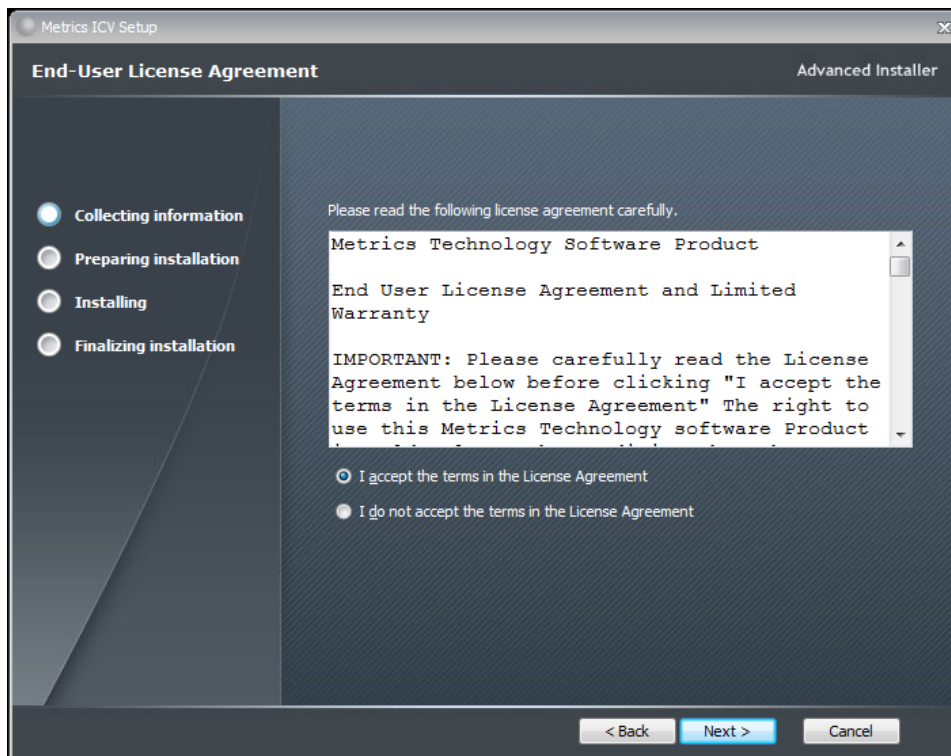
7. Click **I have read and accept the license terms** then click the **Install** button on the " Microsoft Visual C++ 2010 Redistributable " panel.



8. Click **Finish** to continue.

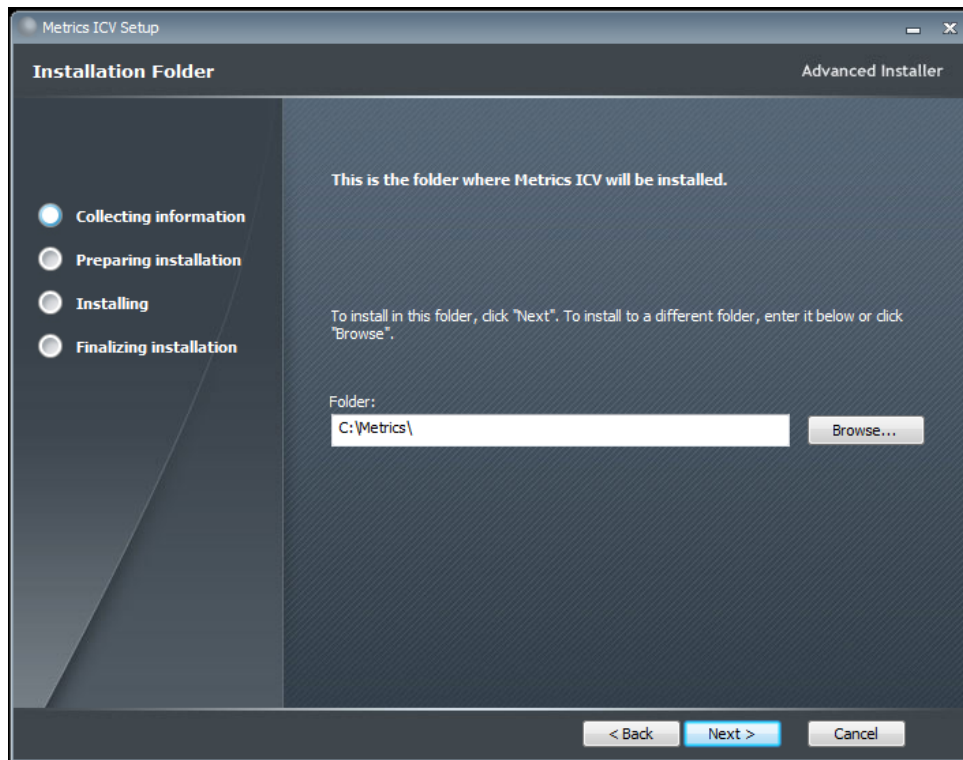


9. Click **Next** button on the "Welcome" panel.



10. Read the "Software License Agreement" and click the **I agree to the terms in the License Agreement** button to agree to the terms. Then click **Next**.

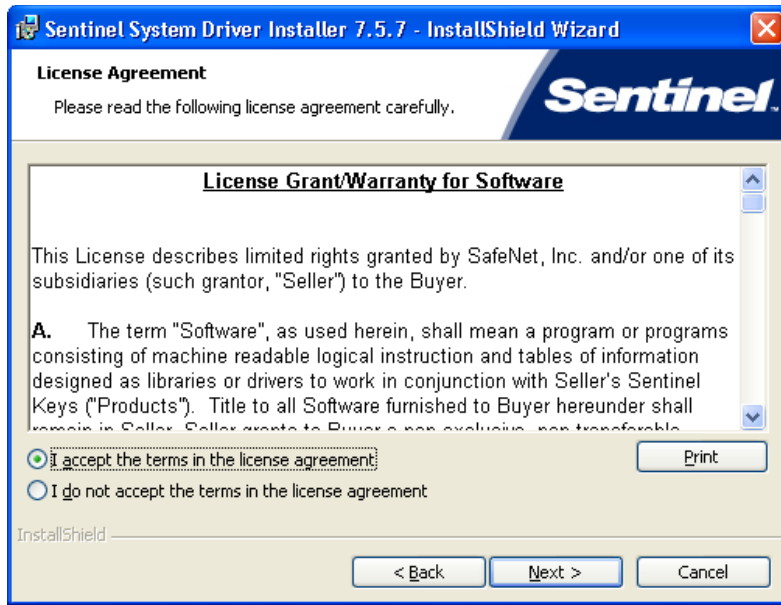
11. Choose "destination location" for installation and click the **Next** button.  
*Note:* It is recommended to select the default C:\Metrics\ as the location to maintain compatibility with previous versions of the software backups.



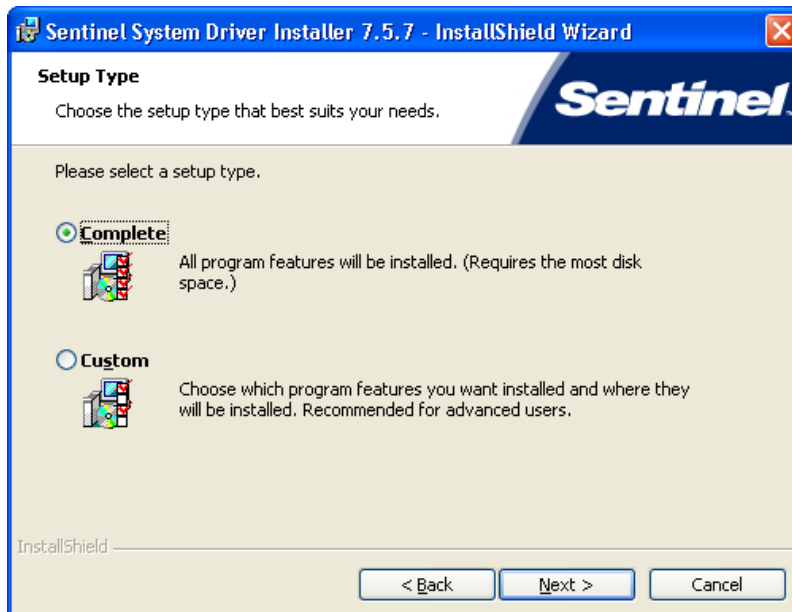
12. Click the **Install** button to begin the Metrics ICS installation.



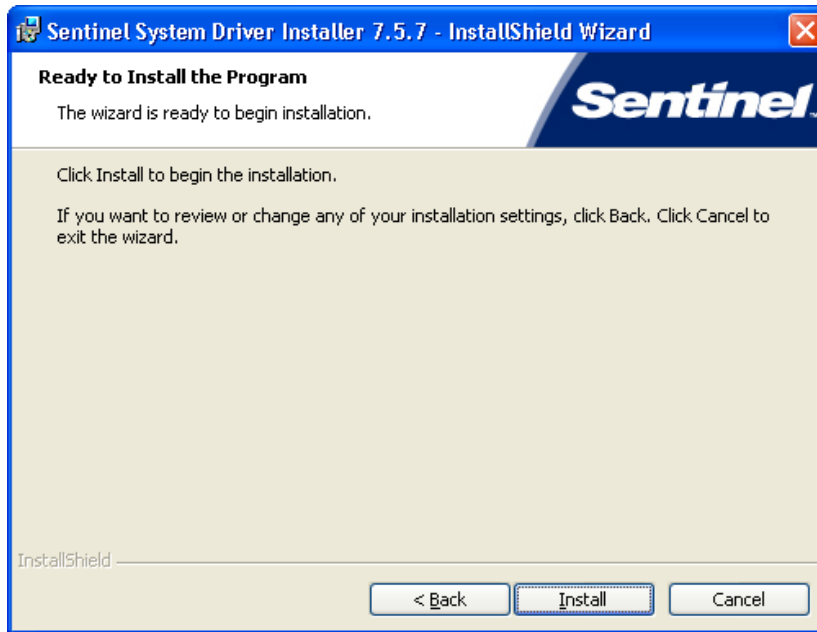
13. The Safenet Sentinel Pro driver installation will now be started to install the security license components.



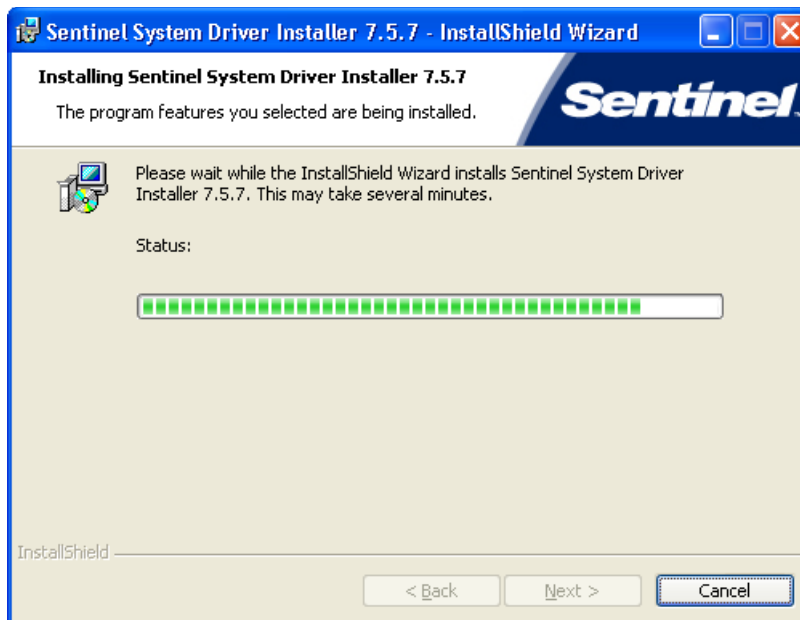
14. Read the "Software License Agreement" and click the **I agree to the terms in the License Agreement** button to agree to the terms. Then click **Next**.



15. Select **Complete** setup type and click the **Next** button.



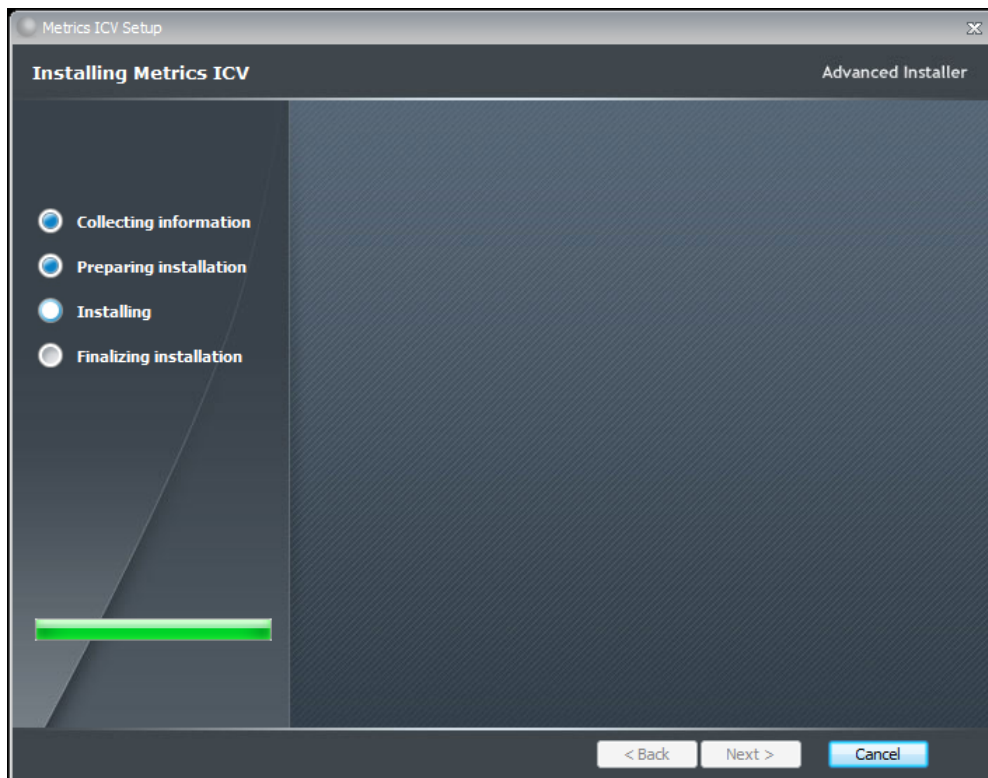
16. Click **Install** to start the Sentinel Driver installation.



17. Allow the installation to complete.

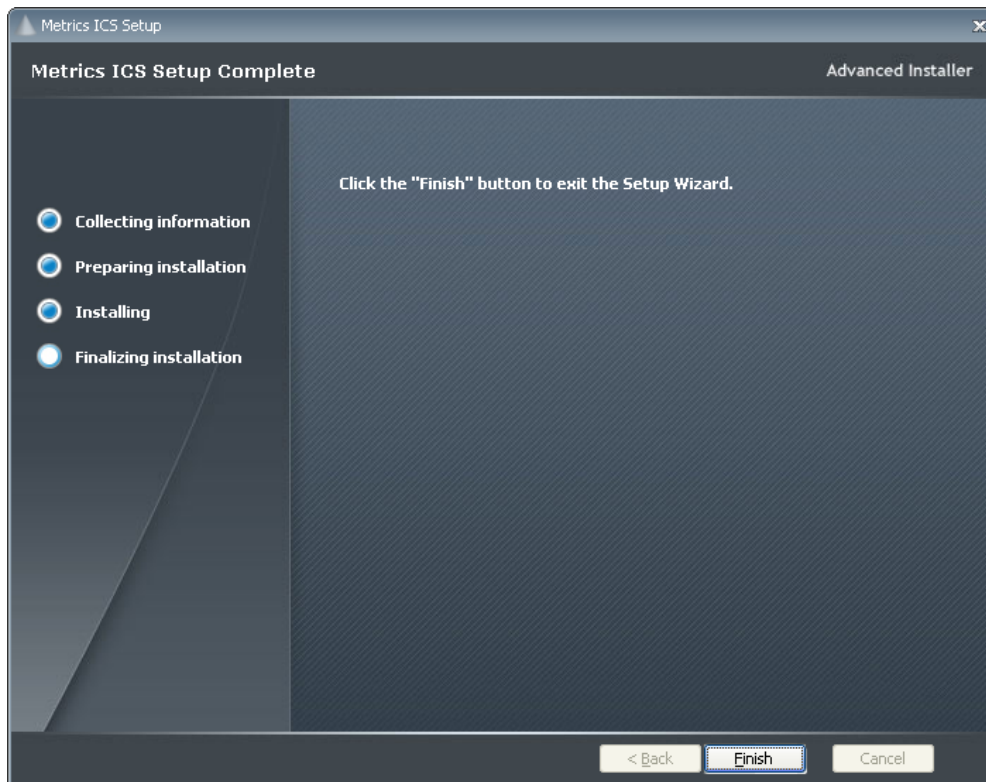


Then click **Finish** to continue with the Metrics ICS installation.

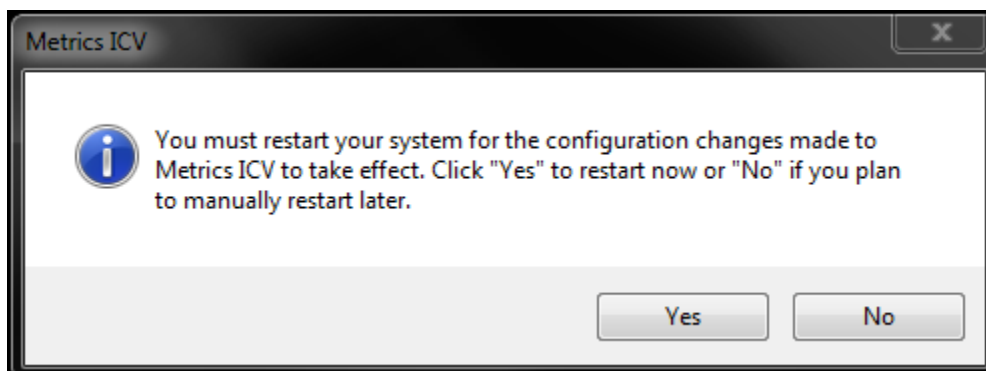


18. Allow the Metrics ICS installation to complete.





Then click **Finish** to complete the installation.



19. After the installation is finished, re-start the computer.

20. Connect the USB Security Key to the USB port of your computer. The Windows Hardware Manager should detect the USB device as Safenet USB SuperPro/UltraPro and should automatically install the driver for the device.

**NOTE:** It is recommended the security plug be connected directly to the computer instead of through a USB hub or keyboard port if possible.



# Upgrading from Metrics ICV version 2.1 and Older

**NOTE:** With the release of Metrics ICV 4.1 there is no longer a direct migration from version 2.1 or older releases.

The process to upgrade Metrics ICV requires that you backup and uninstall the previous version, install and configure the new version, convert tests to algorithms, and modify existing scripts. To do this, please perform the following steps:

## ***Step 1: Backup the Previous Metrics ICV***

The Metrics ICV setup program requires that you backup and uninstall the previous version. To do this, please perform the following steps:

**DO NOT BACKUP YOUR SOFTWARE INTO THE METRICS DIRECTORY!  
BACKUP TO A DIFFERENT LOCATION.**

1. Install the latest Hot Fix for ICV version 2.1 (at least Hot Fix 26).
2. Please backup your ICS database (\Metrics\ics\data).
3. Backup Module scripts (.scr).
4. Backup Die scripts (.die).
5. Backup Wafer Plans (.map)
6. Backup Module stepping lists (.mod)
7. Backup Probe Lists (.plist)
8. Backup Data files (.dat)
9. Open the Metrics Switch program and select Export. Enter a file name and location, then click OK. Then highlight the desired switch pattern names to be exported (Hold the CTRL key and select using the mouse). Select the Export as ASCII option and click the Export button.
10. Run the Uninstall Programs from the Control Panel of Microsoft Windows. Delete all programs with Metrics in their name. Click yes to uninstall common components.
11. Delete the Metrics directory.

## ***Step 2: Convert Tests to Algorithms***

In version 2.1 VBScript and ICS tests were treated as separate types of tests. The tests are generated using different tools, but the result is the same, an algorithm to perform a measurement. Beginning with ICV version 4.0 all such tests are referred to as algorithms, regardless of the tool (ICS or VBScript) used to generate them. As result, the algorithms are saved using the windows file system. The location of algorithms is within the C:\Metrics\algs directory. Note that sub-directories may be used for organizing the groups of algorithms.

The first step for creating an algorithm from an ICS version 3.6.0 or older test is to use ICS version 4.1.0 to save it in the windows file system.

### **To Convert an ICS Test to an Algorithm**

1. From your backup created in Step 1: Backup the Previous Metrics ICV, find the ICS database. By default the ICS database was in the Metrics\ICS directory. It was a folder named "Data" and contained a "D0" directory and many sub-folders.
2. Copy this folder (with all sub-folders) to the C:\Metrics\ICS directory on the new installation of ICV.
3. Start ICV and select Development -> Algorithm Editors -> ICS.
4. Once ICS starts, select File -> Legacy Database -> Open. You will see the contents of the ICS database. Select the database file to be converted using its Attributes and click **OK**.
5. After the file opens, select File -> Save As.
6. Navigate to the Metrics\algs directory. Provide a name for the file. Either save the file in this directory or create a New Folder within this directory and save the file.
7. Repeat steps 4-6 for the other tests you wish to convert.

**Note:** It may seem like a lot of entries from the ICS database may need to be converted. However, the ICS database contains a combination of both the test method and data generated. You only need the test method for use with ICV. This will result in the number of old ICS tests to be converted to actually be very small relative to the number of data files that are contained in the old ICS database.

### **To Convert a VBScript Test to an Algorithm**

1. From your backup created in Step 1: Backup the Previous Metrics ICV, find the VBScript algorithm.
2. Copy the algorithm to the Metrics\algs directory. Either copy the file in this directory or create a New Folder within this directory and copy the file to that directory.

## ***Step 3: Modify Test Scripts***

In version 2.1 Module and Die Scripts included some functions that have been replaced. The changed functions are annotated in the new module or die script editor with a comment. To run in a true ICV 4.1 mode all of these functions must be replaced. Some functionality will have to be re-implemented as algorithms using VBScript.

### **To Convert an Obsolete Function**

1. From ICV open a Module Test by selecting Development -> Module Test Editor and selecting the Module Script of interest.
2. Click the obsolete line in the script.
3. Click **Delete** and confirm that you wish to delete the line.
4. Click **Insert**.
5. Select the replacement function
6. Configure the replacement function that you wish to use.
7. Save the script when all functions are converted.

The following functions must still be ported to use ICV version 2.1 scripts:

- Switching Control- Change to the Device Connections Editor.
- Run ICS Test and Run ICS Sequence are replaced by Execute Algorithm.
- Inputs to ICS Tests accessed by the Execute Algorithm function will continue to be available, the values are limited to +/- 20V and +/- 100 mA. If a value is passed to the test that exceeds this level, the default value for the test will be used instead. For tests that require larger values to be received as Inputs, the ICS algorithm must be called by a VBScript algorithm (please see the VBScript documentation for instructions on how to do this).
- Run LabView- Delete, this function is no longer supported.
- Run VEE- Delete, this function is no longer supported.