Dedicated Internet Access (DIA)

Reliable, scalable high-capacity wholesale internet access transport

Definition

Dedicated Internet Access (DIA) is a business grade product providing a private, dedicated connection to the Internet solely for your business. DIA avoids sharing internet access with other users and suffering network congestion from increased traffic. It provides a guaranteed and reliable upstream and downstream bandwidth, ensuring a high-quality file transfer, video conferencing and VoIP experience.

DIA is available in a variety of bandwidths up to 10Gbps, ideal for corporate enterprises requiring a high performance, reliable connection to the Internet.

DIA is delivered nationally using Enet or Third Party Fibre or licensed microwave access networks. Circuits are routed on our national transport network to our diverse core ISP sites, and handed off to Internet Exchanges and Tier 1 IP Transit carriers in Dublin.

The Enet-managed NTU at the end-user premises provides Enet with visibility of the port traffic.
For **Managed Failover**, Enet uses a specific pre-configured NTU to provide automatic failover to a secondary access circuit.

Service Description

DIA is delivered on an Ethernet transport layer and handed over via an Ethernet NTU. The main features are:

- **Fibre and Wireless** Access Media/last mile
- **Symmetrical bandwidths** from 10Mbps to 10Gbps
- **No bandwidth sharing** on customer links, user dedicated
- **Unlimited access, no usage limit** (Fixed monthly rental is charged for the service).
- **Static IP addresses as standard** (Provider assigned (by Enet or Provider independent)
- Both Agg node and backhaul are fully redundant; Managed Failover can be used to ensure automated failover in the access network
- Static or BGP routing options available
- Dual Port Handoff at no extra cost using existing Cienna Routers

Note:
The RSP will be assigned a ***/31*** static subnet as standard, providing a *single usable customer IP address and one Enet network address.* Greater subnets are available: /30, /29 etc.

Available terminations include:

Bandwidth	Presentation at the customer premises
N x 2Mb, N x 10Mb, N x 100Mb	Electrical termination – RJ45
N x 1Gbe	Electrical / optical termination – RJ45 or LC/PC
10 Gbe	Optical termination – LC/PC

Service Delivery

DIA is provided over our Fibre or Licensed Microwave access (last mile) network delivered from the end customer site and through our National or Regional ISP Core over the architecture shown in Figure 1

Feature	Details	DIA (Default)	Optional
Product Type	**DIA:** over Fibre or Wireless	Y	
	Managed Failover: over Fibre or Wireless	N	Y
Solution Types	**Options:** **1)** Link/WAN IP *(Default)*, **2)** Static IP or **3)** Dynamic BGP See the full DIA Product Document for more details	Y	
Access Media	Fibre or Wireless	Y	
Bandwidth	10Mb to 10Gb (dependent on Access Media)	Y	
Guaranteed Throughput?	Fibre / Wireless	Y	
	FTTC (Rate Adaptive)	N	Y
Layer 2	**DIA**: NTU device installed by Enet (Fibre and Wireless) Default device is single power AC. DC or Dual power may be charged extra. DIA on third party access circuits use third party demarcation as standard	Y	
Customer site CPE	**Managed Failover:** Juniper SRX routers come fully installed & configured Ciena is used for Dual Port Handoff	N	Y
Routing Options	Static or Dynamic BGP	Y	
Default IP Address Blocks	IPv4 ***/31*** default as standard (one Carrier/customer usable) IPv6 ***/127*** for IPv6 (Provider Aggregatable) or ***/56*** if using operator subnet	Y Y	
Max MTU Size	2000 Bytes	Y	
Handoff (Fibre and Wireless)	Default fibre handoff at Customer premises is a 1000BaseT port on NTU Options for optical 1000BaseSX, LX & 10GBase-LR (fibre) are available	Y	

Option 1: Diversity

If potential downtime impacts your business, consider a diverse and redundant design solution.
The scale and type of diversity is critical to its success. There is still a risk if both paths share an entry point into the customer building, where if this shared path is damaged, the service will still go down.

Enet's six-element diversity plan can reduce this risk with a full suite of diversity, assured using a Primary Fibre and Secondary Fibre or Wireless. The end user benefits from defined reduced cost where both are ordered together. Our Tech Pre-Sales Team can assist on the design of your specific diversity solution options.

See Enet's ***Six Element Diversity*** Plan below for guidance:

	Critical	Nice to have	Not required
1. ***Diverse element 1*** : Dual NTU			
2. ***Diverse element 2*** : Dual Building Egress / Ingress			
3. ***Diverse element 3*** : Dual Local Access			
4. ***Diverse element 4*** : Dual Local PoP(s)			
5. ***Diverse element 5*** : Protected Backhaul			
6. ***Diverse element 6:*** Dual NNI			

Option 2: Managed Failover

Managed Failover adds further capability with seamless failover to the diverse circuit.

Enet can provide and install a managed preconfigured NTU for the primary circuit, so if it fails, it is automatically switched to the secondary circuit (and switchback on service restoration)

- Requires no setup knowledge from end-user
- Active - Passive solution. Active-Active is also available
- Can be added to existing circuits (with DIA, On or Off-Net)

Option 3: DDoS Protection

Internet access has become a critical element of the business process. A DDoS attack can potentially paralyse your company's everyday work for hours, weeks, or months.

Enet's DDoS Protection can help prevent Volumetric Attacks, Carpet Bombing and Resource Exhaustion. To ensure swift and efficient mitigation close to the source, the DDoS Protection platform is strategically located and globally distributed. Enet's solution offers:

- Unlimited mitigation for ordered bandwidth (c.10Mb-1Gb)
- Pro-active Automatic detection supported by:
    - Premium "*always on*" mitigation
    - Traffic is permanently routed through the nearest scrubbing centre
- Protection using specific IP prefixes
- Secure Uplink (incoming traffic mitigation)

Enet Responsibilities

Enet is responsible for:

- provisioning the Internet Service from the customer site to the ISP Core Network
- operating and maintaining both the network and the connection to the Internet Service
- acquiring the public wayleave for civil elements of the service
- assigning the requested bandwidth and IP addresses

Carrier Responsibilities

The Carrier is responsible for:

- allocating adequate rack space for installation of fibre patch panel and Enet NTU/Managed Router
- provisioning a clean, protected power supply for the NTU
- shaping the traffic in line with the purchased traffic profile
- supporting the product past the demarcation point (port) on the Enet NTU/Managed Router

Glossary

DDoS	Distributed Denial of Service
IP	Internet Protocol
MTU	Maximum Transmission Unit
NTU	Network Terminating Unit
PA	Provider Assigned

Further Information

Quotations
A quotation for service can be submitted via an email to the quoterequests@Enet.ie

Ordering and Provisioning

Orders should be emailed to the Enet Sales Support Team at salessupportteam@Enet.ie. The Sales team will provide Service eligibility checks for the service. Note that excess charges may apply.

You can also order DIA via the Order Forms Homepage

Further information

Contact your Enet Account Manager or contact us at:
Telephone: + 353 (0)61 274000
Webpage: www.Enet.ie