



Service Description

Cyxtera CXD IP Connect

Last Updated: February 12, 2019

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1 Introduction

CXD IP Connect combines Cyxtera's network-neutral environment with automated routing to provide a reliable, dedicated Internet connection for customers. CXD IP Connect is a blended bandwidth product offering a "best of" mix between several Internet service providers. Each CXD IP Connect point of presence operates independently connecting customers to a blend of at least two independent upstream providers. The Service is available to Cyxtera colocation (space and power) and Compute Node customers via the Cyxtera Extensible Data Center ("CXD") platform.

CXD IP Connect includes:

- For Cyxtera's colocation customers, multi-homed physical connection from customer's colocation environment to the CXD network
- Leased IPv4 and IPv6 address blocks
- Fixed and burstable bandwidth options
- Multiple configuration options including static route and BGP
- 24/7 monitoring

1.1 Self-Service Tools

CXD IP Connect includes access to the following self-service tools:

- **Cyxtera Customer Support Portal** (the "Portal") provides management access to the Cyxtera interconnection product portfolio, including, but not limited to, subscription status, inventory viewing, management of entitlements, and customer support. See the [Cyxtera Customer Guide](#) for more information about the Portal.
- **CXD Command Center** (the "Command Center") is the primary tool for access, consumption, and management of CXD enabled products purchased from Cyxtera, including CXD IP Connect. The CXD Command Center is accessed via the Portal.
- **(Future Functionality Enhancement) Cyxtera Application Programming Interface (API)** for programmatic resource management. The Cyxtera API will allow customers the ability to create scripts that run system administration commands against CXD resources, such as CXD IP Connect, equivalent to those actions that can be taken from the CXD Command Center.

1.2 Availability

CXD IP Connect is available in all Cyxtera data centers equipped with the CXD platform.

2 Product Description

CXD IP Connect is a blended Internet bandwidth offering delivered solely from the CXD network. CXD delivers a software powered architecture combining a software defined network ("SDN") fabric and service provisioning system to provide a revolutionary way of easily procuring and consuming data center services. Cyxtera colocation (space and power) customers must purchase a CXD Port product prior to connecting to CXD IP Connect. All CXD Port services are connected to the customer via a redundant cross connect configuration. Cyxtera CXD Compute Node customers may utilize CXD IP Connect for network access outside the data center however are not required to purchase a separate CXD Port as CXD Compute Nodes include an always on connection to CXD. For more information on CXD Compute Nodes please refer to the [CXD Compute Node Service Description](#).

Once physically connected to the CXD platform, customers may then deploy a virtual cross connect, or "VLAN", to enable the CXD IP Connect service. The customer "stretches" the VLAN to the CXD IP Connect service by assigning the VLAN ID to the CXD IP Connect occurrence. VLANs may be turned up or turned down at any time via the CXD Command Center or API.

2.1 Connecting to CXD IP Connect

There are two methods for establishing connectivity to CXD IP Connect:

- **CXD Port:** Cyxtera colocation customers access services on CXD, such as CXD IP Connect, by ordering a CXD Port. The CXD Port is connected to the customer environment via Ecosystem Connect. The CXD Port service includes the cross connect from the Ecosystem Connect patch panel to the CXD network fabric.
- **CXD Compute Nodes:** CXD Compute Node customers can access the CXD IP Connect service by creating VLANs from their Compute Node environment across the CXD network established upon the ordering of CXD Compute Nodes.

2.2 Committed Information Rate ("CIR") Tiers

At the time of ordering, the customer will be directed to select a Committed Information Rate ("CIR") tier for their CXD IP Connect service. The CIR Tier selected sets the Mbps rate for the bandwidth utilized with CXD IP Connect. Available rate tiers include:

- 10Mbps
- 20Mbps
- 50Mbps
- 100Mbps
- 300Mbps
- 500Mbps
- 1000Mbps

Once a CIR is selected, the customer can choose for the service to be Fixed or Burstable.

- **Fixed:** The CXD IP Connect service bandwidth will be rate limited to the tier selected.
- **Burstable:** Regardless of the rate tier selected, customers who order the Burstable option with the CXD IP Connect service will be able to burst up to 1000Mbps for fiber connections and 100Mbps for copper. Cyxtera does not offer speeds in excess of 1000Mbps. In addition to amounts payable by customer for their selected CIR tier, the customer will be billed for applicable overages above their selected CIR tier.

2.2.1 Burstable Bandwidth Overage Calculation

Customers who select burstable bandwidth in association with their CXD IP Connect service will be charged for the overages above their CIR tier (in addition to amounts payable by customer for their selected CIR tier). These overages will be calculated based on the industry standard of 95th percentile ("95th P") billing.

Bandwidth is measured (or sampled) from the Cyxtera router and recorded in a log file at regular increments throughout the month (typically every 2-5min). At the end of the month, the input samples are sorted from highest to lowest and the top 5% of data are discarded. All values are rounded to the next highest whole number. For example, if the 95th percentile value is 11.3Mbps the value considered is 12Mbps. The same is then done with the output samples.

To arrive at the billable utilization for the month, Cyxtera selects the higher usage measurement of either the input or output traffic flows and calculates billing based on that usage measurement. All overage is billed at 1.5 times the per Mbps rate at which the CIR is billed.

The simplified example below assumes only 100 samples are taken per month, note the top ten usage rankings for the month sorted from highest to lowest. All measurements above line 95 are discarded and the 95th highest usage measurement is used to calculate billing for the month. Notice the higher usage number of the inbound and outbound traffic measurement on line 95 is used to calculate the 95th P.

Rank	Inbound Bandwidth Measurements	Outbound Bandwidth Measurements
100	250Mbps	130Mbps
99	140Mbps	110Mbps
98	130Mbps	90Mbps
97	110Mbps	70Mbps
96	80Mbps	50Mbps
95	60Mbps	40Mbps
94	50Mbps	30Mbps
93	40Mbps	10Mbps
92	20Mbps	9Mbps
91	10Mbps	9Mbps

In this example the 95th P for the month would be 60Mbps. If the customer had a 100Mbps CIR there would be no overages charges for the month, however if the CIR were 50Mbps, then there would be a 10 Mbps overage for the month shown.

60Mbps (95th P) – 50Mbps (CIR) = 10Mbps (Overage)

The overage charge would then be calculated as:

10Mbps (Overage) x Per Mbps Rate x 1.5 = Monthly Overage Charge

Overage charges are billed in arrears on the customer’s monthly invoice noting the specific overage and dollar amount owed.

2.3 IP Addressing

Cyxtera offers leased IP address space associated with CXD IP Connect in the following Classless Inter-Domain Routing (“CIDR”) blocks:

CIDR Block	Number of Addresses	Notes
IPv4 /29	8	Initial /29 block free of charge – (3) addresses are usable by the customer and (5) are used for internal routing.
IPv4 /28	16	
IPv4 /27	32	
IPv4 /26	64	
IPv4 /25	128	
IPv4 /24	256	Must have a minimum of 500Mbps CIR to order.
IPv6 /56	4,722,366,482,869,645,213,696	Available at no charge.

Customers ordering both IPv4 and IPv6 addresses will be configured as “Dual Stack” with no tunneling. Additional IP addresses can be added at any time and will be priced per address block purchased. All additional addresses will be statically routed to the existing block.

Alternatively, customers may bring their own IP addresses for announcement to the Internet by Cyxtera. However, the maximum block Cyxtera will announce for IPv4 is a /24.

2.4 Routing Protocols

CXD IP Connect supports static default routing and Border Gateway Protocol (“BGP”). Only one routing method may be configured on a given customer instance of CXD IP Connect. If a customer wishes to use BGP, they may provide their own Anonymous System Number (“ASN”) or Cyxtera will provide a private ASN during provisioning.

2.5 Domain Name Services (“DNS”)

Customers are responsible for setting and managing their DNS. CXD IP Connect does not support Reverse Domain Name Service (“RDNS”) at this time.

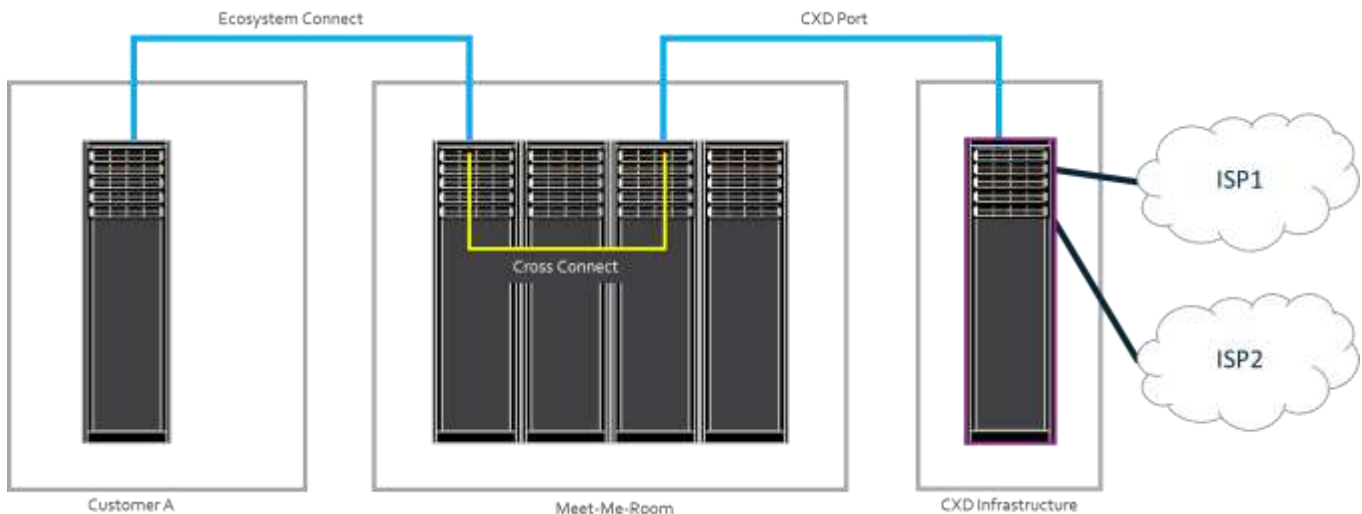
2.6 Diversity Options

CXD IP Connect is a multi-homed product and provides two physical handoffs between the customer environment and the CXD network. These connections are built in an active-passive configuration and are not intended for load-balancing between connections. Cyxtera will manage failover in the case of service interruption on either connection.

2.7 Latency Standards

CXD IP Connect provides a connection to the Internet and as such may be impacted by elements outside of Cyxtera’s control such as customer side equipment, round trip latency or network congestion. Cyxtera strives to ensure latency is minimized through the use of best in class network gear, partnerships with Tier One Internet upstream providers and management of upstream bandwidth links ensuring utilization levels result in little to no need for packet retransmit.

2.8 Service Diagram



3 Service Delivery and Support

The following outlines Cyxtera’s roles and responsibilities in the service delivery of CXD IP Connect. While specific roles and responsibilities have also been identified as being owned by the customer, any roles or responsibilities not contained in this document are either not provided with the service or assumed to be customer’s responsibility.

3.1 Provisioning

Cyxtera will provide the following provisioning services:

- If not previously completed, granting Portal, Command Center and API access to administrative users using default administrator privileges and system preferences.
- Initial configuration and assignment of IP addresses of the CXD IP Connect service per customer requirements, if not completed via self-service in the Command Center or API.

Customer is responsible for the following provisioning activities:

- Management of VLANs within the Command Center or API.

3.2 Support

Cyxtera employs skilled on-site technicians in each of their data centers. If the customer requires support with their CXD IP Connect service, they may request assistance from technicians by creating a case within the Portal. Cyxtera will provide all reasonable assistance to the customer while abiding by Cyxtera policies. Support charges may be incurred. See the [Cyxtera Customer Guide](#) for more information about obtaining such support from Cyxtera.

3.3 Incident and Problem Management

Cyxtera actively monitors uptime for CXD IP Connect, however any service interruption should be reported by the customer via a case in the Portal. Cyxtera will provide incident and problem management services (e.g. classification, recording, escalation, and return to service) pertaining to the infrastructure associated with the CXD IP Connect service. In the event of a service failure, please refer to your CXD Service Level Agreement for details regarding your rights and remedies.

3.4 Security

Cyxtera will provide security for the aspects of the Service over which it has sole physical and administrative level control. Cyxtera will use commercially-reasonable efforts to provide data center security, protection of cabling within the cable troughs and/or trays within the data center and administrative controls for access within the facility where the service is provided. Security and access controls will be implemented per Cyxtera standard operating policies. See the [Cyxtera Customer Guide](#) for more information about such security and access controls.

4 Business Operations

4.1 New Orders

CXD IP Connect can be ordered through a Cyxtera Account Representative who will provide the customer a sales order for execution or via the Command Center. For Cyxtera colocation (space and power) customers, a CXD Port must be ordered prior to ordering CXD IP Connect.

The customer will be required to select a CIR, any additional IP Addresses and detail any routing specifications upon ordering CXD IP Connect. Additional configuration items to coordinate provisioning of the service may be communicated to the Cyxtera Implementation Specialist assigned (sales orders) or via a case in the Command Center (self-service orders).

For CXD Compute Node customers, access to the CXD platform is included with the Compute Node service enabling immediate access to CXD IP Connect. Refer to the [CXD Compute Node Service Guide](#) for more information.

4.2 Changes to Ordered Services and/or Existing Services

Unless otherwise agreed by Cyxtera, in its sole discretion, or as permitted pursuant to the following paragraph, if the customer requires any changes to (a) an ordered CXD IP Connect Service before installation of such Service or (b) a previously installed CXD IP Connect Service, they will need to submit a disconnect order and a new order to implement the change, and additional charges may apply.

The customer is able to manage routing and VLAN configurations within the Command Center or API in real-time. Changes to the CIR tier may be made via the Command Center or API at any time, however, will take effect on the first day of the next month following the requested change. A new contract or addendum may need to be signed if a change is needed to the CIR tier originally selected.

4.3 Disconnects

Disconnects may be requested (a) in the customer portal made available by Cyxtera to customer for such purpose or (b) through any other process permitted by Cyxtera. Additional details can be obtained from your Account Representative.

4.4 Expedite Requests

Cyxtera does not allow requests for expedited installation of CXD IP Connect.

5 Service Level Objective (Install)

Cyxtera offers an installation Service Level Objective for CXD IP Connect. A Service Level Objective ("SLO") is a metric which Cyxtera makes all reasonable efforts to achieve during standard business operations. For CXD IP Connect sales orders, Cyxtera will make all commercially reasonable efforts to complete installation and testing

within 3 business days of an accepted sales order. Orders placed via the Command Center or API are generally provisioned within 24 business hours.

Cyxtera does not offer remediation for missed Service Level Objectives.

6 Service Level Agreement (Uptime)

Cyxtera offers an uptime Service Level Agreement for CXD IP Connect. For more information regarding the service levels offered for CXD IP Connect and rights and remedies offered in conjunction with CXD IP Connect please refer to your CXD Service Level Agreement.

7 Contract Terms

A CXD IP Connect incurs monthly recurring charges in connection with the provision of such CXD IP Connect.

CXD IP Connect is considered a month-to-month service and may be canceled with a 30-day notice and customer shall have no liability for early termination charges in connection with such a cancellation. There is no charge to disconnect a CXD IP Connect.

All use of the CXD IP Connect Service must comply with Cyxtera's [Acceptable Use Policy](#) which may be modified by Cyxtera from time to time by posting an updated AUP at <https://www.cyxtera.com/legal/Cyxtera-Acceptable-Use-Policy.pdf> or a successor website designated by Cyxtera.

7.1 Burstable Bandwidth Overage Invoicing

Customers who select the Burstable bandwidth option with the CXD IP Connect service will be billed for applicable overages on the invoice following the month of the usage. Refer to the [Burstable Bandwidth Overage Calculation](#) section of this document for details on how overages are calculated.

8 Appendix

Included below are links to additional documentation that are related to CXD IP Connect service.

- [Acceptable Use Policy](#)
- [Cyxtera Customer Guide](#)
- [Cyxtera Customer Support Portal](#)
- [CXD Port Service Description](#)
- [CXD Compute Node Service Description](#)
- [Ecosystem Connect Service Description](#)