



# **Wholesale Building and Cabin Co-Location Product Technical Manual**

**Version 1.1.1**  
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## Contents

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1	Introduction.....	4
2	Services Overview.....	5
3	Co-Location Environment.....	6
3.1	Physical Elements .....	6
3.2	Product Implementation Activities.....	6
3.3	Service Provider Rack Space.....	6
4	Site Preparation.....	7
4.1	Site Survey .....	7
4.2	Running Service Provider Fibre .....	7
4.3	Maintenance of Service Provider Fibre.....	7
4.4	Cable Management.....	7
4.5	DC Power .....	8
5	Site Activities .....	9
5.1	Outline of Activities.....	9
5.2	Initial Site Visit.....	9
5.3	Arrange Planned Access for Installation.....	9
5.4	Installation Site Visit.....	9
5.5	Equipment Installation .....	9
5.6	Fault Resolution.....	10
5.7	Verification and Sign-Off .....	10
	Appendix 1 - Recommended Specification of Service Provider Fibre Cable .....	11

## Document Control

### Revision history

Version	Date	Status	Revision initials: Revision details
1.0	Apr 2020	Active	Published version
1.1	Apr 2020	Active	Published version
1.1.1	Apr 2020	Active	Published version

### Associated documents

Title	Location
Wholesale Building and Cabin Co-Location Reference Offer	All available online at
Wholesale Building and Cabin Co-Location Product Process Manual	<a href="https://nbi.ie/industry/service-provider/">https://nbi.ie/industry/service-provider/</a> or from your NBI Account Manager
Wholesale Building and Cabin Co-Location Service Level Agreement	

The products in this document relate to the set of Co-Location products outlined in the Project Agreement between National Broadband Ireland (NBI) and the Department of Communications, Climate Action and Environment (DCCA) as signed on 19<sup>th</sup> November 2019.

## Glossary of terms

AC:	Alternating Current
DC:	Direct Current
ESCR:	Environmental Stress Crack Resistance
FTTH:	Fibre To The Home
HALS:	Hindered Amine Light Stabilizers
HDPE:	High Density Polyethylene
IBH:	In-Building Handover
ISH:	In-Span Handover
NBI:	National Broadband Ireland
ODF:	Optical Distribution Frame
ODP:	Optical Distribution Point
OLT:	Optical Line Terminal
PoH:	Point of Handover
PoP:	Point of Presence
SES:	Symmetrical Ethernet Services
SP:	Service Provider
UWG:	Universal Wholesale Gateway
VUA:	Virtual Unbundled Access

# 1 Introduction

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The purpose of this document is to provide a technical description of the NBI Building and Cabin Co-Location services in order to assist Service Providers in the design and development of their own product offerings. It also describes site preparation activities to be followed by Service Providers. Note that Building and Cabin Co-Location is referred to as 'Co-Location' throughout this document and has the same meaning. This Co-Location Product Technical Manual provides a detailed description of the products that will be made available to Service Providers.

This document should be read in conjunction with the published Co-Location Reference Offer and the Co-Location Process Manual, which are published on the NBI website or can be obtained via NBI Service Provider Account Manager.

Any Service Provider-specific technology mentioned in this document is current as at the date of issue and is for guidance purposes only. NBI reserves the right to adapt the technology used to deliver the products through the change management process at any time subject to the notification and timelines agreed for this product set.

Please note that this is a working document and therefore subject to regular updates as new products and product enhancements are introduced. Updates to this document will be published as new versions on NBI's website.

## 2 Services Overview

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Co-Location enables Service Providers to order and use serviced rack space within one of the NBI PoH sites. It is used in conjunction with the IBH InterConnect product. Co-Location is required for NBI products such as VUA and Symmetric Ethernet Services (SES).

The key product offering includes:

- Pre-built rack space rentable in 2U increments, with the same standard charge for all PoHs
- Air conditioning and guaranteed DC power (99.99%) provided as standard
- AC power available to facilitate Service Provider ancillary equipment (e.g. panellist equipment for performance monitoring)
- Access to the Service Provider rack space is on a 24 x 7 x 365 basis (advance notice required)
- Unsupervised access available upon completion of an accreditation course
- Monitoring of facilities (heat, aircon, power etc.) and security
- Cable management is provided within the Co-Location site for use by Service Providers

Co-Location can be ordered through the NBI ordering form via the Web Portal or via the UWG. Full details on ordering and assurance processes are detailed in the Co-Location Process Manual.

## 3 Co-Location Environment

### 3.1 Physical Elements

NBI is responsible for delivering the Co-Location product, which comprises physical NBI and Service Provider components. These elements are shown in Figure 1 below.

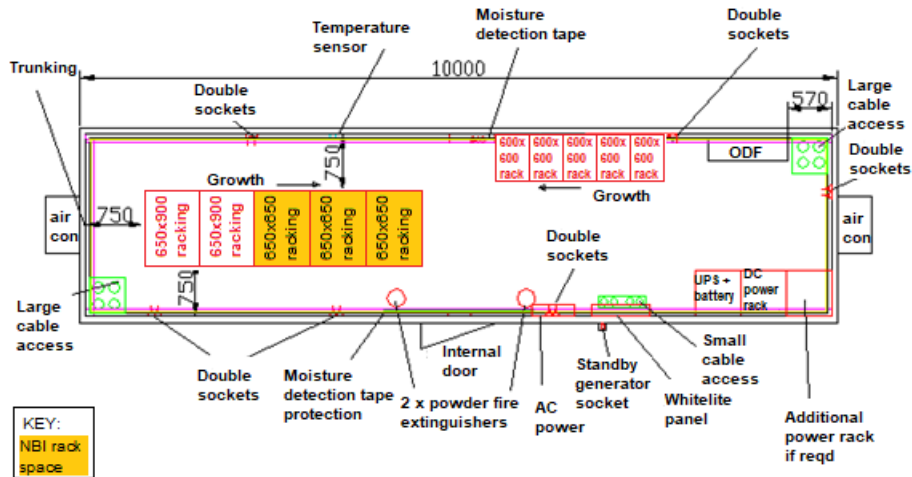


Figure 1: Example of an NBI PoH layout

Note: The drawing in Figure 1 above is included to provide a general understanding and appreciation of a typical PoH site layout. Site by site layout and facilities may be different depending on the specific site in question.

### 3.2 Product Implementation Activities

Once the site offer has been agreed between NBI and the Service Provider, Co-Location will be provided through:

- Site preparation by NBI
- Service Provider equipment installation within the NBI PoH

These activities are described in Sections 4 and 5.

### 3.3 Service Provider Rack Space

The Service Provider may have other rack space in the PoH rented from another Service Provider. As such, the techniques described in this Technical Manual shall also provide for any necessary interconnection with other Service Provider footprints. Equipment interconnection between different Service Provider footprints shall use the dedicated cable management infrastructure in all cases.

A Service Provider ODF may already be physically located in a Service Provider rack. If so, interconnection shall be made via a fibre patch cord within the Service Provider rack.

## 4 Site Preparation

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It is expected that NBI carries out site preparation following order acceptance. This work is undertaken as part of the overall provision of Co-Location service to the Service Provider in accordance with the Co-Location Process Manual.

The NBI works may include:

- 1) Site Survey at PoH
- 2) Confirming and allocating available rack space
- 3) Provision of DC power to the designated circuit breaker in appointed rack

### 4.1 Site Survey

NBI shall survey the PoH location in accordance with the Co-Location Process Manual.

### 4.2 Installation of Service Provider Fibre

It is expected that all works carried out in the installation of the Service Provider's fibre will comply with NBI standard practice, which is provided to the Service Provider as part of the onboarding process. The materials provided by the Service Provider to NBI must also meet the requirements of NBI's standards and specifications, which will be available in due course and will also be provided to the Service Provider as part of the onboarding process.

### 4.3 Maintenance of Service Provider Fibre

It is expected that the Service Provider is responsible for testing and localising faults in their fibre, using remote localisation tools where possible. If this is unsuccessful, fault localisation should be carried out at the Service Provider's rack and the fibre joint at the Service Provider manhole.

### 4.4 Cable Management

It is expected that cable management systems (i.e. cable trays) are provided at each PoH to facilitate fibre running by the Service Provider.

The Service Provider must provide suitable labelling, which should include the following:

- Service Provider name
- Date of installation
- Fibre count and fibre type



## 4.5 DC Power

The Service Provider is responsible for all power cabling from the rack distribution point to their equipment and this cabling shall conform to the relevant ETCI National Rules for Electrical Installations and ETSI standards for telecommunications installations. Cabling dimensioning shall be determined by the Service Provider and communicated to NBI during installation. NBI will not permit any cable to be installed which poses a risk to its buildings or occupants. The Service Provider is not permitted to undertake any electrical installation work on site without supervision by qualified NBI personnel.

- NBI supplies -48 V DC power to each Service Provider at the rack (with circuit breakers at the rack)
- The Service Provider is responsible for the provision, installation, and maintenance of any power cabling from the designated rack circuit breaker to their own equipment under direct supervision by qualified NBI personnel
- The DC power system is remotely monitored on a 24 x 7 x 365 basis

The Service Provider must place appropriate identification tags or labelling on both ends of their DC cables to align with NBI labelling standards as set out in the Co-Location Process Manual. All DC power work must be carried out by competent, suitably qualified personnel representing the Service Provider under direct supervision by qualified NBI personnel.

## 5 Site Activities

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### 5.1 Outline of Activities

The Service Provider staff installing their equipment must be registered with NBI and notify NBI to gain access in accordance with the Co-Location Process Manual access rules.

Several activities need to be followed by the Service Provider and NBI to physically deploy the components necessary to implement the Co-Location service. These activities are laid out below from when the Service Provider first arrives at the NBI PoH.

### 5.2 Initial Site Visit

The Service Provider uses the initial site visit with NBI for:

- General inspection and familiarisation of site layout and features
- Confirmation of cable runs and potential issues (e.g. fibre bending radius constraints)
- Confirmation of shelf space in a designated rack
- Confirmation of designated DC circuit breaker
- Confirmation of location of Service Provider ODF
- Confirmation of location of IBH point

### 5.3 Arrange Planned Access for Installation

The Service Provider must book the required NBI resources for escorted access in advance of equipment installation in accordance with the timelines set out in the Co-Location Service Level Agreement.

### 5.4 Installation Site Visit

On site visits for installation purposes, the following preparatory actions apply:

- NBI provides a briefing on all site-specific features
- The Service Provider deploys the necessary safety signs and signals prior to commencing work
- NBI verifies that the equipment for installation matches the Co-Location equipment register as described in the Co-Location Process Manual

### 5.5 Equipment Installation

Once the NBI representative has verified the equipment, the Service Provider can start installation at the rack.

- The Service Provider shall provide their own tools, equipment and resources for installation

- Electric tools and test equipment may be powered from the designated mains power
- All installation work shall be to agreed methods and standards and using tools that are fit for purpose
- The Service Provider shall take all necessary precautions to prevent physical or electrical interference to adjacent equipment and systems
- The Service Provider shall deploy appropriate signage, containing their official logo when on site
- The Service Provider must ensure equipment and cabling is suitably tagged and labelled to standard
- The Service Provider shall connect their equipment to their ODF and the DC power breakers on the rack
- All Service Provider-generated waste material must be removed at the end of installation

## 5.6 Fault Resolution

Immediately after installation, if the product is not working, the Service Provider shall localise the fault and resolve the issue while on site with NBI, if possible. Where the fault is identified as being within NBI, then NBI will resolve in accordance with the provisions of the Co-Location Process Manual.

## 5.7 Verification and Sign-Off

An NBI representative is on-site at the time of Service Provider installation.

After the installation is complete, the NBI representative verifies that the installed equipment is compliant with the project plan. This examination also ensures that the correct fixing techniques and practices have been used throughout the installation.

If any aspect of the installation is not compliant, the NBI representative reviews with the Service Provider staff and make any corrections while on-site if possible. If this is not possible in the timeframe or is not agreed, the work is not signed off and a review with the Service Provider is required, at the Service Provider's expense.

NBI also checks that the site has been left in a clean and safe condition.

## Appendix 1 - Recommended Specification of Service Provider Fibre Cable

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This section will include the Service Provider fibre cable specification in due course and will also be made available to Service Providers as part of the onboarding process.