



Service description

Data Center Interconnect

Version

1.0

Date

30.04.2021

Authors

Green Product Management

Contents

1.	Service versions	3
1.1	DC DC Connect and Optical DCI Services	3
1.1.1	Service access point	3
1.1.2	Responsibilities.....	4
1.1.3	DC DC Connect service parameters.....	4
1.1.4	Optical DCI Services service parameters.....	5
1.2	Dark fiber.....	5
1.2.1	Service access point.....	5
1.2.2	Responsibilities.....	6
1.2.3	Dark fiber service parameters	6
2.	Service level agreement.....	7
2.1	Operating and support hours.....	7
2.2	Violations of the SLA and credit rules	7
3.	Legal provisions	9
3.1	Establishment of the legal relationship.....	9
3.2	Compliance with local legislation	9
3.3	Restrictions.....	9
3.4	Use of personal data	9
3.5	GCBs.....	9
4.	Definitions.....	10

1. Service versions

Green can provide data center connectivity as a managed service. Alternatively, Customers can use and monitor their own customer equipment (CE). In this case, Green provides the dark fiber only.

1.1 DC DC Connect and Optical DCI Services

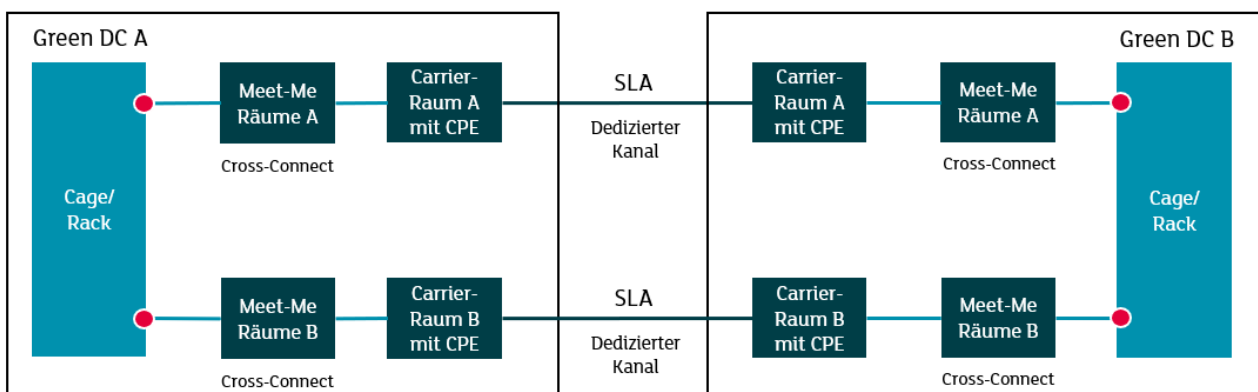
Two different versions with different service parameters are available as a managed service. The **DC DC Connect** service enables bandwidths of max. 1 Gbit/s. The **Optical DCI Services** service allows bandwidths up to 100 Gbit/s. The information below refers to both service versions unless stated otherwise.

1.1.1 Service access point

The service access point can be found in the Customer's cage or rack. An SLA is defined on the connection, which runs via a dedicated channel.



The Optical DCI Services and DC DC Connect service can also have a redundant setup according to the diagram below.



1.1.2 Responsibilities

Service provision

- Precabbling not available yet: Green will install precabbling between the Customer's cage/rack and meet-me room as ordered and at the Customer's expense. The Customer reports what ports in the rack/cage can be used on side A and side B. The Customer will be charged the one-time installation costs separately. Green then configures the cross-connect in the meet-me room and sets up the service.
- Precabbling already available: When placing the order, the Customer notifies Green what ports can be used in the meet-me room on side A and side B. Green configures the cross-connect in the meet-me room within a reasonable period of time (five working days) and the service is set up.

Service operations

- Green proactively monitors the service 24/7 according to the SLA service parameters.
- Green will provide the Customer with support services for troubleshooting purposes.
- If a fault is noticed, the Customer must report it to Green using the channels mentioned in Section 3. If troubleshooting is required, the Customer must get involved actively in the error analysis process as far as possible. The Customer is responsible for notifying users about faults.

1.1.3 DC DC Connect service parameters

The service is offered through Green's redundant MPLS backbone. The following service parameters apply.

Service parameters	Values
Bandwidth	Max. 1 Gbit/s
Supported protocols	Ethernet
Supported MAC addresses	Max. 4,000
Supported VLANs per port	Max. 4,094
Frame size	Jumbo frame (MTU 9000)
Redundancy	In the backbone only
Availability (without redundancy)	99.9%
Availability (with redundancy)	99.99%
Encryption	Possible with additional CE in the Customer's cage or rack
Monitoring	Proactive monitoring on the MPLS backbone

1.1.4 Optical DCI Services service parameters

Optical DCI Services are an alternative to DC DC Connect and enable higher bandwidths up to 100 Gbit/s by using wavelength division multiplexing (WDM) technology. The following service parameters apply.

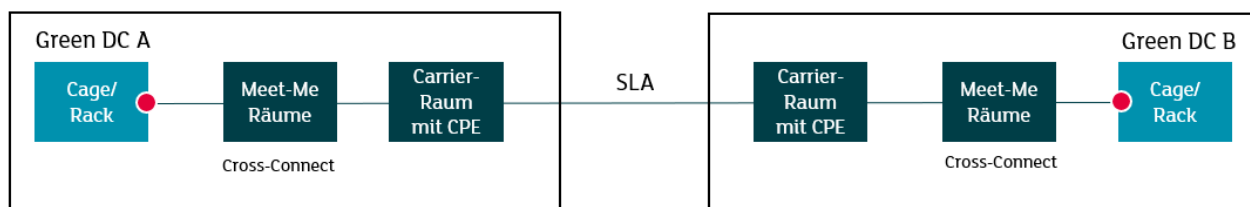
Service parameters	Values
Bandwidth	1, 10, 100 Gbit/s (Ethernet) 2, 4, 8, 16, 32 Gbit/s (Fiber Channel)
Supported protocols	Ethernet, Fiber Channel
Redundancy	Possible using separate paths (the Customer must switch to the second path on the CE if an error occurs)
Availability (without redundancy)	99.9%
Availability (with redundancy)	99.99%
Encryption	Link encryption on the central CPE or Possible with additional CE in the Customer's cage or rack
Monitoring	Proactive monitoring of the WDM infrastructure

1.2 Dark fiber

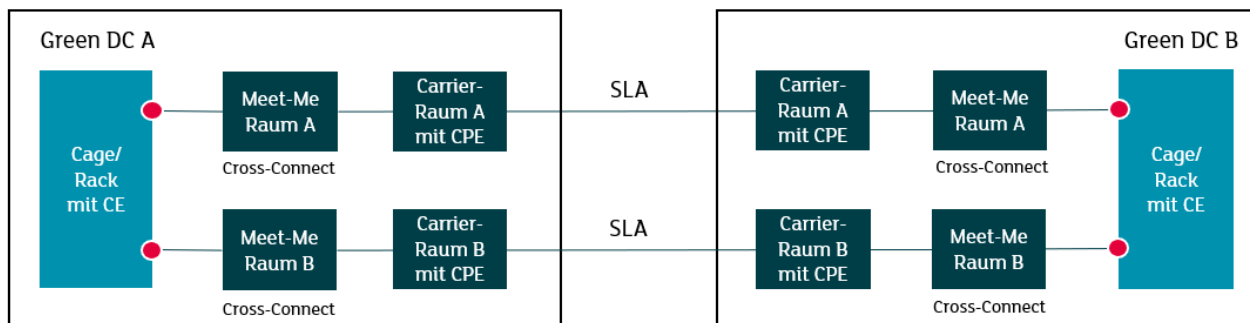
If Customers would like to use their own equipment and monitor it themselves, Green provides the connectivity using dark fiber. The Customer installs and is fully responsible for its own CE in the rack or cage. The service is also available between Customer sites and a Green DC.

1.2.1 Service access point

The service access point can be found in the Customer's rack or cage. However, Green's SLA only refers to the availability in the event that the Customer notices and reports a malfunction. Dark fiber is provided in the meet-me room via cross-connect as standard. A direct connection into the cage is available on request for an additional charge.



The service can also be set up redundantly as an option, with separate routing in each case.



1.2.2 Responsibilities

Service provision

- Precabling not available yet: Green installs the precabling according to the Customer's specifications within a reasonable period of time. The Customer reports what ports in the rack/cage can be used on side A and side B. The Customer will be charged the one-time installation costs separately. Green then configures the cross-connect in the meet-me room and sets up the service.
- Precabling already available: When placing the order, the Customer notifies Green what ports can be used in the meet-me room on side A and side B. Green configures the cross-connect in the meet-me room within a reasonable period of time (five working days) and the service is set up.

Service operations

- Green will provide the Customer with support services for troubleshooting purposes.
- The Customer is the only one who can detect a fault. The Customer reports the fault to Green using the channels mentioned in Section 3. If troubleshooting is required, the Customer must get involved actively in the error analysis process as far as possible. The Customer is responsible for notifying users about faults.

1.2.3 Dark fiber service parameters

Dark fiber can be used if the Customer would like to use and monitor its own equipment. The following service parameters apply.

Service parameters	Values
Redundancy	Possible using separate routes
Cable standard	According to the G.652 ITU-T standard
Availability (without redundancy)	99.9%
Availability (with redundancy)	99.99%

2. Service level agreement

Service availability is defined for each individual service and can be found in the relevant table. All services described in this document are run by the Green NOC and supported by Green's customer service team.

2.1 Operating and support hours

The operating and support hours, plus the fault acceptance times, are defined in the table below.

Service level and target values	Standard support	Business support (24/7)
Operating hours	Monday to Sunday from 12 am to 11:59 pm	Monday to Sunday from 12 am to 11:59 pm
Maintenance window	Sunday from 2 am to 6 am or subject to prior notice	Sunday from 2 am to 6 am or subject to prior notice
Support hours	Monday to Friday from 8 am to 5:30 pm except on legal holidays	Monday to Sunday from 12 am to 11:59 pm
Troubleshooting	Monday to Sunday from 12 am to 11:59 pm	Monday to Sunday from 12 am to 11:59 pm

Support tickets can be opened through the following channels:

- On the MyGreen portal: my.greendatacenter.ch
- By calling +41 44 330 35 35 during customer support hours
- Using the form on the website: <https://www.green.ch/en/contact-form>

2.2 Violations of the SLA and credit rules

If Green is unable to meet the defined availability, the Customer acknowledges and agrees that the credits agreed to herein shall be the Customer's sole and exclusive compensation. A credit is granted as soon as the service availability drops below the guaranteed thresholds and the Customer reports this in a support ticket. Failure of any part of a redundant system is not considered downtime. Only a correctly opened ticket can be used to calculate downtime and credits.

The table below shows the credits (per year) as a percentage of the monthly recurring charge (MRC) base. These credits and compensations are intended to be conclusive. Additional compensation or different types of compensation are excluded. No credit or payment shall be made for any reason or to any extent other than that set out herein, including (but not limited to) loss of business on the Customer's part due to downtime. The credit relates exclusively to the service affected by the fault.

Availability achieved without redundancy	Availability achieved with redundancy	Credit
≥ 99.9%	≥ 99.99%	No credit
≥ 99.8%	≥ 99.95%	10% of the MRC
≥ 99.7%	≥ 99.9%	20% of the MRC
≥ 99.5%	≥ 99.8%	30% of the MRC
Less than 99.5%	Less than 99.8%	40% of the MRC

The Customer must assert its claims with Green by submitting a request at <https://www.green.ch/en/contact>.

The Customer shall not receive any SLA credits if the service downtime or interruption is caused in whole or in part by any of the following:

- 1) Failure of equipment on the Customer's site (if it is not owned by Green), the Customer's site (e.g. due to a power failure), or equipment belonging to one of the Customer's suppliers
- 2) Natural disasters, terrorist attacks, or other force majeure events
- 3) Failure due to magnetic/electromagnetic interference or electric fields
- 4) Any negligent act or omission on the part of the Customer (or any of the Customer's employees, representatives or subcontractors), including (but not limited to):
 - a) Delays in the Customer delivering necessary equipment
 - b) Failure to provide Green with sufficient access to the equipment for testing purposes
 - c) Failure to grant access to the Customer's premises to enable Green to fulfill its obligations with respect to the service
 - d) Failure to take appropriate countermeasures with respect to the service as recommended by Green, or failure of the Provider to take such countermeasures itself
 - e) Failure to use redundancies as required by the service level
 - f) Customer negligence or willful misconduct, including failure by the Customer to follow agreed procedures
- 5) The Customer preventing or delaying access to the cage
- 6) All scheduled maintenance periods, when the Customer is informed of them, and emergency maintenance designed to prevent future downtime
- 7) Disconnection or suspension of the service by Green following Customer default within 90 days of the billing date, or for other sufficient grounds.

3. Legal provisions

3.1 Establishment of the legal relationship

A legal relationship is established between Green and the Customer when the purchase order is completed (when a signed quote is received). The SLA parameters are measured starting from the confirmed service handover.

3.2 Compliance with local legislation

The Customer ensures that no illegal data traffic is sent over Green connections. Green accepts no liability for the same.

3.3 Restrictions

All compensation for Green services is limited to the amount specified in this document. No credit or payment shall be made for any reason or to any extent other than that set out herein, including (but not limited to) loss of business on the Customer's part due to downtime.

3.4 Use of personal data

The Customer expressly accepts Green's personal data privacy policy. See: <https://www.green.ch/en/legal-aspects/data-privacy>.

3.5 GCBs

The Provider's General Conditions of Business (General Conditions of Business of Green <https://www.green.ch/en/legal-aspects/contract-terms>) form an integral part of the agreement with the Customer. The Customer's General Conditions of Business shall not apply. Any provisions to the contrary in the Customer's documents shall not apply. Any termination, modification or amendment of the service agreement and the service contracts must be made in writing. Should individual provisions set out in this service agreement or the service contracts, or other annexes to the agreement with the Customer, prove to be legally invalid or unenforceable, the invalid or unenforceable provision shall be replaced by a valid or enforceable one that reflects as closely as possible the Parties' intention at the time when the provision in question was agreed on and that corresponds to the common goals listed in the preamble to this service agreement. The newly selected provision must in no way impair the relationship between the Provider's and the Customer's service.

4. Definitions

Term	Definition
Service level	Defined and measurable criteria for Green's provision of a certain quality of service
Service parameters	Desired but not mandatory service metrics
Operating hours	The operating hours are the times during which the system is generally available. Scheduled and announced maintenance windows do not form part of the operating hours. The operating hours are min. 8,712 hours and are calculated as follows: 24/7 for one year = 8,760 h – 48 h maintenance window. If there is redundant architecture, the two redundant devices/facilities are maintained at different times
Support hours	The hours during which the Customer can reach a customer service representative or, if the Customer receives 24/7 support, a technician on standby.
Availability	Availability [%] = $100 * ((\text{operating hours} - \text{scheduled downtime within operating hours}) / \text{agreed operating hours})$. The agreed operating hours do not include time slots for scheduled maintenance windows. Green guarantees the availability on the data center infrastructure. This includes the following levels: the building with supply infrastructure and network. The solutions on the end customer's side must also feature a high-availability design to achieve the high availability on the connection.
Maintenance window	For the purposes of this SLA, scheduled maintenance is required to provide the services or upgrade the infrastructure. Scheduled maintenance windows are defined in advance and announced on status.green.ch if multiple customers are affected. The Customers shall also be informed at least 10 working days before the scheduled service interruption caused by the maintenance work. Green shall inform the technical contact that the Customer appointed in writing of the scheduled service interruption and the nature of the same by email. This notification shall be valid for all purposes pursued by this document, regardless of the fact that the Customer and/or its representatives were unable to receive this notification for any reason, including email system problems or failures, the Customer providing incorrect contact details or any other reason.
Emergency maintenance window	Emergency maintenance windows are announced at least 48 hours in advance and posted on status.green.ch if multiple customers are affected.
Service access point	The service access point is the contractually agreed point at which a service is provided to the Customer and monitored, and at which the provided service levels are reported.