Broadbanding Australia

B2B Interaction Business Processes

TECHNICAL SPECIFICATION

MAY 2011

NBNCo Limited

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This specification sets out NBN Co's proposals in respect of certain aspects of the National Broadband Network. The contents of this specification are intended for public consultation and represent NBN Co's preliminary position on the subject matter of this specification. The contents of this Specification should not be relied upon by any person as representing NBN Co's final position on the subject matter of this Specification. The views expressed by NBN Co in this document may change as a consequence of NBN Co finalising formal technical specifications. NBN Co's position on the subject matter of this document may also be impacted by legislative and regulatory developments in respect of the National Broadband Network.

Environment

NBN Co asks that you consider the environment before printing this Specification.

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1 About this document

Who is it for?	This document is intended for use by both internal and external audience: • Business Stakeholders • Project Managers • Project Core Team • Solution Architects • Development Team • Other Project team members.
Purpose	This document provides the high level solution design and collaborations that will implement business-to-business (B2B) interaction processes between NBN Co and Access Seekers to support the delivery of the following services: • Fulfilment • Assurance • Billing.
Important Note	This specification reflects input received from extensive industry consultation, including NBN Co sessions with the Communications Alliance, and a number of technical 'deep dives' with Access Seekers. The content of this document represents NBN Co's current position on the subject matter and should not be relied upon as representing NBN Co's final position on the subject matter of this document, except where stated otherwise. The views expressed by NBN Co in this document may change. There are a number of items within this document marked as being subject to NBN Co confirmation. Such items are subject to NBN Co's ongoing design activities and will be clarified in a future release of this document.

1.1 In scope

The following is considered to be within the scope of this document:

B2B solution process overview and details of B2B interaction process models to support 'Fulfilment', 'Assurance' and 'Billing' of NBN Co services.

1.2 Out of scope

Subject Area	Number	Description
Billing – Tariff/Pricing	OOS-001	Global tariff/pricing changes will be announced as per Industry Engagement channel and is out of B2B interaction scope.
Product Catalogue	OOS-002	Details on the Product Catalogue and Product Definitions will not be covered in this document. This will be covered by the B2B Product Definition Technical Specification.
B2B Technical Specifications	OOS-003	Technical details of the interface will not be covered within this document. This will be covered by the B2B Gateway Architecture Technical Specification.
B2B Certification	OOS-004	The B2B Certification process will not be covered in this document. It is assumed this process will be covered through the NBN Co on-boarding process.
Order Management	OOS-005	The requirements for churn/transfer are still under discussion including with the post-migration transfers working group of the Communications Alliance. It is possible that additional NBN Co B2B business processes and associated ebXML actions may be necessary and these will be documented in a future update to this document.
General	OOS-006	Any detailed design for these processes (including performance characteristics) will be out scope for this document. It is expected to be covered in subsequent deliverables.
SLA	OOS-007	Service Level Agreements, any associated milestones, and any applicable charges will be described and managed under the Wholesale Broadband Agreement (WBA)

1.3 Context

The diagram below provides the high level context of the B2B Interaction Process.

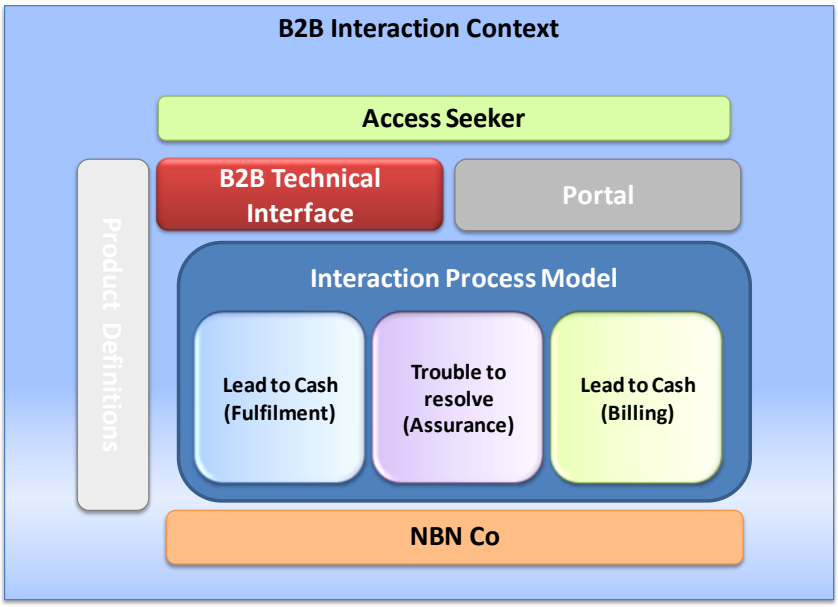


Figure 1 – B2B Interaction Context

1.3.1 Relationship to Access Seeker Service Portal

Business Processes can be performed through either the B2B Gateway or the Access Seeker Service Portal.

An Access Seeker has full flexibility when interacting with NBN Co to:

- Use the Access Seeker Service Portal exclusively.
- Use both channels simultaneously and in any combination. For example, high volume transactions can be directed towards the B2B Gateway and low volume, or manual progression, can be directed towards the Access Seeker Service Portal.

Once B2B certified, NBN Co will send all notifications relevant to the business processes described in this specification to the Access Seeker via the B2B Gateway. Notifications arising from processes that have been modified or initiated through the Access Seeker Service Portal will be communicated via email in addition to the B2B Gateway. This approach ensures that any manual progression via the Access Seeker Service Portal will maintain alignment with B2B Gateway initiated processes within the Access Seeker's orchestration.

1.3.2 Assumptions

Subject Area	Number	Assumption
End User Authorisation	ASS-001	It is assumed that End User authorisation is a responsibility of the Access Seeker, and that the Access Seeker has an obligation to store authorisations and retrieve them upon request. Note: The storage and use of Confidential and End User information will be managed in accordance with applicable laws and as described within the Wholesale Broadband Agreement
Standard Installation	ASS-002	It is assumed that all orders involve standard installations. Orders requiring non-standard installation will be covered in a future update to this document.

1.3.3 Constraints

Subject Area	Number	Constraint
Business Rules	CON-001	The complete set of business rules are yet to be defined or agreed upon.

1.3.4 Dependencies

Subject Area	Number	Dependency
Product	DEP-001	Changes to the Product constructs are likely to impact processes as defined within this document.
Operational Manual	DEP-002	Gap and impact analysis would be required between processes as defined in this document and the NBN Operational Manual.

1.4 Related Documents

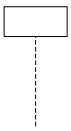
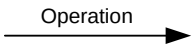
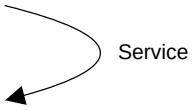
Document Number	Document Title	Owner/Link	Date of Issue	Version Number
1.	NBN B2B Gateway Architecture Technical Specification	NBN Co	2/05/2011	1.0
2.	NBN B2B Product Definition Technical Specification	NBN Co	2/05/2011	1.0
3.	B2B Interaction Process Requirements Specification	Communications Alliance	2010-12	Release 1
4.	NICC Standards	ND1627:2008 ND1626:2007	2008-06 13/11/2007	1.1.1 1.0.1
5.	ITU Standards	M.3340 M.3343	2009-05 2007-01	

1.5 Document Definitions

This document uses Interface Sequence Diagrams, State Diagrams and B2B Gateway Transaction Patterns as defined below.

1.5.1 Interface Sequence Diagrams

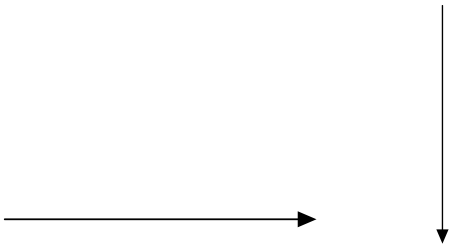
The primary objective of NBN Co sequence diagrams is to illustrate the sequence of interactions, and the transition from stated requirements to the next level of detail.

Details	Symbol
Lifeline A lifeline represents an individual participant in a sequence diagram, for example: an Access Seeker or NBN Co.	
Message Messages are displayed as arrows, and are asynchronous only. The specific operation name is specified on the top of the arrow, for example: Operation.	
Service The curved arrow is used to denote the Business Service invoked by that particular operation, for example: Service.	

1.5.2 State Diagrams

State diagrams are developed for identified interactions to provide business flows of specialised areas.

Details	Symbol
Initial State This shows the starting point or first activity of the flow. This pseudo state has no variables describing it further	

Details	Symbol
and no activities.	
State This represents the state of an object at an instant in time.	State1
Transition An arrow indicating that the object is to transition from one state to another. The actual trigger event and action causing the transition are written beside the arrow. The transition takes place after a required condition occurs or is met. For e.g. once the order is confirmed, it then transitions into an in progress state	
Final State This is the end of the state diagram. A final state is a pseudo state because it does not have any variable or action described.	

1.5.3 B2B Gateway Transaction Patterns

There are four patterns for interaction between NBN Co and Access Seekers:

Number	Type	Description
1.	Submit / Notify	A multi-message pattern for long running processes within NBN C. A single initial 'submit' message invokes the long running process, and is thereafter followed by one or more notification messages. This pattern is used for commercial transactions and consequently messages are considered to be non-repudiable and idempotent (re-submission is safe; NBN Co will not action identical submission).
2.	Request / Response	A two-way message pattern for short running processes where responses are delivered in near real time. Used for transactions that may alter state of an object (that is, read/write operation), consequently messages are idempotent (re-request is safe; NBN Co will not action identical requests).
3.	Query / Response	A two-way message pattern for short running processes where responses are delivered in near real time. Used for transactions that cannot alter state of an object (that is, read only operation), for example a database lookup.
4.	Notification	A one-way message pattern for event driven processes. Used for unsolicited transactions that does not require a corresponding initiating / or responding transaction.

2 High Level Solution Overview

The assumed high level solution architecture is found within the NBN Co B2B Gateway Architecture Technical Specification (See Section 1.4 and/ or refer to relevant sections of the NBN Cp B2B Gateway Architecture Technical Specification).

2.1 Pre-Order Management Overview

Pre-order management consists of interactions necessary to compose a valid order, but which are carried out prior to the submission of an order. Before NBN Co can provide a Product to an Access Seeker for a particular location, it is critical to determine whether the desired Product is available at that location. Pre-order management functions cover mechanisms to identify a common understanding of a location and then determine serviceability of that location. It comprises enquiries related to an address search, the results from which can be used to determine the Product availability. The results from the address search are later used for Product ordering.

2.1.1 NBN Location Overview

An NBN Location entity is defined as:

- A geographical location that occupies a real area within Australia that is either addressable or non-addressable
- Has one or more Geocodes within the geospatial boundary of the location
- May have a physical Australian address – absolute or relative (Refer below)
- Potentially serviceable by the National Broadband Network as defined by government policy

The NBN Location entity is functionally equivalent to the Australian standard AS4819:2003 definition of an Address site. An NBN Location has a physical address type of *absolute* when the physical address used accurately describes the location. An NBN Location has a physical address type of *relative* when the physical address used is the location of a place relative to the NBN Location (e.g. traffic light; non premise location with a relative address). The entity supports both addressable premises and non-addressable non-premises as further described below.

2.1.1.1 Location Type

2.1.1.1.1 Premises

An addressable location is one of any of the following types capable of connection to the NBN:

- An addressable location currently used in an ongoing basis for residential, business (whether profit or not), government, health or educational purposes.
- A school as defined by the Department of Education, Employment and Workplace Relations.
- A location within a new development at an addressable location for which NBN Co is the wholesale provider of last resort; or a standard telephone service activated in compliance with the USO.

A premises may be:

1. **Structured address** (Synonym: Standard address): These are structured addresses that conform to the AS4590:2006 and AS4819:2003 address formats using the set of included data elements to describe the address.

a. Primary address

b. Complex address (always location within a primary address)

2. **Unstructured address** (Synonym: Non-standard address): These addresses do not conform to the address format as described in AS4590:2006 and AS4819:2003 and this cannot be described using the set of known data elements in the standard address format. Four unstructured address line data elements will be made available in the data exchange model. These data elements should not be used except when it is impossible to use other more structured address data elements. E.g. university rooms, wards in a hospital.

3. **Land parcel address** (Synonym: Real property descriptor): The format of the land parcel address varies by state. The land parcel address consists of the Lot number (reference number) and the deposited plan number (if applicable) allocated to a property for sub division administration purposes prior to road numbering.

    a. Land parcel address - Lot without a deposited plan. Note that some of these addresses actually do have a plan. These sometimes have a property name.

    b. Land parcel address – Lot with a deposited plan. Note that some of these addresses actually do not have a plan. These often have a property name.

2.1.1.1.2 Non Premises

A non-addressable location is one of any of the following types capable of connection to the NBN:

- Traffic lights / traffic light controller / electronic sign / traffic signals, including variable speed signs
- Bus stop, tram stop, railway station
- Banking communications (EFTPOS or ATM terminal) ;
- Privately operated payphone;
- Assistance telephones (e.g. elevator or roadside phone);
- Transformer / kiosk / pad mount substation / pole mount transformer
- Link / Link pole LV / MV / HV link / ABC link / dynamic switch / airbrake switch / isolator
- Other metering point (any Service)
- Camera (security / traffic)
- Bridge control, swing bridge, traffic control gate
- Mobile phone cell tower / radio antenna
- Street lighting pole, street light controller
- Band stand, rotunda, other park building
- Unmanned (council) car park
- Weather monitoring device
- Water (including storm water and sewage management), gas and electricity infrastructure
- Public alarm and security system

2.1.1.2 NBN Location ID

NBN Location ID is the NBN specified unique identifier for a NBN location. The naming convention for the values of the NBN Location ID is defined as a 15 alphanumeric field: "*LOCNNNNNNNNNNN*" where:

- 'LOC' is the three letter code representing a NBN Location
- 'N' is a number such that there is a total of 12 digits occurring after the three characters of LOC
- One of the 12 digits will be a check digit.
- For e.g. LOC123456789012

2.1.2 Address query

Arriving at a common understanding of a location is an important part of the pre-order processes. NBN Co will expose address search services to assist in reaching this common understanding.

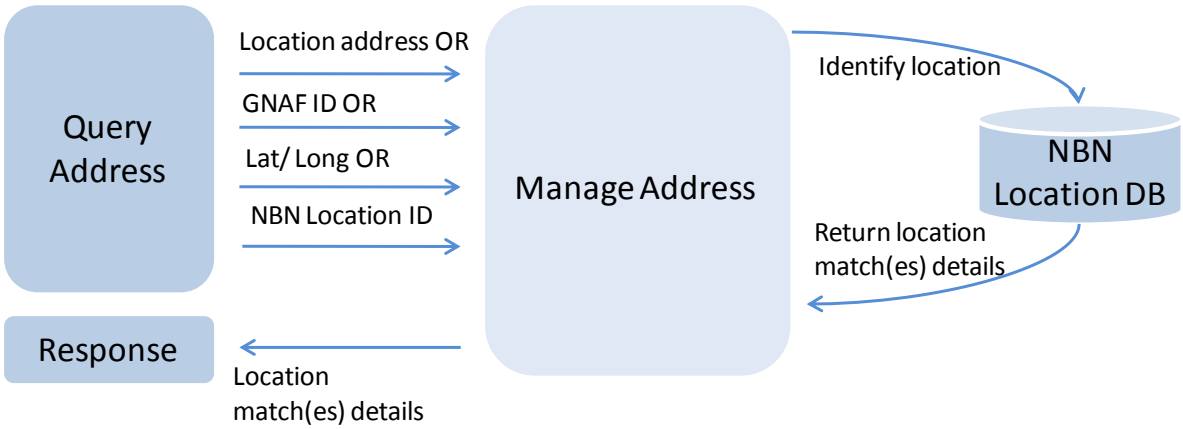


Figure 2 – Address Search Interaction

The query address method is a query-response message exchange pattern that returns location details for a given request. This can be used for validating a location prior to submission of a qualification or order request. The request may contain one of the following input types.

Input Type	Description
Location address	This relates to any identified property or parcel. It contains the street address information and in case of an MDU scenario may also contain the sub address information, for example: unit details, level or building details. Access Seeker will be able to search by providing partial input parameters (at street level equivalent or lower) or address details (dwelling number, street number, street name, suburb, postcode, state) and the response to retrieve either an exact match and its associated NBN Location ID or provide the close match addresses in the event where an exact match was not found. An NBN Location ID will be returned with a list of addresses if they are at the NBN address level. In the event of a close match, NBN Co will return the matches at the same level as the request. If a no match was found, there will be an address reconciliation process that can be invoked to resolve the issue and consequently used to define a new location. Note: Relationship of primary address to complex/ sub address can be derived spatially. If primary address is provided, complex/ sub address details shall be returned, but if complex/ sub address is provided the primary address is not provided but the associated NBN Location ID is given, essentially because there is no primary address if it's a non-standard address.
GNAF ID	NBN Co will accept GNAF identifiers as an identification of location. Note that if valid GNAF ID is used as input, the response will only return the NBN Location ID(s).
Lat & Long	Spatial co-ordinates (includes latitude & longitude) defining the geographic position of the location.
NBN Location ID	Access Seeker shall be able to validate a given NBN Location ID and retrieve associated location by specifying as part of request

2.1.3 Qualification

A two-level qualification process is provided to allow Access Seekers to accurately and rapidly determine the level of service that can be delivered to an End User before progressing to the order phase. This ensures that Products can be ordered confidently with a greater certainty of delivery.

At this stage, NBN Co anticipates sharing data sets with Access Seekers to allow simple 'homes passed' style qualification to be performed directly by the Access Seeker. This shared data set will likely comprise:

- NBN Co Location ID
- Connectivity Service Area (CSA) ID
- NBN Co Address Information (as described in section 2.1.1.1)
- Access Technology
- Infrastructure status (or shortfall)

A RESPONSE FROM THE SERVICE QUALIFICATION THAT A LOCATION QUALIFIES FOR CONNECTION TO THE NBN CO NETWORK SHOULD NOT BE RELIED UPON AS A COMMITMENT THAT NBN CO WILL BE ABLE TO CONNECT TO THAT LOCATION.

Type: The location only

The site qualification method of type 'The location only' is a request-response pattern that determines whether the given location can be connected to the NBN Co network. It consists of an automated inventory search based on the input location to:

- Determine whether the requested End User location is within the current NBN Co service footprint
- Provide an indication of network capabilities which will be based on the access technology available at that location.

This qualification type does not indicate which Products may be delivered to a specified location but does provide information to assist Access Seekers in determining which Products can be offered to their End Users. It determines which technology the given location is serviced by, infrastructure availability (e.g. NTD or lead-in), NTD port availability and whether the End User location is serviceable or not.

It also returns information relative to Peak Information Rate/Committed Information Rate (PIR/CIR) bandwidth provisioned and/or available. If any appointments are required, for example: NTD installation, this would also be advised as part of the response. Alternatively, if the location is not serviceable due to an infrastructure shortfall at the nominated location, the planned date will be returned where available, along with the proposed access technology. Details of when a location will be served, and proposed access technology, will be subject to change by NBN Co (for example due to network deployment considerations).

In order to perform the location-based qualification the Access Seeker must provide details of the End User's location that can be specified as either a premises or non-premises address (refer to Section 2.1.1.1), or an NBN Location ID.

The location only service qualification response would return:

- Site qualification status (Success/ Fail)
- End user location serviceable (Y/N)
- Primary access technology (Fibre, Wireless, Satellite)
- Address and NBN Location ID
- NTD (Y with NTD ID/Appointment Type / Planned Installation Date where available) + NTD details (NTD Type, Make, H/W Version, Firmware version, Serial #, Battery [Y/N])
- Are there free ports on the NTD (Y/N, Free Port IDs)
- Associated NTD (Y with NTD ID / if No then infrastructure install Planned Date where available)
- The available bandwidth (upstream/downstream uncommitted bandwidth)
- Connectivity Serving Area (CSA) identifier. This identifier will allow Access Seekers to determine their list of candidate CVCs that could be used when ordering a Product. The planned CVC date will be provided where there is no CVC available.

In a Satellite scenario, the following additional information may be returned:

- Satellite gateway serving the satellite serving area.
- Overall bandwidth availability (CIR – forward/return bandwidth) – effectively same as GPON bandwidth response
- NTD details may also need to include antenna details, i.e. recommendation (indoor/external) for that location

In a Wireless scenario, the following additional information may be returned:

- Effectively the same as replacing fibre access with a wireless path, is it the same CVC/AVC model over wireless using a base station PDN-GW receiver as the NTD
- Wireless Access POI (same as NNI for GPON)
- Base Station for PDN-GW
- Anything unique that needs to be done for wireless SQ,
- Internal/external antenna (recommendation based on signal strength)

Type: The Order Feasibility check

The order feasibility check is a request-response pattern that determines whether a given Product can be delivered to the required location. The process includes necessary checks to ensure that the specific Product can be provisioned for the End User. Note that the same order feasibility check is performed during order validation following submission. However, during the pre-order management phase no resource reservation is made. The feasibility check consists of an automated Product catalogue and network inventory search based on the desired Product capabilities and the End User premises information to determine whether:

- The given location is serviceable
- The Access Seeker is certified to order the requested Product
- The Product required to be qualified is evaluated for available spare network capacity and resources within the network to deliver the service in consideration of the request details, for example: Access Virtual Circuit (AVC) and Connectivity Virtual Circuit (CVC), Network to Network Interface (NNI) details supplied by the Access Seeker

Also, if any appointments are required to complete the delivery of a qualified service this is to be advised as part of the response along with demand type(s).

This qualification type assists Access Seekers to determine whether the Access Seeker is set up to provide Products to the area in question. That is:

- Does the Access Seeker currently have:
  - NNI and CVC capable of being used for delivering services to the requested the location
  - Existing UNI port which a new AVC could be delivered on
- Are there any other service components required to deliver a Product e.g. CVC.

Alternatively the requested Product may not be qualified, in which case the Access Seeker will be advised of the reason, for example: that the requested Product is not supported, there is insufficient capacity, or the End User is not within the service footprint.

In order to perform this qualification type, Access Seekers must provide:

- Product type (specified by using the Access Seeker's defined Product codes)
- End User premises location

2.1.4 Qualification State Model

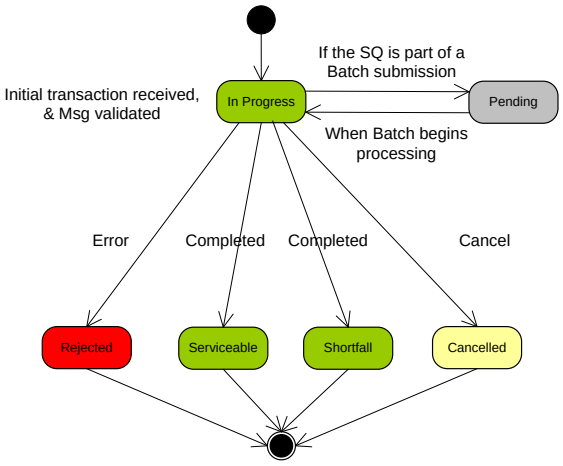


Figure 3 – SQ State Model

Status	Description
In Progress	State representing that the SQ request has been received, validated and currently in progress to be determined for serviceability or feasibility
Pending	State which is only utilised if the qualification was part of a batch request. Transitions to In Progress when batch item is initiated for processing
Rejected	State representing that the SQ request was in error or didn't pass validation
Serviceable	State representing that the location and/ Product submitted as part of the request is successful and serviceable or feasible
Shortfall	State representing that the location and/ Product submitted as part of the request is successful though has a resource shortfall that be required to address e.g. requires demand install and thus appointment
Cancelled	State which is only utilised if the qualification was part of a batch request. Represents that batch was cancelled and any unprocessed items were cancelled.

2.1.5 Class Model – The location UML Model

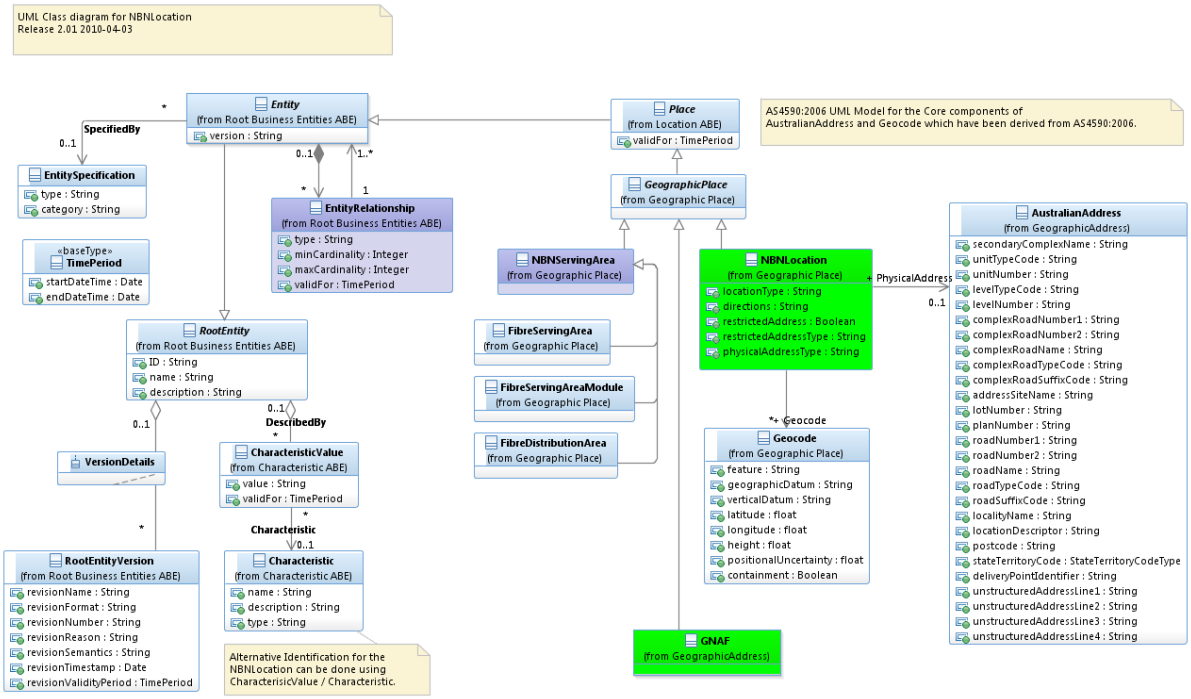


Figure 4 – The Location UML Model

2.1.6 Manage Address UML Model

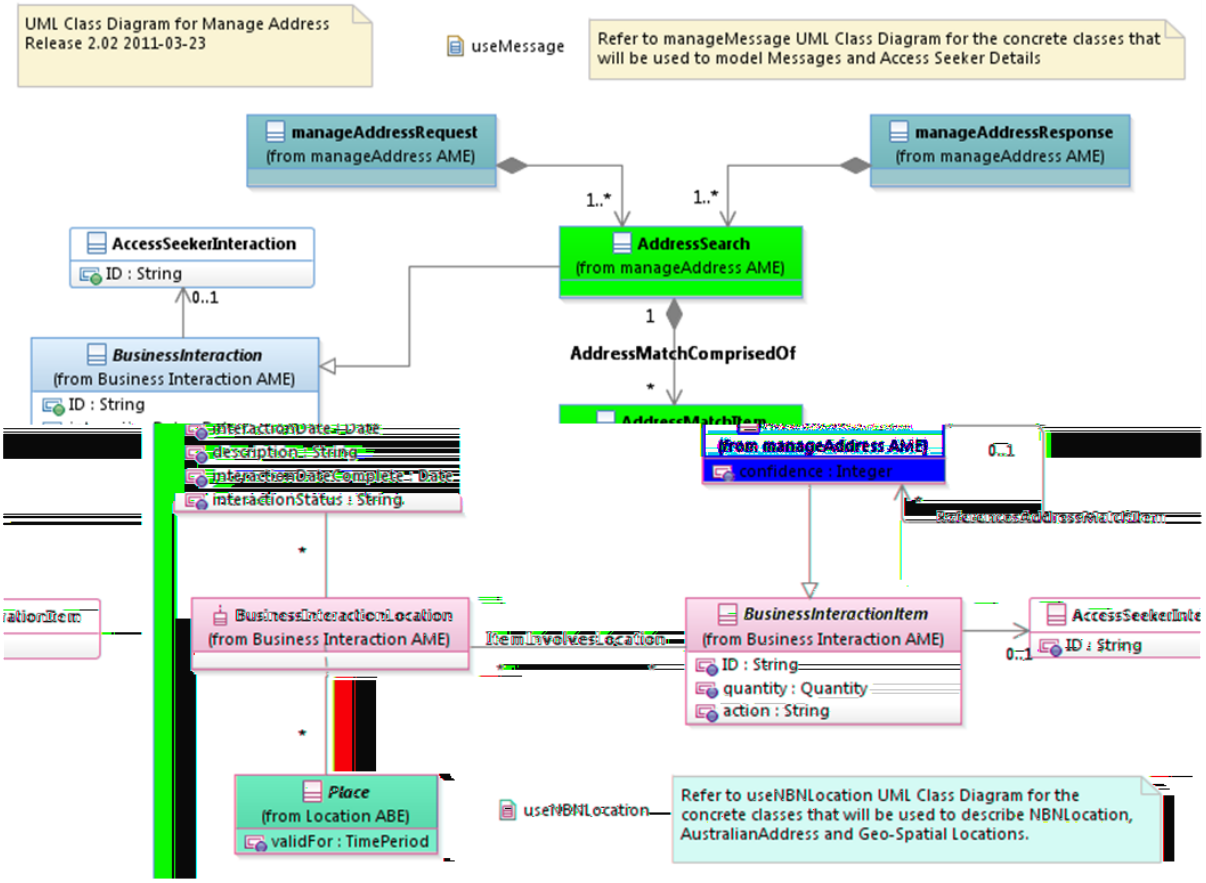


Figure 5 – Manage Address UML Model

2.1.7 Qualification UML Model

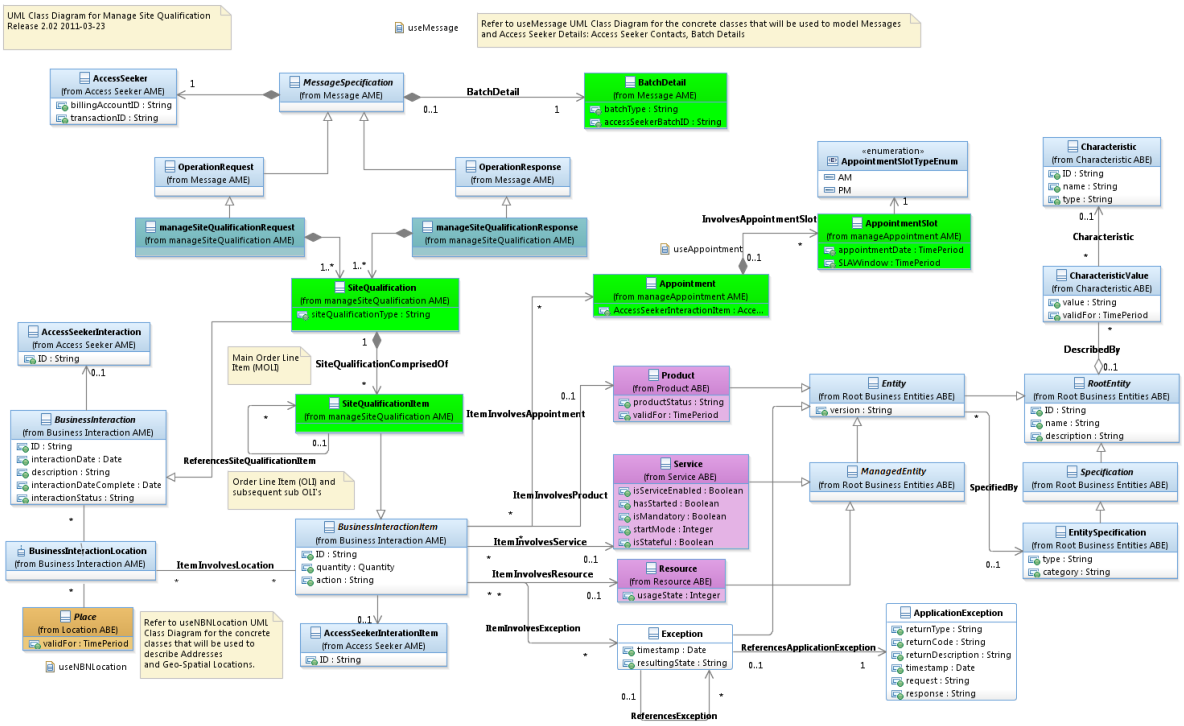


Figure 6 – Qualification UML Model

2.2 Order Management Overview

The NBN Co B2B Gateway supports order management through a set of functions that enable an Access Seeker order to be created, reported, tracked, and maintained. It comprises a number of transactions to support the following high level business processes:

- **Connect** New Service
- **Modify** Existing Service
- **Disconnect** a Service
- Track and Manage Customer Order Handling:
- Amend an In-flight Order
- Cancel an In-flight Order
- Query Order Status.
- Manage Customer Order status notifications.

Access Seekers will be able to order one or more Product offerings to a single location through the B2B Gateway. Multiple services can be associated with a Product. Refer to the B2B Product Definition Technical Specification for more information.

As an extension to the capability to order a Product for a single location, Access Seekers will also have the ability to place orders for multiple locations via the one initial transaction through the Bulk Orders capability. NBN Co system will decompose the Bulk Orders into a single order at a single location and fulfil them as per the single order process. This means that some orders within a Bulk Order may be accepted (if feasible) while others may not (if not feasible).

NBN Co will proactively send order status updates to the Access Seeker as the order progresses through each key milestone of the order fulfilment process.

Once the order has been fulfilled, a notification is sent to the Access Seeker advising that the service has been activated and order completed (Note: Billable features and when to initiate billing is driven by Product rules which will be advised under the Wholesale Broadband Agreement). An NBN Co Product order will not be completed until all associated NBN Co services have been activated and tested..

2.2.1 Product Order Construction

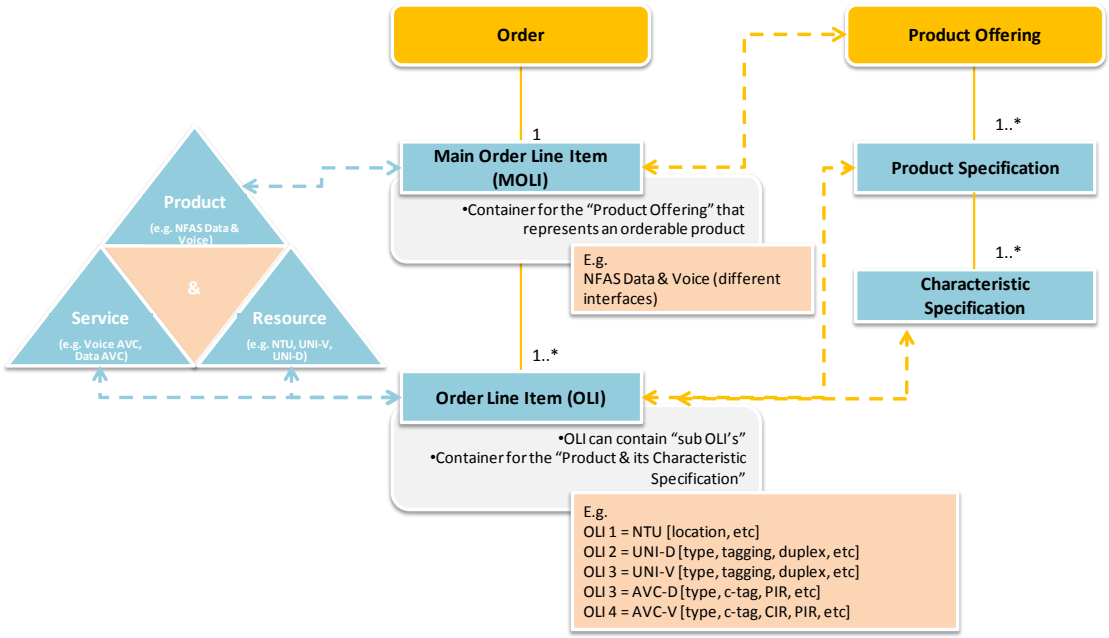


Figure 7 – High Level Product Order Construction

An order is comprised of a MOLI (Main Order Line Item) and OLI (Order Line Item) hierarchy. The MOLI acts as a container for the Product offering to be requested as part of the order. Each MOLI would contain a set of OLI's; an OLI may also contain set of child/ sub OLI's. The OLI hierarchy acts as a container for the Product specification and characteristic specifications embedded within the Product definition.

Each Product has services associated with it, which in turn have resources associated to them employed in provisioning of the services. The Product order is transitioned into its respective services and resources specification (within the order structure, reside at the OLI level) which are confirmed and their identifiers are provided as part of the order confirmation advise sent to the Access Seeker. Note that all status notifications sent to the Access Seeker are at an order level.

Refer to Product Definition Specification for further details.

2.2.2 Class Model: Manage Product Order

Access Seekers will order Products from NBN Co as a component of their overall End User offering which are realised in NBN Co's network as connectivity between defined end points with specific characteristics. Each Product has services associated with it, which in turn have resources associated to them employed in provisioning of the services.

A Product Definition formally describes each NBN Co Product offering in terms of its constituent services, resources, subordinate products, and characteristics. The Product Definition is expressed as XML and is provided through the Product Catalogue.

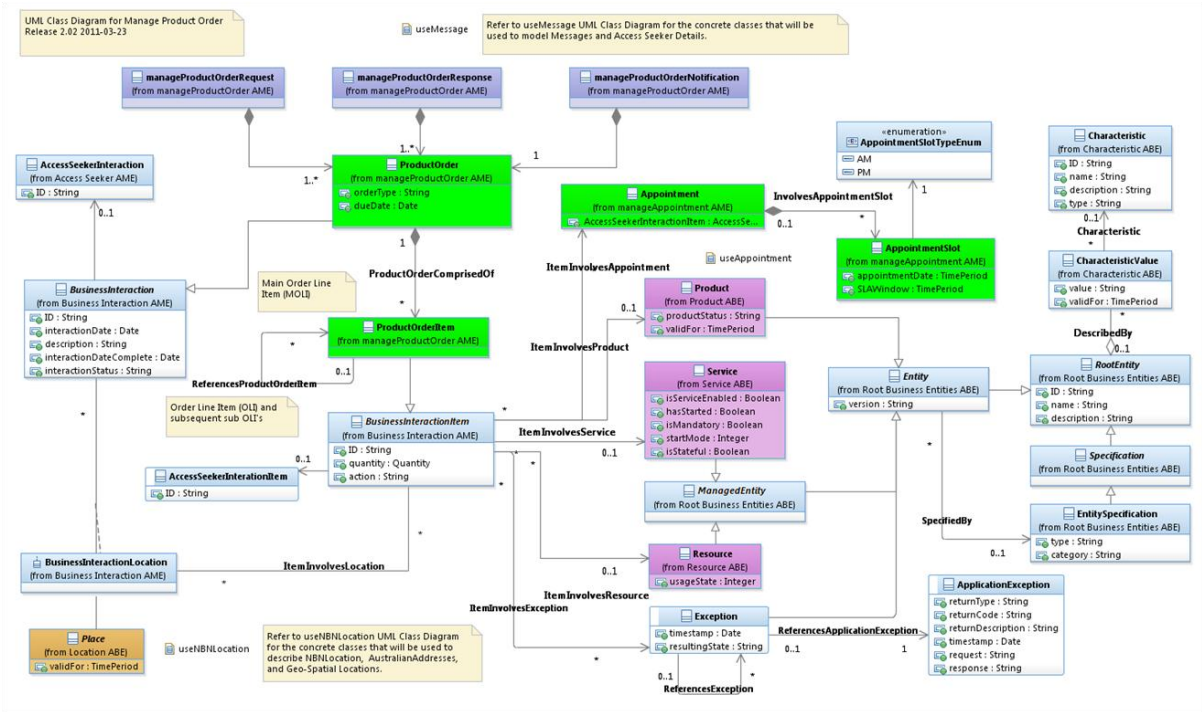


Figure 8 – Manage Product Order UML Model

The key business entities associated with Product orders are:

Entity	Description
manageProductOrderRequest	The Product order request is the message an Access Seeker constructs and contains the order details. A batch order will contain many Product orders.
ProductOrder	A Product order is the container for order items.
ProductOrderItem	A Product order must have at least one Product order item. The first item represents the Product offering (Main Order Line Item – MOLI). A Product order item itself may comprise other Product order items i.e. a MOLI/OLI structure. A Product order item may be a product, a service, or a resource. A MOLI is always a Product. A Product Order will contain only a single MOLI.
Product	Each Product order must have at least one product (the MOLI). A Product is defined by a Product specification that describes the set of orderable characteristics. NBN Co will provide a Product instance identifier for each ordered Product.
Service	A service represents logical connectivity across NBN Co's network. A service is defined by a service specification that describes the set of orderable characteristics. NBN Co will provide a service instance identifier for each ordered service.
Resource	A resource represents a component of physical network infrastructure (e.g. UNI, NTD, NNI). A resource is defined by a resource specification that describes the set of orderable characteristics. NBN Co will provide a resource instance identifier for each ordered resources.

2.2.3 Product & Order Reference Identifiers

NBN Co will provide identifiers to assist in managing both the order and the Product instance. Product orders may be identified by either an Access Seeker provided identifier or the NBN Co identifier.

A Product order identifier will be provided with the order acknowledgement and is required for order management.

The following identifiers are provided by NBN Co once the order has been accepted. These identifiers do not change and will remain valid until a corresponding Product disconnect order is accepted by NBN Co. Access Seekers are required to retain these identifiers within their inventory systems as they will be needed whenever interacting with NBN Co or to assist in interpreting information we provide you such as incident notifications or service performance monitoring responses.

Product Instance Identifier – An identifier provided by NBN Co that uniquely identifies a Product offering and is must be specified by an Access Seeker whenever a modify or disconnect order is submitted to NBN Co.

Service Instance Identifier – An identifier provided by NBN Co that uniquely identifies a service associated with a Product instance and must be specified by an Access Seeker whenever a service test or Trouble Ticket is submitted to NBN Co. Service Instance Identifiers are also supplied by NBN Co when advising of impact arising from planned or unplanned network outages.

NBN Co will include a check digit in the naming convention for identifiers.

The CVC Product offering comprises a single service and is therefore allocated both a Product Instance Identifier and a Service Instance Identifier.

The NFAS Product offering may comprise many services and is therefore allocated both a Product Instance Identifier and multiple Service Instance Identifiers.

An example Access Seeker inventory representation of an NBN Co Fibre Access Service (NFAS) Product with associated identifiers is illustrated below. Note that in this example the CVC is modelled as a single logical connection that records both the Product Instance and Service Identifiers.

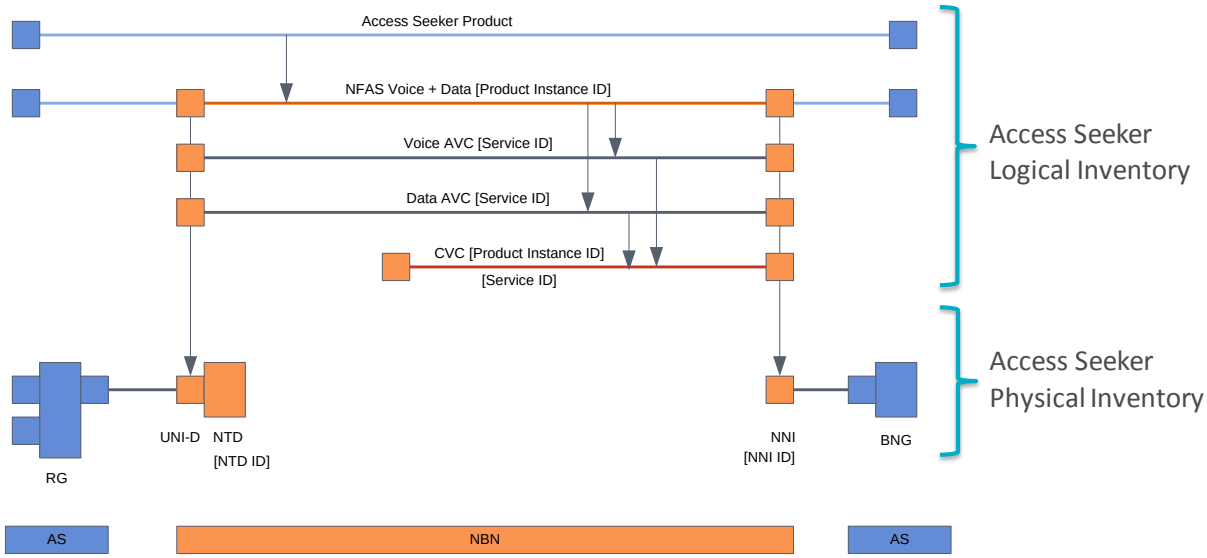


Figure 9 – Example High Level Access Seeker Inventory Model

2.2.4 Order Lifecycle

Figure 9– *Order States Flow Diagram* illustrates key milestones of the order lifecycle from a new order request through to the order completion stage. Through these key milestones NBN Co will proactively send order status updates to the Access Seeker. Alternatively Access Seekers can issue ad hoc requests for the current order status through the B2B Gateway. Access Seekers may use the order notifications to track order progression and important state transitions. Keep Customer Informed (KCI) notifications provide further detail surrounding NBN Co's order activities.

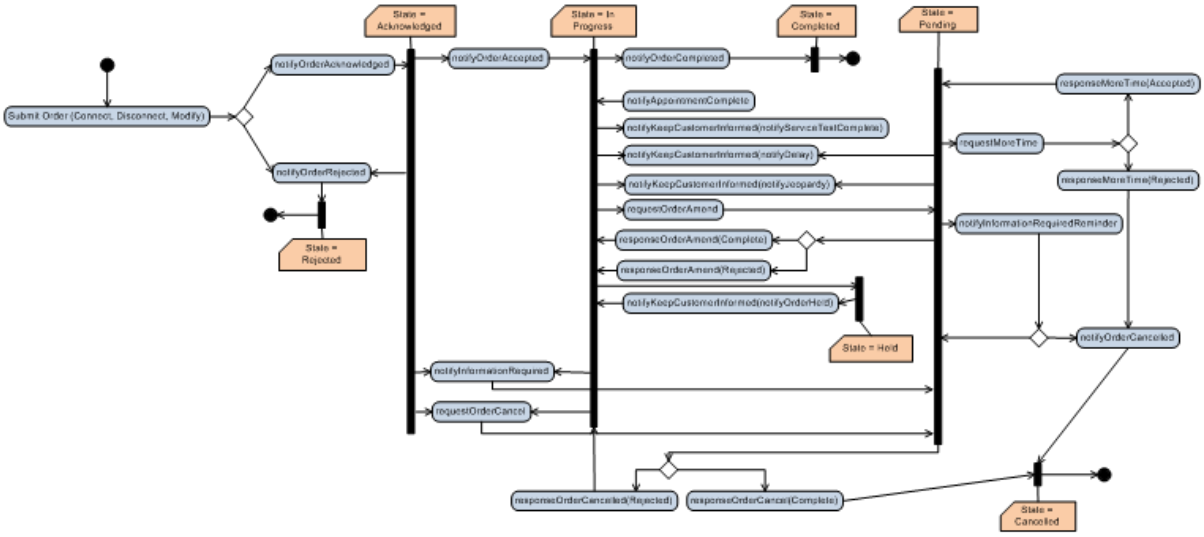


Figure 10 – Order States Flow Diagram

2.2.4.1 Order State Definitions

Number	State	Description
1.	Acknowledged	The *Acknowledged* state is where an order has been received by NBN Co and has passed message validation.
2.	In Progress	The *In Progress* state is where an order has passed the NBN Co Order Feasibility check successfully and service delivery has commenced.
3.	Cancelled	The *Cancelled* state is where an in-flight order has been successfully cancelled.
4.	Completed	The *Completed* state is where an order has complete provision and the service is now active.
5.	Pending	The *Pending* state is where an order is currently in a waiting stage for an action/activity to be completed before the order can progress further, pending order amend or cancel assessment. In situations where Access Seeker action is required, an Information Required notification will be issued on transition into this state. A pending stage can lead into auto cancellation of an order, if no action is taken within the NBN Co defined timeframes to be described under the Wholesale Broadband Agreement (WBA).
6.	Rejected	The *Rejected* state is where: • An order failed the Order Feasibility check • Invalid information is provided through the order request • The order request fails to meet NBN Co business rules for ordering.
7.	Held	The *Held* state applies where an order cannot be progressed due to an NBN Co issue. Reasons for an order to be placed into the Held status include but are not limited to mass service disruptions and transmission network upgrades. The effect of an order being placed into Held status will be set out in the WBA. Upon resolution of the issue, the order will continue to progress.

2.2.5 Order Types

Figure 10– *Order Type* illustrates the types of order supported through the request order transaction.

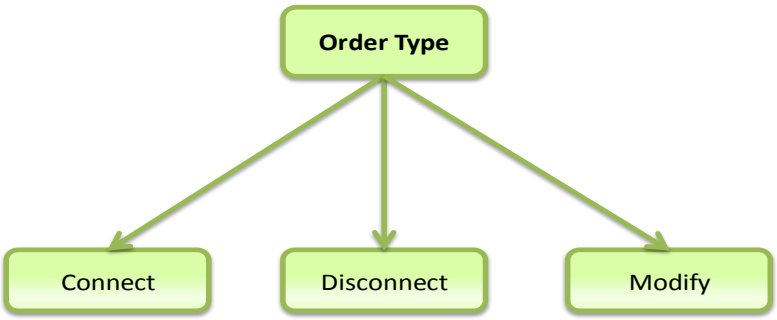


Figure 11 – Order Type

2.2.5.1 Connect Order Type

The **Connect** order type allows Access Seekers to establish a new NBN Co service for the End User.

2.2.5.2 Disconnect Order Type

The **Disconnect** order type is where the Access Seeker would like to disconnect existing service/s. Disconnections will only be processed for services where there are no other services that depend on the service targeted for disconnection. Therefore, Access Seekers can only disconnect an existing service where there are no cross dependencies with services that are not being cancelled. Disconnect a service can only apply to a single location.

2.2.5.3 Modify Order Type

The **Modify** order type is where the Access Seeker would like to change to an existing (active) service/s. The Modify order supports ***Configuration*** changes to an existing service, for example: changes to an existing service bandwidth.

Modification to an existing service(s) will be validated against Product business rules (i.e. what type of service elements or type can be modified).

Note: Change in the location cannot be requested through the Modify service order request. Relocations be addressed as disconnect and connect.

2.2.6 Order SLA Management

Service Level Agreements, and any applicable milestones, will be defined and managed under the WBA. Figure 11– *Order SLA Management* provides an illustration for the purpose of describing the relationships between jeopardy and delay notifications and SLA milestones.

4. Jeopardy Notification
   Each fulfillment task within the order lifecycle will be subject to a target elapsed time to completion. Jeopardy occurs when the target time is about to be breached, or has been breached, at a particular stage of an order. NBN Co will generate an alert at a product-specific interval prior to the target, and a notification will be sent to the Access Seeker with the reason for being in jeopardy. Business Rules will apply on a per Product basis.
5. Delay Notification
   NBN Co will send a Delay Notification to the Access Seeker where it has identified that the order will not be completed within the SLA, impacting the delivery of an order.

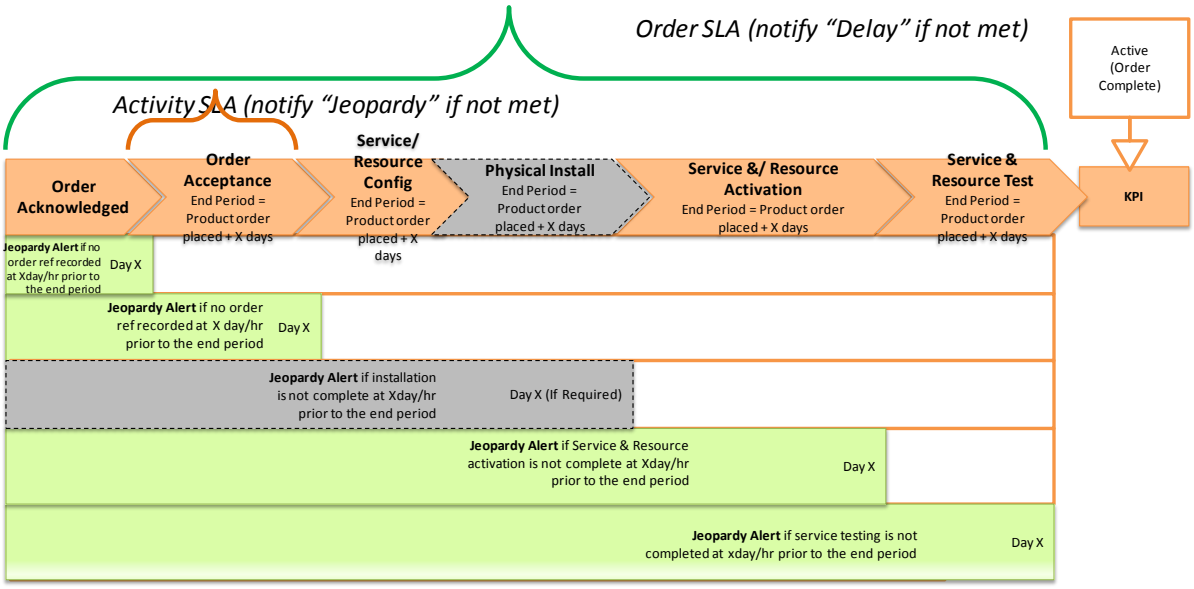


Figure 12 – Order SLA Management

2.2.7 Order Management Class Diagrams

Order Management Class diagrams have been specified in the NBN B2B Product Definition Technical Specification.

2.3 Product Catalogue Enquiry

Access Seekers will be able to access a set of functions across the B2B Gateway that supports querying the Product catalogue to retrieve Product definitions.

Refer to the NBN B2B Product Definition Technical Specification for details of the Product specification.

2.4 Appointment Management

This area is concerned with the B2B business processes for managing the establishment of a mutually acceptable appointment time between the Access Seeker and NBN Co. It is a sub process which forms part of the Fulfilment and Assurance process streams. Appointments will be required for handling visits like gaining access to End User premises to install or repair equipment, locked engineering or other facilities, or for joint testing between the Access Seeker and NBN Co.

Access Seekers can request available appointment slot/s. NBN Co will offer the Access Seeker time slot/s for carrying out activities at the required locale. An available appointment slot can then be reserved or booked by the Access Seeker for an order or ticket. Note that appointments can be reserved for a defined sunset period prior to order creation. [1]

[1] Appointment slot reservation will be controlled and managed under the Wholesale Broadband Agreement (WBA)

2.4.1 Concepts

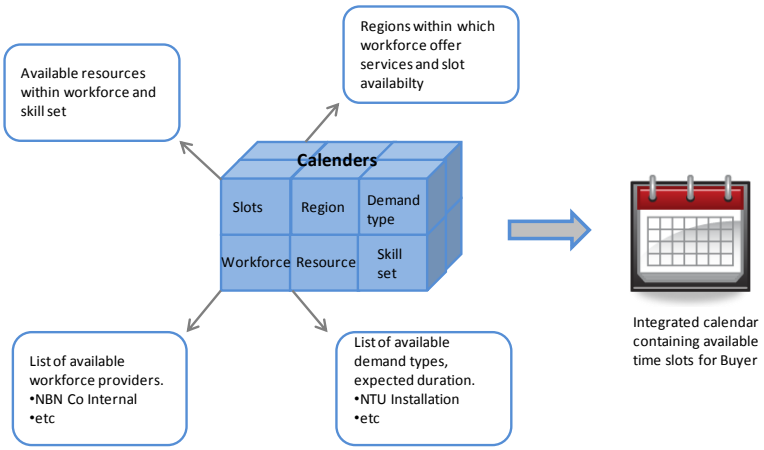


Figure 13 – Appointment Cluster

It is envisaged that there could be multiple calendars maintained internally, classified by region, which can be in turn linked to a workforce manager that provides services in the form of available demand types. These workforces would have associated resources with a given skill set who execute or perform these demand types on request. Workforce managers may commit to a certain volume of demand types within a region to create capacity within the calendar which is then consumed by Access Seekers. Note that scheduling is performed against capacity. NBN Co intends to further consult with industry through an Appointment Discussion Paper that will make proposals with respect to responsibilities, business rules, and capabilities.

An integrated calendar will be available via both the Access Seeker Service Portal and B2B Gateway presented that allows Access Seekers to search and request available slots. Access Seeker shall provide NBN Co Location ID and demand type(s) as a mandatory parameter and shall provide date & time and/or workforce ID as optional parameters. If an Access Seeker has requested a particular time slot and the slot is not available then alternate appointment slot(s) shall be provided to the Access Seeker with the response 'requested date and time not available'.

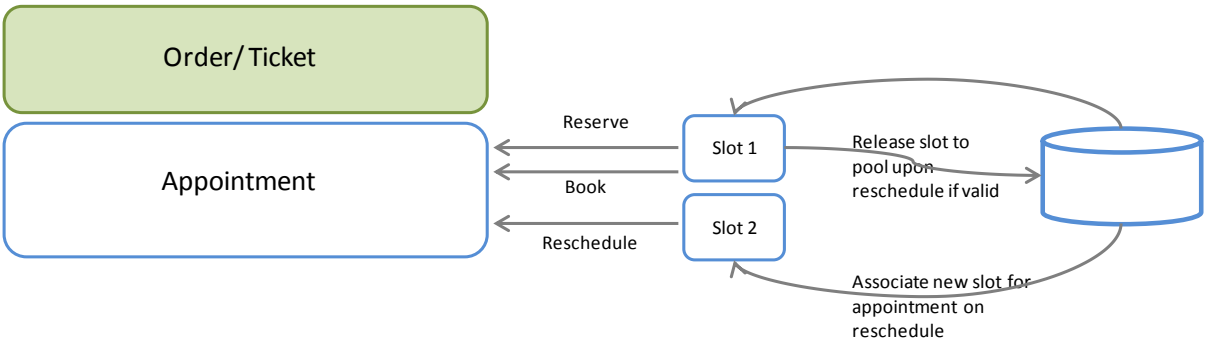
Slot requirement for a given demand type(s) can be specified as:

- Date (range) AM/PM, or
- Date (range) and specific time window within the request.

The return response would inform the Access Seeker of available slot/s based on demand type requested. (Note that each demand type will have an average duration (event window) requirement within which the work is to be performed and this will be considered in the return response to represent availability). The available slot can then be reserved, booked or rescheduled by the Access Seeker as required.

Where the Access Seeker requests that their appointment be rescheduled, the new slot will be provided, confirmed and linked to the appointment. The original slot, if valid, would be released back into the availability pool. An appointment represents the demand type to be performed within a linked time slot by a specific workforce. The demand type gives an indication of the activity that needs to occur, for example: NTD installation. The appointment will be linked to either an order or a ticket, which is required as part of their completion process.

Access Seekers are able to request cancellation of appointments. NBN Co will notify the Access Seeker if it determines that an appointment is no longer required or cannot be kept due to issues affecting the network (such as mass service disruption).



Access Seekers will be notified proactively of key milestones or any updates related to the appointment. In scenarios where an appointment is missed or if a follow up is required, Access Seekers will be required to book a new appointment.

NBN Co is considering allocating appointment slots on the basis of defined priorities that may include: medical priority, urgent network outage, appointment re-schedule, and service restoration SLA. Note that priority appointments may incur additional charges. NBN Co's approach in this regard will be defined in further consultation with the industry.

2.4.2 Class Model – Manage Appointment UML Model

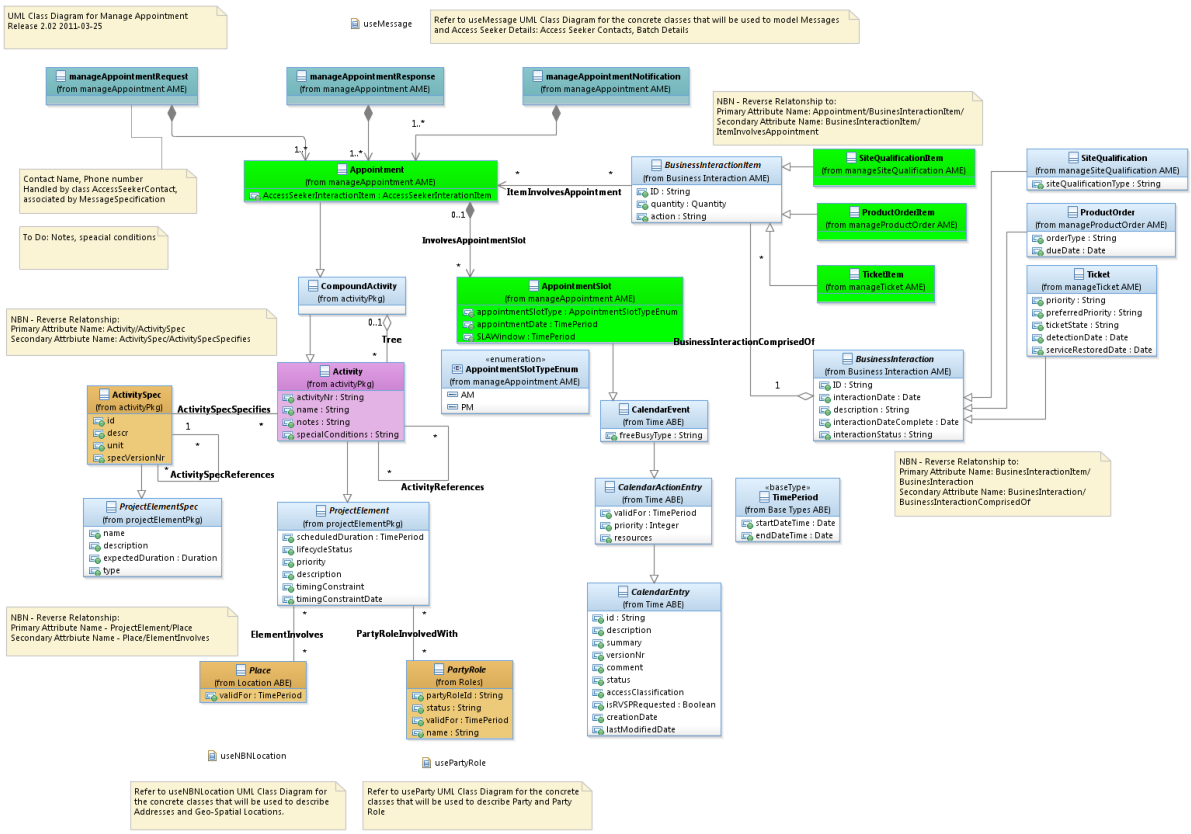


Figure 14 – Manage Appointment UML Model

2.4.3 Appointment State Model

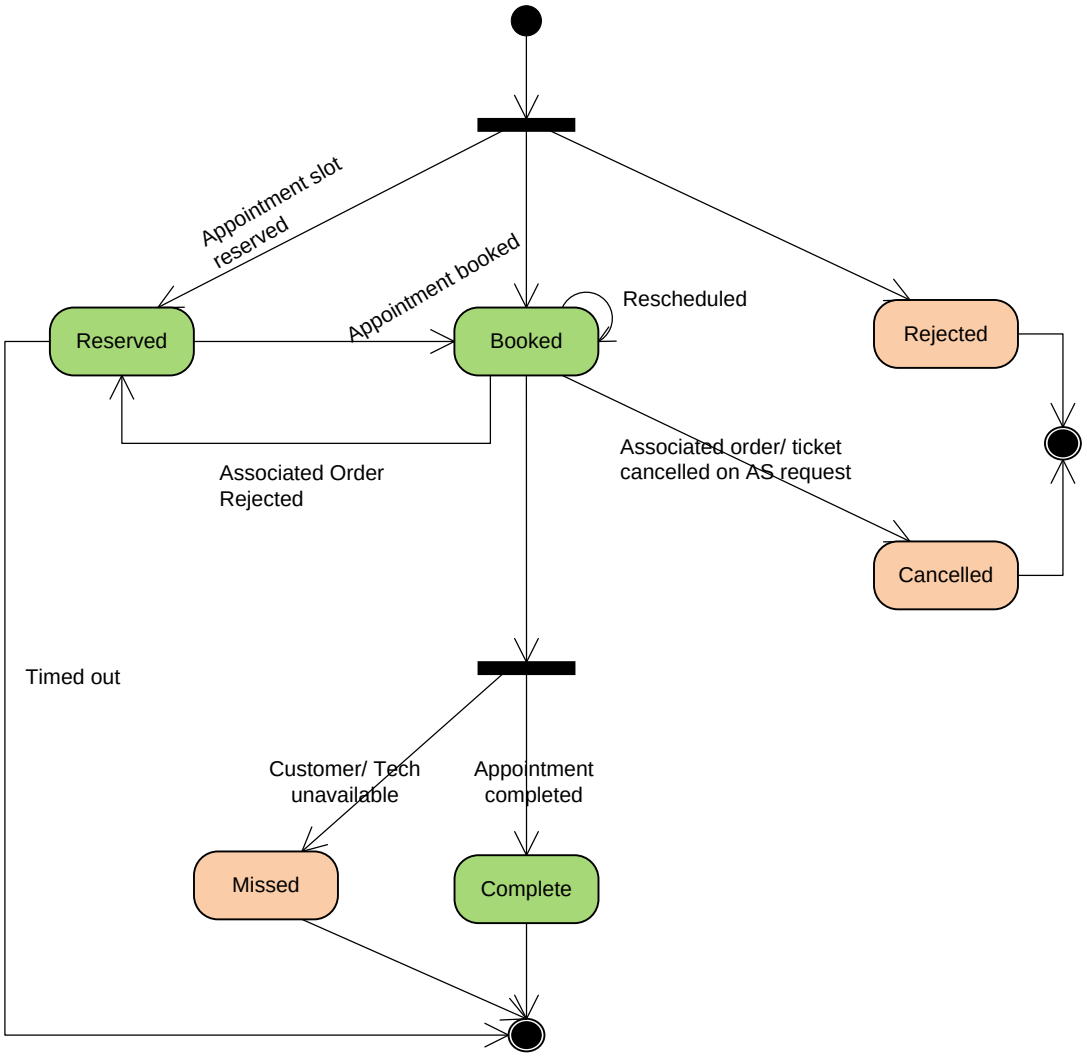


Figure 15 – Appointment State Model

Status	Description
Reserved	State indicating that the required appointment has been reserved for a given time slot. Reservations will only persist for an NBN Co determined period of time and will expire if not confirmed as part of order management or ticket resolution. Reservation will be subject to a fair use policy.
Booked	State indicating that an appointment has been booked and associated with an existing order or ticket. If the appointment were rescheduled, it would be then associated to its new time slot
Rejected	State indicating that an appointment request has been rejected (for example requested demand type does not match order or ticket requirements or a booked appointment already exists)
Complete	State indicating that the appointment has been completed. Activities and tasks related to appointment have been executed and fulfilled. Note that there may be scenarios where follow up is required and this will be advised to the Access Seeker
Cancelled	State indicating that the appointment has been cancelled. For example, if the order or ticket is cancelled on an Access Seeker request, the associated appointment is cancelled.
Missed	State indicating that an attempt was made but due to some reason, for example: customer not being available at the premises, the appointment could not proceed at required timing or failed to proceed. In such instances the Access Seeker will be required to rebook the required appointment. Note that this would be a new appointment.

2.4.4 Slot State Model

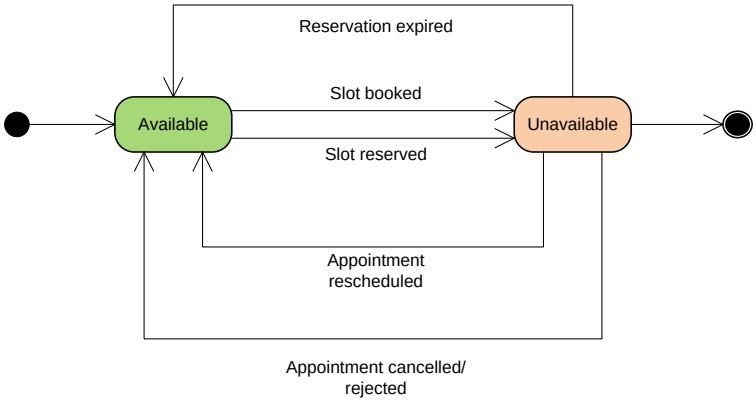


Figure 16 – Slot State Model

Status	Description
Available	State representing that a given time slot has not been taken and is available for booking or reservation
Unavailable	State representing that a given time slot has been already booked or reserved and cannot be taken

2.5 Assurance

2.5.1 Trouble Resolution

Trouble resolution consists of a set of functions across the B2B Gateway that enables tickets to be reported, tracked and maintained. The objective of these processes is to support an Access Seeker who receives reports from End Users, resolve them to the End User's satisfaction and provide meaningful status on repair and/or recovery activity back to the End User. The Access Seeker is responsible for End User contact and direct support in relation to any End User affecting problems detected by other processes or through analysis, including informing the End User and resolving problems to the End User's satisfaction.

Tickets may be created or owned by either Access Seeker or NBN Co. Different scenarios may apply, for example:

- The Access Seeker raises a ticket after the Access Seeker has carried out an initial diagnosis through internal fault detection procedures, End User contact and using the testing management B2B Gateway interactions, or
- NBN Co may raise a ticket resulting from a planned or unplanned network outage.

Most diagnostics tests can be conducted without impacting the service. The trouble administration interface is used to allow the Access Seeker to report troubles, to enable NBN Co to keep the Access Seeker informed of trouble resolution and to facilitate the cooperation of NBN Co. These processes are concerned with the identification and resolution of total or partial failures of the individual services offered under the Access Seeker's contract.

2.5.2 Ticket Types

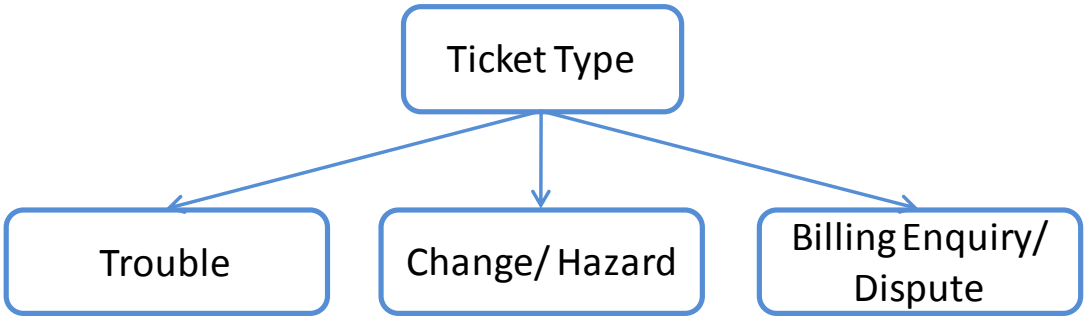


Figure 17 – Ticket Types

Ticket can be categorised as one of the following types:

Ticket Type	Description
Trouble	Any event that is not part of the standard operation of a service and causes or may cause a disruption to that service. It covers: • Trouble Record creation/receipt

Ticket Type	Description
	• Assignment • Investigation • Lifecycle management. Event can be described as any detectable or discernable occurrence that has significance for the management of the IT Infrastructure or the delivery of IT services, and the evaluation of the impact a deviation might cause to NBN Co services. Events can also pertain to Exception cases, which may be unusual but are not necessarily service-impacting. Exceptions as well as Warnings go through Event Correlation and Trigger processing before the decision is made to conduct subsequent processing through either the alert management chain or the incident/ change management chain. An Event may be determined on inspection to be manifestly critical by itself and, without reference to any other source of information, it can be concluded that a service disruption is taking place. For example, in a scenario where service disruption has taken place: an NTD sends an Event advising that one of the in-service UNIs is not functioning. Depending on the circumstances, the next process step would be to open either: a Trouble Ticket, or link an existing Trouble Ticket. Thus, there may be parent-child Trouble Tickets having impacted Access Seekers and their impacted services, which would undergo a clearance process until services were restored and Access Seekers had accepted or confirmed clearance.
Billing Enquiry or Dispute	A ticket type that will allow Access Seekers to dispute selected specific charges within a BEF (Billing Event File) or an invoice, or submit general enquiries.
Change/Hazard	Change Management is the process of planned and unplanned change to the network. Planned Change is expected to involve planning and scheduling with the approval and execution of that change managed through a change process. For unplanned outages, the solution provides an assessment of the impact using Alert and Incident data from Alarm/Event and Access Seekers that are mapped/ correlated against the physical and logical network view as managed by the Inventory. Identified faulty plant/equipment will be assigned to a suitable workgroup for repair and the list of impacted services passed to the relevant Access Seekers.

2.5.3 Ticket SLA Management & Lifecycle

Figure 19 – *Ticket SLA Management* & Lifecycle illustrates the five key milestones of a ticket lifecycle. Each key milestone will be associated to a targeted Service Level Agreement (SLA). The standard SLA of a given ticket may vary based on the ticket priority and/ severity. Access Seekers will be sent notifications proactively, advising progress and the achievement of agreed milestones and statuses.

There are two types of notification for SLA management, Jeopardy and Delay notifications.

- Jeopardy Notification
  Each ticket milestone within its lifecycle will be subject to a target elapsed time to completion. Jeopardy occurs when the target time is about to be breached, or has been breached, at a particular stage of a ticket. NBN Co will send the jeopardy notification to the Access Seeker with reason specified.
- Delay Notification
  NBN Co will send a Delay Notification to the Access Seeker where it has identified that the ticket resolution will not be completed within the agreed overall SLA.

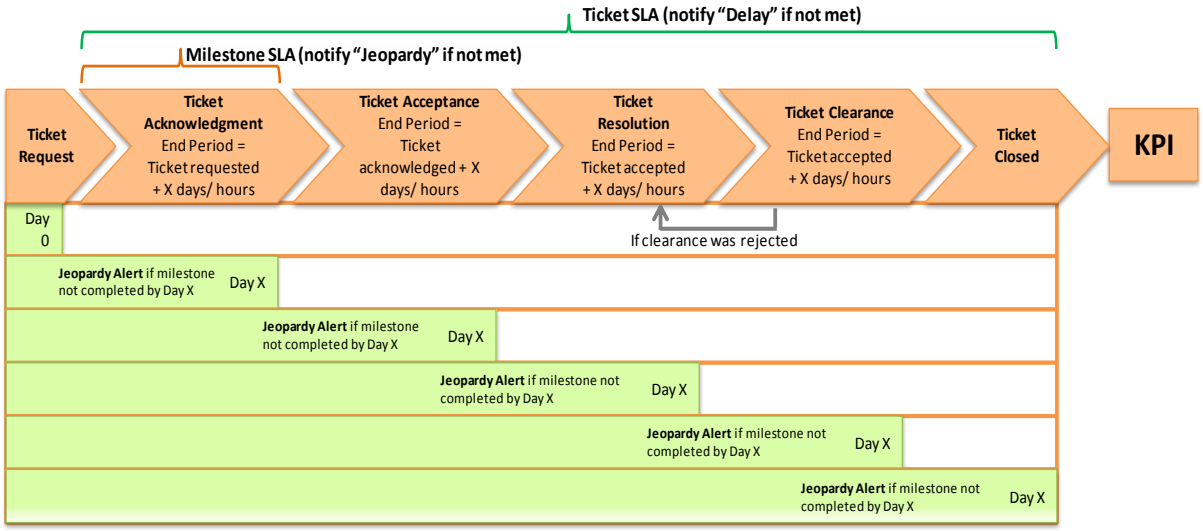


Figure 18 – Trouble Ticket SLA Management & Lifecycle

2.5.4 State Model (Ticket)

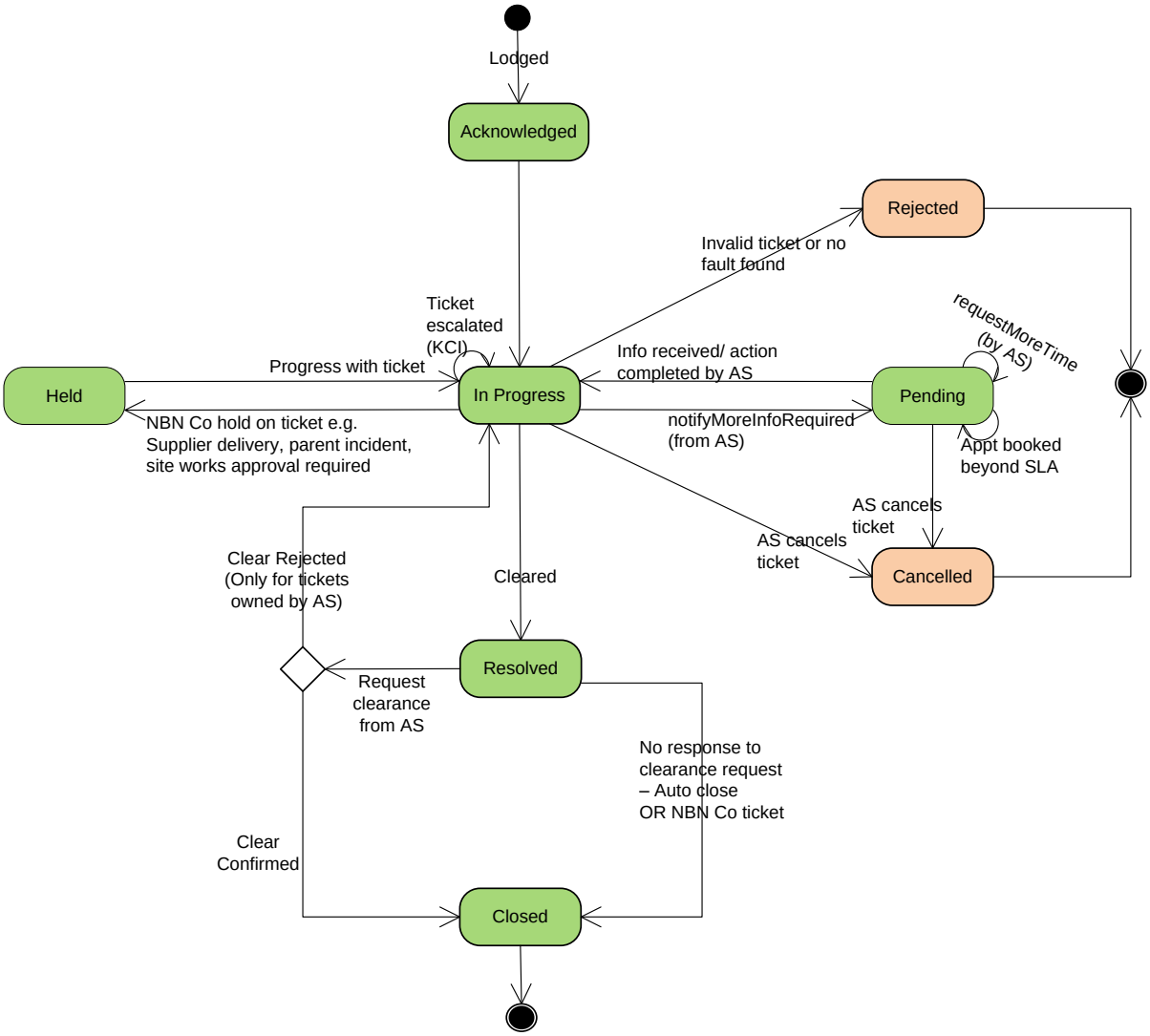


Figure 19 – Ticket State Model

State	Description
Acknowledged	State indicating that a ticket request has been received and lodged by NBN Co. Provides NBN Co ticket id to Access Seeker for tracking
In Progress	State indicating that the ticket has been assigned and progresses with investigation and diagnosis
Pending	State representing that an activity or action is pending on the Access Seeker to complete. For example, to provide more details in respect to a fault
Held	The Held state is where NBN Co has to pause the ticket progression until resolution of a NBN Co issue (e.g. supplier delivery, parent incident etc). Upon resolution of the issue, the ticket would continue progression.
Resolved	State representing that a ticket is deemed to be cleared and to undergo customer acceptance.
Closed	State indicating that a ticket is accepted to be resolved by both the Access Seeker and NBN Co, and is closed. If the Access Seeker does not send a ticket clearance within the defined period, the ticket will be automatically closed/ completed.
Cancelled	State representing that a ticket is no longer required and has been cancelled.
Rejected	State representing that a ticket is not valid and hence is rejected or cannot be further progressed.

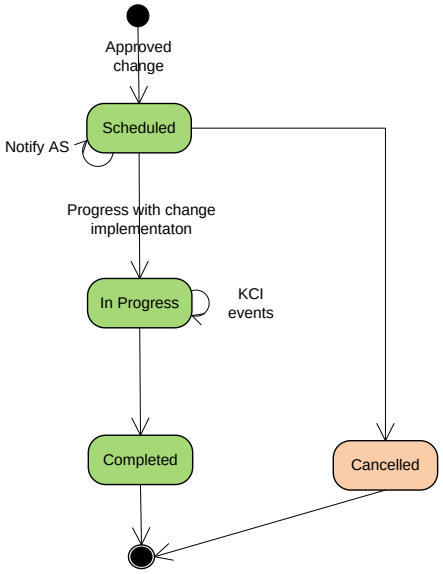


Figure 20a – Planned Change Ticket State Model

State	Description
Scheduled	State only utilised for planned changes or hazards. Represents that change is planned on the network and has been approved. Notification be sent to Access seekers 10 days prior to its implementation
In Progress	State representing that change is being implemented. KCI events be sent to affected Access Seekers during the maintenance window in order for them to manage their End Users advising that work is about to commence
Completed	State representing that the change has been implemented over the network and all activities completed
Cancelled	State representing that the planned change has been cancelled and cannot be progressed with

2.5.5 Class Model – Manage Ticket UML Model

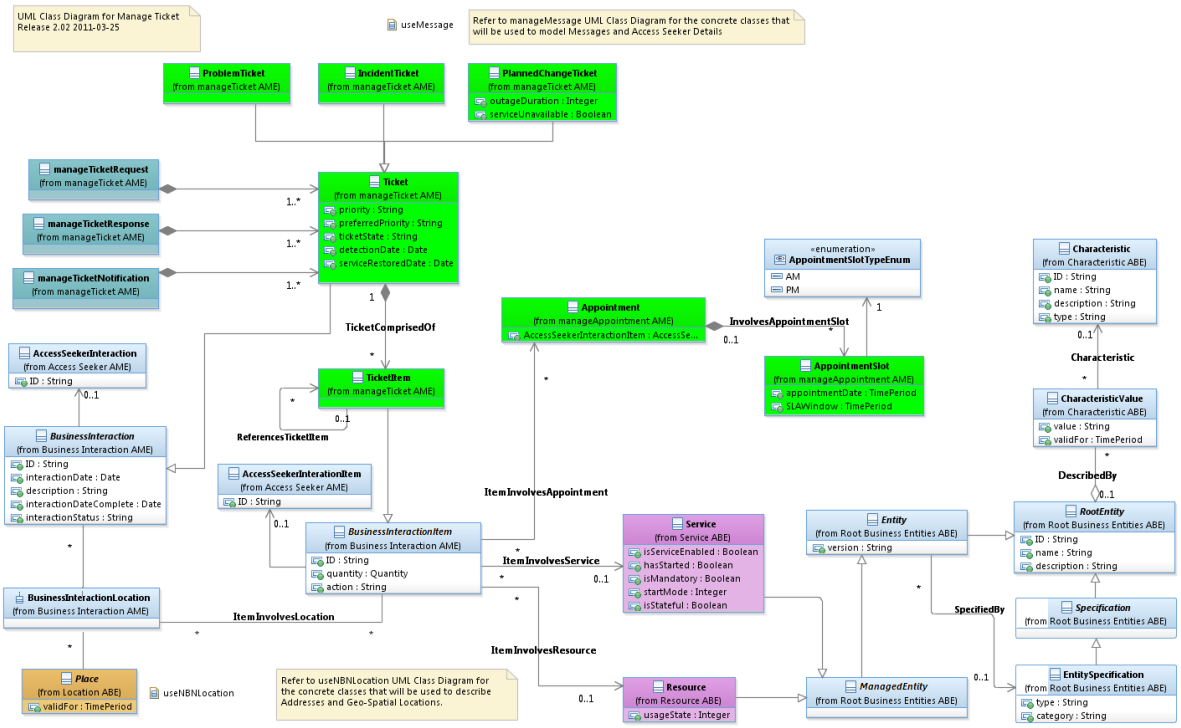


Figure 21 – Manage Ticket UML Model

2.6 Billing Overview

The ETIS EBG XML electronic billing standard will be used as the mechanism by which billing event data and invoices will be transmitted between the Access Seeker and NBN Co through the B2B Gateway, as illustrated in Figure 22 – *Access Seeker Billing Interactions*.

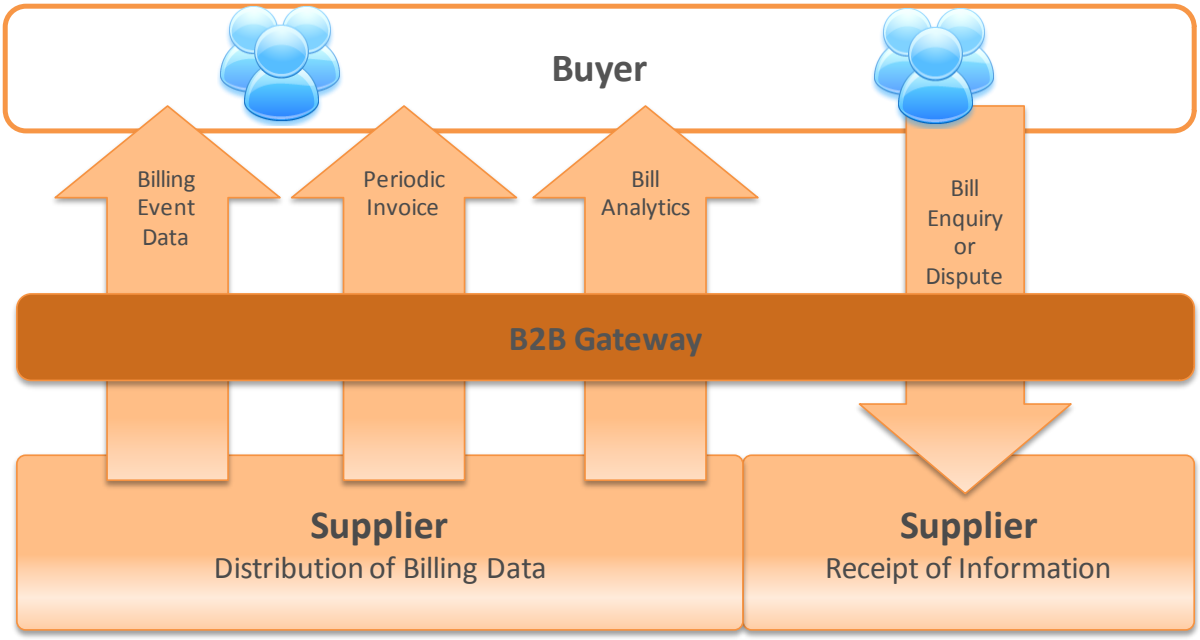


Figure 22 – Access Seeker Billing Interactions

2.6.1 Billing Event File

The Billing Event File (BEF) will be delivered at a frequency that can be defined by Access Seekers from one of: daily, bi-daily (every 2 days), weekly, fortnightly, or monthly. The configuration of the Billing Event File delivery will be agreed during the Access Seeker On-boarding process. Changes to the BEF delivery frequency can be arranged through the Billing Operations Support process. NBN Co intends to deliver the BEF by 6am the day following the BEF anniversary. The actual SLA will be subject to completion of design & consultation.

Access Seekers will have the ability to request a previously supplied BEF be resent.

The BEF will be available in ETIS ETEB03 XML format and will contain:

- Access Seeker ID
- Billing Account ID
- Product Instance ID
- Service ID
- Charges

2.6.2 Billing Invoice

After the production of a billing run, Access Seekers will be provided with a monthly Invoice in summary format. The detailed billing data that aggregates to the summary information will also be made available to Access Seekers in a BEF along with a reconciliation of the billing event files used to generate the Invoice. Invoices will be generated on a regular basis, planned to be monthly.

The Billing Invoice will be available in two formats:

- An ETIS ETEB01 XML format so that the data can be imported into the Access Seeker's billing, financial and / or reporting systems.
- A PDF format must be available from NBN Co as a Tax Invoice for delivery to the Access Seeker's accounts payable department.

Both Invoice formats will be available through either the B2B Gateway or the Access Seeker Service Portal.

The following information will be made available within the Invoice:

- A summary invoice of charges at the Product level
- Account information
- Balance brought forward
- Account level adjustment
- Payments received
- Billing Event Files metadata that constitute the bill charges amount for the period and will reconcile with the totals of the related BEFs.

2.6.3 Billing Analytics

Bill Analytics assists with a number of business functions within an Access Seeker environment. This includes financial reconciliation of billing data to NBN Co supplied invoices. It also provides information about the charges associated to NBN Co services that comprise the Products the Access Seeker supplies to its customers/End Users.

The following billing reports will made available through the B2B Gateway:

- List of past BEFs
- List of past invoices
- Payment history by date range
- List of Billing Accounts per Access Seeker ID
- Billing account position e.g. outstanding billing account
- List of Billing Account level adjustment, rebate and discount
- Dispute/Enquiry information (historical and current).

2.6.4 Billing Enquiry or Dispute

A Billing Enquiry is a type of transaction that will allow Access Seekers to ask generic questions and receive clarifications relating to their bill. A Billing Dispute will enable the Access Seeker to select specific line items, or a group of line items within the bill to formally dispute.

The Billing Enquiry/Dispute capability will be managed via the B2B Gateway through the same service specification used for raising a Trouble Ticket. The difference is that the ticket type would be either 'billing enquiry' or 'billing dispute'. A workflow will be initiated and assigned to a specific billing workgroup for resolution, and status updates will be available to Access Seekers at key points along the resolution process as per the ticketing transaction process.

As an extension of Trouble Ticket management process, Access Seekers will have the ability to convert an unresolved Billing Enquiry into a dispute with an appropriate reason, and business rules will be applied.

2.6.5 Billing Ticket State Model

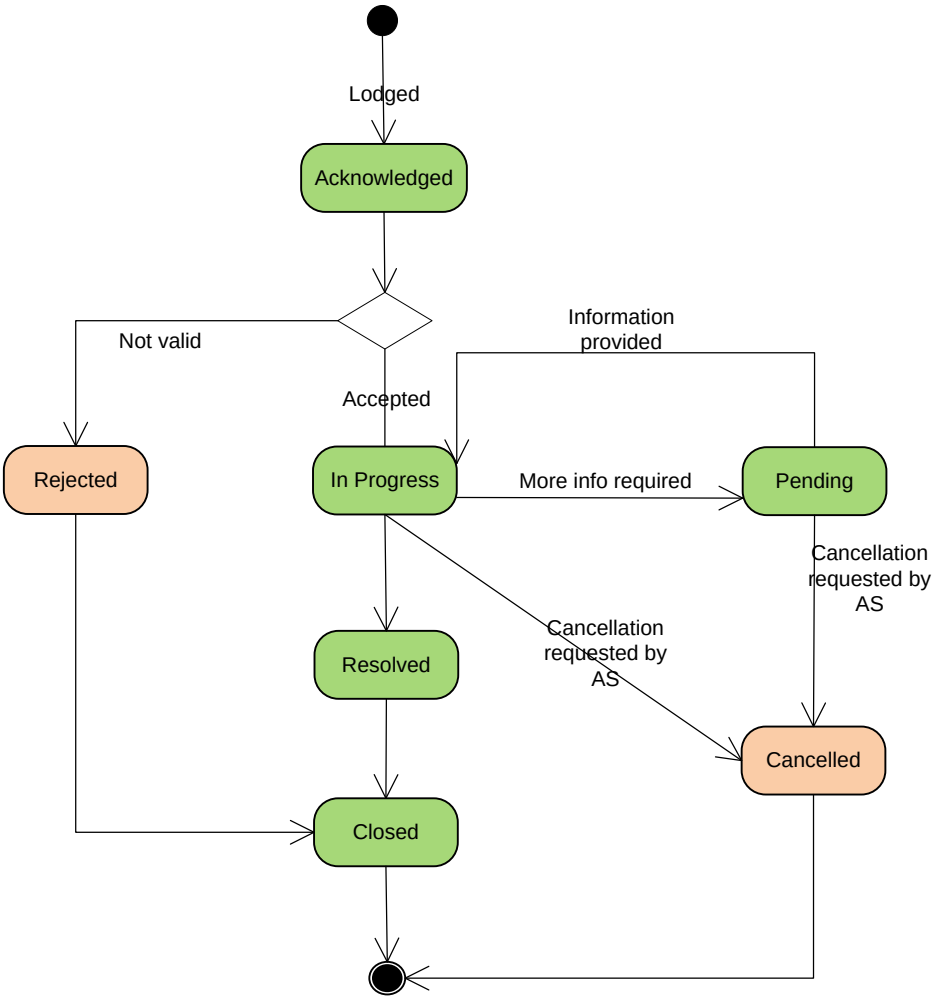


Figure 23 – Billing Ticket State Model

2.6.6 Manage Billing File Class Diagram

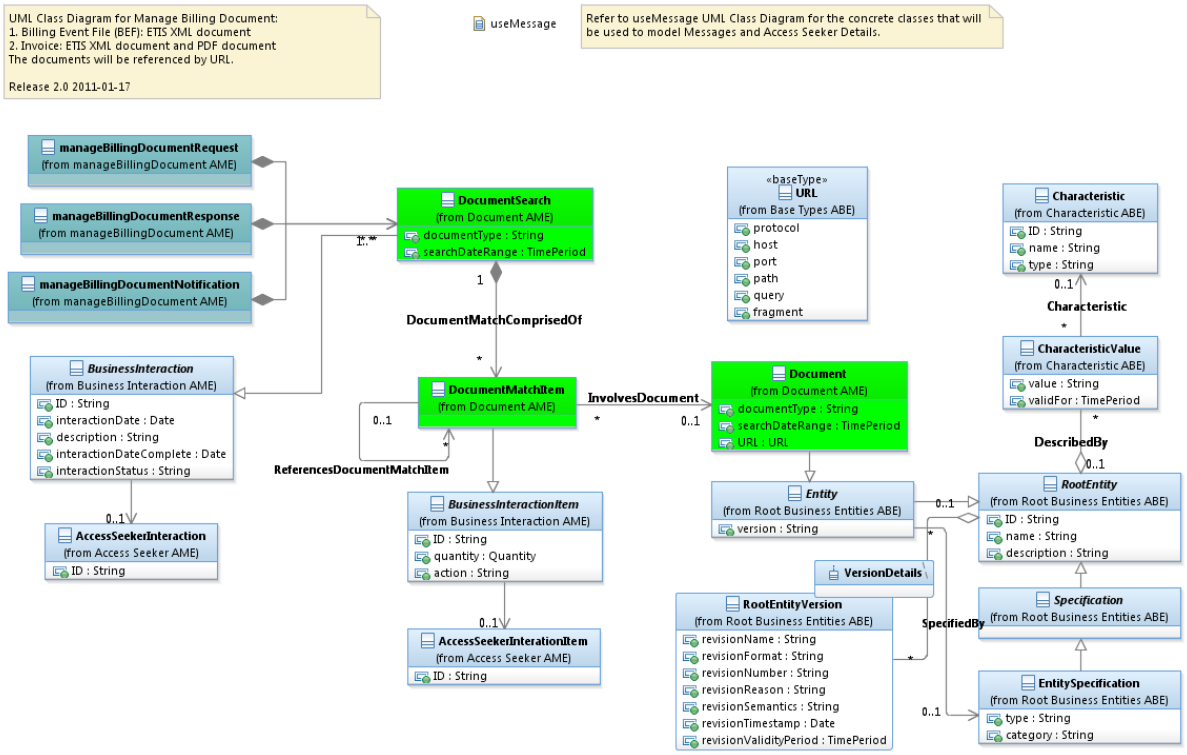


Figure 24 – Manage Billing File Class Diagram

2.7 Network Testing, Performance and Diagnostic Overview

2.7.1 Service Assurance

The goal of Service Assurance is to provide an integrated, efficient toolset for the rapid detection, diagnosis and resolution of network issues. All Access Seekers will have access to a range of Service Assurance capabilities, available in current and historic time frames, and comprising:

- Indication of the health and operational status of the specified service suitable for reactive fault investigation
- Service-level metrics for long-term capacity planning
- Diagnostic capabilities for reactive fault isolation & resolution verification.

Figure 22– *Network Testing, Performance and Diagnostics Concept*, illustrates the concept of the Network Testing, Performance and Diagnostics capabilities that will be available via either the B2B Gateway or Access Seeker Service Portal.

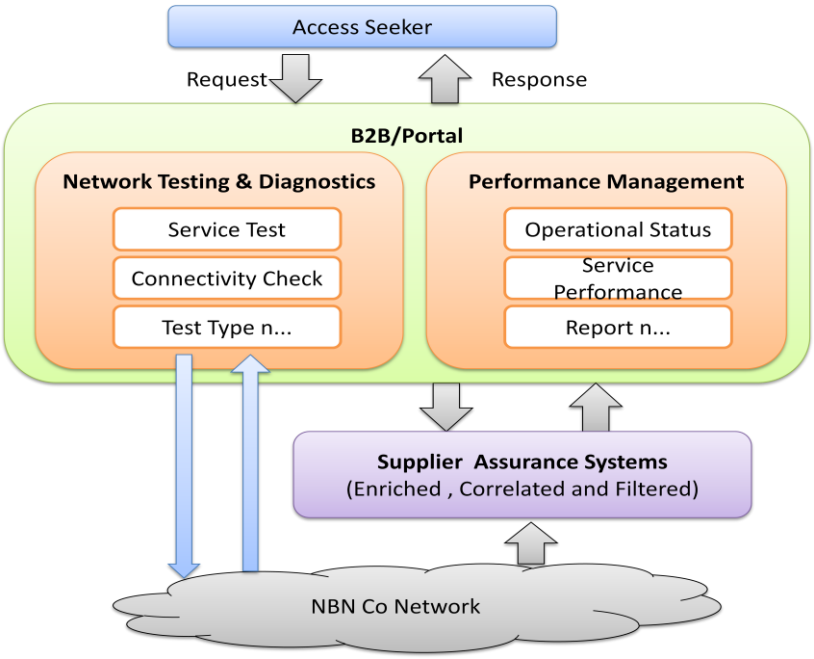


Figure 25 – Network Testing, Performance and Diagnostics Concept

2.7.2 Network Testing and Diagnostics

The Network Testing and Diagnostics tool via the B2B Gateway will provide Access Seekers with the following capabilities:

- **Event Diagnosis** - Access Seekers will be able to initiate a request to determine the Operation status of the Service that may be impacted by an Event.
- **Connectivity check** - Access Seekers be able to use the Connectivity Check to detect a service connectivity failure. Ethernet 802.1ag loopback for an AVC between the NNI and UNI will be supported
- **Service test** - Access Seekers will be able to initiate a request to verify the operation of service specific functions. For example, a metallic line test to verify the operation of a POTS service connected to the UNI-V port.

Access Seekers will be able to request a specific test type through the B2B Gateway on a specific service. Access Seekers can only request a test type that are published based on the service/s contracted with NBN Co.

2.7.3 Performance Management

Performance Management capability will be made available to Access Seekers via the Portal based tools as well as raw data can be requested through B2B Gateway. Performance reporting capability supports the Access Seeker's insight into aggregated service components, for example: CVC.

Access Seekers will be able to view and request performance data of the network that is restricted to their particular services; therefore, authentication of users provides a key role in defining the views and data available to a user.

Indicative Performance Management features that are accessible to Access Seekers via the B2B Gateway are described in the table below.

Category	Feature	Indication	Description
Status	Operational Status Check	On-demand, near-real-time	Operational status (up/down) for the AVC, CVC, UNI, and NNI.
	Event Status / History Report	Historic report	An indication of all current/previous alarms and events on that service, with time, severity and resolution data.
Metrics	Service Performance Metrics	Historic report	In/out frames and dropped frames per CoS reported in a defined historical time period.

2.7.4 Class Diagram – Diagnostics Class Diagram

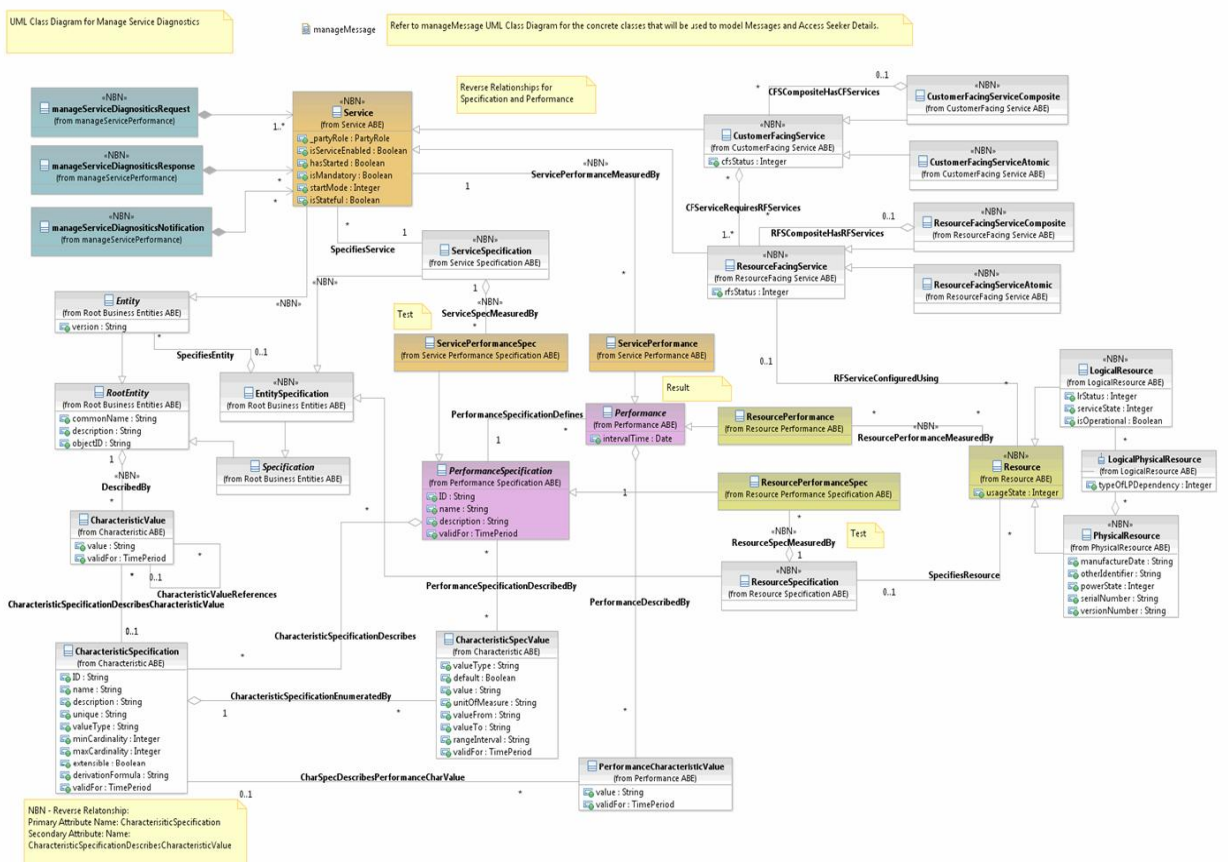


Figure 26 – Diagnostics Class Diagram

2.8 Batch & Bulk Overview

Batch and bulk capability provides an Access Seeker with the ability to submit multiple items within the same request. NBN Co will decompose the consolidated request into individual request items.

The key differentiator is that a Bulk request once received by NBN Co, is immediately decomposed into its constituent line items. These are then processed, notified and tracked per individual request item.

In contrast, the Batch request is managed, notified, and tracked in aggregate. A consolidated response is provided for each constituent line item within the Batch. Note that if individual items within a Batch are rejected, this shall not lead to rejected of complete Batch. For a batch request NBN Co will proactively send Access Seekers status updates related to the batch processing. NBN Co Batch Management will also provide the Access Seeker the following capabilities:

- Upload of batch data submission via the Access Seeker Service Portal.
- Notification of batch status update
- View current batch status via the Access Seeker Service Portal

Thus B2B Gateway will support two types of consolidated transactions:

- Bulk transaction is to be used for long running processes (specifically product orders) . This type of transaction is only to be used for bulk load submission and response will be handled and sent individually for each item.
- Batch transaction is to be used for immediate processes (specifically Address Query and Service Qualification). This type of transaction will support batch submission and combined response.

Both batch & bulk transactions will be handled by NBN Co as lower priority requests and will be subject to extended response times; targets to be published in a future update of this specification.

2.8.1 Batch Lifecycle

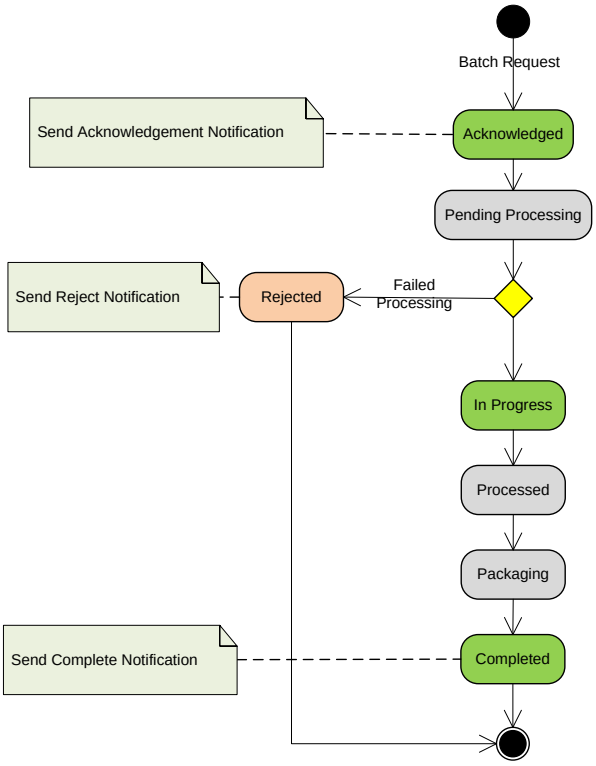


Figure 27 – Batch Lifecycle State Diagram

State	Description
Acknowledged	State indicating that a batch request has been received. Request acknowledgement notification will be sent to the Access Seeker.
Pending Processing	State representing a batch request has been accepted and queued for processing. State while decomposition takes place.
In Progress	State representing that batch request is being executed. Each line items is identified, validated and processed individually
Processed	State representing all line items in a batch has been processed
Packaging	State indicating a consolidate results into a single response message activity including a summary of the total successful/unsuccessful count.
Rejected	State indicating that a batch request cannot be accepted for processing A “Rejected” notification will be sent to the Access Seeker.
Completed	State representing a completed batch request (all work has been completed). A “Completed” notification will be sent to the Access Seeker.

3 Business Process Journeys

This section provides a two of example Access Seeker journeys to illustrate possible usage of the B2B business processes. Actual Access Seeker orchestration will depend upon factors including specific business and systems requirements.

3.1 Staged Product Order

A staged Product order is built in a series of steps supported by pre-order management business processes. Commonly these transactions involve a conversation between the Access Seeker and End User to determine the Product (and characteristics such as speed and NTD location), feasibility, and appointment details. The combination of Product feasibility checking and appointment reservation allows the Product order to be submitted with a lower risk of order rejection.

An Access Seeker is not required to perform a staged Product order, or to implement all steps illustrated below. For example, if the location only qualification confirms that there is no infrastructure shortfall at the service location, and there is ample capacity, an Access Seeker may elect to skip the order feasibility check and submit the Product order directly.

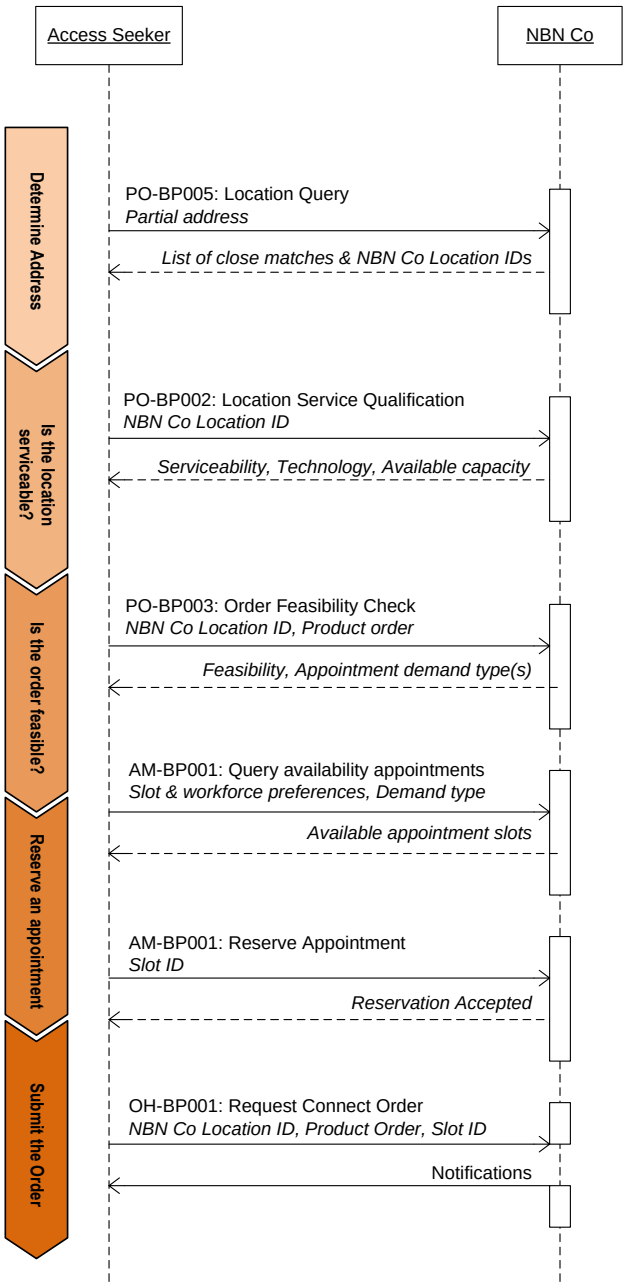


Figure 28 – Staged Product Order Journey

3.2 End User Reports a Problem with the Service

NBN Co exposes a range of test & diagnostic capabilities that may be employed by Access Seekers to assist in determining whether a service is not performing satisfactorily or has failed altogether. In such circumstances a fault localisation test will be used to isolate the cause to either NBN Co's network or the Access Seeker's network. The Access Seeker may raise a ticket, providing a reference to the fault localisation test, to notify NBN Co of the problem and to track its resolution to completion.

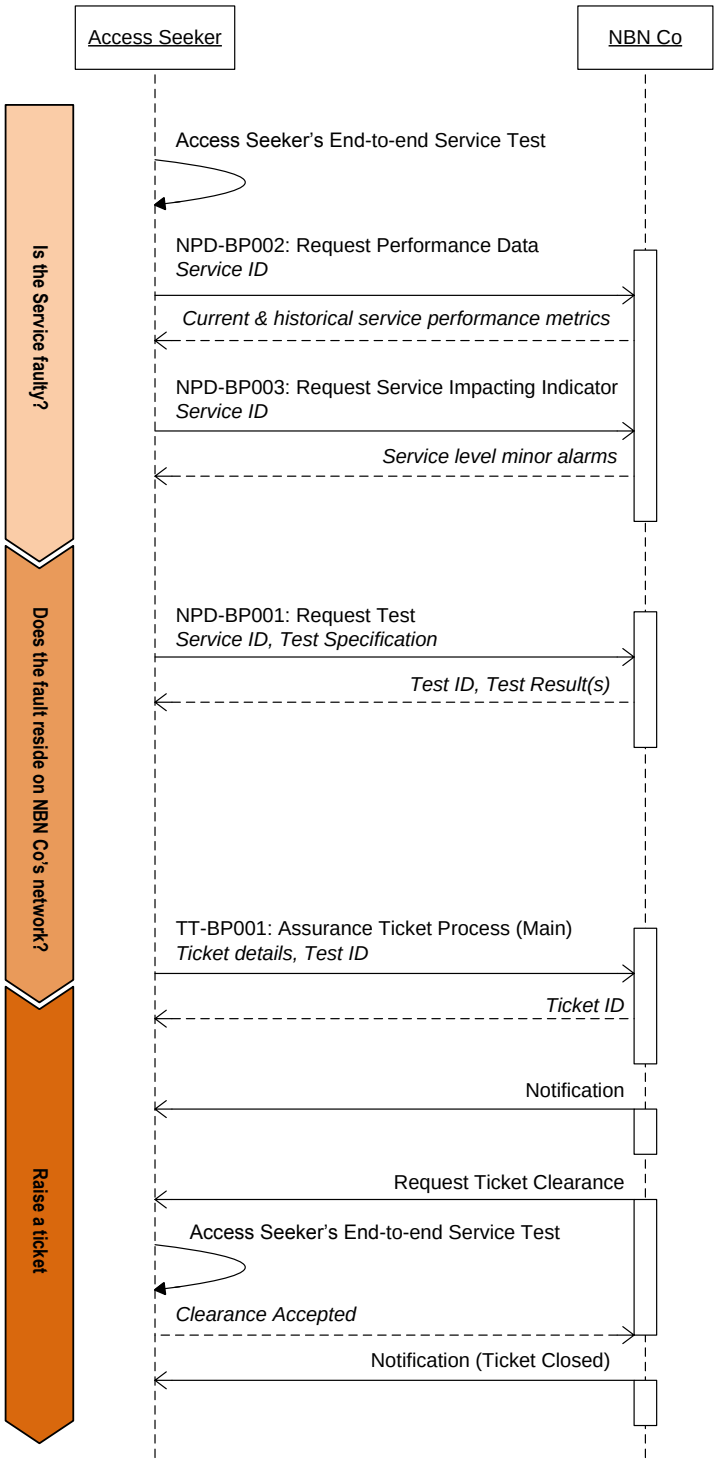


Figure 29 – End User Reported Service Problem Journey

4 Interaction Process Model

This section provides details of business process scenarios across Fulfilment and Assurance, and demonstrates which touchpoints are used to support these processes.

4.1 Pre-Order Management

4.1.1 PO-BP001: Single Site Qualification

ID	PO-BP001
Name	Single site qualification
Value stream	Fulfilment
Description	Represents an example interaction process where an address is validated using the address query, the details from which can then be included in a qualification request submission. Qualification request type 'The location only' to determine whether an access service is available at a given location.
Notes/ Assumptions	The Flow does not cover message related errors or exceptions; it assumes a valid XML message and format.

Process Flow

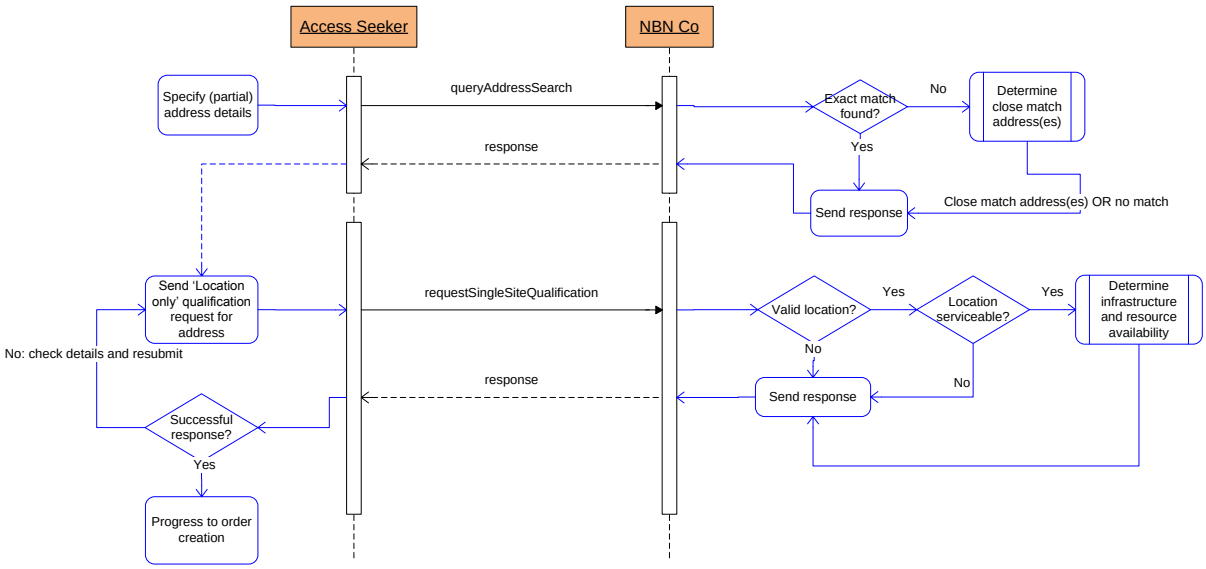


Figure 30 – Single Site Location Qualification Process Flow

Pre condition/s

Access Seeker has a sent valid message.

Access Seeker should validate the address using the address search query.

Provided:	Post condition:
A valid location is specified as part of the request	Determine if the location is serviceable; send a response containing the qualification result details and any appointment requirements.

	If the location is serviceable in future then include planned date.

Main Workflow		
Step	**Description**	**Role**
1.	The Access Seeker sends a service qualification request. Assumes that the Access Seeker would have obtained the NBN Location ID as part of the address query which be used as an input	Access Seeker
2.	Receive request and validate the location. If the location is valid and is unique, progress to Step 3 of the main workflow; otherwise refer to the alternate flow.	NBN Co
3.	Determine if the location is serviceable. If so, progress to Step 4 of the main workflow; otherwise refer to the alternate flow.	NBN Co
4.	Determine infrastructure and resource availability at the given location.	NBN Co
5.	Send a response containing qualification result details. (Also refer to Pre Order Management Overview Section)	NBN Co
6.	Receive response and progress to order creation as required.	Access Seeker
Alternate Workflow		
At Step	**Description**	**Role**
2	A valid or unique location is not specified or could not be retrieved – send a rejection/ error response	NBN Co
3	A valid / unique location is specified as part of the request but is not serviceable – send a response containing qualification result details and any appointment requirements.	NBN Co
4, 6	A valid / unique location is specified as part of the request but is not servciable at the current time – send a response containing planned date.	NBN Co
Business Rules		
	Not applicable	
Touchpoints used in Interaction Model		
PO-TP005	queryAddressSearch	
PO-TP005.1	responseAddressSearch	
PO-TP001	requestSingleSiteQualification	
PO-TP001.1	responseSingleSiteQualification	

4.1.2 PO-BP002: Batch Location Qualification

ID	PO-BP002
Name	Batch Location Qualification
Value stream	Fulfilment
Description	A Request is initiated from the Access Seeker to submit a batch request containing multiple

	locations to be qualified. Note that batch request is for location only type qualification.
Notes/ Assumptions	The Flow does not cover message related errors or exceptions; it assumes a valid XML message format.

Process Flow

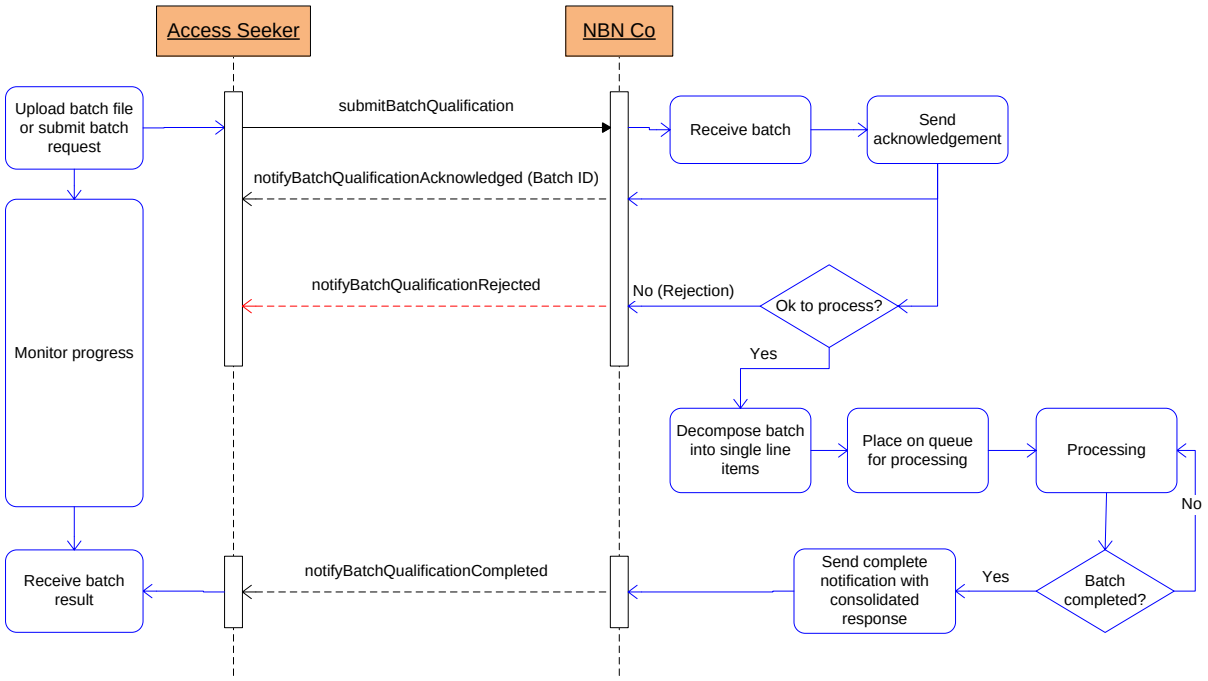


Figure 31 – Batch Location Qualification Process Flow

Pre condition/s

Access Seeker has a sent valid message.

Provided:	Post condition:
A valid batch file is submitted and can be progressed with.	Upon completion of the batch, send a response containing qualification results for each line item within the batch.

Main Workflow

Step	Description	Role
1.	Batch file is uploaded and/or submitted for qualification request type location only.	Access Seeker
2.	Batch request received and a notification will be sent to the Access Seeker with Batch ID returned.	NBN Co
3.	Determine if batch is okay to progress. If yes, progress to Step 4 of the main workflow, otherwise refer to the alternative workflow.	NBN Co
4.	Decompose the batch content into individual qualification line items.	NBN Co
5.	Determine the qualification of each line item.	NBN Co
6.	Check if the batch is completed. If yes, progress to Step 7 of the main workflow, otherwise go to Step 5 of the main workflow.	NBN Co

7.	All batch items have been assessed and completed. Consolidate results into a single response message including a summary of the total successful/unsuccessful count.	NBN Co
8.	Send completed batch response containing results.	NBN Co
9.	Batch response received.	Access Seeker
Alternate Workflow		
At Step	**Description**	**Role**
3	Batch could not be progressed with and hence was rejected. Send a response with a rejection reason	NBN Co
Business Rules		
ID	**Description**	
PO-BR01	Rejection of individual line items within the batch would not lead to an overall batch rejection.	
PO-BR02	The maximum number of items contained in a batch will be limited. NBN Co will provide clarification in a future release.	
Touchpoints used		
ID	**Name**	
PO-TP002	submitBatchQualification	
PO-TP006	notifyBatchQualificationAcknowledged	
PO-TP007	notifyBatchQualificationCompleted	
PO-TP009	notifyBatchQualificationRejected	

4.1.3 PO-BP003: Order Feasibility Check

ID	PO-BP003
Name	Order feasibility check
Value stream	Fulfilment
Description	Request initiated by the Access Seeker to determine whether the Product as specified by the provided order details is feasible at the specified location.
Notes/ Assumptions	The Flow does not cover message related errors or exceptions; it assumes a valid XML message format.
Process Flow	

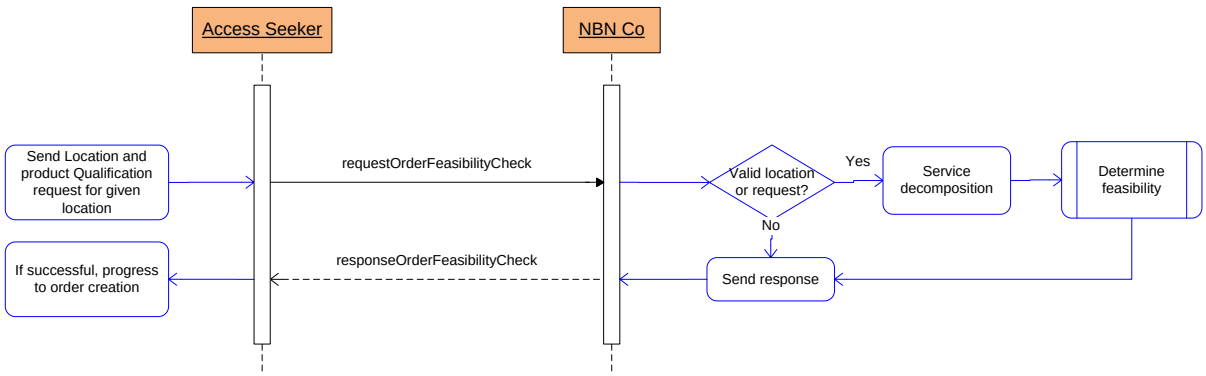


Figure 32 – Order Feasibility Check Process Flow

Pre condition/s	
Access Seeker has sent a valid message.	
Provided:	**Post condition:**
Valid location and Product details been provided	Response sent to the Access Seeker on feasibility result for requested Product Pre Order details (design & assign feasibility) for specific Product including resource shortfalls and appointment demand types

Main Workflow		
Step	**Description**	**Role**
1.	Send order feasibility check providing the Product order details and the required location	Access Seeker
2.	Verify that valid location and Product details (Product ID, Product feature requirements, i.e. committed bandwidth) have been provided as part of the request	NBN Co
3.	Decomposed into required services and resources and initiates the feasibility process to determine that the Product could be provisioned and necessary resources are available. If a resource shortfall requires an appointment to be made, this be advised to the Access Seeker along with required demand type(s).	NBN Co
4.	Send feasibility response to the Access Seeker	NBN Co

Alternate Workflow		
At Step	**Description**	**Role**
2	A valid or unique location is not specified or could not be retrieved – send a rejection/ error response	NBN Co
2	Valid Product details were not specified or Access Seeker is not accredited for given Product or does not exist in their catalogue – send rejection or error response	NBN Co

Business Rules	
ID	**Description**

PO-BR03	Access Seeker must be certified for specified Product
PO-BR04	No network resources are reserved during this process

Touchpoints used	
ID	**Name**
PO-TP002	requestOrderFeasibilityCheck
PO-TP002.1	responseOrderFeasibilityCheck

4.1.4 PO-BP004: Batch Address Search

ID	PO-BP004
Name	Batch Address Search
Value stream	Fulfilment
Description	A Request is initiated from the Access Seeker to submit a batch request containing multiple addresses for validation.
Notes/ Assumptions	The Flow does not cover message related errors or exceptions; it assumes a valid XML message format.

Process Flow

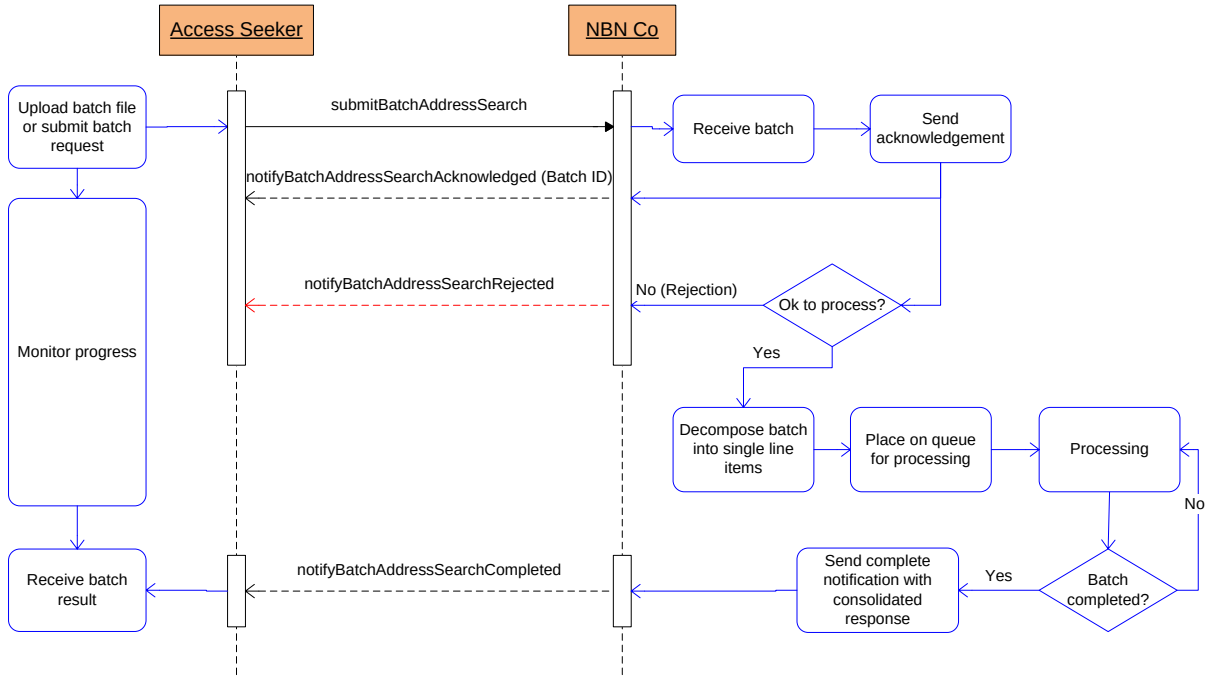


Figure 33 – Batch Address Search Process Flow

Pre condition/s

Access Seeker has a sent valid message.

Provided:	Post condition:
A valid batch file is submitted and can be progressed with.	Upon completion of the batch, send a response containing a consolidated qualification results for each line item within the batch.

Main Workflow		
Step	**Description**	**Role**
1.	Batch file is uploaded and/or submitted for address validation request.	Access Seeker
2.	Batch request received and an acknowledgement notification will be sent to the Access Seeker	NBN Co
3.	Determine if batch is okay to progress. If yes, progress to Step 4 of the main workflow, otherwise refer to the alternative workflow.	NBN Co
4.	Decompose the batch content into individual qualification line items.	NBN Co
5.	Validate the address of each line item.	NBN Co
6.	Check if the batch is completed. If yes, progress to Step 7 of the main workflow, otherwise go to Step 5 of the main workflow.	NBN Co
7.	All batch items have been assessed and completed. Consolidate results into a single response message including a summary of the total successful/unsuccessful count.	NBN Co
8.	Send completed batch response containing results.	NBN Co
9.	Batch response received.	Access Seeker

Alternate Workflow		
At Step	**Description**	**Role**
3	Batch could not be progressed with and hence was rejected. Send a response with a rejection reason	NBN Co

Business Rules	
ID	**Description**
PO-BR05	Rejection of individual line items within the batch would not lead to an overall batch rejection.
PO-BR06	A batch can contain up to X number of line items.

Touchpoints used	
ID	**Name**
PO-TP010	submitBatchAddressSearch
PO-TP011	notifyBatchAddressSearchAcknowledged
PO-TP012	notifyBatchAddressSearchCompleted
PO-TP014	notifyBatchAddressSearchRejected

4.1.5 PO-BP005: Location query

ID	PO-BP005
Name	Location query
Value stream	Fulfilment
Description	Request initiated by the Access Seeker to submit a location that is required to be validated. Query used for matching location addresses using a specific street address or partial address, GNAF ID, Lat and Long etc. It will return either an exact match or a list of close addresses depending on the query. This query can be used to provide a NBN Location ID as input and get a Street address back.
Notes/ Assumptions	The Flow does not cover message related errors or exceptions; it assumes a valid XML message format.

Process Flow

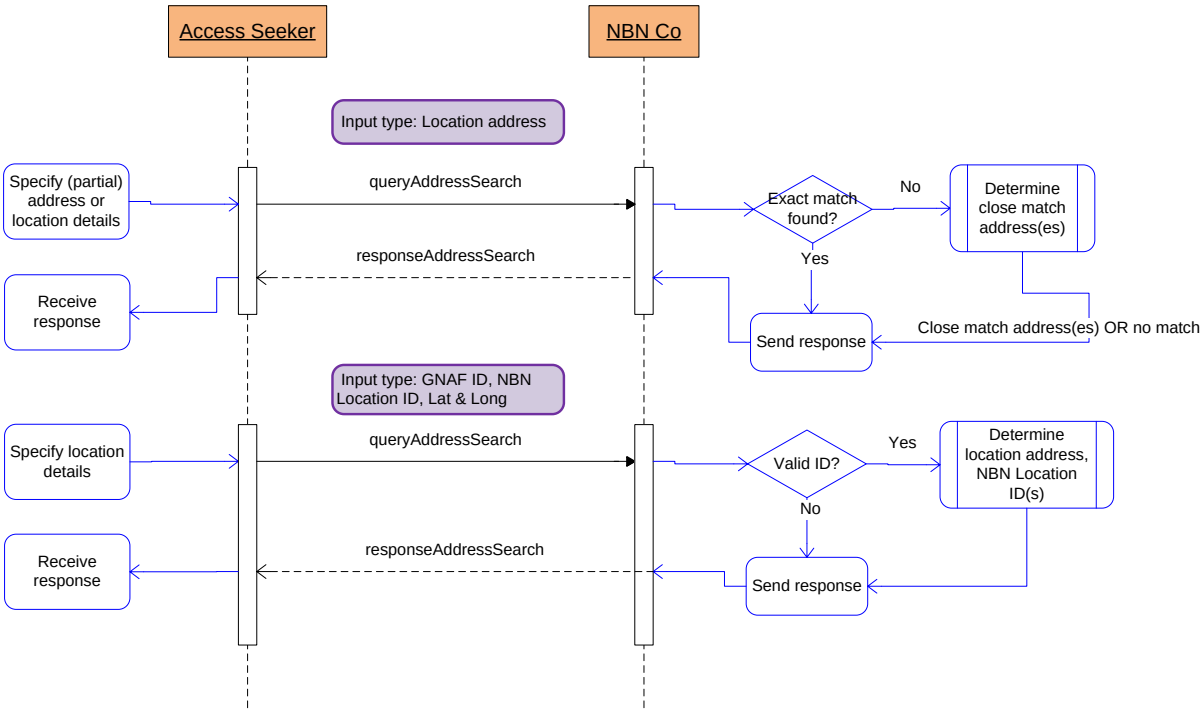


Figure 34 – Location query Process Flow

Pre condition/s

Access Seeker has sent a valid message.

Provided:	Post condition:
Valid location been provided	If single address match, returns NBN Location ID Matched address details (dwelling number, street number, street name, suburb, postcode, state) OR Returns a list of possible address matches OR For given identifier e.g. GNAF ID, provides NBN Location ID(s)

Main Workflow		
Step	**Description**	**Role**
1a.	IF Input type used: Location address Specification of (partial) address or location details as part of the query	Access Seeker
2a.	Details are validated and resolved to determine an exact match and returned in the response message	NBN Co
1b.	IF Input type used: GNAF ID etc Specification of location details as part of the query	Access Seeker
2b.	Details are validated and resolved to determine the associated location details and NBN Location ID(s)	NBN Co
Alternate Workflow		
At Step	**Description**	**Role**
2a	Invalid address format submitted or location address could not be found i.e. no match, response sent to Access Seeker	NBN Co
2a	Provided an exact match could not be found, close match address(es) are determined and list is returned in the response message	NBN Co
2b	Invalid identifier submitted or could not be resolved, response sent to Access Seeker	NBN Co

Business Rules	
ID	**Description**
	Not applicable

Touchpoints used	
ID	**Name**
PO-TP005	queryAddressSearch
PO-TP005.1	responseAddressSearch

4.2 Order Management

4.2.1 OH-BP001: Submit a Product Connect Order

ID	OH-BP001
Name	Submit a Product Connect Order
Value stream	Fulfilment
Description	The end-to-end successful path of a new connect order request where the Access Seeker submits an order that is complete and valid. NBN Co notifies the Access Seeker of its receipt and acceptance if valid. NBN Co then ensures that delivery is possible and sends a delivery acceptance to the Access Seeker. Depending on the product/service being supplied one or more informational messages may be sent to the Access Seeker updating the stages of the fulfilment process, for example if physical install is required and an appointment has not been booked by the Access Seeker, NBN Co sends a 'more information required' notification, advising the Access Seeker that they need to arrange an appointment with the End User. Once the order is complete, a final notification will be sent to the Access Seeker advising that the order is complete and the service/s is active.
Notes / Assumptions	Appointment details (e.g. time slot, demand type) have been provided within an order The Flow does not cover message related errors or exceptions, and assumes a valid XML message and format.
Process Flow	

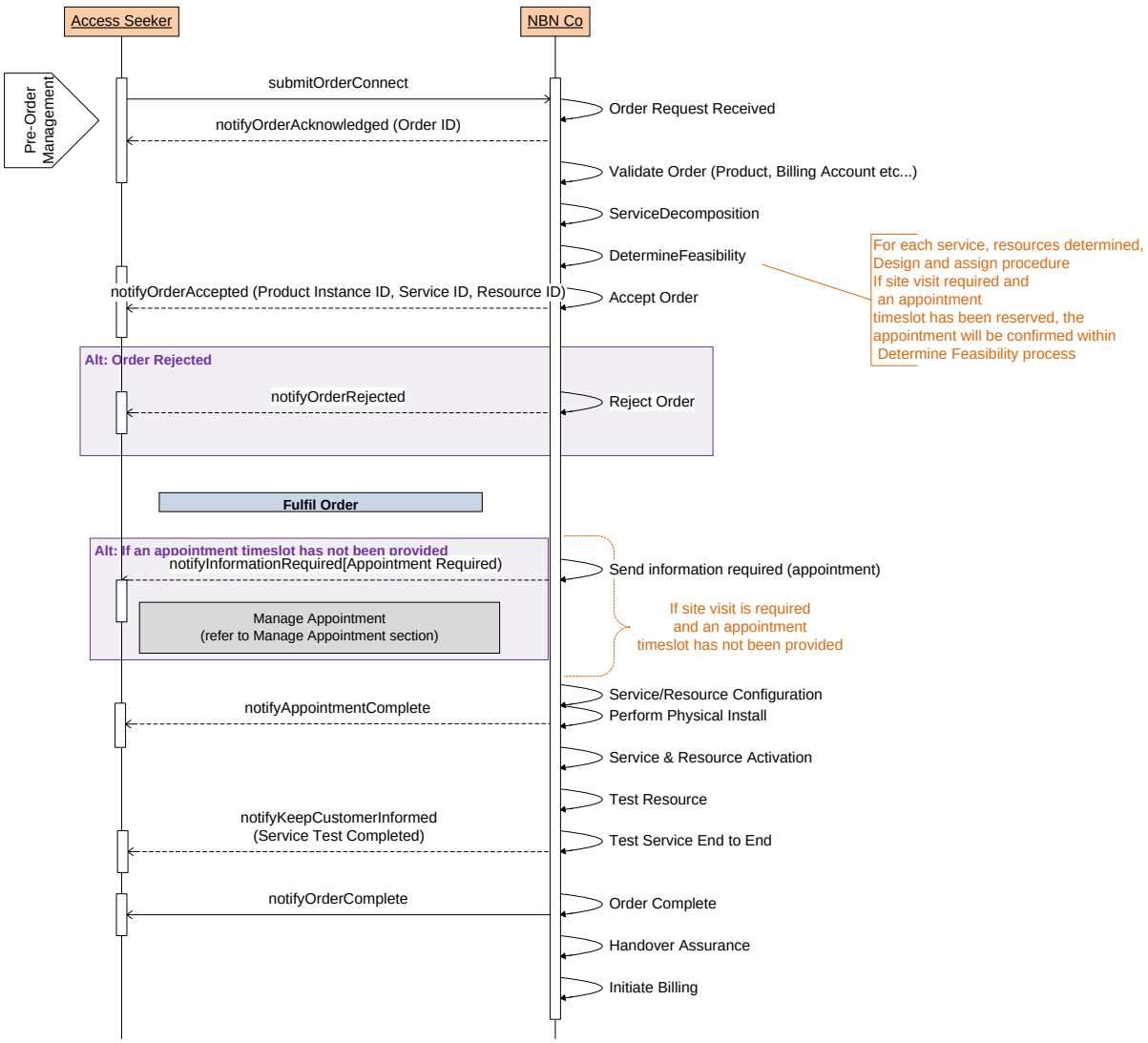


Figure 35 – Request Connect Order Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
Order does not exist. Access Seeker is authorised to place the order.	Product/service delivered and is active. Order is complete in both NBN Co and Access Seeker systems.	Order Rejected

Flow of events

1. Access Seeker submits an order request. Note that Access Seeker may also choose to provide their own reference ID (AS Reference ID) as part of the order request. This can be later used by the Access Seeker when querying the order.
2. NBN Co receives the XML document and responds to the Access Seeker request with an acknowledgement containing the NBN Co Order ID. Order status is set to 'Acknowledged'.
3. NBN Co performs basic order validations, including but not limited to the following:
    - Ordered Products against the Product Catalogue based on the Access Seeker's profile or contract with NBN Co

- Access Seeker Certification verification
- Billing Account that is not in a Suspended state.

If the validation fails, refer for Alternative flow.

4. NBN Co system decomposes the order into Services and Resources and initiates the Order Feasibility process to determine whether:
   - The requested Product can be provisioned (this may require site survey or additional planning activities) and the committed delivery date is calculated, etc. The necessary Resource is available, and in what time frame.
   - An appointment is necessary to complete the Order. The appointment type required for Workforce Management is identified. If one is required, and the Access Seeker has not provided a reserved appointment with the order, NBN Co sends an 'information required' notification and requests the Access Seeker book an appointment based on the specified Demand Type(s).
   - Validate the appointment provided by the Access Seeker e.g. a check is made to ensure that this matches the Demand Type required for provisioning the Product.
   - If a Demand Type is incorrect, NBN Co sends an 'information required' notification and requests the Access Seeker to arrange a different appointment (a new appointment slot will be required).
   - If a Demand Type is correct, NBN Co confirms the appointment.
   - Resource reservation is confirmed.
5. NBN Co accepts the order and sends an order acceptance notification to the Access Seeker. The order acceptance advice contains the respective Product instance ID, service (e.g. voice AVC) and resource IDs (e.g. NTD ID).
6. NBN Co sets the order status to 'In Progress'. This is the point at which the Access Seeker has confirmation that the product/service will be delivered and all the appropriate SLAs for deliveries apply; until this point only the SLA for time taken from order submission to acceptance has applied.
7. NBN Co provisions the service and sends a status update to the Access Seeker throughout the provisioning process such as delay, appointment failed, physical install completed, service test completed, new appointment required etc.
8. NBN Co completes the order and sets the status to complete.
9. NBN Co starts Billing and Assurance activities.
10. NBN Co sends an order complete notification to the Access Seeker.

Alternative Flow: Rejects Order

At Step 4 and 5:

1. NBN Co rejects the order and sends a notification to the Access Seeker with reasons.

Business Rules

ID	Description
1.	Access Seeker Billing Account must be active and not in a suspended state for NBN Co to accept an order.
2.	Orders will not be rejected due to failure to provide an Appointment ID where one is found to be necessary, or failure to provide an Appointment ID with correct demand type.
3.	An order cannot be closed until all services have been completed and are active.
4.	If one service within an order has failed order feasibility, the whole order will be rejected.
5.	The Access Seeker is only allowed to request a Product order for Product/s that they are certified to order.
6.	A Product offering will be associated to multiple services (components) and the Billing start date will be equivalent to the overall order completion date. An order complete notification will be sent to the

	Access Seeker when all services within an order have been activated.
Transaction Touchpoints Used	
ID	**Transaction Name**
OH-TP002	submitOrderConnect
OH-TP009	notifyOrderAcknowledged
OH-TP015	notifyInformationRequired Appointment required
OH-TP011	notifyOrderAccepted
OH-TP012	notifyOrderComplete
OH-TP008	notifyKeepCustomerInformed: notifyServiceTestComplete
OH-TP013	notifyOrderRejected
AM-TP018	notifyAppointmentCompleted

4.2.2 OH-BP004: Submit a Product Disconnect Order

ID	OH-BP004
Name	Submit a Product Disconnect Order
Value stream	Fulfilment
Description	The Access Seeker is placing an order as one of their activities to cancel an existing service supplied to the End User. An order can only disconnected for a single location.
Notes / Assumptions	The Flow does not cover message related errors or exceptions, and assumes a valid XML message and format. The Billing Account will be aligned to the date that the Product disconnect order was completed.
Process Flow	

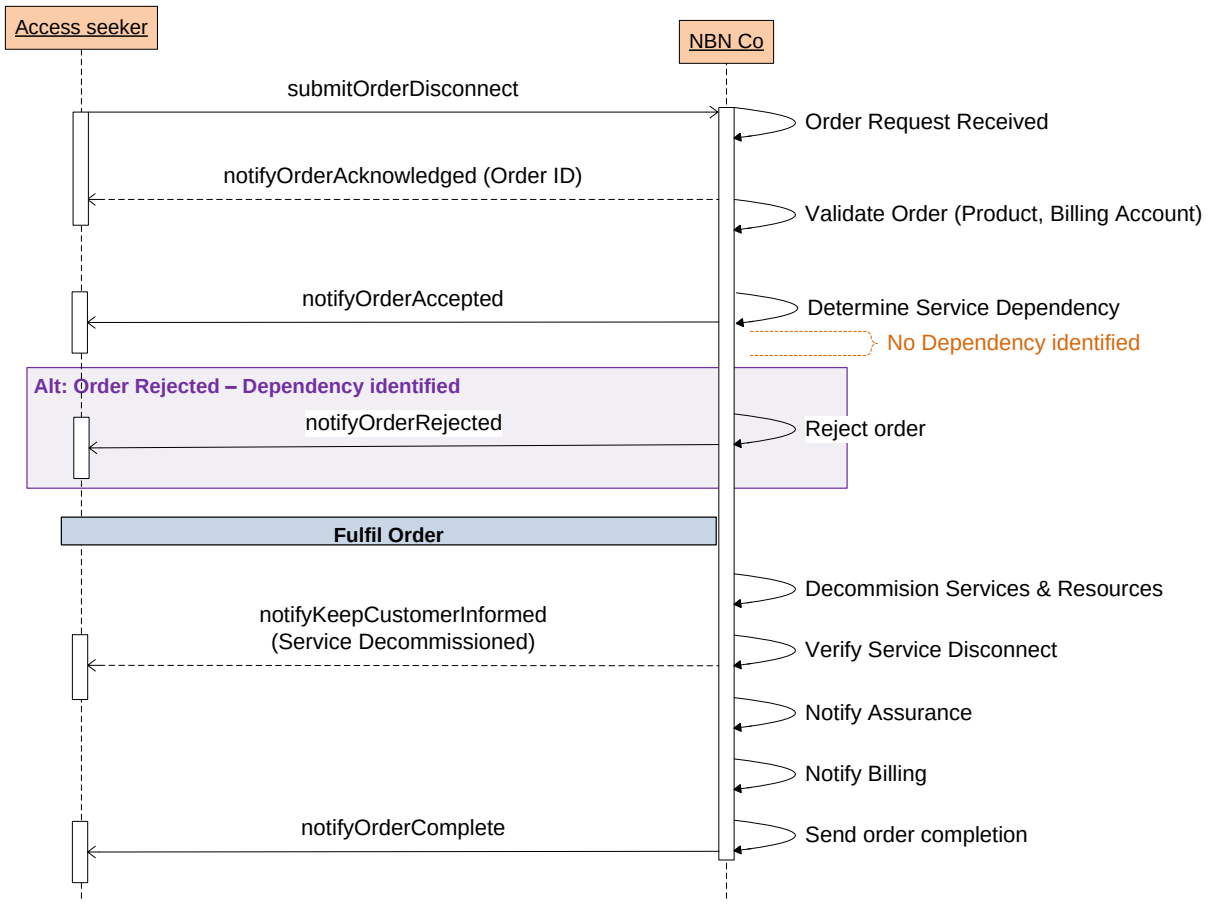


Figure 36 – Request Order: Disconnect Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
The Access Seeker has been authenticated and is authorised to order Service exists and is active	The existing service/s has been disconnected. Order complete in both NBN Co and Access Seeker systems.	Order Rejected (refer to Alternative flow).

Flow of events

1. Access Seeker submits a Disconnect order request.
2. NBN Co receives the XML document and sends an *Order Acknowledged* notification with order request ID.
3. NBN Co sets order status to “Acknowledged”.
4. NBN Co performs basic order validations, including but not limited to the following:
    - a. Validate if the Access Seeker is authorised to submit a Disconnect request
    - b. Validate if the Access Seeker provided a valid Service ID.
5. NBN Co’s system decomposes the order into Services and initiates the Order Feasibility process to determine the following:
    - a. Check that no dependent services or orders will be compromised by the requested disconnection. A Disconnect Order cannot be accepted while there are other active services or orders reliant on the Product instance that the service seeks to disconnect.

- b. If dependency has been identified, then go to Alternative flow
- c. Perform service design planning to release the Service resources.

6. NBN Co accepts the order for orchestration to complete de-provisioning.
7. NBN Co sends an order acceptance notification to the Access Seeker with a confirmed order ID.
8. NBN Co set the order status to "In Progress". This is the point at which the Access Seeker has confirmation that the disconnection will be processed and all the appropriate SLAs for completion are started – until this point only the SLA for time taken from order submission to acceptance has applied.
9. NBN Co orchestrates the order, decommissions the service and sends a status update to the Access Seeker.
10. Once the existing service/s has been decommissioned, the order status is set to "Completed".
11. NBN Co stops Billing and Assurance activities.
12. NBN Co sends order complete notification to the Access Seeker.

Alternative Flow: Rejects Order

At Step 4 and 5:

1. NBN Co identifies there is a dependency on an order e.g. CVC cannot be disconnected if AVC are still active.
2. NBN Co rejects the order and sends a notification to the Access Seeker with reasons.

Business Rules

ID	Description
1.	A Product instance cannot be disconnected while there are other active and dependent services.
2.	A Product instance cannot be disconnected while there are dependent orders outstanding.

Transaction Touchpoints Used

ID	Transaction Name
OH-TP004	submitOrderDisconnect
OH-TP009	notifyOrderAcknowledged
OH-TP011	notifyOrderAccepted
OH-TP012	notifyOrderComplete
OH-TP013	notifyOrderRejected
OH-TP008	notifyKeepCustomerInformed: ServiceDisconnected

4.2.3 OH-BP005: Submit a Product Modify Order

ID	OH-BP005
Name	Submit a Product Modify Order
Value stream	L2C – Fulfilment
Description	The Access Seeker is requesting a modification be made to an active service.

Notes / Assumptions	The Flow does not cover message related errors or exceptions, and assumes a valid XML message and format.

Process Flow

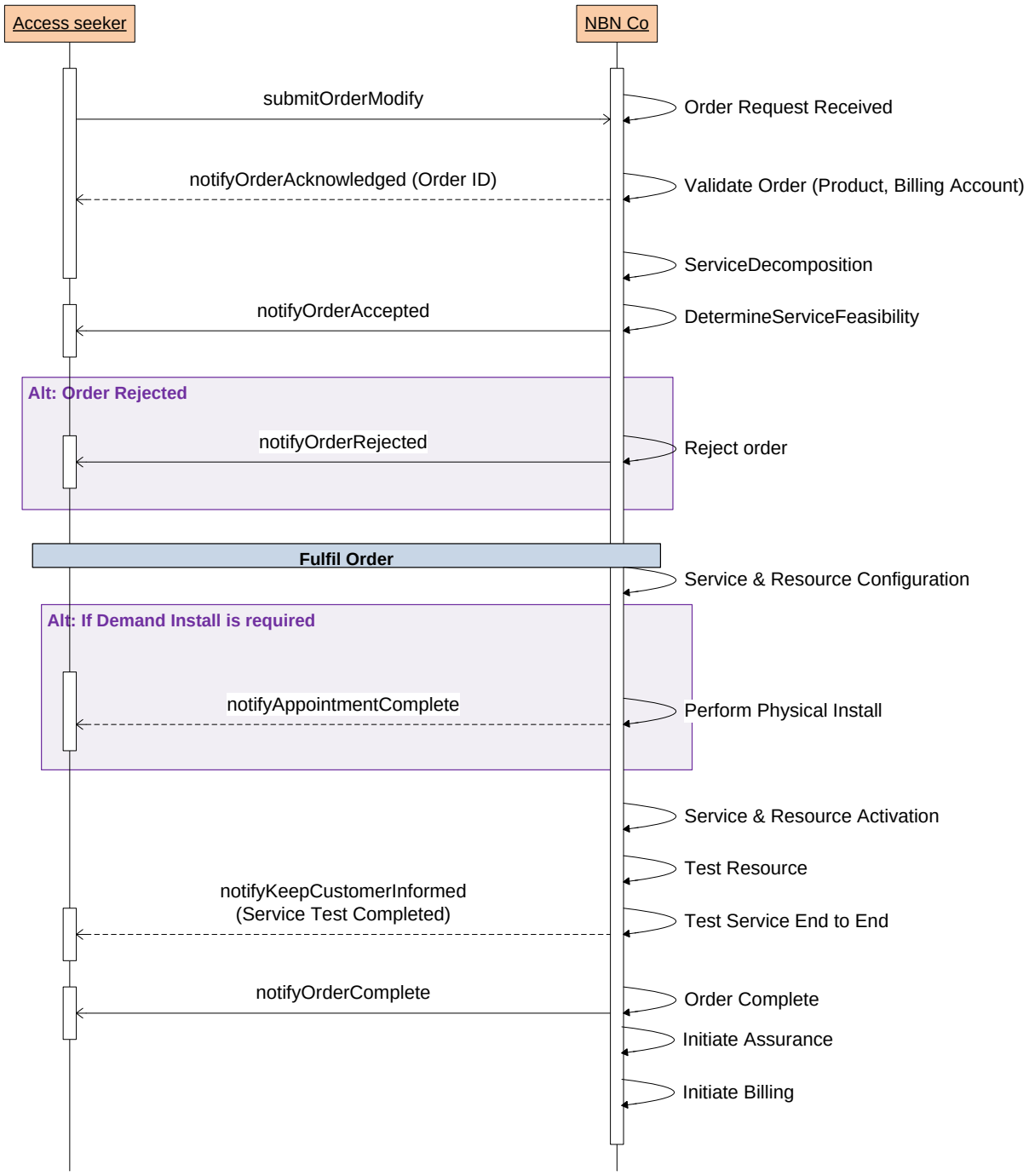


Figure 37 – Request Order: Modify Existing Service Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
Access Seeker has been authenticated and is authorised to modify a service.	The existing service/s has been modified and is active.	Order Rejected (refer to OH-BP002 for flow).

Service exists and belongs to the requesting Access Seeker.	Order is complete in both NBN Co and Access Seeker systems.	

Flow of events

Access Seeker submits a Modify order request.

NBN Co receives the XML document and sends a response to the Access Seeker

NBN Co performs basic order validation, including but not limited to the following:

That the Access Seeker is authorised to submit a Service modification request.

That the Access Seeker provided a valid Billing Account and is not in a Suspended state.

NBN Co's system decomposes the order into Services and initiates the Service Feasibility process to determine whether:

The necessary Resource/Inventory is available, and in what time frame.

An appointment is necessary to complete the Order. The Appointment Type required for Workforce Management is identified.

Where the Access Seeker has an Appointment details in an order request, a check is made to ensure that this matches the Demand Type required for provisioning the Product. If a Demand Type is incorrect, NBN Co sends an information required notification and requests the Access Seeker to arrange a different appointment (a new appointment slot will be required).

If an Appointment details is provided and is valid, NBN Co will confirm the appointment.

Identify whether the modify Order is contingent on any other Orders, or planned construction.

Check that no dependent Orders will be compromised by the requested modification.

Reserve resources.

NBN Co's system accepts for order orchestration to complete provisioning and sends an order accepted notification to the Access Seeker with a confirmed order ID.

NBN Co sets the order status to "In Progress". (This is the point at which the Access Seeker has confirmation that the modification to product/service will be delivered and all the appropriate SLAs for deliveries apply – until this point only the SLA for time taken from order submission to acceptance has applied.)

NBN Co orchestrates the order, provisions the service and sends a status update to the Access Seeker such as delay, appointment failed, new appointment required that are detailed in other patterns, etc.

Once the existing service/s has been decommissioned, the order status is set to "Completed".

NBN Co updates Billing and Assurance (SLA/QoS monitoring) activities.

NBN Co sends Order Complete notification to the Access Seeker.

Alternative Flow: Rejects Order

At Step 4 and 5:

1. NBN Co rejects the order and sends a notification to the Access Seeker with reasons.

Business Rules

ID	Description
1.	Product Business Rules will be applied on a per Product basis. Specific Product Business Rules are yet to be defined.

Transaction Touchpoints Used

ID	Transaction Name
OH-TP003	submitOrderModify
OH-TP009	notifyOrderAcknowledged
OH-TP011	notifyOrderAccepted
OH-TP008	notifyKeepCustomerInformed Service Test Complete
OH-TP012	notifyOrderComplete
AM-TP018	notifyAppointmentComplete

4.2.4 OH-BP006: Amend In-flight Order

ID	OH-BP006
Name	Amend In-flight Order
Value stream	Fulfilment
Description	The Access Seeker is requesting amendments be made to an in-flight order that has not yet completed provisioning up to the point of no return in the provisioning workflow. This may be a 'correction' or an amendment to Product attributes - what is permitted will depend on the Product rules and may differ from Product to Product. Examples of supportable amends: contact details, speed, appointment re-schedule. Examples of non-supported amends: location. If a change to the location is required then the current order must be cancelled (charges may be applied depending on what stage the order is at) and a new order submitted.
Notes / Assumptions	The Flow does not cover message related errors or exceptions, and assumes a valid XML message and format. Manual exception handling between the Access Seeker and NBN Co after an order amendment request has been rejected is not covered in the flow.
Process Flow	

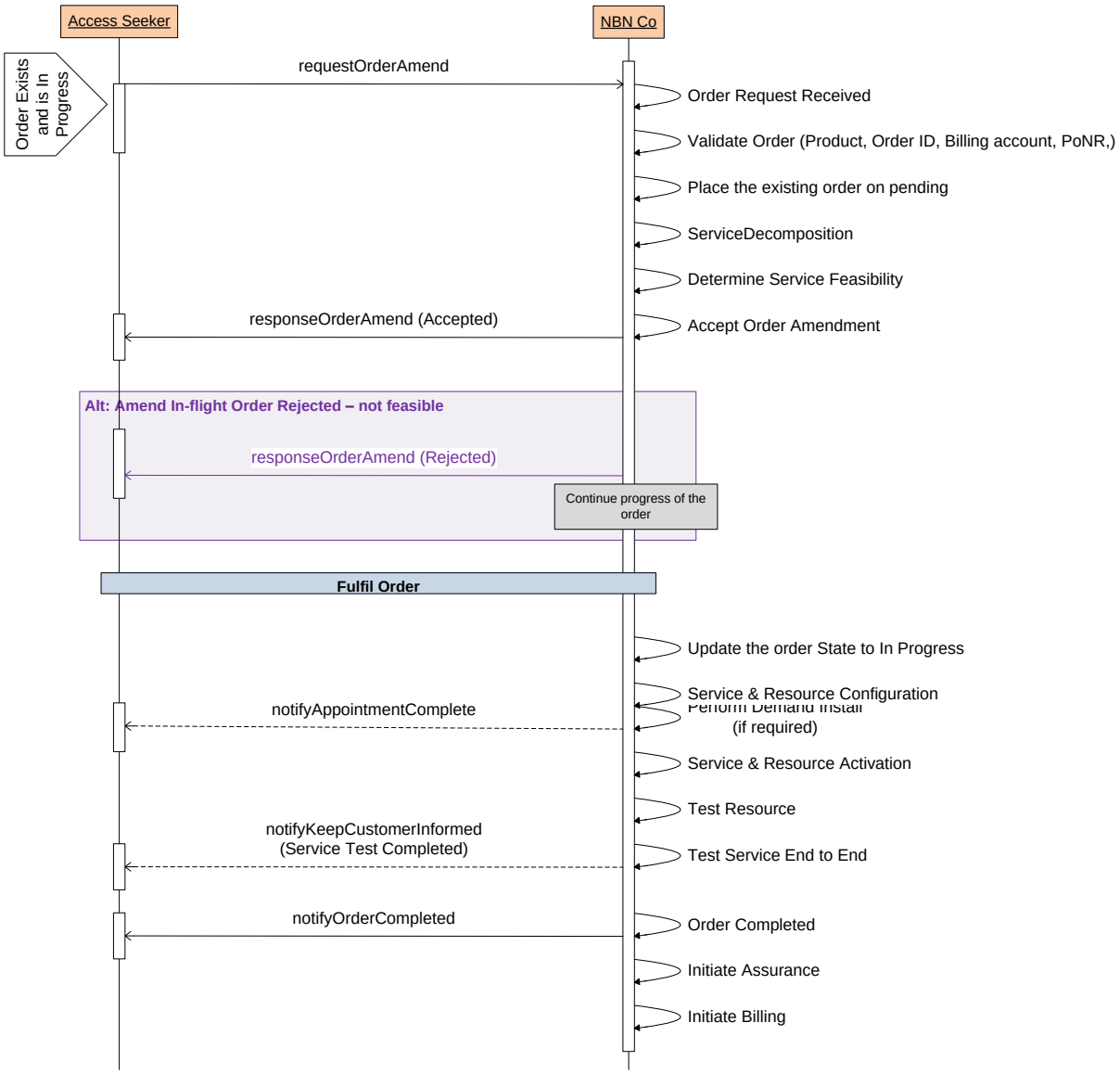


Figure 38 – Amend In-flight Order Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
The order exists. The order has not been completed, rejected or cancelled.	The amend order has been is accepted and notified to the Access Seeker The amend order has not been is accepted and notified to the Access Seeker with reason	Order Amended Rejected, for example: invalid Order ID, past point of no return (PoNR), etc.

Flow of events

1. Access Seeker submits an order amendment request *OH-TP005 requestOrderAmend.*
2. NBN Co receives the XML document.
3. NBN Co performs basic order validation, including but not limited to the following:
    - An existing Order ID and the order not in a Completed state.

- Validate the type of amendment against Product business rules and its PoNR. If the PoNR has been breached the amendment request will be rejected and a reject notification will be sent to the Access Seeker.

If the validation fails, refer to order amend rejected alternative flow.

4. Place the existing order on "Pending" state.

5. NBN Co's system decomposes the order into Services and initiates the Service Feasibility process to determine the following:

    - If the amendment type is Product Attributes, determine:
    - The delta between the original and amended designs. This may include roll back of completed steps of the original Order and updating Resource / Inventory management accordingly.
    - Whether the necessary Resource/Inventory is available, and in what timeframe.
    - Whether an appointment is necessary to complete the Order. The Appointment Type required for Workforce Management is identified.
    - Identify whether the modify Order is contingent on any other Orders, or planned construction.
    - Reserve resources.
    - If the amendment type is contact details only (both the Access Seeker and the End User contact details), then accept the request.

If determine Service Feasibility is failed, refer to the order amend rejected alternative flow.

6. NBN Co accepts the Order Amendment for orchestration to complete provisioning.

8. NBN Co sets the order status back to "In Progress".

9. NBN Co's system orchestrates the order, provisions the service and sends any status update to the Access Seeker. The orchestration process will include roll-back and/or cancellation of any previously completed steps in the original Service design that are now redundant.

10. Once the existing service/s has been commissioned, the order status is set to "Completed".

12. NBN Co sends an Order Complete notification to the Access Seeker.

11. NBN Co updates Billing and Assurance activities.

Alternative Flow: Order Amend Rejected

At step 3 or 5:

1. NBN Co rejects the order amendment request and sends a notification to the Access Seeker.

3. NBN Co updates the existing order status back to In Progress and continues to progress the order based on the previous ordered baseline.

Business Rules

ID	Description		
1.	The location cannot be modified for an in-flight order.		
2.	The business rules for order amendment (and any applicable charges – if any) will be defined and managed under the Wholesale Broadband Agreement.		
	Amendment Type	**Category**	**Description**

	Hard Amend – Requires design and assign	Product orderable attributes	Amend to Product attributes on an order, for example: speed changes, QoS etc.
		Non-Standard Install	Change request from the End User when a contractor is onsite (i.e. external installation to internal installation).
	Soft Amend – Simple low impact changes, no resource impacts	Contact Information	Update contact details.
		Comments	Addition of comments or notes to an existing in flight order.
		Billing Account ID	Change of Billing account ID on existing in flight order
		Install Priority	Change request from the Access Seeker to change the standard install to a high priority install.
3.	An in-flight order amendment can only be accepted for order that has not reached its PoNR.		
4.	Only a single in flight amend can be submitted at a given time. Once this in flight amend is accepted, another in flight order can be submitted provided the PoNR is not reached on the Order		

Transaction Touchpoints Used	
ID	**Transaction Name**
OH-TP005	requestOrderAmend
OH-TP005.1	responseOrderAmend(Accepted or Rejected)
OH-TP008	notifyKeepCustomerInformed: notifyServiceTestComplete
OH-TP015	notifyInformationRequired Appointment required
OH-TP012	notifyOrderComplete
AM-TP018	notifyAppointmentComplete

4.2.5 OH-BP007: Cancel In-flight Oder

ID	OH-BP007
Name	Cancel In-Flight Order
Value stream	Fulfilment
Description	The Access Seeker is placing an in-flight order cancellation request to cancel an order that has not completed provisioning.
Notes / Assumptions	The Flow does not cover message related errors or exceptions, and assumes a valid XML message and format. Manual exception handling between Access Seeker and NBN Co after order cancellation request has been rejected is not covered in the flow.

Process Flow

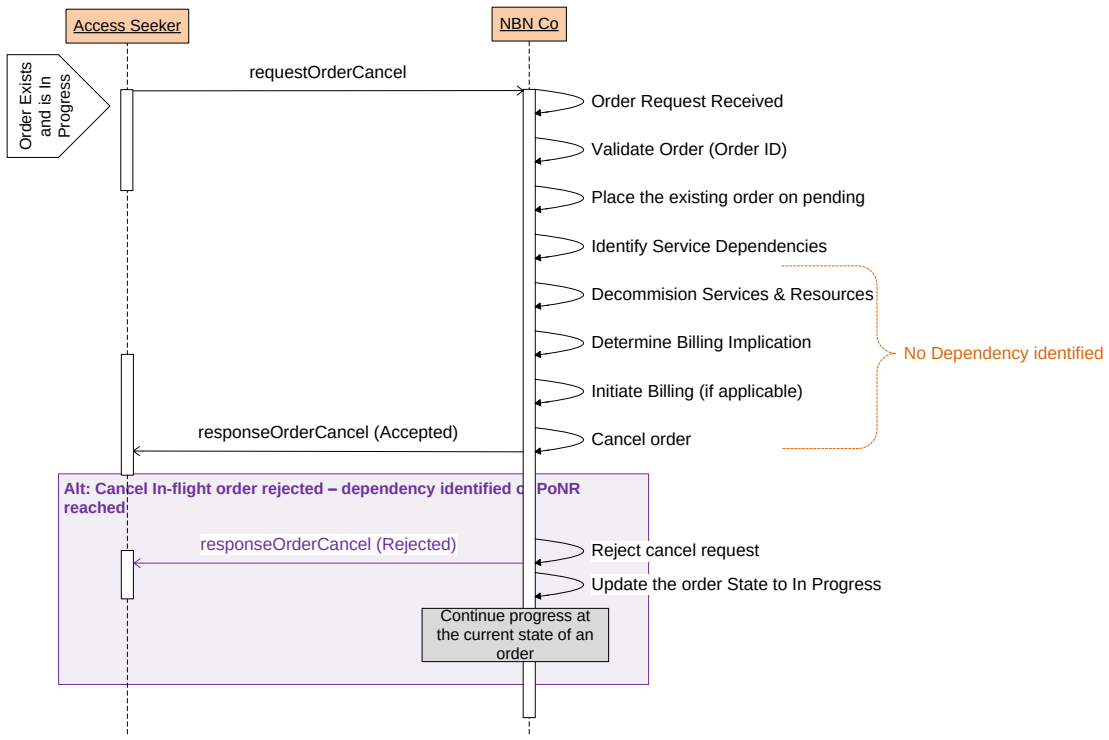


Figure 39 – Cancel In-flight Order Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
The order exists. The order has not been completed, rejected or cancelled.	Order has been cancelled.	Rejected as Order is complete. Rejected as Order does not exist. Rejected as Order has past point of no return.

Flow of events

1. Access Seeker submits a request to cancel an in-flight order.
2. NBN Co receives the XML document and sends notification response to the Access Seeker.

3. NBN Co performs basic validation, including but not limited to following: Valid Order ID is provided.

If the validation is failed, refer to the alternative flow.

4. NBN Co places the existing order on "Pending" state.
5. NBN Co identifies Service dependencies.

If Service dependencies have been identified, NBN Co rejects the order cancellation request (refer to alternative flow).

6. NBN Co accepts the order cancel request and sends an order cancellation accepted notification to the Access Seeker.
7. NBN Co performs the order decommission and determines any bill implication.

If there is a bill implication, a Billing event will be initiated and the Access Seeker notified within the order cancel complete notification.

8. NBN Co sends the completion notification.

Alternative Flow: Order Cancel Rejected

At step 3 or 5:

1. NBN Co rejects the order amendment request and sends a notification to the Access Seeker with a reason/s code, for example: order does not exist, order has past point of no return, order has been completed, etc.
2. NBN Co updates the existing order status back to In Progress and continues to the order fulfilment process.

Business Rules

ID	Description
1.	An order cannot be cancelled if dependencies of an order have been identified.
2.	An order can be cancelled at any time. Any cancellation charge that may apply will be described under the Wholesale Broadband Agreement.

Transaction Touchpoints Used

ID	Transaction Name
OH-TP006	requestOrderCancel
OH-TP006.1	responseOrderCancel (Complete/Rejected)

4.2.6 OH-BP008: Notify Information Required

ID	OH-BP008
Name	Notify Information Required
Value stream	Fulfilment
Description	NBN Co has identified additional information is required from the Access Seeker, who must complete an action before the order can progress or be completed. For instance, an End User appointment may be necessary in which case the Notify Information Required is used to request the Access Seeker to arrange an appointment with the End User. Once the Access Seeker has obtained the information required by NBN Co, the Access Seeker responds to the request by executing the Order Amend operation, which would then follow the standard amend order process. As part of this process the Access Seeker may also request more time to allow for contacting the End User; this is permitted a maximum number of times as determined by NBN Co and defined under the Wholesale Broadband Agreement (WBA). In addition NBN Co may remind the Access Seeker that information is required if the amendment is not timely (as per the request more time process flow).
Notes / Assumptions	The Flow does not cover message related errors or exceptions, and assumes a valid XML message and format.

Process Flow

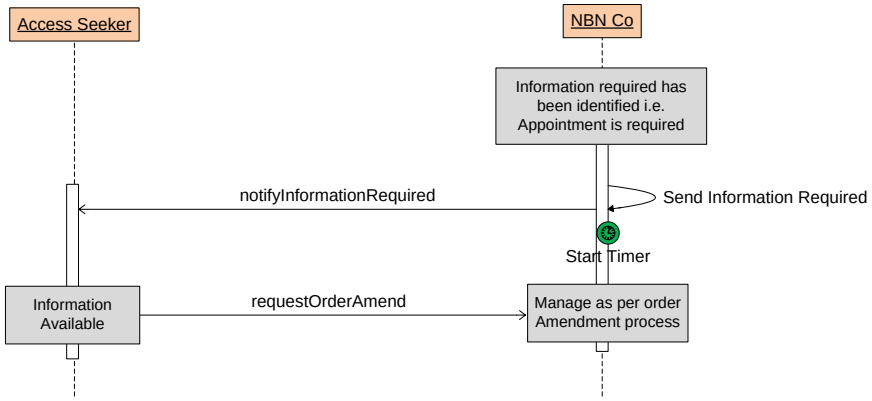


Figure 40 – NBN Co Sends Information Required Notification Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
The order exists and is incomplete.	The order has been amended to include the additional information to complete processing.	Manual intervention, add the data to the Access Seekers system. The wait times out – see auto cancel flow.

Flow of events
1. NBN Co identifies additional information required from the Access Seeker for the order to progress. 2. NBN Co sends an *Information Required* notification to inform the Access Seeker that more information is required from them or their End User to complete the order. 3. NBN Co stops the delivery process SLA and starts an activity timer to wait for the response from the Access Seeker and sets the status to "Pending". 4. The Access Seeker investigates and gathers information requested by NBN Co. If the requested information can be provided, the Access Seeker submits the Order Amend request and follows as per the order amendment process (OH-BP006).

Business Rules	
ID	**Description**
	Not applicable

Transaction Touchpoints Used	
ID	**Transaction Name**
OH-TP015	notifyInformationRequired

4.2.7 OH-BP009: Request More Time

ID	OH-BP009
Name	Request More Time
Value stream	Fulfilment
Description	The Access Seeker has been requested to take action from NBN Co and they need more time to respond beyond the standard time period. In cases where the Access Seeker is unable to perform within the applicable timeframe, NBN Co sends a reminder message to the Access Seeker. If no further response is received from the Access Seeker, NBN Co will automatically cancel the order.
Notes / Assumptions	The Flow does not cover message related errors or exceptions, and assumes a valid XML message and format. Manual intervention between the Access Seeker and NBN Co to provide information has not been covered in the flow.
Process Flow	

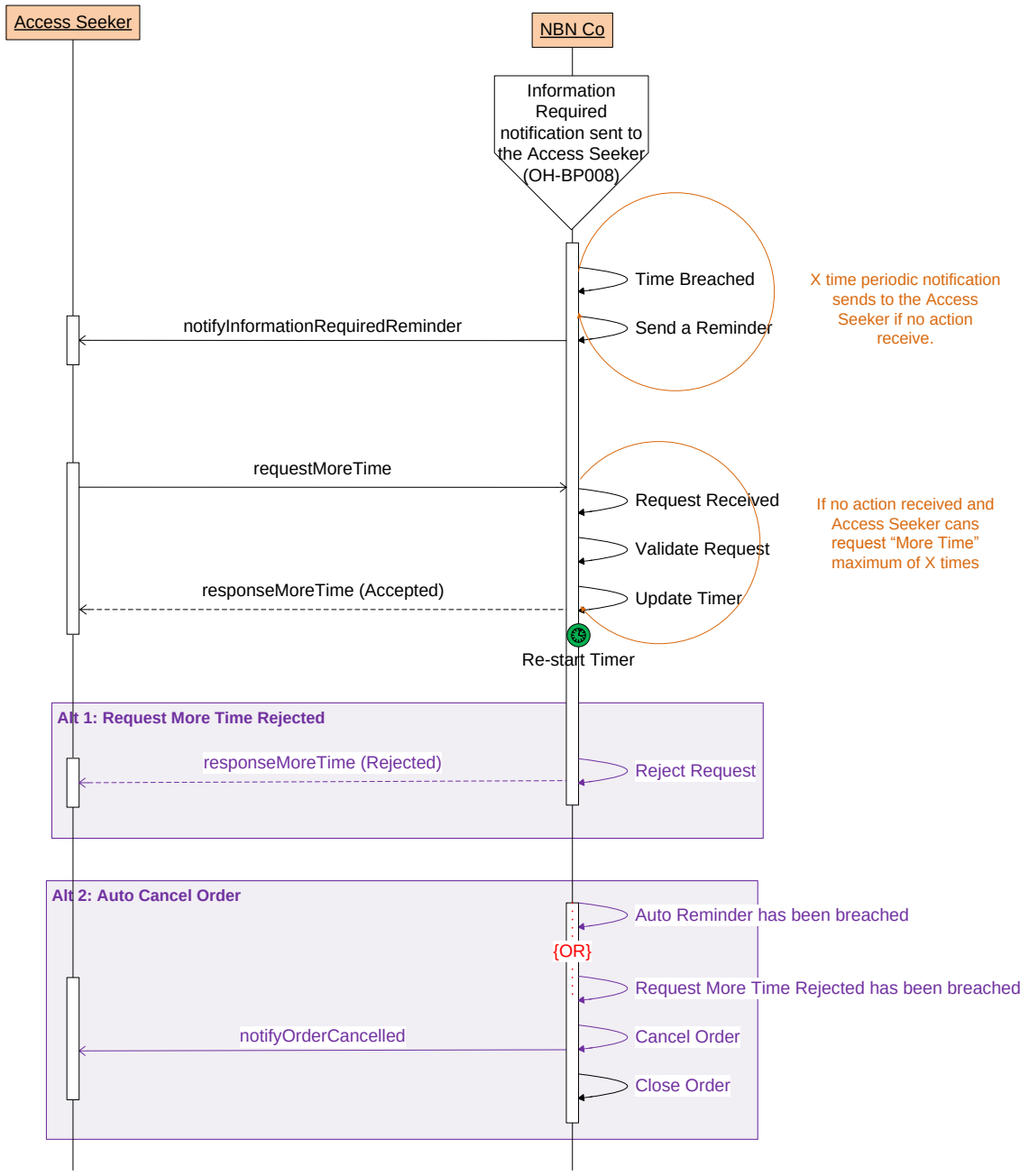


Figure 41 – Access Seeker Request More Time Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
The order exists and is incomplete. A request has been sent to the Access Seeker to take action.	The order has been amended to include the additional information to complete processing the order.	Request time rejected Auto-cancel an order.

Flow of events

1. NBN Co has sent an Information Required notification to the Access Seeker.
2. NBN Co identifies the requested information has not been provided by the Access Seeker and the waiting time has

been breached.

3. NBN Co sends a reminder requesting the Access Seeker to perform the action; the details of the action are part of the notification.

4. The Access Seeker performs the necessary action, i.e. amend, cancel or require more time.

The Access Seeker needs more time to perform the action and executes *requestMoreTime* to extend the activity timer with NBN Co. This may be repeated up to the maximum permissible number of times.

5. NBN Co validates the request, updates the timer and sends a 'more time request has been accepted' notification.

Alternative Flow 1: Request More Time Rejected

At Step 5

1. If the Access Seeker requests more time beyond the maximum permissible number of times, NBN Co rejects the request.

2. NBN Co auto-cancels the order if no action is taken by the Access Seeker within a NBN Co determined time after the final request more time has been rejected.

Alternative Flow 2: Auto Cancel Order

At Step 3:

1. The maximum permissible number of reminder notifications has been sent and no action has been taken by the Access Seeker after the NBN Co determined time from delivery of the last reminder. NBN Co will determine the number of notifications, and the time periods, under the Wholesale Broadband Agreement (WBA).

2. NBN Co cancels the order and sends a notification to the Access Seeker.

3. NBN Co closes the order.

Business Rules

ID	Description
1.	The request more time can only be extended up to a maximum permissible number of times. An order will be cancelled if no action has been taken by the Access Seeker after a time (to be determined by NBN Co) after the request more time has been rejected.
2.	A reminder notification will be sent to the Access Seeker up to the maximum permissible number of times. The order will be auto-cancelled if no action or response is received for the period (as determined by NBN Co) after the final reminder was sent.
3.	The Access Seeker cannot re-open an order once it has been cancelled. A new order must be created.

Transaction Touchpoints Used

ID	Transaction Name
OH-TP019	requestMoreTime
OH-TP019.1	responseMoreTime(Accepted) or responseMoreTime(Rejected)
OH-TP040	notifyInformationRequiredReminder
OH-TP032	notifyOrderCancelled

4.2.8 OH-BP010: Query Order Details

ID	OH-BP010
Name	Query Order Details
Value stream	Fulfilment
Description	The Access Seeker will be able to track the order handling progress of an End User order by initiating a request to retrieve an order state/status from NBN Co.
Notes / Assumptions	The Flow does not cover message related errors or exceptions, and assumes a valid XML message and format.

Process Flow

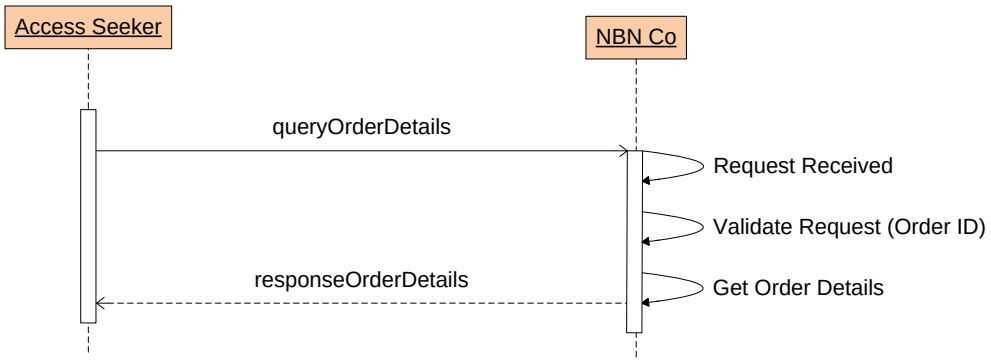


Figure 42 – Request Order Details Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
The order exists and, if closed, has not been closed for longer than x months. Note that Access Seeker may also use their own reference ID (AS Reference ID) to query order	The Access Seeker received Order details.	Invalid order ID provided.

Flow Description

The Access Seeker wishes to know the current state of an order by executing OH-*TP017 queryOrderDetails.*

NBN Co validates the request, gathers order information and sends order details to the Access Seeker.

Business Rules

ID	Description
1.	Query order details apply to a single order only.
2.	NBN Co will provide order details for up to 30 days from the date the order is closed.

Transaction Touchpoints Used

ID	Transaction Name
OH-TP017	queryOrderDetails

OH-TP017.1	responseOrderDetails

4.2.9 OH-BP011: Inform Jeopardy or Delay

ID	OH-BP011
Name	Inform Jeopardy or Delay
Value stream	Fulfilment
Description	NBN Co has identified that the order may not complete (Jeopardy) or will not complete (Delay) within agreed SLA and informs the Access Seeker.
Notes / Assumptions	The Flow does not cover message related errors or exceptions, and assumes a valid XML message and format.
Process Flow	

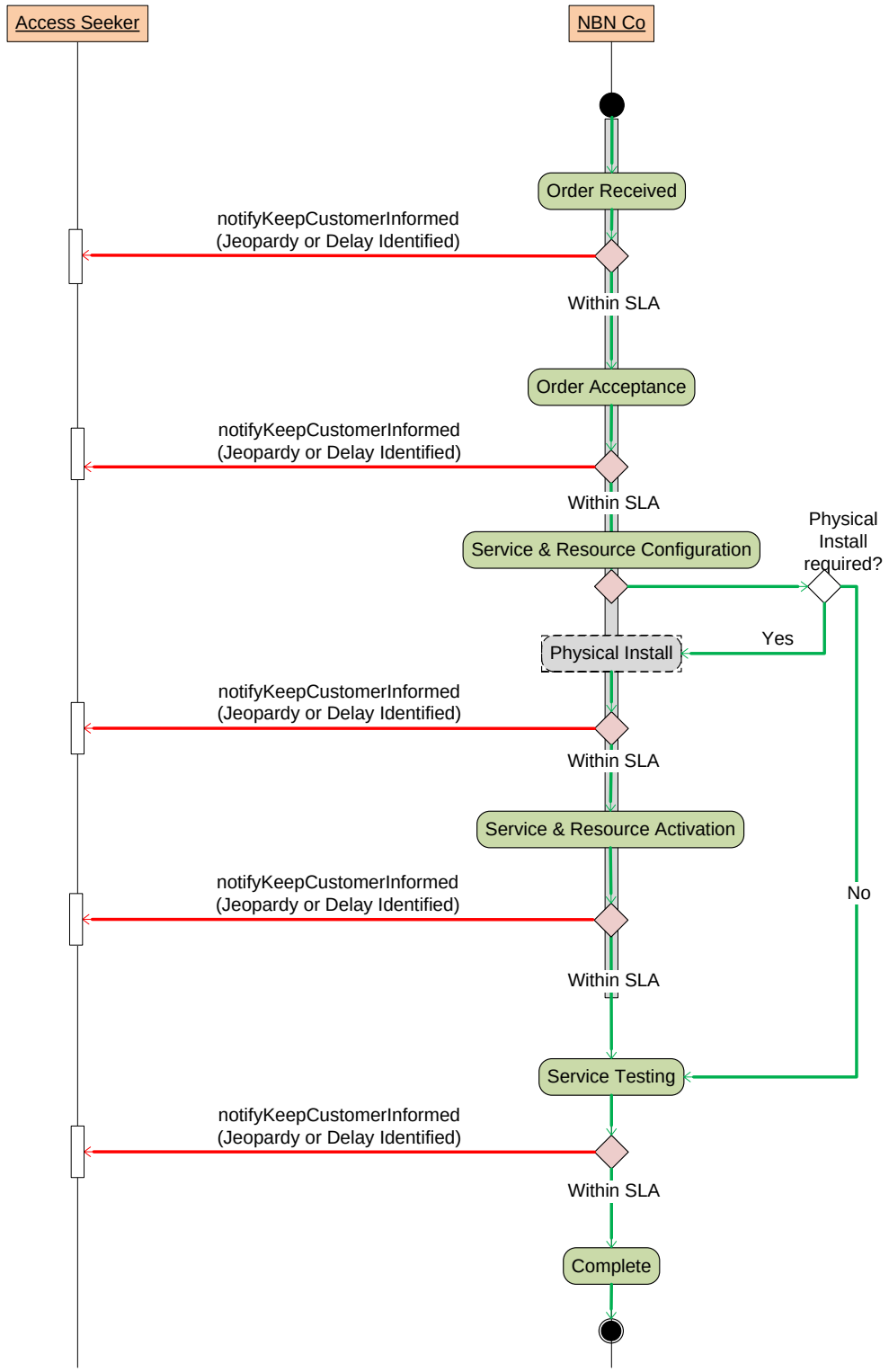


Figure 43 – Jeopardy or Delay Notification Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
The order exists and is in progress. NBN Co has identified a jeopardy in progressing the Order which may lead to	A notification is sent to the Access Seeker.	Not applicable

the delay of an order, or NBN Co has identified the order will not be completed within the agreed SLA.		

Flow of events

1. NBN Co identifies the order will not meet the agreed SLA at any stage of an order (notifyOrderDelay) *or*
2. NBN Co identifies the order is about the breach or has breached the activity SLA which may lead to the order not meeting the agreed SLA (notifyOrderJeopardy)
3. The Access Seeker takes necessary action to inform their End User.

Business Rules

ID	Description
1.	Applicable SLA and any associated milestones will be described and managed under the Wholesale Broadband Agreement
2.	Order delay will be notified when the outcome of the jeopardy has an impact on the overall order delivery SLA.

Transaction Touchpoints Used

ID	Transaction Name
OH-TP008	notifyKeepCustomerInformed: notifyOrderJeopardy, or notifyOrderDelay.

4.2.10 OH-BP012: Bulk Orders

ID	OH-BP012
Name	Bulk Orders
Value stream	Fulfilment
Description	The Access Seeker is placing a bulk order to Modify, Connect or Disconnect multiple Products in the one request. There may be multiple locations.
Notes / Assumptions	The Flow does not cover message related errors or exceptions, and assumes a valid XML message and format.

Process Flow

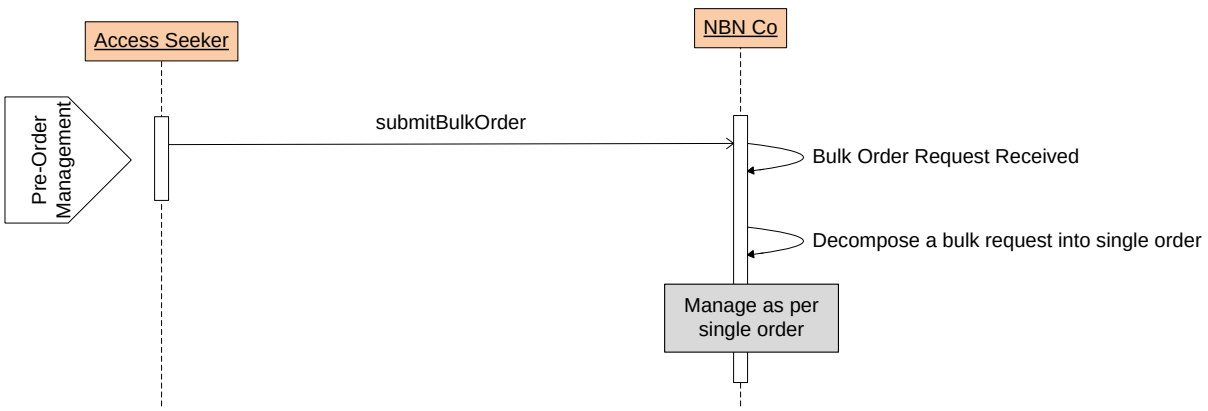


Figure 44 – Bulk Orders Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
The Access Seeker is authorised to submit bulk orders.	Bulk orders have been decomposed into single order. NBN Co provision as per single order request.	Not applicable
Flow of events		
1. Access Seeker submits a bulk order by initiates *OH-TP007 submitBulkOrder.* 2. NBN Co receives a valid XML document 3. NBN Co's system decomposes the bulk request into a single order request and manages as per the single order process.		
Business Rules		
1.	The maximum number of line items that Access Seeker can submit within a bulk request is subject to confirmation by NBN Co in a later version of this document.	
Transaction Touchpoints Used		
OH-TP007	submitBulkOrder	

4.2.11 OH-BP016: Held Order

ID	OH-BP013
Name	Held Order
Value stream	Fulfilment
Description	NBN Co may require to pause the order progression while resolution of an issue affecting the NBN e.g. mass service disruption, QA issues on the passive network, capacity upgrades on core network etc which prevents delivery of services until resolved, migration issues that cause orders to be paused until resolved. This may or may not impact the associated appointments for such orders.
Notes / Assumptions	The Flow does not cover message related errors or exceptions, and assumes a valid XML message and format.
Process Flow	

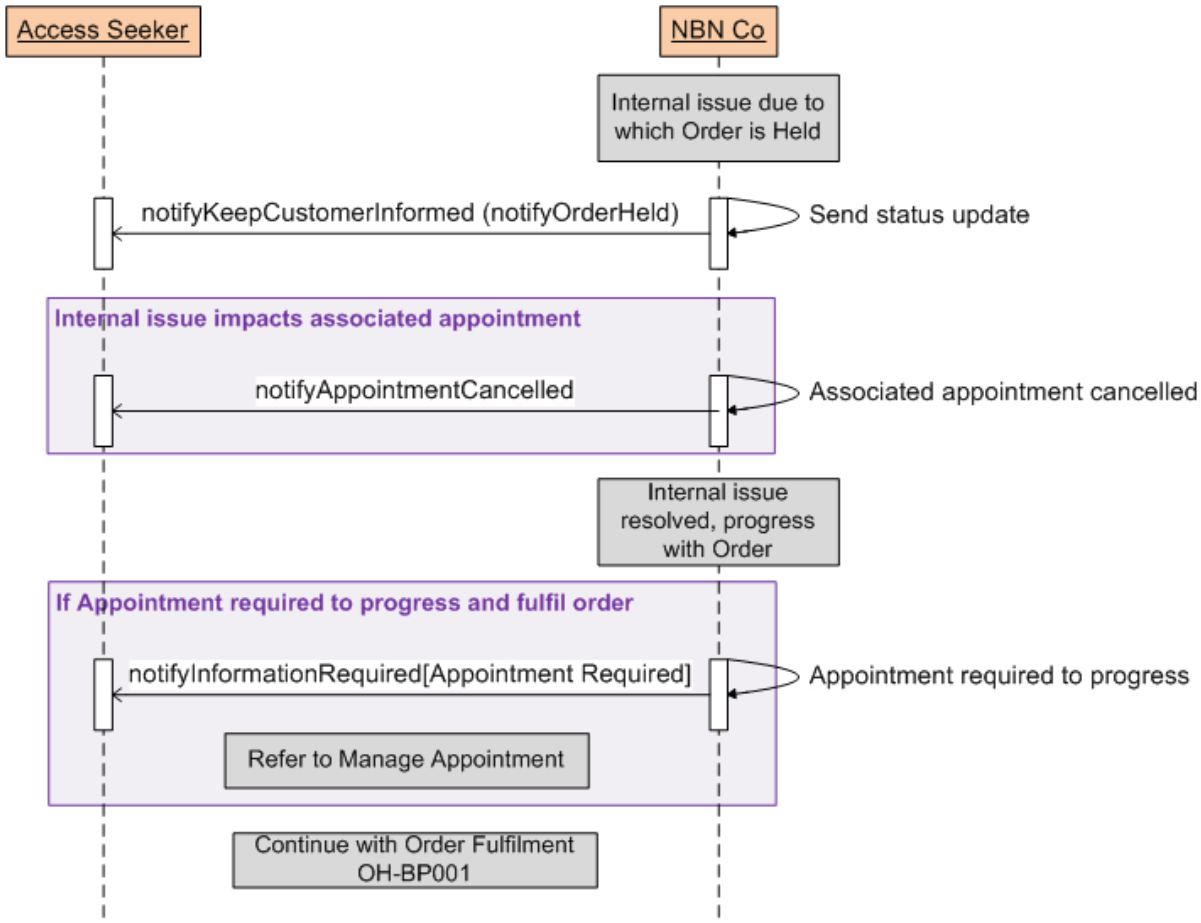


Figure 45 – Held Order Interaction Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
Order is held till internal issue resolved	Notify Access Seeker of status update Once issue is resolved, continue with order progression If appointment is required, send notification containing available slot(s) for Access Seeker to book appointment	

Flow of events

1. NBN Co requires to pause the order progression due to an internal issue. The order is placed in a Held state and a Keep Customer Informed notification (*order held*) is sent to the Access Seeker
2. In certain circumstances the issue could be resolved before the appointment is due and thus may not have any impact on booking. Otherwise, NBN Co would require canceling associated appointments. This be notified to the Access Seeker (*notifyAppointmentCancelled*)
3. Upon resolution of an issue affecting the NBN, the order will continue progression.
4. If appointment is required, *notifyMoreInformationRequired* containing available time slots is sent to the Access Seeker requesting to book an appointment

Business Rules

1.	Only NBN Co can move order into Held state
2.	Appointments associated with the order will be cancelled if the expected resolution date is beyond any current appointment

Transaction Touchpoints Used	
OH-TP008	notifyKeepCustomerInformed notifyOrderHeld
OH-TP043	notifyOrderResumed
OH-TP015	notifyMoreInformationRequired Appointment required
AM-TP016	notifyAppointmentCancelled

4.2.12 OH-BP017: Request Product Instance Info

ID	OH-BP017
Name	Request Product Instance Info
Value stream	Fulfilment
Description	Interaction that supports the Access Seeker to request details of an existing Product instance that belongs to them. When NBN Co completes handling a Product order the full Product instance information is provided to the Access Seeker. This information is persisted in the Access Seeker's logical and physical inventory systems. Access Seekers will use their own inventory as the first point of reference. However, as NBN Co is the database of record (or point of truth) for NBN Co Product instance information, the B2B Gateway supports the ability for Access Seekers to request the Product information so that their systems can be aligned or reconciled to NBN Co.
Notes / Assumptions	The Flow does not cover message related errors or exceptions, and assumes a valid XML message and format.

Process Flow

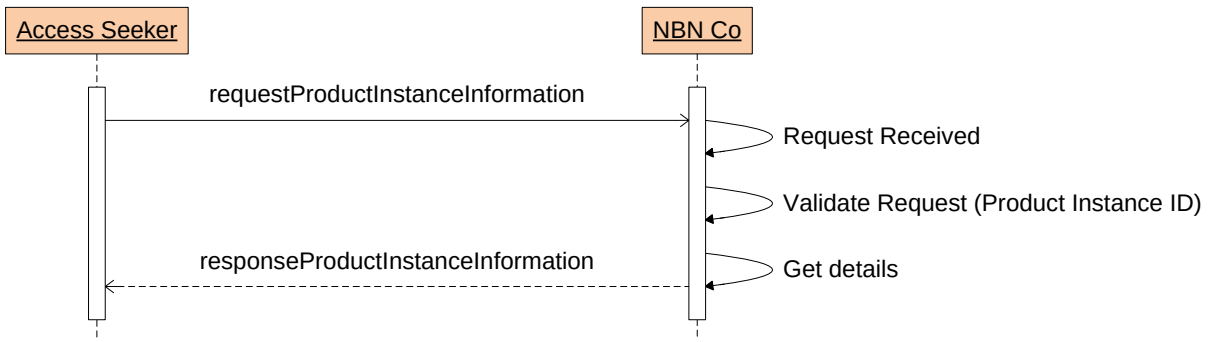


Figure 46 – Request Product Instance Interaction Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
Product instance exists Product instance belongs to Access Seeker	Response sent to Access Seeker containing service/s, resource/s details associated with the Product instance	Rejection response sent, as Product instance does not exist or AS not authorised to access requested instance

Flow of events
Access Seeker wishes to enquire about the details of a given Product instance and executes OH-TP042 requestProductInstanceInformation Request received and validated by NBN Co. Provided a valid identifier has been provided, the details are retrieved and response sent to the Access Seeker else rejection notification sent.

Business Rules	
1.	Access Seeker may only enquire on Product instance owned by them

Transaction Touchpoints Used	
OH-TP042	requestProductInstanceInformation
OH-TP042.1	responseProductInstanceInformation

4.3 Product Catalogue Enquiry

4.3.1 PC-BP001: Query Product Catalogue

ID	PC-BP001
Name	Query Product Catalogue
Value stream	Product Catalogue
Description	The Access Seeker requests details of their Product Catalogue based on their contract with NBN Co.
Notes / Assumptions	The Flow does not cover message related errors or exceptions, and assumes a valid XML message and format.

Process Flow

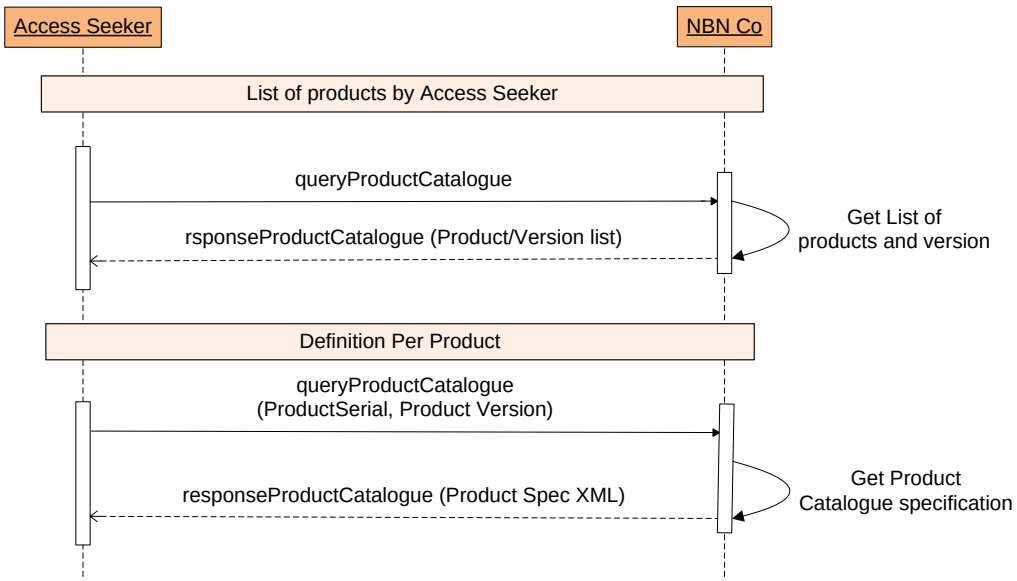


Figure 47 – Query Product Catalogue Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
The Access Seeker has certification to sell the service/s. The Access Seeker is authorised to query the Product Catalogue.	A list of Products and Product Version provided to the Access Seeker.	Invalid Access Seeker ID. A specific Product definition provided to the Access Seeker.

Flow of events: Main Flow

1. The Access Seeker wishes to enquire about the current status of the Product Catalogue by executes *PC-TP001 queryProductCatalogue.*
2. NBN Co validates the request and gets a list of Products and Product versions associated to the Access Seeker's profile:

If the Access Seeker has not specified the Product and version of the Product in the request, a list of Products and versions associated to the Access Seeker's profile will be returned.
Refer to the alternative flow if the Product ID and version have been provided in the request.

Alternative Flow: Definition Per Product

1. Once a list of Products and Product versions has been returned to the Access Seeker, the Access Seeker can query a specific Product Definition per Product and its version.
2. NBN Co validates the request, gets the Product Definition (in XML) and response to the Access Seeker's request.

Business Rules

ID	Description
1.	NBN Co will only provide Product Catalogue, Product Version and Product Specification information relevant to the Access Seeker as defined by the contract/s and the Access Seeker's profile.

Transaction Touchpoints Used

ID	Transaction Name
PC-TP001	queryProductCatalogue
PC-TP001.1	responseProductCatalogue

4.3.2 PC-BP002: Notify Product Catalogue Update

ID	PC-BP002
Name	Notify Product Catalogue Update
Value stream	Product Catalogue
Description	NBN Co sends a notification to the impacted (contracted) Access Seekers advising of Product changes, for example: new Product version is available or a price changed).
Notes / Assumptions	Global Product changes, i.e. a new Product constructed will be communicated via the Industry Engagement channel. This notification is only apply for changes to existing Products.

Process Flow

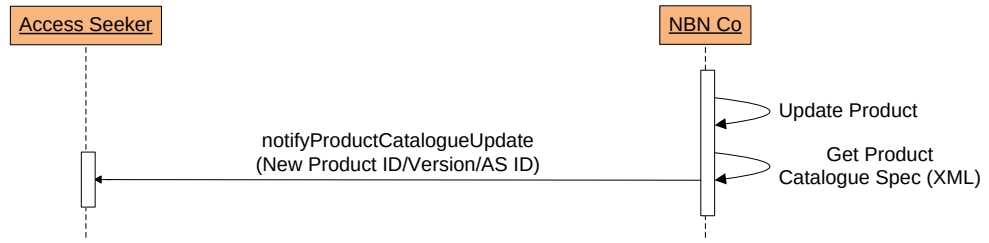


Figure 48 – Notify Product Catalogue Update Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
The Access Seeker has a 'contract' to sell the service/s. A Product has been updated.	A notification is sent to the Access Seeker advising of Product changes.	Not applicable

Flow of events

1. The Product has changed within the NBN Co System.
2. NBN Co sends a notification with the Product version and specification (XML format) attached to the impacted Access Seeker/s.

Business Rules

ID	Description
1.	NBN Co will only provide Product Catalogue, Product Version and Product Specification information relevant to the Access Seeker as defined by the contract/s and the Access Seeker's profile.

Transaction Touchpoints Used

ID	Transaction Name
PC-TP002	notifyProductCatalogueUpdate

4.4 Appointment Management

4.4.1 AM-BP001: Reserve an appointment

ID	AM-BP001
Name	Reserve an appointment
Value stream	• Fulfilment • Assurance
Description	Access Seeker checks the availability of time slots for a given demand type(s) and conducts a reservation. Resource shortfall and required demand type(s) is advised in the qualification response. Note that appointment reservation can be performed prior to order creation for a defined period as stipulated by the business rules.
Notes/ Assumptions	• Flow does not cover message related errors or exceptions, assumes a valid xml message and format

Process Flow

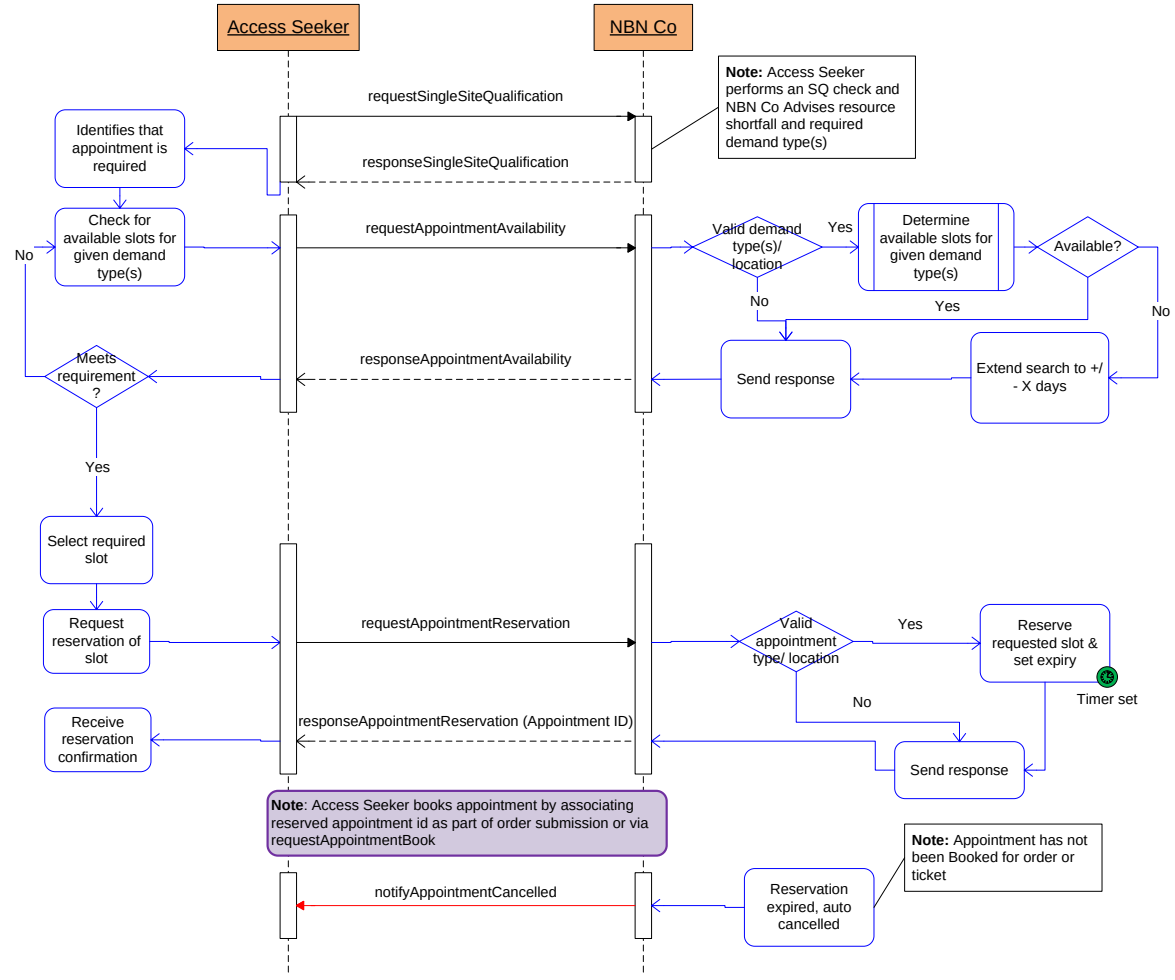


Figure 49 – Reserve an Appointment Process Flow

Pre condition/s

Access Seeker has sent valid message.

Access Seeker has conducted a qualification and been advised of resource shortfall and required demand type(s) Access Seeker has requested available time slots from NBN Co for required demand type(s), location	
Provided:	**Post condition:**
Valid NBN Co Location ID and demand type and a time slot for the appointment and/or a valid NBN Co Order or Ticket ID	Send response confirming the reservation of time slot Update the respective order or ticket (only if provided by the Access Seeker)
The reserved appointment has not been booked for order or ticket by the Access Seeker	Appointment reservation expires and notification sent to Access Seeker Time slot released

Main Workflow

Step	Description	Role
1.	Request for available slots for given location, demand type(s) , workforce preference (optional)	Access Seeker
2.	Validate request for given location and demand type(s) and workforce preference (optional). If valid progress to Step 3 of main workflow else refer to alternate workflow	NBN Co
3.	Determine available time slots based on criteria specified as part of request. If slots available progress to Step 4 of main workflow else refer to alternate workflow	NBN Co
4.	Send response to Access Seeker containing available slot information	NBN Co
5.	Receive response	Access Seeker
6.	Check if available slots meet end user requirements. If yes progress to Step 7 of main workflow else go to Step 1	Access Seeker
7.	Select the required slot that meets end user requirements and request reservation	Access Seeker
8.	Validate given location and demand type(s). If valid progress to Step 9 of main workflow else refer to alternate workflow	NBN Co
9.	Reserve requested slot and set expiry	NBN Co
10.	Send response to Access Seeker confirming the reservation of appointment	NBN Co

Alternate Workflow

At Step	Description	Role
2,8	Invalid location, demand type or workforce preference etc provided. Send rejection/error response	NBN Co
2	If a workforce preference was provided as part of the request and NBN Co could not validate the workforce id or reference, send rejection/ error response.	NBN Co
3	Extend search to +/- X days or to meet SLA conditions and determine available time slots and send response	NBN Co
8	An error shall be returned to Access Seeker if an invalid NBN Co order or Trouble Ticket id provided.	NBN Co

3	No time slot available for requested demand type or workforce, send response	NBN Co
9	If particular time slot was requested and slot not available then alternate appointment slot(s) shall be provided close to the date and time requested with a message 'requested date and time not available. Access Seeker shall choose and reserve one time slot.	NBN Co

Business Rules	
ID	**Description**
1	Reservation can only be made for 1hr and if not booked (as part of order or ticket) within this period, the reservation will expire.
2	Only a single appointment slot can be reserved prior via this business process.
3	An appointment can be reserved prior to order placement.

Touchpoints used	
ID	**Name**
PO-TP001	requestSingleSiteQualification
PO-TP001.1	responseSingleSiteQualification
AM-TP003	requestAppointmentAvailability
AM-TP003.1	responseAppointmentAvailability
AM-TP005	requestAppointmentReservation
AM-TP005.1	responseAppointmentReservation
AM-TP016	notifyAppointmentCancelled

4.4.2 AM-BP002: Cancel an appointment

ID	AM-BP002
Name	Cancel an appointment
Value stream	• Fulfilment • Assurance
Description	Access Seeker initiated cancellation request for an existing appointment that is no longer required.
Notes/ Assumptions	The Flow does not cover message related errors or exceptions; it assumes a valid XML message and format. If NBN Co cancels an appointment a notification will be sent to the Access Seeker advising of the update.
Process Flow	

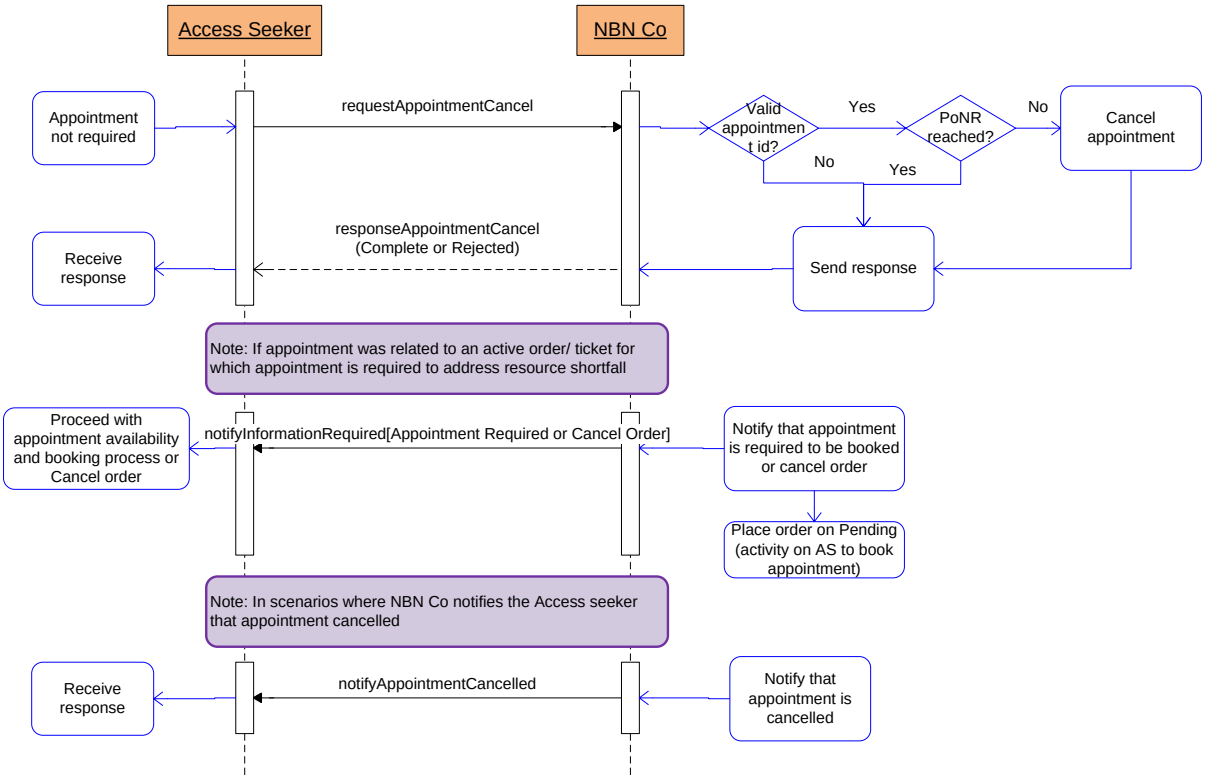


Figure 50 – Cancel an Appointment Process Flow

Pre condition/s
Access Seeker has: Sent a valid message. Existing appointment that is required to be cancelled.

Provided:	Post condition:
A valid appointment ID or reference has been provided and the PoNR has not been reached on the appointment	Send a response confirming the cancellation of appointment. Release slot back to availability pool if valid Update relevant order or ticket
An appointment is required to complete an order / ticket.	Notify the Access Seeker that an appointment is required to progress further or cancel order

Main Workflow		
Step	**Description**	**Role**
1.	Advise that the appointment is no longer required and send cancellation request.	Access Seeker
2.	Validate the appointment ID or reference. If valid progress to Step 3 of the main workflow, otherwise refer to the alternate workflow.	NBN Co
3.	Determine if PoNR, for example: NBN Co determined time prior to the appointment commencement has been reached for the given appointment. If no, progress to Step 4 of the main workflow; otherwise refer to the alternate workflow.	NBN Co
4.	Send a response confirming the cancellation.	NBN Co

5.	Receive response.	Access Seeker
Alternate Workflow		
At Step	**Description**	**Role**
2	Invalid appointment reference provided – send rejection / error response.	NBN Co
3	PoNR, for example: NBN Co determined time prior to the appointment commencement has been reached and hence the appointment cannot be cancelled.	NBN Co
Business Rules		
ID	**Description**	
AM-BR01	An appointment can only be cancelled if the PoNR has not been reached.	
AM-BR02	Business policy will determine if a cancelled appointment creates a billing event.	
Touchpoints used		
ID	**Name**	
AM-TP007	requestAppointmentCancel	
AM-TP007.1	responseAppointmentCancel	
OH-TP015	notifyInformationRequired Appointment required	
PH-TP020	notifyInformationRequired Appointment required	
AM-TP016	notifyAppointmentCancelled	

4.4.3 AM-BP003: Reschedule an Appointment

ID	AM-BP003
Name	Reschedule an appointment
Value stream	• Fulfilment • Assurance
Description	Access Seeker requests to change the appointment slot and a reschedule of the existing appointment.
Notes / Assumptions	The flow does not cover message related errors or exceptions; it assumes a valid XML message and format.
Process Flow	

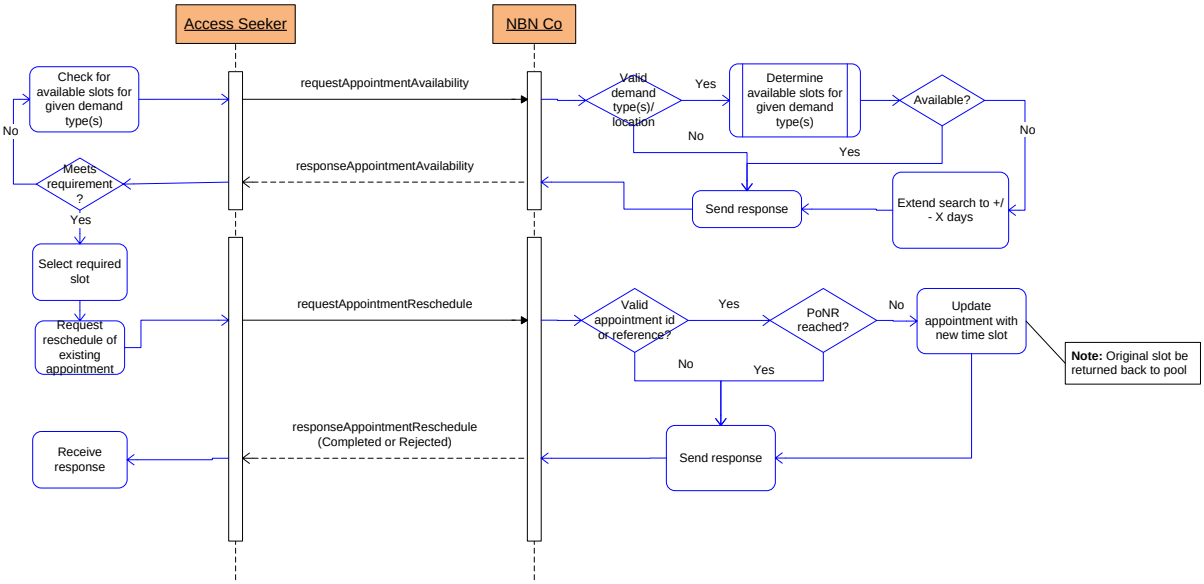


Figure 51 – Reschedule an Appointment Process Flow

Pre condition/s
Access Seeker has: • Sent a valid message. • Existing appointment that is required to be rescheduled.

Provided:	Post condition:
An existing appointment exists that has not reached its PoNR.	The appointment is rescheduled and associated with a new time slot, and confirmation is sent to the Access Seeker. Slot returned to availability pool if valid

Main Workflow		
Step	**Description**	**Role**
1.	Request to change the slot of an existing appointment; a reschedule request is submitted.	Access Seeker
2.	Check if a valid appointment ID or reference is provided. If valid, progress to Step 3 of the main workflow; otherwise refer to the alternate workflow.	NBN Co
3.	Check if PoNR has not been reached for the appointment required to be rescheduled. If not, progress to Step 4 of the main workflow; otherwise refer to the alternate workflow.	NBN Co
4.	Update the appointment with a new timeslot and send a confirmation response.	NBN Co
5.	Receive response.	Access Seeker

Alternate Workflow		
At Step	**Description**	**Role**
2	Invalid appointment ID or reference is provided – send rejection / error response.	NBN Co

3	PoNR has been reached for the appointment and it cannot be rescheduled – send rejection / error response.	NBN Co

Business Rules	
ID	**Description**
AM-BR01	An appointment can only be rescheduled if the PoNR has not been reached.
AM-BR02	Reserved or booked appointments can be rescheduled.
AM-BR04	Reschedule can be requested beyond the order or ticket SLA if required.

Touchpoints used	
ID	**Name**
AM-TP011	requestAppointmentReschedule
AM-TP011.1	responseAppointmentReschedule
AM-TP003	requestAppointmentAvailability
AM-TP003.1	responseAppointmentAvailability

4.4.4 AM-BP004: Query appointment details

ID	AM-BP004
Name	Query an existing appointment
Value stream	• Fulfilment • Assurance
Description	Access Seeker initiated request to query details of an existing appointment.
Notes/ Assumptions	The Flow does not cover message related errors or exceptions; it assumes a valid XML message and format.

Process Flow

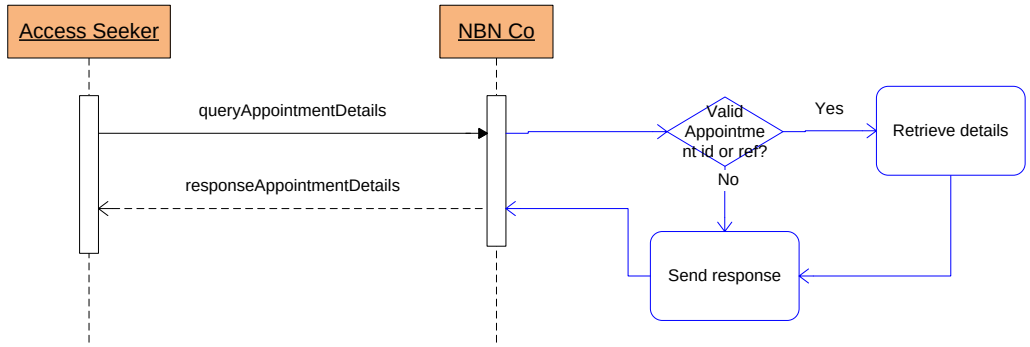


Figure 52 – Query Appointment Details Process Flow

Pre condition/s

Access Seeker has a sent valid message.

Provided:	Post condition:
Given appointment exists.	Appointment details are returned.

Main Workflow

Step	Description	Role
1.	Send query for an existing appointment.	Access Seeker
2.	Check if a valid appointment ID or reference is provided. If valid progress to Step 3 of the main workflow, otherwise refer to the alternate workflow.	NBN Co
3.	Retrieve details related to the appointment.	NBN Co
4.	Send a response containing the appointment details.	NBN Co
5.	Receive response.	Access Seeker

Alternate Workflow

At Step	Description	Role
2	Invalid appointment ID or reference is provided (or already completed, is in the past) or appointment is not associated with the requesting Access Seeker – send	NBN Co

	rejection/ error response.	

Business Rules	
ID	**Description**
AM-BR01	The period of time following an appointment that can be queried is subject to confirmation by NBN Co in a later version of this document.

Touchpoints used	
ID	**Name**
AM-TP006	queryAppointmentDetails
AM-TP006.1	responseAppointmentDetails

4.4.5 AM-BP005: Appointment Booking

ID	AM-BP005
Name	Appointment Booking
Value stream	• Fulfilment • Assurance.
Description	NBN Co initiated notification where the Access Seeker is required to book an appointment for an order or ticket.
Notes/ Assumptions	The Flow does not cover message related errors or exceptions; it assumes a valid XML message and format.

Process Flow

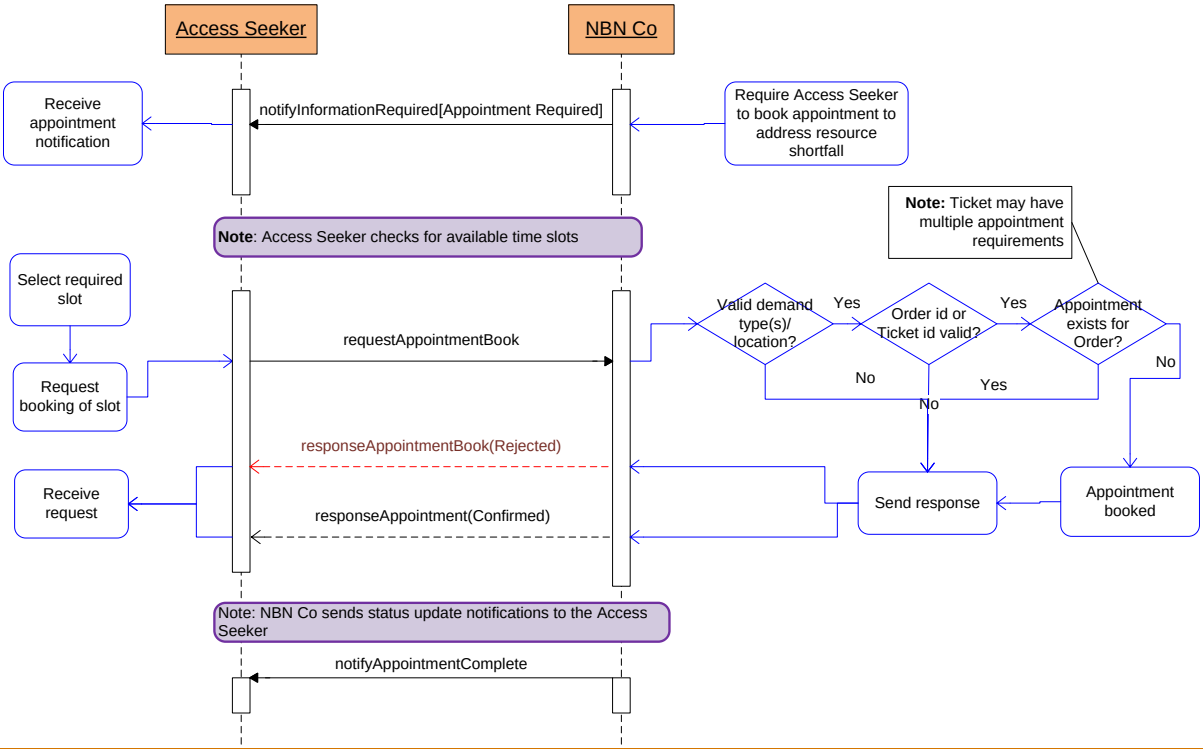


Figure 53 - Appointment Booking Process Flow

Pre condition/s
Access Seeker has: • A sent valid message. • An existing order or ticket that the appointment is to be associated to and has been advised of the appointment / demand type. • Requested available time slots from NBN Co for the required demand type(s). • AS shall provide reserved appointment ID where applicable

Provided:	Post condition:
A valid location, demand type(s) and available slot are requested. A valid order/ ticket ID is given (and no other booked appointment exists on the order).	Send a response confirming the booking of an appointment.

Main Workflow

Step	Description	Role
1.	Select the required slot that meets End User requirements and request booking	Access Seeker
2.	Validate given the location and demand type(s). If valid progress to Step 3 of the main workflow, otherwise refer to the alternate workflow.	NBN Co
3.	Check whether the given order or ticket ID or reference is valid. If yes progress to Step 4 of the main workflow, otherwise refer to the alternate workflow.	NBN Co
4. (for order only)	If booking made for an order, check no other booked appointment exists and demand type(s) is validated against what is required for the referenced order/ ticket. If no other appointment exists progress to Step 5 of the main workflow, otherwise refer to the alternate flow	NBN Co
5.	Send a response to Access Seeker confirming the appointment booking	NBN Co
6.	Send appointment status update notifications to Access Seeker	NBN Co

Alternate Workflow

At Step	Description	Role
2	Invalid location, demand type(s) provided. Or slot has already expired. Send rejection/error response	NBN Co
3	Invalid order or ticket ID or reference provided. Send rejection/ error response	NBN Co
4	A booked appointment already exists for the given order. Send rejection or error response	NBN Co
2	Appointment ID given is not valid or appointment has already been cancelled or passed.	NBN Co

Business Rules

ID	Description
AM-BR01	An order can have at most one booked customer appointments at the any single given time.
AM-BR02	An appointment can only be booked for a given referenced order or ticket though reservation can be performed prior to order creation
AM-BR03	Status of order or Trouble Ticket shall be checked prior to booking and NBN Co business policy applied to determine if booking accepted. For example – appointment slot shall not be booked for held orders.
Touchpoints used	
ID	**Name**
AM-TP004	requestAppointmentBook
AM-TP014	responseAppointmentBook(Rejected) or responseAppointmentBook(Confirmed)
OH-TP015	notifyInformationRequired Appointment required
PH-TP020	notifyInformationRequired Appointment required
AM-TP003	requestAppointmentAvailability
AM-TP003.1	responseAppointmentAvailability
AM-TP018	notifyAppointmentComplete

4.4.6 AM-BP006: Update details of existing appointment

ID	AM-BP006
Name	Update details of existing appointment
Value stream	Fulfilment, Assurance
Description	Access Seeker initiated request where they wish to modify specific details of a confirmed appointment, for example: contact details or add comments or modify demand type
Notes/ Assumptions	The flow does not cover message related errors or exceptions; it assumes a valid XML message and format. Slot duration cannot be reduced or extended on an existing appointment by the Access Seeker. Slot duration or event window would be as defined by NBN Co driven by demand type(s)
Process Flow	

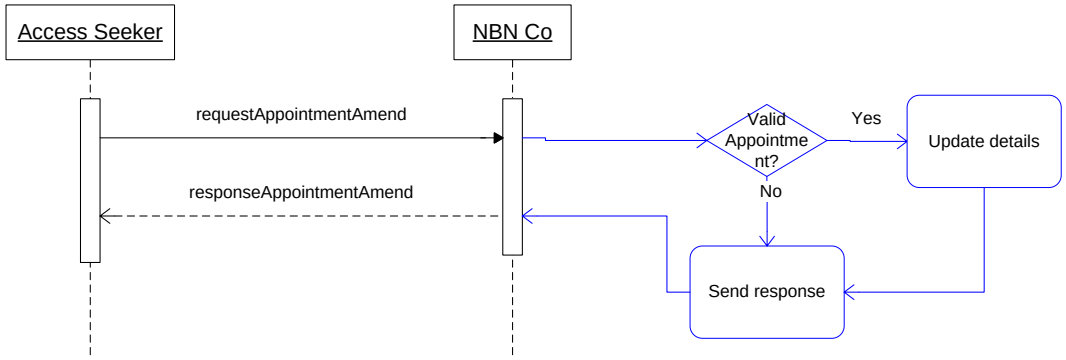


Figure 54 – Update Details to an Existing Appointment Process Flow

Pre condition/s
Access Seeker has: • A sent valid message. • An existing appointment.

Provided:	Post condition:
A valid appointment ID or reference is provided.	Send a response confirming the update.

Main Workflow

Step	Description	Role
1.	Request to update contact details of existing appointment.	Access Seeker
2.	Validate given appointment ID or reference. If valid progress to Step 3 of the main workflow, otherwise refer to the alternate workflow.	NBN Co
3.	Update appointment details.	NBN Co
4.	Send a response to the Access Seeker confirming the update.	NBN Co

Alternate Workflow

At Step	Description	Role
2	Invalid appointment ID or reference provided – send rejection/error response.	NBN Co

Business Rules

ID	Description
AM-BR01	Details related to a completed or cancelled appointment cannot be updated.
AM-BR02	Category of possible updates to an existing appointment.

Update type	Description
Customer contact	Details related to customer premises contact, for example: Name, Mobile, Phone number, etc.
Comments	Addition of textual comments to an existing confirmed appointment to provide trail.

	Demand type	Request to amend demand type would undergo feasibility where it be determined whether amend can be accommodated within boundaries of the current appointment. If not, the request would be rejected

Touchpoints used	
ID	**Name**
AM-TP010	requestAppointmentAmend
AM-TP010.1	responseAppointmentAmend (completed or Rejected)

4.4.7 AM-BP007: Book Follow Up Appointment

ID	AM-BP007
Name	Book follow up appointment
Value stream	• Fulfilment • Assurance.
Description	NBN Co initiated notification where the Access Seeker is required to book a follow up appointment for an order or ticket.
Notes/ Assumptions	The Flow does not cover message related errors or exceptions; it assumes a valid XML message and format.

Process Flow

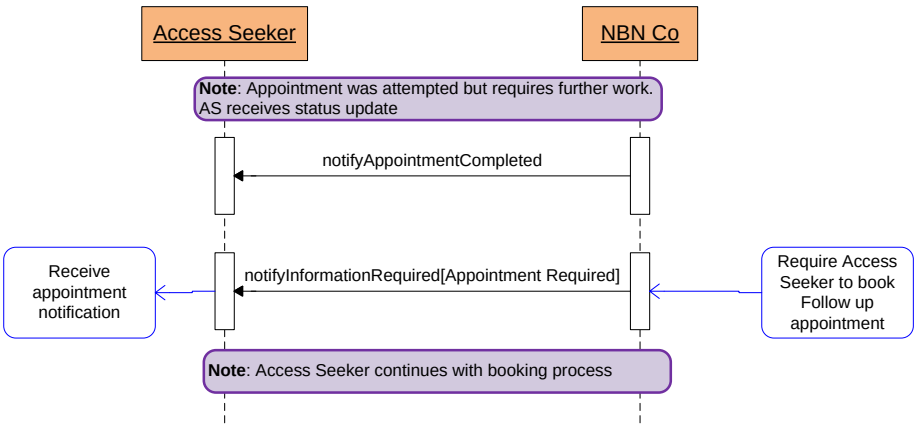


Figure 55 – Book Follow Up Appointment Process Flow

Pre condition/s

Not applicable

Provided:	Post condition:
Original appointment was met but requires follow up to close off any other activities on order or ticket	Send status notification to Access Seeker Send notification to Access Seeker advising demand type(s) and request to book appointment

Main Workflow		
Step	**Description**	**Role**
1.	Original appointment on order or ticket was attempted however requires follow up to close off any other activities or tasks. Appointment status update send to Access Seeker	NBN Co
2.	Send notification to Access Seeker to request to book a follow up appointment with available time slots	NBN Co
3.	Receives update and continues with booking process	Access Seeker
Alternate Workflow		
At Step	**Description**	**Role**
	Not applicable	
Business Rules		
ID	**Description**	
	Not applicable	
Touchpoints used		
ID	**Name**	
AM-TP018	notifyAppointmentComplete	
OH-TP015	notifyInformationRequired Appointment required	
PH-TP020	notifyInformationRequired Appointment required	

4.4.8 AM-BP010: Appointment Attempt Failure

ID	AM-BP010
Name	Appointment attempt failure
Value stream	• Fulfilment • Assurance.
Description	NBN Co initiated notification where the appointment took place or an attempt was made to perform the activities but was missed for e.g. customer not available at premise or technician could not gain access to premise
Notes/ Assumptions	The Flow does not cover message related errors or exceptions; it assumes a valid XML message and format.
Process Flow	

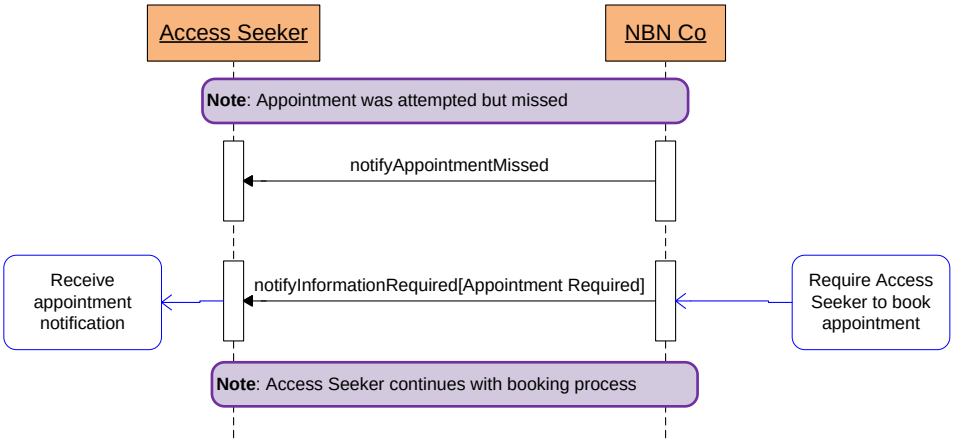


Figure 56 –Appointment Attempt Failure Process Flow

Pre condition/s	
Not applicable	
Provided:	**Post condition:**
Original appointment missed	Send status notification to Access Seeker Send notification to Access Seeker to request to book appointment

Main Workflow

Step	Description	Role
1.	Original appointment on order or ticket was attempted however missed. Appointment status update send to Access Seeker advising reason	NBN Co
2.	Send notification to Access Seeker to request to book appointment	NBN Co
3.	Receives update and continues with availability and booking process	Access Seeker

Alternate Workflow

At Step	Description	Role
	Not applicable	

Business Rules

ID	Description
	Not applicable

Touchpoints used

ID	Name
AM-TP017	notifyAppointmentMissed
OH-TP015	notifyInformationRequired Appointment required

PH-TP020	notifyInformationRequired Appointment required

4.5 Assurance

4.5.1 TT-BP001: Assurance Ticket Process (Main Flow)

ID	TT-BP001
Name	Assurance Ticket Process (Main Flow)
Value stream	Assurance
Description	Access Seeker has performed an NBN Co test on the service which has identified a fault or incident. Access Seeker raises a Trouble Ticket with NBN Co. NBN Co validates the ticket, accepts and then progresses with resolution, reporting progress updates. NBN Co reports the problem is cleared. Access Seeker accepts clearance and the ticket is closed by NBN Co.
Notes/ Assumptions	The Flow does not cover message related errors or exceptions; it assumes a valid XML message and format.
Process Flow	

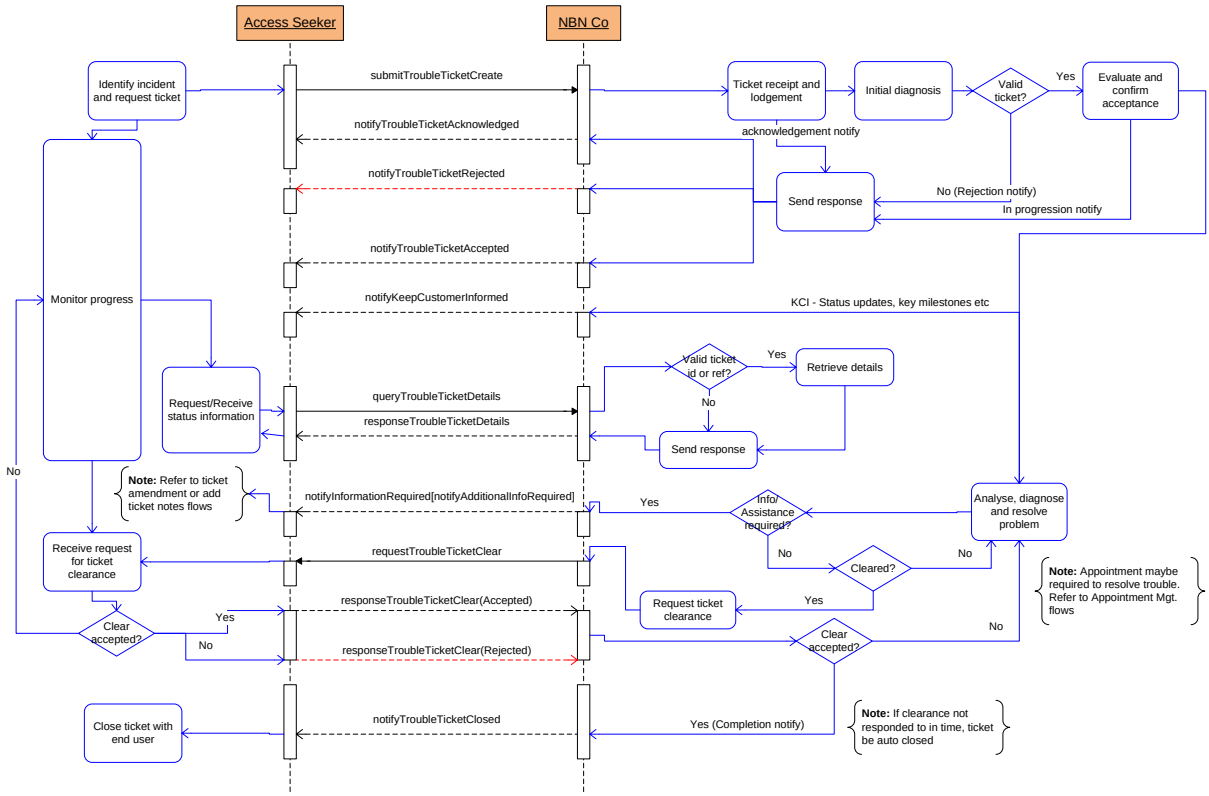


Figure 57 – Ticket Process (Main Flow)

Pre condition/s	
Access Seeker has: • A sent valid message. • Performed all prior required set of tests in order to report an incident which is affecting a given service.	
Provided:	**Post condition:**
A valid ticket is lodged by the Access Seeker and is accepted to be progressed within NBN Co's domain. (Valid service instance/s and/ or resource information is provided).	Access Seeker accepts clearance and ticket is closed by NBN Co.

Main Workflow		
Step	**Description**	**Role**
1.	Incident is identified and Trouble Ticket is submitted for resolution (containing test results). Note that Access Seeker may chose to provide their own AS Reference ID as part of the submission. This can be used later to query ticket.	Access Seeker
2.	Ticket request received and lodged within assurance domain.	NBN Co
3.	Send an acknowledgement notification.	NBN Co
4.	Perform an initial diagnosis of ticket and assess whether a valid request. If yes progress to Step 5 of the main workflow, otherwise refer to the alternate workflow.	NBN Co
5.	Send state progress update notification.	NBN Co
6.	Investigate the accepted incident further, analyse and progress to resolution.	NBN Co
7.	Send regular updates to Access Seeker as a Trouble Ticket progresses through to resolution including but not limited to escalation, Trouble Ticket category changes, status updates, milestone updates, etc.	NBN Co
8.	If more information an appointment or assistance is required send notification to Access Seeker requesting for information or type of assistance required.	NBN Co
9.	Provides required information or engages in required assistance (also refer to Add/ Amend Trouble Ticket flows).	Access Seeker
10.	Once resolved, send request to Access Seeker for ticket clearance.	NBN Co
11.	Receive request. Access Seeker test with End User and confirm that the issue has been restored. If incident is cleared progress to Step 10 of the main workflow, otherwise refer to the alternate workflow.	Access Seeker
12.	Send ticket clearance acceptance.	Access Seeker
13.	Receive clearance, close ticket.	NBN Co
14.	Send completion notification to Access Seeker.	NBN Co

Alternate Workflow		
At Step	**Description**	**Role**

4	Assessed not a valid ticket or incident not in NBN Co domain, and rejection / error response sent to the Access Seeker containing the rejection reason.	NBN Co
11	Assessed that incident not cleared, hence clearance rejected. NBN Co receives rejection of clearance; go to Step 5 of the main workflow.	Access Seeker and NBN Co
7	Access Seeker may request for ticket status updates during the resolution process. Given a valid ticket ID is provided, a response will be sent to the Access Seeker notifying ticket progress. If a valid ticket ID or reference is not provided send a rejection / error response to the Access Seeker.	Access Seeker

Business Rules	
ID	**Description**
TT-BR01	Access Seeker to prove that the initial diagnostics have been performed prior to raising a Trouble Ticket with NBN Co by providing test results.
TT-BR02	NBN Co will notify the Access Seeker if more information or assistance is required to resolve the ticket. If the Access Seeker does not respond within the defined timeframe, this may adversely affect the ticket, for example: jeopardy, possible delays, or change of priority or ticket closure/ cancellation, and the SLA may be paused until the Access Seeker responds to the request. Further details, and confirmation of SLA impact, is subject to confirmation by NBN Co in a future version of this document.

Touchpoints used	
ID	**Name**
PH-TP001	requestTroubleTicketCreate
PH-TP004	notifyKeepCustomerInformed
PH-TP005	notifyTroubleTicketAcknowledged
PH-TP006	notifyTroubleTicketAccepted
PH-TP007	notifyTroubleTicketRejected
PH-TP014	requestTroubleTicketClear
PH-TP015	responseTroubleTicketClearance
PH-TP020	notifyInformationRequired notifyAdditionalInfoRequired
PH-TP010	queryTroubleTicketDetails
PH-TP010.1	responseTroubleTicketDetails
PH-TP002	queryTroubleTicketDetails
PH-TP002.1	responseTroubleTicketDetails
PH-TP022	notifyTroubleTicketClosed

4.5.2 TT-BP002: Trouble Ticket Cancellation

ID	TT-BP002
Name	Trouble Ticket Cancellation
Value stream	Assurance
Description	Access Seeker decides to cancel the ticket as it is no longer required and does not need any further investigation
Notes/ Assumptions	The flow does not cover message related errors or exceptions; it assumes a valid XML message and format.

Process Flow

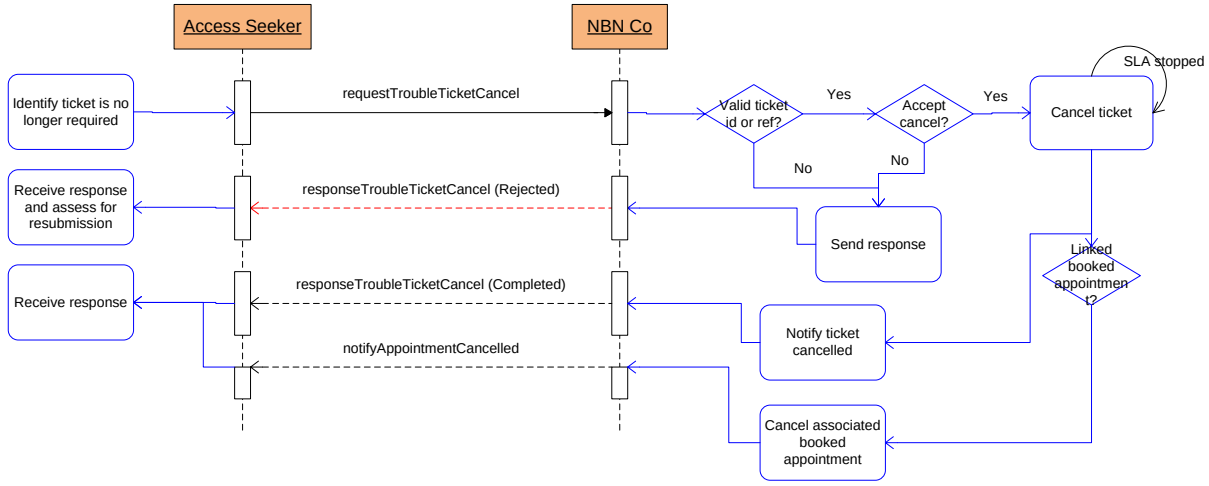


Figure 58 – Ticket Cancellation Process Flow

Pre condition/s

Access Seeker has:

- A sent valid message
- A valid accepted ticket that is required to be cancelled.

Provided:	Post condition:
A valid ticket ID or reference has been provided and the ticket is not completed.	Send a response confirming the cancellation of the ticket.
Ticket required to be cancelled is associated to a booked appointment/s.	Send notification that linked appointment/s has been cancelled.

Main Workflow		
Step	**Description**	**Role**
1.	Identified that the incident is resolved and the ticket is no longer required. Send ticket cancellation request.	Access Seeker
2.	Validate the ticket ID or reference. If valid progress to Step 3 of the main workflow, otherwise refer to the alternate workflow.	NBN Co
3.	Check whether the ticket can be cancelled, for example: ticket not completed, or any impacted appointment associated to incident. If okay to cancel, progress to Step 4 of the main workflow, otherwise refer to the alternate workflow.	NBN Co
4.	Cancel the required ticket, stop the associated SLA and send a cancellation confirmation response.	NBN Co
5.	Verify for any linked booked appointment/s. If appointment/s exists, cancel the appointment and send a notification to the Access Seeker confirming the cancellation.	NBN Co
6.	Receive response and proceed as required.	Access Seeker
Alternate Workflow		
At Step	**Description**	**Role**
2	Invalid ticket ID or reference provided, send rejection / error response.	NBN Co
3	Required ticket cannot be cancelled, send rejection / error response containing reason, for example: ticket already completed.	NBN Co
Business Rules		
ID	**Description**	
	Not applicable	
Touchpoints used		
ID	**Name**	
PH-TP012	requestTroubleTicketCancel	
PH-TP012.1	responseTroubleTicketCancel (Completed or Rejected)	
AM-TP016	notifyAppointmentCancelled	

4.5.3 TT-BP003: Query Trouble Ticket History or Details

ID	TT-BP003
Name	Query Trouble Ticket history or details
Value stream	Assurance
Description	Access Seeker sends query to request history or details of an existing Trouble Ticket.
Notes/ Assumptions	The flow does not cover message related errors or exceptions; it assumes a valid XML message and format.

Process Flow

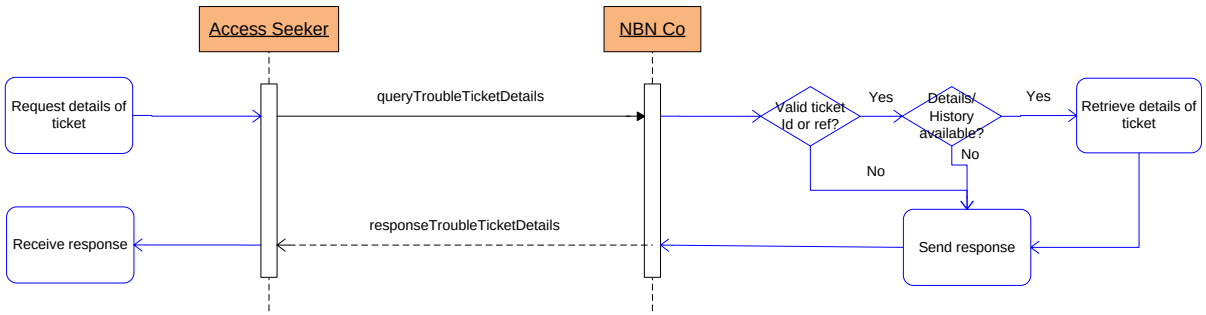


Figure 59 – Query Ticket History or Details

Pre condition/s

Access Seeker has a sent valid message

Provided:	Post condition:
A valid ticket ID or reference has been provided and details/ history is available for query Note that Access Seeker may also use their own reference ID (AS Reference ID) to query ticket	Send a response containing ticket details/ history

Main Workflow

Step	Description	Role
1.	Requires details / history of an existing Trouble Ticket; sends query. Note that Access Seeker may also use their own reference ID (AS Reference ID) to query ticket	Access Seeker
2.	Validate the Trouble Ticket ID or reference. If valid progress to Step 3 of the main workflow, otherwise refer to the alternate workflow.	NBN Co
3.	Check whether history / details are available to be queried. If yes progress to Step 4 of the main workflow, otherwise refer to the alternate workflow.	NBN Co
4.	Send a response containing Trouble Ticket details / history.	NBN Co
5.	Receive response.	Access Seeker

Alternate Workflow		
At Step	**Description**	**Role**
2	Invalid Trouble Ticket ID or reference provided – send rejection / error response.	NBN Co
3	Required Trouble Ticket history is no longer available – send rejection / error response.	NBN Co

Business Rules	
ID	**Description**
TT-BR01	Access Seeker will have the ability to request details / history on a Trouble Ticket within a configurable limited date and business rules will be applied.

Touchpoints used	
ID	**Name**
PH-TP002	queryTroubleTicketDetails
PH-TP002.1	responseTroubleTicketDetails

4.5.4 TT-BP004: Escalate Open Trouble Ticket

ID	TT-BP004
Name	Escalate open Trouble Ticket
Value stream	Assurance
Description	Access Seeker sends request to escalate an open Trouble Ticket. The severity can be re-elected due to a change in state, and have the Trouble Ticket resolved accordingly.
Notes/ Assumptions	The flow does not cover message related errors or exceptions; it assumes a valid XML message and format.

Process Flow

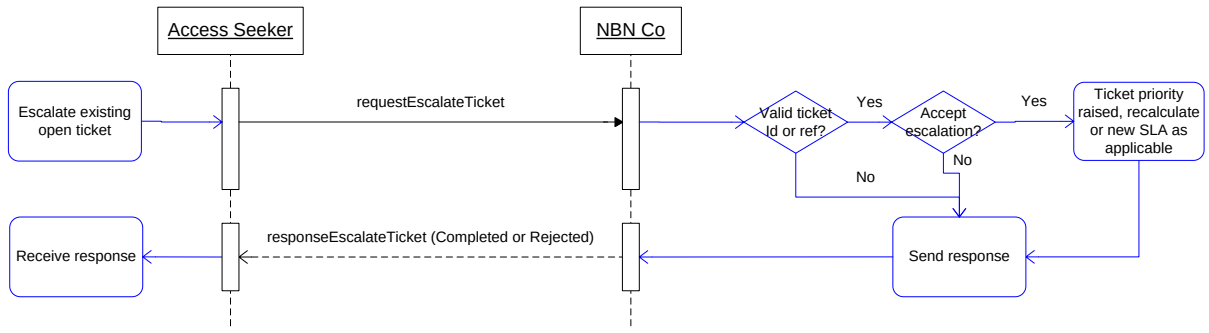


Figure 60 – Escalate Open Ticket

Pre condition/s

Access Seeker has:

- A sent valid message

- An existing open Trouble Ticket that has to be escalated.

Provided:	Post condition:
A valid Trouble Ticket ID or reference has been provided and an open ticket exists.	Send a response confirming ticket escalation.

Main Workflow

Step	Description	Role
1.	Access Seeker seeks to escalate an open Trouble Ticket and sends request.	Access Seeker
2.	Validate the Trouble Ticket ID or reference. If valid progress to Step 3 of the main workflow, otherwise refer to the alternate workflow.	NBN Co
3.	Determine whether the escalation request is acceptable within the given circumstances. If yes progress to Step 4 of the main workflow, otherwise refer to the alternate workflow.	NBN Co
4.	Trouble Ticket priority raised and re-calculate or apply new SLA as applicable.	NBN Co
5.	Send confirmation response to the Access Seeker with revised details.	NBN Co
6.	Receive response.	Access Seeker

Alternate Workflow

At Step	Description	Role
2	Invalid Trouble Ticket ID or reference provided, send rejection / error response.	NBN Co
3	Trouble Ticket escalation request cannot be accepted – send rejection / error response containing reason.	NBN Co

Business Rules

ID	Description
	Not applicable

Touchpoints used

ID	Name
PH-TP021	requestEscalateTroubleTicket
PH-TP021.1	responseEscalateTroubleTicket (Completed or Rejected)

4.5.5 TT-BP005: Trouble Ticket Amendment: Add comments to an open ticket

ID	TT-BP005
Name	Trouble Ticket Amendment: Add comments to an open ticket
Value stream	Assurance
Description	NBN Co sends notification to the Access Seeker to provide more information on an open Trouble Ticket to assist with resolution. Access Seeker requests to add comments (Amend Trouble Ticket) to provide required information and progress resolution. This might include test results, etc.
Notes/ Assumptions	The flow does not cover message related errors or exceptions; it assumes a valid XML message and format. There may be scenarios where an appointment is required to be booked by the Access Seeker in order to resolve the incident. The Access Seeker will be notified via notifyInformationRequired[Appointment Required].

Process Flow

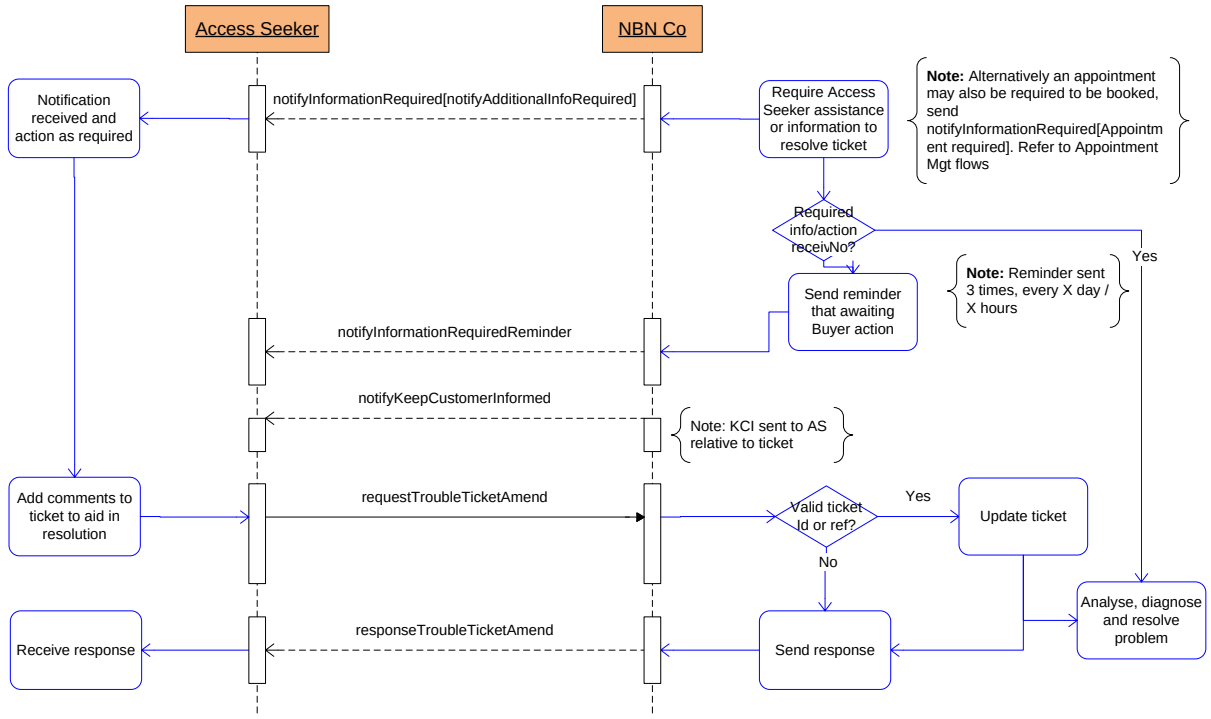


Figure 61 – Ticket Amendment: Add comments to open ticket Process Flow

Pre condition/s

Access Seeker has a sent valid message

Open ticket exists within the NBN Co domain.

Provided:	Post condition:
A valid Trouble Ticket ID or reference has been provided and an open Trouble Ticket exists.	Send a response containing updated Trouble Ticket details.

Main Workflow

Step	Description	Role

1.	Requires Access Seeker assistance or more information to resolve an open Trouble Ticket, and sends notification.	NBN Co
2.	Receives notification and actions as required.	Access Seeker
3.	Amends existing ticket with added notes to aid in resolution, and sends request.	Access Seeker
4.	Determine if a valid Trouble Ticket ID or reference is provided. If yes progress to Step 5 of the main workflow, otherwise refer to the alternate workflow.	NBN Co
5.	Update the ticket with amendment and send a confirmation response.	NBN Co
6.	Continue analysis and diagnosis of open ticket to resolution.	NBN Co
Alternate Workflow		
At Step	**Description**	**Role**
2	Invalid Trouble Ticket ID or reference provided – send rejection / error response.	NBN Co
4	If response or update is not received within the given timeframe, the Access Seeker will be sent a reminder (Y times) every X day or every X hours. Further details is subject to confirmation by NBN Co in a future version of this document.	NBN Co
Business Rules		
ID	**Description**	
TT-BR01	NBN Co will notify the Access Seeker if more information or assistance is required to resolve the ticket. If the Access Seeker does not respond within the defined timeframe, this may adversely affect the ticket resolution SLA, for example: jeopardy, possible delays, or change of priority or ticket closure/ cancellation). Further details, and confirmation of SLA impact, is subject to confirmation by NBN Co in a future version of this document.	
Touchpoints used		
ID	**Name**	
PH-TP011	requestTroubleTicketAmend	
PH-TP011.1	responseTroubleTicketAmend	
PH-TP020	notifyInformationRequired notifyAdditionalInfoRequired	
PH-TP026	notifyInformationRequiredReminder	
PH-TP004	notifyKeepCustomerInformed	

4.5.6 TT-BP006: Trouble Ticket Jeopardy/ Delay

ID	TT-BP006
Name	Trouble Ticket jeopardy/ delay
Value stream	Assurance
Description	NBN Co sends notification to the Access Seeker where a specific SLA within a process, (for example: key milestone) was not met, or the SLA was not met.
Notes/ Assumptions	The flow does not cover message related errors or exceptions; it assumes a valid XML message and format.

Process Flow

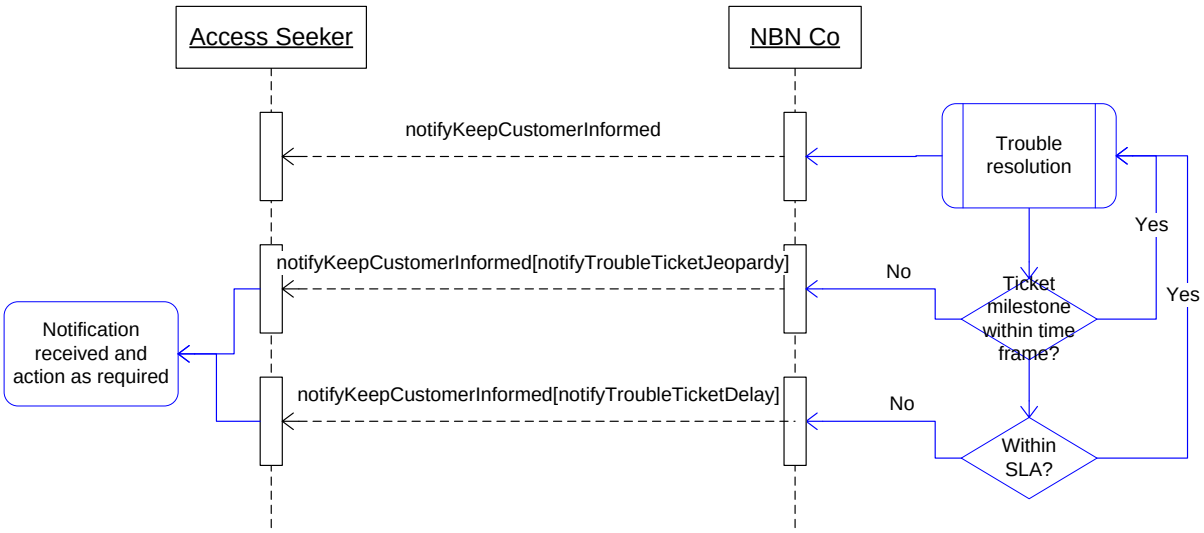


Figure 62 – Trouble Ticket Jeopardy Process Flow

Pre condition/s

Not applicable

Provided:	Post condition:
A given milestone within the process was not met or was delayed.	Send notification to the Access Seeker advising of jeopardy or delay.

Main Workflow

Step	Description	Role
1.	Send 'key status / milestone reached' updates to the Access Seeker at defined events within a process.	NBN Co
2.	Check if the given milestone / ticket is within the SLA. If no, progress to Step 3 of the main workflow, otherwise progress with trouble resolution.	NBN Co
3.	Send a jeopardy notification to the Access Seeker.	NBN Co
4.	Receive notification and actions as required.	Access Seeker

Business Rules

ID	Description
	Not applicable
Touchpoints used	
ID	**Name**
PH-TP004	notifyKeepCustomerInformed notifyTroubleTicketJeopardy notifyTroubleTicketDelay

4.5.7 TT-BP007: Planned change or hazard

ID	TT-BP007
Name	Planned change or hazard
Value stream	Assurance
Description	NBN Co sends a notification to Access Seekers in advance of a planned change / hazard when this is required to resolve an existing issue or incident. NBN Co sends notifications to affected Access Seekers during the maintenance window in order for them to manage their End Users.
Notes/ Assumptions	The flow does not cover message related errors or exceptions; it assumes a valid XML message and format.
Process Flow	

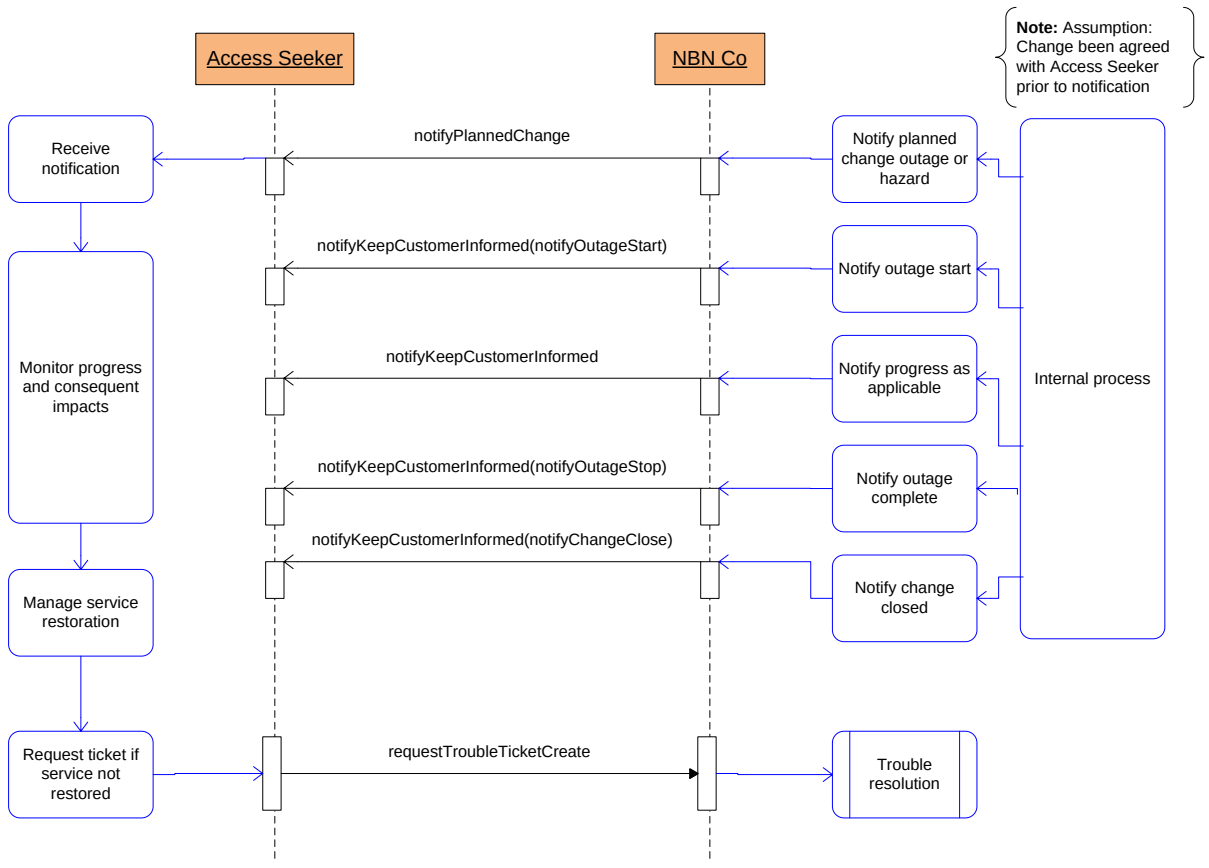


Figure 63 – Planned Change or Hazard Process Flow

Pre condition/s	
Affected Access Seeker/s have been determined. The window has been identified.	
Provided:	**Post condition:**
The change / hazard process has been managed internally and affected Access Seeker/s have been determined.	Send a notification of the planned change / hazard to affected Access Seeker/s.

Main Workflow

Step	Description	Role
1.	Identified the need for a planned change / hazard which may impact Access Seeker/s. Planned change / hazard has been scheduled and agreed upon.	NBN Co
2.	Send notification of the planned change / hazard to all affected Access Seekers.	NBN Co
3.	Receives notification and monitors progress and any consequent impact.	Access Seeker
4.	Notify Access Seeker of any updates related to the planned change / hazard, for example: status updates (start/stop).	NBN Co
5.	Upon completion, the Access Seeker manages service restoration.	Access Seeker
6.	If service/s cannot be restored post completion, request Trouble Ticket creation from NBN Co.	Access Seeker

Business Rules

ID	Description
TT-BR01	The failure to successfully implement a change as planned will result in a back out within the maintenance window. If at the end of the window the network has not returned to its previously known state, this is managed by the Network Operations group and considered an unplanned outage.
TT-BR02	Access Seekers will be provided at least 10 days' notice of a planned change. This would contain the change reference number, outage date, duration, region and impacted services.

Touchpoints used

ID	Name
CM-TP001	notifyPlannedChange
CM-TP004	notifyKeepCustomerInformed notifyOutageStart notifyOutageStop notifyPlannedChangeClose
PH-TP001	requestTroubleTicketCreate

4.5.8 TT-BP008: Event as Incident

ID	TT-BP008
Name	Event as incident
Value stream	Assurance
Description	NBN Co sends notification to the Access Seeker/s of a Trouble Ticket generated from an Alarm and Event affecting their network and their End Users. NBN Co will provide a list of impacted CVC when one or more CVC are down. Otherwise NBN Co will provide a list of impacted AVC. Access Seekers will determine impacted End User services via their inventory systems. The Alarm and Event management system indicates that an incident is required to be resolved via the Trouble Ticket management process. NBN Co raises a Trouble Ticket and notifies the affected Access Seekers.
Notes/ Assumptions	The flow does not cover message related errors or exceptions; it assumes a valid XML message and format.

Process Flow

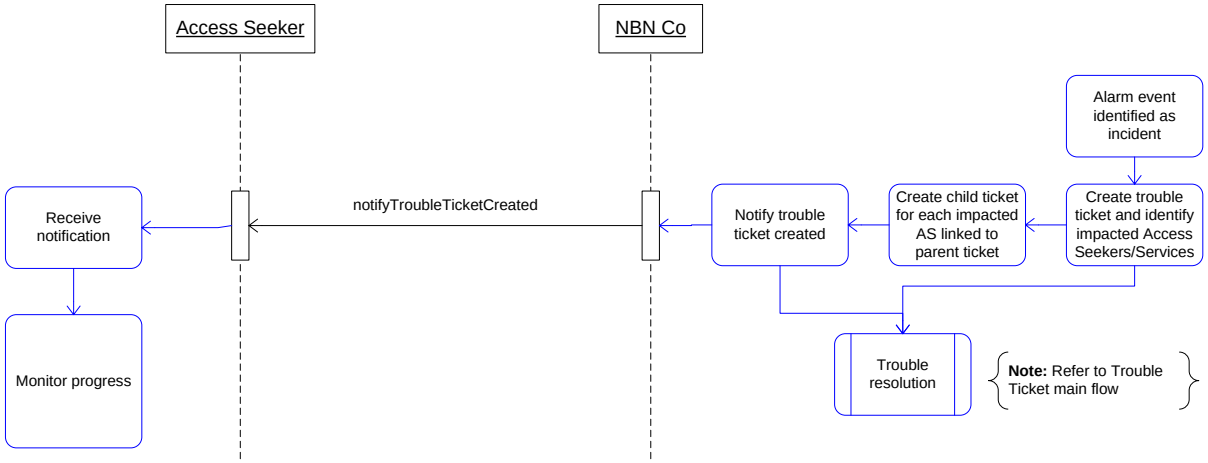


Figure 64 – Event as Incident Process Flow

Pre condition/s

Affected Access Seekers and/ or services have been determined.

Provided:	**Post condition:**
An event has been raised by the Alarm and Event management system and the relevant Trouble Ticket has been created.	Notify affected Access Seekers that a Trouble Ticket has been created and is being resolved.

Main Workflow		
Step	**Description**	**Role**
1.	An event has been raised and identified as an incident by the Alarm and Event management system.	NBN Co
2.	Create Trouble Ticket and determine affected Access Seekers and services. Create child Trouble Ticket per Access Seeker affected and attach it to the single parent ticket created in response to the incident.	NBN Co
3.	Notify affected Access Seekers that the relevant Trouble Ticket been created.	NBN Co
4.	Receives notification and monitors the progress of the ticket.	Access Seeker
5.	Refer to TT-BP001: Assurance Ticket Process (Main Flow)	

Business Rules	
ID	**Description**
1.	Refer to the Trouble Ticket main flow process.

Touchpoints used	
ID	**Name**
PH-TP003	notifyTroubleTicketCreated

4.5.9 TT-BP009: Request More Time

ID	TT-BP009
Name	Request More Time
Value stream	Assurance
Description	The Access Seeker has been requested to take action from NBN Co and they need more time to respond beyond the standard time period. In cases where the Access Seeker is unable to perform within the applicable timeframe, NBN Co sends a reminder message to the Access Seeker. If no further response is received from the Access Seeker, NBN Co may defer or close the ticket.
Notes / Assumptions	The Flow does not cover message related errors or exceptions, and assumes a valid XML message and format. Manual intervention between the Access Seeker and NBN Co to provide information has not been covered in the flow.
Process Flow	

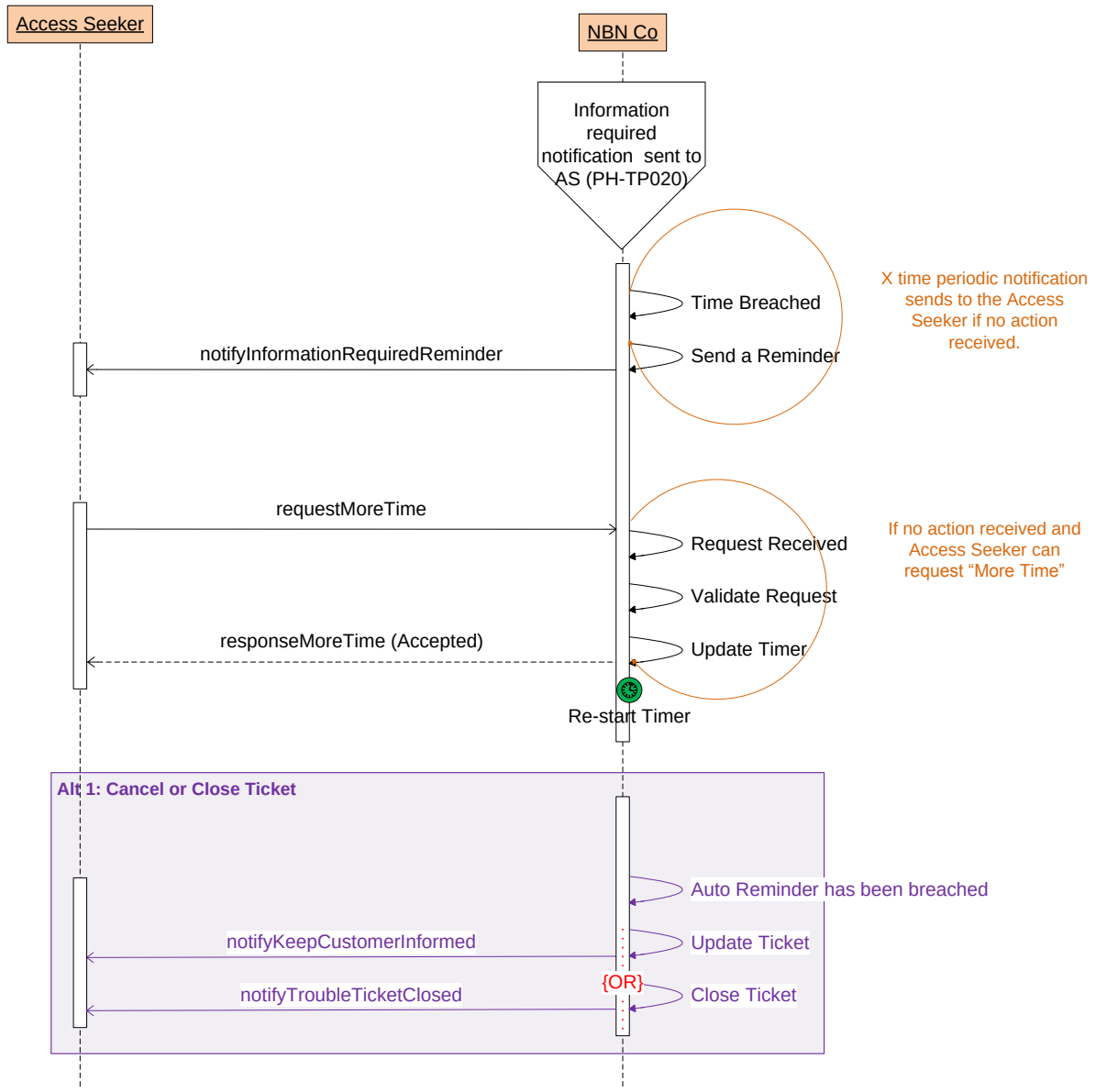


Figure 65 – Access Seeker Request More Time Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
The ticket exists and is yet to be resolved to closure. A request has been sent to the Access Seeker to take action.	The ticket has been amended to include the additional information and continues progression.	Close the ticket or Defer the ticket.

Flow of events

1. NBN Co has sent an Information Required notification to the Access Seeker.
2. NBN Co identifies the requested information has not been provided by the Access Seeker and the waiting time has been breached.
3. NBN Co sends a reminder requesting the Access Seeker to perform the action; the details of the action are part of the

notification.

4. The Access Seeker performs the necessary action, i.e. amend, cancel or require more time.
5. The Access Seeker needs more time to perform the action and executes requestMoreTime to extend the activity timer with NBN Co.
6. NBN Co validates the request, updates the timer and sends a 'more time request has been accepted' notification.

Alternative Flow 1: Defer or Close Ticket

At Step 3:

1. No action has been taken by the Access Seeker after the NBN Co determined time from delivery of the last reminder.
2. NBN Co defers or closes the ticket and sends a notification to the Access Seeker.

Business Rules

ID	Description
1.	A reminder notification will be sent to the Access Seeker up to the maximum permissible number of times. The ticket will be either deferred or closed if no action or response is received after an NBN Co determined time after the final reminder was sent.

Transaction Touchpoints Used

ID	Transaction Name
PH-TP020	notifyInformationRequired
PH-TP004	notifyKeepCustomerInformed
PH-TP025	requestMoreTime
PH-TP025.1	responseMoreTime
PH-TP028	notifyInformationRequiredReminder
PH-TP022	notifyTroubleTicketClosed

4.6 Billing

4.6.1 BI-BP004: Notify Billing Event File

ID	BI-BP004
Name	Notify Billing Event File
Value stream	Billing
Description	NBN Co sends a Billing Event File to the Access Seeker on a scheduled event, for example: daily, weekly, fortnightly or monthly.
Notes / Assumptions	Not applicable

Process Flow

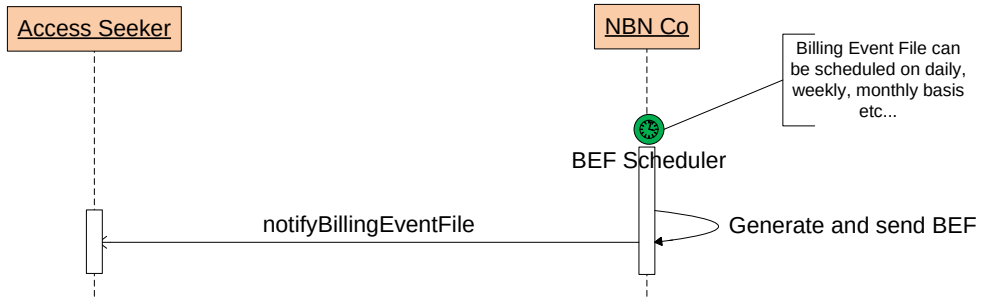


Figure 66 – Notify Billing Event File Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
The Access Seeker has at least one active Billing Account.	The new Billing Event File is sent to the Access Seeker in ETIS ETEB03 XML format.	Not applicable

Flow Description

1. New BEF has been generated on schedule.
2. NBN Co sends a notification to the Access Seeker advising of the new BEF by executing *BEF-TP002 notifyBillingEventFile*

Business Rules

ID	Description
1.	A Billing Event will be found in precisely one Billing Event File.
2.	A single Billing Event File will be associated to a single Access Seeker Billing Account.
3.	The BEF will not include the Access Seeker payments and Customer Account level discounts and adjustments.
4.	Amounts on the billing events are exclusive of GST. There will be an indication of tax eligibility.
5.	A Billing Event File sequence will be associated with each billing account.
6.	The Access Seeker will be notified of the availability of a new Billing Event File only once.

Transaction Touchpoints Used

ID	Transaction Name
BEF-TP002	notifyBillingEventFile

4.6.2 BI-BP005: Request Previous Billing Invoice

ID	BI-BP005
Name	Request Previous Billing Invoice
Value stream	Billing
Description	The Access Seeker will have the ability to request that a NBN Co resend a previous Billing Invoice.
Notes / Assumptions	The flow does not cover message related errors or exceptions, and assumes a valid XML message and format. A list of previous invoice IDs can be obtained via the BI-BP007 Query Billing Report business process.

Process Flow

Figure 67 – Request Billing Invoice Sequence Diagram

Success Path | **Alternative Outcomes**

Pre-Conditions	Post-Conditions	
The Access Seeker has at least one active Billing Account.	The correct Billing Invoice has been provided to the requesting Access Seeker in both PDF and ETIS ETEB01 XML formats.	Invalid Billing Account ID or Invoice ID is provided.

Flow of events

1. The Access Seeker wishes to request a previous Billing Invoice by executing *BIN-TP001 requestBillingInvoice.*
2. NBN Co receives and validates the request. NBN Co retrieves previous Billing Invoice in both PDF and ETIS ETEB01 XML formats and sends them to the Access Seeker.

If information provided by the Access Seeker is invalid, for example: incorrect Invoice ID or Billing Account ID, a failure response will be sent to the Access Seeker.

Business Rules

ID	Description
1.	Limited to invoices available within the configurable retention period (13 months).
2.	The Access Seeker cannot request billing invoice outside of the billing cycle.

3.	Both XML and PDF versions need to be returned within the response message.

Transaction Touchpoints Used

ID	Transaction Name
BIN-TP001	requestBillingInvoice
BIN-TP001.1	responseBillingInvoice

4.6.3 BI-BP006: Notify Billing Invoice

ID	BI-BP006
Name	Notify Billing Invoice
Value stream	Billing
Description	NBN Co sends a Billing Invoice to the Access Seeker on a scheduled cycle, for example: monthly, etc.
Notes / Assumptions	Not applicable

Process Flow

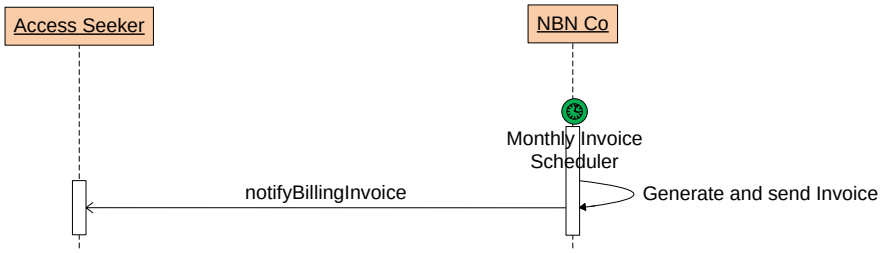


Figure 68 – Notify Billing Invoice Sequence Diagram

Success Path | **Alternative Outcomes**

Pre-Conditions	Post-Conditions	
The Access Seeker has at least one active Billing Account.	The new Billing Invoice is sent to the Access Seeker in both PDF and ETIS ETEB01 XML formats.	Not applicable

Flow of events

NBN Co sends a notification to the Access Seeker advising of the new billing invoice by executing *BIN-TP002 notifyBillingInvoice.*

Business Rules

ID	Description
1.	The Billing Invoice will be sent to the Access Seeker in both PDF and ETIS ETEB01 XML formats.

Transaction Touchpoints Used

ID	Transaction Name
BIN-TP002	notifyBillingInvoice

4.6.4 BI-BP007: Request Bill Reporting

ID	BI-BP007
Name	Request Billing Report
Value stream	Billing
Description	The Access Seeker submits a billing report query criteria to generate a report.
Notes / Assumptions	The flow does not cover message related errors or exceptions, and assumes a valid XML message and format.

Process Flow

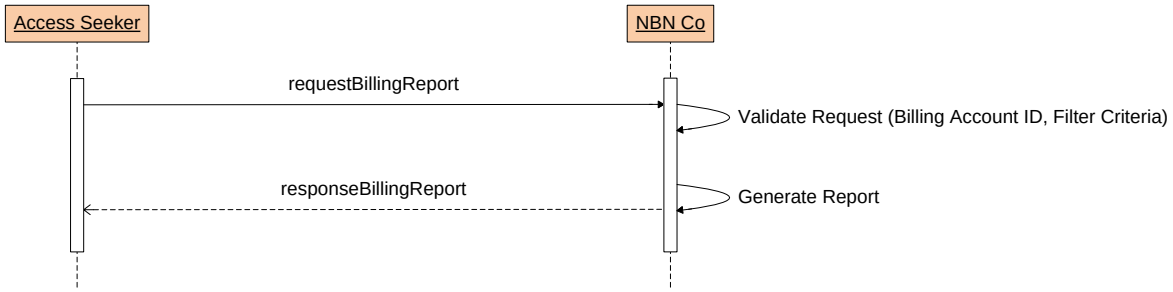


Figure 69 – Query Billing Report Sequence Diagram

Success Path | **Alternative Outcomes**

Pre-Conditions	Post-Conditions	
The Access Seeker has at least one active Billing Account. The Access Seeker is authorised to query bill reporting.	A report is generated based on the query criteria.	Invalid Billing Account ID or invalid Access Seeker ID Access Seeker is not authorised Invalid report information provided.

Flow of events

1. The Access Seeker submits a query request to generate a billing report by executing *BRE-TP001 requestBillingReport.* The Access Seeker can submit a query for the following report types:
   - List of past BEFs
   - List of past Invoices
   - Payment history by date range
   - List of Billing Accounts per Access Seeker ID
   - Billing Account position
   - List of Billing Account level adjustment, rebate and discount
   - Dispute/Enquiry information (historical and current).
2. NBN Co receives and validates the request. If the information provided is invalid, a failure message will be returned.
3. NBN Co generates a report and sends it to the Access Seeker on the successful completion of the request validation.

Business Rules	
ID	**Description**
1.	The Access Seeker can only request their own information in a billing report.
2.	All billing data for reporting is to be available for a configurable period of time, after which it will be archived. The retention period will be confirmed by NBN Co in a later version of this document.
Transaction Touchpoints Used	
ID	**Transaction Name**
BRE-TP001	requestBillingReport
BRE-TP001.1	responseBillingReport

4.6.5 BI-BP008: Raise Billing Dispute or Enquiry

ID	BI-BP008
Name	Raise Billing Dispute or Enquiry
Value stream	Billing
Description	The Access Seeker sends generic questions, and receives clarifications relating to their bill or requests to raise a Billing Dispute to specific line items, or a group of line items within the bill to formally dispute.
Notes / Assumptions	The flow does not cover message related errors or exceptions, and assumes a valid XML message and format. Manual intervention may be required between the Access Seeker and NBN Co if ticket is rejected.

Process Flow

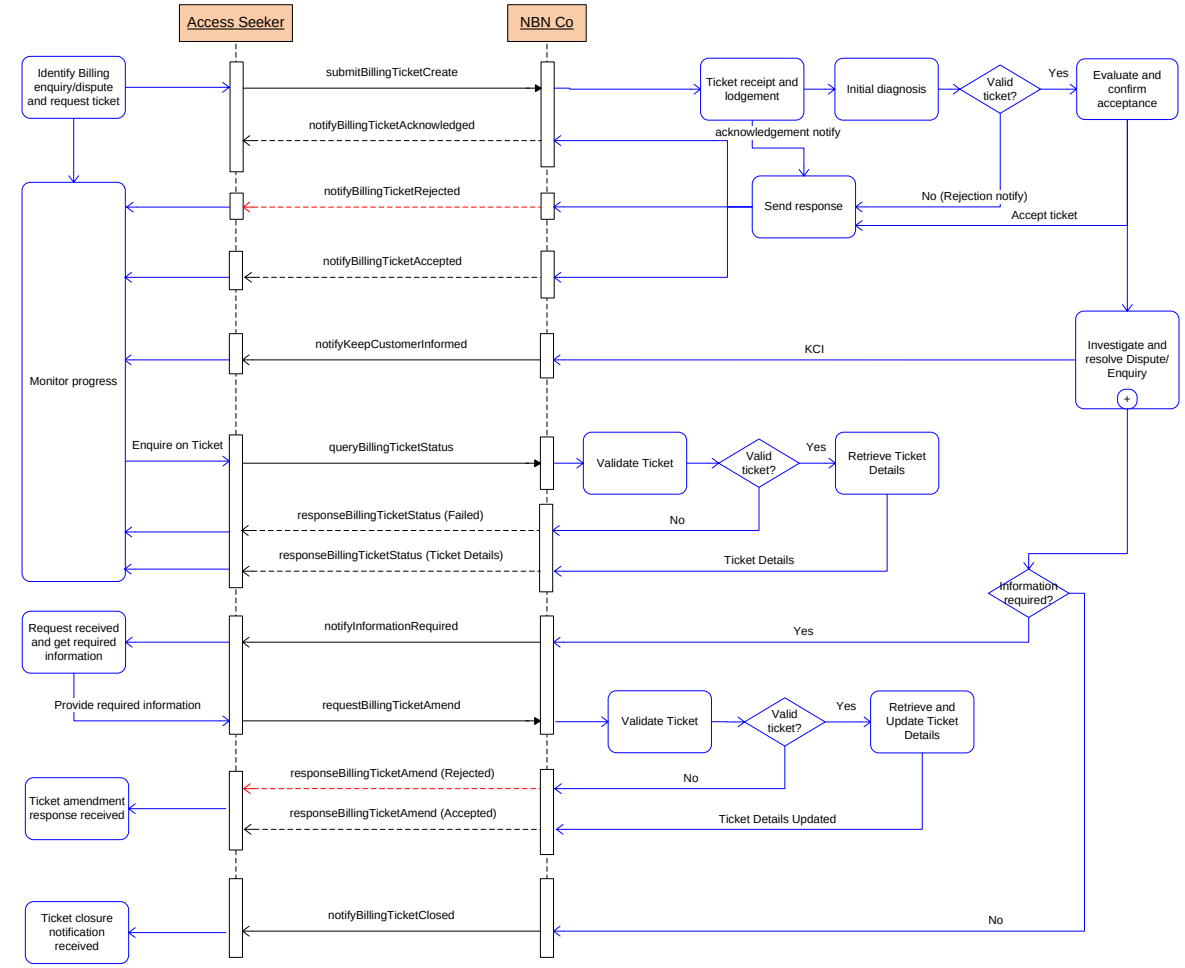


Figure 70 – Raise Billing Dispute or Enquiry Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
The Access Seeker has at least one active Billing Account.	The Billing Enquiry or Dispute ticket is created in the NBN Co system. The Billing Enquiry or Dispute ticket has been resolved.	Invalid Billing Account ID or invalid Access Seeker ID.

Flow of events

1. Access Seeker submits a Billing Enquiry or Dispute by executing *BT-TP001 submitBillingTicketCreate.*
2. NBN Co validates the request and sends a notification advise the Access Seeker the ticket has been lodged.
   If the ticket raised is invalid, NBN Co sends a reject notification with a reason code.
3. NBN Co evaluates and confirms acceptance of the Ticket.
   - a. If the Ticket raised is related to a Billing Enquiry or Dispute, NBN Co sends a notification advising the Ticket has been accepted and performs analysis to resolve the Ticket.
   - b. If the Ticket raised is not billing-related, NBN Co sends a notification advising of Ticket rejection with reason code/s.
4. NBN Co investigates and resolves the Ticket.
5. Upon resolution of the billing ticket, Access Seeker is sent a closed notification containing the resolution result

Business Rules

	Not applicable

Transaction Touchpoints Used

ID	Transaction Name
BT-TP001	submitBillingTicketCreate
BT-TP013	notifyInformationRequired notifyAdditionalInfoRequired
BT-TP005	queryBillingTicketStatus
BT-TP005.1	responseBillingTicketStatus
BT-TP004	notifyBillingTicketAcknowledged
BT-TP014	notifyBillingTicketAccepted
BT-TP015	notifyBillingTicketRejected
BT-TP009	notifyBillingTicketClosed
BT-TP003	notifyKeepCustomerInformed
BT-TP006	requestBillingTicketAmend
BT-TP006.1	responseBillingTicketAmend

4.6.6 BI-BP009: Convert Billing Enquiry to Dispute

ID	BI-BP010
Name	Convert Billing Enquiry to Dispute
Value stream	Billing
Description	Access Seeker raises an existing Billing Enquiry ticket to convert into a Dispute ticket for several reasons, for example: does not resolve the enquiry within the SLA.
Notes / Assumptions	Convert a Billing Enquiry into a Dispute will be reused Trouble Ticket Amendment transaction to update the Ticket category from 'Enquiry' to 'Dispute', and will manage it as per the Dispute process. The flow does not cover message related errors or exceptions, and assumes a valid XML message and format.

Process Flow

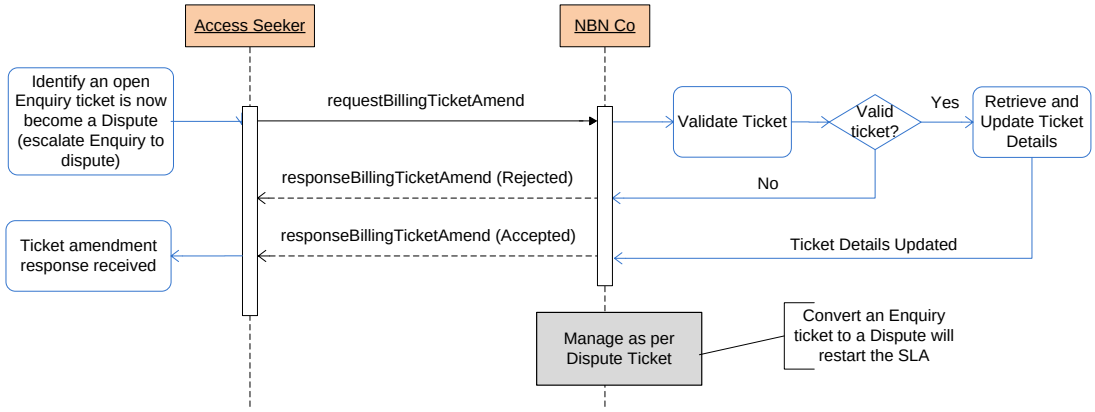


Figure 71 – Convert Billing Enquiry into Dispute Ticket Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
The Access Seeker has at least one active Billing Account. A Billing Enquiry ticket exists.	The Billing Enquiry ticket has been converted into a dispute. The dispute has been resolved by NBN Co.	Reject Ticket.

Flow of events

1. Access Seeker submits a request to convert an existing Billing Enquiry ticket to a Dispute by executing *BT-TP006 requestBillingTicketAmend.*
2. NBN Co validates the request:
   - a. If the Ticket ID is invalid, NBN Co sends a reject response with a reason code.
   - b. If the Ticket ID is valid, NBN Co updates the Ticket to a Dispute and re-starts the SLA.

Business Rules

ID	Description

1.	The SLA will be re-started after a Billing Enquiry has been converted into a Dispute ticket.

Transaction Touchpoints Used	
ID	**Transaction Name**
BT-TP006	requestBillingTicketAmend
BT-TP006.1	responseBillingTicketAmend

4.6.7 BI-BP010: Cancel Billing Enquiry or Dispute

Refer to TT-BP002: T2R Ticket Cancellation for details.

Transaction Touchpoints Used	
ID	**Transaction Name**
BT-TP007	requestBillingTicketCancel
BT-TP007.1	responseBillingTicketCancel

4.6.8 BI-BP011: Query Billing Enquiry or Dispute Ticket Details

Refer to TT-BP003: Query Trouble Ticket History or Details for details.

Transaction Touchpoints Used	
ID	**Transaction Name**
BT-TP002	queryBillingTicketDetails
BT-TP002.1	responseBillingticketDetails

4.7 Network Testing, Performance and Diagnostics

4.7.1 NPD-BP001: Request Test

ID	NPD-BP001
Name	Request Test
Value stream	Trouble to Resolve (Assurance)
Description	The Access Seeker will be able to request a specific test type on a specific service to identify if there is any issue or to confirm the successful resolution of a Trouble Ticket. A test will be performed automatically by the system with a defined set of test procedures. Test procedures will be grouped by Service Impacting and Non-Service Impacting that is only available to the Access Seeker based on their service contract/s with NBN Co. Tests will include: • A logical AVC 802.1ag loopback from the NNI Maintenance End Point (MEP) to the NTD UNI-D MEP (non service disrupting) • A metallic line test on the UNI-V (service disrupting)
Notes / Assumptions	The flow does not cover message related errors or exceptions, and assumes a valid XML message and format.

Process Flows

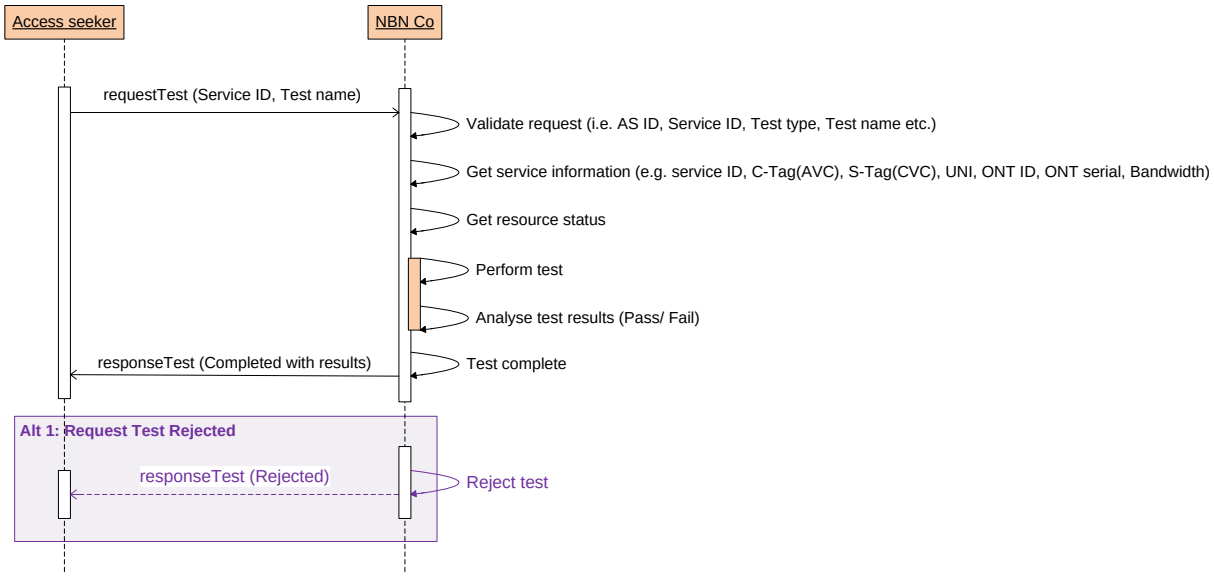


Figure 72 – Request Test Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
The Access Seeker has an active Service/s. The Access Seeker is authorised to perform the test.	Test results are provided.	Invalid Test response, for example: an Invalid Service ID is provided by the Access Seeker. Or not authorised to perform test.

Flow of events

1. Access Seeker requests a Test by executing *TE-TP001 requestTest.*
2. NBN Co validates the request:
    - If the Service ID is valid and the Access Seeker is authorized to request a particular Test Name (i.e. MLT, MAC Ping, etc) and Type (i.e. Service Impacting, Non-Service Impacting, etc), refer to step 3.
    - If the Service ID or Test Name (i.e. MLT, MAC Ping, etc) and Type (i.e. Service Impacting, Non-Service Impacting, etc) are invalid, NBN Co sends a failed response to the Access Seeker.
3. NBN Co performs a test based on the requested Test Type and Name and sends the test results to the Access Seeker upon completion.

Alternative Flow: Invalid Test Request

At Step 2

1. NBN Co validates the request and is invalid.

2. NBN Co rejects the request and sends a reject notification to the Access Seeker

Business Rules

ID	Description
1.	The Access Seeker can only request a Test Type that is published based on the service/s contracted with NBN Co.

Transaction Touchpoints Used

ID	Transaction Name
TE-TP001	requestTest
TE-TP001.1	responseTest

4.7.2 NPD-BP002: Request Performance Data

ID	NPD-BP002
Name	Request Test
Value stream	Trouble to Resolve (Assurance)
Description	The Access Seeker will be able to request the performance metrics for a specific service. Metrics will include: AVC: in/out and discarded frames per CoS. CVC: NBN Co will provide details of CVC performance metrics in a future version of this document.
Notes / Assumptions	The flow does not cover message related errors or exceptions, and assumes a valid XML message and format.

Process Flow

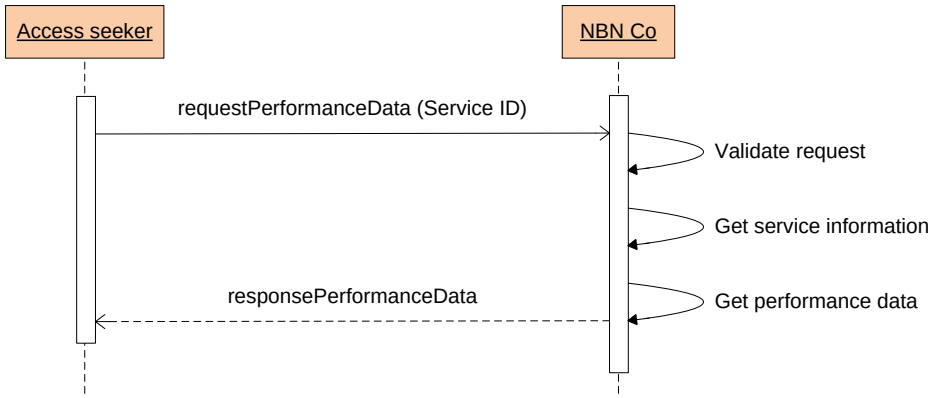


Figure 73 – Request Performance Data Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
The Access Seeker has a number of services with NBN Co. The Access Seeker is authorised to perform the test.	Performance data is provided.	Not applicable

Flow of events

1. Access Seeker requests performance data (i.e. performance reports) by executing *QS-TP002 requestPerformanceData.*
2. NBN Co validates the Service ID is valid and the Access Seeker is 130uthorized to request.
3. NBN Co gets performance data and sends a response to the Access Seeker.
   If the Service ID is invalid, NBN Co sends a failure response to the Access Seeker.

Business Rules

ID	Description
1.	The Access Seeker can only request performance data related to their Service/s.

Transaction Touchpoints Used

ID	Transaction Name
PH-TP001	requestPerformanceData
PH-TP001.1	responsePerformanceData

4.7.3 NPD-BP003: Request Service Impacting Indicator

ID	NPD-BP003
Name	Request Service Impacting Indicator
Value stream	Trouble to Resolve (Assurance)
Description	The Access Seeker will be able to request service information to identify any active service impacting indicators related to the specified Service, for example: NTD power status.
Notes / Assumptions	The flow does not cover message related errors or exceptions, and assumes a valid XML message and format.

Process Flow

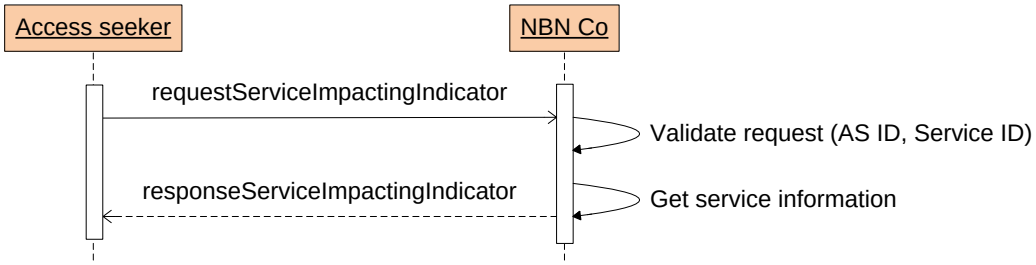


Figure 74 – Request Service Impacting Indicator Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
The Access Seeker has a service/s with NBN Co. The Access Seeker is authorised to perform the test.	Any indicators that impact the specified service.	Fail message response, for example: Invalid Service ID.

Flow of events

1. Access Seeker requests Service impacting indicator by executing *QS-TP004 requestServiceImpactingIndicator.*
2. NBN Co validates if the Service ID is valid and the Access Seeker is 131uthorized to request.
3. NBN Co gets service information and sends a response to the Access Seeker.
   If the Service ID is invalid, NBN Co sends a failed response to the Access Seeker.

Business Rules

ID	Description
1.	The Access Seeker can only request service impacting indicator information related to their services.

Transaction Touchpoints Used

ID	Transaction Name
QS-TP004	requestServiceImpactingIndicator
QS-TP004.1	responseServiceImpactingIndicator

4.7.4 NPD-BP004: Request Service Operational Status

ID	NPD-BP004
Name	Request Service Operational Status
Value stream	Trouble to Resolve (Assurance)
Description	The Access Seeker will be able to request the operational status of the specified service.
Notes / Assumptions	The flow does not cover message related errors or exceptions, and assumes a valid XML message and format.

Process Flow

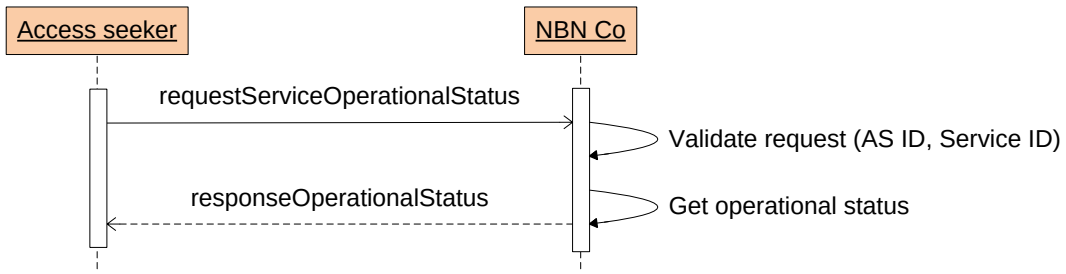


Figure 75 – Request Service Operational Status Sequence Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
The Access Seeker has a number of services with NBN Co. The Access Seeker is authorised to perform the test.	Operational status is provided.	Fail message response, for example: Invalid Service ID.

Flow of events

1. Access Seeker requests service operational status by executing *TE-TP006 requestServiceOperationalStatus.*
2. NBN Co validates if the Service ID is valid and the Access Seeker is authorised to request.
3. NBN co gets operational status and sends a response to the Access Seeker.
   If the Service ID is invalid, NBN Co sends a failed response to the Access Seeker.

Business Rules

ID	Description
1.	The Access Seeker can only request service information related to the Access Seeker.
2.	Only a single service can be requested.

Transaction Touchpoints Used

ID	Transaction Name
TE-TP006	requestServiceOperationalStatus

TE-TP006.1	responseServiceOperationalStatus

4.8 Planning & Forecasting

4.8.1 MP-BP001: Submit order forecast

ID	MP-BP001
Name	Submit order forecast
Value stream	Planning & Forecast
Description	• The ability of NBN Co to organise the appropriate resources to deliver targeted service levels is related to the accuracy of the forecasting information we receive from the industry. This is why NBN Co proposes a forecasting process. The B2B Gateway will support Access Seeker to submit their order forecasts.
Notes / Assumptions	The flow does not cover message related errors or exceptions, and assumes a valid XML message and format.

Process Flows

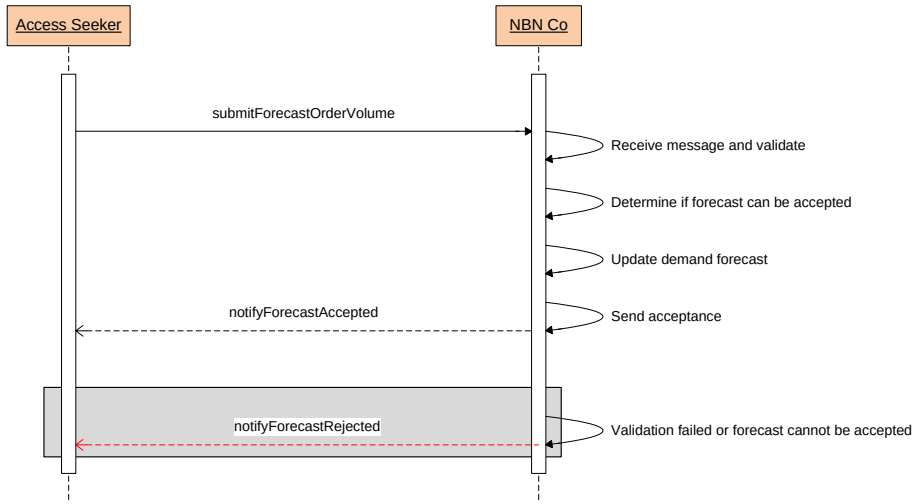


Figure 76 – Submit order forecast Process Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
Access Seeker is authorised to submit forecast for orders Products require or allow forecasts	Send acceptance notification to Access Seeker Forecast on Access Seeker has been updated	Forecast cannot be accepted, send notification to Access Seeker

Flow of events

1. Access Seeker prepares the forecast in the agreed format.

2. Access Seeker submits the forecast.

3. NBN Co validates the submission and checks that forecast volumes fall within contractual limits.

4. NBN Co determines that forecast can be accepted and updated internally to expect the volumes. Send acceptance notification to the Access Seeker.

5. If forecast is invalid or is above or below the agreed limits then NBN Co may reject the forecast and notification sent to the Access Seeker.

Alternative Flow:
Not applicable

Business Rules	
ID	**Description**
	Not applicable

Transaction Touchpoints Used	
ID	**Transaction Name**
MP-TP001	submitForecastOrderVolume
MP-TP002	notifyForecastAccepted
MP-TP003	notifyForecastRejected

4.8.2 MP-BP002: Publish rollout forecast

ID	MP-BP002
Name	Publish rollout forecast
Value stream	Planning & Forecast
Description	• NBN Co proposes to publish and regularly update the following reports as construction information is confirmed: • **Long Range Construction Plan**: NBN Co will annually publish a Long Range Construction Plan that will detail the Rollout schedule for individual FSA Regions for each of the following three years. This information will be provided together with indicative POI location data for each region. Publication of this data will ensure that the same Rollout information is provided to all Access Seekers at the same time, and provide the industry with significant lead-time to plan its migration activities. • **FSAM Regions Rollout Plan:** This report will be published each month and will provide details about which FSAM regions are intended to be made ready for service during the 12 months following the date of publication; and the actual addresses that are anticipated to be capable of being connected to the NBN in each FSAM Region.
Notes / Assumptions	The flow does not cover message related errors or exceptions, and assumes a valid XML message and format.

Process Flows

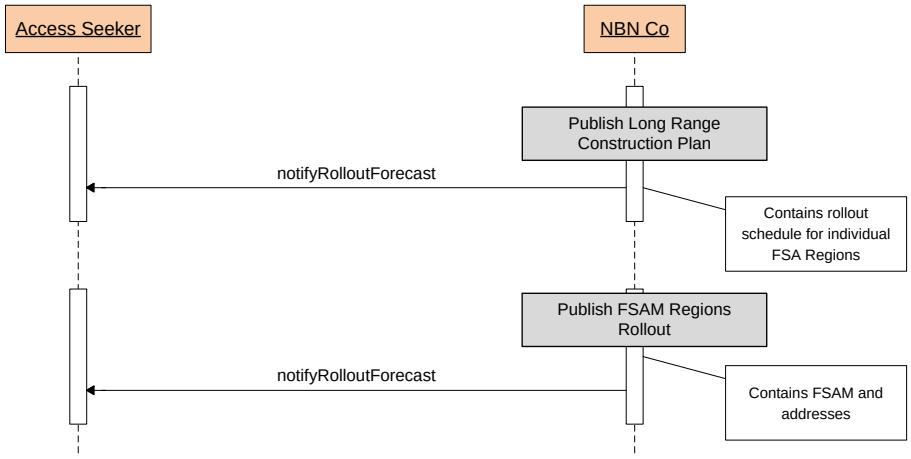


Figure 77 – Publish rollout forecast interaction Diagram

Success Path		Alternative Outcomes
Pre-Conditions	**Post-Conditions**	
Not applicable	Notification of NBN Co's rollout forecast to the Access Seekers	Not applicable

Flow of events

Refer to Description.	
Alternative Flow:	
Not applicable	
Business Rules	
ID	**Description**
	Not applicable
Transaction Touchpoints Used	
ID	**Transaction Name**
MP-TP004	notifyRolloutForecast

5 B2B Gateway Message Specifications

This section sets out the NBN Co's B2B Gateway interaction messages that are grouped into Business Services to support business processes exchange between NBN Co and Access Seekers. The interaction messages will expose a set of NBN Co CIM based assurance services and operations that will be consumed through B2B Gateway.

The following B2B Business Services have been identified:

- Manage Address
- Manage Service Qualification
- Manage Batch
- Manage Product Order
- Manage Product Catalogue
- Manage Appointment
- Manage Ticket
- Manage Planned Change
- Manage Diagnostics
- Manage Service Performance
- Manage Billing

5.1 Service: Manage Address

The below sub-sections are transactions to be used for supporting the Address management functions through the B2B Gateway.

5.1.1 queryAddressSearch

ID	PO-TP005
Name	queryAddressSearch
Description	Provides the ability to obtain location information from NBN. Example uses are: 1. Identification of possible addresses that relate to an End Users location. 2. Validating address or location information.
Sequence Diagram	PO-BP001
Pattern	Query-Response
Direction	Access Seeker-NBN Co
Non-Repudiation	Not required

5.1.1.1 responseAddressSearch

ID	PO-TP005.1
Name	responseAddressSearch
Description	NBN Co response containing the results of a previously submitted address search query.
Sequence Diagram	PO-BP001
Pattern	Query-Response
Direction	NBN Co - Access Seeker
Non-Repudiation	Not required

5.2 Service: Manage Service Qualification

The below sub-sections are transactions to be used for supporting the Service Qualification management functions through the B2B Gateway.

5.2.1 requestSingleSiteQualification

ID	PO-TP001
Name	requestSingleSiteQualification
Description	Provides the ability to determine whether an access / service can be provisioned at a particular location. This interaction supports the following qualification types: 1. Location only
Sequence Diagram	PO-BP001
Pattern	Request-Response
Direction	Access Seeker-NBN Co
Non-Repudiation	Not required

5.2.1.1 responseSingleSiteQualification

ID	PO-TP001.1
Name	responseSingleSiteQualification
Description	NBN Co response containing the results of a previously submitted Service Qualification request.
Sequence Diagram	PO-BP001
Pattern	Request-Response
Direction	NBN Co-Access Seeker
Non-Repudiation	Not required

5.2.2 requestOrderFeasibilityCheck

ID	PO-TP002
Name	requestOrderFeasibilityCheck
Description	Provides the ability to determine whether a Product can be provisioned at a particular location. This interaction supports the following qualification types: 2. Location and Product.
Sequence Diagram	PO-BP003
Pattern	Request-Response
Direction	Access Seeker-NBN Co
Non-Repudiation	Not required

5.2.2.1 responseOrderFeasibilityCheck

ID	PO-TP002.1
Name	responseOrderFeasibilityCheck
Description	NBN Co response containing the results of a previously submitted Service Qualification request.
Sequence Diagram	PO-BP003
Pattern	Request-Response
Direction	NBN Co-Access Seeker
Non-Repudiation	Not required

5.3 Service: Manage Batch

5.3.1 submitBatchQualification

ID	PO-TP002
Name	requestBatchQualification
Description	Provides the ability to submit multiple service qualifications (As per PO-TP002) in a single message.The message constitutes a batch of line item addresses.
Sequence Diagram	PO-BP002
Pattern	Submit-Notify
Direction	Access Seeker-NBN Co
Non-Repudiation	Not required

5.3.2 notifyBatchQualificationAcknowledged

ID	PO-TP006
Name	notifyBatchQualificationAcknowledged
Description	A notification message informing the Access Seeker that a previously submitted batch qualification has been received and has been scheduled to be run.
Sequence Diagram	PO-BP002
Pattern	Notification
Direction	NBN Co-Access Seeker
Non-Repudiation	Not required

5.3.3 notifyBatchQualificationCompleted

ID	PO-TP007
Name	notifyBatchQualificationCompleted
Description	An end state completion message containing the full set of results of a previously submitted batch qualification. It indicates that the batch has finished processing and no further messages will be sent in regards to the specified batch.
Sequence Diagram	PO-BP002
Pattern	Notification
Direction	NBN Co-Access Seeker
Non-Repudiation	Not required

5.3.4 notifyBatchQualificationRejected

ID	PO-TP009
Name	notifyBatchQualificationRejected
Description	An end state message indicating the rejection of a previously submitted batch qualification. It indicates that the batch was not processed and no further messages will be sent in regards to the specified batch.
Sequence Diagram	PO-BP002
Pattern	Notification
Direction	NBN Co-Access Seeker
Non-Repudiation	Not required

5.3.5 submitBatchAddressSearch

ID	PO-TP010
Name	requestBatchAddressSearch
Description	Provides the ability to submit multiple address searches (as per PO-TP005) in a single message. The message constitutes a batch of line item addresses.
Sequence Diagram	PO-BP004
Pattern	Submit-Notify
Direction	Access Seeker-NBN Co
Non-Repudiation	Not required

5.3.6 notifyBatchAddressSearchAcknowledged

ID	PO-TP011
Name	notifyBatchAddressSearchAcknowledged
Description	A notification message informing the Access Seeker that a previously submitted batch address search has been received and has been scheduled to be run.
Sequence Diagram	PO-BP004
Pattern	Notification
Direction	NBN Co-Access Seeker
Non-Repudiation	Not required

5.3.7 notifyBatchAddressSearchCompleted

ID	PO-TP012
Name	notifyBatchAddressSearchCompleted
Description	An end state completion message containing the full set of results of a previously submitted batch address search. It indicates that the batch has finished processing and no further messages will be sent in regards to the specified batch.
Sequence Diagram	PO-BP004
Pattern	Notification
Direction	NBN Co-Access Seeker
Non-Repudiation	Not required

5.3.8 notifyBatchAddressSearchRejected

ID	PO-TP014
Name	notifyBatchAddressSearchRejected
Description	An end state message indicating the rejection of a previously submitted batch address search. It indicates that the batch was not processed and no further messages will be sent in regards to the specified batch.
Sequence Diagram	PO-BP004
Pattern	Notification
Direction	NBN Co-Access Seeker
Non-Repudiation	Not required

5.4 Service: Manage Product Order

The below sub-sections are transactions to be used for supporting the Order management functions through the B2B Gateway.

5.4.1 submitOrderConnect

ID	OH-TP002
Name	submitOrderConnect
Description	Provides the ability to order a new Product (specifically, one or more product-instances) to a single location.
Sequence Diagram	OH-BP001
Pattern	Submit-Notify
Direction	Access Seeker to NBN Co
Non-Repudiation	Required

5.4.2 submitOrderModify

ID	OH-TP003
Name	submitOrderModify
Description	Provides the ability to modify one or more characteristics on an existing Product instance. That is, an order to upgrade/downgrade an active service. This message will modify the services for the End User.
Sequence Diagram	OH-BP005
Pattern	Submit-Notify
Direction	Access Seeker to NBN Co
Non-Repudiation	Required

5.4.3 submitOrderDisconnect

ID	OH-TP004
Name	submitOrderDisconnect
Description	Provides the ability to cancel an existing service supplied to the End User. A cancel order can only apply to a single location. Possible scenarios: Buyer cancels an existing service where there are no cross dependencies of services that are not being cancelled.
Sequence Diagram	OH-BP005
Pattern	Submit-Notify
Direction	Access Seeker to NBN Co
Non-Repudiation	Required

5.4.4 requestOrderAmend

ID	OH-TP005
Name	requestOrderAmend
Description	Provides the ability to make changes to an order that is currently in progress. Changes to an in-flight order will be dependant on PoNR for each type of order amendment. The following amendment type have been identified (including but not limited to): - Product Attributes e.g. speed, QoS - Billing accont iD
Sequence Diagram	OH-BP006
Pattern	Request-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Required

5.4.4.1 responseOrderAmend

ID	OH-TP005.1
Name	responseOrderAmend
Description	NBN Co response to a previously submitted amend request. The message will contain the final result of the amend, which can be either rejected (amend not implemented) or completed (order has been amended).
Sequence Diagram	OH-BP006
Pattern	Request-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.4.5 requestOrderCancel

ID	OH-TP006
Name	requestOrderCancel
Description	Provides the ability to cancel an order currently in progress. This message may result in a billing implication; however, this will depend on the individual Product rules.
Sequence Diagram	OH-BP007
Pattern	Request-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Required

5.4.5.1 responseOrderCancel

ID	OH-TP006.1
Name	responseOrderCancel
Description	NBN Co response to a previously submitted order cancellation request. The message will contain the final result of the cancellation, which can be either rejected (order has not been cancelled) or completed (order has been cancelled).
Sequence Diagram	OH-BP007
Pattern	Request-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.4.6 submitBulkOrder

ID	OH-TP007
Name	submitBulkOrder
Description	Provides the ability to submit multiple orders (connect, modify, disconnect) in a single message. The message constitutes a bulk set of independent orders that will be provisioned individually.
Sequence Diagram	OH-BP012
Pattern	Request-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Required

5.4.7 queryOrderDetails

ID	OH-TP017
Name	queryOrderDetails
Description	Provides the ability to retrieve the complete set of details of a single order at the point in time that the query is made.
Sequence Diagram	OH-BP010
Pattern	Query-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Not required

5.4.7.1 responseOrderDetails

ID	OH-TP017.1
Name	responseOrderDetails
Description	NBN Co response containing the results of a previously submitted order details query.
Sequence Diagram	OH-BP001
Pattern	Query-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Not required

5.4.8 requestMoreTime

ID	OH-TP019
Name	requestMoreTime
Description	Provides the ability to advise NBN that more time will be required to complete an activity. To be used when NBN is waiting on an action from the Access Seeker, and the Access Seeker wishes to extend the time it has to perform the required action.
Sequence Diagram	OH-BP009
Pattern	Request-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Required

5.4.8.1 responseMoreTime

ID	OH-TP019.1
Name	responseMoreTime
Description	NBN Co response to a previously submitted more time request. The message will contain NBN's acceptance or rejection of the more time request.
Sequence Diagram	OH-BP009
Pattern	Request-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.4.9 notifyKeepCustomerInformed

ID	OH-TP008
Name	notifyKeepCustomerInformed
Description	A notification message informing the Access Seeker of a change progress milestone, attribute, or information on an Order. The following events can be sent as part of notifyKeepCustomerInformed mesage: - Order Jeopardy - Order Delay - Order Held - Service Test Complete - Service Disconnected
Sequence Diagram	OH-BP001
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.4.10 notifyOrderAcknowledged

ID	OH-TP009
Name	notifyOrderAcknowledged
Description	A notification message informing the Access Seeker that a previously submitted order has been received and passed XML validation.
Sequence Diagram	OH-BP001, OH-BP004, OH-BP005
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Not required

5.4.11 notifyOrderAccepted

ID	OH-TP011
Name	notifyOrderAccepted
Description	A notification message informing the Access Seeker that a pervioulsy submitted order has been accepted
Sequence Diagram	OH-BP001, OH-BP004, OH-BP005
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.4.12 notifyOrderComplete

ID	OH-TP012
Name	notifyOrderComplete
Description	An end state completion message containing the final order completion details of a previously submitted order. This notification indicates that the order has been successfully completed, and no further messages will be sent in regards to the particular order.
Sequence Diagram	OH-BP001, OH-BP004, OH-BP005
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.4.13 notifyOrderRejected

ID	OH-TP013
Name	notifyOrderRejected
Description	An end state message indicating the rejection of a previously submitted order. It indicates the the order was not processed and the message will contain the reason as to its rejection. No further messages will be sent in regards to the particular order.
Sequence Diagram	OH-BP001, OH-BP004, OH-BP005
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.4.14 notifyInformationRequired

ID	OH-TP015
Name	notifyInformationRequired
Description	A notification message indicating that NBN Co requires more information or that an action is required from the Access Seeker before the next stage of the process interaction can proceed..
Sequence Diagram	OH-BP008
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.4.15 notifyOrderCancelled

ID	OH-TP032
Name	notifyOrderCancelled
Description	An end state message indicating the cancellation of a previously submitted order. No further messages will be sent in regards to the particular order.
Sequence Diagram	OH-BP009
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.4.16 notifyInformationRequiredReminder

ID	OH-TP040
Name	notifyInformationRequiredReminder
Description	A notification message to remind the Access Seeker that a previous information required notification message has not been actioned and that the time interval in which to action it is reducing.
Sequence Diagram	OH-BP009
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.4.17 notifyOrderResumed

ID	OH-TP043
Name	notifyOrderResumed
Description	A notification message informing the Access Seeker that their order progression due to the clearance of NBN Co internal issues.
Sequence Diagram	OH-BP016
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.5 Service: Manage Product Catalogue

The below sections are transactions to be used for supporting the Product Catalogue management functions through the B2B Gateway.

5.5.1 queryProductCatalogue

ID	PC-TP001
Name	queryProductCatalogue
Description	Provides the ability for an Access Seeker to retrieve their Product Catalogue based on their contract with NBN Co.
Sequence Diagram	PC-BP001
Pattern	Query-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Not required

5.5.1.1 responseProductCatalogue

ID	PC-TP001.1
Name	responseProductCatalogue
Description	NBN Co response to a previously submitted Product catalogue query. The message will contain NBN's Product catalogue relevant to the Access Seeker,
Sequence Diagram	PC-BP001
Pattern	Query-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Not required

5.5.2 notifyProductCatalogueUpdate

ID	PC-TP002
Name	notifyProductCatalogueUpdate
Description	A notification message informing of a change to a Product or a new Product version availability in the Product catalogue.
Sequence Diagram	PC-BP002
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Not required

5.6 Service: Manage Appointment

The below sub-sections are transactions to be used for supporting the Appointment Management functions through the B2B Gateway.

5.6.1 notifyKeepCustomerInformed

ID	AM-TP001
Name	notifyKeepCustomerInformed
Description	A notification message indicating a change of progress milestone, attribute or information on an Appointment. Attribute can be e.g. appointment contact details, Information can be e.g. textual notes
Sequence Diagram	AM-BP001
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.6.2 notifyInformationRequired

ID	AM-TP002
Name	notifyInformationRequired
Description	A notification message indicating that there is an outstanding activity awaiting Access Seeker activity/action (e.g. waiting for information, appointment to be made, acceptance of timescales) and reminds the Access Seeker that no updated has been received.
Sequence Diagram	AM-BP002, AM-BP003, AM-BP004, AM-BP005
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.6.3 requestAppointmentAvailability

ID	AM-TP003
Name	requestAppointmentAvailability
Description	Provides the ability to to determine the availability of engineering appointment slots in NBN Co domain.
Sequence Diagram	AM-BP003, AM-BP004
Pattern	Request-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Not required

5.6.3.1 responseAppointmentAvailability

ID	AM-TP003.1
Name	responseAppointmentAvailability
Description	NBN Co response to a previously submitted appointment availability request. The message indicates the slots that are available.
Sequence Diagram	AM-BP003, AM-BP004
Pattern	Request-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Not required

5.6.4 requestAppointmentBook

ID	AM-TP004
Name	requestAppointmentBook
Description	Provides the ability to book an appointment.
Sequence Diagram	AM-BP005
Pattern	Request-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Required

5.6.4.1 responseAppointmentBook

ID	AM-TP014
Name	responseAppointmentBook
Description	NBN Co response to a previously submitted book appointment request. The message will either confirm an appointment has been booked or an appointment could not be booked.
Sequence Diagram	AM-BP005
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.6.5 queryAppointmentDetails

ID	AM-TP006
Name	queryAppointmentDetails
Description	Provides the ability to retrieve the details of a previously booked or reserved appointment.
Sequence Diagram	AM-BP004
Pattern	Query-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Not required

5.6.5.1 responseAppointmentDetails

ID	AM-TP006.1
Name	responseAppointmentDetails
Description	NBN Co response to a previously submitted appointment details query. The message will contain the complete set of details for the particular appointment.
Sequence Diagram	AM-BP004
Pattern	Query-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Not required

5.6.6 requestAppointmentCancel

ID	AM-TP007
Name	requestAppointmentCancel
Description	Provides the ability to cancel an previoulsy booked or reserved appointment.
Sequence Diagram	AM-BP002
Pattern	Request-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Required

5.6.6.1 responseAppointmentCancel

ID	AM-TP007.1
Name	responseAppointmentCancel
Description	NBN Co response to previously submitted appointment cancellation request. The message will contain NBN's acceptance (appointment has been cancelled) or rejection (appointment has not been cancelled) of the request.
Sequence Diagram	AM-BP002
Pattern	Request-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.6.7 requestAppointmentAmend

ID	AM-TP010
Name	requestAppointmentAmend
Description	Provides the ability to update information pertaining to a booked appointment. For example, the contact details of the End User for the appointment.
Sequence Diagram	AM-BP006
Pattern	Request-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Required

5.6.7.1 responseAppointmentAmend

ID	AM-TP010.1
Name	responseAppointmentAmend
Description	NBN Co response to a previous request to amend an appointment. The message will contain NBN's acceptance (appointment has been updated) or rejection (appointment has not been updated) of the request.
Sequence Diagram	AM-BP006
Pattern	Request-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.6.8 requestAppointmentReschedule

ID	AM-TP011
Name	requestAppointmentReschedule
Description	Provides the ability to reschedule a booked appointment.
Sequence Diagram	AM-BP003
Pattern	Request-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Required

5.6.8.1 responseAppointmentReschedule

ID	AM-TP011.1
Name	responseAppointmentReschedule
Description	NBN Co response to a previous request to reschedule an appointment. The message will contain NBN's acceptance (appointment has been reschedule) or rejection (appointment has not been reschedule) of the request.
Sequence Diagram	AM-BP003
Pattern	Request-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.6.9 notifyAppointmentCancelled

ID	AM-TP016
Name	notifyAppointmentCancelled
Description	A notification message confirming that an appointment has been cancelled.
Sequence Diagram	AM-BP002
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.6.10 notifyAppointmentMissed

ID	AM-TP017
Name	notifyAppointmentMissed
Description	A notification message indicating that an appointment has been missed.
Sequence Diagram	AM-BP010
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.6.11 notifyAppointmentComplete

ID	AM-TP018
Name	notifyAppointmentComplete
Description	A notification message indicating that an appointment has been completed.
Sequence Diagram	OH-BP001
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.7 Service: Manage Trouble Ticket

The below sub-sections are transactions to be used for supporting the Ticket management functions through the B2B Gateway.

5.7.1 submitTroubleTicketCreate

ID	PH-TP001
Name	submitTroubleTicketCreate
Description	Provides the ability to raise a ticket for a specified NBN Co service instance(s) owned by that Access Seeker.
Sequence Diagram	TT-BP001
Pattern	Submit-Notify
Direction	Access Seeker to NBN Co
Non-Repudiation	Required

5.7.2 queryTroubleTicketDetails

ID	PH-TP002
Name	queryTroubleTicketDetails
Description	Provides the ability to retrieve the current ticket details.
Sequence Diagram	TT-BP003
Pattern	Query-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Not required

5.7.2.1 responseTroubleTicketDetails

ID	PH-TP002.1
Name	responseTroubleTicketDetails
Description	NBN Co response containing the results of a previsouly submitted ticket details query.
Sequence Diagram	TT-BP003
Pattern	Query-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Not required

5.7.3 notifyTicketCreated

ID	PH-TP003
Name	notifyTicketCreated
Description	A notification message initiated from the NBN Co Alarm & Event Mangement system indicating, to the affected Access Seekers, that an incident has occured and is needed to be resolved via Trouble Ticket Mangement.
Sequence Diagram	TT-BP008
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.7.4 notifyKeepCustomerInformed

ID	PH-TP004
Name	notifyKeepCustomerInformed
Description	A notification message informing the Access Seeker of a change of progress milestone, attribute, or information on a ticket. Attribute can be e.g. Contact details. Information can be e.g. textual notes. The following events will be sent as part of keep customer informed: - Ticket Jeopardy - Ticket Delay - Tickey Held
Sequence Diagram	TT-BP001
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.7.5 notifyTroubleTicketAcknowledged

ID	PH-TP005
Name	notifyTroubleTicketAcknowledged
Description	A notification message informing the Access Seeker that a previously submitted ticket has been successfully raised and/received.
Sequence Diagram	TT-BP001
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Not required

5.7.6 notifyTroubleTicketAccepted

ID	PH-TP006
Name	notifyTroubleTicketAccepted
Description	A notification message informing the Access Seeker that a previously submitted ticket has been accepted and is under investigation.
Sequence Diagram	TT-BP001
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.7.7 notifyTroubleTicketRejected

ID	PH-TP007
Name	notifyTroubleTicketRejected
Description	An end state message indicating the rejection of a previously submitted ticket. It indicates the the ticket was not processed and the message will contain the reason as to its rejection. No further messages will be sent in regards to the particular ticket.
Sequence Diagram	
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.7.8 queryTroubleTicketDetails

ID	PH-TP010
Name	queryTroubleTicketDetails
Description	Provides the ability to retrieve the current ticket details of an existing open ticket including: state and notes
Sequence Diagram	TT-BP003
Pattern	Query-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Not required

5.7.8.1 responseTroubleTicketDetails

ID	PH-TP010.1
Name	responseTroubleTicketDetails
Description	NBN Co response to a previously submitted ticket status query. The message will indicate the current status of the particular ticket.
Sequence Diagram	TT-BP003
Pattern	Query-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Not required

5.7.9 requestTroubleTicketAmend

ID	PH-TP011
Name	requestTroubleTicketAmend
Description	Provides the ability to change information or an attribute in a ticket. For example, an attribute change can be the addition of new contact details, whilst for an information change, it can be the addition of textual notes.
Sequence Diagram	TT-BP005
Pattern	Request-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Required

5.7.9.1 responseTroubleTicketAmend

ID	PH-TP011.1
Name	responseTroubleTicketAmend
Description	NBN Co response to a previously submitted ticket amend request. The message will contain the final result of the amend, which can be either rejected (amend not implemented) or completed (ticket has been amended).
Sequence Diagram	TT-BP005
Pattern	Request-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.7.10 requestTroubleTicketCancel

ID	PH-TP012
Name	requestTicketCancel
Description	Provides the ability to cancel a ticket currently in progress.
Sequence Diagram	TT-BP002
Pattern	Request-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Required

5.7.10.1 responseTroubleTicketCancel

ID	PH-TP012.1
Name	responseTroubleTicketCancel
Description	NBN Co response to a previously submitted ticket cancellation request. The message will contain the final result of the cancellation, which can be either rejected (ticket has not been cancelled) or completed (ticket has been cancelled).
Sequence Diagram	TT-BP002
Pattern	Request-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.7.11 notifyTroubleTicketCancel

ID	PH-TP013
Name	notifyTroubleTicketCancelled
Description	A notification message advising the Access Seeker that their ticket has been cancelled.
Sequence Diagram	TT-BP002
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.7.12 requestTroubleTicketClear

ID	PH-TP014
Name	requestTroubleTicketClear
Description	Provides the ability for NBN to ask the Access Seeker to confirm the resolution and closure of a ticket. That is, NBN Co believes the ticket has been resolved and wished to clear it. This message is asking the Access Seeker to accept the ticket clearance.
Sequence Diagram	TT-BP001
Pattern	Request-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.7.12.1 responsetTroubleTicketClear

ID	PH-TP015
Name	responseTicketClear
Description	Provides the ability for the Access Seeker to accept or reject a request for ticket clearance from NBN Co. If the Access Seeker accepts the ticket clearance, then the ticket will be closed. If the Access Seeker rejects the ticket clearance, then the ticket will not be closed.
Sequence Diagram	TT-BP001
Pattern	Notification
Direction	Access Seeker to NBN Co
Non-Repudiation	Required

5.7.13 notifyInformationRequired

ID	PH-TP020
Name	notifyInformationRequired
Description	A notification message indicating that NBN Co requires additional information or assistance from the Access Seeker in order to progress the ticket.
Sequence Diagram	TT-BP001
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.7.14 requestTroubleEscalateTicket

ID	PH-TP021
Name	requestTroubleEscalateTicket
Description	Provides the ability to raise the priority of a ticket.
Sequence Diagram	TT-BP004
Pattern	Request-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Required

5.7.14.1 responseEscalateTroubleTicket

ID	PH-TP021.1
Name	responseEscalateTroubleTicket
Description	NBN Co response to a previously submitted escalate ticket request. The message will contain NBN Co's acceptance (ticket priority has been raised) or rejection (ticket priority has not been raised) of the escalation request.
Sequence Diagram	TT-BP004
Pattern	Request-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.7.15 notifyTroubleTicketClosed

ID	PH-TP022
Name	notifyTroubleTicketClosed
Description	An end state notification message for an existing ticket. This notification indicates that the ticket has been closed.
Sequence Diagram	TT-BP001
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.7.16 requestMoreTime

ID	PH-TP025
Name	requestMoreTime
Description	Provides the ability for the Access Seeker to advise NBN that more time will be required to complete an activity. To be used when NBN is waiting on an action from the Access Seeker, and the Access Seeker wishes to extend the time it has to perform the required action.
Sequence Diagram	
Pattern	Request-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Required

5.7.16.1 responseMoreTime

ID	PH-TP025.1
Name	responseMoreTime
Description	NBN Co response to a previously submitted more time request. The message will contain NBN's acceptance or rejection of the more time request.
Sequence Diagram	
Pattern	Request-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.7.17 notifyInformationRequiredReminder

ID	PH-TP026
Name	notifyInformationRequiredReminder
Description	A notification message to remind the Access Seeker that a previous information required notification message has not been actioned and that the time interval in which to action it is reducing.
Sequence Diagram	
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.8 Service: Manage Planned Change

The below sub-sections are transactions to be used for supporting the Planned Change functions through the B2B Gateway.

5.8.1 notifyPlannedChange

ID	CM-TP001
Name	notifyPlannedChange
Description	A notification message initiated by NBN Co that a service outage on a number of services owned by the Access Seeker is necessary to resolve the ticket (e.g. change-out of a piece of common equipment, planned engineering work - upgrade or major service outages etc...). This message is requesting authorisation from the Access Seeker to proceed with the outage.
Sequence Diagram	TT-BP007
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.8.2 notifyKeepCustomerInformed

ID	CM-TP009
Name	notifyKeepCustomerInformed
Description	A notification messagefrom NBN Co advising of the progress with a Planned Change or Hazard (e.g. progress update). Notifications include: notify outage start, and notify outage complete.
Sequence Diagram	
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.9 Service: Manage Billing

The below sub-sections are transactions to be used for supporting the Billing functions through the B2B Gateway.

5.9.1 notifyBillingEventFile

ID	BEF-TP002
Name	notifyBillingEventFile
Description	A notification message containing the Access Seeker's billing event file data.
Sequence Diagram	BI-BP004
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.9.2 requestBillingInvoice

ID	BIN-TP001
Name	requestBillingInvoice
Description	Provides the ability to retrieve a previously generated Invoice.
Sequence Diagram	BI-BP005
Pattern	Request-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Required

5.9.2.1 responseBillingInvoice

ID	BIN-TP001.1
Name	responseBillingInvoice
Description	NBN Co response to a previously submitted billing invoice request. The message will contain the previously generated Invoice being requested.
Sequence Diagram	BI-BP005
Pattern	Request-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.9.3 notifyBillingInvoice

ID	BIN-TP002
Name	notifyBillingInvoice
Description	A notification message containing the Access Seeker's invoice.
Sequence Diagram	BI-BP006
Pattern	Notification
Direction	NBN Co to Access Seeker
Non-Repudiation	Required

5.9.4 requestBillingReport

ID	BRE-TP001
Name	requestBillingReport
Description	Provides the ability to retrieve a billing report. The following reports will be available for retrieval: a. List of past BEFs b. List of past Invoices c. Payment history by date range d. List of Billing Accounts per Access Seeker ID e. Billing account position f. List of Billing Account level adjustment, rebate and discount g. Dispute/Enquiry information (historical and current)
Sequence Diagram	BI-BP007
Pattern	Request-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Not required

5.9.4.1 responseBillingReport

ID	BRE-TP001.1
Name	responseBillingReport
Description	NBN Co response to a previously submitted billing report query. The message will contain the actual report requested.
Sequence Diagram	BI-BP007
Pattern	Query-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Not required

5.10 Service: Manage Diagnostics

The below sub-sections are transactions to be used for supporting the Network Testing and Diagnostics functions through the B2B Gateway.

5.10.1 requestTest

ID	TE-TP001
Name	submitTest
Description	Provides the ability to invoke a test on a specified service instance. Test types may include: [EventDiagnosis], [CheckConnectivity], [TestService (UNI<->NNI)]
Sequence Diagram	NPD-BP001
Pattern	Request- Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Not required

5.10.1.1 responseTest

ID	TE-TP001.1
Name	responseTest
Description	A response message indicating the completion of the test and results or rejection because of invalid test or service provided.
Sequence Diagram	NPD-BP001
Pattern	Request – response
Direction	NBN Co to Access Seeker
Non-Repudiation	Not required

5.10.2 requestServiceOperationalStatus

ID	TE-TP006
Name	requestServiceOperationalStatus
Description	Provides the ability for the Access Seeker to retrieve the operational status of a specified NBN Co service instance (owned by that Access Seeker).
Sequence Diagram	TT-BP009
Pattern	Request-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Not required

5.10.2.1 responseServiceOperationalStatus

ID	TE-TP006.1
Name	responseServiceOperationalStatus
Description	NBN Co response to a previously submitted service opeartional status request.
Sequence Diagram	TT-BP009
Pattern	Request-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Not required

5.11 Service: Manage Service Performance

The below sub-sections are transactions to be used for supporting the Performance management functions through the B2B Gateway.

5.11.1 requestPerformanceData

ID	QS-TP002
Name	requestPerformanceData
Description	Provides the ability to retrieve a service performance report.
Sequence Diagram	NPD-BP002
Pattern	Request-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Not required

5.11.1.1 responsePerformanceData

ID	QS-TP002.1
Name	responsePerformanceData
Description	NBN Co response to a previously submitted performance data request. This message will contain the actual performace data.
Sequence Diagram	NPD-BP002
Pattern	Request-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Not required

5.11.2 requestServiceImpactingIndicators

ID	QS-TP004
Name	requestServiceImpactingIndicators
Description	Provides the ability to retrieve any minor service indicator information that occurs on the Service, for example: NTD power status. This includes real time data.
Sequence Diagram	NPD-BP003
Pattern	Request-Response
Direction	Access Seeker to NBN Co
Non-Repudiation	Not required

5.11.2.1 responseServiceImpactingIndicators

ID	QS-TP004.1
Name	responseServiceImpactingIndicators
Description	NBN Co response to a previously submitted minor service indicator request. This message will contain the actual service indicator data.
Sequence Diagram	NPD-BP003
Pattern	Request-Response
Direction	NBN Co to Access Seeker
Non-Repudiation	Not required

6 Non Functional Requirements

NBN Co is pursuing a B/OSS platform architecture that supports key business processes without a single point of failure for:

- Pre order management
- Order management
- Trouble ticketing
- Billing

While NBN Co's specified B2B messaging technology, ebXML / ebMS 2.0, provide asynchronous message delivery, NBN Co aims to be responsive in supporting interactive use of services, supporting integration into systems that directly support customer front-of-house for example.

This performance is expected to be delivered at volumes reflecting the rollout targets described within the NBN Co corporate plan.

NBN Co will continue to provide refined information based on design and test outcomes. The performance targets will be updated in the next major release of this specification, planned for Q311.

6.1 B2B Gateway Availability Target

NBN Co is conscious of the impact that its scheduled and unscheduled system outages will have on industry's ability to support End Users and aims to achieve scheduled service hours of 24x7 except for a weekly change window (requiring prior notification of outage) between 2am – 6am (exact outage window to be confirmed).

NBN Co commits to industry to provide better than 95% availability of interactions to support processes to fulfil, assure and bill services when measured over any 60 day period, excluding planned outages and unavailability caused by a Force Majeure event.

System architecture design targets are higher, and long term, it is expected that stable in-service performance may in some cases exceed 99%.

NBN Co's B2B infrastructure will be deployed with geographic redundancy. Similar deployment architectural considerations from Access Seekers will support very high availability for reliable delivery of messages between organisations.

6.2 B2B Gateway Transaction Performance Targets

It is important to note that the ebMS 2.0 specification provides for message acknowledgement at the messaging layer, facilitating reliable message delivery. The targets below are for the business application layer above ebMS and relies on the end system generation of appropriate response. The ebMS acknowledgement of receipt of request will be substantially faster.

NBN Co design targets have set goals for (gateway ingress to gateway egress):

Item	Target (95%)	Notes
Address search	< 5 seconds	
Service qualification	5 seconds	
Order Feasibility Check	10 seconds	
Order lodgement	<10 seconds	submitOrderConnect to notifyOrderAckowledged for an NFAS Product.
Order fulfilment where no physical shortfall exists.	< 5 minutes	submitOrderConnect to notifyOrderComplete
Trouble ticket lodgement	< 10 seconds	submitTicketCreate to notifyTroubleTicketAcknowledged

6.3 Volumetric Targets

NBN Co volumetric expectations are based on the NBN Co Corporate Plan.

NBN Co anticipates that address validation and location only service qualification operations will be exercised on average five times for every activation, while service qualification for location and Product would be used on average 1.5 times per activation. Bulk service qualifications are anticipated to drive another approximately 5,000 SQs per day per access seeker in the initial years. It should be noted that NBN Co has committed to provide Access Seekers with published lists of locations served within planned and completed coverage areas.

NBN Co architecture provides for horizontal scaling at all key points to ensure that systems can be scaled effectively to meet demand.

7 Appendix A – Key Terms

Term	Description
Access Seeker/s	The term to jointly refer to Retail Service Providers (RSP) and Wholesale Service Providers (WSP). This document specifically relates to those Access Seekers that connect a Message Service Handler (MSH) to the NBN Co B2B Gateway in order to transact with NBN Co.
Access Virtual Circuit	An Access VC is a single, logical Ethernet Virtual Circuit (EVC), operating across the PON access network between an NNI and a single UNI.
Assurance	The functional area that performs assurance for Services and Resources and covers: • Incident Management and Performance Management • Incident Management and Alarming.
AVC	See Access Virtual Circuit
B2B	Business-to-Business
B2B Transaction Patterns	See Patterns
B2B Gateway	The NBN Co ebXML gateway as further described in the NBN Co B2B Gateway Architecture Technical Specification.
BEF	Billing Event File
Billing	The process for calculating and charging an Access Seeker for products and services provided by NBNCo. This will include the delivery of charging information, distribution of a tax invoice, payment processing, and the resolution of billing enquiries and disputes.
Billing Account	The entity within the Access Seeker commercial entitiy hierarchy to which charges are applied and at which level invoices are produced.
Billing Dispute	A Billing Dispute is a type of transaction that will enable the Access Seeker to dispute selected specific charges within a BEF or Invoice. A Billing Dispute will enable the Access Seeker to select specific line items, or a group of line items within the bill to formally dispute.
Billing Enquiry	A Billing Enquiry is a type of transaction that will allow Access Seekers to ask generic questions and receive clarifications relating to their bill.
Billing Event File	The billing event file contains details of any charges or credits applied to an Access Seeker billing account within the Access Seeker nominated timeframe.
Billing Invoice	See Invoice.
Business Transactions	An atomic unit of communication between two parties. It reflects the state of a binary collaboration. Refers to an operation that is a request, response or notification.
CIM	Common Information Model
CIR	Committed Information Rate
Communications Alliance	The peak body for the Australian communications industry - taking a leadership role in coordinating the industry's response to the National Broadband Network implementation.
Connectivity Serving Area	A Connectivity Serving Area (CSA) defines the geographical region that an

Term	Description
	Access Seeker may address through a single Connectivity Virtual Circuit. A CSA is aligned to the geographic area served by an NBN Co Point of Interconnect (PoI). An NBN Co PoI may serve between approximately 50,000 and 160,000 premises, enabling an Access Seeker to efficiently deliver services to large numbers of End Users.
Connectivity Virtual Circuit	A connection oriented communication service that is delivered by means of packet mode communication.
CoS	Class of Service
COTS	Commercial Off-the-Shelf
C-TAG	Customer VLAN tag
CVC	Connectivity Virtual Circuit
Demand Type	NBN Co will specify different appointment types for the various activities required to facilitate delivery of a service, or to correct a fault.
End User	The End User to whom the Access Seeker supplies (or proposes to supply) a carriage service or content service for final consumption by that End User. The customers of Access Seekers have no direct commercial relationship with NBN Co.
End User Premises	The premises of an End User to which a carriage service or content service is or will be supplied.
ETIS	The global IT association for telecommunications (http://www.etis.org).
ETIS EBG XML	ETIS EBG XML electronic billing standard will be used as the mechanism by which billing event data and invoices.
Event	Any detectable or discernable occurrence that has significance for the management of the IT Infrastructure or the delivery of IT services, and the evaluation of the impact a deviation might cause to the services.
Event Diagnosis	Access Seekers will be able to initiate a request to determine the Operation status of the Service that may be impacted by an Event.
GNAF ID	Geocoded National Address File. The authoritative address index for Australia, produced by PSMA Australia Limited.
GPS	Global Positioning System
HTML	Hypertext Mark-up Language
HTTP/S	Hypertext Transfer Protocol
Incident	Any event that is not part of the standard operation of a service and causes or may cause a disruption to that service.
In-Flight Order	An order that has been accepted for orchestration but has not reached completion.
Idempotent request	A property of certain operations that they can be applied multiple times without changing the result
Invoice	The document issued by NBN Co to an Access Seeker that contains a summary of all the Products purchased by the Access Seeker, the value of those Products and the amount that NBN Co is requesting the Access Seeker to pay NBN Co for the supply of those Products.
Jeopardy Management	The ability to track against established/configurable SLAs/milestones for

Term	Description
	Fulfilment activities.
Jeopardy Notification	Each fulfilment task within the order lifecycle will be subject to a target elapsed time to completion. Jeopardy occurs when the target time is about to be breached, or has been breached, at a particular stage of an order.
KCI	Keep Customer Informed
KPI	Key Performance Indicator
L2C	Lead to Cash is a stage in the NBN Co End-To-End Value Stream Business Model.
Lifecycle Management	Outlines the L2C Process that are bound Products and susceptible to change.
Lifeline	A lifeline represents an individual participant in a sequence diagram, for example: an Access Seeker or NBN Co.
Message Exchange Pattern	A number of request and response messages that describe a collaboration toward an outcome.
Messaging Specification	ebXML messaging specification (ebMS) is an open standard for messaging that enables a secure, reliable and non- repudiable exchange of messages between two parties. It is independent of the transport protocol and payload being used and re-uses a number of existing standards and protocols.
nbnXML	Transaction validation and/or acknowledgment as per relevant process.
nbnXML validation	Submit an nbnXML document and have it validated against the authoritative nbnXML schema.
Network Terminating Unit	A generic term for network equipment at the End User Premises which provides a point for network demarcation. The NTD is an active device that terminates the signal from the NBN and then provides one or more Service Delivery Points (SDPs) as physical interfaces and sub-interfaces on the NTD.
NBN	The Australian national broadband network, or part thereof (including the optical, satellite, wireless and other communication technologies used therein).
Network	The NBN.
Network to Network Interface	The NNI is a physical, aggregated Ethernet interface, directly accessed by the Access Seeker within the Point of Interconnect (PoI), and used to interface NFAS services to an Access Seeker's backhaul network.
NFAS	NBN Fibre Access Service
NICC	UK interoperability standards group.
NNI	Network to Network Interface
NSAS	NBN Satellite Access Service
NWAS	NBN Wireless Access Service
NTD	Network Terminating Device. A generic term for NBN Co network equipment at the End-user premises which provides a point for network demarcation.
OAM	Operations, Administration and Maintenance
Optical Line Termination unit	The terminal equipment to provide the Gigabit Passive Optical Network (GPON) signals to each of the FDAs as per ITU-T G.984.1.

Term	Description
Optical Network Termination unit	The NBN Co termination point on each premises, for residential service providing (typically) 4 Ethernet, 1 telephone and 1 co-axial interface.
Order Feasibility	The initial step of Order Fulfilment, it decomposes Services and ensures the Service design can be met by the installed and installable Resources, and reserves the necessary network Resources then accepts the Order for Orchestration.
Order Orchestration	Takes accepted Orders decomposed Services then manages provisioning of dependent Orders and sub-Orders. This process will manage Service and Resource configuration and activation, any Workforce Management (WFM) appointments and updating Service and Resource Inventory then closing Orders once completed
Order SLA Management	Order SLA Management relates to jeopardy and delay notification that may apply to any applicable SLA milestones as described and managed under the Wholesale Broadband Agreement.
Order Type Constructions	Order Type Constructions illustrates the types of order supported through the request order transaction.
Outage	A stoppage in the functioning of a machine or mechanism due to a failure in the supply of power or electricity.
PCD	Premise Connection Device
PDF	Portable Document Format
Performance Management	Performance Management capability will be made available to Access Seekers via the Portal based tools as well as raw data can be requested through B2B Gateway.
Performance reporting capability	Supports the Access Seeker's insight into aggregated service components, for example: CVC.
PIR	Peak Information Rate
Planned change / hazard	Planned change / hazard is required to resolve an existing issue or incident. NBN Co sends a notification to the Access Seeker where NBN Co notifies the affected Access Seeker/s in order for them to manage their End Users.
POI	Point of Interconnect
Point of Interconnect	The connection point that allows Retail and Wholesale Service Providers (RSP, WSP) to connect to the NBN Co access capability.
Point of No Return	Past this point changes cannot be accepted in a workflow, or a defined point within a Business Process that once passed will not allow Roll Backs.
PoNR	Point of No Return
Pre-Order Management	Pre-order management consists of interactions necessary to compose a valid order, but which are carried out prior to the submission of an order.
Problem handling process	The problem handling processes area is responsible for the management of problems reported by customers and associated with purchased Product offerings.
Product	NBN Co Products sold to Access Seekers by customer facing systems. Multiple Services can be associated with a Product.
Product Catalogue	A repository (and single point of entry) of all current and historical Product Definitions that are available to NBN Co channels and customer sets.
Product Definition	Refers to XML that describes the product in a machine interpretable manner.

Term	Description
Product Fulfilment	See Fulfilment.
PSMA	Power Sources Manufacturers Association - a not-for-profit multinational power electronics association.
QoS	Quality of Service
RFS	Ready for Service
SAP	Service Access Point
SAP	Service Access Point will describe the finest level of detail that NBN Co will request to identify the place of delivery of service. It is the logical entity describing where a Premise Connection Device (PCD) would exist.
Service	NBN Co Services sold to Access Seekers from an NBN Co operational support systems perspective. The Service layer is used in the Fulfilment stack to provide a link between the customer facing system's Product model and the operations' service model. Multiple Resources are associated with a Service.
Service Assurance	The goal of Service Assurance is to provide an integrated, efficient toolset for the rapid detection, diagnosis and resolution of network issues.
Service Binding	NBN Co will use a CPA as the primary tool to facilitate the role of service binding in design time. Conceptually, a Business-to-Business (B2B) server at each party's site implements the CPA and Process Specification document.
Service Level Agreement	Provides specific measures and targets against which performance can be assessed (also provides thresholds for escalation).
Service Publication	NBN Co will communicate services supported by the B2B Gateway by publishing CPA templates. This could constitute the primary form of service publication supported.
Service Qualification	Identify whether NBN Co infrastructure can serve an End User location, via which Access Technology, whether infrastructure currently exists in the End User's location, and optionally whether a particular Product can be serviced at the location.
Service Portal	NBN Co's web portal available to Access Seekers and an alternative channel for supporting Fulfiment, Assurance, and Billing.
Service test	Access Seekers will be able to initiate a request to verify the operation of the EVC, in response to an event. Note that this test function is expected to rely on ITU-T Y.1731 Performance Operations, Administration and Maintenance (OAM) functional capabilities for its implementation.
SLA	Service Level Agreement. Applicable SLA's will be set out in the Access Seekers Wholesale Broadband Agreement.
S-TAG	Service VLAN Tag
T2R	Trouble to Resolve
Transaction	A number of request and response messages that form a transaction to determine an outcome
Transaction Patterns	See Patterns.
UML	Unified Modeling Language is a standardised general-purpose modeling language in the field of software engineering.
UNI	User Network Interface

Term	Description
URL	U*niform* R*esource* L*ocator,* the global address of documents and other resources on the World Wide Web.
VC	Virtual Circuit
WFM	Workforce Management
XML	Extensible Mark-up Language

8 Document Control

Revision History

Major changes to this document are listed in the table below for each version of the document distributed.

Date	Version	Author	Description/Section Revised	Reviewed By
18/01/2011	V0.10	Kathy Bui & Savita Bhoria	Public draft for comment	Roger Venning
2/05/2011	V1.0	Savita Bhoria	Updated following industry consultation	Martin Pittard

Providing Feedback

Please direct any feedback regarding this Technical Specification to your Account Manager or feedback@nbnco.com.au