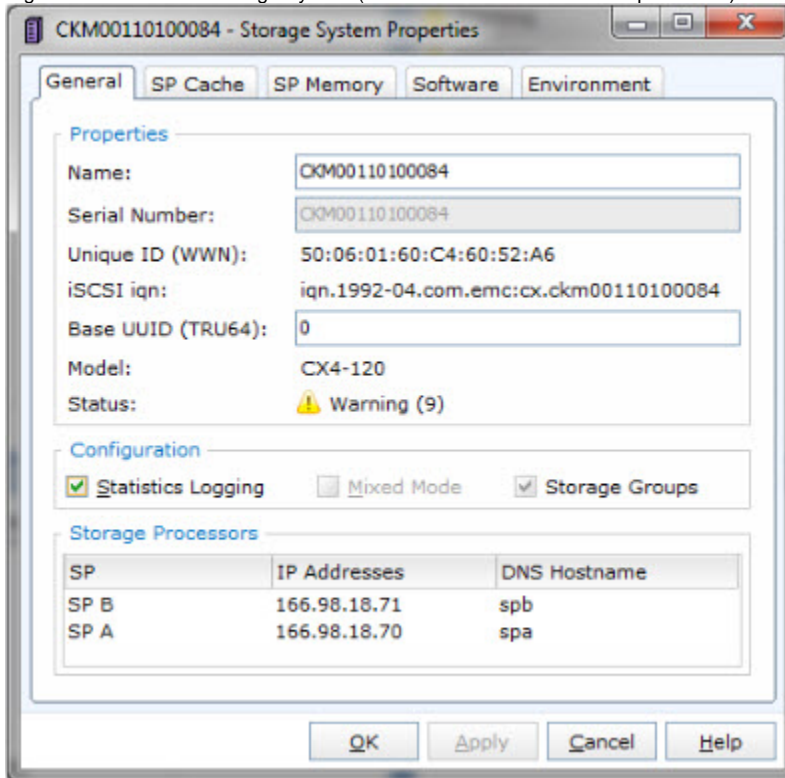# Installing Solutions Enabler

This section contains a brief walk through for Solutions enabler deployment, for the purpose of monitoring by SQL Workload Analysis. for the full procedure and options of Solutions Enabler deployment, see also the *Solutions enabler Installation Guide* document, which can be found in the document set on the EMC web site.

> ⓘ **Note**
>
> A user with the administrator role is needed to complete the following procedure.

On the SQL Workload Analysis server

1. Install Solutions Enabler.
    a. Select the destination folder.
    b. Select the **Setup Type** (use: **Complete**)
    c. On the **Services List**, leave the default settings for the Stordeamon Services.
    d. Click **Next**.
    e. Click **Install**.
2. *If your SQL Server instance stores its data on CLARiiON or VNX storage arrays*, **Statistics Logging** should be enabled. The following procedure should be done per storage array:
    a. Open Navisphere GUI or Unisphere web GUI. Typically, this will require a user with Storage Administrator rights and the URL of the Navisphere software.
    b. Right-click on the APM storage System (or on CLARiiON unit ID in Unisphere GUI) and select **Properties**.

    c. On the General tab, select **Statistics Logging**.
    d. Click **Apply**.
    e. Click **OK**.
    f. Click **File > Save** and **Exit**.
3. Initialize Solutions Enabler (building the `symapi\db\symapi_db.bin` file).
    a. Open a Windows command prompt.
    b. Navigate to the directory in which the EMC Solutions Enabler is installed.
    c. Execute: `SYMCLI\BIN\symcfg.exe discover -all`
       The "No devices were found" message is expected and does not indicate an error.

On each monitored server

1. Install Solutions Enabler.
    a. Select the destination folder.
    b. Select he **Setup Type** (use: **Complete**)
    c. On the **Service List**, use the defaults and also check the **SYMAPI daemon** checkbox.
    d. Click **Next**.
    e. Click **Install**.

2. ***If your SQL Server instance stores its data on CLARiiON or VNX storage arrays*** , the monitored server should be authorized using a SYMCLI command as follows:
    a. Make sure you have the array's Storage Processors (SP) hostname or IP address, and the array's administrator username and password.
    b. Open the command prompt.
    c. Navigate to the directory in which EMC Solutions Enabler is installed.
    d. Execute: `SYMCLI\BIN\symcfg.exe authorization add -host {VNX-SP} -username {VNX Administrator} -password {VNX Administrator Password}`
3. ***If your SQL Server instance stores its data on Symmetrix (DMX or VMAX) storage arrays***, gatekeeper devices must be installed.
    a. Gatekeeper device is a small device (less than 3 MB) used by Solutions Enabler to improve the communication with the storage array. The assistance of a storage administrator is required.
    b. To verify which storage units and devices are attached to a monitored server, execute: `SYMCLI\BIN\syminq.exe`
       The following table shows an example of the command's output.

Device		Product			Device	
Name	Type	Vendor	ID	Rev	Ser Num	Cap (KB)
\\.\PHYSICALDRIVE0		SEAGATE	ST15150W	HP12	02994239	4194157
\\.\PHYSICALDRIVE1		EMC	SYMMETRIX	5265	93052361	4224000
\\.\PHYSICALDRIVE2		EMC	SYMMETRIX	5265	93052461	4224000
\\.\PHYSICALDRIVE3		EMC	SYMMETRIX	5265	93052561	4224000
\\.\PHYSICALDRIVE4	GK	EMC	SYMMETRIX	5265	93050161	2880
\\.\PHYSICALDRIVE5	GK	EMC	SYMMETRIX	5265	93051161	2880

    c. Gatekeeper devices are marked with **GK** in the **Type** column. The two most left digits (**93** in this example) are the suffix of unit ID.
    d. If gatekeeper devices are missing, ask the storage administrator to define them. To verify, execute `SYMCLI\BIN\syminq.exe` and check its output once again.
4. ***If the monitored SQL Server instance runs on a VMware guest server***, the monitored server should be authorized using a SYMCLI command as follows:
    a. Make sure you have the ESX server hostname or IP address, and the ESX server's administrator username and password.
    b. Open a command prompt.
    c. Navigate to the directory in which EMC Solutions Enabler is installed.
    d. Execute: `SYMCLI\BIN\symcfg.exe authorization add -host {ESX server} -username {ESX server Administrator} -password {ESX server Administrator Password} -vmware`
5. ***If the monitored SQL Server instance runs on a Microsoft Hyper-V guest server***, the monitored server should be authorized using a SYMCLI command as follows:

> ⓘ **Note**
>
> Only pass-through devices are supported. Devices configured as VHD are not supported.

    a. Make sure you have the Hyper-V hostname or IP address, and Hyper-V's administrator username and password.
    b. Open a command prompt.
    c. Navigate to the directory in which EMC Solutions Enabler is installed.
    d. Execute: `SYMCLI\BIN\symcli.exe authorization add -host {Hyper-V hostname} -username {Hyper-V Administrator} -password {Hyper-V Administrator Password} -hyperv`
6. Initialize Solutions Enabler (building the `symapi\db\symapi_db.bin` file}.
    a. Open a Windows command prompt.
    b. Change to the directory in which the EMC Solutions Enabler is installed.
    c. Execute the discover command:
       `SYMCLI\BIN\symcfg.exe discover -all`
       This time, "No devices were found" message should be considered an error. If no devices were found, retry carefully steps 1 to 6. If still not found, open a support case using the IDERA community portal.
    d. ***If your SQL Server instance stores its data on Symmetrix (DMX or VMAX) storage arrays***, execute `SYMCLI\BIN\symcfg.exe list`
       Its output should list all attached Symmetrix storage units. Each of the units that are actually used to store SQL Server DB files should be marked as local in the **Attachment** column. See example:

Symmetrix	Attachment	Model	Version
000190103692	Remote	DMX3-24	5773
000190765393	Local	VMAX-1	5875

    e. ***If your SQL Server instance stores its data on VNX or CLARiiON storage arrays***, execute `SYMCLI\BIN\symcfg.exe list -clariion`
       Its output should list all attached VNX and CLARiiON storage units.

Verifying Solutions Enabler's Deployment and Configuration

The last verification step should be done on each monitored serer. It should be verified regardless of the storage array series (SYMMETRIX or CLARiiON).

To manually verify that Solutions Enabler was successfully deployed and configured:

1. Select a database file that is stored on an EMC sorage array (file size must be > 0).
2. Open a Windows command prompt.
3. Navigate to the directory in which the EMC Solutions Enabler is installed.
4. Execute: `SYMCLI\BIN\symrslv.exe file <full path and name of the selected DB file>`
5. The output should contain a table with the following column titles:
   `Size`, `Array`, `Dev`, `Offset`, `PPdevName`, `Offset`, and `Attr`.
   `Array` and `Dev` should present EMC unit and EMC device. If "`N/A`" is presented instead, then EMC Solutions Enabler failed to map the file. In this case, open a support case using the IDERA community portal.

IDERA Website | **Products** | **Buy** | **Support** | **Community** | **About Us** | **Resources** | **Legal**