DE-CIX DIRECTCLOUD TECHNICAL SERVICE DESCRIPTION

I.   GENERAL PROVISIONS

1.   Overview, scope of application

This document contains the Technical Service Description (TSD) for the DirectCLOUD product. This TSD is part of the DE-CIX contractual framework.

This TSD shall apply only to the DirectCLOUD product. The DirectCLOUD product may, however, be a prerequisite for other DE-CIX services. This document contains only technical specifications and documentation. Please consult the DirectCLOUD Special Service Level Agreement (Special SLA) for service levels.

2.   Amendment

This document may be revised and amended at any time pursuant to the provisions of the DE-CIX Agreement.

3.   Product prerequisites

The DirectCLOUD Product requires one of the following DE-CIX products for its normal operation:

- DE-CIX Access (see Master SLA and DE-CIX Technical Access Description (TAD)) at any data center location that allows a local or remote[1] connection to the respective DirectCLOUD region.
- DE-CIX CloudROUTER (see Special SLA and Technical Service Description (TSD)) at any DE-CIX location (metro region) that allows a local or remote connection to the respective DirectCLOUD region.

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[1]   Most DE-CIX locations are interconnected. At those locations customers can book the access to the DirectCLOUD region at the remote location as an additional service, e.g. customers of DE-CIX New York region can order the access to the DE-CIX DirectCLOUD Frankfurt region.

4. Applicable standards

Customer's use of the DE-CIX network shall at all times conform to the relevant standards as laid out in STD0001 and associated Internet STD documents.

II. DATA LINK-LAYER CONFIGURATION (ISO/OSI LAYER 2)

1. Bandwidth

Bandwidth of the DirectCLOUD product must be explicitly configured if the agreed bandwidth for DirectCLOUD differs from the bandwidth of the access, bundle of aggregated access, or CloudROUTER, on which the DirectCLOUD product is used.

2. Frame Size

The maximum Frame Size is set to 9,000 Bytes.

3. Protocol Transparency

The DirectCLOUD service is transparent to Layer 2 Ethernet and Layer 3 protocols.

Group	Parameter	Transparent
General	802.1Q VLAN Transparency	optional
	802.1ad QinQ Vlan Transparency	optional
IEEE L2CPs	Spanning Tree Protocol (STP, RSTP, PVST, MST)	Yes
	Flow-Control - PAUSE (802.3x)	No
	Link Aggregation Protocol (LACP)	No
	Port Authentication Protocol (802.1X)	No
	Link Layer Discover Protocol (LLDP)	No
Cisco Protocols	Cisco Port Aggregation Protocol (PAgP)	Yes
	Cisco Discovery Protocol (CDP)	Yes
	Cisco Uni Directional Link Detection (UDLD)	Yes
	Cisco VLAN Trunking Protocol (VTP)	Yes
	Cisco Dynamic Trunking Protocol (DTP)	Yes
	Cisco Interswitch Link (ISL)	Yes
Other Protocols	Transparent for 802.2 LLC/SNAP (0x0600)	No
	IPv4 (0x0800)	Yes
	Address Resolution Protocol ARP (0x0806)	Yes

	Reverse Address Resolution Protocol RARP (0x8035)	Yes
	AppleTalk (0x809b)	Yes
	AppleTalk Address Resolution Protocol (0x80f3)	Yes
	IEEE 802.1Q-tagged frame (0x8100)	Yes
	Novell IPX (0x8137)	Yes
	Novell (0x8138)	Yes
	IPv6 (0x86DD)	Yes
	PPPoE Discover Stage (0x8863)	Yes
	PPPoE Session Stage (0x8864)	Yes
	EAP over LAN (0x888E)	No
	MAC security (0x88E5)	No
	MPLS	Yes