PXE(Preboot eXecution Environment)是由Intel主導和多家廠商一同設計而成的，中文翻作國際通用網路啟動或是預先啟動執行環境，其實簡單的口語化說明就是網路開機。  
PXE的願景  
Make the Network Interface a standard, industry-accepted PC Boot Device (The Network Interface becomes a boot device in the same sense that a hard drive, floppy, or CD-ROM is a boot device.)

PXE能作啥

* Standard Remote New System Setup   
  ——遠端作業系統安裝   
  ——遠端升級BIOS   
  ——遠端設定CMOS
* Standard Remote Pre-OS Management   
  ——透過遠端喚醒電腦的機制   
  ——按照需求隨選作業系統
* Standard Remote OS Boot

PXE的運作流程

1.PXE CLIENT向提供DHCP/PROXY DHCP服務的主機送出DHCP Discover to Port 67 Contains "PXEClient" extension tags。

2.接下來這部主機回應Extended DHCP Offer to port 68 contains: PXE server extension tags + [Other DHCP option tags] + Client IP addr。

3.接下來PXE CLIENT就向這部主機送出DHCP Request to Installation Server port 67   
Contains "PXEClient" extension tags + [Other DHCP option tags]

4.主機回應DHCP Ack reply to Port 68

5.PXE CLIENT改向提供BOOT SERVICE的主機發出Boot Service Discover to port 67 or 4011   
Contains: “PXEClient” extension tags + [Other DHCP option tags]

6.這部主機回應Boot Service Ack reply to client source port   
Contains: [ PXE Server extension tags] (contains Network Bootstrap Program file name)

7.這時PXE CLIENT向提供M/TFTP SRERVICE的主機發出 Network Bootstrap Program download request to TFTP port 69 or MTFTP port (from Boot Service Ack)

8.然後主機回應Network Bootstrap Program Download to Client’s port   
這裡就是一般所說的下載BOOT IMAGE，所以要玩PXE要具備下列元素

* DHCP
* TFTP
* Network Bootstrap Program(這個是關鍵)
* 支援PXE的網路介面