ZConverter

Server Backup v3.5

Enterprise Edition

[User Guide]

ZConverter Server Backup Enterprise Edition LICENSE AGREEMENT

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1 ZConverter Server Backup Enterprise Edition

1.1 Overview

ZConverter Server Backup is windows system image backup and data backup software. There are ZConverter Server Backup Enterprise edition and Standard edition in Server Backup family.

ZConverter Server Backup Enterprise Edition is windows server 2008 and windows server 2003 backup and recovery software for enterprise customers. It provides centralized management backup and recovery for windows servers by ZConverter Enterprise Manager. With ZConverter Enterprise Manager, you can control and manage your server backup and recovery centrally. ZConverter Enterprise Manager also supports centralized backup and recovery for Windows7/Vista/XP.

ZConverter Server Backup Standard Edition is standalone windows server backup and recovery software for small and medium sized customers. You should install this on your servers. Except for the centralized management backup and recovery, most of features are the same with enterprise edition.

1.1.1 Applications

Windows Servers system image (OS+APP) backup and recovery
Windows Servers data backup and recovery
Fast and easy recovery from system partition outage
Fast and easy disaster recovery to dissimilar servers
Minimize server downtime and meet the RTOs

1.1.2 Supported Operating Systems

Microsoft Windows Server 2008 R2 x32 and x64 Editions
Microsoft Windows Server 2008 R2 IA64 (Itanium) Edition
Microsoft Windows Server 2003 x32 and x64 Editions
Microsoft Windows Server 2003 IA64 (Itanim) Edition
Microsoft Windows Server 2000
Microsoft Windows Windows 7/ Vista/ XP *

* ZConverter Enterprise Manager can centrally manage windows 7, Vista, XP as well as windows servers from single console on the network.

1.1.3 Product Components

ZConverter Server Backup Enterprise Edition is consisted of ZConverter Server Access license (SAL) for production server, ZConverter Enterprise Manager and ZConverter Emergency Recovery Server (ERS) license.

The system requirements of each component are

Components	Role	System Requirements
Production Server (SAL)	- Source windows servers or production windows servers - One license per source system	- 512MB Memory + - Disk space 20MB +
ZConverter Enterprise Manager	- Centralized Backup / Recovery - x32, x64, IA64 management by single console on the network	- Windows Server 2003 for management server - DHCP / PXE / TFTP Server - .NET Framework 2.0 - 1GB Memory + - Available Disk Space 250MB +
Emergency Recovery Server (ERS)	- Target windows servers - Backup file will be recovered to this server - One license per target system	- PXE Network boot Support - Wake On Lan (WOL) Support (Recommendation)

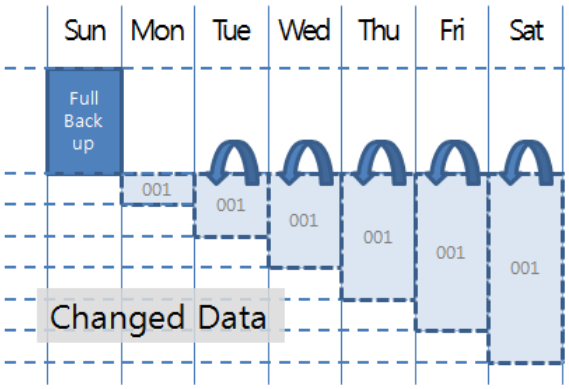
1.1.4 Features

The World's First IA64 Windows Server Backup
Centralized management of Server/PC backup
Integrated Backup & Recovery of x32/x64/IA64
Hyper-V/Xen/VMware virtual server backup
Live Windows Server system image backup
Files/Folders backup & recovery browser
OS/APP/DATA Incremental backup
OS/APP/DATA Differential backup
OS/APP/DATA Update backup
Automatic Scheduling backup
Source systems discovery and registry function
Bare Metal Windows Server recovery
Virtual server and dissimilar server recovery
No Agent and No Reboot backup and recovery
Centralized agent distribution

1.1.5 ZConverter Server Backup Features

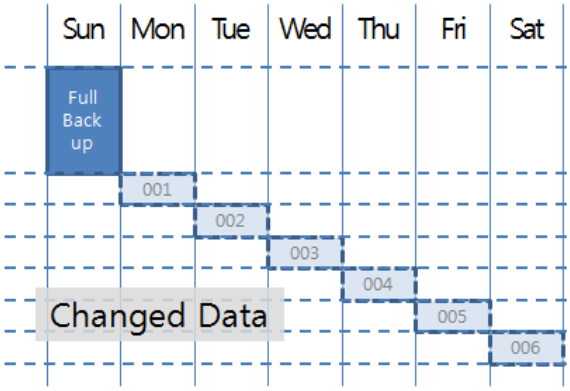
ZConverter Server Backup supports Full Backup / Update Backup / Incremental Backup / Differential Backup. According to your backup environment, you can select one of them.

1.1.5.1 Update Backup



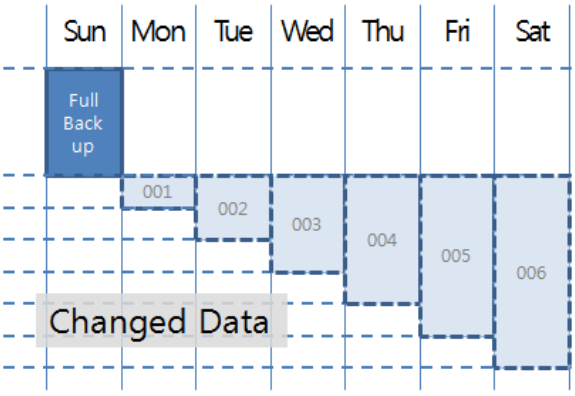
Feature	Updated data is backed-up to a separate file.
Strength	Minimize storage space.
Weakness	Recover system to the latest updated date or to the full backed-up date only.

1.1.5.2 Incremental Backup



Feature	- Updated data is always backed-up with a new incremental file after comparing with the latest incremental backup file.
Strength	- Recover system to the date you want to, therefore you can minimize the backed-up storage space.
Weakness	- In order to recover, all consecutive backed-up files are needed.

1.1.5.3 Differential Backup



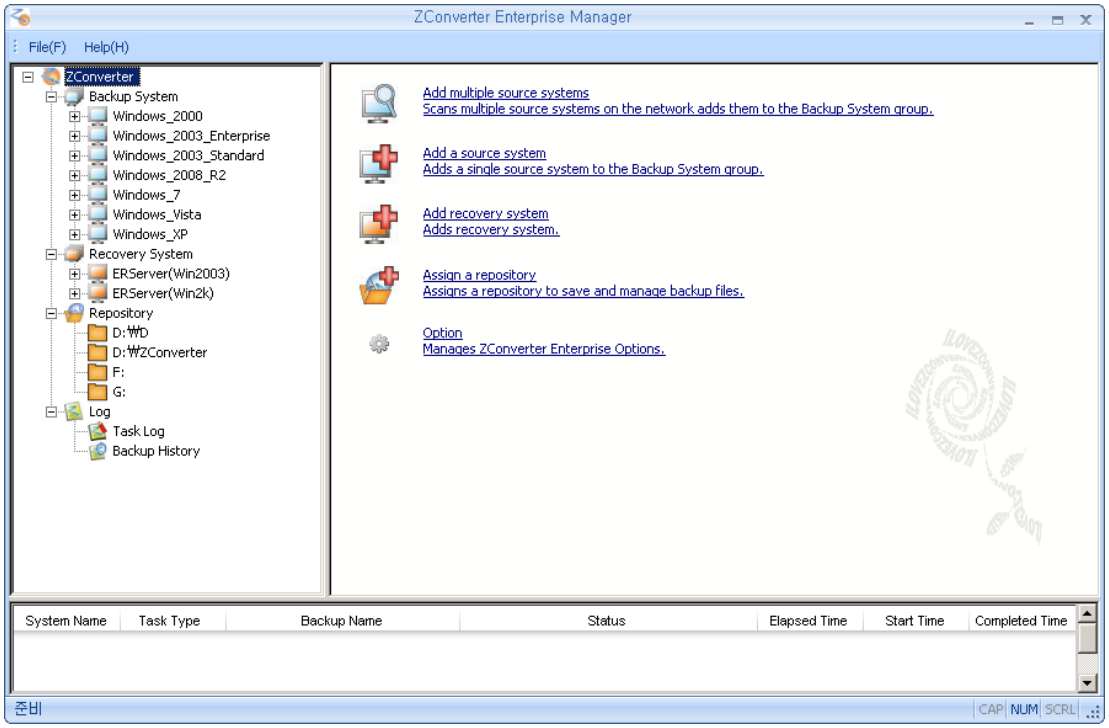
Feature	- Updated data is always backed-up with a new differential file after comparing with the full backup file.
Strength	- Recover system to the date you want to recover. (A full backup file and a differential backup file are required.)
Weakness	- It needs the largest storage space among the three backup methods.

2 ZConverter Enterprise Manager

ZConverter Enterprise Manager is one of the components of ZConveter Server Backup Enterprise Edition. This is the most important software among ZConverter Server Backup products which provides centralized management backup and recovery for windows servers. With ZConverter Enterprise Manager, you can control and manage your server backup and recovery centrally. It also supports centralized backup and recovery for Windows 7/Vista/XP.

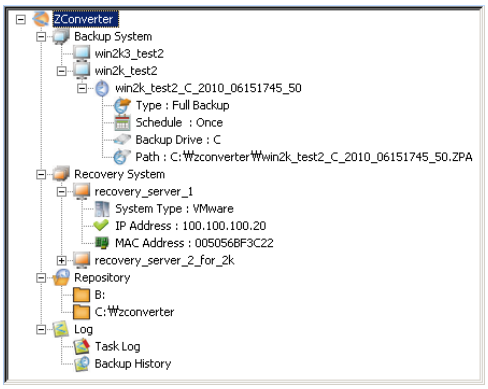
2.1 Features

ZConverter Enterprise Manager provides easy-to-use and intuitive management interface. Most of backup job is controlled and managed by single user interface. Main management interface is consisted of Inventory, Details and Running Job panes.



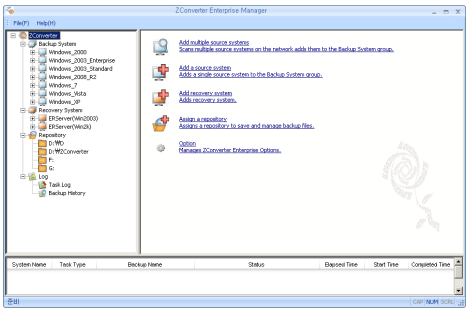
2.1.1 Inventory

This is the core portion of ZConverter Enterprise Manager which creates, deletes, modifies and monitors Backup System (Source System), Recovery System, Repository and Log related to ZConverter backup and recovery job.

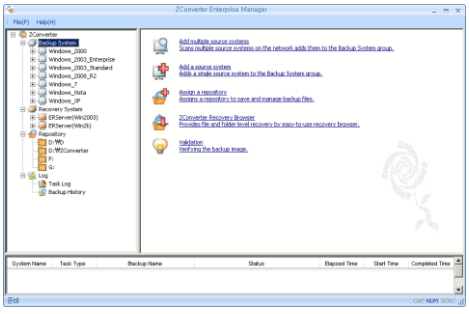


2.1.2 Details

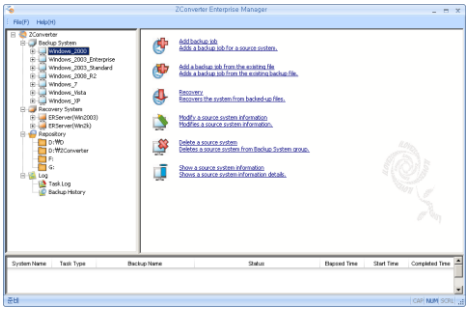
Details lists the detailed information about backup job. You can see the detailed information by clicking a backup list of Inventory.



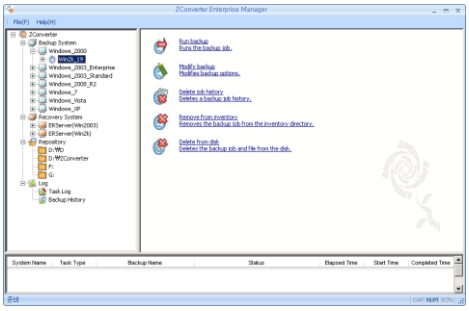
ZConverter Enterprise Manager



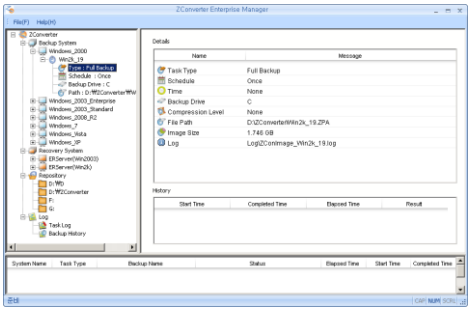
Backup System (Source System) Group



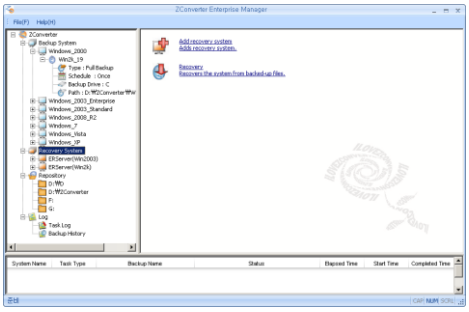
Backup System (Source System) Details



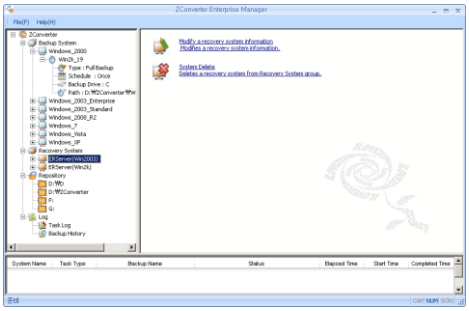
Backup Job Details



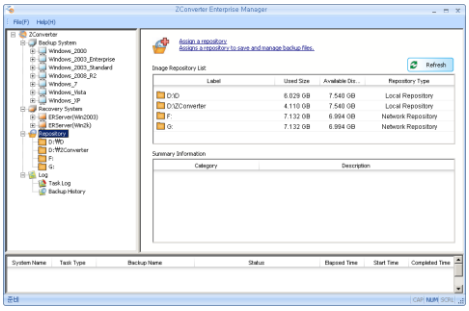
Backup File Details.



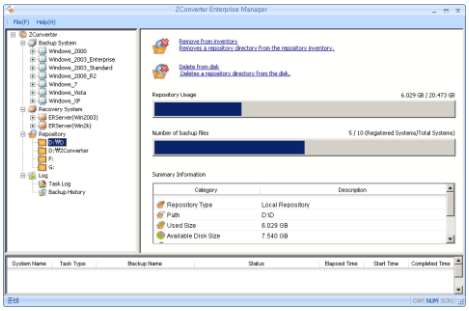
Recovery System Group.



Recovery System Details



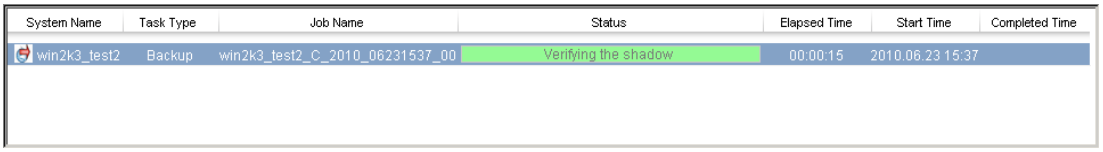
Repository Group.



Repository Details.

2.1.3 **Running Job**

Running job lists the latest run jobs. It shows backup progress status, schedule, size, and completion time and so on.

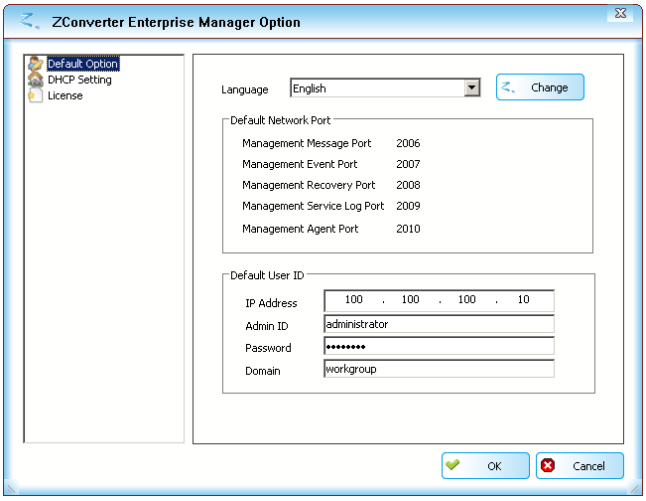


2.2 Options

From ZConverter Enterprise Manager Option, you can setup default option, DHCP and license. In Default Option, you can select language, network port and Default User ID which is the default administrator ID to manage source systems backup and recovery.

2.2.1 Default Option

In **Default Option**, there are Language, Default Network port and Default User ID. You can select the language you prefer in ZConverter Enterprise Manager and find the default network port information and also setup Admin ID and Password of ZConverter Enterprise Manager to be used on backing-up and recovering source systems.

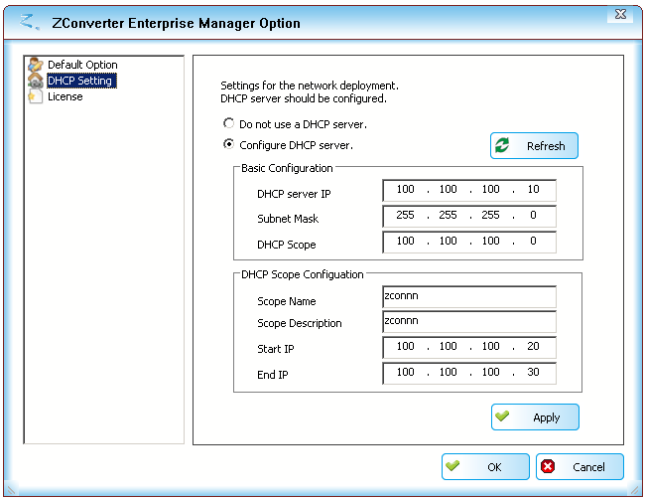


- **Language** : Select the language you want to use in ZConverter Enterprise Manager. English and Korean are provided from this option.
- **Default Network Port** : Network port for backup and recovery thru network. You cannot change this port information from this option.
- **Default User ID** : Setup Admin ID and Password of ZConverter Enterprise Manager to be used on backing-up and recovering source systems

2.2.2 DHCP Setting

During the recovery process to recovery system or source system, ZConverter uses PXE Booting function to boot up recovery system or source system. For using PXE booting, DHCP server should be configured in ZConverter Enterprise Manager. DHCP server assigns automatic IP address to the target recovery system and then ZConverter sends ZConverter booting image file thru IP communication to the target recovery system.

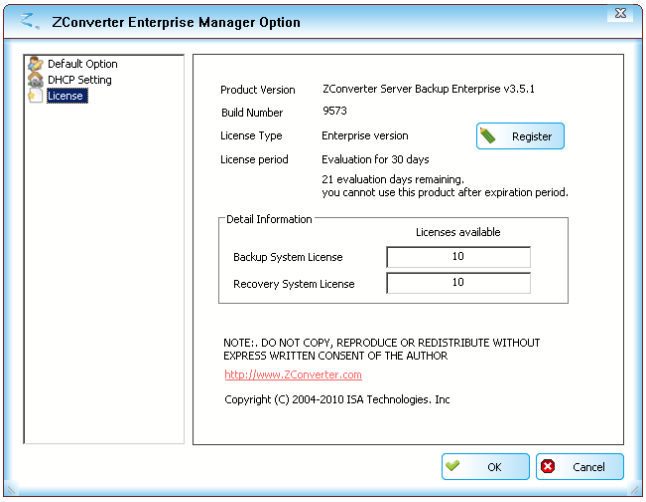
DHCP Setting is consisted of DHCP Basic Configuration and DHCP Scope Configuration. Regarding how to configure DHCP, you can find this information from **3.4 How to Setup ZConverter Enterprise Manager**



- **DHCP Basic Configuration** : Type DHCP Server own IP address. Generally, the same IP address with that of ZConverter Enterprise Manager is used. If there are multiple IP addresses existed in ZConverter Enterprise Manager, you can use one of them.
- **DHCP Scope Configuration** : Setup DHCP Service IP address scope.

2.2.3 License

When you register ZConverter License key in this option, you can find product version, build number, license type, license period, the number of licensed source servers and recovery systems. License information is displayed based on your license order.

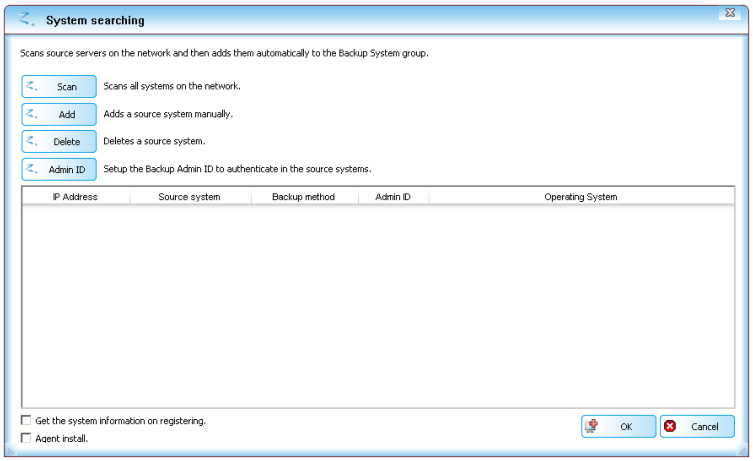


2.3 Backup System (Source System)

Source systems or production systems to be backed-up are added to this Backup System group. After adding source systems, you can create your backup policy, run your system backup and data backup and also run the recovery process.

2.3.1 Source System searching

By Source system searching function, you can easily add the source system to be backed-up to Backup System group. Also, you can add a source system one by one by **Add** function and you can select whether you install backup agent on source system or not.



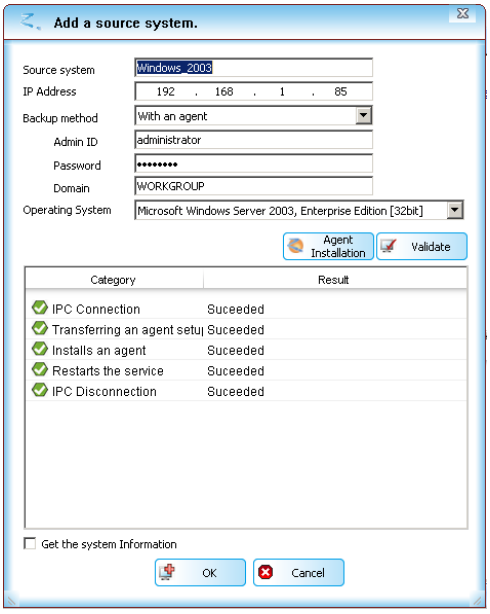
- Scan : Scan all system on the network. After scanning all systems, you can select the source servers you want to add
- Add :Add a source system one by one.
- Delete : Delete a source system discovered.
- Admin ID : Setup the Backup Admin ID to authenticate the source system.

2.3.2 Add a source system

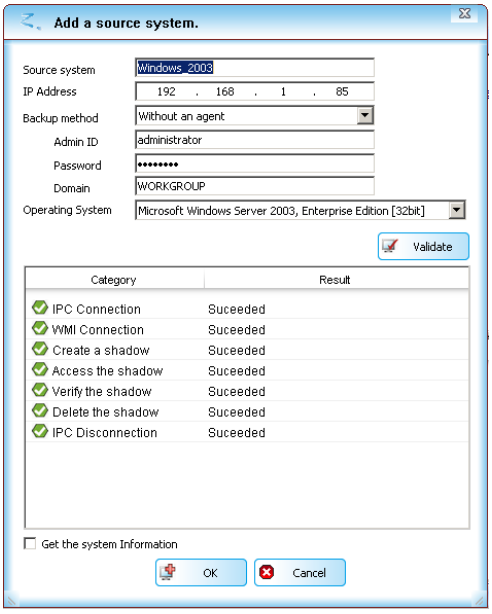
Instead of automatic source system discovery, if you want to add a source system or production system each by each, you can use **Add** button. After clicking **Add** , you can type a source system name, IP address and select backup method between agent or no agent backup. And also you select the operating system of the source system to be added.

Belows are the advantages and disadvantages between agent backup and no agent backup method

Backup Method	Advantages	Disadvantages
Agent Backup	- Can backup in the environment which has a firewall. - Don't need to be authenticated by the source system whenever to backup.	- Should install backup agent. - Relatively use high source system resources for backup.
No Agent Backup	- Minimize the source system resource utilization for backup.	- Should be authenticated by the source system whenever to run backup.



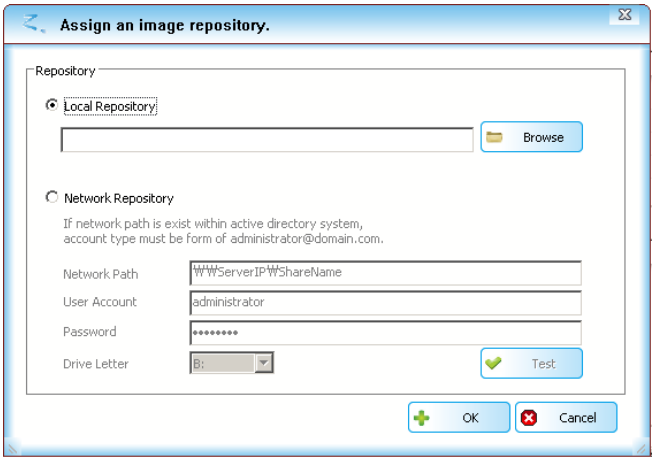
< Agent Backup>



< No Agent Backup >

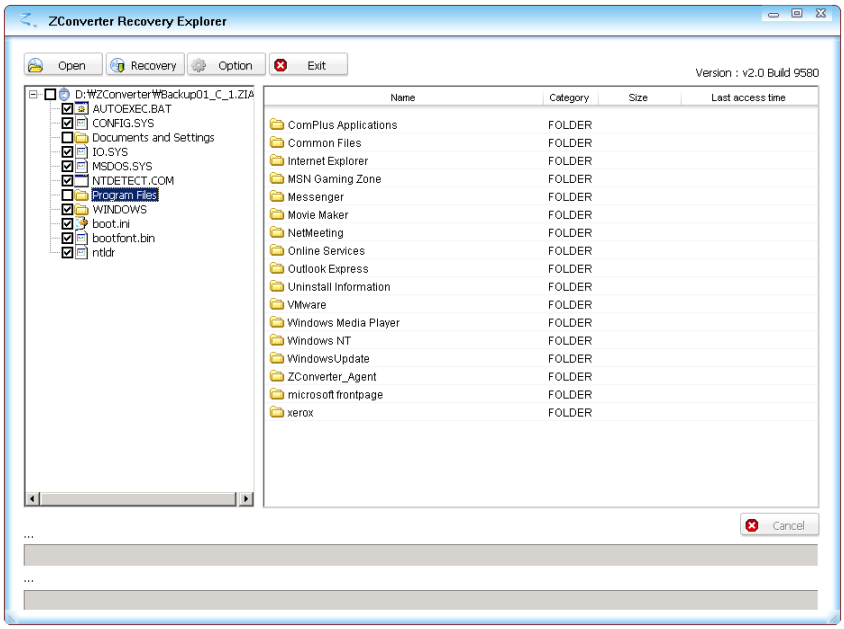
2.3.3 Assign an image repository

ZConverter Server Backup Enterprise Edition should have more than one image repository to archive the backed-up images. Image repository is the folder to save the backed-up image files created during backup job. You can create and assign multiple repositories by your backup policy.



2.3.4 ZConverter Recovery Explorer

By this, you can recover specific files or folders from your large backed-up image file. You can find more details related to ZConverter Recovery Explorer from **3.6 How to use ZConverter Recovery Explorer**.



- **Open** : Select a backed-up image and open the files or folders included in that.
- **Recovery** : Check a file or a folder and then recover a specific file or a folder.
- **Option** : Setup how to handle the duplicate files or folders or folders structure.
- **Exit** : Exit from ZConverter Recovery Explorer

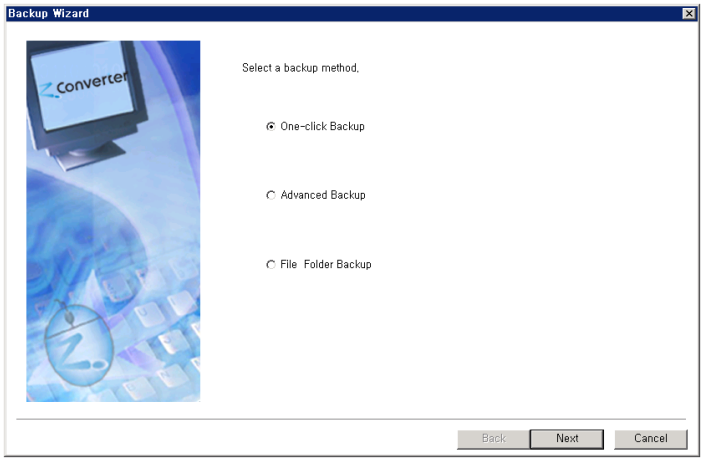
2.4 Backup System Management

After completing to register backup systems or source systems on ZConverter Enterprise Manager, you can add your backup job and setup your scheduled backup job and manage backups.

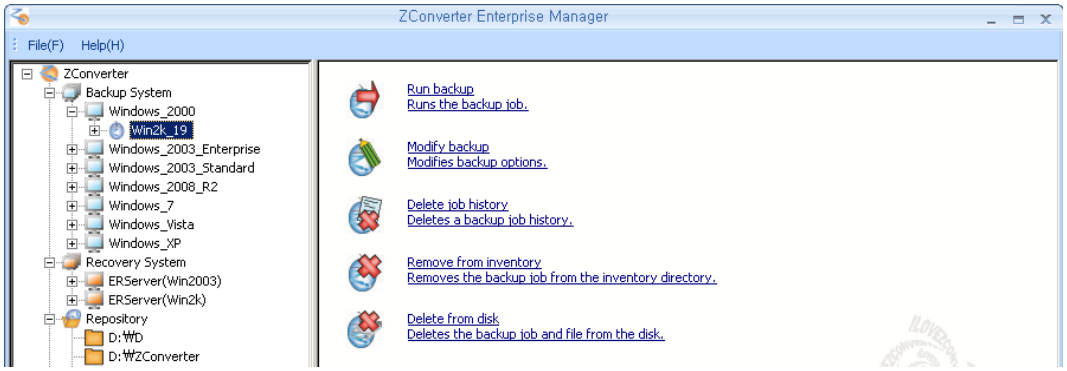
2.4.1 Add a New Backup

For adding a new backup job, select the backup system you want to backup from **Inventory** pane and then select **New Backup** from **Details** pane. Or you can highlight the backup system and then click right mouse button on that and then select **backup** -> **New Backup**.

ZConverter provides One-click Backup, Advanced Backup and File & Folder Backup options. For more details, you can see **3.4 How to Setup ZConverter Enterprise Manager**.



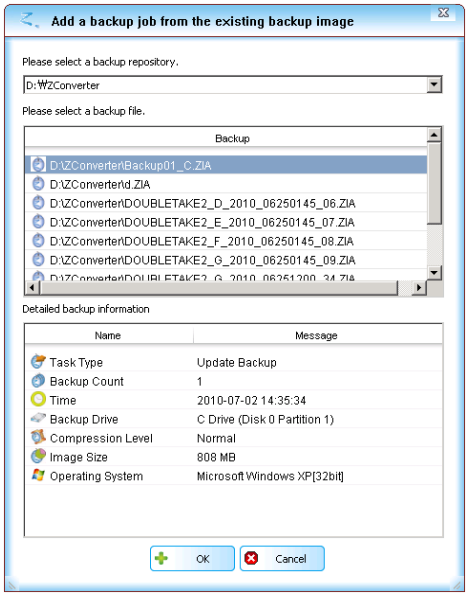
When you select a new added backup job, you can see the details related to backup job from the **Details** pane.



- **Run backup** : Start backup job highlighted on inventory. Apart from the scheduled backup job , backup is started on clicking this.
- **Modify backup** : Modify the backup job like backup name, compression and so on.
- **Delete Job history** : Delete all the backup history logs related to highlighted backup job.
- **Remove from inventory** : Remove the backup job from inventory list but the backed-up image files related to this backup job are remained in the repository.
- **Delete from disk** : Delete the backup job from inventory and delete the backed-up image files from the repository. Due to this, when you run this, you are sure to delete all the backed-up image files.

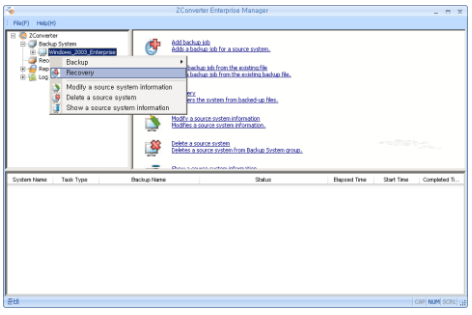
2.4.2 Add a backup job with the existing backup image

When you have backed-up image files in the repositories, you can add a backup job with the legacy backup image files. For adding a backup job, select the repository and then select the backed-up image files and click **O.K**. You can easily add a backup job with the existing backup image.



2.4.3 Recovery

When you happen to meet unexpected failure of the source system, you can recover it with the backed-up image file without reinstalling windows operating system and applications. With Recovery Wizard, you can easily recover your system step by step. For more details, please go to **2.5.2 ZConverter Server Backup Enterprise Edition** and **3.3 How to recover ZConverter Server Backup Enterprise Edition**.



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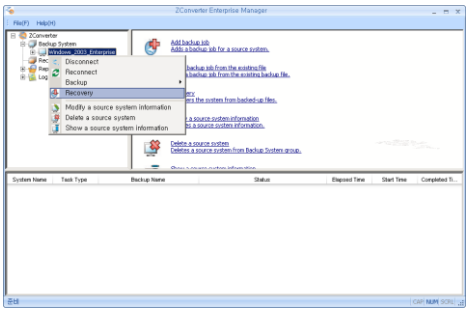
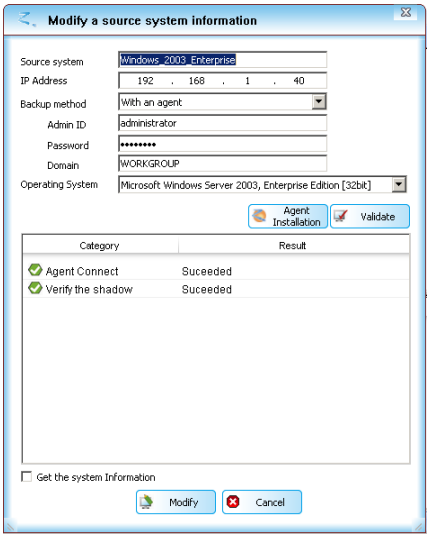


< No Agent Backup >

2.4.4 Modify a source system information

By this menu, you can modify the registered backup system information like source system name, IP address, Backup Method and Operating System of the source system. After modifying the information, validate the connectivity between a source system and Enterprise Manager. After passing the validation, you can complete the modification process by clicking 

button.



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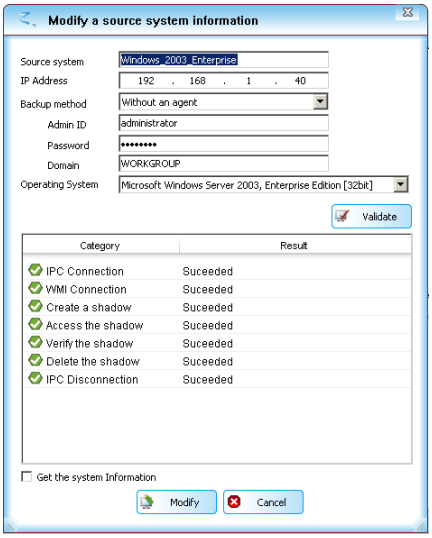
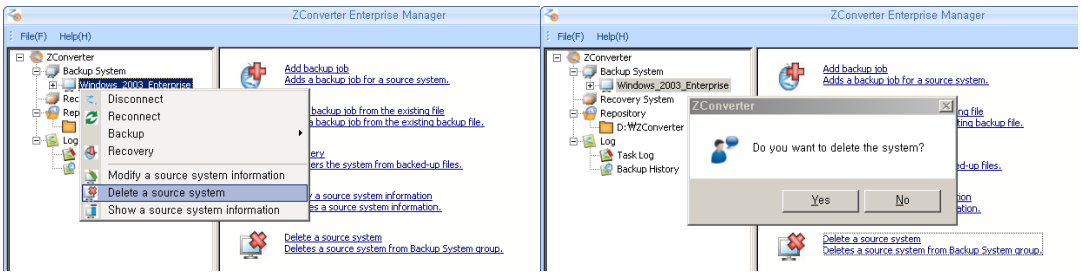


< No Agent Backup >

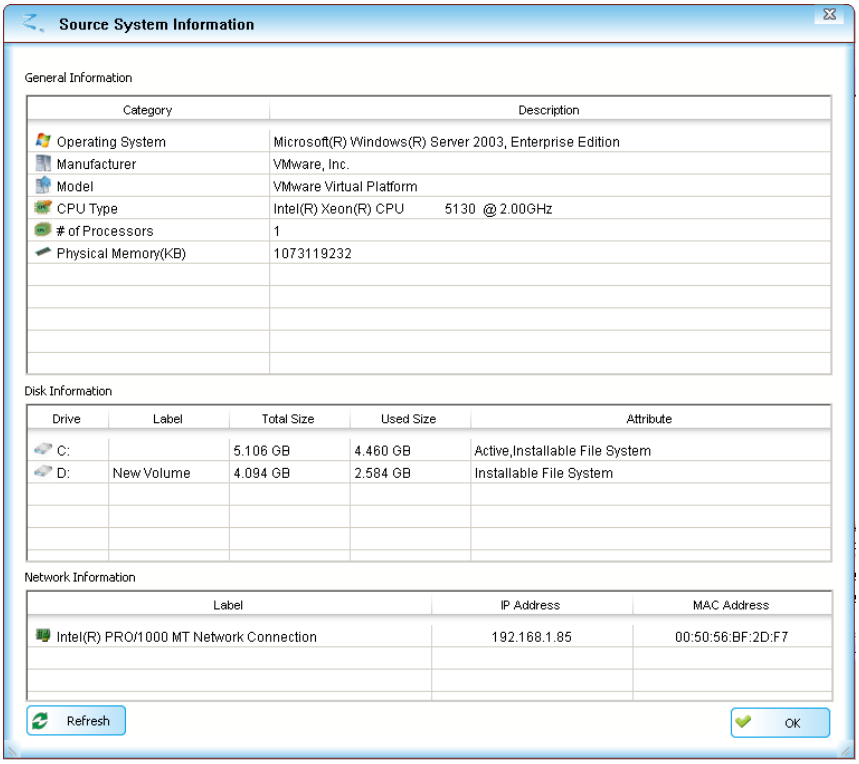
2.4.5 Delete the System

The backup system which will not be used any more can be deleted from inventory. Highlight the backup system deleted and then select "**delete the source system**" and click **Yes**.



2.4.6 Source System Information

You can find the general information about the registered Backup Systems. The Backup System which backup agent is not installed on is also informed of.

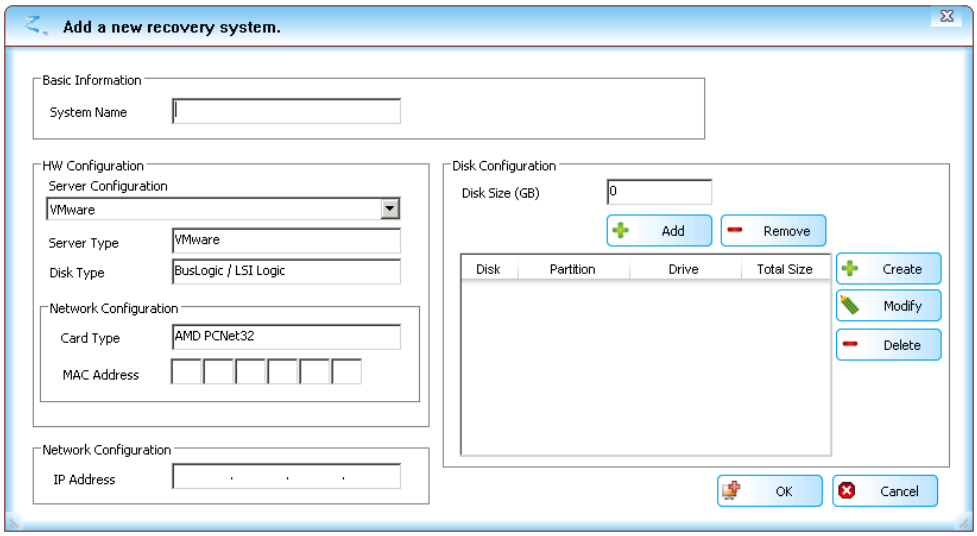


2.5 Recovery System

Even if the source system happens to meet a hardware failure and then you cannot recover the backed-up image until the source system is fixed, you can recover the backed-up image onto the registered Recovery System. As Recovery System, you can register both physical servers and virtual servers. ZConverter Server Backup Enterprise Edition provides dissimilar server recovery technology and you can easily recover your backed-up image onto the dissimilar Recovery System. Dissimilar server recovery technology dramatically reduces the business downtime and also physical backup system investment cost.

2.5.1 Add a new recovery system

In order to add a recovery system, highlight the recovery system from the inventory and then click **Add a new recovery system** of **Details** or click right mouse button on the highlighted recovery system. When starting the window of **Add a new recovery system**, type the recovery system information and HW configuration and then click **OK** button.



2.5.2 System Recovery

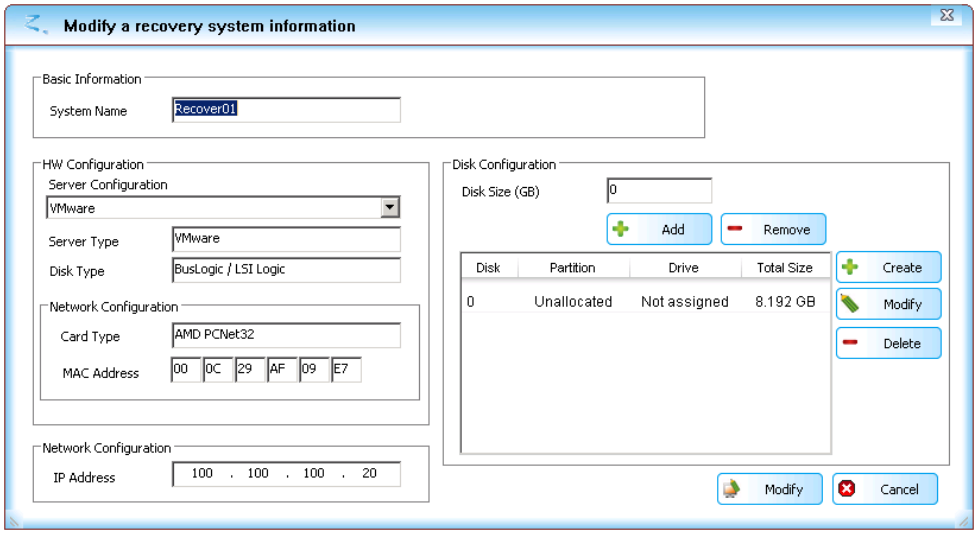
When the source system happenes to meet an outage, it should be recovered from backed-up images. You can recover it onto the source system or another dissimilar server. System Recovery can be processed by running recovery of **Details**. Below are the system recovery steps.

1. **Follow the recovery wizard. After all configurations are setup, recovery process will be started.**
2. **ZConverter Enterprise Manager waits the response from the recovery system.**
3. **Power on the recovery system with PXE network boot option. ZConverter Enterprise Manager provides IP address and boot image (Windows PE) to the recovery system. When the recovery system does not support PXE Network boot, you can boot it up from Recovery CD, and then check the information of ZConverter Enterprise Manager.**
4. **Recovery system tries to connect ZConverter Enterprise Manager.**
5. **When recovery system is connected, it will download the recovery information from ZConverter Enterprise Manager.**
6. **All recovery process will be done automatically.**
7. **When the recovery processes are completed, boot the recovered system up and then check the services.**

You can find detailed recovery process from **3.3 How to recover ZConverter Server Backup Enterprise Edition**.

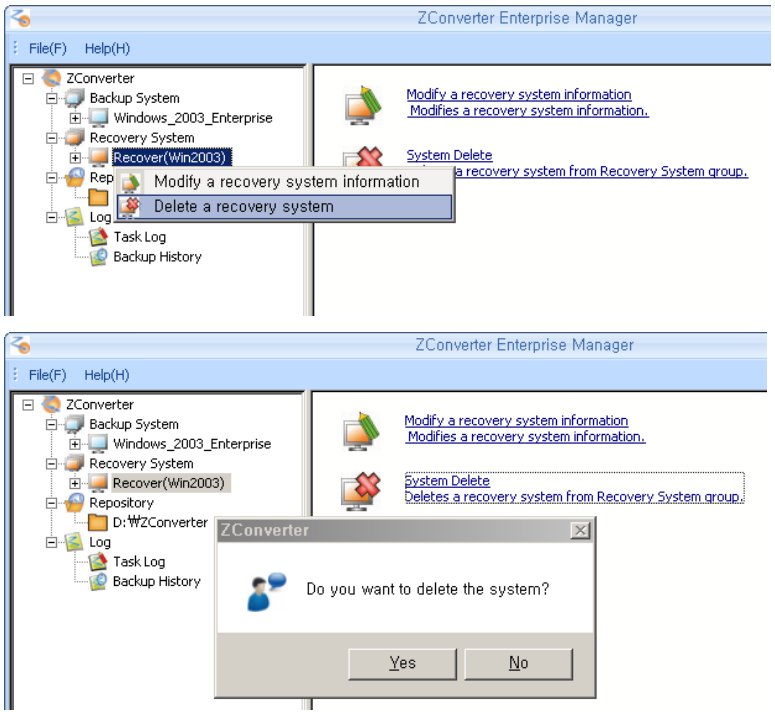
2.5.3 Modify a recovery system information

When the recovery system information is changed, you should modify this from **Modify a recovery system information** window. Start this and then modify the changed information like Server Type, Disk Type, MAC address and so on.



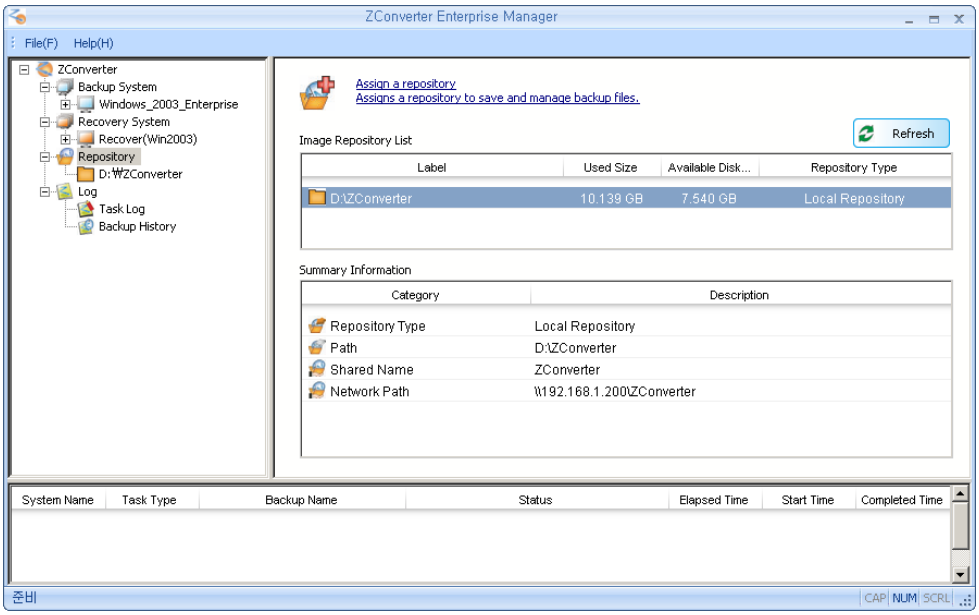
2.5.4 Delete a recovery system

From **Delete a recovery system** menu, you can delete the recovery system from **Inventory** which will not be used any more.



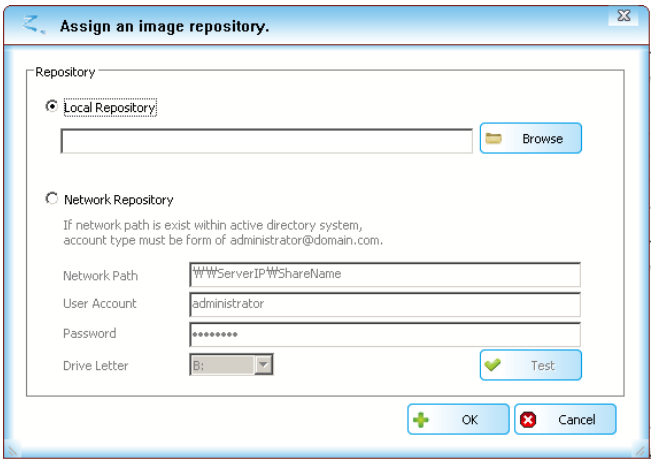
2.6 Repository

Repository is the folder defined as an archiving vault which saves the images backed-up from source systems. You can define a local folder or a networked folder as a repository. You may define multiple repositories to save and manage the backed-up images.



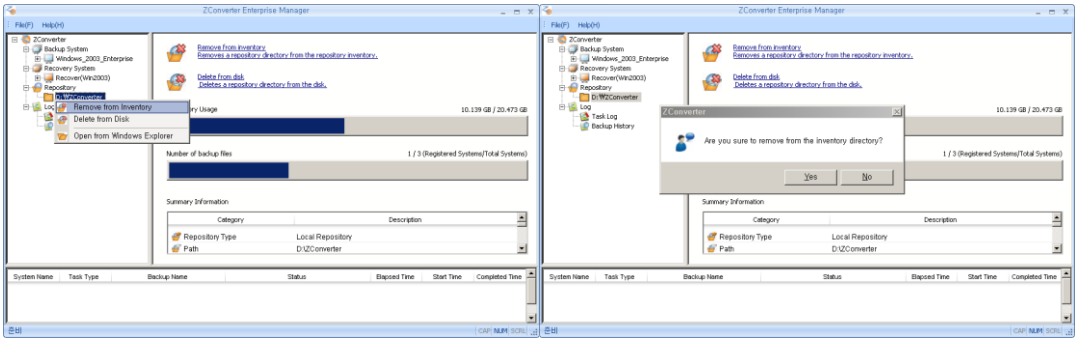
2.6.1 Assign an image repository

In order to assign a repository, click **Assign an image repository** . If you want to assign a repository with one of the local folders of management server, select Local Repository and click **Browse** button or if you want to add a repository with the folder on the network, select Network Repository and then type Path, Admin ID, Password.



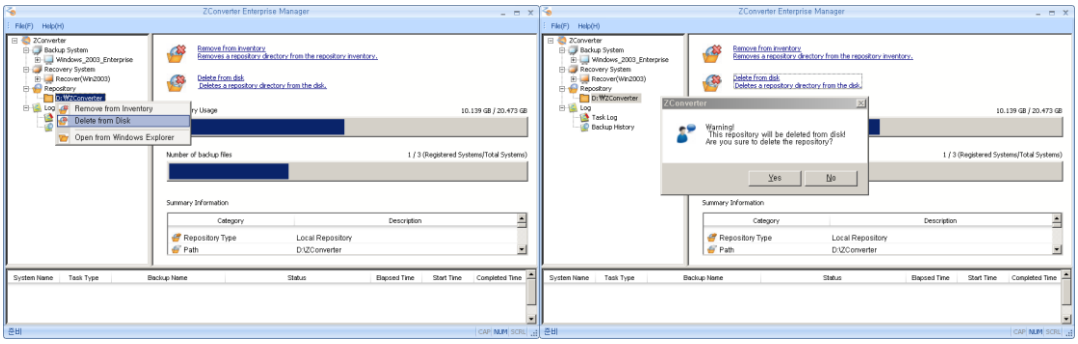
2.6.2 Remove from inventory

If you want to delete unnecessary repository, click **Remove from inventory**. Even though a repository is removed from inventory, backed-up images archived in repository folder are still kept in disk.



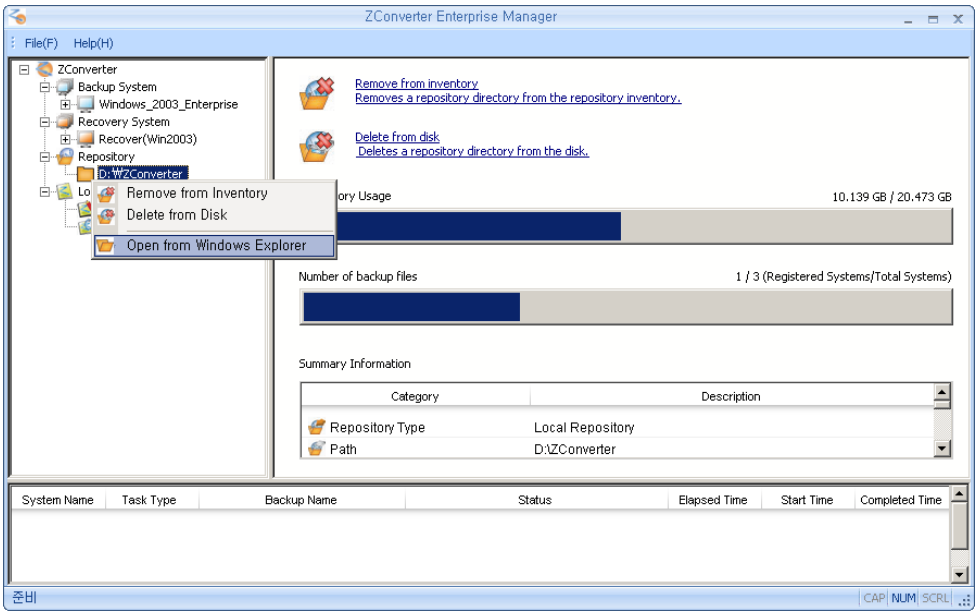
2.6.3 Delete from disk

If you want to delete both repository from inventory and images from disk, click **Delete from disk**. When you run **Delete from disk**, all backed-up images saved in repository folder are deleted. Make sure whether you want to delete the backed-up images from disk before run this. Unless this, you may lose all the backed-up files.



2.6.4 Open from Windows Explorer

When you want to see the files or folders capsulated in the backed-up image, click right mouse button on repository folder and then run **Open from Windows Explorer**. You can see the files and folders in the selected image.

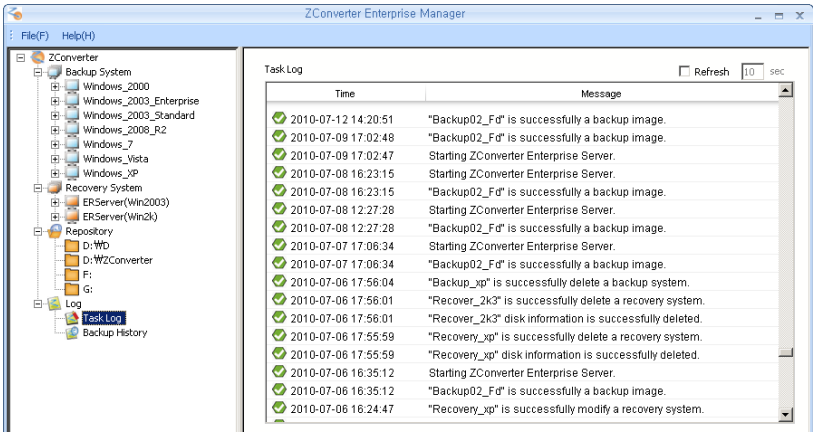


2.7 Log

Whenever running backup and recovery job, ZConverter Enterprise Manager creates a log and backup history. You can see the logs details by click **Task Log** from inventory.

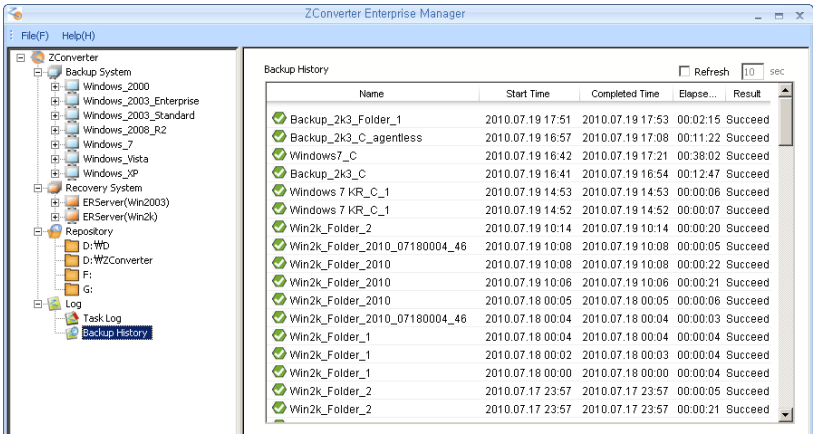
2.7.1 Task Log

This saves the log related to management server services like ZConverter Enterprise Manager service start.



2.7.2 Backup History

This saves the backup and recovery result which is informed of as **succeed** or **Fail**. From this, you can check whether your backup job was successful or not.



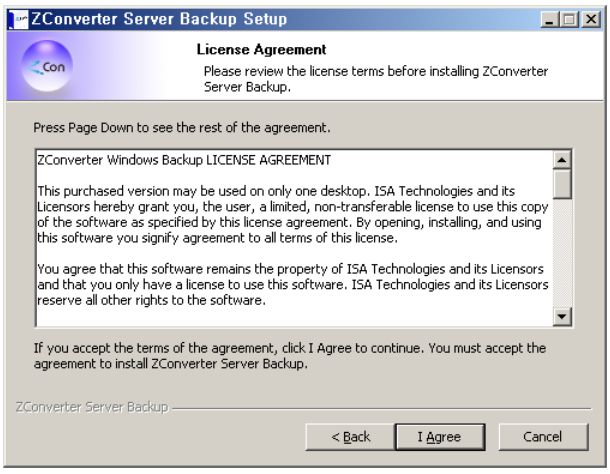
3 How to use ZConverter Server Backup Standard Edition

ZConverter Server Backup Standard Edition is the standalone windows server backup and recovery software. You should install this on your local server.

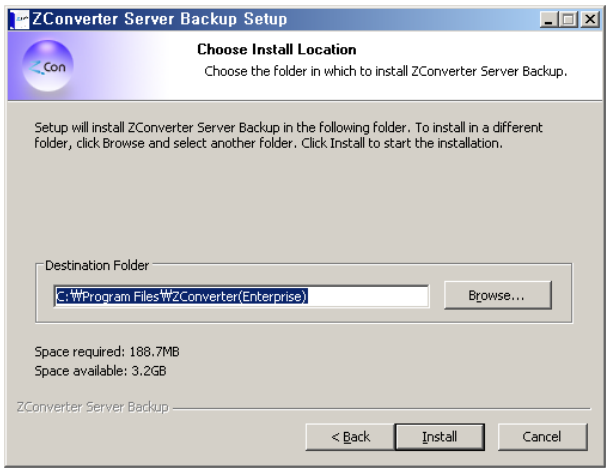
3.1 Install ZConverter Server Backup Standard Edition

When you start ZConverter Installation process, you can see the below window. Click **Next**.

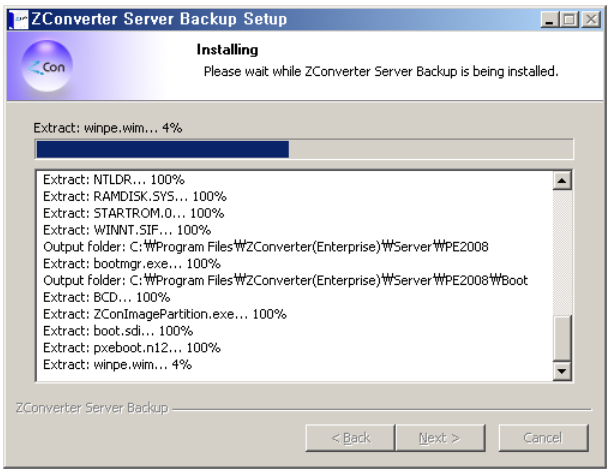
Read the **License Agreement** carefully and then click " **I Agree**" button to proceed.



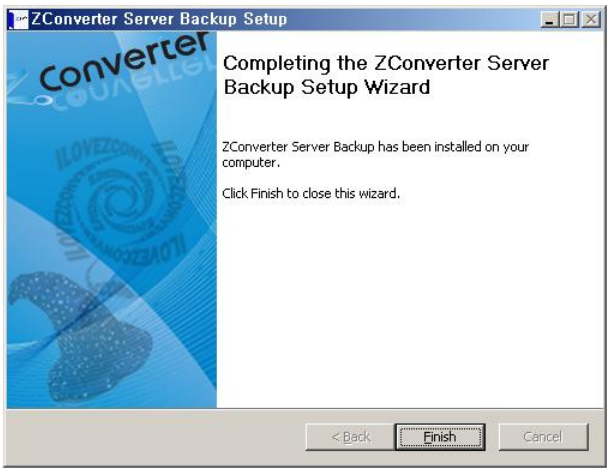
Type the folder you want to install **ZConverter Server Backup** or find the folder you want to by clicking **Browse**. **C:₩Program Files₩ZConverter(Enterprise)** is the default path provided by ZConverter Installation Wizard. After selecting the path, click **Install** to proceed the installation.



Below is the window which ZConverter is being installed.



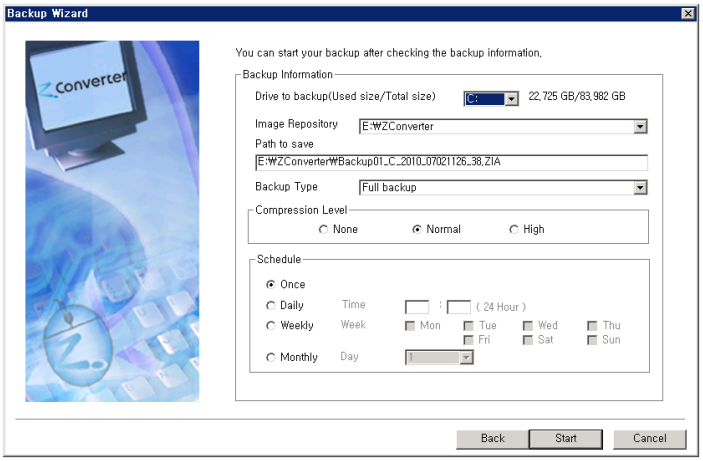
When you complete the installation, click **Finish**.



3.2 How to backup ZConverter Server Backup Standard Edition

3.2.1 One Click Backup

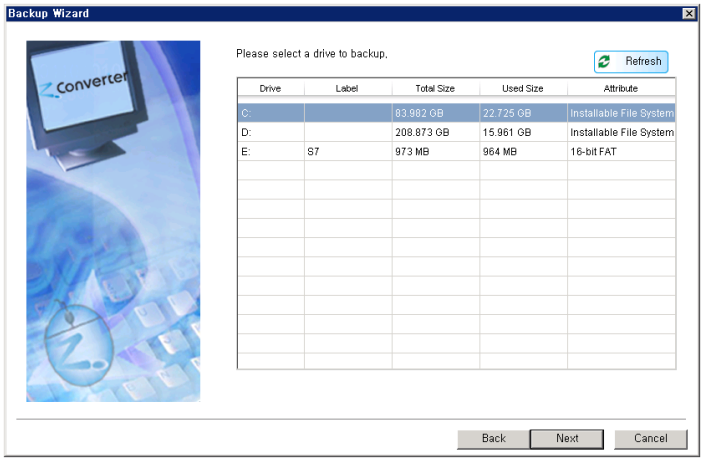
One-click backup minimizes user effort to backup his or her windows system. By one clicking of **Start** button, you can backup the system drive which has windows server operarting system, and applications.



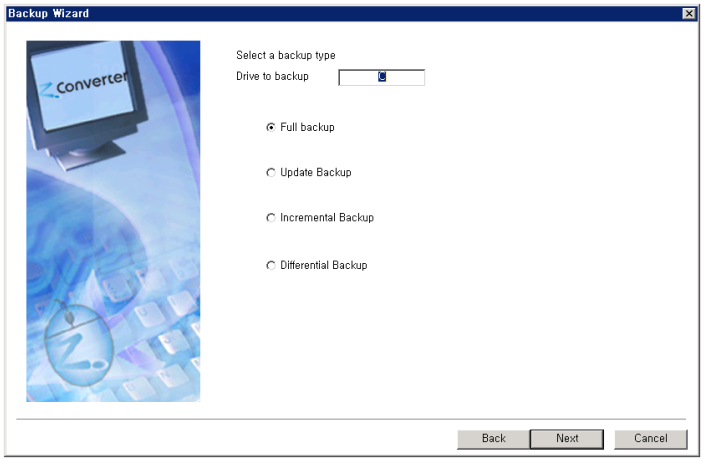
- **Backup Drive** : OS drive will be selected. OS is generally installed on C: drive.
- **Backup Path**
  - **Repository** : It automatically creates default local repository directory with "ZConverter" folder name. This will be created on the drive which has the most available free space. If you want to change setting, refer to **2.6 Repository**.
  - **Backup File** : Backup file name will be created by backup drive and time. Of course, user can change it.
    - Name Creation Rule
      ZC_<Host Name>_<Backup Drive>_<Year>_<Date and Time>_<Sec.>.ZIA
- **Task Type** : Full Backup
- **Compression Level** : Normal
- **Schedule** : Once

3.2.2 Advanced Backup

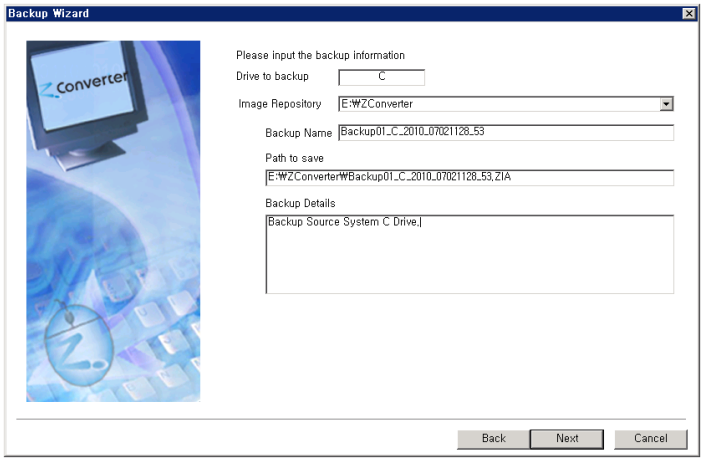
Advanced Backup has more detailed options compared to **One-click backup**. You can setup a sort of backup, path for saving backup file, directory to exclude, backup schedule, and so on. When you select the drive to backup, you can find the existing backup job name. With backup wizard, you can select the drive to be backed-up, repository, backup type and compression level and so on.



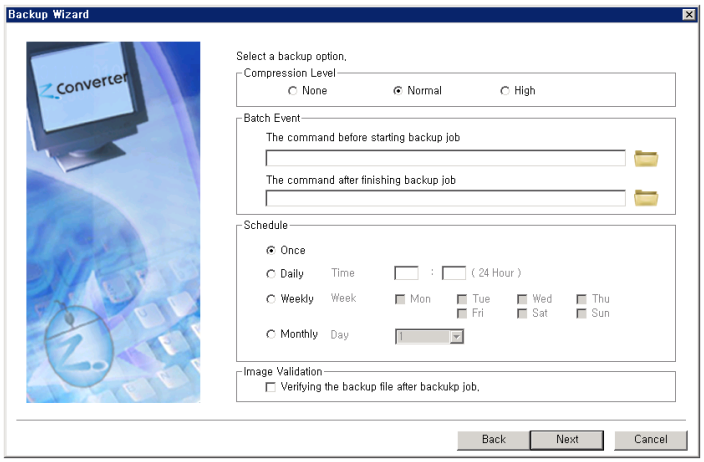
Select the drive to backup. You can also select the multiple drives to backup. And also it provides four sorts of backup methods; Full backup, Update Backup, Incremental Backup and Differential Backup. You can selct one of them. Click **Next** to proceed.



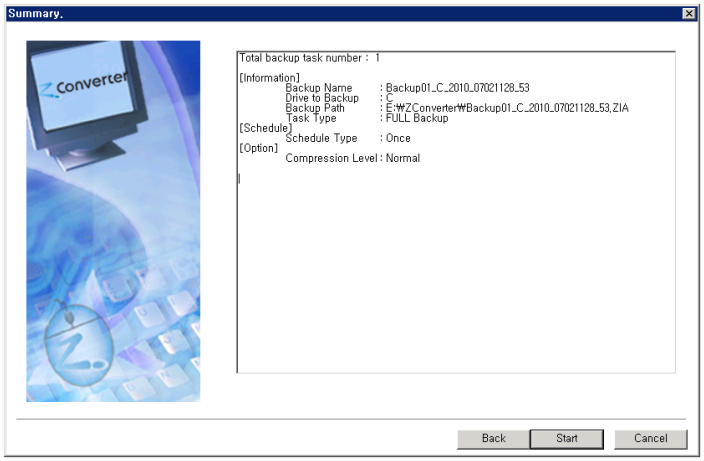
Select the repository to save the backed-up image. When you have multiple repositories, you can select one of them by drop-down menu. **Path to save** shows you with repository path and backup name. You can modify the backup name. In **Backup Details**, you can type your own description for this backup.



From the below window, you can select compression level and define the **Batch Event** and setup the backup schedule. When you select high compression level, you can minimize the backed-up image size but it will relatively take more time to backup the data compared to the other levels. From **Batch Event**, you can define script files which will be run before and after backup job. From the schedule menu, you can setup your backup schedule.



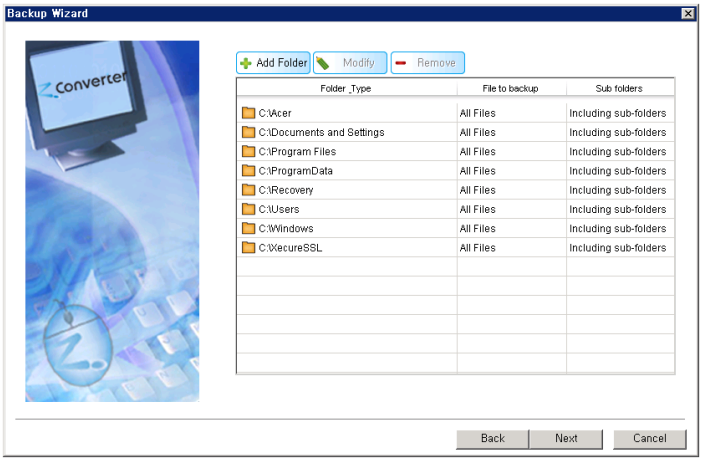
When you complete all setup, you can see the summary window and when you click **Start**, you can start your backup job.



3.2.3 File and Folder Backup

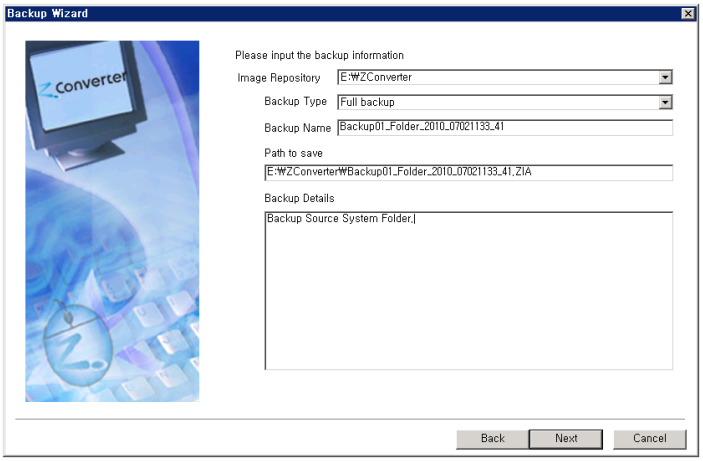
You can backup a specific file or folder you want to. With backup wizard, you can select the folder or file you want to backup and then you can proceed to backup.

By clicking **Add Folder** button, select the folder to backup. You can select whole drive or sub-folder under the specific folder and then you can back it up.

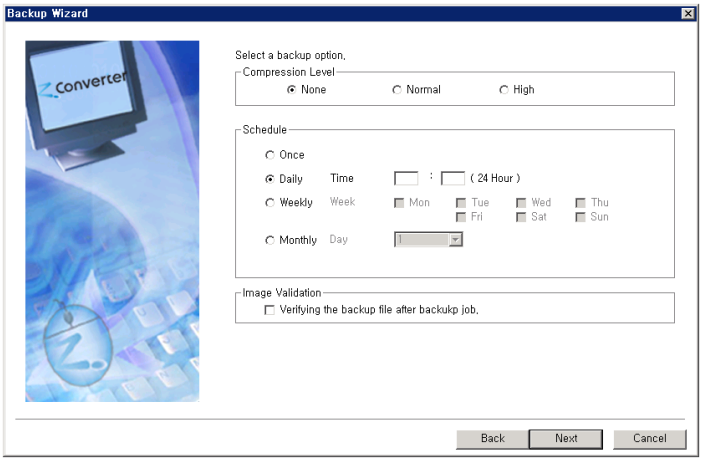


By **Modify** button, you can input the detailed backup information like repository to be saved, backup type and backup name and so on.

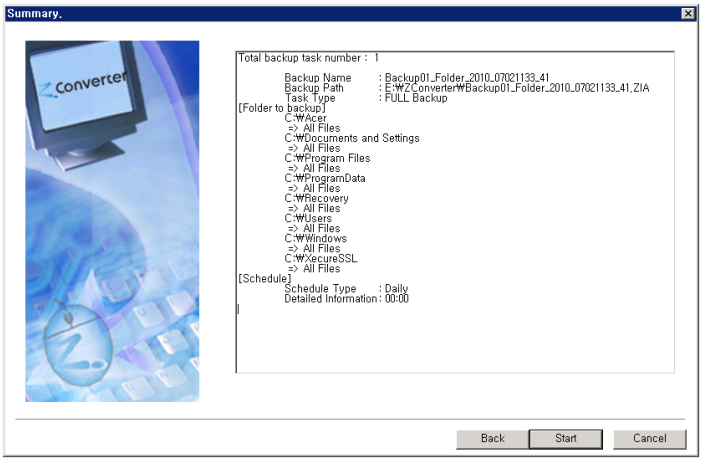
If you have multiple repositories, you can select one of them by drop-down menu of **Image Repository**. **Path to save** is created by merging the **Image Repository** path and **Backup Name**. You can describe the detailed explanation about the backup in **Backup Details.**



You can select the compression level among **None**, **Normal** and **High**. When you select high compression level, you can minimize the backed-up image size but it will relatively take more time to backup the data compared to the other levels. From the schedule menu, you can setup your backup schedule. When you select **Once**, your backup job starts instantly.



Like **Advanced backup**, Summary shows you the details which you setup by backup wizard. When you click **Start**, **File and Folder backup** job starts.



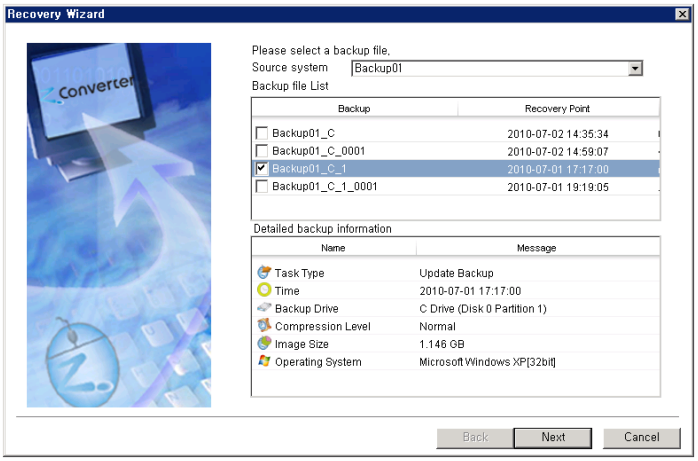
3.3 How to recover ZConverter Server Backup Enterprise Edition

ZConverter Server Backup Enterprise Edition provides two kinds of recovery methods: **Recovery to Source system**, **Recovery to dissimilar system**. Most of recovery process is centrally managed by **ZConverter Enterprise Manager** but as an exceptional case, if ZConverter Enterprise Manager cannot use DHCP service to assign an IP address to recovery system, you should boot-up the recovery system with ZConverter Recovery CD by yourself. Except for booting-up with ZConverter Recovery CD, the other recovery process is the same.

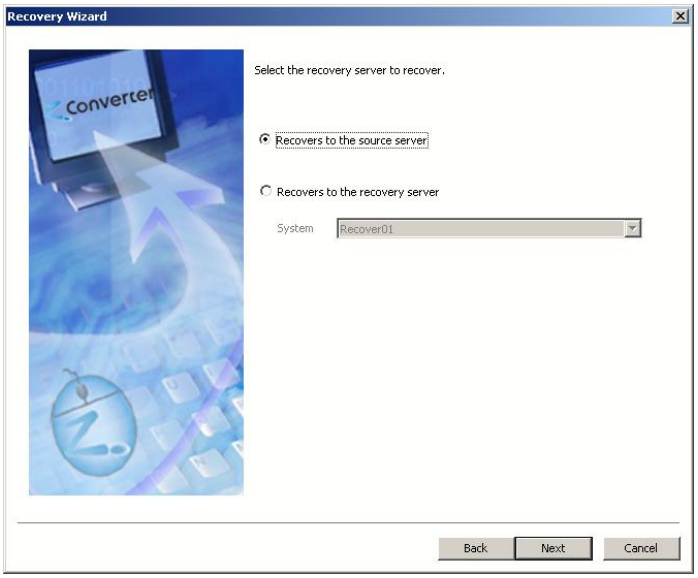
3.3.1 Recovery to Source system

This is the general recovery process which recover backed-up image to its source system. From **Recovery Wizard**, select the backed-up image file you want to recover and then click **Next** for the next step.

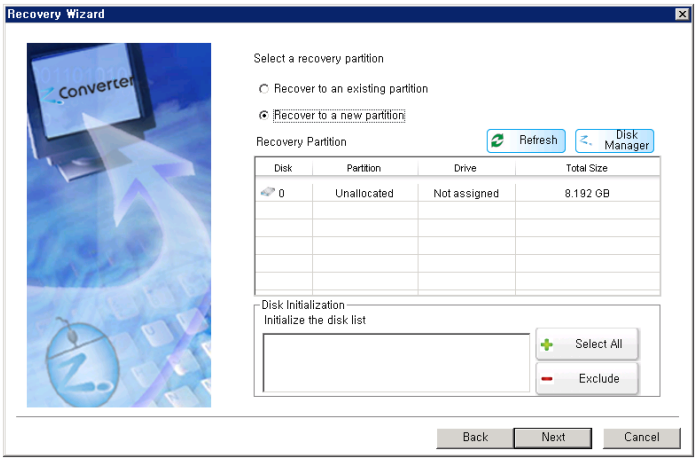
When you select the image file, you can see the detailed information from the below **Detailed backup information** box. From this, you can make sure whether the selected image file is the right one for the source system recovery.

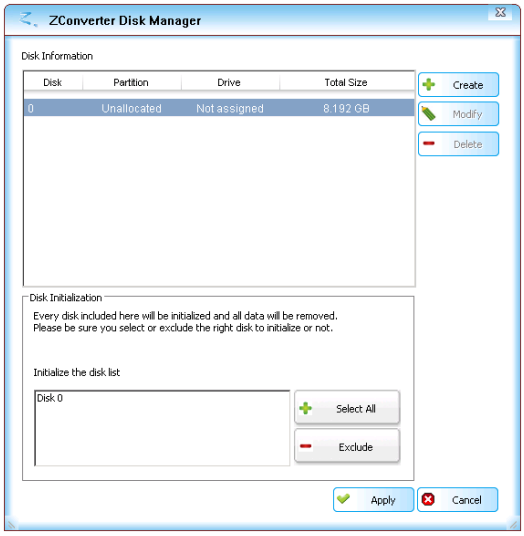


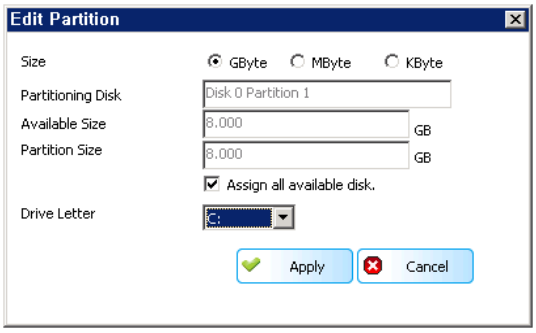
From the below window, you can select whether you recover to the source system or the other system. In this case, you should select **Recover to the source server** and then click **Next** for the next recovery step. If the source system supports Wake-on-LAN booting function, you can select **Use Wake-on-LAN(WOL)**. By this option, you don't have to boot-up the source system by yourself. **ZConverter Enterprise Manager** boots-up the source system automatically by the WOL.



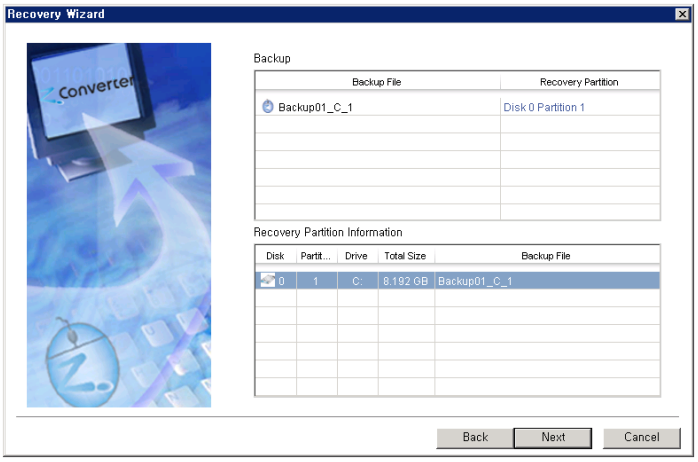
From the below wizard, you can create or modify the partition of source system. If you already have the partition created in the source system you want to, select **Recover to an existing partition**. Unless you have, select **Recover to a new partition** and then click **Disk Manager** to customize the parititon. After completion of disk partition, you have to initialize the disk in order to prevent the data duplication.



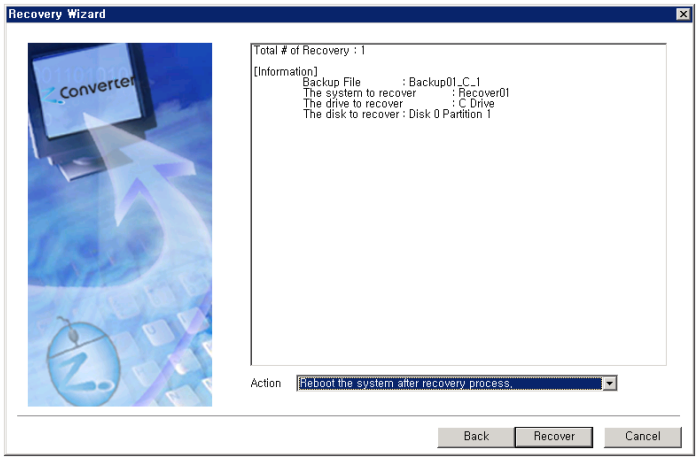




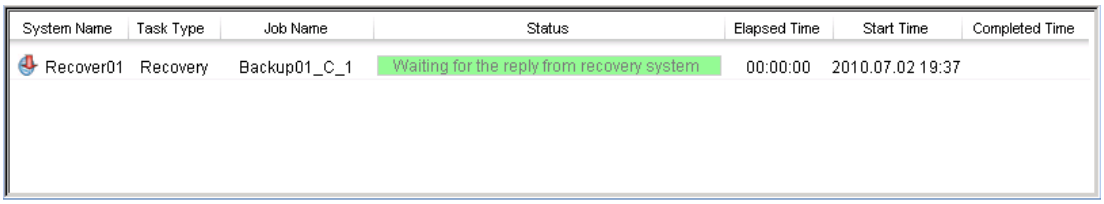
You can see the backed-up image file which will be used for recovery from **Backup** box and the system partition information which has the source system to be recovered from **Recovery Partition Information**.



When you click **Next**, you can see the summary information from the below window. From this, you can select the post action after the completion of recovery process like **Reboot the system after recovery process**. When you click **Recover**, recovery process starts.



When you start the recovery process, you may see the message "**Waiting for the reply from recovery system**" from Status tap. It means **ZConverter Enterprise Manager** is waiting for the reply from the source system to be recovered. The source system boots-up, this message is changed.

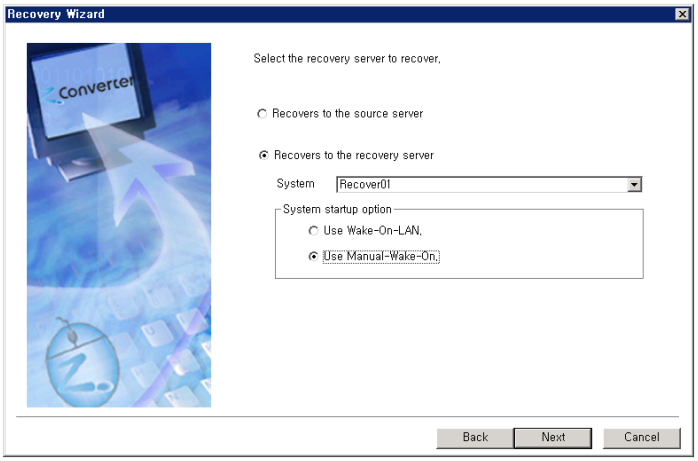


3.3.2 Recovery to dissimilar recovery system

Recovery to dissimilar recovery system is almost the same with **Recovery to source system** except for selection of recovery system.

From the below window, you can select whether you recover to the source system or the other system.

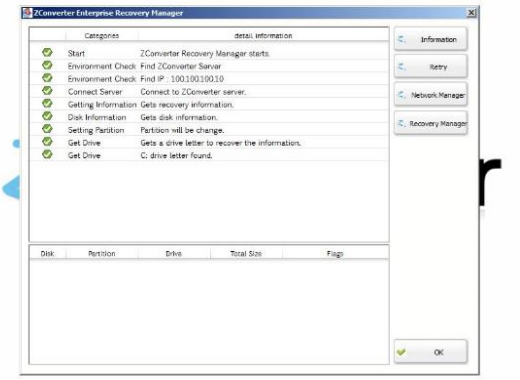
If the source system has the hardware problem, you can recover to registered dissimilar system. In this case you should select **Recovers to the recovery server**. And then select registered recovery system. If the recovery server supports Wak-on-LAN booting function, you can select **Use Wake-on-LAN(WOL)**.



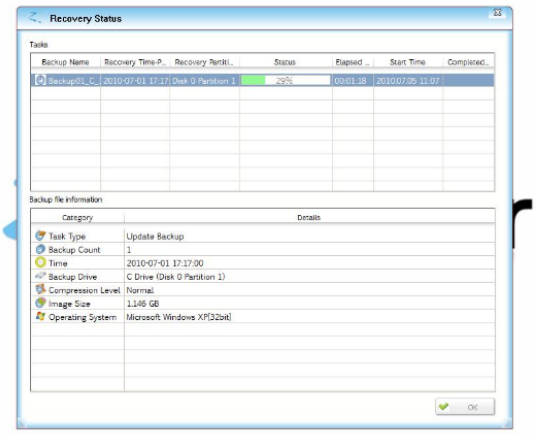
All other steps are the same with **Recovery to source system**. For more details, please refer to **3.3.1 Recovery to Source system**.

3.3.3 Recovery process to Source system

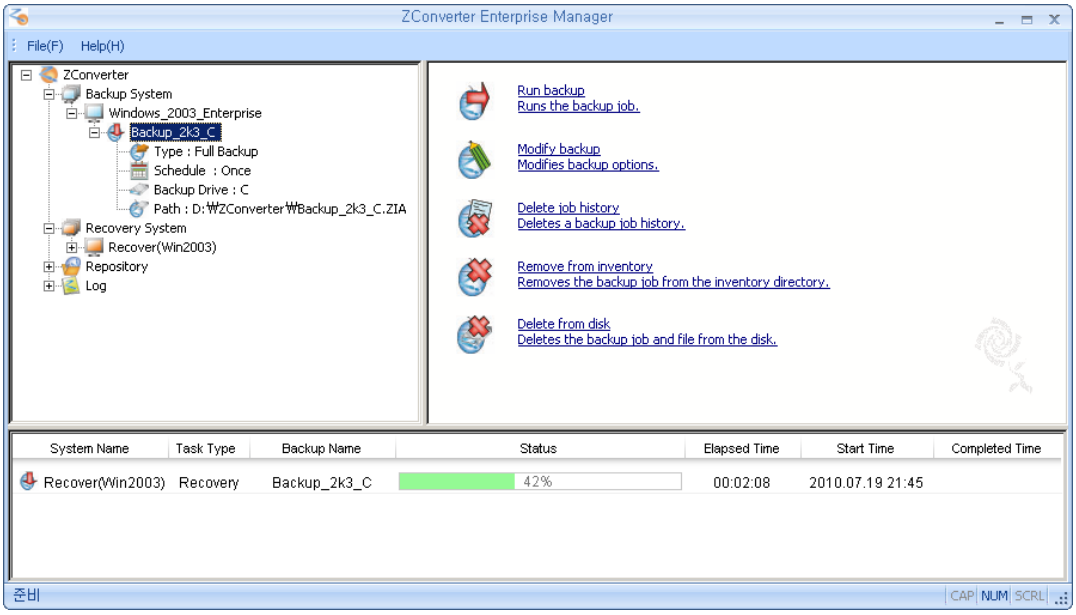
When the source sytem boots up successfully, ZConverter Enterprise Manager pushes the backed-up image file to the source system and then ZConverter Recovery Enterprise Manager starts.



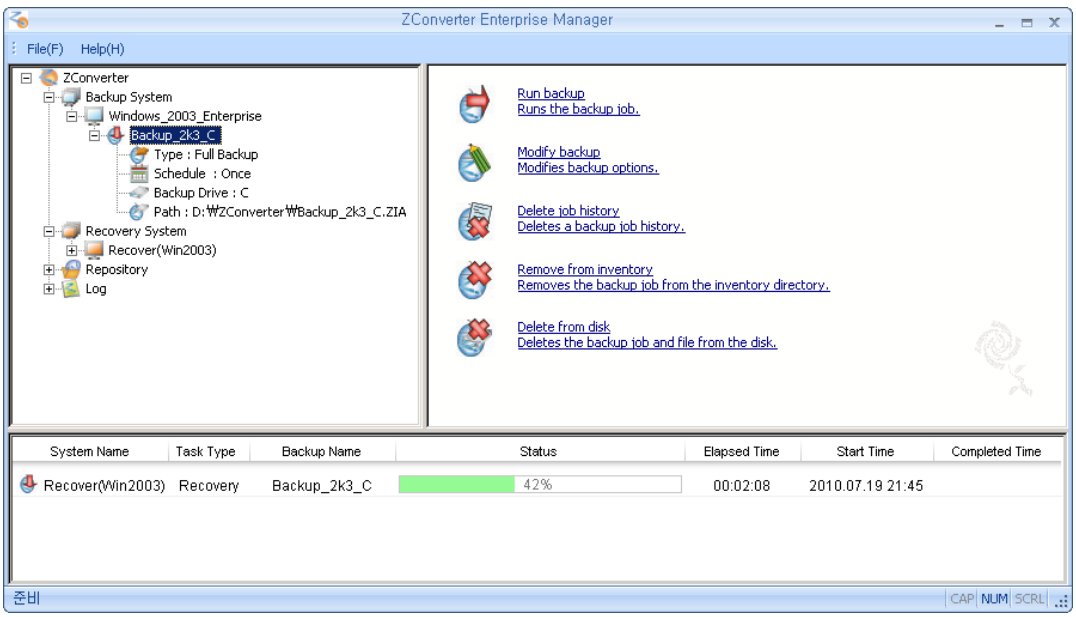
The source system or recovery system receives the recovey setup information from the management server like disk information, partition and backup drive.



When the information received from the management server and the source system information or the recovery system information are the same, the recovery process starts.

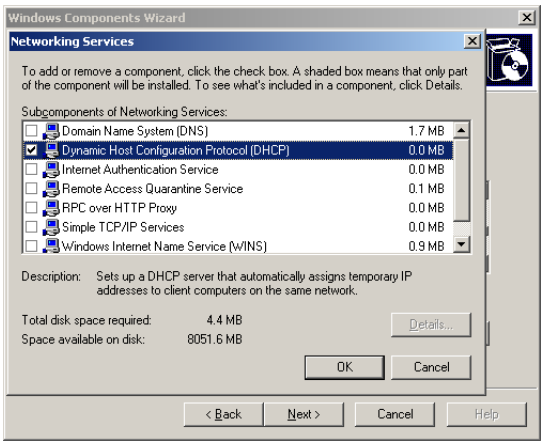


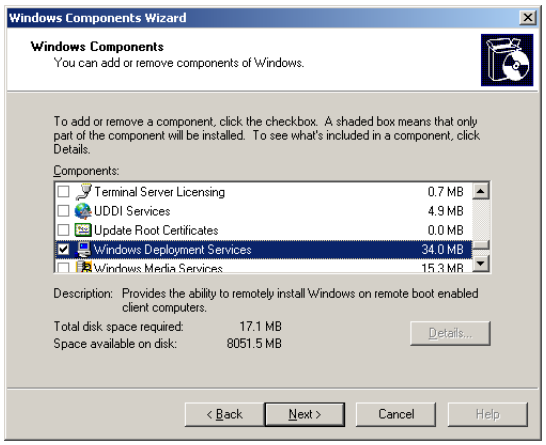
When you complete the recovery process, the action you setup in the last recovery wizard window like **Reboot the system after recovery process**.



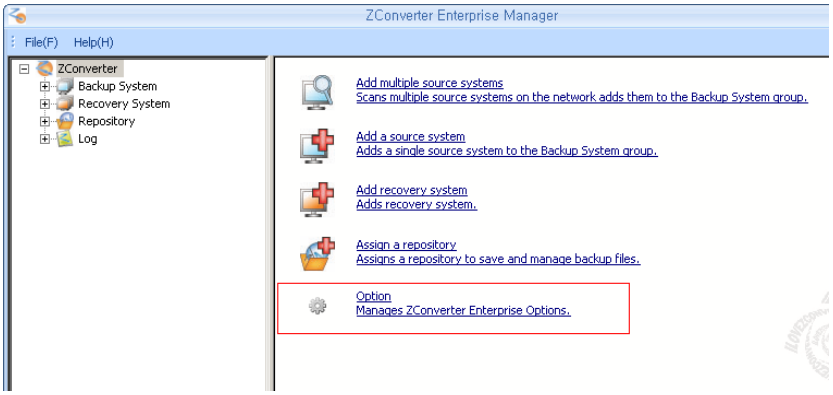
3.4 How to Setup ZConverter Enterprise Manager

There need two important services installations for using ZConverter Enterprise Manager. These are used when ZConverter Enterprise Manager runs the recovery process. One is **Dynamic Host Configuration Protocol (DHCP) Services** and the other is **Windows Deployment Services**.

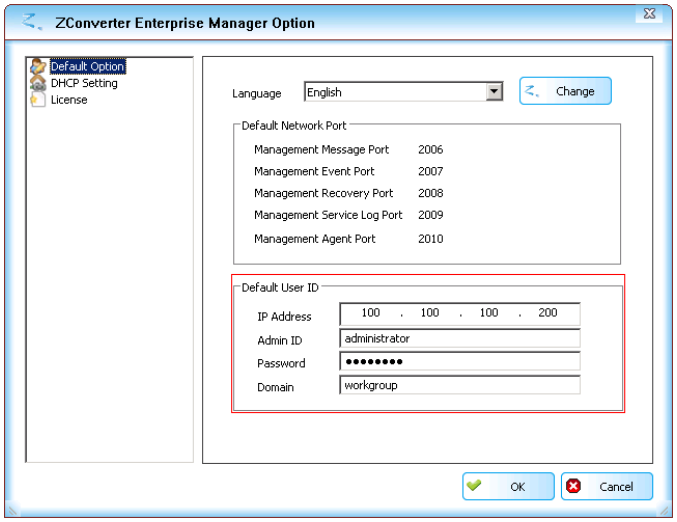




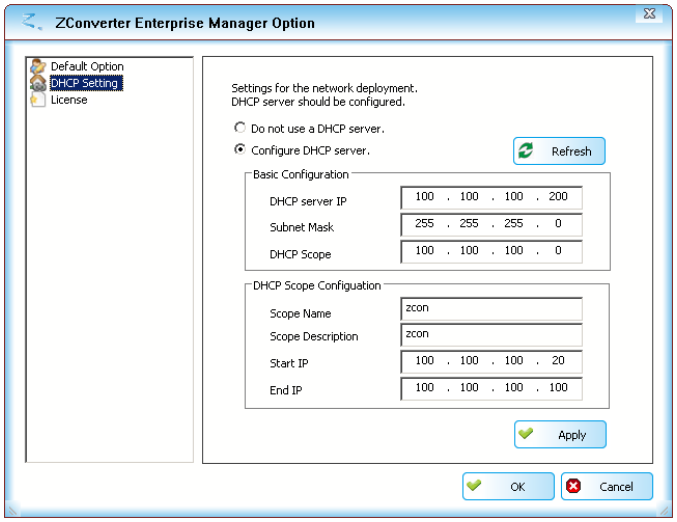
After completing the installation of ZConverter Enterprise Manager, Click **ZConverter** from the left pane and then run **Option** in the right pane.



In **Default User ID**, input the windows server admin ID and password of ZConverter Enterprise Manager which is installed on.



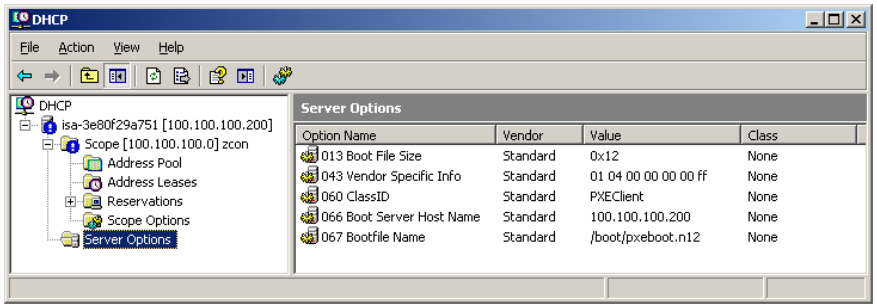
Click **DHCP Setting** in the left pane and then select **Configure DHCP Server** in the right pane and then type the DHCP information.



- **DHCP Server IP** : The IP address of the server ZConverter Enterprise Manager is installed on.
- **Subnet Mask** : The Subnet Mask of the server ZConverter is installed on.
- **DHCP Scope** : The Network range which provided IP address from DHCP server.
- **Scope Name** : The name of network range that will register to DHCP server
- **Scope Description** : The description of network range that will register to DHCP server
- **Start IP** : The first IP address which DHCP server provides automatically
- **End IP** : The last IP address which DHCP server provides automatically

***** When you register the recovery system, you have to assign an IP address between Start IP and End IP.***

From the **Windows Manager**, you can double-check if your DHCP configuration is done well.

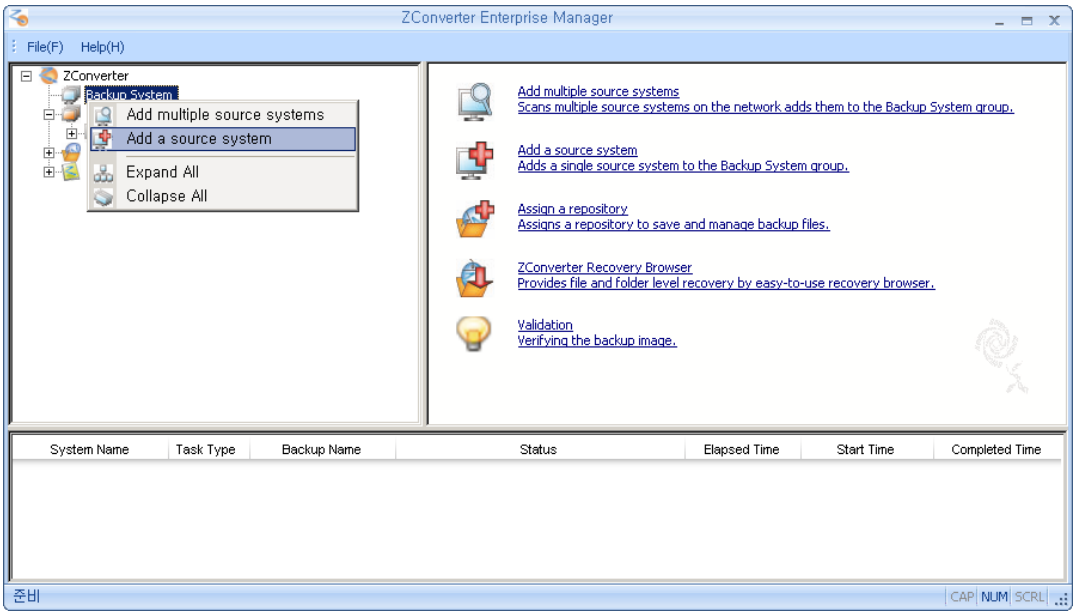


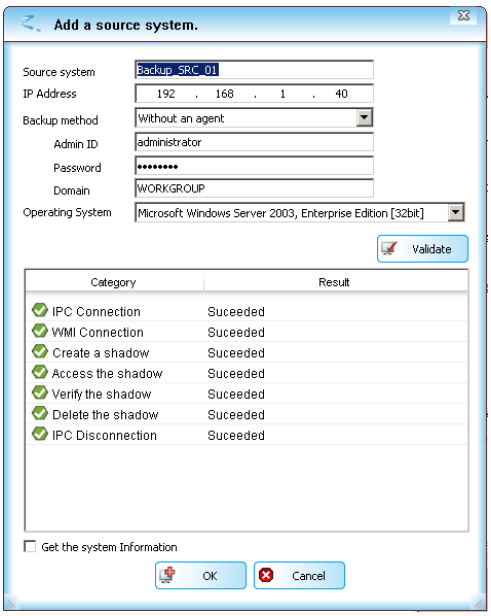
*** If there's only one option when you open DHCP management console, you should open ZConverter Enterprise Manager Option, and select **DHCP Setting** and then click **Apply** button again.*

You can use recovery function properly when all DHCP & accounts information are setup correctly.

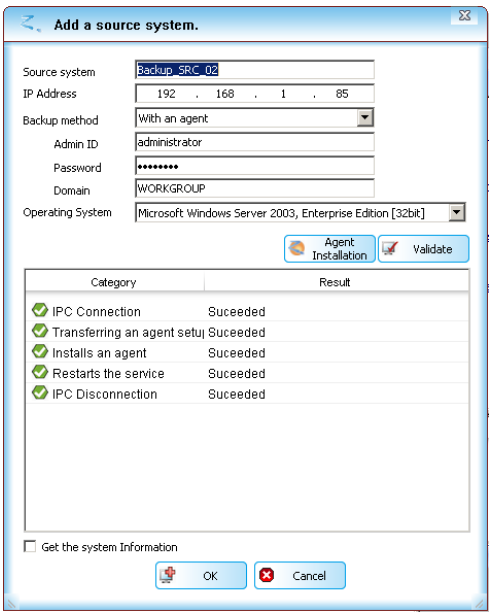
3.5 Mutli Server Backup and Multi Server Recovery

1. Highlight **Backup System** from the left pane and then click right mouse button and then select **Add a source system**. We will add the source systems, **Backup_SRC_01**, **Backup_SRC_02**.



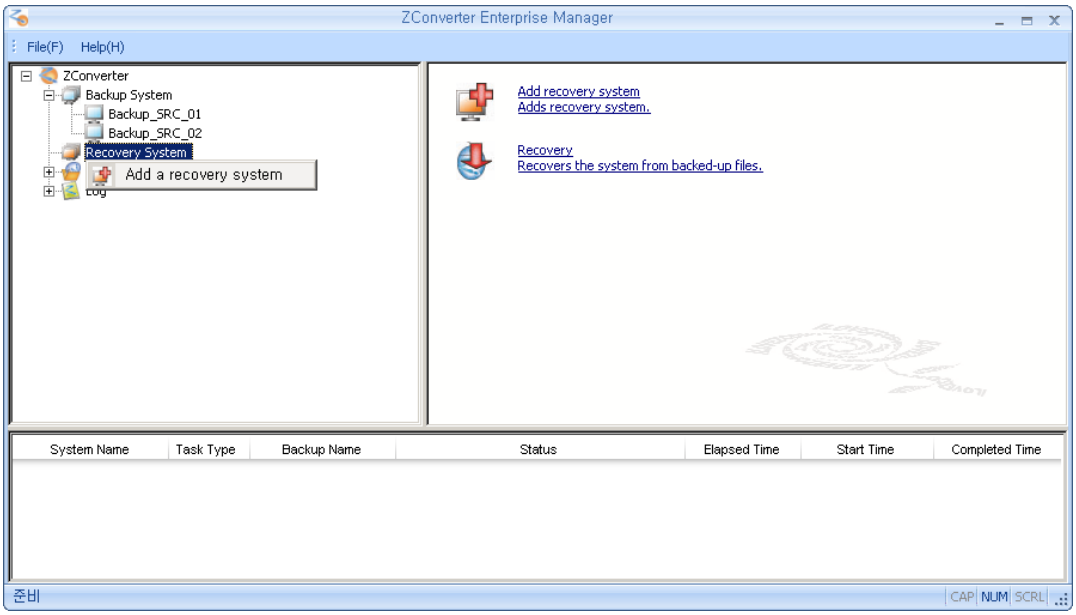


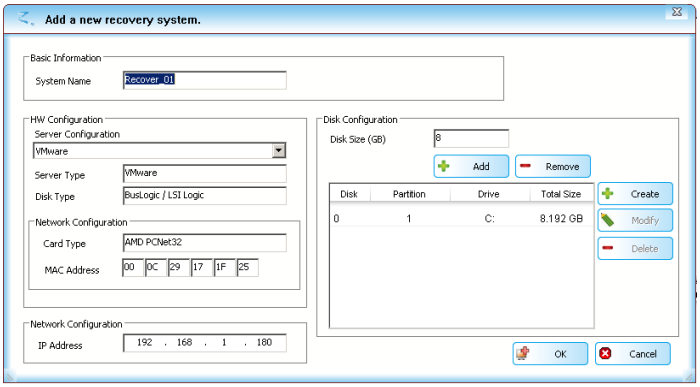
< No Agent Backup >

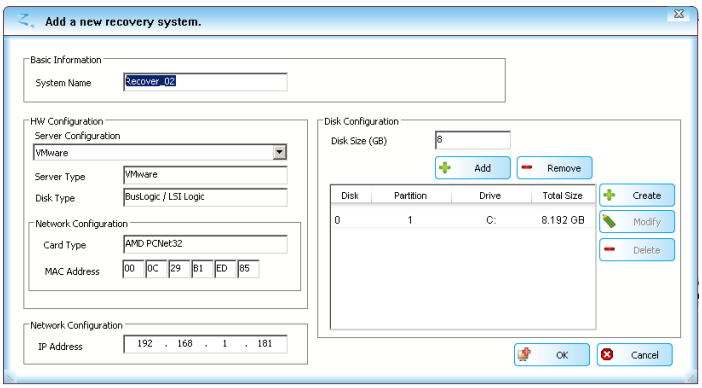


< Agent Backup>

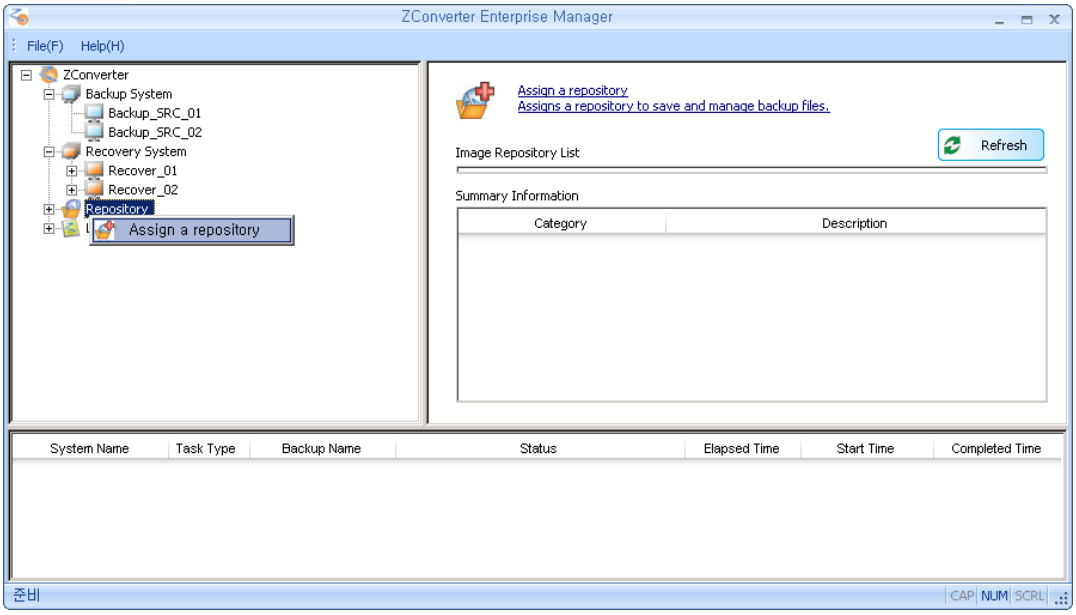
2. Now, we add multiple recovery systems. Added recovery systems are **Recover_01**, **Recover_02**. Highlight **Recovery System** and then right-click on that and then run **Add a recovery system** two times. For this, you should know about the MAC address of recovery systems. The IP address input during registering recovery system is used for the communication between the recovery system and ZConverter Enterprise Manager.

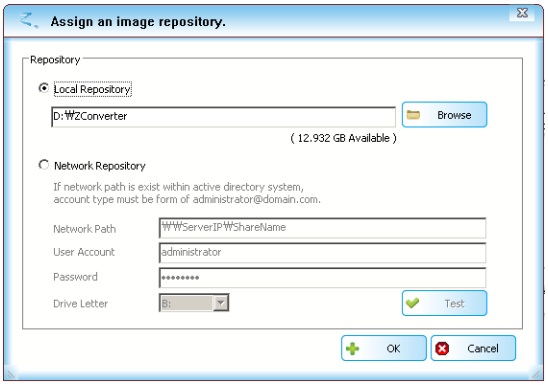




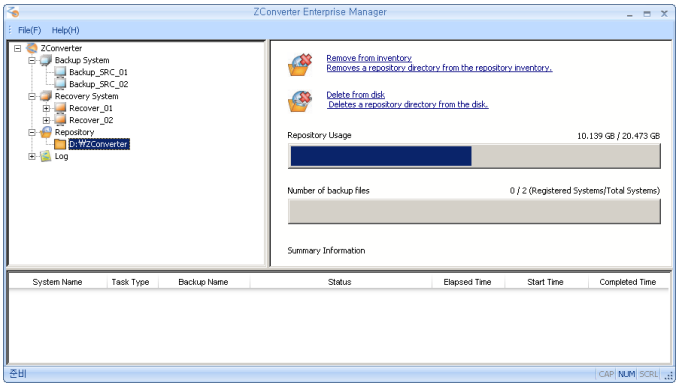


3. Assign a repository. You can assign this with local repository or networked repository. We will assign a repository, **Backup_Files** of C: drive.

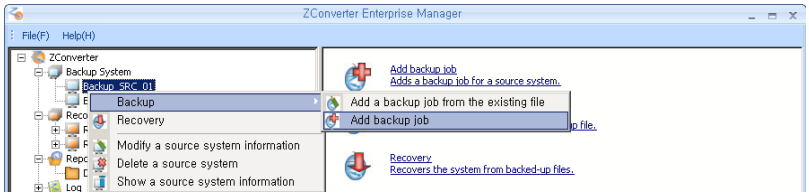


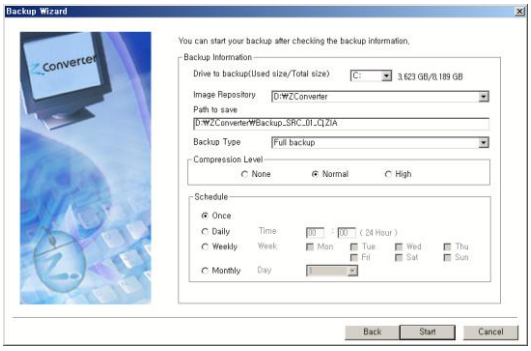


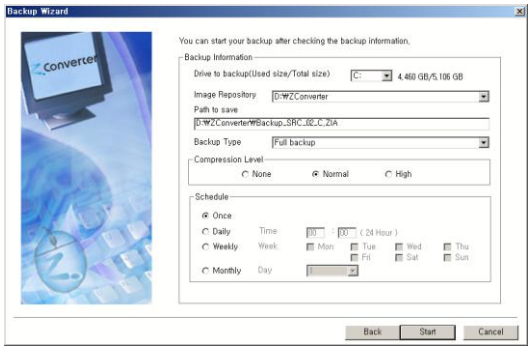
4. Below is the ZConverter Enterprise Manager window after finishing registering source systems, recovery systems and repository.

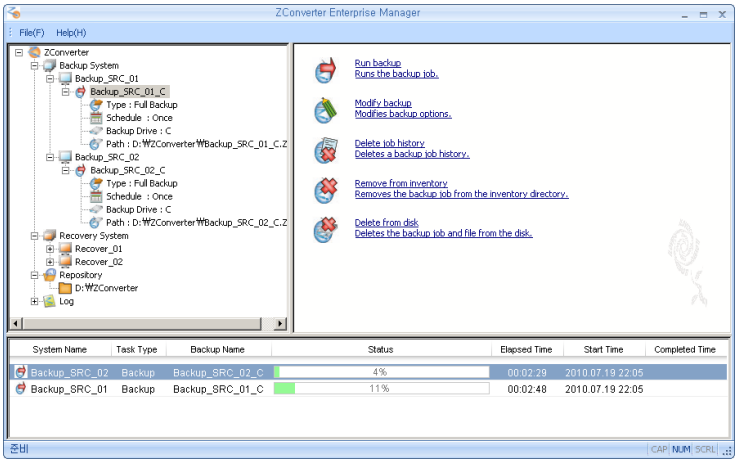


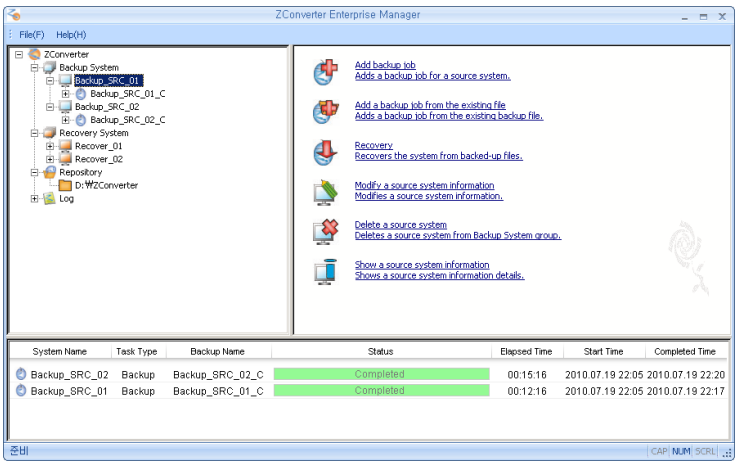
5. Run **Backup** from the source system. You can run multiple backup processes simultaneously.



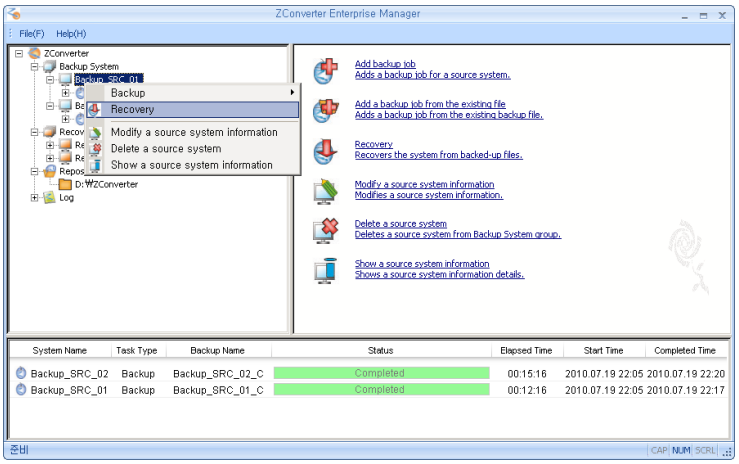




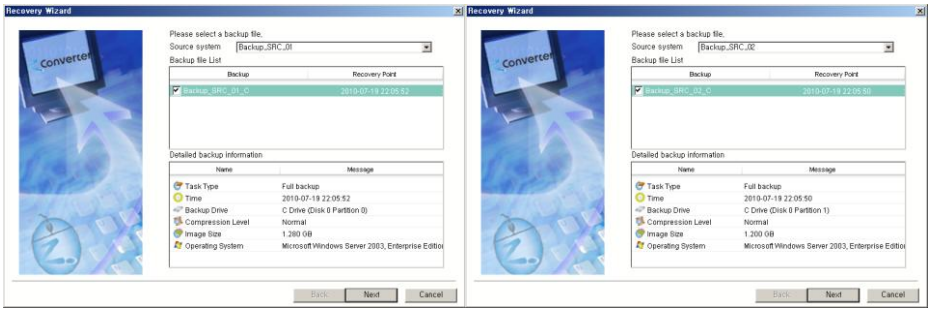


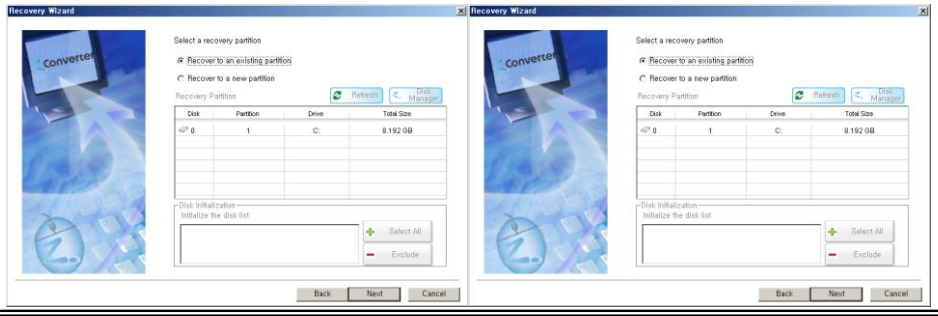


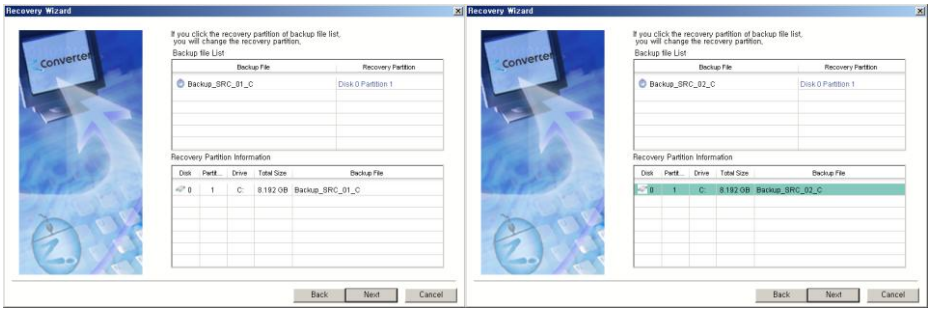
6. After completion of backup job, start recovery process. You can run mulitiple recovery processes at the same time like multiple backup processes.

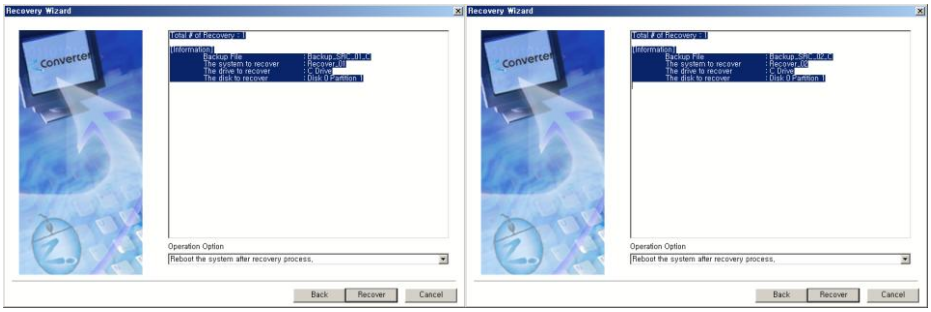


Run multiple recovery systems recovery process simultaneously.

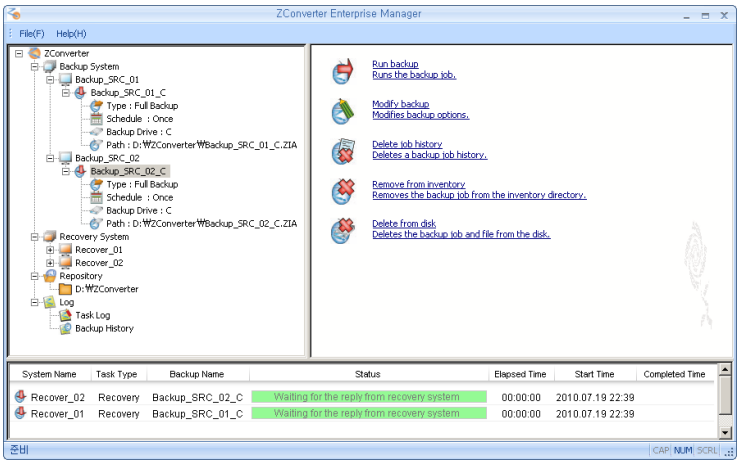




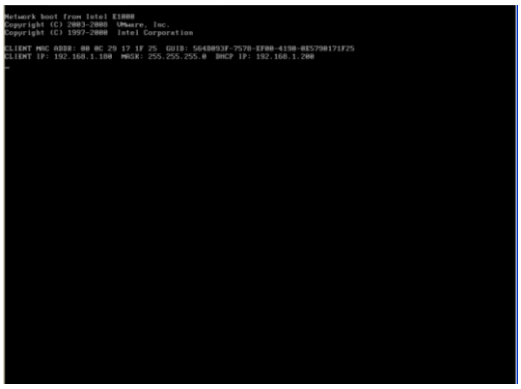


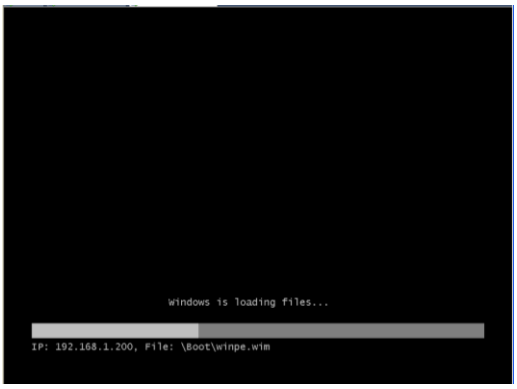


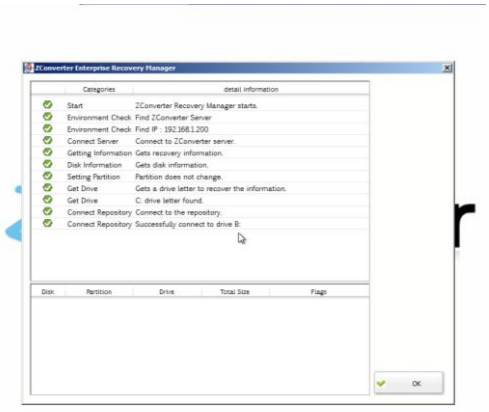
ZConverter Enterprise Manager is waiting for the reply from multiple recovery systems to proceed recovery process.

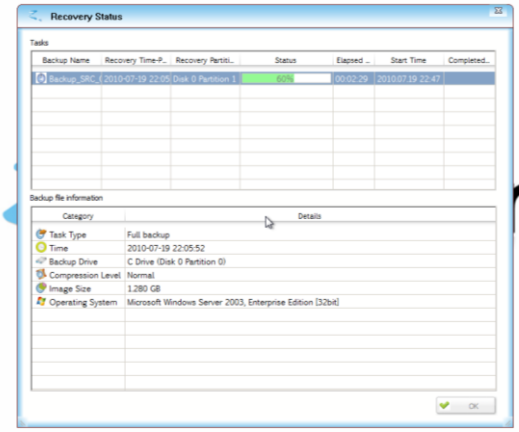


7. When receiving the reply from the recovery systems, recovery process starts. By Wake-On-Lan and DHCP services, you can automatically boot-up recovery systems and assign an IP address and then proceed recovery process.

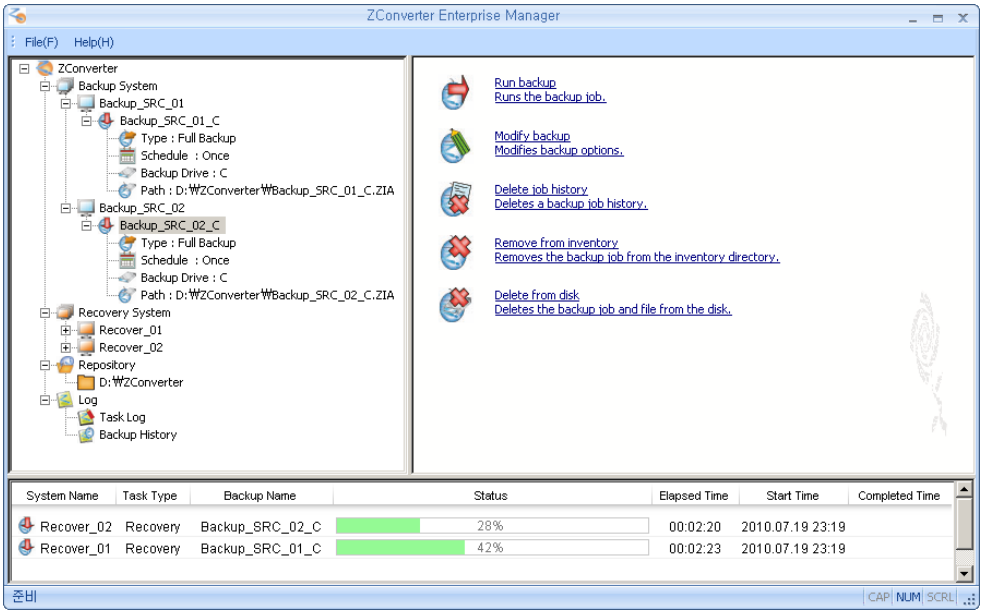




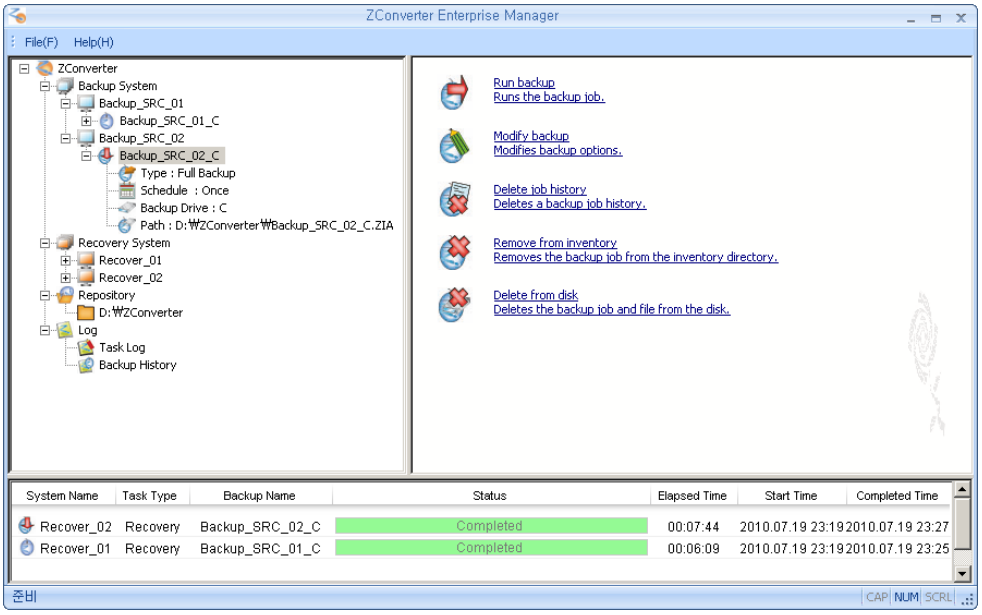




8. Below is the ZConverter Enterprise Manager window which shows multiple servers simultaneous recovery progress.

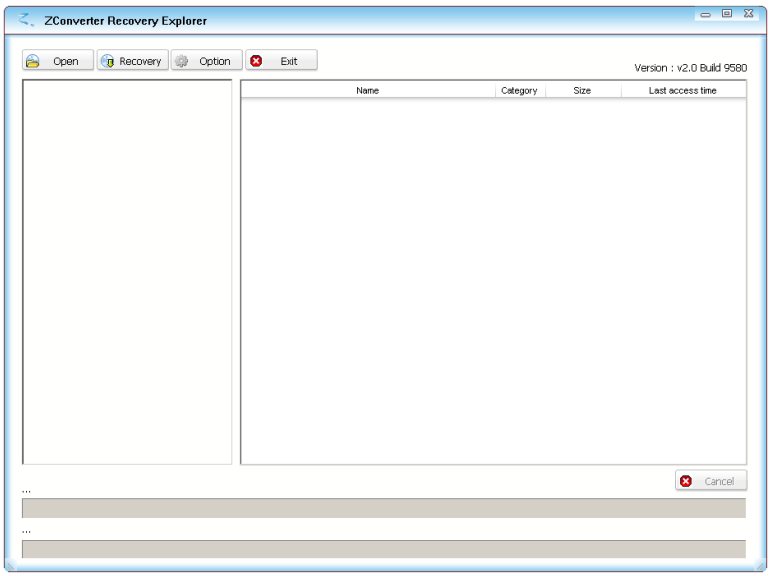


9. After finishing recovery process, **Action** which was setup in the last recovery wizard window is running. Every recovery process is completed.



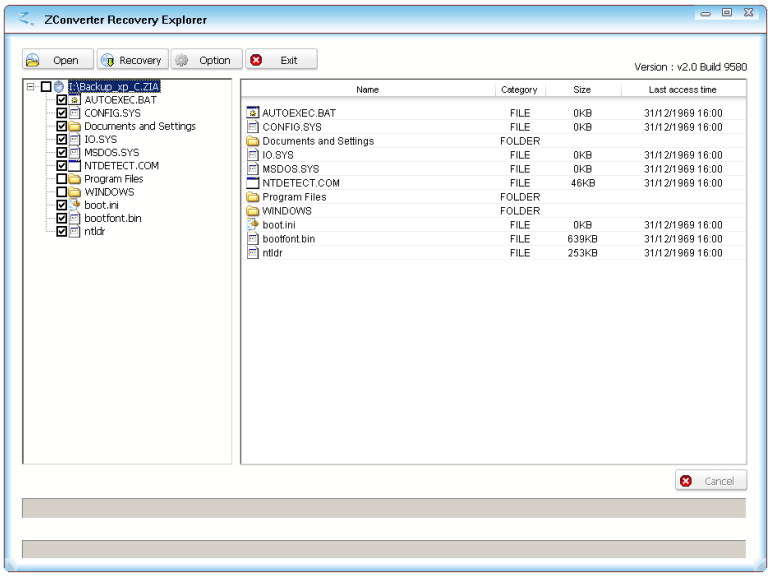
3.6 How to use ZConverter Recovery Explorer

In order to recover the full backup image file, it relatively takes longer time than the recovery of a file or folder. When you need to recover just a file or a folder, you don't have to recover all image files but you can recover a specific file or a folder by **ZConverter Recovery Explorer**. It will make you much easier to recover a file or a folder.

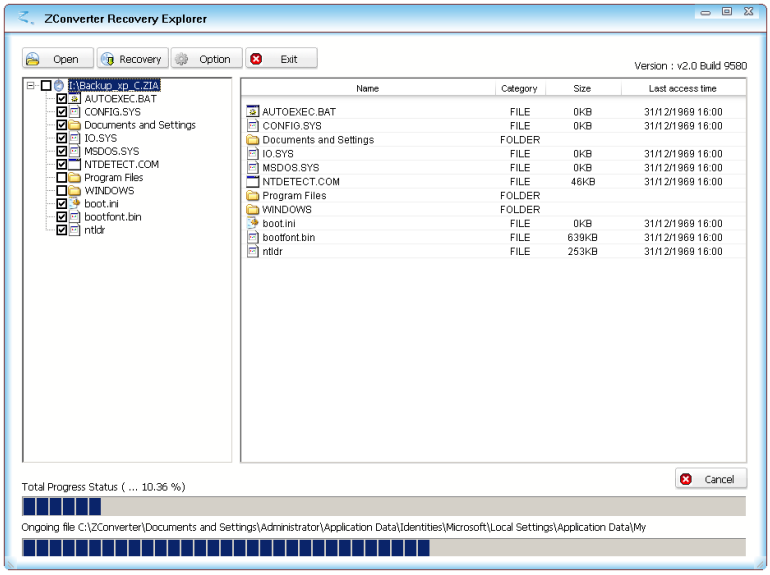


Highlight **Backup System** and then run **ZConverter Recovery Explorer** from the right pane. You can see the below **ZConverter Recovery Explorer**.

Select the file or folder from the explorer.



Click **Recover** and file or folder recovery process starts.



From the **windows explorer**, you can check whether your recovery process is completed well or not.