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# How to Configure Paragon uEFI iSCSI Target

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*Quick User Guide*

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## Intro

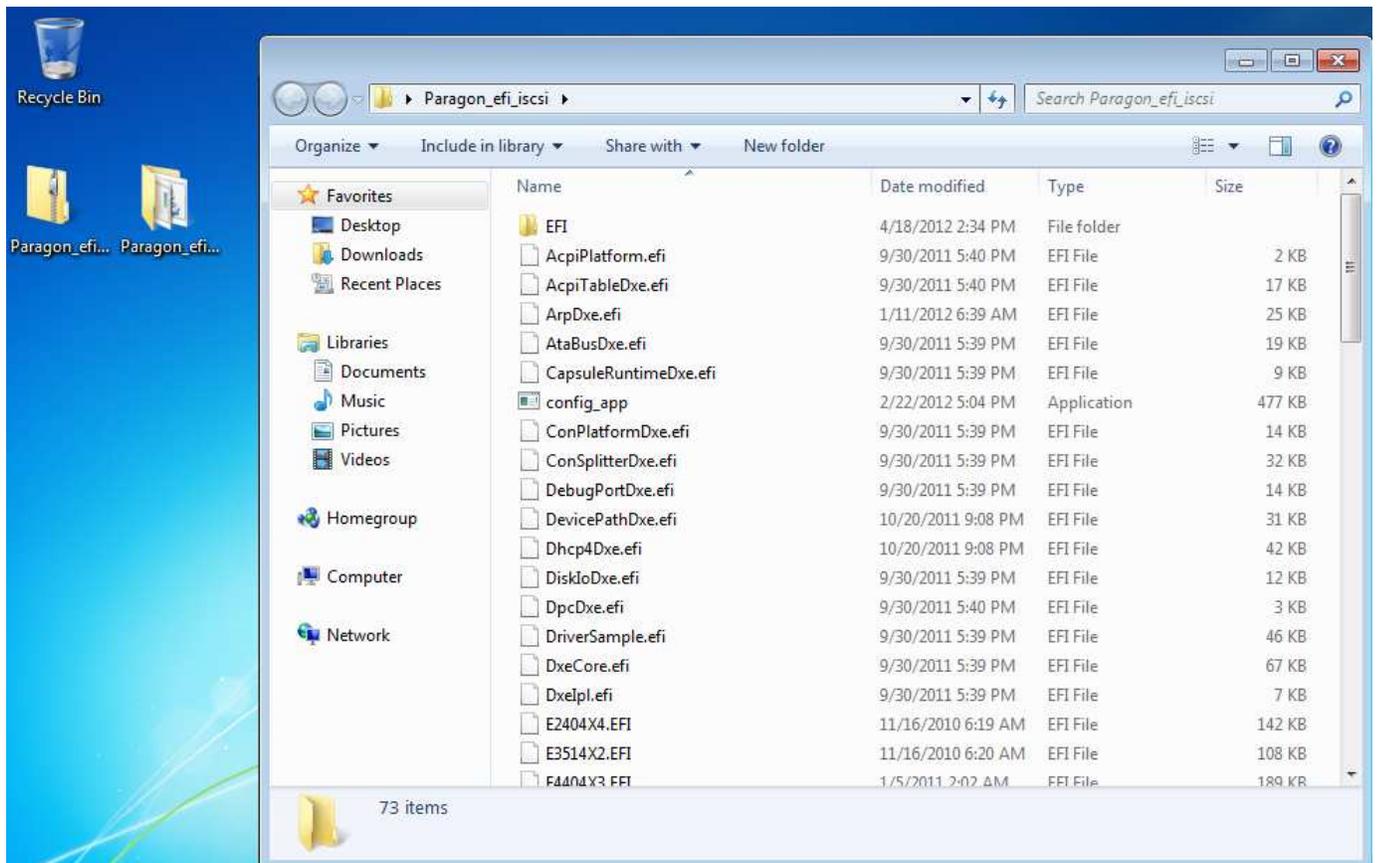
This guide will help you create and properly configure a bootable flash stick with an iSCSI target.

## Prerequisites

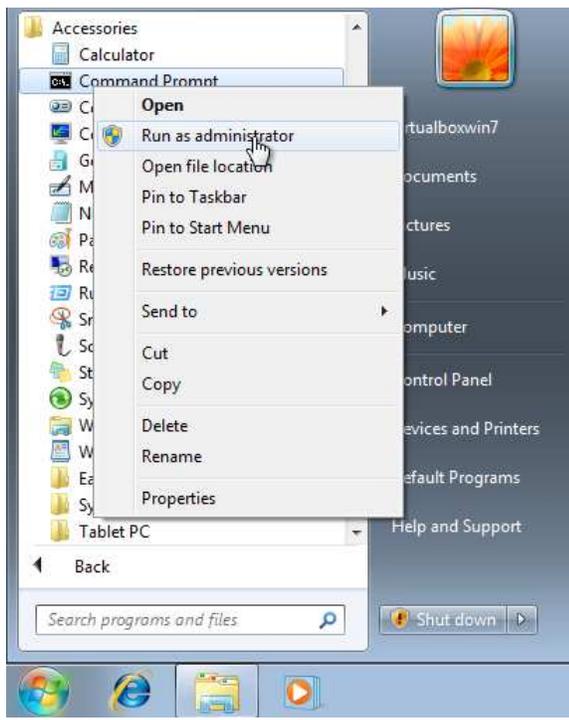
1. A uEFI-based computer that accommodates Windows XP or higher;
2. An Intel Pro Series network card or an uEFI driver for any other network card;
3. A USB flash stick formatted to FAT.

## Installation and Setup

1. Our product is distributed in form of a .zip archive, which you should extract first.



2. When done, open **Command Prompt** as an Administrator.



- Run **escsicfg.bat**. It's a script that will configure iSCSI Target to work with a certain disk and network interface. To see its output, type in "**escsicfg.bat --show**".

```

Administrator: Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Windows\system32>cd c:\Users\virtualboxwin7\Desktop\Paragon_efi_iscsi\
c:\Users\virtualboxwin7\Desktop\Paragon_efi_iscsi>escsicfg.bat
"escsicfg.bat --show" shows available disks and NICs
"escsicfg.bat --help" prints the usage message
"escsicfg.bat --install [X:] [disk_no] [nic_no]" generates the escsi config and
copies it to the volume given
"escsicfg.bat --copy [X:]" just copies files to the volume given
c:\Users\virtualboxwin7\Desktop\Paragon_efi_iscsi>
  
```

```

Administrator: Command Prompt
c:\Users\virtualboxwin7\Desktop\Paragon_efi_iscsi>escsicfg.bat --show

Available Disks:

 Drive #0
 Model: UBOX HARDDISK          Serial: UB5ab8bc65-53d37131
 Drive #1
 Failed to get ATA model and serial for drive #1. Non-ATA devices are not supported.

-----
Available NICs:

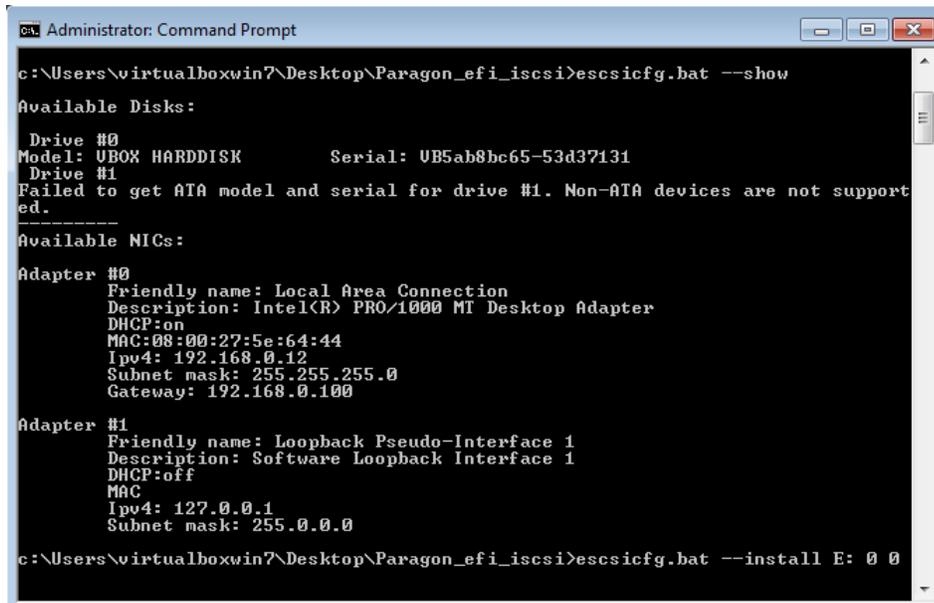
Adapter #0
 Friendly name: Local Area Connection
 Description: Intel(R) PRO/1000 MT Desktop Adapter
 DHCP: on
 MAC: 08:00:27:5e:64:44
 IPv4: 192.168.0.12
 Subnet mask: 255.255.255.0
 Gateway: 192.168.0.100

Adapter #1
 Friendly name: Loopback Pseudo-Interface 1
 Description: Software Loopback Interface 1
 DHCP: off
 MAC:
 IPv4: 127.0.0.1
 Subnet mask: 255.0.0.0

c:\Users\virtualboxwin7\Desktop\Paragon_efi_iscsi>_
  
```

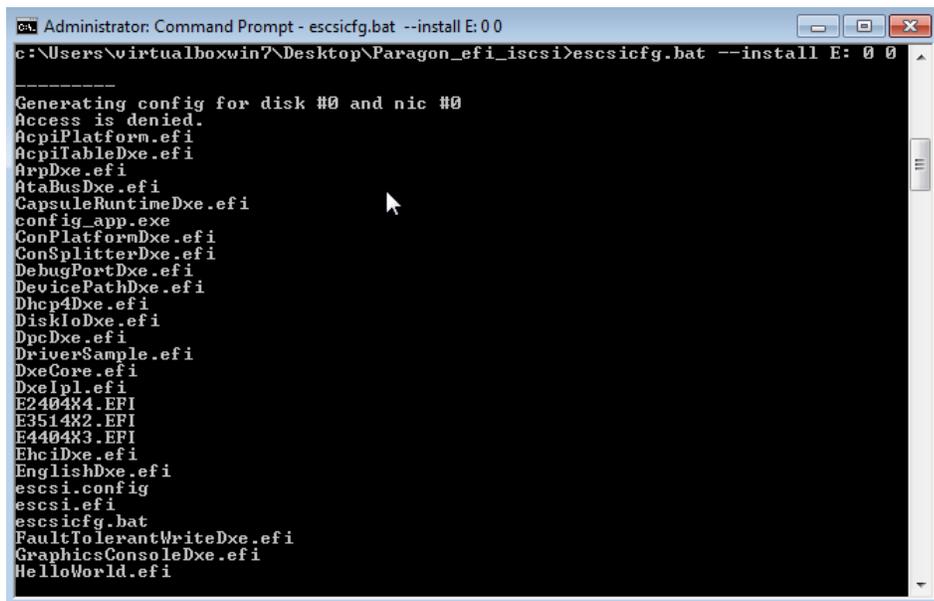
- To create a bootable flash stick, type in "**escsicfg.bat --install <drive letter:> <disk number> <network interface number>**", where:
  - drive letter**: – a drive letter that is assigned to your flash stick by OS;
  - disk number** – a number of the required disk obtained by the "**escsicfg.bat --show**" command;

- **network interface number** – a number of a network interface to use obtained by the “`escsicfg.bat --show`” command. Note: Network settings will be imported to the configuration file.



```
Administrator: Command Prompt
c:\Users\virtualboxwin7\Desktop\Paragon_efi_iscsi>escsicfg.bat --show
Available Disks:
  Drive #0
  Model: UBOX HARDDISK          Serial: UB5ab8bc65-53d37131
  Drive #1
  Failed to get ATA model and serial for drive #1. Non-ATA devices are not supported.
-----
Available NICs:
Adapter #0
  Friendly name: Local Area Connection
  Description: Intel(R) PRO/1000 MT Desktop Adapter
  DHCP:on
  MAC:08:00:27:5e:64:44
  Ipv4: 192.168.0.12
  Subnet mask: 255.255.255.0
  Gateway: 192.168.0.100
Adapter #1
  Friendly name: Loopback Pseudo-Interface 1
  Description: Software Loopback Interface 1
  DHCP:off
  MAC
  Ipv4: 127.0.0.1
  Subnet mask: 255.0.0.0
c:\Users\virtualboxwin7\Desktop\Paragon_efi_iscsi>escsicfg.bat --install E: 0 0
```

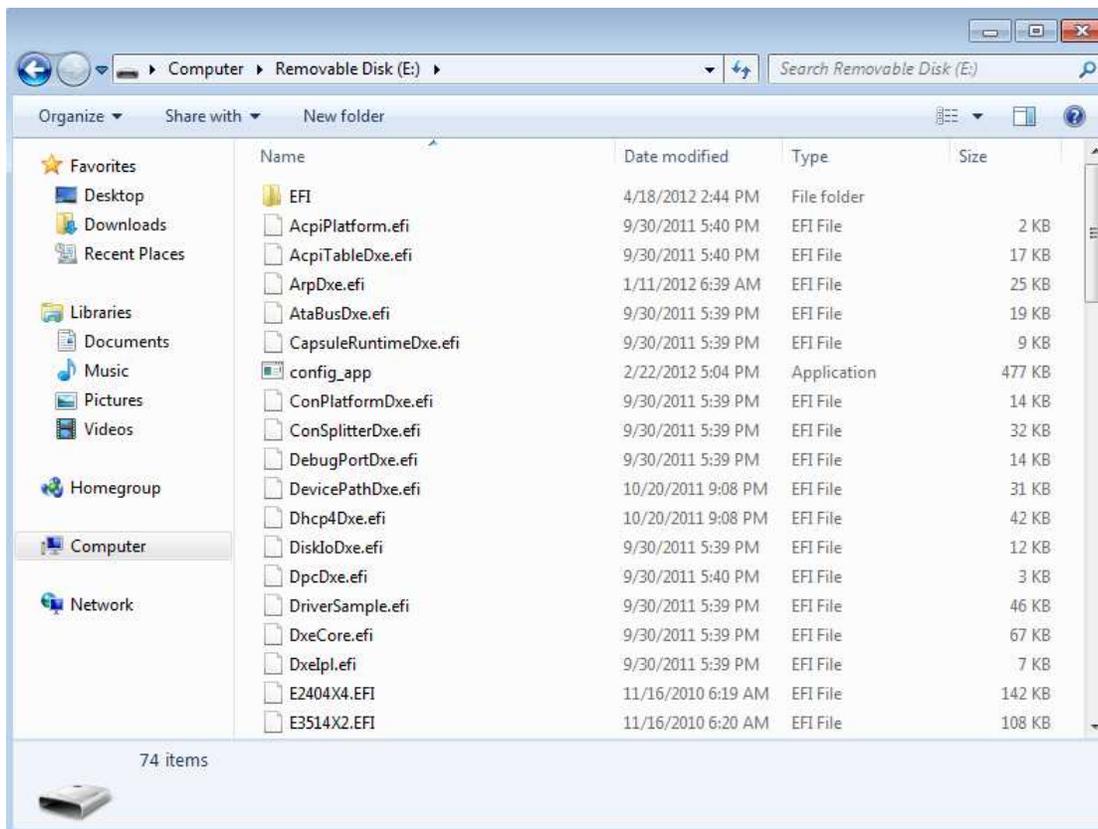
5. The script will start copying files to the flash stick.



```
Administrator: Command Prompt - escsicfg.bat --install E: 0 0
c:\Users\virtualboxwin7\Desktop\Paragon_efi_iscsi>escsicfg.bat --install E: 0 0
-----
Generating config for disk #0 and nic #0
Access is denied.
AcpiPlatform.efi
AcpiTableDxe.efi
ArpDxe.efi
AtaBusDxe.efi
CapsuleRuntimeDxe.efi
config_app.exe
ConPlatformDxe.efi
ConSplitterDxe.efi
DebugPortDxe.efi
DevicePathDxe.efi
Dhcp4Dxe.efi
DiskIoDxe.efi
DpcDxe.efi
DriverSample.efi
DxeCore.efi
DxeIpl.efi
E2404X4.EFI
E3514X2.EFI
E4404X3.EFI
EhciDxe.efi
EnglishDxe.efi
escsi.config
escsi.efi
escsicfg.bat
FaultTolerantWriteDxe.efi
GraphicsConsoleDxe.efi
HelloWorld.efi
```

```
Administrator: Command Prompt
PlatDriOverrideDxe.efi
PrintDxe.efi
ReportStatusCodeRouterPei.efi
ReportStatusCodeRouterRuntimeDxe.efi
RuntimeDxe.efi
ScsiBus.efi
ScsiDisk.efi
SecurityStubDxe.efi
SetupBrowser.efi
SmbiosDxe.efi
SnpDxe.efi
Tcp4Dxe.efi
TerminalDxe.efi
TOOLS_DEF.X64
Udp4Dxe.efi
UefiPxeBcDxe.efi
UhcDxe.efi
UsbBusDxe.efi
UsbKbDxe.efi
UsbMassStorageDxe.efi
UsbMouseAbsolutePointerDxe.efi
UsbMouseDxe.efi
VariableInfo.efi
UlanConfigDxe.efi
WatchdogTimer.efi
73 file(s) copied.
PARAGON BOOTER UEFI APPLICATION IS ABOUT TO BE WRITTEN TO DEFAULT UEFI BOOTLOADER LOCATION
WARNING! REWRITING EXISTING BOOTLOADER ON EFI SYSTEM APPLICATION MAY CAUSE BOOT FAILURES
1 file(s) copied.
c:\Users\virtualboxwin7\Desktop\Paragon_efi_iscsi>
```

6. When over, you'll get a bootable flash stick.



## Launching Paragon uEFI iSCSI Target

1. Start up your uEFI-based computer from the prepared flash stick (to know how to select a flash stick as the first boot device, please consult documentation of your motherboard). You should see the following message:

```
Press <ESC> to start the next firmware boot option
Press any other key to load Paragon iSCSI MiniTarget
```

2. Press any button but ESC to launch Paragon uEFI iSCSI Target. Save an IP address, as it's needed to set up iSCSI Initiator.

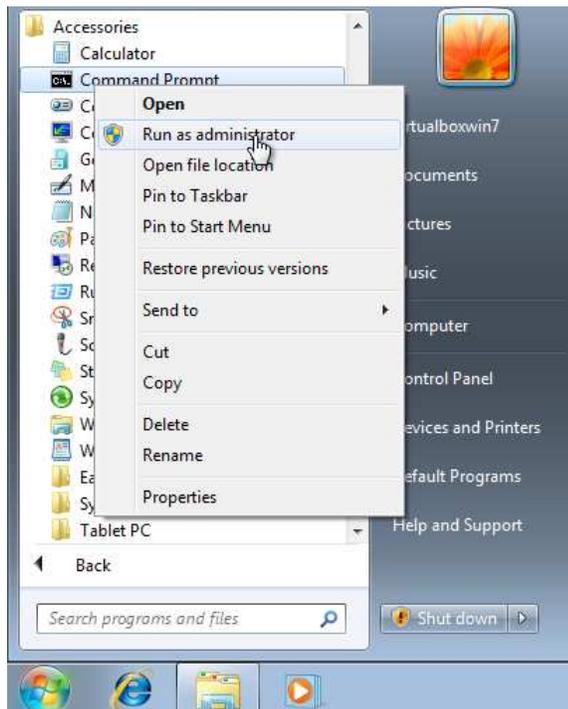
```
Loading E4404X3.EFI
Loading E2404X4.EFI
Loading SnpDxe.efi
Loading MnpDxe.efi
Entered in MnpDriverBindingStart
left in MnpDriverBindingStart
Loading ArpDxe.efi
Loading Ip4Dxe.efi
Loading Tcp4Dxe.efi
Loading Udp4Dxe.efi
Loading Dhcp4Dxe.efi
Loading escsi.efiTrying to open FS handle 3E7D5E98
logging enabled , starting the session
Trying to open FS handle 3E7D5E98
Searching for disk UBOX HARDDISK          UB5ab8bc65-53d37131 to attach
Disk #0 Model:<UBOX CD-ROM          > Serial:<UB2-01700376          >
Disk #1 Model:<UBOX HARDDISK          > Serial:<UB5ab8bc65-53d37131 >
attached!Nic found by macGetting DHCP config...
DHCP Config: ip: 10.0.2.15 subnet mask: 255.255.255.0 gateway:10.0.2.2 dhcp se
ver:10.0.2.2
creating socket
accepting

IP: 10.0.2.15:3260 MAC:8:0:27:5E:64:44
Recv buffer: 200000 , Send buffer: 200000 net packet size: 50Caccepting..._
```

## Connecting Paragon uEFI iSCSI Target through MS iSCSI Initiator

Microsoft iSCSI Initiator is available for all editions of Windows OS since XP. You can download it for Windows XP directly from Microsoft's website free of charge.

1. Open **Command Prompt** as an Administrator.



2. Run **iscscli**.
3. Add a new iSCSI target by using “**QAddTarget <target name> <target IP>**”, where:

- **target name** – name of Paragon’s target (can be used any name at this stage);
  - **target IP** – an IP address of Paragon’s target.
4. Connect to Paragon’s iSCSI Target by using “**QLoginTarget <target name>**”

```
C:\WINDOWS\system32\cmd.exe - iscsicli
C:\>iscsicli
Microsoft iSCSI Initiator version 2.0 Build 3825
[iqn.1991-05.com.microsoft:paragon-test] Enter command or ^C to exit
QAddTarget efi 192.168.0.12
The operation completed successfully.
[iqn.1991-05.com.microsoft:paragon-test] Enter command or ^C to exit
QLoginTarget efi
Session Id is 0xfffffff8b0198fc-0x4000013700000002
Connection Id is 0xfffffff8b0198fc-0x1
The operation completed successfully.
[iqn.1991-05.com.microsoft:paragon-test] Enter command or ^C to exit
```

5. As a result you should have a new iSCSI disk in the system. Congratulations you have successfully connected to Paragon uEFI iSCSI Target!

