

ETERE INSTALLATION GUIDE

Etere Installation Guide

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Installation Guide

Info on this documentation

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Introduction

The purpose of this document is to complement the Etere's installation package, providing information on how to prepare the software installation, as well as, the installation process itself, following you can find a brief introduction to this chapter:

- **Preliminary considerations:** Provides an overview of an Etere system, its installation requirements and characteristics.
- **Etere Installation:** Describes how to install for the first time an Etere system in a fairly easy way.
- **Etere Upgrades:** Explains accurately how to carry out the upgrade of an Etere system.
- **Network Security Policies:** Guide the TX manager through the security design of its network.

Preliminary Considerations

Etere Requirements

Operating System

All Etere products are built specifically only for the Windows platform, ETERE assures complete support for the following Microsoft Windows operating systems:

- ✓ Windows 2000 (supported only until Etere 19),
- ✓ Microsoft Windows XP,
- ✓ Microsoft Windows Server 2003,
- ✓ Microsoft Windows Server 2008,
- ✓ Microsoft Windows Server 2008 R2,
- ✓ Microsoft Windows 7 (32-bit and 64-bit versions).

It is important to note that, sometimes, operating systems doesn't install by default some features usually related to multimedia; then the operating system needs to be updated to the latest **Microsoft Service Pack** as well as to **.Net framework 3.5** or higher (plus the latest .net service pack).

SQL Database

Microsoft SQL2008 is the ETERE basic requirement for any configuration. Any ETERE installation package is provided with a free SQL EXPRESS license, compatible to any available MS SQL service pack. Actually, ETERE requires regular service pack updates.

SQL EXPRESS License limitations can change any time according to Microsoft policies. Up to now, Microsoft

limits the SQL EXPRESS to configurations with a maximum of 5 PC's connected to the SQL.

All the ETERE users must have got permissions to read and write the ETERE databases. The rights to access the SQL database are given by either Ms Windows login or SQL login. The former, Ms Windows login, ensures low security levels but an easier way to access SQL. The latter, SQL login, ensures high security levels; any single user is provided with his own SQL username and password; only administrators can read Login data; Users' permissions are set on each PC using the ETERE Main Configuration Screen.

Installation Directory

Etere suggest creating one installation directory in one Pc and share it. If the system is installed in a LAN environment, all the client installation can be performed from this shared directory.

The Installation directory can be the DVD itself, but we suggest to use a directory, because it's more easy to share the updated files, without burning a new DVD. The installation directory sharing must be 'read only'.

User Permissions

Permissions provided to domain users who access the Etere system must be explicitly granted according to the module they are intended to use (e.g. Scheduling, HSM, etc.) and they must include the *read/write/execution/delete* capabilities over the Etere installation folder (e.g. *C:\Program Files\ETERE*) and the Etere data folder (e.g. *C:\Users\MyUser\AppData\Local\ETERE*).

Moreover, it's worth mentioning that users belonging to Etere domain can be classified according to their scopes into the following groups:

- *Administrators*: Intended to be exclusively used for installing and updating Etere.
- *Server users*: Belong to the local "administrator" group and requires Windows UAC to be disabled.
- *Client users*: Belong to the local "users" group and can use the default Windows UAC settings.

WAN Environment

In a WAN environment a remote computer can be installed locally from the original DVD. Any update must be performed with a new DVD or downloading the new files.

Hardware

For detailed information regarding the minimum and recommended hardware required for running an Etere system, please refer to the chapter Etere Hardware Specifications.

Etere Structure

Directories structure

Etere is installed, updated and used following a specific structure of directories. All the directories forming part of an Etere installation are following detailed:

Path Name	Real Path	Contents
ETERENETWORK	<i>\\server-name\EtereNetwork\</i>	<ul style="list-style-type: none">- <i>EtereVer.exe</i>- <i>EtereSetup.exe</i>- <i>Updatew.exe</i>- <i>etc.</i>

Path Name	Real Path	Contents
		<ul style="list-style-type: none"> The shared directory from which Etere is installed and/or updated across the entire network system. +R permissions on this directory must be granted to <i>all Etere users</i>.

Path Name	Real Path	Contents
ETERE	C:\program-files\ETERE\	<ul style="list-style-type: none"> - Etconfig.exe - Etere.ApiLib.dll - Wsetup.ini - etc.
		<ul style="list-style-type: none"> The local directory on which Etere is installed, this directory holds all the executables, libraries and configuration files required by Etere. +RW permissions on this directory must be granted to Etere's <i>installing-users</i> and <i>updating-users</i> only.

Path Name	Real Path	Contents
APPDATA	C:\Users\[user-name]\AppData\Local\ETERE\	<ul style="list-style-type: none"> - \user.001\ - Global.ini - MTX0.xml - EtereIn.mdb - etc.
		<ul style="list-style-type: none"> The local directory on which Etere writes its application data and user's local configuration files. +RW permissions on this directory must be granted to Etere's <i>local users</i>.

Path Name	Real Path	Contents
ETEREAU	\\server-name\EtereAu\	<ul style="list-style-type: none"> - \User.001\2012\Tpal0217.dbf - \User.001\AuRemote.ini - \User.001\Param.ini - etc.
		<ul style="list-style-type: none"> The shared directory (automatically created by <i>Etere Automation</i>) on which broadcast playlists are published for the various station channels. +RW permissions on this directory are granted to all <i>Automation users</i>.

Path Name	Real Path	Contents
LOGS	\\server-name\EtereLog.[user-name].[domain-name]\	<ul style="list-style-type: none"> - \user.001\ - \saved\ - config.journal.appEvents.log - etc.
		<ul style="list-style-type: none"> The shared directory (manually created from <i>Etere Configuration</i>) on which local logs are made available for the network. +R permissions on this directory are granted to all <i>LogSaver users</i>.

NB: Please note that all Etere forms provides, through the **"help"** menu, direct links to the Etere *installation folder*, *data folder*, *log folder* and *temp folder*.

Users structure

The management of all Etere users is based on the organization implemented in the network's **MS Active Directory**. The structure suggested by Etere for managing users within a system is based on the following domain groups and permissions:

PHYSICAL GROUPS (i.e. grouped by accessed folders)			
Group	Rights	Members	Description
AUTOMATION	Read/Write	aumain/auclone operator	Extended access to the publication folder
ARCHIVE-R	Read	ingest mam nle xcode	Limited access to HiRes folder
ARCHIVE-RW	Read/Write	mtx hsm dm xcode (if required)	Extended access to HiRes files
ARCHIVE-RWD	Read/Write/Delete	ingest (for delete)	Full access to HiRes files
PROXY-R	Read	ingest operator editor scheduling browsing air sales bms mam nle weblowres	Limited access to LowRes folder
PROXY-RW	Read/Write	hsm dm xcode	Extended access to LowRes folder
PROXY-RWD	Read/Write/Delete	ingest (for delete)	Full access to LowRes folder
HSMCACHE	Read/Write/Delete	hsm dm	Full access to the archiving cache
LOGSAVER	Read	all users	Limited access to users logs folders
MEMORY-RL	Read/List	webmemory	Limited access to the logging folder
MEMORY-RWL	Read/Write/List	memory dm hsm	Extended access to the logging folder
MTX-R	Read	ingest xcode dm hsm dm	Limited access to the MTX folders
MTX-RWD	Read/Write/Delete	mtx dm ingest (for delete)	Full access to the MTX folders
NLE-R	Read	nle (for delivery)	Limited access to the NLE editing folders

NLE-RW	Read/Write	nle (for reception)	Extended access to the NLE editing folders
F90-RWD	Read/Write/Delete	f90-rwd	Full access to import/export folders
WEB-R	Read	webdwlr webdwhr	Limited access to download/upload path
WEB-RW	Read/Write	webupload	Extended access to download/upload path

LOGICAL GROUPS (i.e. grouped by users functions)			
Group	Rights	Members	Description
PUBLISHING		operator	Publishing of the broadcast schedule
PLAYLIST		operator editor scheduling browsing	Programming playlist management
PLANNING		editor air sales bms	Programming strategic planning
MONITORING		snmp	Overall system monitoring
ADMINISTRATORS		sis	System management administrators

Active Directory Integration

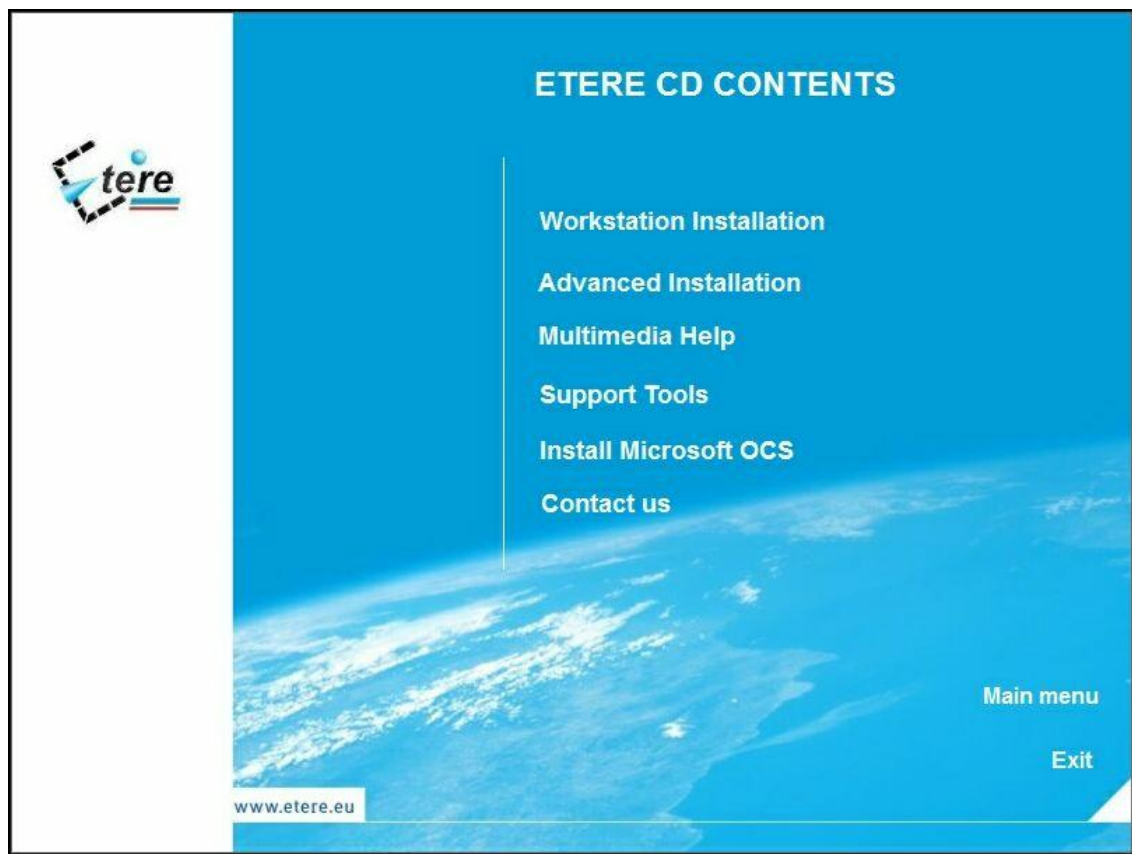
Please note that in case an **Active Directory** is found in the network, the following checks will be performed by the Etere system:

- Everytime an Update Workstation is launched, the **EtUpdate** tool will check the existence of the **Automation** and **LogSaver** groups in the network's active directory, displaying an error message in case they are missing. Please note that the **EtUpdate** tool requires the version 3.5 SP1 of .NET framework to be installed.
- Everytime a user access an Etere module, it will be checked that the *user's belonging groups* present in the database (only in case the **active directory's structure** has been imported into Etere) corresponds to the ones present in the active directory, displaying an error message in case of discrepancies and avoiding the user (except supervisors) to access the system until the **active's directory structure** is re-imported.

Etere Installation

Installation DVD

The **Etere installation DVD** will guide you through an easy-to-follow process to carry out the installation of the Etere's software, available options within the DVD includes:



- **Workstation installation:** Launches the "Setup.msi" file present in the "\Etere" directory, allowing to [install Etere in the Pc](#).
- **Advanced installation:** Create a shared installation directory to, for example, allow network Pc's to be installed/updated using the same Etere DVD, thus simplifying the installation and update process over slow WAN lines.
- **Multimedia help:** Provides access to tutorial videos on how to perform the most common Etere operations.
- **Support tools:** Shortcut access to administrators/operators training documents, support contract, the Etere's user-guide, etc.
- **Install Microsoft OCS:** Install the Microsoft's Office Communicator Client to allow customers communicating with Etere via internet.
- **Contact Us:** View important information related how to contact the Etere's Customers Support Service.

Microsoft SQL Server Installation

Since ETERE System uses a database approach to store and manage safely all the broadcasting data, it is needed to have Microsoft SQL and the latest windows service pack installed on the PC before installing Etere, the recommended versions is MS SQL Server 2008 (Express, Workgroup, Standard or Enterprise edition).

The most important differences and limitations between each edition in terms of scalability, performance and manageability can be appreciated in the [Microsoft's related page](#). You are always free to contact the Etere support team, who will help you to determine which edition of Microsoft SQL is better for your system.

Checking preliminary conditions

In order to install *Microsoft SQL Server 2008 R2* you must have *administrator* rights and the following software must be already installed:

- **.NET Framework 3.5** (You can use Control Panel > Add/Remove Programs to see your .NET Framework version)
- **Windows Installer 3.1** (To check your Windows Installer version, click Start > Run. Then type: `msiexec /?`)

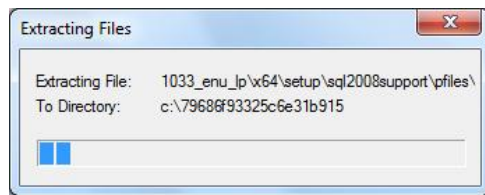
Moreover, it's worth mentioning that the **Microsoft SQL Server** must be installed following the criteria below:

- For performance issues, the **transaction LOG** file will be stored in the *OS volume*, while the *DATA* file will be stored in the *SQL DATA volume*.
- In Microsoft Enterprise Manager, the **SQL Server Registration** must be registered with the Server Name, and not "(local)".
- The **SQL Server Agent service** must start automatically and be configured with the domain Administrator account.
- Microsoft SQL Server must be updated with the last **Service Pack** making sure to select only the "required" options.

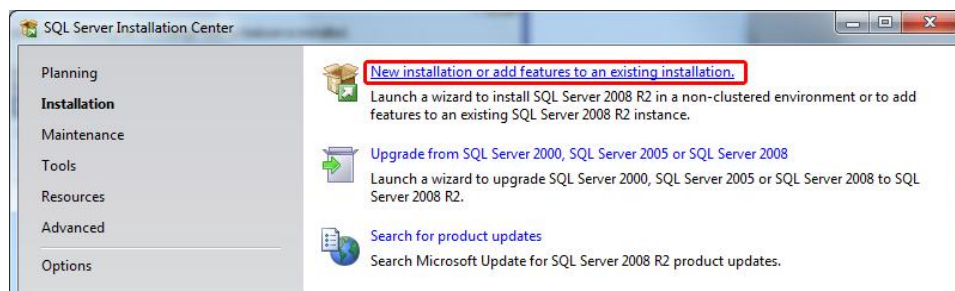
Installing Microsoft SQL Server 2008 R2

In order to install **Microsoft SQL Server 2008 R2** Express Edition you must have *administrator* rights and the following software must be already installed:

1. On the **Etere DVD** that you have received, you can find a free redistribution version of Microsoft SQL Server 2008 R2 Express Edition (**SQLEXPR.EXE**), double-click it to begin the installation. Required installation files will be unpacked before installation commences.

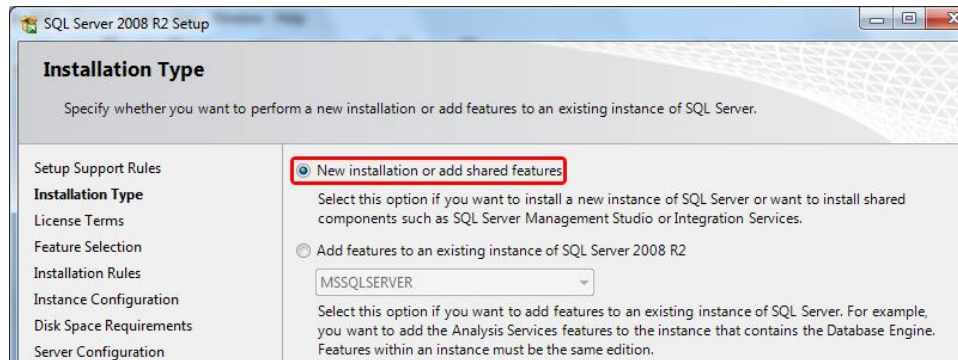


2. A welcome screen will be presented, under the "**Installation**" section select the "New installation or add features to an existing installation" option then click "Next":

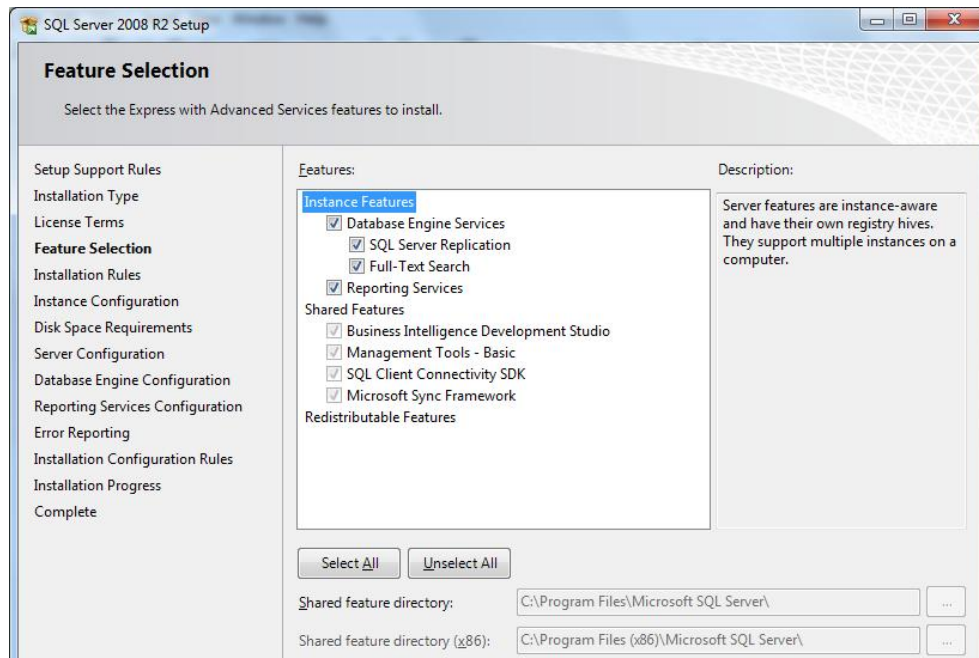


3. In the new installation window select the **installation type** as "new installation or add shared features"

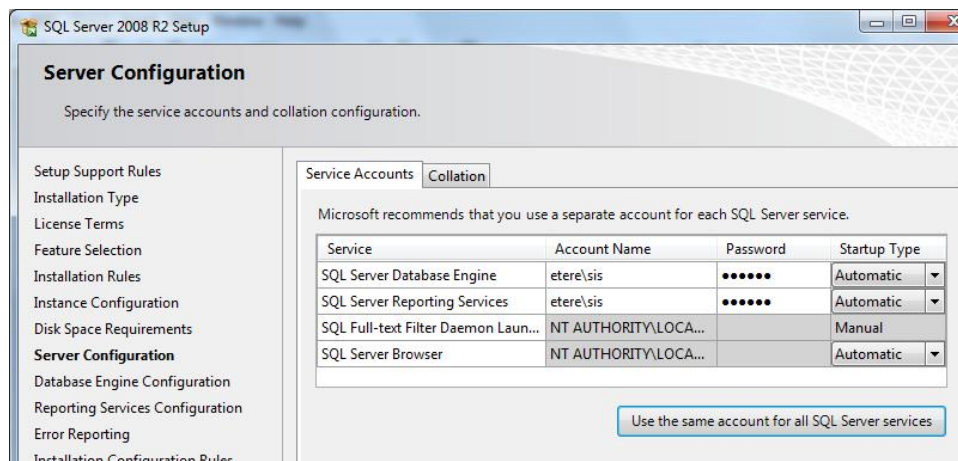
then click "Next":



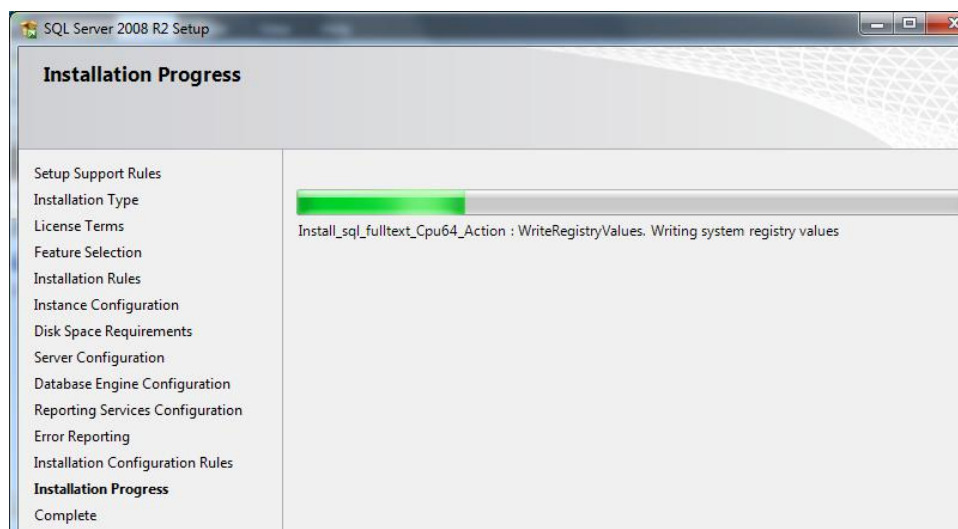
4. Accept the licence agreement then click "Next".
5. From the **Feature selection** list make sure Database Engine Services is selected for installation, optionally change the installation directory and click "Next":



6. In the **Instance Configuration** section choose an instance name for the database server. Either leave this as the default "SQLEXPRESS" or choose another name (e.g. MyStationName). Click "Next" to continue.
7. The **Server Configuration** section allows setting the account (e.g. domain administrator) for executing the SQL Server services as well as the collation that better fits your system (e.g. SQL_Latin1_General_CP1_CI_AS). Once set, click "Next":

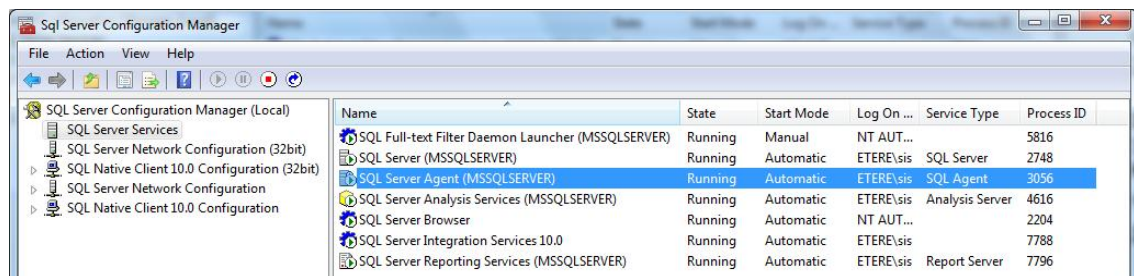


8. Set under the **Database Engine Configuration** section the authentication_type to be used as the database logon authentication (not Etere user authentication). It is highly suggested to use the "**Mixed Authentication Mode**" using "968760" as the password for the "sa" user. Set also here the data directories (e.g. set the LOG file to be stored in the *OS volume* and the DATA file to be stored in the *SQL DATA volume*). Click "Next" to continue.
9. The **Reporting Services Configuration** allows choosing how to install the reporting services feature. Select the "Install the native mode default configuration" option to install it. Click "Next".
10. Make sure the **Error Reporting** is disabled, that is, that the "Send Windows and SQL Server..." option is not checked, then click "Next" to continue.
11. On the **Installation Rules** screen, review the information and resolve any issues, and then click "Next".
12. On the **Installation Progress** screen click "Install" to begin installation. There will be displayed green checkmarks next to each component as it installs successfully:



13. On the **Installation Progress** screen, after setup has finished, click "Next". On the **Complete** screen, click "Close".
14. When restarting the computer, for checking if the SQL service works just open the SQL_Server

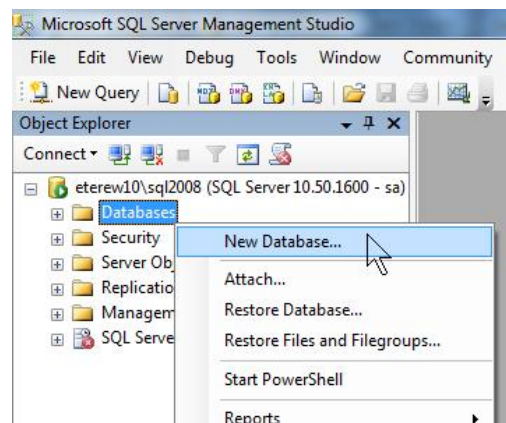
Configuration Manager and view if the icon appearing on the bottom of the tree is green as shown on the following figure:



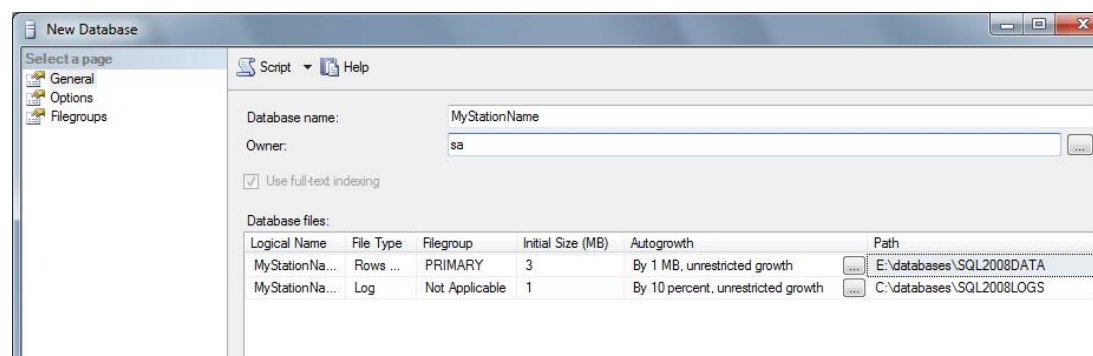
Creating the Etere Database

After *Microsoft SQL Server 2008 R2* is installed it is now possible to create the **Etere database** to be used to archive all data and information necessary for Etere to work. This database can be created as described below:

1. Open the Microsoft SQL Server Management Studio tool,
2. Make right-click on the "Databases" item from the options tree and select the "New Database" option:



3. A new window will be opened allowing to set the database **General info**:



- **Name:** The new database a name (e.g. MyStationName).
- **Paths:** Set the LOG files to be stored in the OS volume (e.g. C:\Databases\SQL2008LOGS\)) and the Rows DATA files to be stored in the SQL DATA volume (e.g. E:\Databases\SQL2008DATA\).

4. Set the database **Options** as following specified, then click "Ok" to create the database:

- **Collation:** Depends on the customer's regional settings.
- **Recovery model:** simple.
- **Auto Close:** true.
- **Auto Create Statistics:** true.
- **Auto Shrink:** true.
- **Auto Update Statistics:** true.
- **Service Broker enabled:** true.

First Time Installation

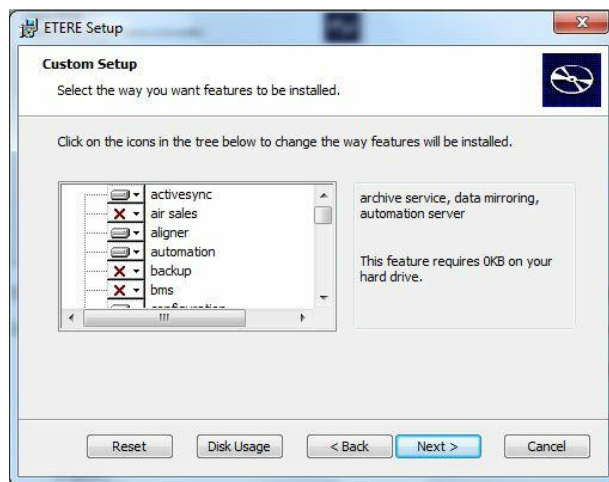
Etere's install application is based on MSI (Microsoft Windows Installer), this installer associates Etere's modules to functions and contains information of the installing process, such as the installing sequence, the folders' destination paths, the system dependences, the options to install, and some features to check the installation process. Even after the installation, the installer is still used by Windows each time you add/remove modules or repair damaged or absent files.

In order to install **Etere** software, you need to launch the  **Setup.exe** application, select the proper option, and follow the procedures below:

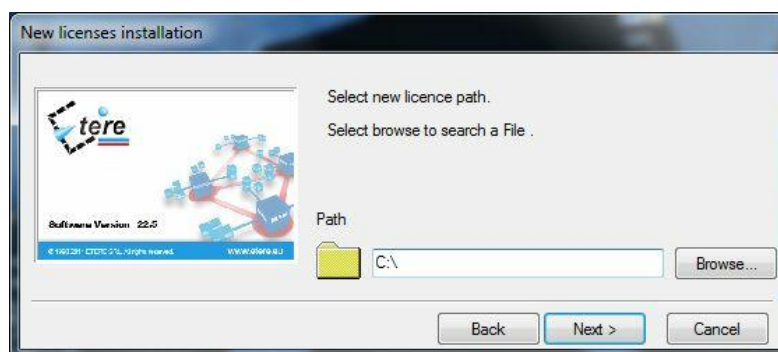


Etere Installation

1. Select the 'Etere Installation' option, and 'accept the terms in License Agreement', after then click on the 'Next' button,
2. Define the installation folder (e.g.: **C:\PROGRAM FILES\ETERE**), and select the modules you want to be installed:



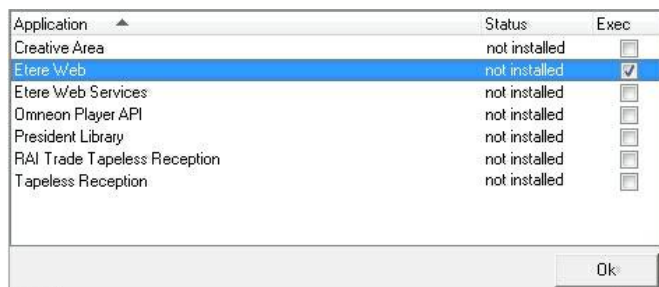
3. Click on the 'Next' button and all Etere files will be copied from the network folder (e.g.: \ **NetworkPath\ETERE\SYSTEM**) to the specified installation folder.
4. Configure the parameters of the database in Etere, in order to carry out this process follow the next instructions:
 - Launch again the 'Start | Programs | Etere Configuration' module, then select 'Settings -> System' option and set the following parameters:
 - SQL Server, it is the name of the server on which the database is stored,
 - Database, indicate the name of the database to be used,
 - Authentication, it could be either Windows (it's advised if the system has no WAN connection and the security requirements are not very strict) or SQL (if the system is connected to a WAN Network, this method gives better security even if it's more difficult to maintain).
 - Language, select the language you intend to use.
 - After modifying the parameters, restart Etere Configuration.
 - Before starting to work with Etere, is strongly recommended to run System maintenance option. This function is available in the main menu of the **Etere Configuration** module and it creates all the tables needed to run Etere.
5. Once the installation has finished, launch the 'Start | Programs | Etere Configuration' module and follow the instructions until the form below appears:



6. You will have to browse Etere's software license (*licenseXYZ.sys*), which is provided within the Etere installation DVD, under the \ETERE\License directory.

Features Installation

Use this option to install any of the web services offered by Etere and that you are licensed to use. In order to install one or more of these services, just tick-off the relative checkbox and click on the **[OK]** button. Available web applications include:

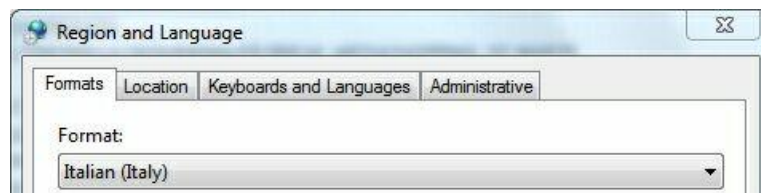


- Creative Area,
- Etere Web,
- Etere Web Services,
- Omneon Player API,
- President Library,
- RAI Trade Tapeless Reception.
- Tapeless Reception

Region and language format

Etere manages all functions and procedures related to dates and times according to the *italian* format, therefore, it is required to set the system's regional settings as specified below:

1. Under the **"Control Panel"**, click on the **"Clock Language and Region"** category and then the **"Region and Language"** option,
2. In the **"Format"** tab set **"Italy"** as the locale **"format"** to use for the display of the date, time, currency, and measurements.



3. Optionally, in the **"Keyboards and languages"** tab install the language (e.g. Chinese simplified language pack) to be used by windows to display text.
4. Optionally, in the **"Keyboards and languages"** install the language (e.g. Chinese simplified language pack) to be used by windows to display text. Additionally, change the input language (e.g. Chinese simplified PRC) through the **"Change keyboards > Add"** button.
5. Press the **"Apply"** button to apply all performed settings to the system.

NB: Please note that since its version 20 Etere is a unicode application, therefore, setting the default character set (e.g. Chinese simplified PRC) parameter in the **"change the system locale"** parameter under the **"Administrative"** tab is not needed anymore.

Windows Error Reporting

The **Windows Error Reporting** is a feature present in MS Windows (2008 or higher) systems for increasing the notification of all errors encountered by the system, this feature -which is enabled by default- is unnecessary for applications able to manage their own errors automatically. There are some Etere applications (e.g. Etere MTX, Etere Memory) capable of monitoring their functioning and automatically restart themselves in case of unexpected crash.

Before start using Etere, it is required to first configure the system's **Windows Error Reporting** to allow Etere applications to automatically manage their own errors, this, according to what detailed throughout this chapter in the following procedures:

1. [Disable Error Reporting Warnings](#)
2. [Configure Error Dumps Collection](#)

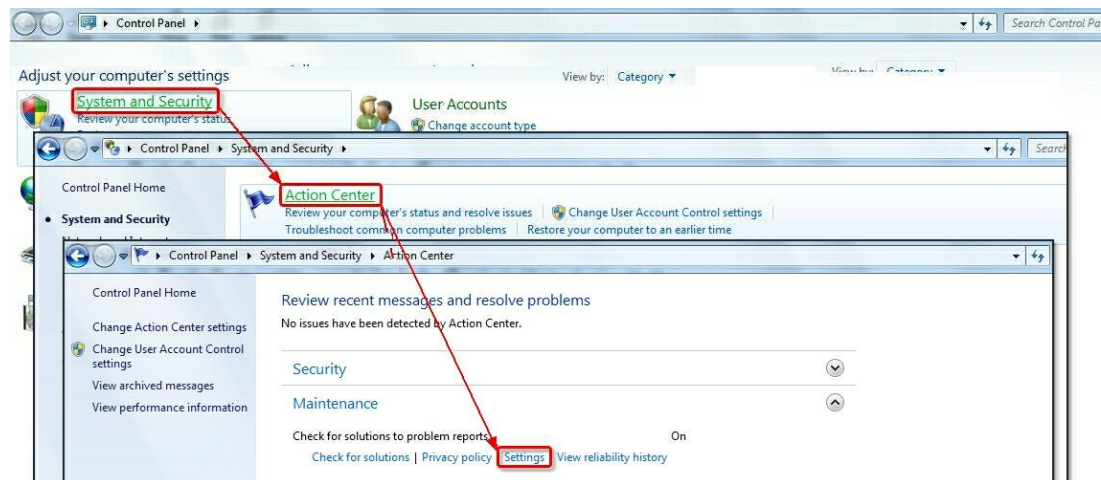
NB: Please note that performing all tasks present in this chapter requires the user who perform them to be logged into the system with *administrator privileges*.

Disable Error Reporting Warnings

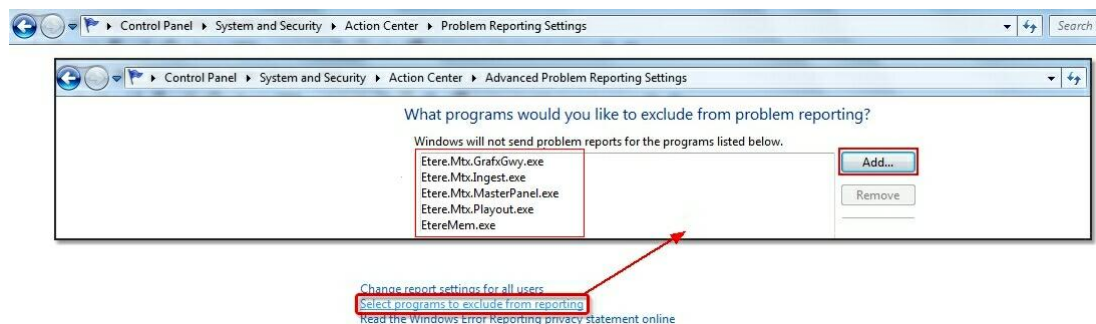
Disabling the error reporting for the Etere's automatic modules is an easy task, in order to do it it is enough to follow the procedure provided in this chapter:

Exclude the applications from the Problem Reporting

1. Navigate the "**Start > Control Panel**" and open the "**System and Security**" section,
2. Make click on "**Action Center**" and then on the "Settings" button:



3. In the opened section make click on the "**Select programs to exclude from reporting**" option and add all the Etere executables intended to be excluded from the sending of errors:



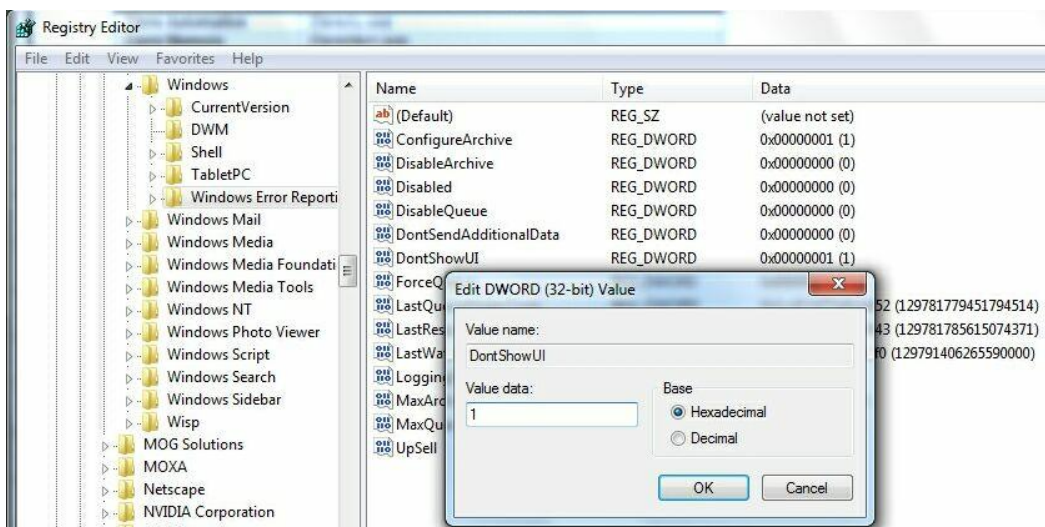
Etere application	Executable name
Etere MTX - Graphics Gateway	<i>Etere.Mtx.GrafxGwy.exe</i>
Etere MTX - Ingest	<i>Etere.Mtx.Ingest.exe</i>
Etere MTX - Master Panel	<i>Etere.Mtx.MasterPanel.exe</i>
Etere MTX - Playout	<i>Etere.Mtx.Playout.exe</i>
Etere Memory	<i>EtereMem.exe</i>

Using the Windows Registry

1. Open the **regedit.exe** application and navigate to the following key:

```
HKEY_CURRENT_USER\Software\Microsoft\Windows\Windows Error Reporting
```

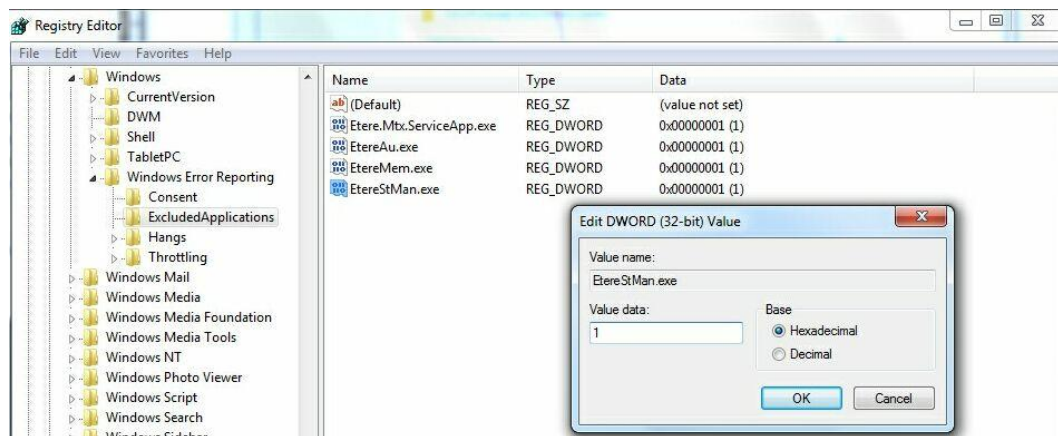
2. Disable the graphical notification of errors, this by setting the **"Don't Show UI"** option to **"1"** (No UI):



3. Additionally, please note that the windows registry also allows to **"exclude applications from the problem reporting"** (explained before), this by accessing the following key:

```
HKEY_CURRENT_USER\Software\Microsoft\Windows\Windows Error Reporting\ExcludedApplications
```

4. Make right-click on the left list and select **"New > DWord value"**, make double-click on the new item and set its name (executable filename) and data (1=enabled). Repeat this operation for all the applications to be excluded:



Configure Error Dumps Collection

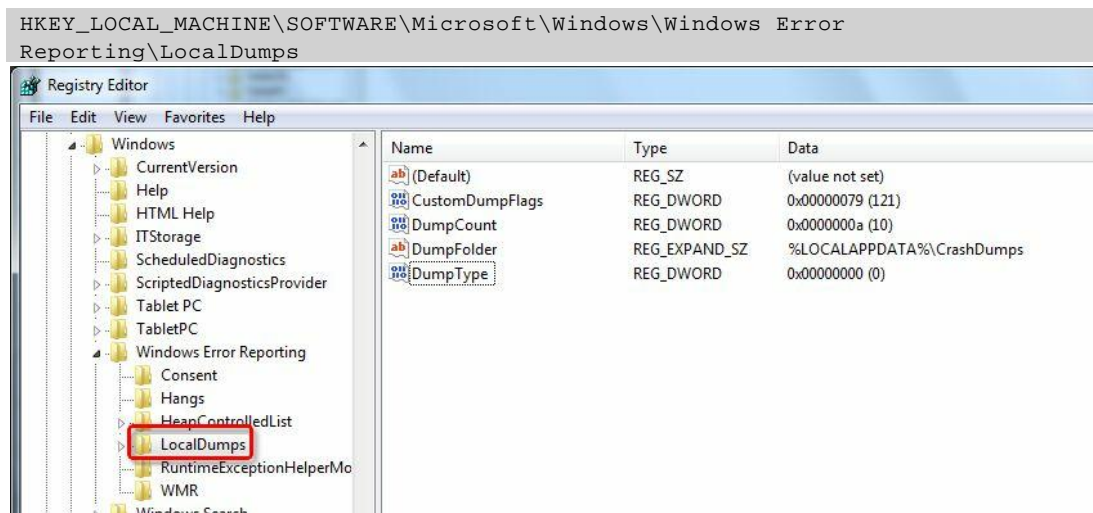
Configure **Windows Error Reporting** (WER) so that *full user-mode dumps* are collected and stored locally after a user-mode application crashes. Please note that this feature requires:

- Windows Vista / Server 2008 and Windows 7 / Server 2008 R2
- .NET Framework 4.0 or higher

Enabling the feature requires administrator privileges and can be performed either through **global settings** (registry values for all applications) or **per-application** settings that override the global settings:

All-application settings

1. Open the **regedit.exe** application and navigate to the following key:



NB: In case the "LocalDumps" key doesn't exist, it will be required to create it.

2. Set the following **four dump settings**:

Entry	Description	Type	Default value
DumpFolder	The path where the dump files are to be stored. If you do not use the default path, then make sure that the folder contains ACLs that allow the crashing process to write data to the folder. .	REG_EXPAND_SZ	%LocalAppData%\CrashDumps
DumpCount	The maximum number of dump files in the folder. When the maximum value is exceeded, the oldest dump file in the folder will be replaced with the new dump file.	REG_DWORD	10 (decimal)
DumpType	Specify one of the following dump types: <ul style="list-style-type: none"> • 0 (Custom dump) • 1 (Mini dump) • 2 (Full dump) 	REG_DWORD	0 (decimal)
CustomDumpFlags	In case the DumpType is set to 0 (custom) , set here its custom options (i.e. a bitwise combination of the MINIDUMP_TYPE enumeration values).	REG_DWORD	0121 (decimal)

NB: In case the *dump folder* doesn't exists, it will be automatically created by the system.

Per-application settings

1. Open the **regedit.exe** application and navigate to the following key:

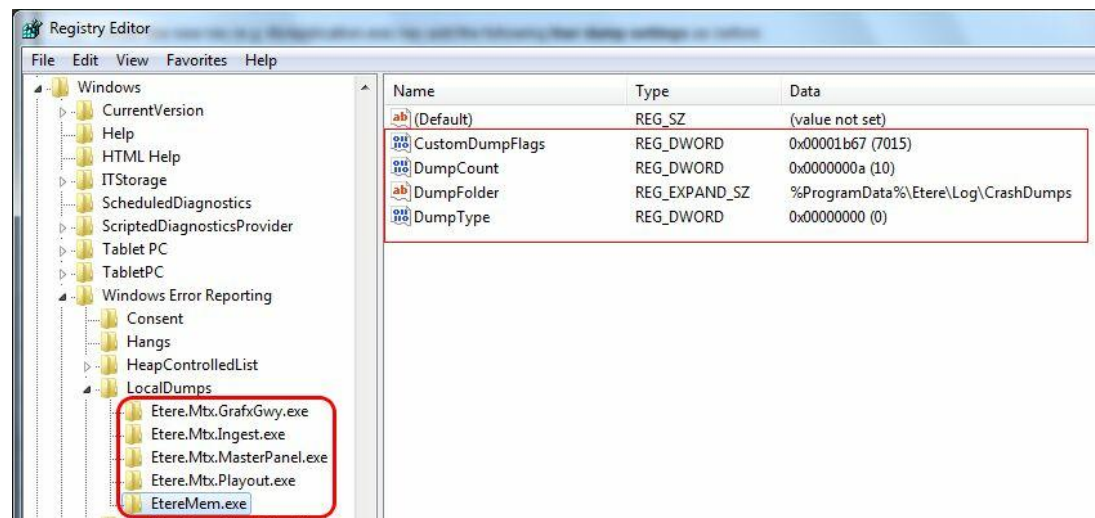
```
HHKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error
Reporting\LocalDumps
```

NB: In case the "**LocalDumps**" key doesn't exists, it will be required to create it.

2. Create a **new key** for each Etere application named as its **executable** (e.g. EtereMem.exe):

Etere application	Executable name
Etere MTX - Graphics Gateway	<i>Etere.Mtx.GrafGwy.exe</i>
Etere MTX - Ingest	<i>Etere.Mtx.Ingest.exe</i>
Etere MTX - Master Panel	<i>Etere.Mtx.MasterPanel.exe</i>
Etere MTX - Playout	<i>Etere.Mtx.Playout.exe</i>
Etere Memory	<i>EtereMem.exe</i>

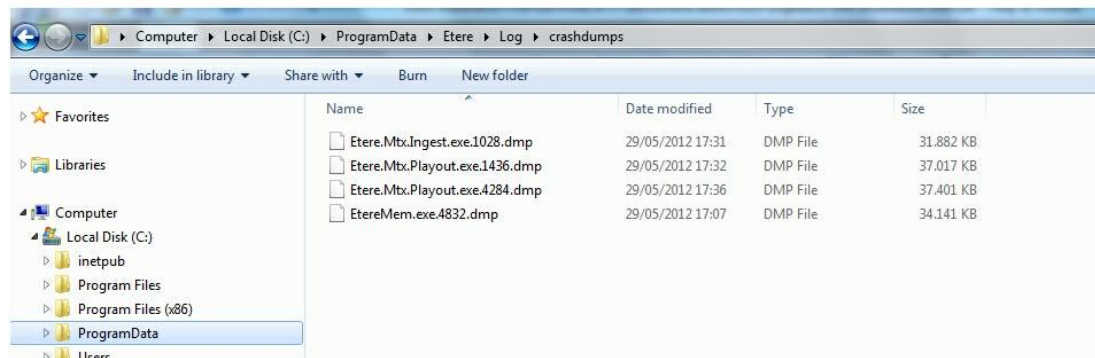
3. Under the new key (e.g. MyApplication.exe) key add the following **four dump settings** as before:



Entry	Type	Value
DumpFolder	REG_EXPAND_SZ	%LocalAppData%\Etere\Log\CrashDumps
DumpCount	REG_DWORD	10 (decimal)
DumpType	REG_DWORD	0 (decimal)
CustomDumpFlags	REG_DWORD	7015 (decimal)

NB: In case the *dump folder* doesn't exist, it will be automatically created by the system.

- All the above set parameters will permit WER (Windows Error Reporting), each time the set application crashes, to first read the global settings and then override any of the settings with the application-specific settings, thus generating the *crash dump* files:



NB: For detailed information on the *Collecting User-Mode Dumps* please refer to the [http://technet.microsoft.com/en-us/library/cc709644\(v=ws.10\).aspx](http://technet.microsoft.com/en-us/library/cc709644(v=ws.10).aspx) site.

MiniDump Types

There are several types of data available for being included in **MiniDumps**, all available types have been listed and described in the following table:

Type	HEX name	Description
MiniDumpNormal	0x00000000	Include just the information necessary to capture stack traces for all existing threads in a process.

Type	HEX name	Description
MiniDumpWithDataSegs	0x00000001	This data is implicitly always present. Include the data sections from all loaded modules. This results in the inclusion of global variables, which can make the minidump file significantly larger. For per-module control, use the ModuleWriteDataSeg enumeration value from MODULE_WRITE_FLAGS.
MiniDumpWithFullMemory	0x00000002	Include all accessible memory in the process. The raw memory data is included at the end, so that the initial structures can be mapped directly without the raw memory information. This option can result in a very large file.
MiniDumpWithHandleData	0x00000004	Include high-level information about the operating system handles that are active when the minidump is made.
MiniDumpFilterMemory	0x00000008	Stack and backing store memory written to the minidump file should be filtered to remove all but the pointer values necessary to reconstruct a stack trace.
MiniDumpScanMemory	0x00000010	Stack and backing store memory should be scanned for pointer references to modules in the module list. If a module is referenced by stack or backing store memory, the ModuleWriteFlags member of the MINIDUMP_CALLBACK_OUTPUT structure is set to ModuleReferencedByMemory.
MiniDumpWithUnloadedModules	0x00000020	Include information from the list of modules that were recently unloaded, if this information is maintained by the operating system.
MiniDumpWithIndirectlyReferencedMemory	0x00000040	Include pages with data referenced by locals or other stack memory. This option can increase the size of the minidump file significantly.
MiniDumpFilterModulePaths	0x00000080	Filter module paths for information such as user names or important directories. This option may prevent the system from locating the image file and should be used only in special situations.
MiniDumpWithProcessThreadData	0x00000100	Include complete per-process and per-thread information from the operating system.
MiniDumpWithPrivateReadWriteMemory	0x00000200	Scan the virtual address space for PAGE_READWRITE memory to be included.
MiniDumpWithoutOptionalData	0x00004000	Reduce the data that is dumped by eliminating memory regions that are not essential to meet criteria specified for the dump. This can avoid dumping memory that may contain data that is private to the user. However, it is not a guarantee that no private information will be present.
MiniDumpWithFullMemoryInfo	0x00008000	Include memory region information. For more information, see MINIDUMP_MEMORY_INFO_LIST.
MiniDumpWithThreadInfo	0x00001000	Include thread state information. For more information, see MINIDUMP_THREAD_INFO_LIST.
MiniDumpWithCodeSegs	0x00002000	Include all code and code-related sections from loaded modules to capture executable content. For per-module control, use the ModuleWriteCodeSegs enumeration value from MODULE_WRITE_FLAGS.
MiniDumpWithoutAuxiliaryState	0x00004000	Turns off secondary auxiliary-supported memory gathering.
MiniDumpWithFullAuxiliaryState	0x00008000	Requests that auxiliary data providers include their state in the dump image; the state data that is included is provider dependent. This option can result in a large dump image.
MiniDumpWithPrivateWriteCopyMemory	0x00010000	Scans the virtual address space for PAGE_WRITECOPY memory to be included.
MiniDumpIgnoreInaccessibleMemory	0x00020000	If you specify MiniDumpWithFullMemory, the MiniDumpWriteDump function will fail if the function cannot read the memory regions; however, if you include MiniDumpIgnoreInaccessibleMemory, the MiniDumpWriteDump function will ignore the memory read failures and continue to generate the dump. Note that the inaccessible memory regions are not included in the dump.
MiniDumpWithTokenInformation	0x00040000	Adds security token related data. This will make the "token" extension work when processing a user-mode dump.

As shown in the table above, **MiniDump Types** are enumerated as a **set of four flags** that determines the contents of the minidump. For instance, for the **0x00007015** value we have:

0x0000	7	0	1	5	My set of flags which includes:
0x0000	0	0	0	0	MiniDumpNormal

0x0000	7	0	1	5		My set of flags which includes:
0x0000	0	0	0	1	<input checked="" type="checkbox"/>	MiniDumpWithDataSegs
0x0000	0	0	0	4	<input checked="" type="checkbox"/>	MiniDumpWithHandleData
0x0000	0	0	1	0	<input checked="" type="checkbox"/>	MiniDumpScanMemory
0x0000	1	0	0	0	<input checked="" type="checkbox"/>	MiniDumpWithThreadInfo
0x0000	2	0	0	0	<input checked="" type="checkbox"/>	MiniDumpWithCodeSegs
0x0000	4	0	0	0	<input checked="" type="checkbox"/>	MiniDumpWithoutManagedState

Automatic Configuration

In order to *automatically perform* all previously mentioned tasks (i.e. disable the error reporting warnings and configure the error dumps collection), it is enough to save the following text as a "**Etere_WER.bat**" file and launch it with *administrator privileges*:

```
@echo off
setlocal enabledelayedexpansion
set GlobalMiniDump="00000121"
set EtereMiniDump="00007015"

::Disable warning prompts
REG ADD "HKEY_CURRENT_USER\Software\Microsoft\Windows\Windows Error Reporting" /v DontShowUI /t REG_DWORD /d "00000001" /f

::Exclude Etere Apps
REG ADD "HKEY_CURRENT_USER\Software\Microsoft\Windows\Windows Error Reporting\ExcludedApplications" /v Etere.Mtx.GrafxGwy.exe /t REG_DWORD /d "00000001" /f
REG ADD "HKEY_CURRENT_USER\Software\Microsoft\Windows\Windows Error Reporting\ExcludedApplications" /v Etere.Mtx.Ingest.exe /t REG_DWORD /d "00000001" /f
REG ADD "HKEY_CURRENT_USER\Software\Microsoft\Windows\Windows Error Reporting\ExcludedApplications" /v Etere.Mtx.MasterPanel.exe /t REG_DWORD /d "00000001" /f
REG ADD "HKEY_CURRENT_USER\Software\Microsoft\Windows\Windows Error Reporting\ExcludedApplications" /v Etere.Mtx.Playout.exe /t REG_DWORD /d "00000001" /f
REG ADD "HKEY_CURRENT_USER\Software\Microsoft\Windows\Windows Error Reporting\ExcludedApplications" /v EtereMem.exe /t REG_DWORD /d "00000001" /f

::Set LocalDumps
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error Reporting\LocalDumps" /v CustomDumpFlags /t REG_DWORD /d "00000121" /f
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error Reporting\LocalDumps" /v DumpCount /t REG_DWORD /d "00000010" /f
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error Reporting\LocalDumps" /v DumpFolder /t REG_SZ /d "%LocalAppData%\CrashDumps" /f
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error Reporting\LocalDumps" /v DumpType /t REG_DWORD /d "00000000" /f

::Add and set Etere.Mtx.GrafxGwy.exe
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error Reporting\LocalDumps\Etere.Mtx.GrafxGwy.exe" /v CustomDumpFlags /t REG_DWORD /d "00007015" /f
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error Reporting\LocalDumps\Etere.Mtx.GrafxGwy.exe" /v DumpCount /t REG_DWORD /d "00000010" /f
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error Reporting\LocalDumps\Etere.Mtx.GrafxGwy.exe" /v DumpFolder /t REG_SZ /d "%LocalAppData%\Etere\Log\CrashDumps" /f
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error Reporting\LocalDumps\Etere.Mtx.GrafxGwy.exe" /v DumpType /t REG_DWORD /d "00000000" /f

::Add and set Etere.Mtx.Ingest.exe
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error Reporting\LocalDumps\Etere.Mtx.Ingest.exe" /v CustomDumpFlags /t REG_DWORD /d "00007015" /f
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error Reporting\LocalDumps\Etere.Mtx.Ingest.exe" /v DumpCount /t REG_DWORD /d "00000010" /f
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error Reporting\LocalDumps\Etere.Mtx.Ingest.exe" /v DumpFolder /t REG_SZ /d "%LocalAppData%\Etere\Log\CrashDumps" /f
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error Reporting\LocalDumps\Etere.Mtx.Ingest.exe" /v DumpType /t REG_DWORD /d "00000000" /f
```

```

Reporting\LocalDumps\Etere.Mtx.Ingest.exe" /v DumpType /t REG_DWORD /d
"00000000" /f

::Add and set Etere.Mtx.MasterPanel.exe
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error
Reporting\LocalDumps\Etere.Mtx.MasterPanel.exe" /v CustomDumpFlags /t
REG_DWORD /d "00007015" /f
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error
Reporting\LocalDumps\Etere.Mtx.MasterPanel.exe" /v DumpCount /t REG_DWORD /d
"00000010" /f
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error
Reporting\LocalDumps\Etere.Mtx.MasterPanel.exe" /v DumpFolder /t REG_SZ /d "%
LocalAppData%\Etere\Log\CrashDumps" /f
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error
Reporting\LocalDumps\Etere.Mtx.MasterPanel.exe" /v DumpType /t REG_DWORD /d
"00000000" /f

::Add and set Etere.Mtx.Playout.exe
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error
Reporting\LocalDumps\Etere.Mtx.Playout.exe" /v CustomDumpFlags /t REG_DWORD /d
"00007015" /f
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error
Reporting\LocalDumps\Etere.Mtx.Playout.exe" /v DumpCount /t REG_DWORD /d
"00000010" /f
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error
Reporting\LocalDumps\Etere.Mtx.Playout.exe" /v DumpFolder /t REG_SZ /d "%
LocalAppData%\Etere\Log\CrashDumps" /f
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error
Reporting\LocalDumps\Etere.Mtx.Playout.exe" /v DumpType /t REG_DWORD /d
"00000000" /f

::Add and set EtereMem.exe
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error
Reporting\LocalDumps\EtereMem.exe" /v CustomDumpFlags /t REG_DWORD /d "00007015"
/f
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error
Reporting\LocalDumps\EtereMem.exe" /v DumpCount /t REG_DWORD /d "00000010" /f
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error
Reporting\LocalDumps\EtereMem.exe" /v DumpFolder /t REG_SZ /d "%LocalAppData%
\Etere\Log\CrashDumps" /f
REG ADD "HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error
Reporting\LocalDumps\EtereMem.exe" /v DumpType /t REG_DWORD /d "00000000" /f

::apply registry changes without restarting
RUNDLL32.EXE user32.dll,UpdatePerUserSystemParameters

```

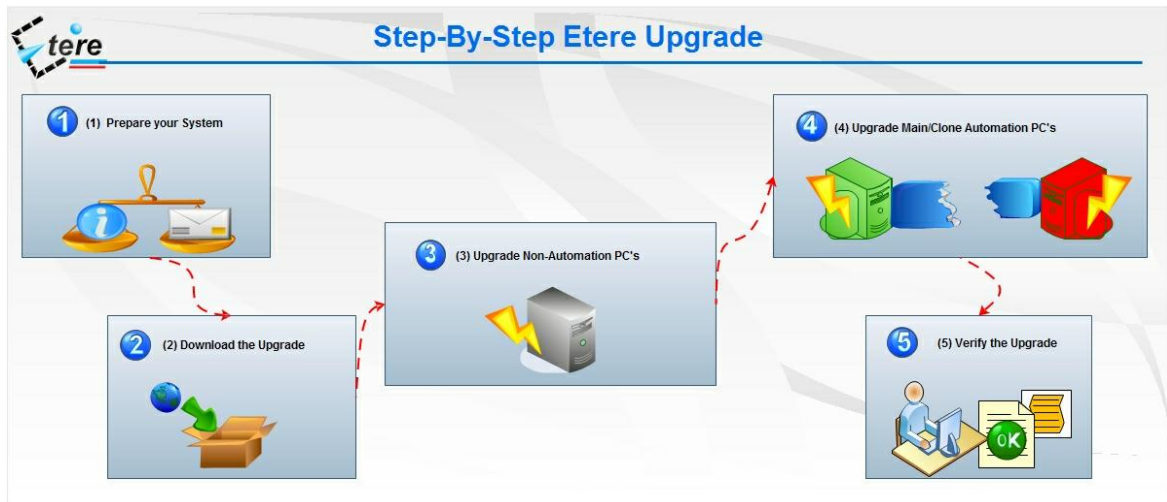
Etere Upgrades

Upgrading Etere

Etere counts with a professional staff of engineers which constantly works to develop a cutting-edge software according to the latest needs of the broadcasting industry, in this way, Etere is able to offer to its customers the most recent updates of its product, that can be download from the Etere's website and easily installed by customers themselves.

In this paper, there will be explained how to download and install a full upgrade of Etere, the instructions described below will provide you with a walk-through that will assist in upgrading the ETERE Software, this upgrade requires approximately two hours of time to download the needed files and another hour for installing all the required components.

Upgrading an Etere system is a very sensitive operation, therefore, in order to ensure a successful upgrade we suggest you to follow this procedure in the exact order it appears below:



1. Prepare your System

1.1. Identify the SQL Server version to check its compatibility with ETERE, including the service pack level required. The SQL version can be checked in the 'ETERE Configuration | Help | About | Properties' window.

1.2. If the SQL version does not meet the [suggested requirements](#), update it.

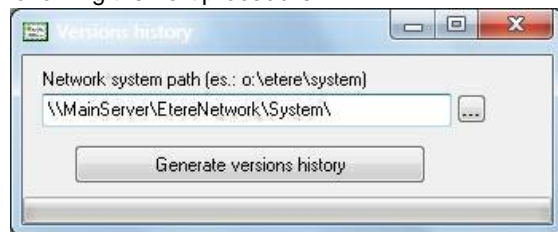
1.3. Identify the operating system, framework version (and service pack) of each PC to check its compatibility with ETERE. This can be checked in the 'ETERE Configuration | Settings | Etere PC's' window.

1.4. Runs Windows Update in all PC's that do not meet the recommended requirements for Operating System and Framework version,

1.5. Identify all PC's where ETERE is installed. This can be done in 'ETERE Configuration | Settings | Etere Installation',

1.6. Make a list of all PC's that need to be updated, create a backup copy of the existing [EtereNetwork folder](#).

1.7. Determine all the changes that have been made between your current ETERE version and the new one following the next procedure:



1.7.1. Launch from the [EtereNetwork folder](#) (e.g. `MainServer\EtereNetwork\System`) the file "**eterever.exe**".

1.7.2. Select the [EtereNetwork folder](#) (e.g. `MainServer\EtereNetwork\System`) path and press the

[Generate Version History] button,

1.7.3. A file named '**version.txt**' will be generated in the given location and all executable and DLL information will be listed in it.

1.7.4. Send this file (version.txt) to support@etere.eu specifying that you wish to have a report on all relevant changes for comparison.

1.7.5. Etere's support team will compare through the **EtereStory.exe** tool the sent file (version.txt) against the most recent Etere version indicating the specific Etere features (e.g. automation, memory, reports, stman, etc) to be analyzed.

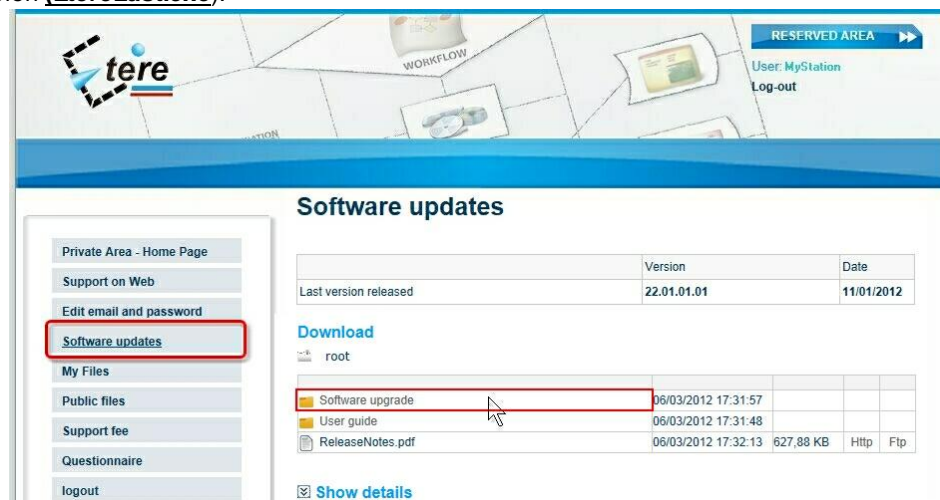
1.7.6. A changelog named '**report.txt**' will be sent to you detailing the differences (i.e.: the files that has changed) between your Etere version and the new release.

1.8. Make a backup of your database (see the SQL Database Backup chapter for further information).

2. Download the Upgrade and update the Network installation

2.1. Enter the Customer Area of the ETERE website (www.etere.eu), and insert your login data (only customers who have paid the annual licence fee are allowed to download upgrades).

2.2. From the list to the left of the screen click on the "**Software Updates**" section and, under the "**Software Upgrade**" folder, select to download -either via http or ftp- the file containing the latest Etere version (**EtereLast.exe**):



The screenshot shows the Etere Customer Area interface. On the left is a sidebar with navigation links: Private Area - Home Page, Support on Web, Edit email and password, **Software updates** (highlighted with a red box), My Files, Public files, Support fee, Questionnaire, and logout. The main content area is titled 'Software updates'. It contains a table with columns 'Version' and 'Date'. Below this is a 'Download' section with a list of files. The 'Software upgrade' file is highlighted with a red box and a mouse cursor. The table below shows the details of the download.

Version	Date
Last version released	22.01.01.01

File Name	Version	Date	Size	Protocol
Software upgrade	06/03/2012 17:31:57			
User guide	06/03/2012 17:31:48			
ReleaseNotes.pdf	06/03/2012 17:32:13	627,88 KB	Http	Ftp

2.3. Create a backup of your [EtereNetwork folder](#) (e.g. *MainServer\EtereNetwork\System*) by renaming it into "**bkpeterenetworkmm-dd-yyyy**" (e.g. *bkpeter04-27-2012*).

Please note that this backup must contain the "system" folder as well as the "setup.msi" and "updatew.exe" files.

2.4. Make double-click on the downloaded file "**EtereLast.exe**" to decompress the upgrading package, it will asks you to select the drive in which to copy the ETERE upgrade, select the [EtereNetwork folder](#) where the previous installer was located (e.g. *MainServer\EtereNetwork\System*). Please note that new files will overwrite old ones,

2.5. In the 'ETERE Configuration | Settings | Etere Installation' module you can see the complete list of installation files. You can check all the PC's where ETERE is installed, which ones have or have not been updated from the files inside the network installation.

3. Upgrade Non-Automation PC's

3.1. Please note that the MAIN Automation PC does not need to be stopped to update all other PC's (Non-Automation PC's), whilst ETERE STMAN may stop itself during the database maintenance process.

3.2. Close all open ETERE applications on the PC (e.g. the Scheduling PC, Recording PC, etc), taking care to also close any background modules (e.g. Control Panel, Sarvaji, Time Flooder, FTP Server, etc).

3.3. If the file 'etsnmpagent.dll' needs to be updated, the upgrading program closes SNMP, updates it and relaunches it automatically requesting only confirmation for installing the new 'dll'.

3.4. Run the 'Start | Programs | Etere | Setup | Update Workstation' application, enter the path to the folder in which the upgrade files have been decompressed, and click on the 'update' button, this action will locally update the PC.

3.5. Run the 'Etere Configuration | System Maintenance' module checking the following options: "*Check database structure*", "*Check historical database structure*", "*Update screen language*" and "*SQL reports repository maintenance*" (if installed and configured).

3.6. While this rather lengthy process is running on the current PC, you can launch the 'Update Workstation' application on all the other PC's except Main and Clone Automation (for those cases follow the indications described in the next point).

4. Upgrade Main/Clone Automation PC's

4.1. If no Clone Automation exists, an alternate *on-air transmission method* (e.g. by tape) should be prepared to replace the Main Automation for the time it will be stopped; once done, jump to the point 4.4.

4.2. Instead, if a Main and Clone Automations exists, stop on the Clone PC the Automation, Aligner and Stman (if present) modules and update it as described in the point three (3).

4.3. Wait until the update is complete, after then restart the Clone Automation and switch it ON, so the system will run in Clone Mode, freeing up the Main Automation.

4.4. Stop on the Main PC the Automation, Aligner and Stman (if present) modules and update it as described in the point three (3).

4.5. Wait until the update is complete, then restart the Main Automation and switch it ON.

Note

As described in the "Upgrading to..." chapter, in case of updating to **Etere 22.5** (or higher) on a **Windows 7 or 2008 OS**, the accomplishment of the following actions will be required:

- The **Automation shared path** should be recreated naming it: "ETEREAU".
- The **Etere shared folder** should be changed from the old path (e.g. "c:\program files\etere\") to the new one (e.g. "c:\users\[username]\appdata\local\etere\").
- The **Publication shared folder** (e.g. "\\[server-name]\etereau\user.001\") should be changed in "*Etere Configuration > Settings > EE > On-Air*" section.

5. Verify the Upgrade

5.1. Check in the "ETERE Configuration > Settings > Etere Installation" module that all files have been updated on each PC,

5.2. Verify that the new version of ETERE is working properly on each PC by opening and testing several applications (e.g. Presentation Editor, Asset Form, etc).

5.3. Publish a schedule as a final test.

Upgrading to...

Etere 22.5

In case of upgrading from a **Etere version lower than 22.5** the following information must be taken into consideration:

- ❖ In order to correctly work along with the *Microsoft's User Account Control (UAC)* feature, some *data files* stored in the *Etere's installation directory* (e.g. "c:\program files\etere\") will be **automatically relocated (*)** to the *Windows' data directory* (i.e. C:\Users\[username]\AppData\Local\Etere\), some of the files involved in this operation include the "logs", "temp" and "user.xxx" folders as well as the "etere.snmpsetup.ini" and "etereIn.mdb" files among others.
Once all interested files have been relocated, it will be required to manually update all paths **pointing to the former directory** (e.g. the *Etere Automation* on-air path, the *Etere Disaster Recovery* source and destination paths, etc), this by making them point to the new directory.
(*) *This action will be performed only for Windows 7 and 2008 operating systems, in Windows XP systems data directories will remain unaltered.*
- ❖ The **Etere license** is not stored in the windows registry anymore, instead, it is now stored in the SQL Server; therefore, all Etere modules (excepting the automation) will require to be connected to the database server in order to be used.
- ❖ The method for **generating workstation ID's** has changed, therefore, it may happen that for some workstations their new generated ID differs from the former ID, in this cases a temporarily license will be used until the workstation is reauthorized.

Etere 21.5

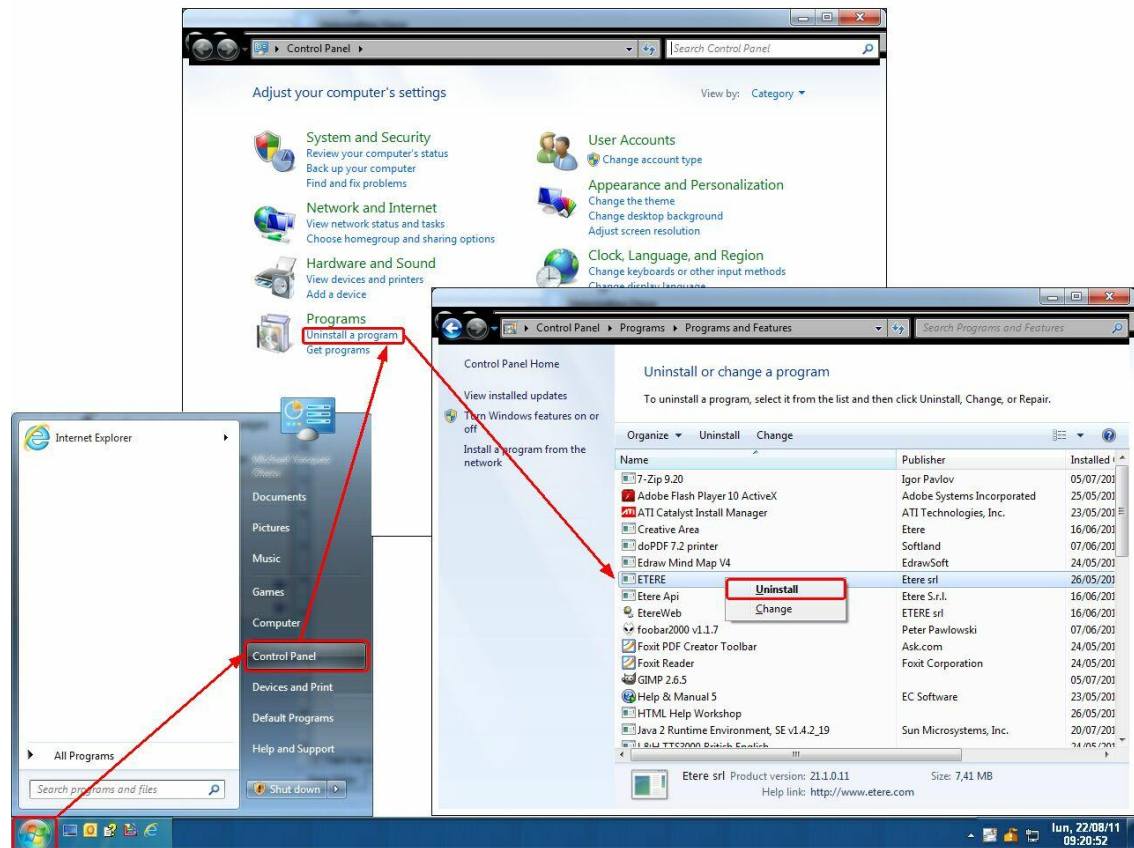
In case of upgrading from an **Etere version lower than 21.5** the following information must be taken into consideration:

- ❖ This upgrade is considered as a major upgrade since it requires uninstalling any previous version of Etere from the workstations. In these terms, please contact the Etere's support team (support@etere.eu) before performing any upgrade operation.

Uninstalling Etere

Removing installed Etere modules from the system is a simple task which only requires to follow the procedure detailed below:

1. Press the Windows 'Start' button and open the Panel Control:



2. Select the 'Uninstall a program' option from the Programs section,
3. Make right click on the Etere item from the Programs list, select the 'Uninstall' option and follow the simple uninstalling wizard to remove Etere.

Network Security Policies

Preface

Purpose

The purpose of this chapter is to guide the TX manager through the security design of its network. Nowadays any broadcasting system is based on networks, and these networks must be protected in order to guarantee the level of service of a broadcasting facility.

Isolated but Connected

The best idea to make a secure TX network is to isolate it, but today this is not possible because Schedules and Assets arrives as files from external agencies, demonstrating that the tapeless concept is everywhere.

In this terms a secure network must be isolated from unauthorized entities but connected to reliable networks at the same time, this seems to be a non-sense but achieving this goal, TX managers will have a network improved with proper access restrictions.

External Connections

Analyzing the structure of a network implemented into a TX facility, we will find the following connections:

- Corporate IT: To receive schedules, send as run logs or connect traffic clients,
- Corporate IT: To expose its web interface,
- Post Production: To send and receive video files,
- Internet: To receive video files from outside,
- Internet: To receive necessary software updates,
- Etere Support: To receive customer assistance.

It seems that a TX facility must be connected to the entire world and it is true, today a TX facility must be tapeless to manage the information according to the current technologies while taking care of an important aspect: improving its security.

Improve the security of a TX facility consists in the identification of how many networks are included on it, normally it is composed by only one network and sometimes by two (a Control-Network and a Video-Network), the first case is the one that experts recommend whilst the latter case indicates a bad network design.

Users

In the practice, there are lots of users defined within a network, some are operators, and others are automatic systems (e.g.: automation, data movers, etc); each one of them must perform specific operations, it's advisable to identify each operation in order to restrict the access such in a way that each user will be enabled to only use the resources that are intended to be managed by him, in this way the network will increase its level of security and will be more easy to be monitored.

Necessary Updates

Windows and other software vendors release lots of updates to improve systems and especially their security; those updates **MUST** be installed because they are very important for the security of the whole system.

But in which way a TX manager can update a system without using a direct and unsafe connection, that's why Microsoft delivers an update server which name is WSUS (Windows Server Update Services).

WSUS is the application that provides a software update service for Microsoft Windows operating systems and other Microsoft software, by using WSUS, administrators can manage the distribution of Microsoft hot fixes and updates released through Automatic Updates to computers in a corporate environment.

You can find more info on <http://technet.microsoft.com/en-us/wsus/default.aspx>

Suggested Policy

Acronyms

- Inside: It is the TX network, where everything is safe and controlled, where unauthorized access is not allowed.
- Outside: This is everything dangerous in the intranet outside TX; normally it is the corporate intranet.
- DMZ: In computer security, it is a demilitarized zone, named after the military usage of the term and normally abbreviated to DMZ; also known as a Data Management Zone or Demarcation Zone or Perimeter Network, is a physical or logical sub network that contains and exposes an organization's external services to a larger, untrusted network, usually the Internet. The purpose of a DMZ is to add an additional layer of security to an organization's Local Area

Network (LAN); an external attacker only has access to equipment in the DMZ, rather than the whole of the network.

- Internet: the insecure public network.
- VPN : Virtual Private Network, protected by 3des encryption is used by ETERE for support purposes.
- Public IP Address: A unique IP address in internet.

Microsoft WSUS

WSUS (Windows Security Updates Service) is necessary to ensure that your OS will be updated without exposing your Pc to internet, WSUS is easy to install, simple to configure and not difficult to maintain.

Antivirus

Etere strongly suggest not to use Antivirus software on productions servers and computers, except on dedicated border computers, as tapeless reception clean installations. Antivirus may interfere with real-time and near real-time operations performed by the ETERE system, thus causing delays and unexpected behaviors, If the customer will use an antivirus it will be done at its own responsibility.

Etere suggest an accurate network planning to avoid any unexpected software running on the network, this can avoid the use of antivirus software. In order to prevent the presence of viruses inside the network, a regular scanning of the entire network must be performed by a dedicated machine.

USB

USB ports must be disabled everywhere, the USB activation must be done only when really necessary, and by the system administrator. No file movement must be allowed via USB, if a USB connection must be required, it must be considered unsafe, so the Pc that hosts the USB connection must be vulnerable to the outside.

Services

All the services provided to the Outside network by a TX must be placed on DMZ, to allow the necessary safety to the outside world; this process has an impact on performances, but it's the only procedure to be safe that all the I/O cannot carry unwanted actions.

Even today, security elements such as passes, guards, doors, locks has a cost in term of performances, because you spent time to move from one place to another, but this is necessary to guarantee the service level.

If anyone without control can go into your master control room, it will be too easy to put the station on black every day, so everyone must agree that protection cost money and time, processes are a little slower but safe.

Users

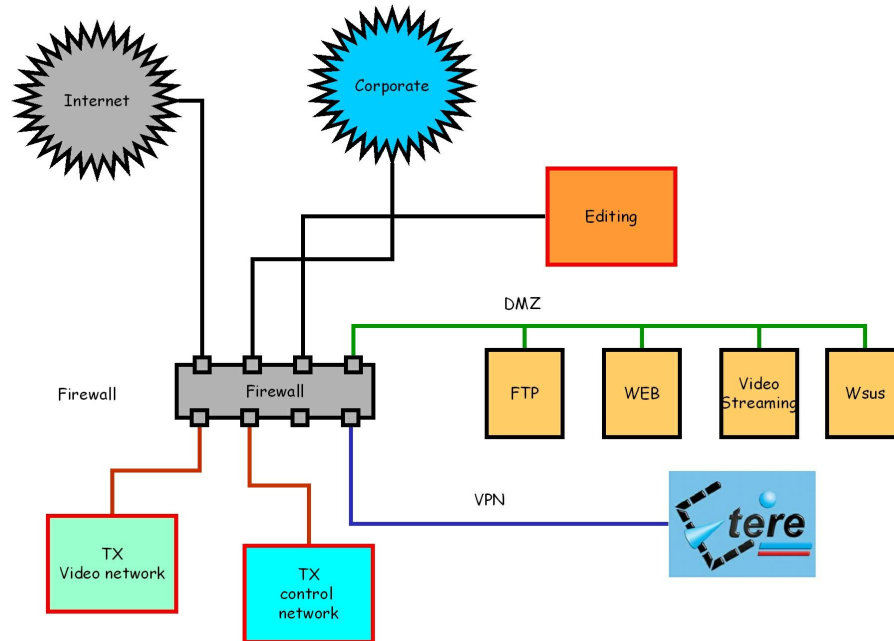
A TX network has a lot of users defined on it, some are operators, and others are automatic systems such as automation or data movers. Each one of them must perform specific operations, it is advisable to identify each operation and restrict the access to each user to only the resources he needs to manage. In this way, an appropriate users-list must be prepared with the username and password for them.

Username and password must be changed at least every 3 months even for automatic processes, this costs time but improves considerably the network's security.

Suggested network connection

There are hundreds of possible solutions for the network security problem; Etere, based on experiences, tries to give a general example which is also a good compromise between costs,

management, performances, the following diagram could be a good example:



Using a multiple port firewall it's possible to:

- Isolate the corporate network from the TX network
- Give services to external network with a good security level.
- Receive updates
- Receive video files
- Receive scheduling and send as run logs.

It's important to identify the procedures present in this scenario:

- Every file delivered Inside the TX network needs to arrive via FTP (only) to the FTP server in the DMZ zone.
- On the FTP there is an antivirus that scans it and then sends it inside.
- This is also the workflow for scheduling; ingest lists and any other file.
- No file can arrive without the previous control.
- The same firewall can be used to create the VPN for Etere support.

IT knowledge

In the practice, a TX group has both Video and SDI Knowledge, but they must acquire also IT Knowledge. It is not possible for them rely to the standard IT organization because a broadcasting system requires a special knowledge.

For example you can wait 5 seconds to retrieve an e-mail but 5 seconds of black on video is a disaster, so it is necessary that IT knowledge is created inside the TX group, so they can manage the entire network with the special IT environment for broadcast.

Redundancy

In the market exists several hardware redundancy firewalls, but all those appliances are quite expensive. An economical alternative is to have 2 hardware units (redundancy concept); where one will be used as cold stand by, this because that unit will not be used for the On-Air so it can accept some downtime.

Far Users

What are Far users

The Far users are those clients who do not login in the TX domain by using the win32 interface; but by using a web interface. Those clients normally need to do a massive data entry or playlist control, so the web interface is not the best for them. To provide them a comfortable environment and at the same time a good security service, the TX manager could implement one of the following options:

- Good Performance WAN,
- Poor Performance WAN.

Good performance WAN

If the Wan has a good performance, clients can perform a login by using the internal ETERE Login, their Pc will access only the SQL data with an authentication mode enabled only for ETERE.

With this option, no other process (virus) can access the sql data, and you can also use a port mapping on the firewall to avoid using the standard SQL port.

All other data, as video streaming will be access using the WAN address translation capability of ETERE, that is the most Wan enabled system on the market.

Poor performance WAN

The TX manager can implement a Remote Access Server provided by Microsoft Server to allow remote uses to open different sessions on the remote access server.

This process will use less bandwidth and it will have a good performance even with 64k only, and if the network connection is lost the process retain all the data. In the other hand, multimedia performances will be poor because in order to stream audio and video over the Wan, more servers and Microsoft licenses will be required.

