

# AXON

## Technical Brief

# Alibaba Cloud Express Connect CUSTOMER GUIDE



## Contents

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## Introduction to AXON

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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. We help you achieve this with NEXTDC's Ethernet connectivity platform, AXON.

AXON's high-speed ethernet connections give you fast, secure on-demand access to any number of services across all our locations, allowing you to connect the clouds, carriers and data centres that underpin your hybrid cloud.

## Alibaba Cloud Express Connect

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Alibaba Cloud Express Connect helps you build private network communication channels between Virtual Private Clouds (VPCs) and between your colocation data centre and a VPC via the data centre network ecosystem.

Using Alibaba Cloud Express Connect you can create a high-speed, dedicated and low-latency connection that allows you to reap the benefits of a true hybrid cloud setup. It also helps avoid unstable network quality issues and provides a highly secure connection to the virtual private cloud.

**High Speed Interconnection:** Express Connect permits temporary or permanent, high-speed interconnection between different networks directly and without the risks and impacts of using the public internet.

**Stability and Reliability:** Alibaba offer a formal Service Level Agreement (SLA) for their network ensuring stable and reliable connectivity to your virtual private cloud. Complete physical diversity is available via multiple Cloud Express Connect services.

**Flexibility:** When combined with NEXTDC's AXON platform, Alibaba Cloud Express Connect can be purchased on demand and configured and deployed in just a few minutes.

**Ease of Use:** Enjoy complete control over your connection bandwidth, operational status and route configurations.

NEXTDC offers the ability to connect to both of Alibaba Cloud's Sydney Availability zones via our AXON ecosystem.

Alibaba Cloud's current physical connection interfaces are located at:

- Global Switch (Australia-Sydney-A)
- Equinix SY1 (Australia-Sydney-B)

## Alibaba Cloud Express Connect Guide

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Alibaba Cloud Express Connect have comprehensive setup instructions that can be reviewed here:

<https://www.alibabacloud.com/help/product/27782.htm>

Physical connection specification can be found at

<https://www.alibabacloud.com/help/doc-detail/44852.htm>

and step by step instructions for the

Alibaba Cloud configuration can be found at

<https://www.alibabacloud.com/help/doc-detail/44844.htm>

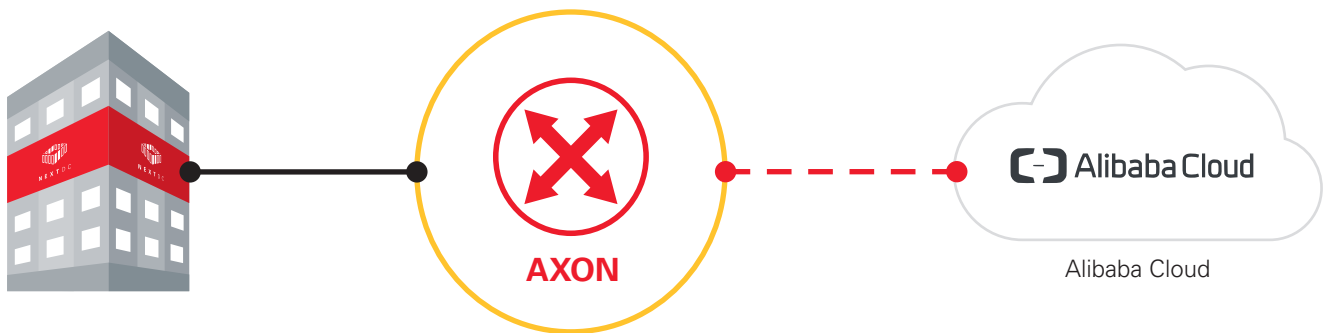
## Onboarding Process



## Technical Requirements

Item	Qty	Comment
Single Mode Fibre (SMOF) Cross Connect (pair)	1	1 x dual core SMOF Cross Connects is required to interconnect with AXON to Alibaba Cloud.
1 or 10 Gbps capable network switches or routers	1	You can connect to AXON using either routers or switches. If you choose to use switches, you will need to pass Alibaba Cloud traffic to BGP capable routers via appropriately dimensioned connectivity
1 or 10 Gbps capable network optics	1	Optic options are: <ul style="list-style-type: none"> <li>▪ 1G-LX (10KM)</li> <li>▪ 10G-LRL (1KM)</li> <li>▪ 10G-LR (10KM)</li> </ul> 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	1	A BGP capable router to connect to Alibaba Cloud
VBR Owner ID	1	You will require an Alibaba VBR Owner ID from Alibaba Cloud

## Alibaba Express Connect over AXON – minimum requirements



Key



Cross Connect



Ethernet Cross Connect (EXC)



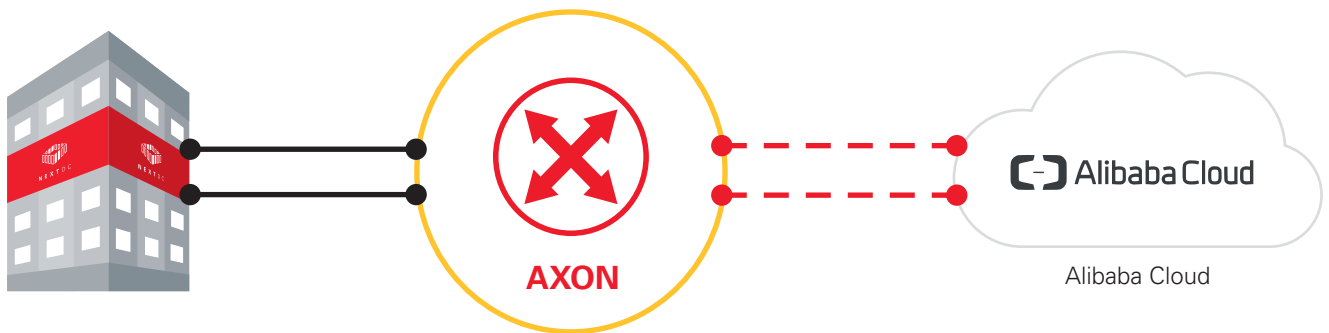
Alibaba Express Connect



## Redundant Design Requirements

Item	Qty	Comment
Single Mode Fibre (SMOF) Cross Connect (pair)	2	2 x dual core SMOF 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.
1 or 10 Gbps capable 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 Alibaba Cloud traffic to BGP capable routers via appropriately dimensioned connectivity
1 or 10 Gbps capable network optics	2	Optic options are: <ul style="list-style-type: none"> <li>▪ 1G-LX (10KM)</li> <li>▪ 10G-LRL (1KM)</li> <li>▪ 10G-LR (10KM)</li> </ul> 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 Alibaba Cloud
VBR Owner ID	1	You will require a Alibaba VBR Owner ID from Alibaba Cloud

### Alibaba Express Connect over AXON – redundant requirements



Key



Cross Connect



Ethernet Cross Connect (EXC)



Alibaba Express Connect

## Creating an Alibaba Cloud Express Connect via AXON

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Alibaba Cloud Express Connect is available locally in NSW and also in other states via our national AXON fabric with individual connections up to 2Gbps available.

To order a service, the following steps are required:

- 1** Log into your Alibaba Cloud account and find your Account ID under Account Management  
<https://account.alibabacloud.com/login/login.htm>
- 2** Log into the AXON portal. If not yet signed up to AXON, your NEXTDC representative can send you the signup link.
- 3** Order an AXON Port via the AXON Portal using the “Create New Port” button on the Ports Menu. You will receive an email with the point of interconnect (POI) information. If you have an existing AXON Port with spare capacity, you may utilise that port and therefore bypass this step.
- 4** Using the NEXTDC ONEDC Portal, order a physical cross connect between your rack and the AXON Port. The AXON Port location will be provided via email in Step 3 above.
- 5** Order an Alibaba Cloud service via the AXON Portal using the “Create New Service” button on the Services – Alibaba Cloud Menu. You will receive an email with the point of interconnect (POI) information. If you have an existing AXON Port with spare capacity, you may utilise that port there therefore bypass this step.
- 6** When configuring the Alibaba Cloud Service, you will need to:
  - a.** Select an A-End Port
  - b.** Select Alibaba Cloud (Sydney)
  - c.** Select which Alibaba Cloud location you wish to connect to.
    - i.** Location A is Global Switch (Australia-Sydney-A)
    - ii.** Location B is Equinix SY1 (Australia-Sydney-B)
  - d.** Add a Billing Label to be shown on your invoice
  - e.** Select a local VLAN if you didn’t select Auto Assign VLAN’s when you created the initial Port
  - f.** Enter your VBR Owner ID. This is your Alibaba Cloud Account ID.
  - g.** Select a Service Speed (Available speeds are 50Mbps, 100Mbps, 200Mbps, 300Mbps, 400Mbps, 500Mbps, 1Gbps, 2Gbps)
  - h.** Allocate a Purchase Order Number if desired
- 7** Log into the Alibaba Express Connect console. In the left-side navigation panel, click Physical Connections > Virtual Border Routers (VBRs)

## 8 Confirm the creation of the VBR

Instance ID/Name	Access Point	Physical Connection Interface
vbr-p0wdc4bsx5f47g228wa5b	Australia-Sydney-A	pc-p0webd02v3c3x2h2ut68s

Route Table	VLAN ID	Status	Actions
vtb-p0w3unb84i6v4qcy6x65c	2500	● Pending Creation	<a href="#">Confirm Creation</a>

Note: You will need:

- Gateway IP Address on Alibaba Cloud Side
- Gateway IP Address on Customer Side
- Subnet Mask

### Create VBR ✕

- **Gateway IP Address on Alibaba Cloud Side**
- **Gateway IP Address on Customer Side**
- **Subnet Mask**

**⚠** Specify the IP addresses based on your network plan. They must be in the same network segment. We recommend that:

1. Neither of the IP addresses conflicts with any IP address in use.
2. Use a private IP address.

For example, set as follows:

- Gateway IP Address on Alibaba Cloud Side as 10.0.0.1
- Gateway IP Address on Customer Side as 10.0.0.2
- Subnet Mask as 255.255.255.252

## 9 The VBR will now show as active.

## 10 Establish peering connections between the VBR and your VPC. Specific steps for this process can be found via the Alibaba Cloud documentation from Step 3 onwards.

<https://www.alibabacloud.com/help/doc-detail/44844.htm?spm=a2c63.p38356.b99.16.5b72413aqnfeUa>

## Decommissioning an Alibaba Cloud Express Connect via AXON

To cancel an Alibaba Cloud Express Connect service:

- 1** Login to the AXON portal
  - a. Click Alibaba cloud
  - b. Identify the service you wish to delete
  - c. Click the vertical ellipsis on the right-hand side
  - d. Click the delete service
  - e. Click delete to confirm deletion

- 2** The status of the VBR in the Express Connect Console will be shown in terminating status

Instance ID/Name	Access Point	Physical Connection Interface	Route Table	VLAN ID	Status	Actions
vbr-p0vdc4te5947g222hwa0c	Australia-Sydney-A	pc-p0vbed02v3c3v2u08a	vbr-p0v3un6t44v4qcy6d5c	2500	terminating	<a href="#">Edit</a>

- 3** When the VBR is in terminated status, please proceed to delete the VBR in the Actions column.

Instance ID/Name	Access Point	Physical Connection Interface	Route Table	VLAN ID	Status	Actions
vbr-p0vdc4te5947g222hwa0c	Australia-Sydney-A	pc-p0vbed02v3c3v2u08a	vbr-p0v3un6t44v4qcy6d5c	2500	terminated	<a href="#">Edit</a> , <a href="#">Delete</a>

## Handoff Options

When ordering Alibaba Express Connect via AXON you will need to use the following handoff options:  
VLAN Trunk Mode (802.1q).

Item	Qty	Comment
HANDOFF - VLAN Trunk Mode (802.1q)		
Alibaba Cloud VLAN IDs	1 or 2	You will need to provide the local VLAN IDs for each of your Alibaba cloud peering sessions.

## AXON Port Specifications

### 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.

Speed (Gbps)	Distance	Optic Type
1 Gbps	10 KM	1G-LX
10 Gbps	1 KM	10G-LRL
10 Gbps	10 KM	10G-LR
40 Gbps	1 KM	40G-LRL
40 Gbps	10 KM	40G-LR

\* 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

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The AXON Helpdesk can be contacted using the information below.

### AXON help desk

Phone (Australia)	1300 698 677
Phone (International)	+61 7 3177 4799
Technical support	nxtops@nextdc.com
Service provisioning	nxtops@nextdc.com

Day	Hours of operation	Service faults
Monday	09:00 - 18:00	24 hours
Tuesday	09:00 - 18:00	24 hours
Wednesday	09:00 - 18:00	24 hours
Thursday	09:00 - 18:00	24 hours
Friday	09:00 - 18:00	24 hours
Saturday	CLOSED	24 hours
Sunday	CLOSED	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](https://www.nextdc.com/storage/app/media/NEXTDC_AXONVX_Terms_and_Conditions_Final-20170520.pdf)

## Glossary

### AXON network

Term	Explanation
<b>AXON Enabled data centre (DC)</b>	A data centre containing an AXON point of interconnect (POI)
<b>Campus</b>	A cluster of AXON DC's which are close to each other and are treated as if they are one datacentre.
<b>Cross Connect</b>	A pair of single mode optical fibre (SMOF) cables connecting the customer to an AXON point of interconnect (POI). One Cross Connect is required for every AXON port.
<b>Cross Connect - Local</b>	A physical cross connect for which both the A-END and B-END reside in the same AXON DC.
<b>Cross Connect - Carrier</b>	A physical cross connect in which the B-END is external to the AXON DC it is connecting to. eg. A cross town dark fibre, Ethernet or wavelength service.
<b>Edge Switch</b>	AXON System's customer facing network equipment.
<b>Fabric</b>	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.
<b>Interconnect</b>	A Cross Connect and an AXON port used to physically connect customers to the AXON fabric.
<b>Point of Interconnect (POI)</b>	The fibre patch panel that customers order cross connects to. Generally located in the carrier interconnect room of an AXON DC.
<b>Single Mode Optical Fibre (SMOF)</b>	Optical fibre cable which complies with or exceeds ITUT Recommendations G.652 or G.652D



## Glossary

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### AXON products

<b>Term</b>	<b>Explanation</b>
<b>AXON port</b>	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.
<b>Ethernet Cross Connect (EXC)</b>	A layer 2 interconnect between two or more AXON ports.

### AXON connected entities

<b>Term</b>	<b>Explanation</b>
<b>Customer</b>	A business or organisation that has signed up for an AXON account with a view to consuming AXON delivered services.
<b>Integration Partner</b>	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.
<b>Carrier</b>	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.
<b>Partner Carrier</b>	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.
<b>Cloud Provider</b>	A business or organisation which delivers high value cloud based services targeted at the SMB/enterprise & 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.