



A X O N

Technical Brief

Oracle FastConnect



N E X T D C

ORACLE
CLOUD

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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.

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.

Oracle Fastconnect

Oracle FastConnect addresses one of the most important issues that affect migration to a cloud service: the unpredictable nature of the Internet. With Oracle FastConnect, you can create a high-speed, dedicated, and low-latency extension that allows you to reap the benefits of a true hybrid cloud setup. It also offers better security than exchanging your data over the Internet.

Standard layer 3 routing

FastConnect leverages industry-standard Border Gateway Protocol (BGP) routing to manage the exchange of routes between Oracle Cloud and your networks.

Non metered usage

FastConnect is offered at fixed price for data transferred between your network and Oracle Cloud.

Redundancy

FastConnect can be delivered as a fully redundant service with two physical connections from your network edge to Oracle network edge either directly or through a partner to ensure the high level of availability that you expect from Oracle Cloud services.

Oracle Network Cloud Service - FastConnect Partner Edition supports access to the following Oracle Cloud services:

- Oracle Compute Cloud Service
- Oracle Storage Cloud Service
- Oracle Java Cloud Service
- Oracle Database Backup Service
- Oracle Big Data Cloud Service
- Oracle Big Data Preparation Cloud Service
- Oracle Database Cloud - Database as a Service
- Oracle Database Cloud - Database Schema Service
- Oracle Database Cloud - Exadata Service

Not all listed Oracle Cloud services are supported in each city. Contact your Account Manager for information about the Oracle Cloud services that you can access in your city.

More information

For more information on setting up Oracle FastConnect please visit:

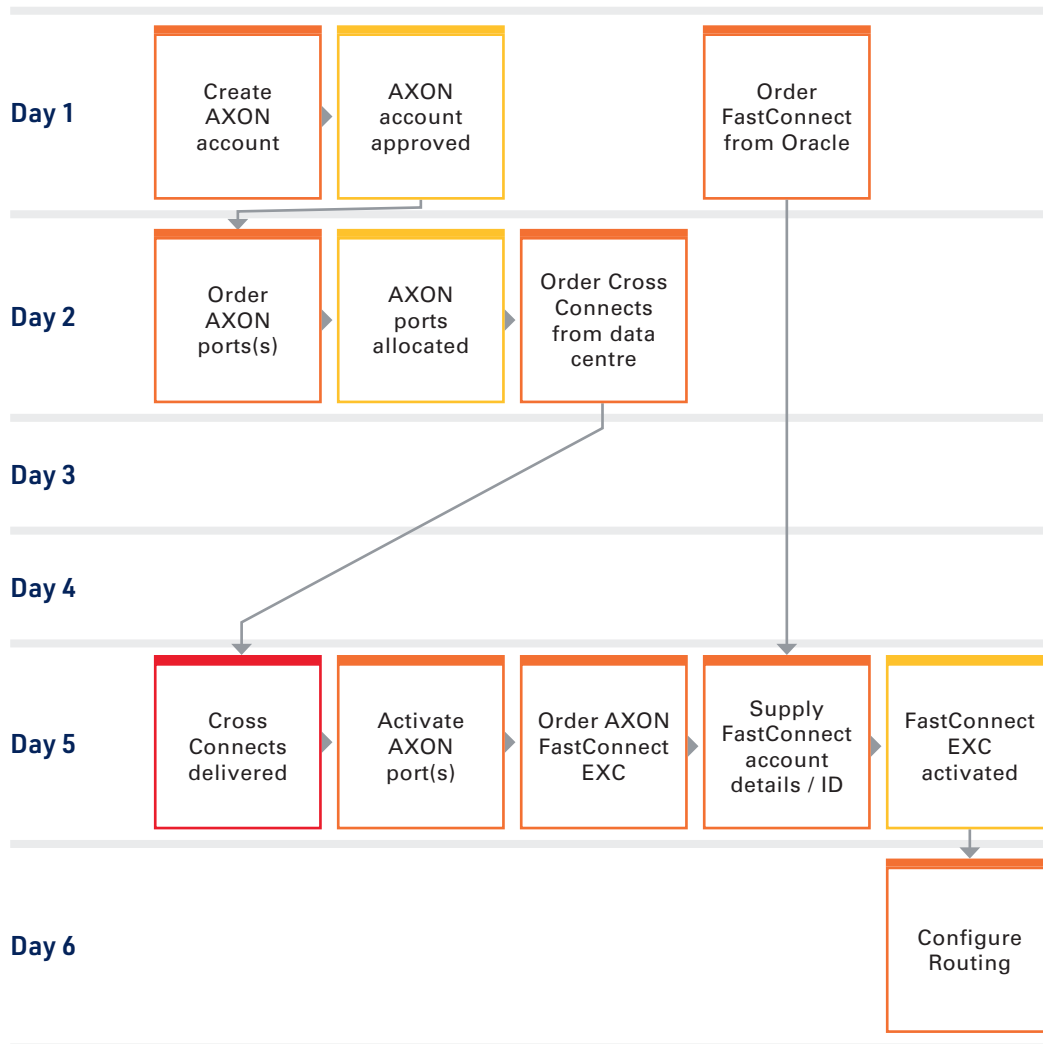
https://cloud.oracle.com/en_US/fastconnect/connectivity-models

Oracle FastConnect guide

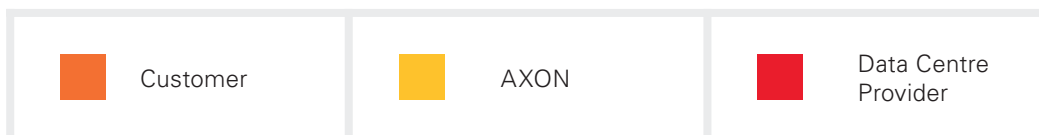
Download the full setup guide for Oracle FastConnect written by Oracle at this link:

https://cloud.oracle.com/en_US/fastconnect/documentation

Onboarding process



LEGEND



Technical requirements

Following are the minimum requirements to connect to Oracle FastConnect via AXON:

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.
1Gbps, 10Gbps, 40Gbps or 100Gbps 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 FastConnect traffic to BGP capable routers via appropriately dimensioned connectivity.
1Gbps, 10Gbps, 40Gbps or 100Gbps capable network optics	2	Optic options are: <ul style="list-style-type: none"> ■ 1G-LX (10KM)* ■ 10G-LRL (1KM) ■ 10G-LR (10KM) ■ 40G-LRL (1KM) ■ 40G-LR (10KM) ■ 100G-LR4 (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. *You will need to set a 1Gbps port that connects to a 1G AXON port to 1G/full-duplex.
BGP routers	2	Two BGP capable routers to connect to Oracle FastConnect.
Autonomous System Number (ASN)	1	You will require a BGP ASN to connect to Oracle FastConnect.
Oracle FastConnect ID	1	You will require a FastConnect ID from Oracle in order to provision your FastConnect service.

MORE INFORMATION

For more see the redundancy section of this web page:

https://cloud.oracle.com/en_US/fastconnect/connectivity-models

Oracle FastConnect setup tasks

To set up Oracle Network Cloud Service - FastConnect Partner Edition complete the following steps:

- 1 Contact your Oracle Account Manager to identify if you can access your Oracle Cloud services using Oracle Network Cloud Service - FastConnect from NEXTDC.
- 2 Order your FastConnect service from Oracle.
- 3 Wait to receive your FastConnect ID.
- 4 Proceed with the next step only after you receive your FastConnect ID from Oracle.
- 5 Ensure that you have the required hardware and software.
- 6 Sign up for AXON at: <https://portal.axonvx.com/signup>.
- 7 Order one or more AXON ports via the AXON portal.
- 8 Order an AXON intercap service if your rack is not located in a NEXTDC Sydney data centre.
- 9 Order Cross Connects from your rack to the AXON ports.
- 10 Order an Oracle FastConnect service via the AXON portal.
- 11 Configure your network routers using configuration information that you receive from Oracle.
- 12 Test and validate routing.

Subscribing to the service

To order Oracle Network Cloud Service - FastConnect Partner Edition:

1. Contact your Oracle Account Manager to identify if you can access your Oracle Cloud services using Oracle Network Cloud Service - FastConnect from NEXTDC
2. Select a connection speed depending on your usage requirements and the data transfer profile for your usage. Currently connection speeds available through AXON are 1Gbit.
3. Contact your Oracle Account Manager to confirm your requirements and order the service.

Your Oracle Account Manager orders the service for you and provides an Oracle FastConnect ID. This is a 6-digit number, which you must specify while establishing a connection between the service and AXON.

After ordering Oracle Network Cloud Service - FastConnect Partner Edition through your Oracle Account Manager, set up the required hardware and software.

Fulfilling network requirements

The following are the network requirements to connect your data centre to Oracle Cloud using Oracle Network Cloud Service - FastConnect Partner Edition:

- Order AXON ports and Cross Connect from NEXTDC. Oracle Network Cloud Service - FastConnect Partner Edition is set up to be redundant and highly available. To achieve end-to-end redundancy from your network edge, you must order redundant ports from AXON along with separate physical Cross Connects from redundant routers in your network. Skip this step if you are already connected to AXON.
- If you are planning to connect through a remote NEXTDC data centre, contact your NEXTDC Account Manager who can arrange pricing for remote access to Oracle FastConnect.
- Get the required hardware.
 - Network equipment capable of supporting Layer 3 routing using the border gateway protocol.
 - Routers to connect to AXON. After ensuring that you have completed all the network requirements, set up the service.

Enabling the service

- Before enabling the service, login to the AXON portal and ensure that you have an AXON port in the city where you want to establish a connection.
- To enable Oracle Network Cloud Service - FastConnect, create a connection to Oracle FastConnect using the AXON portal.
- While creating your connection, select Oracle FastConnect in the Services list and enter the Oracle FastConnect ID that you have received from your Oracle Account Manager in the Oracle FastConnect ID field.
- After creating the connection, you will receive confirmation from AXON that Layer 2 connectivity to Oracle FastConnect has been established.
- Once Layer 2 connectivity is established you may configure Layer 3 BGP routing connectivity directly with Oracle's routing infrastructure.

Terminating the service

To terminate Oracle Network Cloud Service - FastConnect Partner Edition:

- Delete the connection that you created in the AXON portal.
- Contact your Oracle Account Manager and inform them that you would like to terminate the service. Your Oracle Account Manager will initiate this process for you.

Handoff options

When ordering Oracle FastConnect via AXON you will need to choose one of the following handoff options:

- Multi VLAN Trunk Mode (802.1q)
- Single VLAN Mode (802.1q Double Tagged)

Item	Qty	Comment
HANDOFF - Multi VLAN Trunk Mode (802.1q)		
FastConnect VLAN IDs	1 or 2	You will need to provide the local VLAN IDs for each of your Oracle FastConnect 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
100 Gbps	10 KM	100G-LR4

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.

* You will need to set a 1Gbps port that connects to a 1G AXON port to 1G/full-duplex.

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 help desk can be contacted using the information below:



Phone (Australia)

1300 698 677



Phone (International)

+61 7 3177 4799



Technical support

nxtops@nextdc.com



Service provisioning

nxtops@nextdc.com

Hours of operation:



Monday – Friday

09:00 - 18:00

Sunday & Saturday

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/axon-terms-of-service>

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	<p>A pair of single mode optical fibre (SMOF) cables connecting the customer to an AXON point of interconnect (POI).</p> <p>One Cross Connect is required for every AXON port.</p>
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 cross town dark fibre, Ethernet or wavelength service.
Edge Switch	AXON System's customer facing network equipment.
Fabric	<p>A network region usually defined by city, state/territory or international borders.</p> <p>AXON is built as a series of fabrics (Sydney, Melbourne, Brisbane etc.) or network islands which are interconnected by partner carriers.</p>
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 Optical Fibre (SMOF)	Optical fibre cable which complies with or exceeds ITUT Recommendations G.652 or G.652D.

AXON products

Term	Explanation
AXON port	<p>The physical switch port on an AXON edge switch that is allocated to an AXON customer.</p> <p>This is the point of demarcation between AXON and its customers.</p>
Ethernet Cross Connect (EXC)	A layer 2 interconnect between two or more AXON ports.

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 & 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.