۱-۱همچنین در خصوص تفاوت تنظیمات شبکه NAT Bridged Host-Only توضیح دهید و مزایا و معایب هر یک را ذکر کنید .

Host-only only permits network operations with the Host OS. NAT mode will mask all network activity as if it came from your Host OS, although the VM can access external resources. Bridged mode replicates another node on the physical network and your VM will receive it's own IP address if DHCP is enabled in the network.

NAT networking

With NAT, a virtual machine does not have its own IP address on the external network. Instead, a separate private network is set up on the host system. In the default configuration, a virtual machine gets an address on this private network from the virtual DHCP server. The virtual machine and the host system share a single network identity that is not visible on the external network.

Advntages:
1-lowers the cost
2-conserving Address
3-Connection Flexibility
4-Consistancy in the network
5-Network Security
6-Private Addressing

Disadvantages:
1-issues in the performance
2-Sometimes hosts inside the network might be unreachable. Because of this, some applications in the NAT will have compatibility issues.
3-The values inside the headers can be changed in NAT, some of the tunneling protocols such as IPsec will be very complicated to use. When you modify the values inside the headers, then integrity checks will occur, which will interfere and fail them.
4-When you use NAT, services such as TCP or UDP will be required. These services will be affected while using which makes them unstable. Also, incoming packets will have some issues while they try to reach their destination. We can stop this issue by configuring them with the NAT router.
5-NAT will examine the data packets of the incoming and outgoing services. They will convert the data packets into local and global IP addresses as well. Inside the memory, the translation details will get stored. This in turn will consume lots of memory as well as processor.
6-When you use NAT, the end-to-end traceability will be reduced. Also, the IP address will be constantly changed multiple times. This in turn will make troubleshooting more difficult. In some cases, it will be more impossible especially when you are in remote locations.

Bridged networking:

Bridged networking connects a virtual machine to a network by using the network adapter on the host system. If the host system is on a network, bridged networking is often the easiest way to give the virtual machine access to that network.

Advantages:
1-network Extend
2-increase Bandwidth
3-High Reliability
4-Frame Buffering
5-Protocol Transparency

Disadvantages:
1-High Cost
2-Low speed
3-Since bridges make extra processing by viewing all of the MAC addresses, they can potentially downgrade network performance.
4-Bridges cannot individually filter the broadcast traffic. They simply forward broadcast packets.
5-Another downfall of simply forwarding broadcast traffic is that they can situation known as broadcast storms. Broadcast storms are nothing but high amount of broadcast traffic.

Host-only networking:

Host-only networking creates a network that is completely contained within the host computer. Host-only networking provides a network connection between the virtual machine and the host system by using a virtual network adapter that is visible on the host operating system.

Advantages:
You can set up an isolated virtual network

Disadvantages:
A host-only network cannot connect to the Internet.