# Analysis

## ExpressRoute

* Design and implement ExpressRoute
* Design and implement ExpressRoute Global Reach
* Design and implement ExpressRoute FastPath
* Troubleshoot ExpressRoute connection issues

1. Pricing
2. Options
3. How should you configure
4. Minimum number of Express Route circuits
5. Order / how do you connect sth with sth using ExpressRoute
6. Diffirence : ExpressRoute -vs- etc etc
7. Comble needs : link sth to sth / how

## NAT Gateway

* Describe the Azure NAT Gateway service.
* Recognize scenarios where Azure NAT Gateway is applicable.
* Perform basic deployment of the Azure NAT Gateway service.

1. Choose best tool for specyfic needs
2. What is supported

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| ExpressRoute | ExpressRoute lets you extend your on-premises networks into the Microsoft cloud over a   * private connection * to Microsoft Azure * to Microsoft 365. * from an any-to-any (IP VPN) network, * from a point-to-point Ethernet network, * from a virtual cross-connection through a connectivity provider at a colocation facility. * As no public offer more reliability, faster speeds, consistent latencies, and higher security. |
| Options   * ExpressRoute FastPath * ExpressRoute Global Reach * ExpressRoute Direct * ExpressRoute Local   Provide reliable and secure connectivity to Azure services.-vs-Connect your network to the public internet. |  |
| SKU  PRICING  Site-to-site vs point-to-site |  |
| ExpressRoute gateway |  |
| ExpressRoute circuit |  |
| peering for an ExpressRoute |  |
| ExpressRoute circuit to a virtual network |  |
| ExpressRoute circuit to a virtual network |  |
| Improve data path performance between networks with ExpressRoute FastPath |  |
| connection issues   * properties |  |

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| NAT Gateway | Network Address Translation  used for decades for mapping local IP addresses to public addresses. |
| Problem solves | resolving connectivity problems |
| Can’t | can’t use Azure NAT Gateway to configure inbound connections handling. |
| Can |  |

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| private access to Azure Services |  |
| 1. Azure Private Link, and 2. virtual network service endpoints.   Private Endpoint | Solve problem  replaces the resource's public endpoint. |
|  | |
| * Understand the difference between private link and private endpoints * Design and configure Private Endpoints * Integrate a Private Link with DNS and on-premises clients * Create, configure, and provide access to Service Endpoints |  |
|  | Adding service endpoints doesn't remove the public endpoint. It simply provides a redirection of traffic.  To enable a Service Endpoint, you must do the following two things:   * Turn off public access to the service. * Add the Service Endpoint to a virtual network. |
| **Private Links are dependent on Private Endpoints.**  **A Service Endpoints connects to external resources. A Private Endpoint enable a private and secure connection between your virtual network and Azure.** | |

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A diagram of a computer network

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## Az-700 Simplier

Vnet – is for a Virtual network, which is like a virtual Space, for connecting.   
it encapsulate the content like on-premise or azure services. And keep it isolated letting to configure all kind of input output tools.

The problems solved by Vnet are :

* Isolation
* Control
* Connectivity

For connections

The alternatives exist provided by AWS, Google, Third parties, Container oriented technologies, and hybrid oriented focusing more on app layer

More fined tools

* Bqstion
* NSGs
* Application Gateway
* Azure Firewall