AWS DIRECT CONNECT

CUSTOMER GUIDE



AXON CONNECTIVITY TECHNICAL GUIDE







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INTRODUCTION TO AXON

In today's hyperconnected world our data, applications, clouds, locations and people live everywhere.

To operate and compete without limitation, we must integrate our siloed worlds. We need to be connected. Our people need access to whatever they need, whenever they need it, from wherever they are with complete confidence it is secure.

Connectivity with NEXTDC allows you to connect your physical and virtual worlds uniting the people, places and clouds most critical to your organisation.

The way we help you achieve this is via AXON, an advanced high-speed connectivity platform that delivers your business a superior connectivity experience, so the digital experiences you deliver your customers are something they won't find elsewhere.

AXON's high-performance virtual connections give you fast and secure access on-demand to any number of services Australia-wide. And because your AXON connections are private, they never touch the public internet, resulting in greater control and reliability of the critical infrastructure that powers your business, and enhanced security of your data.



AWS DIRECT CONNECT

AWS Direct Connect is a service that enables you to create private connections between Amazon data centres and your infrastructure located on your premises, or in a colocation environment. AWS Direct Connect connections do not go over the public internet therefore offering greater reliability, faster speeds, lower latencies and greater levels of security than typical connections over the public internet.

NEXTDC offers three AWS Direct Connect products:

LOCAL POINT OF PRESENCE (POP)

A Direct Connect Local POP is available in NEXTDC locations which have an on-site AWS Direct Connect POP and is available in 1Gbps or 10Gbps.

MANAGED INTERCONNECT

A Direct Connect Managed Interconnect is for customers who require 1Gbps or 10Gbps access into AWS. Managed Interconnect can be delivered to any AXON POP nationally.

HOSTED INTERCONNECT

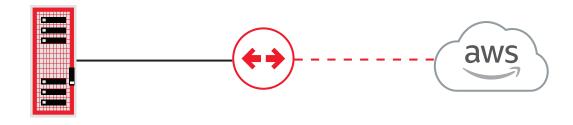
A Direct Connect Hosted Interconnect is for customers who require 50Mbps to 10Gbps access into AWS. Hosted Interconnect services are delivered within 60 seconds of ordering to your AXON Port and can be delivered to any AXON POP nationally.

AWS DIRECT CONNECT LOCAL POP

AWS Direct Connect Local POP is available in NEXTDC locations which have an on site AWS Direct Connect POP and is available in 1Gpbs or 10Gbps.

To order use the following procedure:

- 1 Sign up for AWS Direct Connect from Amazon and order a dedicated Direct Connect port via the AWS console. You will be directly billed by Amazon for the dedicated port in addition to your usage charges.
- 2 Wait for the AWS Letter of Authority (LOA) for your dedicated Direct Connect port on the Amazon network, this letter will contain the information you need to order your cross connect and an authority to connect from Amazon.
- 3 Login to ONEDC and order a Cross Connect to the location mentioned in the LOA documentation.
- 4 You will receive an email from NEXTDC confirming your order, reply to this email and attach the LOA as confirmation that you are authorised to connect to AWS infrastructure.
- **5** NEXTDC will email you a notice of completion, once this has arrived your AWS Direct Connect will be ready for activation on your equipment.
- 6 Your Direct Connect will be configurable via the AWS web portal.



LEGEND

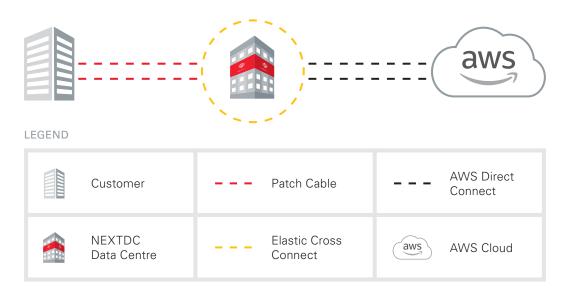




AWS DIRECT CONNECT MANAGED INTERCONNECT DIRECT CONNECT FROM AXON (FULL PORT CONNECTION)

To order use the following procedure:

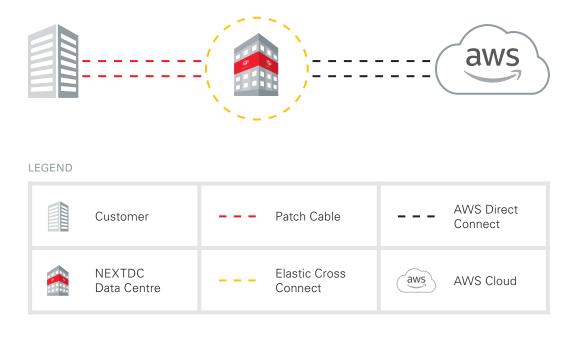
- Sign up for AXON your sales person will send you a link.
- 2 Sign up for AWS Direct Connect from Amazon and order a dedicated Direct Connect port via the AWS console. You will be directly billed by Amazon for the dedicated port in addition to your usage charges.
- **3** Wait for the AWS Letter of Authority (LOA) for your dedicated Direct Connect port on the Amazon network.
- **4** Order 1 x AXON port per AWS Direct Connect service you wish to activate via the AXON portal. You will receive an email with Point of Interconnect (POI) information.
- **5** Pass the LOA onto NEXTDC. At this point, NEXTDC will arrange the physical connectivity with Amazon.
- **6** Order 1 x Single Mode Fibre (SMF) Cross Connects per AWS Direct Connect service you wish to activate to the AXON POI from your data centre provider.
- 7 Activate your AXON Port(s) by plugging the Cross Connects in and activating the port on your network equipment.
- 8 Order Direct Connect from your AWS Direct Connect account.
- 9 Order Elastic Cross Connects (EXCs) via the AXON portal.
- 10 Supply AWS account ID.
- 11 Bandwidth Available options (1Gbps or greater).
- 12 Select VLAN ID(s) for AXON to deliver AWS Direct Connect on your AXON Port.
- 13 AXON will provision and activate your AWS Direct Connect.
- 14 Configure Layer 3 routing via your AWS account.



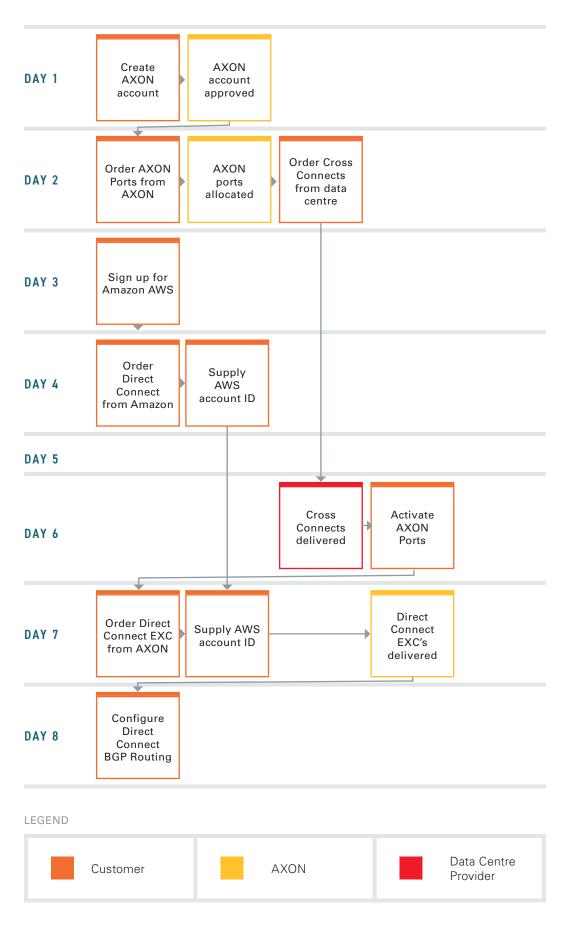
AWS DIRECT CONNECT HOSTED INTERCONNECT DIRECT CONNECT FROM AXON

To order use the following procedure:

- 1 Sign up for AXON your sales person will send you a link.
- 2 Order 1 x AXON port per AWS Direct Connect service you wish to activate via the AXON portal. You will receive an email with Point of Interconnect (POI) information.
- **3** Order 1 x Single Mode Fibre (SMF) Cross Connects per AWS Direct Connect service you wish to activate to the AXON POI from your data centre provider.
- 4 Sign up for AWS Direct Connect from Amazon.
- 5 Activate your AXON ports by plugging the cross connects in and activating the port on your network equipment.
- 6 Order Direct Connect from your AWS Direct Connect account
- 7 Order Elastic Cross Connects (EXCs) from AXON.
- 8 Supply AWS account ID.
- 9 Bandwidth Available options (50Mbps, 100Mbps, 200Mbps, 300Mbps, 400Mbps, 500Mbps, 1Gbps, 2Gbps, 5Gbps and 10Gbps).
- **10** Select VLAN ID(s) for AXON to deliver AWS Direct Connect on your AXON Port.
- 11 AXON will provision and activate your AWS Direct Connect.
- 12 Configure Layer 3 routing via your AWS account.



ONBOARDING PROCESS



TECHNICAL REQUIREMENTS

Following are the minimum requirements to connect to Amazon Direct Connect via AXON:

ltem	Qty	Comment
Single Mode Fibre (SMF) Cross Connect	1	1 x dual core SMF Cross Connect is required to interconnect with AXON for connection to Direct Connect.
10 Gbps Network Switch or Router	1	You can connect to AXON using either a router or a switch. If you choose to use a switch, you will need to pass Direct Connect traffic to a BGP capable router via appropriately dimensioned connectivity.
10 Gbps Network Optics	1	 10 Gbps optic options are: 10G-LRL (1KM) 10G-LR (10KM) If your vendor only supplies LR optics and you are in the same data centre as the AXON POI, please order 1km (LRL) optics from AXON as they are compatible with 10km (LR) vendor optics.
BGP Router	1	A BGP capable router is required to connect to Direct Connect.
Autonomous System Number (ASN)	1	You will require a BGP ASN to connect to Direct Connect.
Amazon AWS Account ID	1	To sign up for Direct Connect you will require a working AWS account ID with active virtual networking resources in it.

MORE INFORMATION

For more see the redundancy section of this web page:

Direct Connect technical overview http://docs.aws.amazon.com/directconnect/latest/UserGuide/getstarted.html

REDUNDANT DESIGN REQUIREMENTS

Following are the minimum requirements to connect to Amazon Direct Connect via AXON:

ltem	Qty	Comment
Single Mode Fibre (SMF) Cross Connect (Pair)	2	2 x dual core SMF Cross Connects are required for port and switch redundancy connection to AXON. You may also consider requesting cable path diversity from your carrier and/or data centre provider.
10Gbps Network Switches or Routers	2	You can connect to AXON using either routers or switches. If you choose to use switches, you will need to pass Direct Connect traffic to BGP capable routers via appropriately dimensioned connectivity.
10Gbps Network Optics	2	 10Gbps optics options are: 10G-LRL (1KM) 10G-LR (10KM) If your vendor only supplies LR optics and you are in the same data centre as the AXON POI, please order 1km (LRL) optics from AXON as they are compatible with 10km (LR) vendor optics.
BGP Routers	2	Two BGP capable routers to connect to Direct Connect.
Autonomous System Number (ASN)	1	You will require a BGP ASN to connect to Direct Connect.
Amazon AWS Account ID	1	To sign up for Direct Connect you will require a working AWS account ID with active virtual networking resources in it.

MORE INFORMATION

For more see the redundancy section of this web page:

Direct Connect technical overview (http://docs.aws.amazon.com/directconnect/latest/UserGuide/getstarted.html

AWS DIRECT CONNECT PEERING

STEP 1

Connecting to AWS via AXON.

Once AXON completes the provisioning of the AWS Direct Connect, you will see Hosted Connection in "pending acceptance" state under "Direct Connect" menu of the AWS Console.

Connections Virtual Interfaces	A 1 Connections are Pence 1 connections have been cree	1 Connections are Pending Acceptance 1 connections have been created for you by a Direct Connect partner, and will not be usable until you accept them.							
	Create Connection Create Vi	rtual Interface Delete Connection			0				
	Filter: Q	×			Viewing 1 of 1 Connections $\leftarrow \rightarrow$				
	Provided By	 Name 	 Location 	Bandwidth v #VIs	- State -				
	▼ NextDC	50Mbps Primary Connection	Equinix SY3, Sydney	50Mbps 0	pending acceptance				
	Connection Name:	50Mbps Primary Connection	Connection ID:	dxcon-fh65imxg					
	AWS Account:	839489321070	Location:	Equinix SY3, Sydney					
	Provided By:	NextDC	Port Speed:	50Mbps					
	Type:	Hosted Connection	VLAN Assigned:	2					
	State:	pending acceptance	Virtual Interfaces:	0					
	I understand that Direct Con	active and used, you must accept it. If you a nect port charges apply once I click Accept ine Connection	accept, connectivity between your data center and AW I Connection.	S will be provided by NextDC.					

Image 1: AWS Hosted Connection in Pending Acceptance State

During completion of this phase you will receive AWS Direct Connect provisioning completion email by NEXTDC.



Accept the Hosted Connection.

Accept the connection Provided by NEXTDC. Once the connection has been accepted the connection will appear as below in "pending" state.

al Interfaces								
annonacoo	Filter: Q		×				Viewing 1 of 1 Connections	1
		Provided By	~ Name	 Location 	· Bandwidth	- #VIs	- State	
		▼ NextDC	50Mbps Primary Connection	Equinix SY3, Sydney	50Mbps	0	pending	
		Connection Name:	50Mbps Primary Connection	Connection ID:	dxcon-fh65imxg			
		AWS Account:	839489321070	Location:	Equinix SY3, Sydney			
		Provided By:	NextDC	Port Speed:	50Mbps			
		Type:	Hosted Connection	VLAN Assigned:	2			
		State:	pending	Virtual Interfaces:	0			

Image 2: AWS Hosted Connection in Pending State

After a few minutes Hosted Connection goes to "available". This time can vary depending on the current load within AWS.

nections	Create Cor	Create Virt	Delete Connection				ତ (ଜ
ual Interfaces	Filter: Q		×				Viewing 1 of 1 Connections +
		Provided By	 Name 	 Location 	 Bandwidth 	⊤ #VIs	 ✓ State
		▼ NextDC	50Mbps Primary Connection	Equinix SY3, Sydney	50Mbps	0	available
		Connection Name:	50Mbps Primary Connection	Connection ID:	dxcon-fh65imxg		
		AWS Account:	839489321070	Location:	Equinix SY3, Sydney		
		Provided By:	NextDC	Port Speed:	50Mbps		
		Type:	Hosted Connection	VLAN Assigned:	2		
		State:	available	Virtual Interfaces:	0		
	Create	/irtual Interface					

Image 3: AWS Hosted Connection "available"

Create AWS Virtual Private Gateway.

Create virtual interface in order to setup the peering between your AXON connected equipment and AWS VPC (Virtual Private Cloud).

Create Virtual Private Gateway under "AWS -> Networking -> VPC".



Image 4: AWS Console Networking Menu

After selecting VPC select "Virtual Private Gateway" as follows.

VPC Dashboard	Resources 😔			Service Health			
Filter by VPC: None	Start VPC Wizard	Launch EC2 Instances			Current Status	Details	
Virtual Private Cloud	Note: Your Instances will laur	nch in the Asia Pacific (Sydney)	region.		 Amazon VPC - Asia Pacific (Sydney) 	Service is operating normally	
Your VPCs	You are using the following Amazon VPC resources in the Asia Pacific (Sydney) region:				 Amazon EC2 - Asia Pacific (Sydney) 	Service is operating normally	
Subnets	2 VPCs	2 Internet Gatewa	ays		View complete service health details		
Route Tables	5 Subnets 2 Network ACLs	3 Route Tables 1 Elastic IP			Additional Information		
Internet Gateways	0 VPC Peering Connect						
DHCP Options Sets	5 Security Groups 0 VPN Connections	3 Running Instan 1 Virtual Private 0			VPC Documentation		
Elastic IPs	0 Customer Gateways				All VPC Resources Forums		
Endpoints					Report an Issue		
Peering Connections	VPN Connection	ons					
Security Network ACLs	AWS cloud, and then cor	u to use your own isolated nect those resources direc -standard encrypted IPsec	tly to your ov	vn			
Security Groups	VPN Connections	Customer Gateways	VPC ID	Status			
		You do not have any VPNs					
VPN Connections	Create VPN Connecti	on					
Customer Gateways							
Virtual Private Gateways							
VPN Connections							

Image 5: AWS VPC Dashboard

Then Create "Virtual Private Gateway" as follows.

VPC Dashboard	Create Virtual Private Gateway Delete Virtual Private Gateway Attach to VPC Detach from VPC	2 4 0
Filter by VPC:	Q X	\ll \leq 1 to 1 of 1 Virtual Private Gateway \geq \gg
Virtual Private Cloud	Name + ID - State - Tune - VPC -	
Your VPCs	SY3 Primary 50M VPGW vgw-0adee Create Virtual Private Gateway *	
Subnets	A virtual private gateway is the router on the Amazon side of the VPN turnel.	
Route Tables	A virtual private galeway is the found on the variazon side of the very durine.	
Internet Gateways		
DHCP Options Sets	Cancel Yes, Create	
Elastic IPs		
Endpoints		
Peering Connections		
Security		
Network ACLs		
Security Groups		
VPN Connections	b	
Customer Gateways		
Virtual Private Gateways		
VPN Connections		

Image 6: Creating Virtual Private Gateway in AWS

Attach Virtual Private Gateway to the VPC.

After selecting the newly created Virtual Private Gateway, attach it to the VPC as follows.

Filler by VPC: Name Virtual Private Cloud Your VPCs Subnets Route Tables Internet Gateways DHCP Options Sets Elastic IPs Endpoints Peering Connections Security VPN Connections VPN Connections VPN Connections VPN Connections VPN Connec	VPC Dashboard	Create Virtual Private Gateway Delete Virtua	al Private Gateway Attach to VPC Detach from VPC	
Virtual Private Cloud Yi3 Primary 50M VPGW ygw-0ade Attach to VPC Xettach to the virtual private galeway VPC ygw-0adec017 [SY3 Primary 50M VPGW Ygw -0adecd17 [SY3 Primary 50M VPGW <l< td=""><td></td><td>Q. X</td><td></td><td></td></l<>		Q. X		
Subness Subness Roule Tables Internet Gateways DHCP Options Sets Elastic IPs Elastic IPs Endpoints Peering Connections Security Network ACLs Security Groups VPN Connections	Virtual Private Cloud	Name A ID	- State - Tvne - VPC -	
Route Tables Internet Gateways DHCP Options Sets Elastic IPs Endpoints Peering Connections Security Network ACLs Security Groups VPN Connections VPN Connections <t< td=""><td>Your VPCs</td><td>SY3 Primary 50M VPGW vgw-0adee</td><td>Attach to VPC ×</td><td></td></t<>	Your VPCs	SY3 Primary 50M VPGW vgw-0adee	Attach to VPC ×	
Rote fables Internet Gateways DHC Potions Sels Elastic IPs Elastic IPs Endpoints Peering Connections Security Network ACLs Security Groups VPN Connections Customer Gateways Virtual Private Gateways Ven Connections vertice (structure) VPN Connections Customer Gateways VPN Connections Vertual Structure) Summary Tags ID: Vertual Structure) Vertual Structure) Structure) Vertual Structure) Vertual Structure) Structure) Structure) Structure) Structure) Structure) Structure) Note Structure) Structure) Structure) Structure) Structure) </td <td>Subnets</td> <td></td> <td></td> <td></td>	Subnets			
DHCP Options Sets Elastic IPS Endpoints Peering Connections Security Network ACLs Security Groups VPN Connections VPN Connections Vartual Private Gateways VPN Connections Security Ven Connections Ustage Gateways VPN Connections Security Ven Connections Security Vartual Private Gateways VPN Connections Summary Tags ID: VPOW State: detached Type: ipsec: 1	Route Tables		Select the VPC to attach to the virtual private gateway	
Elastic IPs Endpoints Peering Connections Security Network ACLs Security Groups VPN Connections Customer Gateways VPN Connections VPN Connections VPN Connections Ustomer Gateways VPN Connections VPN Connections Ustomer Gateways VPN Connections	Internet Gateways		VPC vpc-0742c862 (30.7.0.0/20) Dev-VPC 3	
Endpoints Endpoints Peering Connections Security Network ACLs Security Groups VPN Connections Customer Gateways VrNual Private Gateways VrNual Private Gateways VPN Connections Customer Gateways VPN Customer Gateways	DHCP Options Sets			
Pering Connections Security Network ACLs Security Groups VPN Connections Customer Gateways VPN Connections	Elastic IPs		Cancel Yes, Attach	
Security Network ACLs Security Groups VPN Connections Customer Gateways VPN Connections VPN Connections Vgw-0adeed17 SY3 Primary 50M VPGW Summary Tags ID: Vgw-0adeed17 SY3 Primary 50M VFN State: detached Type: ipsec 1	Endpoints			
Network ACLs Security Groups VPN Connections Customer Gateways Virtual Private Gateways VPN Connections vgw-0adeed17 SY3 Primary 50M VPGW Summary Tags In: vgw-0adeed17 SY3 Primary 50M VPOW State: detached Type: ipsec.1	Peering Connections			
Security Groups VPN Connections Vrhual Private Gateways VPN Connections Vgw-0adeed17 SY3 Primary 50M VPGW Vgw-0adeed17 SY3 Primary 50M VPGW III: vgw-0adeed17 SY3 Primary 50M Vgw-	Security			
VPN Connections Customer Gateways Virtual Private Gateways VPN Connections vgw-0adeed17 SY3 Primary 50M VPGW Summary Tags ID:: vgw-0adeed17 SY3 Primary 50M VPOW State: detached Type: ipsec.1	Network ACLs			
Customer Gateways Virtual Private Gateways VPN Connections Vgw-0adeed17 SY3 Primary 50M VPGW Upgw Tags ID: Vgw-0adeed17 SY3 Primary 50M Upgw State: detached Type: ipsec 1	Security Groups			
Customer Gateways Virtual Private Gateways VPN Connections Vgw-0adeed17 SY3 Primary 50M VPGW Upgw Tags ID: Vgw-0adeed17 SY3 Primary 50M Upgw State: detached Type: ipsec 1				
Virtual Private Gateways VPN Connections Vgw-0adeed17 SY3 Primary 50M VPGW Summary Tags ID: Vgw-0adeed17 SY3 Primary 50M VpGW State: detached Type: ipsec 1				
VPN Connections vgw-0adeed17 SY3 Primary 50M VPGW Summary Tags ID: vgw-0adeed17 SY3 Primary 50M VPCW State: detached Type: Type: ipse: 1				
vgw-0adeed17 SY3 Primary 50M VPGW Summary Tags ID: Vgw-0adeed17 SY3 Primary 50M VpGW State: detached Type: ipsec 1	1			
ID: vgw-0adeed17 SY3 Primary 50M VPGW State: detached Type: ipsec.1	VPN Connections	vgw-0adeed17 SY3 Primary 50M VPGW		
ID: vgw-0adeed17 SY3 Primary 50M VPGW State: detached Type: ipsec.1		Summany		
ID: VPGW State: detached Type: ipsec.1		yow Obdeed17	7 LSY3 Primary 50M	
Type: ipsec.1		ID: VPGW		

Image 7: Attaching Virtual Private Gateway in AWS

Create AWS Virtual Interface with BGP Peering.

Once VPC configuration has been completed, create a Virtual Interface under "Connections".

Click on "Create Virtual Interface" as follows.

Connections	Create Connec	ction Create Virtu	Delete Connection					·단 @
Virtual Interfaces	Filter: Q		×					Viewing 1 of 1 Connections $\leftarrow \rightarrow$
		Provided By	 Name 	 Location 	1	· Bandwidth	∵ #VIs	~ State ~
	•	NextDC	50Mbps Primary Connection	Equinix 4	SY3, Sydney	50Mbps	0	available
	c	onnection Name:	50Mbps Primary Connection		Connection ID:	dxcon-fh65imxg		
	A	WS Account:	839489321070		Location:	Equinix SY3, Sydney		
	P	rovided By:	NextDC		Port Speed:	50Mbps		
	T <u>i</u>	ype:	Hosted Connection		VLAN Assigned:	2		
	S	tate:	available		Virtual Interfaces:	0		
	Create Virtu	al Interface						

Image 8: Create Virtual Interface in AWS

Connections											
Virtual Interfaces	Create a Virtual Interfac	ce de la constante de la consta									
		r public virtual interface. Select the appropriate option below.									
	Private - A private virtual interface should be used to access an Amazon VPC using private IP addresses. I public - A public virtual interface can access all AWS public services (including EC2, S3, and DynamoDB) using public IP addresses.										
	 Public - A public virtual interface ci 	• Fore - A point mode minute our occup or Arrow process process process process process process of the average point of a statement of the average point of a statement of the average point of a statement of the average point of the avera									
	Define Your New Private Virtual Interface Enter the name of your virtual interface If your creating a virtual interface for another account, you'll need to provide the other AWS account ID. For more information about virtual interface ownership, see Hosted Virtual interfaces the AWS bruce Connect General Charlos Saland Guide.										
	Connection:	dxcon-fh65imxg (50Nbps Primary Connection) • 1									
	Virtual Interface Name:	Primary 50M Virtual Inter									
	Virtual Interface Owner: We My AWS Account AWS Account										
	VGW:	vgw-Dadeed17 v (i									
	Enter the VLAN ID, if not already supp	plied by your AWS Direct Connect partner; and the IP Addresses for your router interface and the AWS Direct Connect interface.									
	VLAN:										
	Auto-generate peer IPs:										
	• •	10.0.0.1/30									
	Amazon router peer IP:	10.0.02/30 1									
	Before you can use your virtual interfa your own.	ace, we must establish a BGP session. You must provide an ASN for your router. You will also need an MD5 key to authenticate the BGP session. We can generate one for you, or you can supply									
	BGP ASN:	85000									
	Auto-generate BGP key:	2 B									
		Cancel Continue									

Image 9: Virtual Interface Configuration in AWS



Once the Virtual Interface is created it will show the state as "pending" initially and then change to "down".

Connections Virtual Interfaces	•	A Virtual Interface Was Created You are now ready to configure your equipment and begin passing traffic.								
	Cre	ate Virtual Interfa	ce Delete Virtual Interface						÷	0
	Filter:	Q	×						Viewing 1 of 1 Virtual Interfaces ← →	
			Name	~ ID		- Connection	~ VLAN	~ Туре	~ State	×
) ▶	Primary 50M Virtual Interface	dx	vif-fh4p71wh	dxcon-fh65imxg	2	private	pending	

Image 10: Virtual Interface in pending state

Connections Virtual Interfaces	I Virtual Interfaces are Down The BGP session is down on 1 virtual interfaces. For help with this issue, see the troubleshooting guide, or contact AWS support.							
	Create Virtual Inter	face Delete Virtual Interface					0	0
	Filter: Q	×				Viewing 1 of 1 Vi	rtual Interfaces	-] -
		Name	~ ID	 Connection 	~ VLAN	- Туре	- State	×
	►	Primary 50M Virtual Interface	dxvif-fh4p71wh	dxcon-fh65imxg	2	private	down	

Image 11: Virtual Interface in down state

Then configure the local site according to the specified BGP information.

Once BGP peering establishes the state of the virtual interface will change to "available".

Setup BGP Peering

The final step is to setup the BGP peering according to the information specified in the Virtual Interface.

Two options were given by AWS for the BGP peering setup:

- Active/Active (BGP Multipath) Network traffic will get load balanced across connections. This is the AWS recommended method and AWS end default configuration
- Active/Passive (Failover)

One BGP peering is active and other one is standby

If active connection becomes unavailable, all traffic routed via passive path.

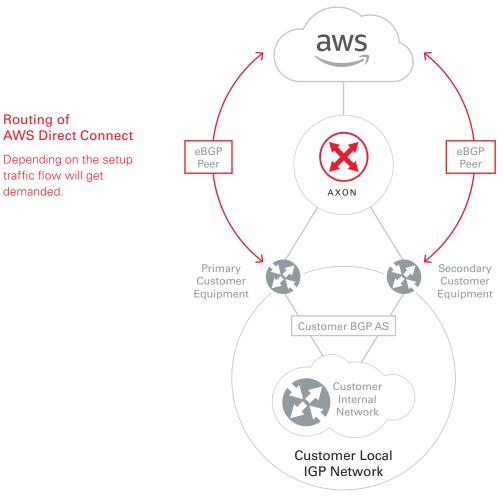


Image 12: BGP peering setup for AWS

REFER TO AWS USER GUIDES FOR FURTHER INFORMATION.



When ordering Direct Connect via AXON you will need to use the following handoff options:

VLAN Trunk Mode (802.1q)

HANDOFF - VLAN Trunk Mode (802.1q)			
ltem	ΟΤΥ	Comment	
Direct Connect VLAN IDs	1 or 2	You will need to provide the local VLAN IDs for each of your Direct Connect peering sessions.	



INTERFACE OPTIONS

Following are the standard interface options to connect to AXON.

If you have a specific requirement that is not covered by these options, please contact your account manager.

Distance	Optic Type	
10 KM	1G-LX	
1 KM	10G-LRL	
10 KM	10G-LR	
1 KM	40G-LRL	
10 KM	40G-LR	
	10 KM 1 KM 10 KM 1 KM	

* LRL optics are compatible with LR optics, if your vendor only supplies LR optics and you are interconnecting with us over fibre that is shorter than 1km you should select LRL and use appropriate attenuators.

SERVICE ATTRIBUTES

Service Attributes	Parameter
MAC Layer	802.3-2002
MTU	9100
Port Mode	802.1q Trunk
VLAN Ethertype	0x8100

* MTU of 9100 is valid for AXON network components. Please check the capabilities of the party you are connecting to.

NEXTDC SUPPORT CONTACTS

AXON HELP DESK

The AXON Helpdesk can be contacted using the information below:



Phone (Australia) 1300 698 677



Phone (International) +61 7 3177 4799



Technical support nxtops@nextdc.com

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Service provisioning nxtops@nextdc.com

Hours of operation:



Monday – Friday 09:00 - 18:00



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Closed

Service faults 24 hours

TERMS AND CONDITIONS AND SLA

A copy of our Terms and Conditions and Service Level Agreement can be found here:

https://www.nextdc.com/storage/app/media/NEXTDC_AXONVX_ Terms_and_Conditions_Final-20170520.pdf

GLOSSARY

AXON NETWORK

Term	Explanation		
AXON Enabled data centre (DC)	A data centre containing an AXON point of interconnect (POI).		
Campus	A cluster of AXON DC's which are close to each other and are treated as if they are one data centre.		
Cross Connect	A pair of single mode fibre (SMF) cables connecting the customer to an AXON point of interconnect (POI).		
	One Cross Connect is required for every AXON port.		
Cross Connect - Local	A Physical Cross Connect for which both the A-END and B-END reside in the same AXON DC.		
Cross Connect - Carrier	A Physical Cross Connect in which the B-END is external to the AXON DC it is connecting to. eg. A cros town dark fibre, Ethernet or wavelength service.		
Edge Switch	AXON System's customer facing network equipment.		
Fabric	A network region usually defined by city, state/territory or international borders.		
	AXON is built as a series of fabrics (Sydney, Melbourne, Brisbane etc.) or network islands which are interconnected by partner carriers.		
Interconnect	A Cross Connect and an AXON Port used to physically connect customers to the AXON fabric.		
Point of Interconnect (POI)	The fibre patch panel that customers order Cross Connects to. Generally located in the carrier interconnect room of an AXON DC.		
Single Mode Fibre (SMF)	Optical fibre cable which complies with or exceeds ITUT Recommendations G.652 or G.652D.		

AXON PRODUCTS

Term	Explanation		
AXON Port	The physical switch port on an AXON edge switch that is allocated to an AXON customer. This is the point of demarcation between AXON and its customers.		
Elastic Cross Connect (EXC)	A layer 2 interconnect between two or more AXON Ports.		
Direct Connect Local Point of Presence (POP)	An AWS Direct Connect service delivered directly to the customer over a fibre Cross Connect. Direct Connect Local POP is available in NEXTDC locations which have an on site AWS Direct Connect POP and is available in 1Gbps or 10Gbps.		
Direct Connect Managed Interconnect	Managed Interconnect is for customers who require 1Gbps or 10Gbps access into AWS. Managed Interconnect is delivered over AXON and can be delivered to any AXON POP nationally.		
Direct Connect Hosted Interconnect	Hosted Interconnect is for customers who require 50Mbps to 10Gbps access into AWS. Hosted Interconnect is delivered over AXON and can be delivered to any AXON POP nationally.		

AXON CONNECTED ENTITIES

Term	Explanation
Customer	A business or organisation that has signed up for an AXON account with a view to consuming AXON delivered services.
Integration Partner	An IT/network service organisation that has signed up for an AXON account with a view to using AXON to deliver value added products and services to their customers.
Carrier	A licensed carrier who owns significant physical network assets, has signed a carrier agreement and has interconnected with AXON with a view to consuming AXON delivered services.
Partner Carrier	A licensed carrier who owns significant physical network assets, has signed a partner carrier agreement and has interconnected with AXON with a view to consuming and also selling AXON delivered services which can be rapidly provisioned, modified and torn down ideally via API offering on demand elastic purchasing options in line with the overall ethos of the AXON product set.
Cloud Provider	A business or organisation which delivers high value cloud based services targeted at the SMB/enterprise and government markets. Cloud providers must own unique infrastructure or intellectual property which operates at scale, can be rapidly provisioned via API and offers on demand elastic purchasing options in line with the overall ethos of the AXON product set.

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