

Service Description

Cyxtera Metro Connect

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Cyxtera Data Centers, Inc.
2333 Ponce De Leon Blvd., Suite 900
Coral Gables, Florida 33134
www.cyxtera.com

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1 Introduction

As part of Cyxtera’s interconnection product portfolio, Metro Connect provides Cyxtera customers access to Cyxtera’s fully redundant optical network between Cyxtera locations within a metropolitan area. Metro Connect services are deployed over the optical network as Dense Wavelength Division Multiplexing (“DWDM”) services or over the Cyxtera Extensible Data Center platform (“CXD”). Metro Connect provides a secure, encrypted solution enabling Metropolitan Area Network connectivity and can be provisioned with different levels of redundancy based on the customer need.

The Metro Connect family of services are available under the following names:

- Metro Connect Dedicated
- CXD Metro Connect Switched

1.1 Self-Service Tools

Metro 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 Metro Connect Switched. The CXD Command Center is accessed via the Portal.
- **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 Metro Connect Switched, equivalent to those actions that can be taken from the CXD Command Center.

1.2 Availability

Metro Connect is available in the following data centers:

Metro Area	Cyxtera Data Centers	Affiliate Locations
Washington DC	IAD ₁ , IAD ₂ , IAD ₃	TBD
London, UK	LHR ₁ , LHR ₂ , LHR ₃	TBD
New Jersey	EWR ₁ , EWR ₂ , EWR ₃ , EWR ₄	TBD
Chicago, IL	ORD ₁ , ORD ₂	TBD
Silicon Valley**	SFO ₁ , SFO ₂ , SFO ₃	TBD

** Denotes future location – check with your account team for current availability.

2 Product Description

Cyxtera’s Metro Connect service is available in two options – Metro Connect Dedicated and CXD Metro Connect Switched. Metro Connect Dedicated provides connectivity between the same customer’s or two different customers’ (ecosystem member) environments located in different buildings with the same metro area.

For customers who have connectivity to CXD, CXD Metro Connect Switched provides connectivity between the same customer’s environments located in different buildings within the metro area.

2.1 Metro Connect Dedicated

Metro Connect Dedicated is a service delivered over Cyxtera’s optical wavelength network delivered as a single-threaded wave utilizing Ethernet Private Line protocol. Standard delivery of Metro Connect Dedicated provides single port and single path connectivity. Customers can select redundancy options including a single port and dual path protection or dual port and dual path protection. The addition of redundancy schemes to the standard service is offered for an additional fee.

2.1.1 Service Offerings

The following table outlines the service options associated with Metro Connect Dedicated:

Metro Connect Service	Available Speeds	Handoff type	Failover
Metro Connect Dedicated – single port/single path	10Gbps 100Gbps	Ethernet Private Line	None
Metro Connect Dedicated – single port/dual path	10Gbps 100Gbps	Ethernet Private Line	Cyxtera managed
Metro Connect Dedicated – dual path/dual port	10Gbps 100Gbps	Ethernet Private Line	Customer managed

The customer is able to order multiple instances of these service offerings, however Cyxtera views each order as a stand-alone instance and bandwidth cannot be aggregated or divided between orders. All dual path options are built as a primary and secondary (active/passive) deployment.

2.1.2 Connecting to Metro Connect Dedicated

In order for customers to connect to the Metro Connect Dedicated service, an [Ecosystem Connect](#) must be in place with available ports on both ends of the connection. If the customer is connecting to another ecosystem member, then a [Letter of Authority/Customer Facility Assignment](#) is required to notate the Ecosystem Connect rack, panel and port assignments for the Z-End (far side) connecting party. For customers connecting between their own environments, the customer should indicate the Ecosystem Connect assignments (rack, panel, ports and any other assignments) to be used on both ends of the connection. The Metro Connect Dedicated service includes the applicable cross connects from Ecosystem Connect to the Metro Connect network.

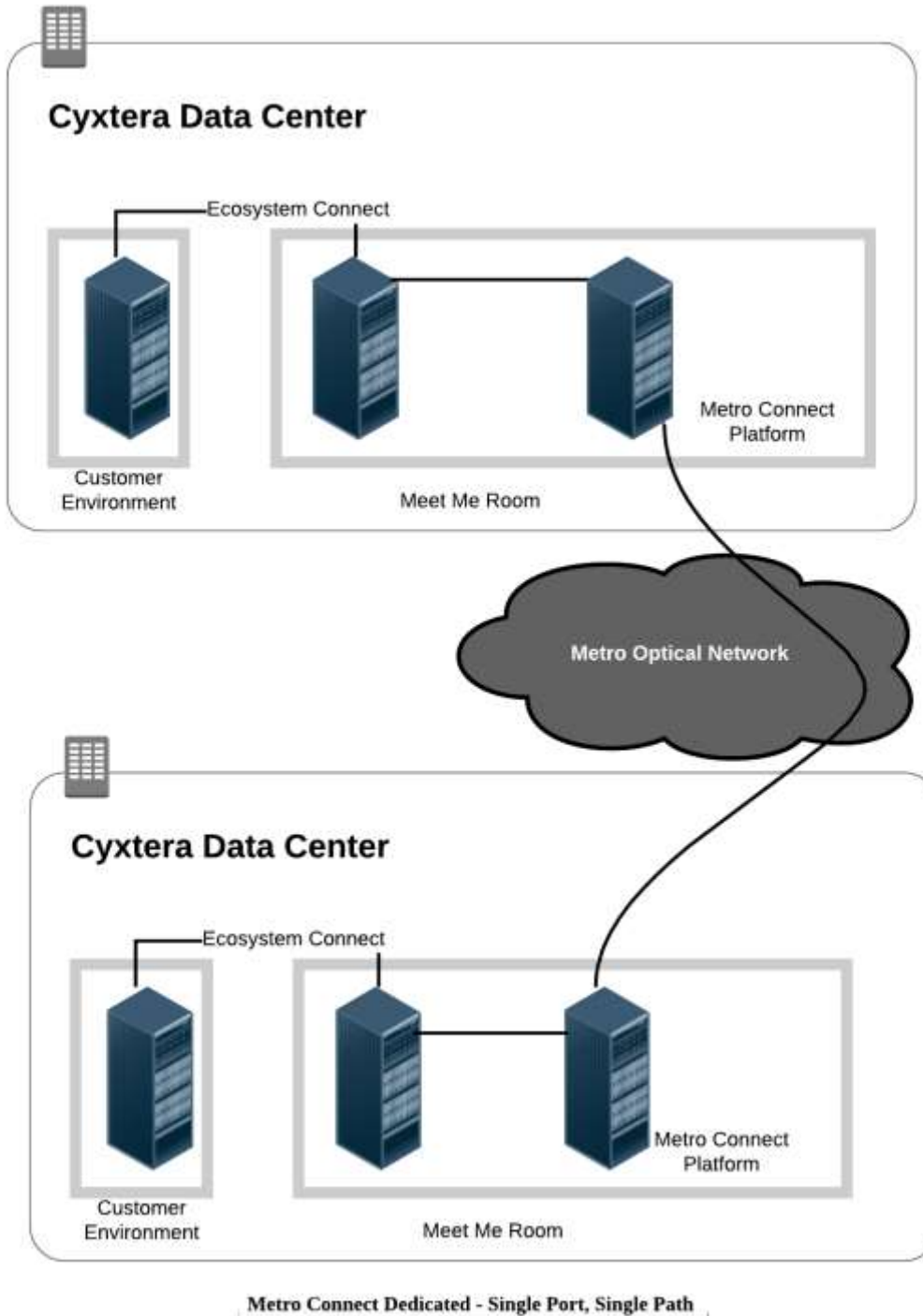
Metro Connect Dedicated utilizes single mode fiber with LC connectors for handoff between the Metro Connect network and the customer's Ecosystem Connect panel.

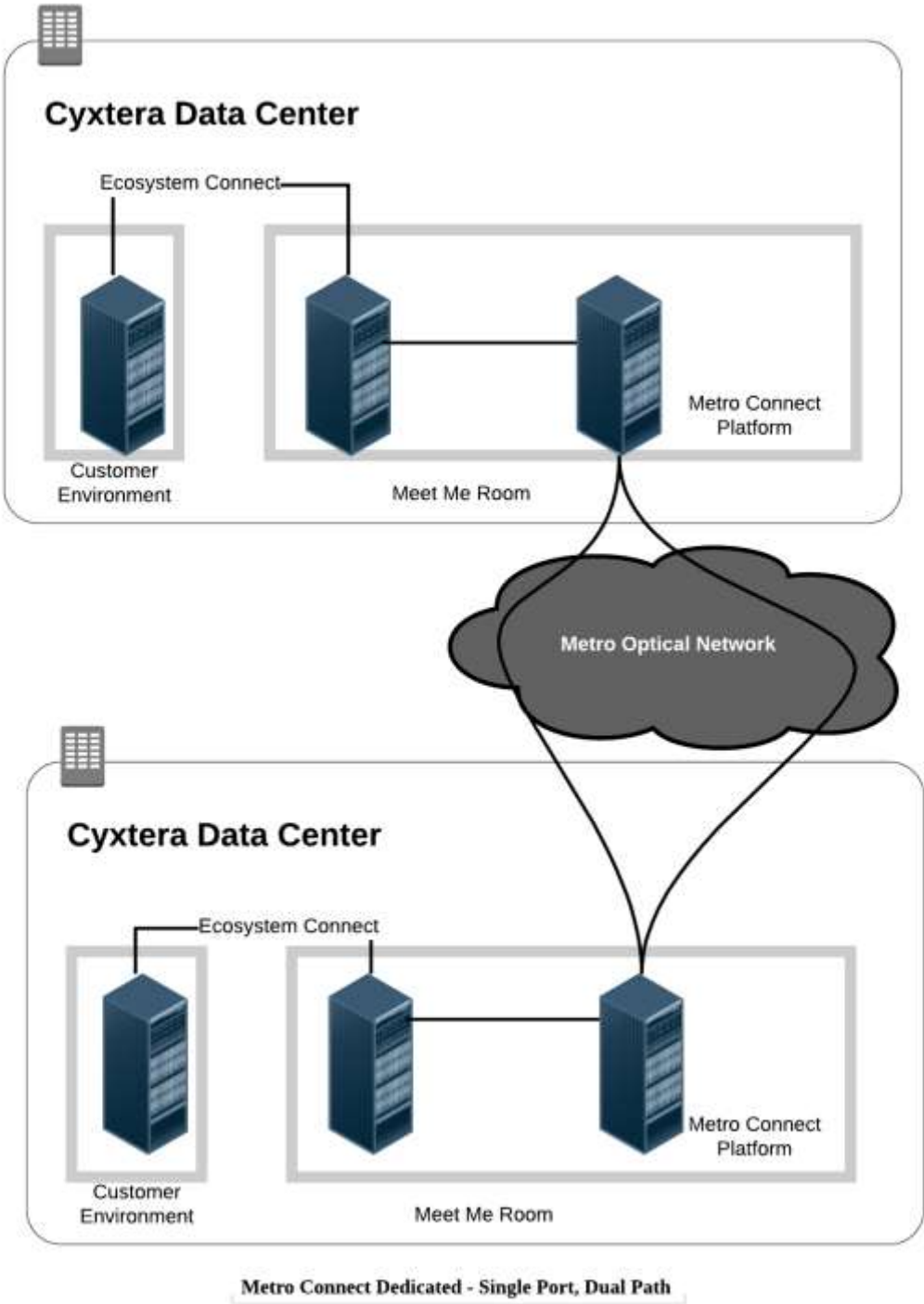
2.1.3 Diversity Options

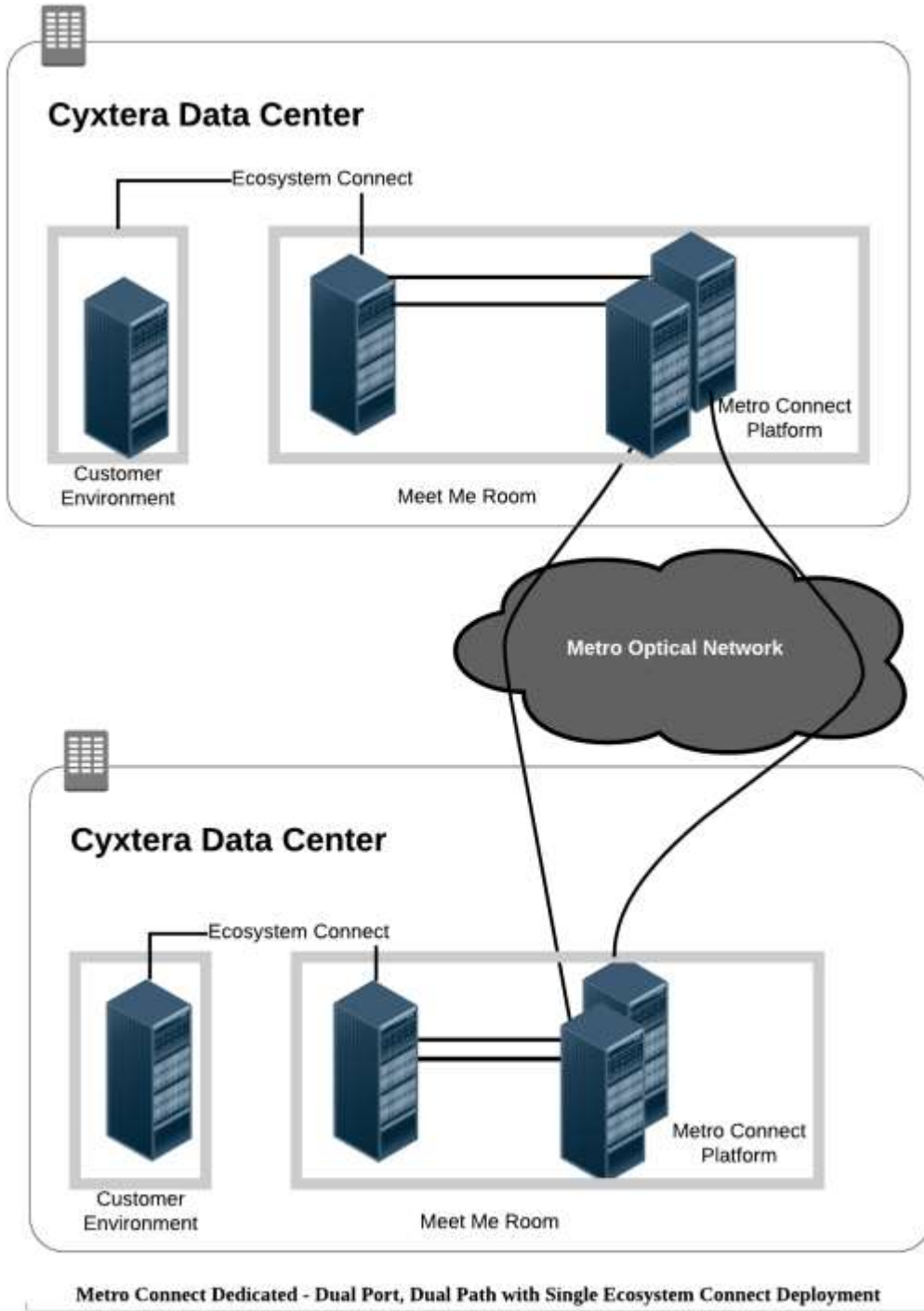
Diversity options for Metro Connect Dedicated are as follows:

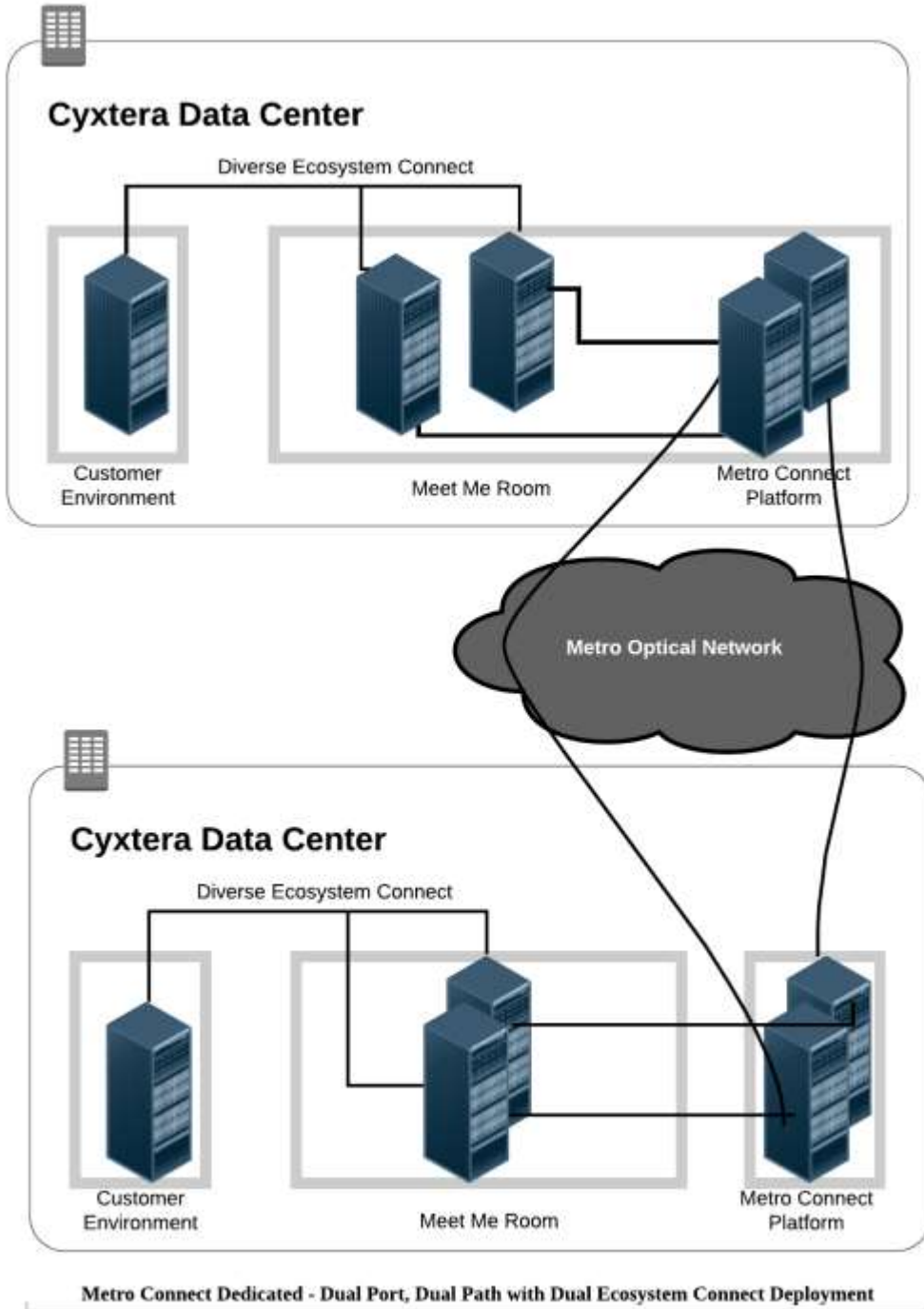
- **Metro Connect Dedicated – single port and dual path:** Cyxtera will design the connection over two separate paths and failover will be implemented via an Automatic Protection Switch ("APS") in the event of a service disruption on either one of the paths.
- **Metro Connect Dedicated – dual port and dual path:** Cyxtera implements two separate Metro Connect Dedicated single threaded instances using separate port and paths. The customer would be responsible to manage the failover in the event of a service disruption on either instance.

2.1.4 Service Diagram(s)









2.2 CXD Metro Connect Switched

Cyxtera offers CXD Metro Connect Switched service to customers who have established access to CXD. There are two methods for establishing connectivity to CXD in order to access the CXD Metro Connect Switched service:

- **CXD Port:** Cyxtera colocation customers access services on CXD, such as CXD Metro Connect Switched, by first ordering a CXD Port giving access to the CXD network platform. 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 Node:** [CXD Compute Node](#) customers can access the CXD Metro Connect Switched service by creating a VLAN to an instance of CXD Metro Connect across the CXD platform established upon the provisioning of CXD Compute Nodes.

Once CXD access is established, customers can order CXD Metro Connect Switched to connect to their own locations or to connect to another CXD ecosystem member. For some customer connections, customers may connect two or more points in a metro region provided the customer has prior access established to CXD in all locations being connected.

2.2.1 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 Metro Connect Switched service. The CIR Tier selected sets the Mbps rate for the bandwidth utilized with Service. Available rate tiers include:

- 50Mbps
- 100Mbps
- 300Mbps
- 500Mbps
- 1000Mbps
- 10000Mbps

Once a CIR is selected, the customer can choose for the service to be Fixed or Burstable. Burstable capabilities are not available for CXD Metro Connect Switched services delivered over a copper CXD port.

- **Fixed:** The CXD Metro Connect Switched 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 Metro Connect Switched service will be able to burst up to the full port speed of the smallest port associated with the connection. Cyxtera does not offer speeds in excess of 10000Mbps. 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.

2.2.2 Burstable Bandwidth Overage Calculation

Customers who select burstable bandwidth in association with their 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 51.3Mbps the value considered is 52Mbps. 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	250 Mbps	130 Mbps
99	140 Mbps	110 Mbps
98	130 Mbps	90 Mbps
97	110 Mbps	70 Mbps
96	80 Mbps	50 Mbps
95	60 Mbps	40 Mbps
94	50 Mbps	30 Mbps
93	40 Mbps	10 Mbps
92	20 Mbps	9 Mbps
91	10 Mbps	9 Mbps

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

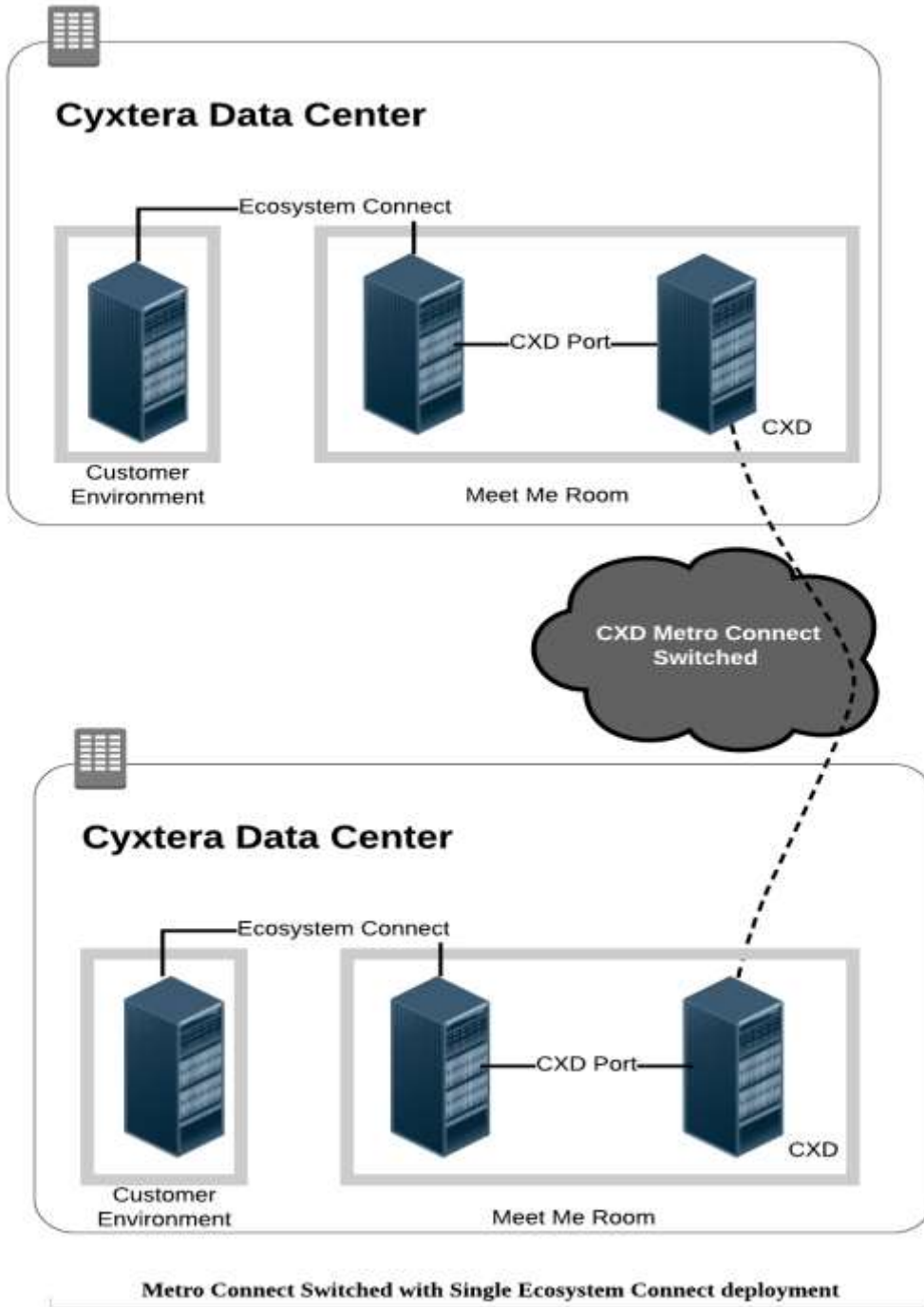
Overage charges are billed in arrears on the customer's monthly invoice noting the specific overage and dollar amount owed.

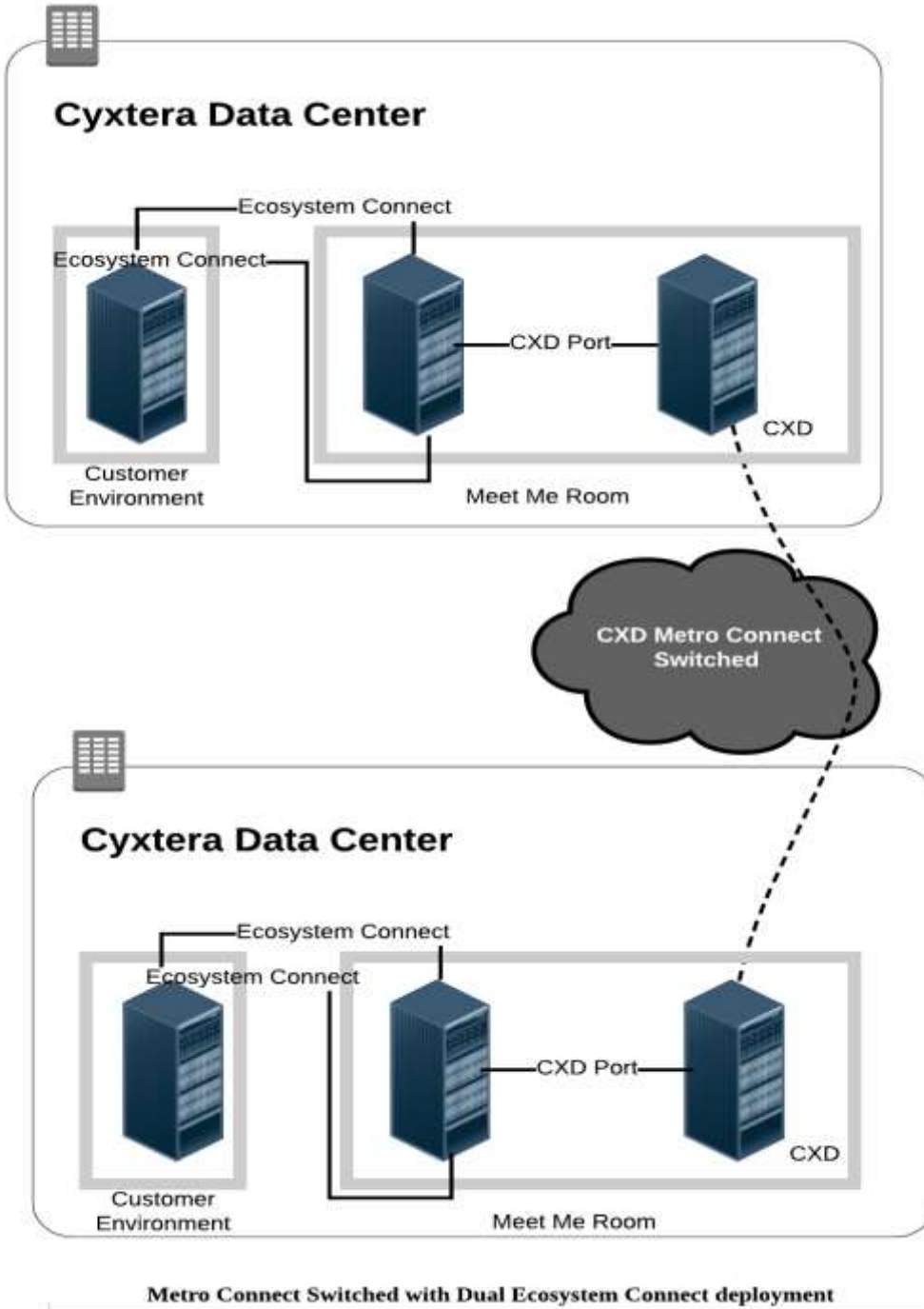
2.2.3 Diversity Options

CXD Metro Connect Switched 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.

The customer is able to order multiple instances of these CXD Metro Connect Switched, however Cyxtera views each order as a stand-alone instance and bandwidth cannot be aggregated or divided between orders.

2.2.4 Service Diagram(s)





2.3 Encryption Standards

The Cyxtera Metro Connect platform leverages wire-speed OTN encryption per the FIPS 140-2 encryption standard.

2.4 Latency Standards

Metro Connect services utilize a circuit switched Optical Transport Network (OTN) that traverses a diverse Dense Wave Division Multiplexed (DWDM) optical network to provide ultra low latency links within each Metro Area Network.

3 Service Delivery and Support

The following outlines Cyxtera's roles and responsibilities in the service delivery of Metro 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 access to administrative users using default administrator privileges and system preferences.
- If not previously completed, granting CXD Command Center and API access to administrative users using default administrator privileges and system preferences (CXD Metro Connect Switched only).
- Initial configuration of the applicable Metro Connect service.

Customer is responsible for the following provisioning activities:

- Providing the Ecosystem Connect port assignments and LOA/CFA (if required) (Metro Connect Dedicated only).
- Implementation and management of failover processes and/or systems (Metro Connect Dedicated dual port/dual path only).
- Management of networks (VLANs) within the CXD Command Center or API (CXD Metro Connect Switched only).

3.2 Support

Cyxtera employs skilled on-site technicians in each of its data centers. If the customer requires support with their Metro Connect service, they can 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 Metro Connect services, 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 associated Metro Connect service. In the event of a service failure, please refer to your Colocation Service Level Agreement (Metro Connect Dedicated) or CXD Service Level Agreement (CXD Metro Connect Switched) 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

4.1.1 Metro Connect Dedicated

Metro Connect Dedicated is ordered through a Cyxtera Account Representative who will provide the customer a sales order for execution.

4.1.1.1 Letter of Authority / Customer Facility Assignment (LOA/CFA)

A Letter of Authority / Customer Facility Assignment (LOA/CFA) is required to be uploaded with Metro Connect Dedicated order that is terminating to a non-ordering customer's panel. The LOA/CFA provides Cyxtera the authorization to terminate the cross connect on the non-ordering customer's panel within the Meet Me Room or 3rd party location. It is the responsibility of the ordering party to obtain the LOA/CFA for the order and include in it the Ecosystem Connect port of the non-ordering party.

4.1.2 CXD Metro Connect Switched

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

For CXD Compute Node customers, access to the CXD platform is included with the Compute Node service enabling immediate access to Metro Connect Switched. 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 Metro Connect Service before installation of such Service or (b) a previously installed Metro Connect Service, they will need to submit a disconnect order and a new order to implement the change, and additional charges may apply. Hot Cuts and/or Parallel Cuts are not supported for Metro Connect.

Specifically for CXD Metro Connect Switched, the customer is able to manage routing and network (VLAN) configurations within the CXD Command Center or API in real-time. Changes to the bandwidth tier may be made via the CXD Command Center or API at any time, however, will take effect on the first day of the month following the requested change.

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 Metro Connect Dedicated or CXD Metro Connect Switched.

5 Service Level Objective (Install)

Cyxtera offers an installation Service Level Objective for Metro Connect. A Service Level Objective ("SLO") is a metric which Cyxtera makes all reasonable efforts to achieve during standard business operations.

- For Metro Connect Dedicated, Cyxtera will make all commercially reasonable efforts to complete installation and testing within 10 business days of an accepted sales order for 10Gbps connections and 60 business days of an accepted sales order for 100Gbps connections.
- For Metro Connect Switched orders placed via the CXD Command Center, services 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 Metro Connect Dedicated and CXD Metro Connect Switched. For more information regarding the service levels offered for your Metro Connect Dedicated Service and rights and remedies offered in conjunction therewith, please refer to your Colocation Service Level Agreement (Metro Connect Dedicated). For more information regarding the service levels offered for

your Metro Connect Switched Service and rights and remedies offered in conjunction therewith, please refer to your CXD Service Level Agreement (CXD Metro Connect Switched).

7 Contract Terms

The following outlines the contract terms associated with each Metro Connect service:

- **Metro Connect Dedicated:** A Metro Connect Dedicated incurs a non-recurring charge to cover the materials and labor associated with installation as well as the monthly recurring charges in connection with the provision of such Metro Connect Dedicated service. Unless otherwise agreed in the service order for the Metro Connect Dedicated Service, Metro Connect Dedicated requires a minimum 12-month term.

If the customer disconnects the Metro Connect Dedicated service prior to the end of their then-current term for such service, early termination fees will apply as outlined in the Service Agreement.

- **CXD Metro Connect Switched:** A CXD Metro Connect Switched incurs monthly recurring charges in connection with the provision of such CXD Metro Connect Switched.

CXD Metro Connect Switched 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 Metro Connect Switched.

Customers who select the Burstable bandwidth option with the CXD Metro Connect Switched 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.

All use of the Metro 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.

8 Appendix

Included below are links to additional documentation that are related to Metro 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](#)