



Product Description for open eir¹ Physical Co-location

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Version Control

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This document follows change control procedure:

Proposed is defined as a document status when the approved document is uploaded to Proposals Section of open eir Website.

Final is defined as a document status when the approved document is uploaded to the relevant section of the open eir Website following the publication period.

For information:

- Historical Document History Table located at end of Document.
- Publish means the action of uploading a document to the website regardless of status or location.
- **If there are changes to the document between ‘Proposed’ and ‘Final’, change control operates.**

 Table of Contents

1.	INTRODUCTION	4
2.	PRODUCT DESCRIPTION	4
2.1	PRODUCT ELEMENTS	5
2.1.1	<i>Access to the Operator's network</i>	5
2.1.2	<i>MDF Room</i>	6
2.1.3	<i>Exchange Floor Cable Runways</i>	6
2.1.4	<i>Equipment Footprint</i>	6
2.1.5	<i>Aisle Space</i>	6
2.1.6	<i>D.C. Power</i>	7
2.1.7	<i>AC Power</i>	7
2.1.8	<i>Lighting</i>	7
2.1.9	<i>Rack Fixing</i>	7
2.1.10	<i>Installation of Operator equipment and associated cabling</i>	7
2.1.11	<i>Welfare Facilities</i>	8
2.1.12	<i>Air Conditioning</i>	8
2.1.13	<i>Security</i>	8
2.1.14	<i>Health and Safety</i>	8
2.1.15	<i>Earthing</i>	8
2.1.16	<i>Floor Loading</i>	8
2.1.17	<i>Environmental Conditions</i>	8
2.1.18	<i>Telephone Service</i>	9
2.1.19	<i>Fire and Smoke Detection Systems</i>	9
2.1.20	<i>Heat Dissipation</i>	9
3.	PRODUCT AVAILABILITY	9
4.	SERVICE RESPONSIBILITIES.....	9
5.	SERVICES MANAGEMENT	10
5.1.1	<i>Ordering</i>	10
5.1.2	<i>Service Provisioning</i>	10
5.1.3	<i>Network Operation and Maintenance</i>	10
5.1.4	<i>Fault Repair</i>	10
5.1.5	<i>Service Levels</i>	10
	VERSION CONTROL HISTORY	11

1. Introduction

This document defines the industry agreed Product Description to support “Physical Co-location” (“CoLo”).

The process and technical details supporting the implementation of the service are outlined in the Inter Operator Process Manual and Technical Manual for Physical Co-location.

All equipment and plant deployed as part of the implementation of the service shall comply with the relevant national and international standards, as appropriate. All installation procedures must conform to standard industry practice.

The various product elements and their relationships are diagrammatically represented in the Technical Manual for Physical Co-location.

Physical Co-location was developed to support LLU services from an open eir exchange building.

This was extended to also support taking the open eir NGA VUA (Virtual Unbundled Access) service from an ‘NGA exchange’, i.e. an open eir exchange which has an NGA Aggregation Node installed (see the relevant NGA/WBARO product documentation). This latter product variant is referred to in these product documents as ‘CoLo for VUA’.

This product is now further extended to also support an Operator taking either open eir Interconnect products with an IBH variant (‘Co-Location for Interconnect Services’ - see the relevant leased line product documentation - referred to in these product documents as ‘CoLo for IBH’), or an Operator taking the open eir Duct / Pole Access Civil Engineering Infrastructure products (‘CEI Co-Location’ - see the relevant duct/pole product documentation - referred to in these product documents as ‘CoLo for CEI’).

The product documentation and ARO/LLRO Service Schedule and Licence Agreement for Physical Co-Location (for LLU) also covers ‘CoLo for VUA’, ‘CoLo for IBH’ and ‘CoLo for CEI’ product variants. A Licence Agreement or a ‘Master Licence Agreement’ (MLA) for Physical Co-location will be required. The price list for CoLo for all product variants is included in the ARO CoLo price list.

2. Product Description

For Physical Co-location, open eir will provide a Serviced Exchange Footprint(s) where available.

Footprints will be provided in Co-location suites in preference to mixed suites where possible.

The Operator will choose the equipment, supply, install, operate and maintain it within the Serviced Exchange Footprint.

The Operator’s equipment will connect to the customer’s two wire metallic path, via open eir’s MDF room and the Operator’s tie cable(s) – CoLo for LLU only.

The Operator will connect their equipment, installed in open eir’s Serviced Exchange Footprint(s) to an Operator’s Distribution Frame also located within the Serviced Exchange Footprint within open eir’s premises. The details and method of connection will be determined within the Process and Technical Manuals for Physical Co-location.

An Operator may request a ‘Co-Location Rack Interconnection’ – referred to in these product documents as “CoLo Rack Interconnect Tie Cable”. This allows an Operator to have their licenced Serviced Exchange Footprint connected to a Serviced Exchange Footprint licenced to a different Operator. The connection fibre cable will be provided, installed and maintained by open eir, will be managed via a central tie cable

.....management point, and will be terminated on a patch panel (connector types to be requested) provided by the Operator in their rack. A quote for this tie cable will be prepared before work commences.

An Operator may opt to use ‘CoLocation Resource Sharing – Backhaul’, whereby a licenced Operator can arrange to ‘share’ only their backhaul with another CoLo licenced Operator. To avail of Resource Sharing-Backhaul an Operator must apply for a “CoLocation Rack Interconnect Tie Cable” between the two footprints. When availing of Co-Location Resource Sharing - Backhaul, the second Operator cannot install equipment in the Serviced Exchange Footprint licenced to the first Operator. The first Operator should advise open eir if this is being planned.

In addition, an Operator may now opt to use ‘CoLocation Resource Sharing – Serviced Footprint’, whereby an Operator can arrange to ‘share’ their licensed serviced footprint with another Operator.

The second Operator does not need to have a licenced serviced footprint (but must have signed a Reference Offer to consume one or more of the product/services associated with this Co-Location product), instead their equipment would be installed in the licenced service footprint of the first Operator. The first Operator will assume all responsibilities and liabilities (incl. product/ process/ operational/ accreditation/ access/ equipment approval, etc.) on behalf of the second Operator and their equipment in the open eir exchange building.

The rack of the first Operator may require either an AC or DC power meter to be fitted, depending on the power that open eir is supplying to the footprint, if one is not already present.

Note: The second Operator must obtain their AC/DC power from the first Operator. open eir has no responsibility to provide AC/DC power to the second Operator; this remains with the responsibility of the first Operator.

The revised Physical Co-Location Service Schedule must be signed by the first Operator.

A new ‘CoLo Resource Sharing (Serviced Footprint) Deed Of Variation’ to the Licence/MLA of the first Operator is required to reflect and record the presence of the second Operator.

The first Operator should advise open eir if this is being planned.

The following open eir wholesale backhaul options are available into licensed CoLo footprints.

- Service Schedule O13 Wholesale Ethernet Interconnect Links: Section C In-Building Handover (IBH) Wholesale Interconnect Link
- Service Schedule O14 Wholesale Symmetrical Ethernet Access In Building Handoff (IBH)
- Service Schedule O15 Wholesale LLU Backhaul Service

For further details refer to open eir wholesale Leased Line Reference Offer (LLRO) and Product documentation on <http://www.openeir.ie/Products/>

Note that where an Operator has taken the open eir Duct Access product and has achieved ‘UUB box/chamber access accreditation’ then that Operator may request a ‘CEI Tie Connection Service’, referred to in these product documents as “CoLo CEI Backhaul Connection” to connect from their serviced footprint to a suitable open eir Underground Utility Box (UUB).

An Operator may request open eir to provide AC power or to provide DC power.

2.1 Product Elements.

2.1.1 Access to the Operator’s network

To ensure that an Operator’s equipment, located in open eir’s Serviced Exchange Footprint, can be connected to the Operator’s network, the following is proposed:

- open eir will nominate and agree a manhole with the Operator close to the open eir exchange and where possible open eir will nominate and agree two manholes on either side of the exchange to facilitate Operator access. The agreed manholes will, where

..... possible, be common to those nominated for the provision of In-Span Interconnect Service.

- Note that where an Operator has availed of open eir Duct Access product and has achieved 'UUB box/chamber access accreditation' then that Operator may request to install their passive equipment in a suitable UUB and install the backhaul cable to that UUB, subject to open eir agreement.
 - The backhaul cable is requested as a 'CoLo CEI Backhaul Connection' as part of the Physical Co-Location product, whereas the equipment in the UUB is licenced and chargeable as part of the Duct Access product.
- The Operator will construct or agree to utilise an existing Operator constructed manhole within a reasonable (recommended within ten (10) metres, otherwise to be agreed) distance of the open eir's agreed manhole. The Operator will build a duct (14/10mm sub-duct unbroken in accordance with specified standards) between the two manholes and open eir will provide a point of entry for the Operator's ducts to the open eir manhole. open eir will provide and install 14/10mm sub-duct from the cable chamber to the Operator Co-Location rack containing their ODF. The Operator will blow the Operator's fibre optic cable from the open eir manhole to the Operator's ODF in the open eir exchange.
 - The Operator will then provide, install, and maintain a fibre optic cable from the Operator constructed manhole, utilising their own ducts, to their own network.
 - The Operator will be responsible for pre-commissioning acceptance tests, and to clearly with an appropriate marker or label (to provide an environmental seal) visible Operator's fibre optic cable.

2.1.2 MDF Room

MDF terminations are only required for 'Physical Co-Location for LLU'.

The Operator's equipment will be connected to the customer's two wire metallic path via open eir's MDF in order to utilise other open eir products e.g. Unbundled Local Metallic Path and Line Sharing. Any requirements specified in the appropriate product descriptions will also apply.

In no circumstances will open eir's tie cables be used to provide a path for Operator's circuits from one MDF to another.

2.1.3 Exchange Floor Cable Runways.

By agreement with open eir, the Operator will utilise existing cable trays, and cable baskets, where available, whether overhead or under floor, which will be segregated for telecom/ signalling and electrical power cables.

Where cable runways are not available, new cable trays will be designed and provided under the Site Preparation Fee. All installation procedures must conform to best industry practice.

2.1.4 Equipment Footprint

The conforming footprint is 400mm in depth; 600mm in width and 2.2metres in height. Dual footprints will be permitted i.e. back to back installations of 800mm in depth; 600mm in width and 2.2 metres in height.

2.1.5 Aisle Space

..... Distance requirements are as follows:

- Free standing racks will be positioned a minimum of one metre from any wall.
- A minimum of 900mm is required between suites.

2.1.6 D.C. Power

The Operator has the option to take AC power from open eir,.

If DC power is requested, then each Operator will be provided with access to a minus 48V (Nom) DC power supply. The supply will be equipped with a maximum of 16 MCB distribution points, which may be of maximum capacity 63A. The supply will consist of rectifier units in an N+1 configuration to a maximum of 6Kwatts which includes battery re-charge and redundancy, and standby battery/ies to provide autonomy for a minimum of three hours. open eir will supply, install and commission each distribution point subject to all information requested on the appropriate forms being provided by the Operator, including the ratings (capacity and type) of circuit breakers required, as new facilities will have to be provided. open eir will be responsible for monitoring and maintenance of the DC power supply to but not including the Operator circuit breaker (provided and installed by the open eir) within the distribution point. The Operator will be responsible for the provision, installation and maintenance of all power and earth cabling and ancillary equipment, excluding installation of cable trays – from the distribution point of the power supply to their equipment. This DC power does not presume the availability of AC power from the utility company. The offering of DC power is subject to Site conditions, which may vary. **Note: Distribution Point refers to the “best fit” Miniature Current Circuit Breaker (MCCB) or fuse position at the site at open eir’s discretion.**

A minimum DC power usage of 0.4kW applies to all open eir DC power deployments for billing purposes.

2.1.7 AC Power

Existing AC power will be available for use within the exchange areas, for test equipment only. open eir will nominate an existing 13 AMP socket per suite for Operator use. Note that trailing leads are not to be left in-situ and that this 13A socket may not be used to power permanently fixed devices. Any portable devices used shall be subjected to Portable Appliance Testing by the Operator. Certification for same shall be available on request.

An Operator may choose to have an AC or DC power supply provided by open eir to service their equipment.

In all cases where Physical CoLocation is being installed in a new site with AC power provided by open eir, or where an Operator chooses to replace the existing open eir DC power with open eir AC power, then open eir requires that a new dedicated sub-distribution board be installed for the Operator which will include suitable isolation that is in keeping with the power overload discrimination of the site and shall include a power check meter. Such a power meter can be used by both parties to validate the requested power..

All AC power work must be carried out by competent personnel representing the Operator.

2.1.8 Lighting

All lighting will conform to a minimum of 500 lux when measured at working level.

2.1.9 Rack Fixing

All fixing of racks must conform to existing standards within each exchange building.

2.1.10 Installation of Operator equipment and associated cabling

The equipment will conform to the relevant ITU / ETSI appropriate standards and specifications and the installation and maintenance in accordance with industry best practice.

2.1.11 Welfare Facilities

The Operator will be permitted to use all existing toilet facilities.

2.1.12 Air Conditioning

Adequate air conditioning is generally provided by open eir at each large exchange facility; however the provision of air conditioning for a particular Operator at any exchange will be dependent on the Operator providing details of its equipment's heat dissipation ratings, as new facilities may have to be provided.

2.1.13 Security

The Operator will conform to all on site Security Requirements, as reasonably requested by open eir's exchange managers and specified in open eir's Access Agreement and Licence Agreement.

All access is escorted during the first six months from the date of the first Licence.

2.1.14 Health and Safety

The Operator will conform to all Health and Safety aspects as directed by open eir's health and safety officers and the General Health and Safety requirements as specified in the Access Agreement.

2.1.15 Earthing

A common earth is provided in all open eir exchange buildings for telecommunications equipment. It will be the responsibility of the Operator to ensure that all their equipment is earthed within the exchange floor and conforms to the practice within the particular exchange.

If it is necessary to undertake changes to the common exchange earth due to the installation of the Operator's equipment, its associated cables and any new cable runways, the Operator will be advised of this, following an exchange survey, which will be undertaken by open eir.

2.1.16 Floor Loading

Where false floors are provided, they are capable of a loading up to 20 kn./m2 max.

Determination of floor loading will be subject to Site conditions.

2.1.17 Environmental Conditions

The temperature of open eir's exchanges is normally maintained within ANSI/ASHRAE recommendations.

The temperature alarms in open eir's exchanges are monitored by the Network Management Centre (NMC).

Humidity levels vary between 20% and 80% and dehumidification is provided as part of the cooling process. Humidification is not provided due to the risk of water leaks.

2.1.18 Telephone Service

Upon request open eir will provision a telephone line for voice communication as part of this product; however, the provision of a telephone and any restrictive telephony services will be as per open eir's retail offerings. Procedures for ordering are as per the Inter Operator Process Manual for Physical Co-location.

2.1.19 Fire and Smoke Detection Systems

The detection systems for fire and smoke will vary depending on the size of exchange.

Large exchanges have automatic fire detection systems covering the exchange floor area.

In smaller exchanges, only manual fire alarms i.e. manual call points are available.

2.1.20 Heat Dissipation

The individual heat dissipation per footprint must not exceed 2 kW. Heat dissipation in excess of this may affect the operation of other exchange equipment and reduce the effect of the air conditioning plant.

The Operator's equipment racks must have their own fans to draw in cool air once heat dissipation exceeds 1kW per footprint.

The Operator must advise open eir of the heat dissipated per footprint.

Physical co-location may be refused if the heat dissipated per footprint is considered excessive (i.e. greater than 2 kW per footprint) by open eir and therefore likely to affect open eir or other Operator's equipment.

3. Product Availability

If the service cannot be provided on the grounds of feasibility or the need to maintain network integrity or lack of capacity because of the unavailability or unsuitability of an exchange floor space, the product will not be available.

At no time should this product be considered available throughout all of open eir's exchanges, as it will be dependent on individual exchange characteristics.

4. Service Responsibilities

The appropriate responsibilities of each party are as outlined in the Site specific Licence Agreement.

At all times open eir will be responsible for the exchange building(s) and the open eir staff within them.

The Operator will specify relevant equipment to be installed as per the Inter Operator Process Manual.

The Operator will be responsible for identifying any faults that may occur on its equipment or service and localising any faults into open eir's network in line with the fault repair process as outlined in the Inter Operator Process Manual.

If the Operator purchases equipment that cannot be installed utilising the facilities provided by open eir, the responsibility for the purchase is the Operator's.

5. Services Management

5.1.1 Ordering

The interface between the Operator and open air for the submission of orders is as per the Process Manual for Physical Co-location.

5.1.2 Service Provisioning

Service provisioning will be as per the Process and Technical Manuals for Physical Co-location.

5.1.3 Network Operation and Maintenance

Processes for network operation and maintenance will be as per the Process Manual for Physical Co-location.

5.1.4 Fault Repair

Processes for fault repair will be as per the Process Manual for Physical Co-location

5.1.5 Service Levels

Specific service levels are outlined in the Service Level Section at Annex A Section A to the Access Agreement.

Version Control History

Version	Status	Update	Effective Date
2.0		Final	26/5/2011
		Rebranding final	30/09/15
2.1		Revised (addition of CoLo for VUA)	01/10/2016
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V4.0	Final	D10/18 changes	31/05/2019