



Wholesale Building and Cabin Co-Location Product Process Manual

Version 1.1
Effective from: April 2020

Contents

1	Introduction	6
2	Process Overview	7
3	Service Provisioning	8
3.1	Prerequisites	8
3.2	Process Overview	8
3.3	Site Information and Request	8
3.4	Site Pack and Offer Provided	9
3.5	Offer Acceptance and Site Survey.....	9
3.6	Site Preparation	10
3.7	Equipment Installation.....	10
3.8	Final Sign-Off (with Health and Safety check).....	11
3.9	Demand Forecasting	11
3.10	Right of Appeal.....	11
3.11	Cessation.....	11
3.12	Service Level Agreements (SLA)	11
4	Equipment Conformance	12
4.1	Equipment Requirements	12
4.2	Notification	12
4.3	Installation of Equipment.....	12
4.4	Non-Compliant Equipment	12
5	Access.....	13
5.1	Registration	13
5.2	Supervised Access - Standard	13
5.3	Supervised Access - Emergency	14
5.4	Unsupervised Access.....	14
5.5	Access Notice Periods	15
5.6	Service Level Agreements (SLA)	15
6	Fault Repair	16
6.1	Fault Reporting.....	16
6.2	Target Repair Times	16
6.3	Escalation Procedures.....	16
6.4	Fault Clearance	17
7	Planned Maintenance	18
7.1	Planned Works by NBI.....	18

7.2 Unplanned or Emergency Works by NBI..... 18

8 Billing..... 19

8.1 Introduction 19

8.2 Billable Events 19

8.3 Payment Terms 19

8.4 Disputed Payments 19

Appendix 1: Sample Forms 20

Document Control

Revision history

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

Associated Documents

Title	Location
Wholesale Building and Cabin Co-Location Reference Offer	All available online or from the NBI Account Manager
Wholesale Building and Cabin Co-Location Service Level Agreement	
Wholesale Building and Cabin Co-Location Product Technical Manual	

Glossary of terms:

AC:	Alternating Current
CSH:	Customer Site Handover
Co-Lo:	Co-Location
DC:	Direct Current
DCCAE:	Department of Communications, Climate Action and Environment
E-NNI:	External- Network to Network Interface
FTTH:	Fibre to the Home
IBH:	In-Building Handover
NBI:	National Broadband Ireland
NDA:	Non-Disclosure Agreement
NOC:	Network Operations Centre
ODF:	Optical Distribution Frame
ODP:	Optical Distribution Points
OLT:	Optical Line Terminal
RU:	Rack Unit (1.75")
ONT:	Optical Network Terminal
SLA:	Service Level Agreement
SME:	Small and Medium Enterprises
SP:	Service Provider
S-VLAN:	Service Provider – VLAN
V-LAN:	Virtual Local Area Network
VUA:	Virtual Unbundled Access

1 Introduction

Consultation on the draft processes contained in this manual are ongoing with Industry. The processes will be presented at the monthly Industry forums for clarification and NBI has agreed to take on board changes or additions to the processes based on this valuable feedback. NBI expects the consultation process to continue until the end of Q2 2020 at which time the full suite of processes will have been consulted upon and any changes to the processes / documentation will have been agreed and completed. Any further changes to the processes will happen through NBI's product change request process.

This document details the operational processes that assist Service Providers in ordering, delivery and operation of the NBI Wholesale Co-Location Product.

The Wholesale Co-Location Product is offered by NBI to other Service Providers for use in connection with the provision of NBI Wholesale Bitstream, VUA and Symmetric Ethernet Services (SES) Products. The Wholesale Co-Location Product must be in place along with an associated IBH InterConnect to enable VUA and Regional SES to be ordered and delivered. NBI does not restrict the services that a Service Provider can offer using Wholesale Co-Location.

Wholesale Co-Location provides the Service Provider with serviced rack space in the designated NBI Points of Handover (PoH) where Service Providers can install their own access and back-haul equipment.

2 Process Overview

Installation of the Wholesale Co-Location Product requires the following operational processes:

- Service Provisioning
- Fault Repair
- Planned and Unplanned Maintenance
- Access
- Billing
- Equipment Conformance

Service Provisioning

This process describes the end-to-end provisioning of the Wholesale Co-Location Product beginning with initial inquiries and surveys of NBI PoH facilities, through ordering of the service, preparation of the serviced accommodation and ending with the installation of the Service Provider's equipment.

Fault Repair

This process describes the procedures to be followed by the Service Provider when reporting faults relating to the facilities provided by NBI.

Planned and Unplanned Maintenance

This process describes how NBI will notify the Service Provider of either planned or unplanned maintenance activities at NBI PoH facilities that may affect the Service Provider's equipment.

Access

NBI provides the Service Provider with both escorted and unescorted access to the PoH facilities. This process describes the arrangements for ordering and delivering this service.

Billing

This process describes the arrangements for billing the Service Provider for the Wholesale Co-Location Product and for resolving billing enquires.

Equipment Conformance

Any equipment that the Service Provider installs as part of the Wholesale Co-Location Product must comply with all of the appropriate safety and emission standards.

3 Service Provisioning

3.1 Prerequisites

NBI is not obliged to provide Wholesale Co-Location Product to more than three Service Providers at one location, and the Wholesale Co-Location Product that is offered is provided solely for the purpose of supporting the NBP programme. The total rack space available is 41U which is sufficient to house the equipment needed to support NBI's InterConnect, VUA and SES products.

The NBI Account Manager facilitates orders, surveys and handles enquiries.

The Service Provider must sign the Reference Offer Terms and Conditions (which incorporates the general Wholesale Co-Location Product Licence) and NDA to get access to the Portal to order the Wholesale Co-Location product. This is described in detail in the onboarding Process document.

As part of onboarding related to the Wholesale Co-Location Product, the Service Provider will also need to provide proof of third-party liability insurance and compliance with this requirement on an annual basis. The Service Provider must also submit a copy of their Safety Policy Statement.

3.2 Process Overview

The provision of the Wholesale Co-Location Product has several distinct steps and timelines as follows:

- Wholesale Co-Location Request
- Site Pack and Offer Provided - indicative quotation and estimated timescales
- Offer Acceptance and Site Survey
- Site Preparation
- Equipment Installation
- Final Sign-off with Health & Safety check

Timestamps will be included by NBI at the various stages of the order, to help identify and calculate the timelines for each step in the provisioning process. The acknowledgment, survey and completion notifications will all include a status timestamp in the order update/notification.

3.3 Site Information and Request

On signing the Reference Offer, the Service Provider can access PoH Information on the Web Portal or via their NBI Account Manager. The PoH-related information contains:

- Rack space availability
- PoH name
- Short code identifiers for PoH
- Full postal addresses of PoH and / or grid co-ordinates
- Deployment Area (DA) coverage by each PoH

The Service Provider will submit a Wholesale Co-Location Request specifying their requirements for:

- Rack space (multiples of 1U shelf space)
- Power (units required and whether DC and/or AC)
- Access type

The request is acknowledged in near real-time. If no space is available, the Service Provider can engage with alternative Co-Location facilities providers and order a CSH or ISH Interconnect.

On submission of the request, rack space is provisionally reserved for 20 working days*, until an order is formally placed, or the request is cancelled. On expiry, the reservation is cancelled and the rack space released.

*expected timeframe - TBC with industry

3.4 Site Pack and Offer Provided

An NBI Account Manager is nominated to manage the order. The Account Manager will complete a desk-top survey and incorporate this into a PoH Site Pack. All NBI racks will be "as built", where desk-top surveys are completed using rack information that contains the latest "as-built" drawings.

The Site Pack is provided within 5 working days* of receipt of the request.

*5 working days TBC

NBI confirms the availability of Co-Location rack space for the Service Provider's requirements. The PoH Site Pack also details the following information:

- Location and photo of the rack
- Nominated rack space for the Service Provider equipment
- Nominated tagging and labelling for Service Provider equipment
- Plans and photos of the PoH building
- Plans of the surrounding campus
- Location of duct route, cable chamber and meet-me chambers
- Any restrictions of space, power limitation, heat dissipation limits etc.
- The fibre distance, from the Service Provider's footprint to the NBI nominated manhole
- The subduct length required for the PoH.

The NBI Account Manager distributes "the Offer" to the Service Provider incorporating:

- The Site Pack
- A draft project plan with an estimated timeline and pricing for civils and cabling
- The name and contact number of the nominated NBI Project Manager

Note: If the survey recommends that the order be rejected, NBI will detail the reason and will advise the Service Provider, including if a reduced rack request would be acceptable to progress the order.

3.5 Offer Acceptance and Site Survey

The Service Provider may accept or reject the Offer. The Offer acceptance is subject to a site visit to confirm the Site Pack details.

Rack space is only be reserved for 20 working days* from the date of the original request, see 3.3 above.

Following the Offer Acceptance, NBI will arrange for a joint site survey with the Service Provider within 5 working days*.

The survey is required to visually confirm that the available space and power match that of the Site Pack from the desk-top survey. The site visit cost is covered in the Installation charge, but if the Service Provider chooses not to proceed with the order, NBI will charge for the survey.

On completion of the site survey, the Service Provider confirms that they are ordering the rack space. NBI arranges for site preparation to be initiated within 10 working days*.

*specific working days TBC for each activity

3.6 Site Preparation

On receipt of confirmation of the order, NBI and the Service Provider agree a Site Preparation project with a defined timeline to prepare the PoH for the Service Provider's equipment installation.

The Project Manager liaises with the Service Provider's nominated contact(s) and

- Co-ordinates the various tasks at the PoH
- Provides regular updates on the progress of the project
- Notifies the Service Provider of any issues likely to affect the Scheduled Completion Date or cost of the project
- Agrees deliverables that both parties will sign off at the end of the process

The project tasks may include the following, if required:

- Kick-off meeting
- Power provision
- Racking and cable trays
- Rack labelling
- H&S audit

NBI cannot offer provide fibre access to Service Providers in an alternative Service Provider's Co-Location. In this scenario, the Service Provider needs to request a cross connect (or similar product) from the alternative Service Provider's Co-Location themselves. The Service Provider will connect via the alternative Service Provider's chamber and not the NBI ISH chamber.

For IBH Interconnect, the demarcation is an ODF position in the NBI rack. If the Service Provider already has their own dedicated rack (i.e. in an agreed Co-Lo space of another Service Provider) or the Service Provider has space within the Service Provider rack, the Service Provider will need to request a cross connect from the alternative Service Provider. The alternative Service Provider is required to run the fibre between the requesting Service Provider rack space and the nominated position on the NBI ODF.

If the Service Provider has purchased Co-Location space in the NBI rack, NBI runs the patch lead from the NBI IBH ODF directly to the Service Provider equipment (in the same rack).

Once the Site Preparation is completed, NBI sends confirmation so that the Service Provider can install their equipment. The Service Provider will be billed at this point with Recurring Charges billed quarterly in advance and one-off charges billed by period in arrears. Refer to the Wholesale Building and Cabin Co-Location Reference Offer Schedule 2 for more information on Billing.

3.7 Equipment Installation

The Service Provider is required to verify that equipment being installed is permitted as per the Equipment Conformance process detailed in section 4.

The Service Provider installs its equipment on the dates agreed in the Site Preparation project plan, or as subsequently agreed bi-laterally. Installation is done under supervision of an NBI representative, and no access training is required for this Supervised Access.

The Service Provider is responsible for suitably identifying /labelling their equipment and cabling to the agreed format. The labelling must include a code that identifies the hardware as belonging to a specific Service Provider.

The Service Provider should install and power their equipment within 3 months of accepting the order. If not, NBI will discuss with the Service Provider and notify DCCAE should it suspect that Wholesale Co-Location space is being hoarded. NBI will also notify industry that space may be available at that PoH.

If the Service Provider's license has expired and the Service Provider has not requested an extension of the licence, then NBI will notify the Service Provider that their equipment will be decommissioned and will schedule the equipment to be collected by the Service Provider.

3.8 Final Sign-Off (with Health and Safety check)

The NBI representative on site confirms that all work is done to the correct technical and H&S standards. When all of the installation work is completed to the appropriate standards, the installation is then signed off and the work order is closed.

The inventory systems are updated based on this sign off, with photos of rack space.

3.9 Demand Forecasting

Forecasting TBC with industry and will be updated if necessary, however, it is expected that the Service Provider shall update NBI with 12 months' notice of upcoming Co-Location- orders to enable NBI to match expectations to resources and ensure customer satisfaction.

3.10 Right of Appeal

Disputes between a Service Provider and NBI over the availability or provision of Wholesale Co-Location should be resolved by negotiation between the parties involved.

3.11 Cessation

Where a Service Provider wishes to cease the use of the Wholesale Co-Location Product, the Service Provider is required to provide a mandatory one month's notice, in writing to the NBI Account Manager.

When the Service Provider has removed the relevant equipment and all cabling, a site inspection will be conducted by NBI to ensure that the site has been restored to its pre-Wholesale Co-Location condition, and that the work meets health and safety requirements. NBI will conduct this inspection after confirmation from the Service Provider that the equipment has been removed and will notify the Service Provider of its findings.

Billing will cease on confirmation by NBI that the cessation work is satisfactory. All services must be ceased before the Access Request Form is submitted. The Service Provider is also responsible for leaving the premises in a satisfactory condition, as may be required by the general Licence Conditions.

3.12 Service Level Agreements (SLA)

The NBI target delivery times for the provision of the Wholesale Co-Location Product are described in the Wholesale Building and Cabin Wholesale Co-Location Service Level Agreement.

4 Equipment Conformance

4.1 Equipment Requirements

NBI keeps an updated register of equipment permitted for Co-Location.

Any equipment that the Service Provider installs as part of the use of the Co-Location product must meet the appropriate safety and emission standards.

If a Service Provider requires a new type of equipment to be installed, that is not on the latest version of the NBI register of equipment, then the Service Provider must notify NBI via their Account Manager, and include the following information of the new equipment:

- Manufacturer
- Model name/number
- Date of registration

NBI has the right to reject or force the removal of certain Service Provider equipment, if it is not approved, does not meet H&S standards, or is causing interference with other equipment.

4.2 Notification

The Service Provider shall provide a statement of conformance to the NBI Account Manager identifying the manufacturers' quoted standards for their equipment installed in the PoH, and a declaration that the equipment meets all the necessary Irish and EEA requirements. The Service Provider is not required to provide supporting documentation to prove that their equipment meets the current technical requirements, unless reasonably requested by NBI.

The standards should cover the following areas:

- Health and Safety
- Electromagnetic emissions
- Optical emissions
- Electrical power interface
- CE marking

4.3 Installation of Equipment

Once a particular equipment type has been approved by NBI, the Service Provider can then install it at the Wholesale Co-Location site. NBI is entitled to check that the equipment is from a manufacturer and product included on the register.

4.4 Non-Compliant Equipment

If NBI has reason to believe that a type of equipment that has been installed does not conform to the appropriate technical standards, that were current when it was introduced, then NBI can rule that the equipment should be withdrawn from service if it can be shown to:

- be unsafe in any respect
- cause significant interference to other users
- be not compliant with the relevant standards
- be not CE marked

5 Access

There is remote monitoring in all NBI Wholesale Co-Location PoHs, with full access logging so that Service Providers can have access to their equipment on a 24 / 7 / 365 basis.

Physical access to each PoH is controlled by the NBI NOC. To gain access a swipe card or remote access is required and provided by the NBI NOC. A pre-defined security code is also required.

Supervised and Unsupervised Access is available as outlined below and in the Wholesale Co-Location SLA document. Unsupervised Access is available on completion of a specified accreditation course. Charges will apply for accreditation and for Supervised Access. These charges are detailed in the Wholesale Co-Location Pricelist.

5.1 Registration

Prior to Access approval, as part of the Onboarding Process, NBI provides the Rules of Access documentation to the Service Provider. This documentation must be signed by the Service Provider and returned to NBI.

All Service Provider staff, including their contractors, must be individually registered with NBI before they can access an NBI PoH (see Appendix 1 for a sample form). Service Provider staff must be registered at least 5 working days* prior to the first access. Once registered, Service Provider staff can also access all other sites for which the Service Provider has purchased the Wholesale Co-Location Product.

A Service Provider representative must also attend an NBI briefing, which will cover:

- Access and security procedures for Wholesale Co-Location
- General health and safety requirements for co-locating equipment in NBI PoHs

The Service Provider must maintain a register of all accredited individuals and inform NBI of any lost or stolen swipe cards. The Service Provider must also return cards when an employee or contractor(s) is no longer employed by the Service Provider. Service Providers must also notify the NBI NOC should there be any changes to their registered staff.

Only the Service Provider's own racks can be accessed, and it is the Service Provider's responsibility to ensure that only their own rack is accessed.

*5 working days TBC

5.2 Supervised Access - Standard

When a Service Provider requires Supervised Access, the Service Provider emails the NBI NOC, providing 5 working days* notice with the following details:

- PoH unique ID
- Date and time at which Access is required
- Expected duration of the Access visit
- Service Provider representative name

*5 working days TBC

NBI provides an escort to supervise the Access visit. Service Providers are charged for the booked time or actual time, whichever is the longer. If the Service Provider has to reschedule or cancel an access request, it should be done so by contacting the NBI NOC at the earliest opportunity. If the cancellation or

change is made within 4 working hours of the planned start of the scheduled visit, the Service Provider will be charged in full for the entire access visit.

If access is required to a site by more than one Service Provider at the same time, the access slot will be allocated on first-come, first-served basis.

On completion of an access visit, the NBI escort completes an Access Record form detailing:

- the site visited
- the time and duration of the access visit

The Access Request form is used by NBI as the basis of the billing record for the access visit. Note: the NBI NOC record may also be used where required.

5.3 Supervised Access - Emergency

When a Service Provider requires Supervised Emergency (or out of hours) access, the Service Provider is required to send an email to the NBI NOC with the following details:

- PoH
- Date and time at which Access is required
- Expected duration of the Access visit
- Service Provider representative name

The Service Provider should also contact the NBI NOC by phone to inform them that a request has been sent by email.

The NBI NOC verifies the request and either accepts or rejects the request. If the request is rejected, a reason for rejection is provided to the Service Provider e.g. no resource availability.

If the Emergency Access request is accepted, NBI NOC will provide an escort to supervise the Emergency Access visit. The Service Provider is charged for the booked time or the actual time, whichever is the longer. If the NBI escort is delayed for any reason, the two parties will agree whether the Service Provider representative is able to continue with access without the supervision of the NBI escort. In such circumstances, no emergency charge is levied on the Service Provider.

On completion of the visit, the NBI escort completes an Access Record form detailing:

- the site visited
- the time and duration of the access visit

The Access Request form is used by NBI as the basis of the billing record for the access visit. Note: the NBI NOC record may also be used where required.

5.4 Unsupervised Access

Unsupervised Access requires completion of a formal NBI Accreditation Course. This is available for up to 6 Service Provider staff members and is valid for 4 years. Access cards and access keys are provided for the registered Service Provider staff. It is the Service Provider's responsibility to ensure these cards are managed correctly.

Access Procedure:

1. The Service Provider emails <<email [to be confirmed](#)>> with access request details:
 - time of access
 - name of accessor

- contact details
- Card ID/reference number

Note: if the accessor does not have the access key at time of Unsupervised Access, this will qualify as Emergency Notice.

2. The Service Provider accessor calls the NBI NOC when on-site to verify their identity and makes a request to enable the access card
3. Upon leaving the site, the accessor should ensure that all lights are switched off and the air conditioning is switched on
4. The outer gate must be closed and locked
5. The accessor should then call the NBI NOC and the site alarm status is then verified
6. The accessor can only leave the site if the alarm screen is clear, as an alarm will alert in the NOC until the door is fully locked
7. The NBI NOC then disables the access card

5.5 Access Notice Periods

Details the period notice required for site visits is to be defined with industry.

5.6 Service Level Agreements (SLA)

The NBI target delivery times for the provision of the Wholesale Co-Location Product are described in the Wholesale Building and Cabin Wholesale Co-Location Service Level Agreement.

6 Fault Repair

Full fault repair process is to be defined with industry and will be updated accordingly.

6.1 Fault Reporting

The Service Provide is responsible for reporting faults associated with the Co-Location Product to the NBI NOC. The Service Provider must determine that the fault lies with NBI to a sufficient level of certainty before reporting to NBI.

The Service Provider should provide NBI with as much guidance as possible as to the potential cause of the problem, based on any alarm information it has received. Each fault is assigned its own reference number and the Service Provider is informed of the latest response time for the diagnosis of the fault.

Note: There is no pro-active fault reporting by NBI.

For the purposes of repair, the Co-Location product encompasses the rack, building and subduct out to the meet-me chamber.

6.2 Target Repair Times

The NBI Target Repair Times of the Wholesale Co-Location Product are described in the Wholesale Building and Cabin Wholesale Co-Location Service Level Agreement.

6.3 Escalation Procedures

If the Target Repair Times have elapsed and the fault is not cleared, the NOC can be notified and appropriate action taken to resolve the fault. This is 1st Level escalation.

Where the fault is still not cleared, and no evidence of progress exists, the second level of contact, the Management, shall be used to agree appropriate action to clear the fault. This is 2nd Level escalation.

Escalation Level		Contact	Phone	Email
Service-Hours	Out-of-Hours			
First	First	NBI Service desk	+353 (01) <TBC>	<TBC>
Second		Wholesale Customer Operations Manager	+353 (08X) <TBC>	<TBC>
	Second	On Call Management Escalation	+353 (01) <TBC>	<TBC>
Third	Third	Operations Director	+353 (08X) <TBC>	<TBC>
Fourth	Fourth	COO	+353 (08X) <TBC>	<TBC>
Fifth	Fifth	CEO	+353 (08X) <TBC>	<TBC>

Table 1: Support Contact Details

6.4 Fault Clearance

Faults are cleared when the original problem has been fully remedied by NBI and the service has been restored, which has been accepted by the Service Provider.

7 Planned Maintenance

7.1 Planned Works by NBI

This process is TBC. It is expected that the following would apply however, it is subject to change.

This section describes procedures designed to minimise the effect of planned maintenance work on the Wholesale Co-Location product.

Preferred hours for major works

Timings for NBI planned maintenance work, which requires system down time and where the Service Providers' systems may be disrupted, will be specified in the planned maintenance notification to Service Providers.

Notification Process and Timescale

NBI will notify Service Providers by email and/or UWG / Web Portal, of any planned work which may affect the Service Provider's equipment. On completion of the planned maintenance work, NBI must notify the Service Provider via email that the work was completed as planned.

Escalation

If the date or timing of the planned maintenance work is unsuitable for the Service Provider, then the Service Provider must contact their NBI Account Manager.

7.2 Unplanned or Emergency Works by NBI

Should any emergency or unplanned works undertaken by NBI cause the interruption of the Service Provider's service, NBI shall inform the Service Provider accordingly.

In this scenario, NBI will log a fault on the Service Provider's behalf.

8 Billing

Billing section TBC.

8.1 Introduction

This process relates to the production and payment of bills associated with Wholesale Co-Location Products.

8.2 Billable Events

A list of the valid billable events, which form part of this process, as well as information on the audit trail that will be available to both parties from the processes defined in this document, will be provided when available.

8.3 Payment Terms

Invoices are due and payable in Euro (€).

Invoices are payable as per the terms of the Reference Offer Terms and Conditions.

NBI provides a breakdown of each charging category to validate the invoice.

All invoice queries by the Service Provider shall be addressed to their NBI Account Manager.

8.4 Disputed Payments

Disputed payment claims must be submitted as described in the Reference Offer terms and conditions.

Appendix 1: Sample Forms

New Equipment Request form

Service Provider name:		
Date of Registration:		
Manufacturer:		
Model Name / Number:		
Standards Information		
	Standards Body	Reference Number
Health & Safety:		
Electromagnetic emissions:		
Optical emissions:		
Electrical power interface:		
CE Marking:		
Signed by:		
On behalf of:		
Date:		
NBI Use Only:		
Date Received:		
Date recorded in register:		