COMMUNICATIONS ALLIANCE LTD

NATIONAL BROADBAND NETWORK

B2B INTERACTION PROCESS REQUIREMENTS SPECIFICATION

RELEASE 1

DECEMBER 2010

NBN B2B Interaction Process Requirements Specification – Release 1

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1 INTRODUCTION AND SCOPE

1.1 Introduction

1.1.1 This document has been developed by the Operational working group of the Communications Alliance National Broadband Network (NBN) Project. It does not necessarily represent outcomes or recommendations of the Communications Alliance.

1.1.2 This document is to be read in conjunction with other relevant NBN Project documents including, but not limited to the draft ***End User Migration Reference Model*** and ***End User Premises Handbook.***

1.1.3 This version of the B2B Interaction Process Requirements Specification has been published as Draft Release 1 and contains sections and areas of work which are subject to further development.

1.2 Purpose

The draft NBN B2B Interaction Process Requirements Specification outlines automated business transactions requirements between Provider (Service Provider) and Acquirer (Acquirer) using Business-to-Business (B2B) interfaces that will enable participating Retail Service Providers to facilitate the delivery of a working service to an End User on the National Broadband Network.

The proposed transaction models identified in this specification are based on the NICC B2B and ITU 3340 standards. As new requirements and issues emerge this document will be updated to drive improvements to the current proposed Fulfilment, Assurance and Billing B2B interaction processes.

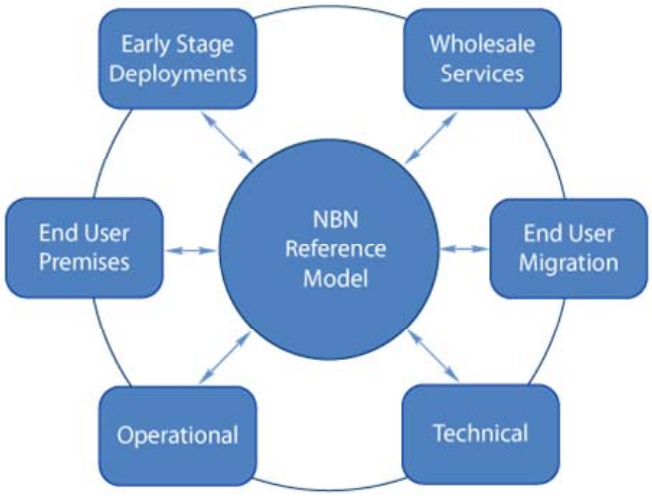
1.3 Scope

The target audience of this Specification is National Broadband Network (NBN) infrastructure providers and retail and wholesale service providers (both fixed line and fixed wireless). This document is not intended to serve as a guide to End Users.

It should be noted that this version of the specification has been published as Release 1 and contains sections and areas of work which are subject to further development

1.4 Relationship with other Communications Alliance NBN Working Groups

1.4.1 The work of the NBN Operational working group is related to activities within other NBN Project working groups in the Communications Alliance. The general relationships can be seen in Figure 1.



Communications Alliance-NBN Reference Architecture-Release 1-January 2010

FIGURE 1

Communications Alliance NBN Project Working Group Structure

1.4.2 The NBN Operational working group is one of seven working groups established by the Communications Alliance to address industry requirements for the NBN. The other six working groups address the following:

(a) **NBN Reference Model** - The NBN Reference Model Group has developed a reference model that seeks to identify within the NBN framework:

(i) the roles and responsibilities of Service Providers;

(ii) key principles related to End Users;

(iii) key principles related to Services; and

(iv) key principles related to Interconnection of Networks.

(b) **Wholesale Services** - The Wholesale Services working group has developed high level service definitions relevant to the NBN that will be required in an NBN framework and supplied by NBN Co, FTTP greenfields carriers and other broadband access providers.

(c) **Early Stage Deployments** - The Early Stage Deployments working group developed a definition of 'Greenfields' for Fibre To The Premises (FTTP) developments, plus information to guide stakeholders such as planning authorities, approvals bodies, premises owners and constructors that draws upon industry best practices.

(d) **End User Premises** - The End User Premises working group has developed a set of high level NBN End-User Premises (EUP) installation practices and guidelines.

(e) **Technical** - The Technical working group has identified appropriate international standards (or domestic standards and codes if available) and their features which meet the characteristics required by the wholesale services, to demonstrate that the wholesale services can be implemented, and to facilitate the sourcing and configuration of network elements. The Group has also released an Optical Access discussion paper which attempts to provide an overview of a proposed optical access framework.

(f) **End User Migration** – The End User Migration working group has defined a 'migration' with respect to the NBN for the definition of processes for Acquire movement to, within and from the NBN.

1.5 Process Framework

The following elements of the Level 1 eTOM framework relating to Interaction Interfaces will be covered within this version of the Specification:

- the Fulfilment operations vertical process grouping;
- the Assurance operations vertical process grouping ; and
- the Billing operations vertical process grouping.

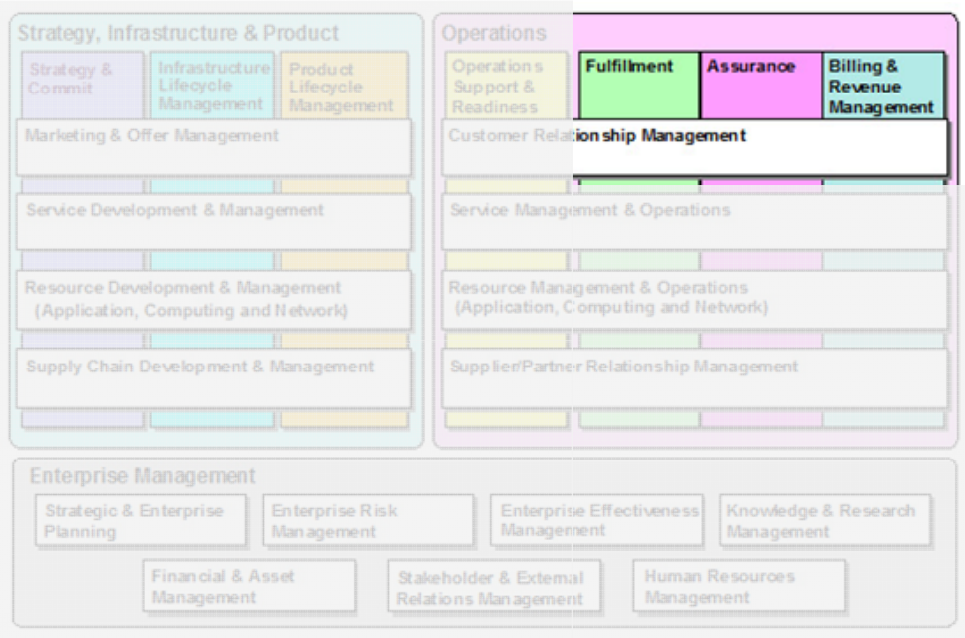


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FIGURE 2
eTOM level 1 framework

2 ACRONYMS AND ALIGNMENT OF TERMS

2.1 Acronyms

Acronyms used in this Specification and their meanings are:

B2B

means Business to Business

BEF

means Billing Event File

CVC

means Connectivity Virtual Circuit

EBG

means Electronic Billing Group

EDIFACT

means Electronic Data Interchange for Administration, Commerce and Transport (http://www.unece.org/trade/untdid/directory.htm)

ETIS

means The global IT association for telecommunications (http://www.etis.org)

Ex GST

means Excluding GST. See GST.

GL

means General Ledger

GST

means Goods and Services Tax

KCI

means Keep Customer Informed

NICC

means Network Interoperability Consultative Committee

NTU

means Network Terminating Unit

ONT

means Optical Network Termination Unit

OLT

means Optical Line Termination Unit

QoS

means Quality of Service

SC

means Service Customer

SLA

means Service Level Agreement

SQ

means Service Qualification

UNI

means User Network Interface

2.2 Alignment of Terms

NICC Term	ITU-T Term	TM Forum Term	Comms Alliance	Also known as...	Recommend-ation	Acronym	Term Definition	Definition Ref
Appointment Management	Appointment management	Workforce Management			Appointment Management		Consists of a set of functions that enable a mutual acceptable appointment time to be established between the Service Provider and the Service Consumer.	
Business to Business	Business to Business	Business to Business	Business to Business		Business to Business	B2B	Business to business	
Customer/ Buyer	Customer	Customer	End-User		Acquirer		A person who acquires goods and/or a service from a provider in exchange for payment or other consideration. Retail service providers are customers of wholesale service providers.	https://commswiki.dgit.biz/index.php/Agreed_Term_Definitions
Communications Provider (CP)	Service Customer		Retail Service Provider	Service Provider Or Access Seeker/Retail Service Provider	Acquirer		A person or company who acquires goods and/or a service from a provider in exchange for payment or other consideration. End-users are customers of [retail] service providers, retail service providers are customers of wholesale service providers	https://commswiki.dgit.biz/index.php/Agreed_Term_Definitions

NICC Term	ITU-T Term	TM Forum Term	Comms Alliance	Also known as...	Recommend-ation	Acronym	Term Definition	Definition Ref
Customer to Business	Customer to Business	Customer to Business	Customer to Business		Customer to Business	C2B	Customer to business	
eMarket					Marketplace		Standardised B2B interfaces that support interactions between Provider and Buyer	
End-User	Service User (SU)	Customer End-User	Customer		End-User	EU	This party is the actual user of the products or services offered by the enterprise. The end user consumes the product or service. They may or may not have a contractual relationship with the service provider.	
Fault	Fault	Fault			Fault		The inability of an item to perform a required function, excluding that inability due to preventive maintenance, lack of external resources or planned actions. Note that a fault is often the result of a failure of the item itself, but may exist without prior failure	(ITU-T Rec. M.20).
Lead to Cash	Service Fulfilment	Fulfilment			Fulfilment	L2C	All the activities that are needed to configure and activate service across B2B/C2B interface. It covers pre-	NICC

NICC Term	ITU-T Term	TM Forum Term	Comms Alliance	Also known as...	Recommend-ation	Acronym	Term Definition	Definition Ref
							order management, order management, testing management, QoS/service level agreement management and appointment management	
Next Generation Network	Next Generation Network	Next Generation Network			National Broadband Network	NBN	Next Generation Network (NGN)	
Network Provider	Network Operator	Network Operator Or Network Provider	Network Service Provider		Network Service Provider	NSP	Service Provider providing End Users with connectivity to the public Internet and/or ASP/CSPs and is responsible for IP address allocation, authentication and QoS Management. In today's environment ISPs perform this role at both wholesale and retail levels. These service providers are simultaneously Carriage Service Providers.	
Service Provider	Service Provider	Service Provider(SP) Or Information and Communications	Service Provider		Service Provider	SP	A general reference to an entity that provides Telecommunication services to Customers and other users either on a tariff or contract	

NICC Term	ITU-T Term	TM Forum Term	Comms Alliance	Also known as...	Recommend-ation	Acronym	Term Definition	Definition Ref
		Service Provider (ICSP)					basis. A Service Provider may or may not operate a network. A Service Provider may or may not be a Customer of another Service Provider.	
Provider		Provider			Provider		Provider is a company or organisation supplying a service. Provider may operate networks, or they may simply integrate the services of other providers in order to deliver a total service to their Acquirer.	
Trouble to Resolve	Service assurance	Assurance			Assurance		All the activities that are needed to monitor and maintain service quality across B2B/C2B interface. It covers trouble administration, testing management, QoS/service level agreement management and appointment management.	NICC
Problem Report	Trouble Report	Trouble	Trouble Ticket		Trouble Ticket		The perception of a fault or degradation that is judged to require maintenance	TMForum Glossary

3 INDUSTRY PARTICIPANTS' ROLES AND RELATIONSHIPS

The role and relationship(s) of each participant in the context of how they will interact within the process is defined as below:

Role	Definitions	Industry Participants
Provider	A Provider is a company or organisation supplying a service. A Provider may operate networks, or they may simply integrate the services of other providers, in order to deliver a total service to their Acquirer. A Provider is also known as a Service Provider, based on the ITU definitions, in the context of interactions via the interface.	Service Provider (e.g. NBN Co) Can be the Acquirer (Communication Provider) Network Provider Transport Provider
Acquirer	An Acquirer is a company or an organisation buying a service from the Provider and provides service/s to their End-User or other Communication Provider (CP).	Can be the Acquirer (Communication Provider) Can be an End-user Can be Service Provider

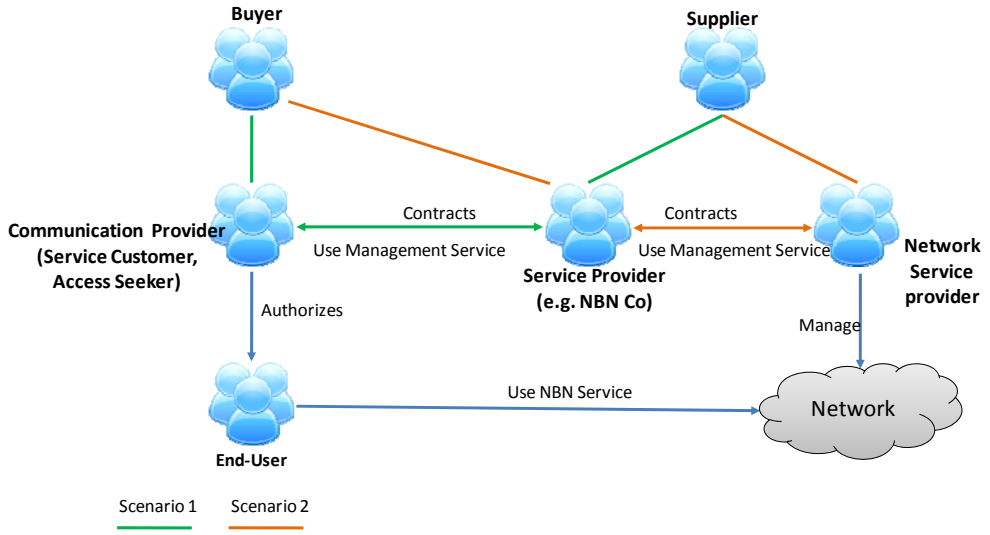

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FIGURE 3

Industry Participants' relationship model

Example Scenario 1*: The Communication Provider (CP) takes on the role of an Acquirer and interacts with NBN Co who has taken on the Provider role. NBN Co's role as the Provider is to present a collection of interaction processes which may be executed and controlled by the CP through either a B2B Gateway or a Web Portal.*

Example Scenario 2: *NBN Co takes on the role of an Acquirer and interacts with the Network Service Provider who has taken on the Provider's role. The Network Service Provider's role as the Provider is to present a collection of interaction processes which may be executed and controlled by the Acquirer through either a B2B Gateway or a Web*

***Example Scenario 3**: FIGURE 4 illustrates general context with multiple Provider and Acquirers. Please note that an Acquirer can be both an Acquirer and a Provider.*

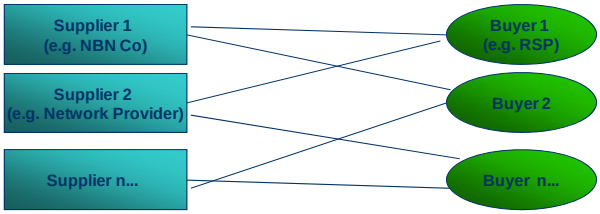

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FIGURE 4

General context with multiple Providers and Acquirers

4 MULTIPLE PROVIDERS AND ACQUIRERS CONTEXT INTERACTION PROCESS MODEL

FIGURE 5 illustrates the Industry Interaction Processes Model to support Acquirer delivery of their services to End-Users. The processes will be broken down into several levels:

- At the highest level, the process model will align with industry standards, such as eTOM and ITU-T. At this level the Acquirer owns and constructs some parts of the Fulfilment and Assurance processes through their interaction with their End-User.
- The next level, (Level 1 in FIGURE 5), interface processes are defined through industry consultation (via the Communications Alliance NBN Project). In this level sub-processes are executed and controlled by the Acquirer in support their first level processes.
- In the lower level(s), (Level 2/3 and 4 in FIGURE 5), sub-processes will be defined to support ITU Recommendations 3340 and NICC. These have been selected from industry frameworks and extensions, as defined by NBN Co and other Service Providers, with the output contributed back to the Industry bodies (such as ITU and TMF) for possible extension or refinement to their frameworks. By contributing to the Industry forum frameworks, it better positions the process models so developed to support the NBN Industry Interface, and exposes the operating model to the industry for wider re-use.

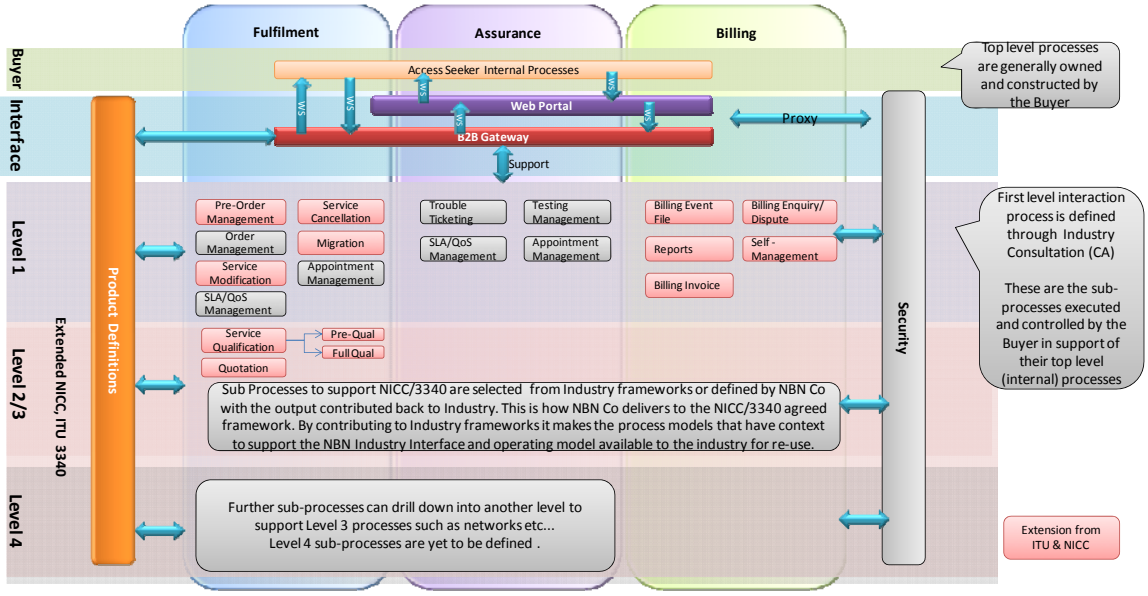

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FIGURE 5
Industry Interaction Processes Model

5 FULFILMENT

5.1 Pre-Order Management

Pre-order Management consists of a set of functions across the B2B interface that enable the interaction before the Acquirer order be created. It comprises a number of transactions as identified in the sections below.

5.1.1 Service Qualifications

Before the Acquirer offers a service to an End-User, it is critical to first determine whether the desired service is available at the End-User's premises. The ability to operate consistent marketing campaigns and take orders with certainty of delivery is a key outcome of the service qualification process. The Acquirer must be able to perform varying levels of pre qualification checks before submitting an order. When an order is submitted, a detailed check is performed to determine whether the order is feasible before it is accepted for provisioning.

The Provider will provide two levels of Service Qualification:

(i) **Pre-qualification** – to identify whether Provider infrastructure currently exists in the End-User's premises, whether the premises can be served, and via which access technology. This qualification step is sufficient to identify whether there is the potential for the Acquirer to offer services to an End-User.

(ii) **Full Service Qualification** – once the specific attributes of the desired service (bandwidth, QoS, port configuration, etc) are known, the full service qualification can determine with certainty whether the service mix in question can be delivered.

The Acquirer will be able to submit a single site or multiple sites (batch) Service Qualification request.

5.1.2 High Level Interaction Process

FIGURE 6 illustrates the High Level Service Qualification interaction process.

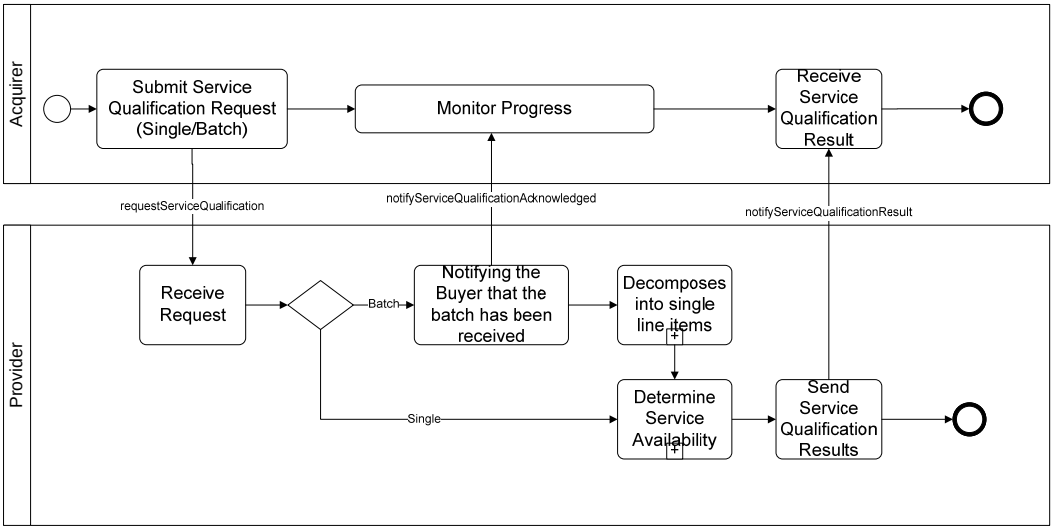

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FIGURE 6
Service Qualification Process

5.1.3 Pre-Order Management User Stories

SQ R001	**Partial address search**
As an	Acquirer
I want to	Search for my End-User address with partial information
so that	An End-User address can be validated.
Description	
This will allow the Acquirer to enter in partial address information to identify possible addresses that relate to their End-Users location.	
Scenarios	
Scenario: 1. Valid partial address query	
Given	The Acquirer is authenticated
When	The Acquirer provides valid partial address information
Then	The partial address information is validated And the possible addresses that match are returned
Data Input	Address details (dwelling number, street number, street name, suburb, postcode, state),
Data Output	Matched address details(dwelling number, street number, street name, suburb, postcode, state)
Scenario: 2. Invalid partial address query	
Given	The Acquirer is authenticated
When	Acquirer provides invalid partial address information
Then	The partial address information is validated And no matches are returned And close match addresses are returned
Data Input	Address details (dwelling number, street number, street name, suburb, postcode, state),
Data Output	Closely matched address details(dwelling number, street number, street name, suburb, postcode, state).
Business Rules	

ID	Description
NA	

SQ R002	Check service qualification for a single site

As an Acquirer
I want to Check service qualification for a single site,
so that An Access Service availability can be determined if the Access Service can be provisioned at a particular location.

Description

Acquirers will be able to input address and product details into the B2B Gateway to commence a service qualification for the End-Users.
Acquirers will be able to service qualify if an access service can be provisioned at a particular location.

The following possible response for service qualification are:

- Servicable where service currenlty exists – service is available to deliver to the end-user premises.
- Service exists in the future – service is not available at the end-user premises, however, a planned date (home pass date) is known.
- No service exists - service is not available at the end-user premises.

Scenarios

Scenario: 1. Servicability request for a single site where service currently exists

Given Acquirer is authenticated
And the Acquirer has identified their End-User address
When Acquirer provides a valid address and product details for a single site
Then The address and product details are validated
And the details are validated against business rules to determine Access Service availability
And the service parameters available at the location are returned as an individual line item
And the service request is logged

Data Input	Data Output
1. End-User premises address; or • Address • Street • Suburb • Postcode or • Lat / Long or • GNAF ID or • SAP ID **2.** NTU ID (if known) **3.** Product details (optional); and **4.** Acquirer SQ Identifier. **Note: FNN or CSN based Service Qualification request from Acquirer to Provider (NBN Co) is considered out of scope**	1. Provider's SQ ID 2. Acquirer's SQ ID 3. Per SAP Id with the following details: • End-User premises serviceable: 1. Yes, ONT is present 2. Yes, ONT needs to be installed 3. No, never 4. No, but some time in future 5. No, but specific date in future • Active NTU/ONT (Y with NTU ID/ONT ID/Appointment Type / Planned Date) • Internal/external ONT – indication only • Are there free ports on the ONT (Y/Appointment Type / Planned Date) and on which UNIs • Associated POI (Y with NNI Port /

	Appointment Type / Planned Date) • Associated OLT (Y with OLT ID / N / Planned Date) • What is the available bandwidth to the ONT • Build Notes e.g. Product / Service / Resource parameters or complex build • Premises type (e.g. MDU, standalone unit etc.) • Network technology (Fibre, Wireless, Satellite) • Service access type & Lat / Long i.e. traffic lights

Scenario: 2. Servicability request for a single site where service exists in the future

Given Acquirer is authenticated
And the Acquirer has identified their End-Users address
When Acquirer provides a valid address and product details for a single site
Then The address and product details are validated
And the details are validated against business rules to determine Access Service availability
And the service parameters available at the location are returned as an individual line item
And the service request is logged

Data Input	**Data Output**
1. End-User premises address; or • Address • Street • Suburb • Postcode or • Lat / Long or • GNAF Id or • SAP ID 2. NTU ID (if known); and 3. Product details (optional); and 4. Acquirer SQ Identifier. **Note: FNN or CSN based Service Qualification request from Acquirer to Provider (NBN Co) is considered out of scope**	1. Provider's SQ ID 2. Acquirer's SQ ID 3. Per SAP Id with the following details: • End-User premises serviceable (Y/N) 1. Yes, ONT is present 2. Yes, ONT needs to be installed 3. No, never 4. No, but some time in future 5. No, but specific date in future • Active NTU/ONT (Y with NTU ID/Appointment Type / Planned Date) • Internal/external ONT – indication only • Are there free ports on the ONT (Y/Appointment Type / Planned Date) • Associated POI (Y with NNI Port / Appointment Type / Planned Date) • Associated OLT (Y with OLT ID / N / Planned Date) • What is the available bandwidth to the ONT • Build Notes e.g. Product / Service / Resource parameters or complex build • Premises type (e.g. MDU, standalone unit etc.) • Network technology (Fibre, Wireless, Satellite) • Service access type & Lat / Long i.e.

	traffic lights

Scenario: 3. Servicability request for a single site where no service exists

Given Acquirer is authenticated
And the Acquirer has identified their End-User's address
When Acquirer provides a valid address and product details for a single site
Then The address and product details are validated
And the details are validated against business rules to determine Access Service availability
And a response is returned indicating that there is no service available
And the service request is logged

Data Input	Data Output
1. End-User premises address; or • Address • Street • Suburb • Postcode or • Lat / Long or • GNAF ID or • SAP ID **2.** NTU ID (if known); and **3.** Product details (optional); and **4.** Acquirer's SQ Identifier. **Note: FNN or CSN based Service Qualification request from Acquirer to Provider (NBN Co) is considered out of scope**	**1.** Provider's SQ ID **2.** Acquirer's SQ ID **3.** Per SAP ID with the following details: • End-User premises serviceable (Y/N) 1. Yes, ONT is present 2. Yes, ONT needs to be installed 3. No, never 4. No, but some time in future 5. No, but specific date in future • Active NTU/ONT (Y with NTU ID/Appointment Type / Planned Date) • Internal/external ONT – indication only • Are there free ports on the ONT (Y/Appointment Type / Planned Date) • Associated POI (Y with NNI Port / Appointment Type / Planned Date) • Associated OLT (Y with OLT ID / N / Planned Date) • What is the available bandwidth to the ONT • Build Notes e.g. Product / Service / Resource parameters or complex build • Premises type (e.g. MDU, standalone unit etc.) • Network technology (Fibre, Wireless, Satellite) • Service access type & Lat / Long i.e. traffic lights Request

Business Rules

ID	Description
L2C.1_R1	With respect to service qualifications, the system will respond with the same level of detail with which the Acquirer service qualification input data was provided. For example, the Acquirer may enquire on the serviceability to an MDU location with no specific level number or unit number. The service qualification response would indicate the serviceability of the MDU building location and not the serviceability of the individual floors of that building or the specific office units on each floor.
L2C.1_R2	In the scenario where multiple SAP's found, will require to send the same query with the specific SAP ID

SQ R 003	Batch qualification
As an	Acquirer
I want to	Submit a batch qualification
so that	An Access Service availability can indicate whether the Access Service can be provisioned at a location via a batch request or alternatively to validate given address information.

Acquirers will be able to input address and product details to commence a service qualification for the End-Users.
Acquirers will be able to service qualify if an access service can be provisioned at a particular location.
The following possible response for service qualification are:

- Servicable where service currenlty exists – service is available to deliver to the end-user premises
- Service exists in the future – service is not available at the end-user premises, however, a planned date (home pass date) is known.
- No service exists - service is not available at the end-user premises

Batch request to additionally support entry of partial address information to identify possible addresses that relate to their End-Users location.

Note that multiple addresses are submitted as part of the batch request for validation or qualification purposes. Provider would decompose the batch request into individual line items, process individual items and send return response. If an exception occured due to which batch request could not progress, this will be notified to the Acquirer.

Scenarios

Scenario: 1 (Type – SQ). Valid servicability request on multiple sites where service currently exists

Given The Acquirer is authenticated with NBN Co
When Acquirer provides valid address and product details for multiple sites
Then The address and product details in the batch are validated
And the Acquirer is informed of the time frame that this request will be completed
And the details are validated against business rules to determine Access Service availability for each site
And the service parameters available at each site are returned as individual line items
And the service request is logged

Data Input	Data Output
1. End-User premises address; or • Address • Street • Suburb • Postcode or • Lat / Long or • GNAF ID or • SAP ID **2.** NTU ID (if known); and **3.** Product details (optional); and **4.** Acquirer SQ Identifier;	1. Provider's SQ ID 2. Acquirer's SQ ID 3. Notifying the Acquirer that the batch has been received including but not limited to with the following: • Targeted delivery timeframe • Number valid address to perform Service Feasibility check • Number invalid address 4. Service qualification result per line item with the following details: 5. Per SAP ID with the following details:

Note: FNN or CSN based Service Qualification request from Acquirer to Provider (NBN Co) is considered out of scope	• End-User premises serviceable (Y/N) 1. Yes, ONT is present 2. Yes, ONT needs to be installed 3. No, never 4. No, but some time in future 5. No, but specific date in future • Active NTU/ONT (Y with NTU ID/Appointment Type / Planned Date) • Internal/external ONT – indication only • Are there free ports on the ONT (Y/Appointment Type / Planned Date) • Associated POI (Y with NNI Port / Appointment Type / Planned Date) • Associated OLT (Y with OLT ID / N / Planned Date) • What is the available bandwidth to the ONT • Build Notes e.g. Product / Service / Resource parameters or complex build • Premises type (e.g. MDU, standalone unit etc.) • Network technology (Fibre, Wireless, Satellite) • Service access type & Lat / Long i.e. traffic lights

Scenario: 2 (Type – SQ). Valid servicability request on multiple sites where service exists in the future

Given The Acquirer is authenticated
When The Acquirer provides valid address and product details for multiple sites
Then The address and product details in the batch are validated
And the Acquirer is informed of the time frame that this request will be completed
And the details are validated against business rules to determine Access Service availability for each site
And the service parameters available at each site are returned as individual line items

Data Input	Data Output
1. End-User premises address; or • Address • Street • Suburb • Postcode or • Lat / Long or • GNAF ID or • SAP ID **2.** NTU ID (if known); and **3.** Product details (optional); and **4.** Acquirer SQ Identifier. **Note: FNN or CSN based Service Qualification request from Acquirer to Provider (NBN Co) is considered out of scope**	**1.** Provider's SQ ID **2.** Acquirer's SQ ID **3.** Notifying the Acquirer that the batch has been received including but not limited to with the following: • Targeted delivery timeframe • Number valid address to perform Service Feasibility check • Number invalid address **4.** Per SAP ID with the following details: • End-User premises serviceable (Y/N) 1. Yes, ONT is present 2. Yes, ONT needs to be installed 3. No, never 4. No, but some time in future

	5. No, but specific date in future • Active NTU/ONT (Y with NTU ID/Appointment Type / Planned Date) • Internal/external ONT – indication only • Are there free ports on the ONT (Y/Appointment Type / Planned Date) • Associated POI (Y with NNI Port / Appointment Type / Planned Date) • Associated OLT (Y with OLT ID / N / Planned Date) • What is the available bandwidth to the ONT • Build Notes e.g. Product / Service / Resource parameters or complex build • Network technology (Fibre, Wireless, Satellite) • Service access type & Lat / Long i.e. traffic lights

Scenario: 3 (Type – SQ). Servicability request for a multiple sites where no service exists on at least one site

Given The Acquirer is authenticated
When The Acquirer provides invalid address and product details for multiple sites
Then The address and product details are validated for each site
And the details are validated against business rules to determine Access Service availability
And a response is returned indicating that there is no service available for a particular site

Data Input	Data Output
1. End-User premises address; or • Address • Street • Suburb • Postcode or • Lat / Long or • GNAF ID or • SAP ID 2. NTU ID (if known); and 3. Product details (optional); and 4. Acquirer SQ Identifier.	1. Provider's SQ ID 2. Acquirer's SQ ID 3. Notifying the Acquirer that the batch has been received including but not limited to with the following: • Targeted delivery timeframe • Number valid address to perform Service Feasibility check • Number invalid address 4. Per SAP Id with the following details: • End-User premises serviceable (Y/N) 1. Yes, ONT is present 2. Yes, ONT needs to be installed 3. No, never 4. No, but some time in future 5. No, but specific date in future • Active NTU/ONT (Y with NTU ID/Appointment Type / Planned Date) • Internal/external ONT – indication only • Are there free ports on the ONT (Y/Appointment Type / Planned Date)

	• Associated POI (Y with NNI Port / Appointment Type / Planned Date) • Associated OLT (Y with OLT ID / N / Planned Date) • What is the available bandwidth to the ONT • Build Notes e.g. Product / Service / Resource parameters or complex build • Premises type (e.g. MDU, standalone unit etc.) • Network technology (Fibre, Wireless, Satellite) • Service access type & Latitude / Longitude i.e. traffic lights

Scenario: 4 (Type – SQ/Address query). Serviceability request limit has been exceeded

Given The Acquirer is authenticated
And the Acquirer has identified their End-User's address
When The Acquirer provides a valid address and/or product details or provides (partial) address information that requires to be validated
Then The address and product details are validated or address details are validated
And the Acquirer serviceability request limit is checked
And the Acquirer is informed that the limit has exceeded
And the service request is logged

Data Input	Data Output
1. End-User premises address; or • Address • Street • Suburb • Postcode or • Lat / Long or • GNAF ID or • SAP ID 2. NTU ID (if known); and 3. Product details (optional); and 4. Acquirer SQ Identifier.	Exception message notifying the Acquirer that they have exceeded their Service Qualification transaction limit

Scenario: 5 (Type – SQ/ Address query). Partial pass validation

When The Acquirer provides address and/ product details for multiple sites
Then The address and product details in the batch are validated
And some pass validation
And place passes item into the Batch Scheduler for processing
And the Acquirer is informed of the time frame that this request will be completed
And the details are validated against business rules to determine Access Service availability for each site
And the service parameters available at each site are returned as individual line items
And the service request is logged

Data Input	Data Output
1. End-User premises address; or • Address • Street • Suburb • Postcode or	1. Provider's SQ ID 2. Acquirer 's SQ ID 3. Notifying the Acquirer that the batch has been received including but not limited to with the following:

• Lat / Long or • GNAF ID or • SAP ID 2. NTU ID (if known); and 3. Product details (optional); and 4. Acquirer SQ Identifier.	• Targeted delivery timeframe • Number valid address to perform Service Feasibility check • Number invalid address 4. Per SAP ID with the following details: • End-User premises serviceable (Y/N) 1. Yes, ONT is present 2. Yes, ONT needs to be installed 3. No, never 4. No, but some time in future 5. No, but specific date in future • Active NTU/ONT (Y with NTU ID/Appointment Type / Planned Date) • Internal/external ONT – indication only • Are there free ports on the ONT (Y/Appointment Type / Planned Date) • Associated POI (Y with NNI Port / Appointment Type / Planned Date) • Associated OLT (Y with OLT ID / N / Planned Date) • What is the available bandwidth to the ONT • Build Notes e.g. Product / Service / Resource parameters or complex build • Premises type (e.g. MDU, standalone unit etc.) • Network technology (Fibre, Wireless, Satellite) • Service access type & Lat / Long i.e. traffic lights

Scenario: 6 (Type – Addresses query). Valid partial address query

Given	The Acquirer is authenticated
When	The Acquirer provides valid partial address information
Then	The partial address information is validated And the possible addresses that match are returned
Data Input	Address details (dwelling number, street number, street name, suburb, postcode, state),
Data Output	Matched address details(dwelling number, street number, street name, suburb, postcode, state)

Scenario: 7 (Type – Addresses query). Invalid partial address query

Given	The Acquirer is authenticated
When	Acquirer provides invalid partial address information
Then	The partial address information is validated And no matches are returned And close match addresses are returned
Data Input	Address details (dwelling number, street number, street name, suburb, postcode, state)
Data Output	Close matched address details(dwelling number, street number, street name, suburb, postcode, state).

Business Rules

ID	Description

SQ R003-R1	There will be a limit to the maximum number of matched address results that can be sent in the response

SQ R004	**Upload a file for multi site service qualification**
As an	Acquirer
I want to	Upload a file for multi site service qualification
so that	An Access Service availability can be determined whether the Access Service can be provisioned at a location via a multiple sites batch request

Description

Acquirers will be able to upload a batch of input address and product details into the Portal toolsets to commence a service qualification for their End-Users with acceptable file formats, including but not limited to XML, CSV etc.

Acquirers will be able to service qualify if an access service can be provisioned at a particular location. Batch request to additionally support entry of partial address information to identify possible addresses that relate to their End-Users location.

Note that multiple addresses are submitted as part of the batch request. Provider is required to decompose the batch request into individual line items, process individual items and send return response. If an exception occured due to which the batch request could not progress, this will be notified to the Acquirer.

Scenario

Scenario: 1. Valid batch file uploaded

Given The Acquirer is authenticated
When The Acquirer provides valid address and product details for multiple sites
Then The address and product details in the batch are validated
And the Acquirer is informed of the time frame that this request will be completed
And the details are validated against business rules to determine Access Service availability for each site
And the service parameters available at each site are returned as individual line items
And the service request is logged

Data Input	**Data Output**
1. End-User premises address; or • Address • Street • Suburb • Postcode or • Lat / Long or • GNAF ID or • SAP ID 2. NTU ID (if known); and 3. Product details (optional); and 4. Acquirer SQ Identifier; and 5. Batch ID (optional)	Confirmation message with Batch ID and approximately timeframe to complete the batch request. 1. SQ ID 2. Batch ID (optional) 3. Notifying the Acquirer that the batch has been received including but not limited to with the following: • Targeted delivery timeframe • Number valid address to perform Service Feasibility check • Number invalid address 4. Per SAP ID with the following details: • End-User premises serviceable (Y/N) 1. Yes, ONT is present 2. Yes, ONT needs to be installed 3. No, never 4. No, but some time in future 5. No, but specific date in future • Active NTU/ONT (Y with NTU ID/Appointment Type / Planned Date)

	• Internal/external ONT – indication only • Are there free ports on the ONT(Y/Appointment Type / Planned Date) • Associated POI (Y with NNI Port / Appointment Type / Planned Date) • Associated OLT (Y with OLT ID / N / Planned Date) • What is the available bandwidth to the ONT • Build Notes e.g. Product / Service / Resource parameters or complex build • Premises type (e.g. MDU, standalone unit etc.) • Network technology (Fibre, Wireless, Satellite) • Service access type & Lat / Long i.e. traffic lights

Scenario: 2. Invalid batch file uploaded

Given The Acquirer is authenticated
When The Acquirer provides an invalid batch file
Then The batch file is validated
And the Acquirer is informed of batch upload failure

Data Input	Data Output
1. End-User premises address; or • Address • Street • Suburb • Postcode or • Lat / Long or • GNAF ID or • SAP ID 2. NTU ID (if known); and 3. Product details (optional); and 4. Acquirer SQ Identifier.	Exception message notifying Acquirer that batch file was unsuccessful

Business Rules

ID	Description
SQ R004-R1	The Acquirer can only submit xxx number of line items within a batch via the Portal

SQ R005	Notify batch service qualification status
As a	Provider
I want to	Notify Acquirer status of a batch serviceability request
so that	Acquirer can have a view on the status of a batch service qualitifcation

Description

This story is particularly relevant to asynchronous responses (ie. batch responses) where the Acquirer will not receive the service qualification in real time (as per the single site enquiry case), Provider will proactively communicate the batch status to the Acquirer.

Scenarios

Scenario: 1. Notify batch request received

Given The Acquirer successfully submitted a batch service qualification
When The Provider has received the batch serviceability request
Then The Provider sends an acknowledgement notification to the Acquirer with expected

delivery service qualification result SLA.
And the SLA clock starts

Data Input	Data Output
1. End-User premises address; or • Address • Street • Suburb • Postcode or • Lat / Long or • GNAF ID or • SAP ID 2. NTU ID (if known); and 3. Product details (optional); and 4. Acquirer SQ Identifier.	Acknowledged notification sent to Acquirer with expected delivery SLA

Scenario: 2. Notify SLA Jeopardy

Given The Acquirer successfully submitted a batch service qualification
And Provider has received the batch serviceability request
When Provider cannot delivery batch service qualification results within the defined SLA
Then Provider sends a notification to the Acquirer with reason(s) for not meeting the SLA.

Data Input	Data Output
Provider Service qualification ID	Notification sends to the Acquirer with reason(s) for not meeting the SLA.

Scenario: 2. Notify batch service qualification completed

Given The Acquirer successfully submitted a batch service qualification
And Provider has received the batch serviceability request
When The Provider completed serviceability checks
Then The Provider sends a complete notification to the Acquirer with service qualification results.

Data Input	Data Output
Provider Service qualification ID	Completed notification sent to the Acquirer with service qualification results

Business Rules

ID	Description
N/A	

SQ R006	Request Batch Cancellation
As an	Acquirer
I want to	cancel a batch request for multiple sites qualification,
so that	My requests can be managed

Description

Acquirer can submit a cancellation request for a batch (multiple sites) that is either already sumitted to and/or being processed by the Provider's systems

Scenarios

Scenario: 1. Sucessful submit cancellation request, processing not yet started

Given That the batch file is yet to be processed (i.e. Still queued)
When The Acquirer provides a cancellation request that includes a valid batch ID
Then Cancel the batch file in the batch scheduler
And notify the Acquirer of successful cancellation

Data Input	Data Output
Provider's SQ ID	Successful cancelled notification

Scenario: 2. Successfully submit cancellation request, processing already started

Given That the batch file is currently being processed

When	The Acquirer provides a cancellation request that includes a valid batch ID
Then	Stop the batch processing And cancel batch, return processed results And notify Acquirer of successful cancellation with Service Qualification results for all sites that have been processed

Data Input	Data Output
Provider's SQ ID	Successful cancelled notification with Service Qualification results for all sites that have been processed

Scenario: 3. Unsucessful submit cancellation request

Given	That the batch file is currently being processed
When	The Acquirer provides a cancellation request that includes a invalid batch ID
Then	Notify Acquirer that batch ID provided is unknown and unable to cancel this request.

Data Input	Data Output
Provider's SQ ID	Fail Notification

Business Rules

ID	Description
N/A	

SQ R007	Address resolution

As an	Acquirer
I want to	Submit a request to resolve an address issue
so that	An End-User address can be validated and be submitted to determine for qualification and/ ordering purposes

Description

This will allow the Acquirer to submit a request to resolve an end user address issue. Request contains address details for which they cannot obtain a match. It can be used in scenarios where Provider could not validate the end user address or was determined to be unserviceable.
Note: Commercial Charges may apply to resolve address issues.

Scenarios

Scenario: 1. Address could not be found or located by Provider. Submit request to resolve issue

Given	The Acquirer is authenticated
When	The Acquirer submits request that contains address information to be resolved
Then	Provider processes the request and keeps Acquirier informed of progress And upon completion sends the resolution result
Data Input	Address details (dwelling number, street number, street name, suburb, postcode, state), comments etc
Data Output	Completed notification with resolution details related to address

Business Rules

ID	Description
N/A	

5.2 Order Management

Products that are requested through the B2B Gateway will be driven by the Product Catalogue definitions. The Product Catalogue definition is where the business rules, attribute valid values and the associations of these products with the Provider internal processes are defined. The product definition will drive the data collection process stages to provision and assure the service.

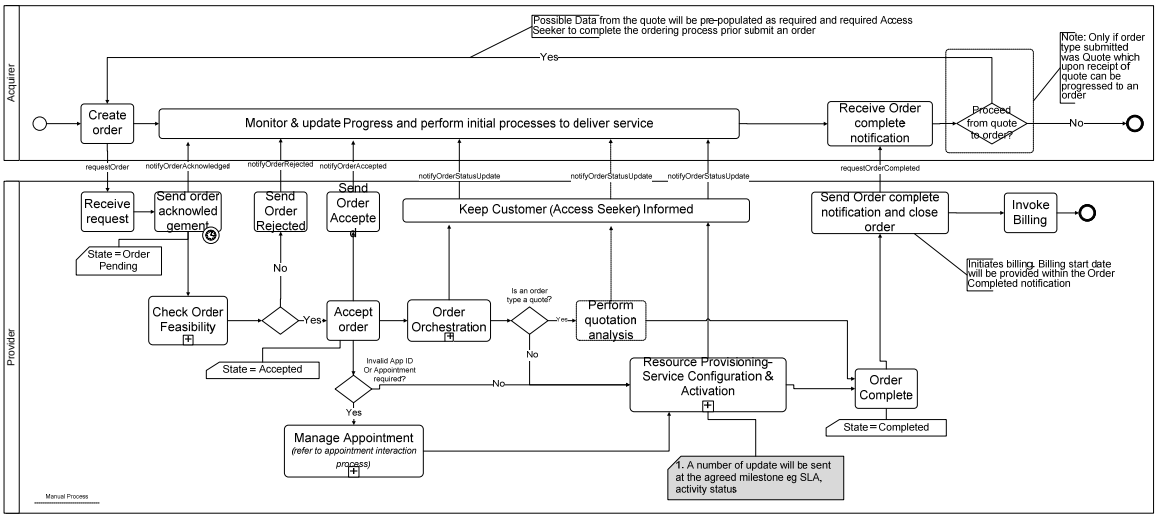
Acquirer will have the ability to request the following order types through the B2B Gateway:

- **Connect** New Service
- **Modify** Existing Service
- **Disconnect** a Service
- **Amend** an In-flight Order
- **Cancel** an In-flight Order

Order management consists of a set of functions across B2B interface that enable an Acquirer order to be created, reported, tracked, and maintained. It comprises a number of transactions as identified in the sections below.

5.2.1 **High Level Interaction Process**

FIGURE 7 illustrates high level transaction process for Order Management to support Fulfilment processes in a successful scenario.



Communications Alliance – NBN B2B Process Interaction Requirements – Release 1 – December 2010

FIGURE 7

High Level Order Management Transaction process

5.2.2 New Connection Order

FUL R001	Non-standard Quote Order
As an	Acquirer
I want to	Obtain a quotation for the non-standard product/s I am enquiring about
so that	It can be determined whether the product(s) requested by the Provider can or cannot be fulfilled. Following this the full price of the product(s) and delivery costs can be obtained

Description

Acquirer asks for a quote which confirms whether the request can be accommodated, provides a cost, indicative timeframes and any delivery of hardware information. The quote will include an approved network design, operational support model and billing method for the request. The Acquirer decides whether to accept the quote and progress to an order or not.

A Quote is a Product type where the Acquirer is seeking a quotation for Non-Standard orders. The quote needs to be established as a product in the catalogue against an Acquirer or channel that can be ordered and billed.

Scenarios

Scenario 1. Non-standard Quote Order

Given	The Acquirer has been authenticated and is authorised to request a Non-standard Quote order.
When	The Acquirer provides the necessary information to request the quote
Then	The quotation request details (address, product-instance requirements etc..) details are validated And acknowledged back to the Acquirer that the quotation request has been received And the Acquirer is informed of the time frame for the completion of this request And the Provider Fulfilment System performs an Order Feasibility Check and accepts the order And the request is placed in a manual queue And the SLA clock starts And the product quotation request is logged

Data Input	Data Output
Including but not limited to the following: Order details (address, product etc...), Acquirer Account ID, Billing Account ID	1. Send an acknowledgement notification to the Acquirer

Scenario 2.Unsucessful Request Quotation - for Non-standard order

Given	The Acquirer has been authenticated
When	Acquirer is not authorized to request non-standard order quotes. OR the order has been rejected from Order Feasibility Check
Then	Provider notifies quotation request failure message with reason(s)

Data Input	Data Output
Including but not limited to the following: 1. Order details (address, product etc...), **2.** Acquirer Account ID, Billing Account ID	1. Fail message returned to Acquirer

Business Rules

ID	Description
N/A	

FUL R002	New Connect Order
As an	Acquirer
I want to	Raise an order for a new Product order.
so that	The Provider delivers my Product order as required and Productcan be

provided to an End-User.

Description

The Acquirer is placing an order as part of their brief to provide a product to their End-User. The order will be for one or more product-instances delivered to a single location. Multiple product-instances may be grouped together so that they are either all delivered or all not delivered to that location.

Possible scenarios for connect a new order:

- New instances of a product to be delivered to the End-User premises
- **Transfer:** The Acquirer is placing a transfer order as one of their activities to provide a product to their End-User. The Acquirer is operating as the 'Gaining Acquirer ' and is providing the product on Provider's network to an already utilised port. Any LNP activities happen outside of this story.
  Possible Transfer Scenario: The gaining Acquirer is utilising the NBN network and is 'taking over' an existing utilised UNI.
- **Migration:** The Acquirer is placing a migration order to move End-User service on to NBN network. There are two possible scenarios for migration: "Push" and "Pull", however in both cases migration order will be initiated by the Acquirer.

  (i)Pull is where an End-User generates activity through the Acquirer, the Acquirer then submits request to the Provider.

  (ii)Push is where Provider provides service availability in all locations for future connection/migration at the convenience of the End-User.
- Acquirer will have the ability to raise a forecast for New Connect by providing the Acquirer *Required Date and Time*.

Scenarios

Scenario 1. Create New Connect Order (Include Migration or Transfer)

Given The Acquirer has been authenticated and authorized to order

When The Acquirer provides order details (Acquirer Account ID, product details, address, order type (new)etc…)
And the product requested is supported
And the data sets are valid
And the location for the product-instance delivery is clearly identified

Then The data set is validated against the business rules including validate billing account for suspension
And an order is created
And Acknowledges back to the Acquirer that the order has been received (pending status).
And the SLA clock starts.

Data Input	Data Output
Including but not limited to the following: 1. Order details, 2. custom location (which may include address, GNAF ID or lat/ long, description of required location on property), UNI Id (optional)), 3. SAP ID, 4. product component(s) (optional), 5. Acquirer's Account ID, 6. Billing Account ID, 7. Acquirer Required Date & time (optional, default to standard lead time), 8. End-User requested service location, 9. End-User requested ONT location (or	Send order Acknolwedged to Acquirer with order details, including but not limited to: 1. Order id, 2. Acquirer Account ID, 3. Billing Account ID, and 4. Order status

equivalent to satellite, wireless), 10. End-User contact details, 11. Site contact details, 12. Site specific information (e.g. security, health and safety requirements). The following additional details need to be provided for a Transfer order: • Service transfer from/to • End user to provide account number to gaining carrier	

Scenario 2. Proceed a Quote to order

Given The Acquirer has been authenticated
The Acquirer has received a quotation for a product-instance and wishes to proceed to service delivery

When The Acquirer provides a valid Quote order ID that links to an approved network design, operational support model and billing method.
And the Acquirer provides mandatory/conditional data which is additional to that already submitted for the quote

Then The data set is validated against the business rules including validate billing account for suspension
And an order is created
And acknowledges back to the Acquirer that the order has been received with order reference is being returned by the Provider
And the SLA clock will start on receipt of a valid order
And will follow the order validation process

Data Input	Data Output
Including but not limited to the following: 1. custom location (which may include address, GNAF ID or lat/ long, description of required location on property), UNI Id (optional)), 2. SAP ID, 3. product component(s) (optional), 4. Acquirer's Account ID, 5. Billing Account ID, 6. Acquirer Required Date & time) (optional, default to standard lead time), quote order id, 7. End-User requested service location, 8. End-User requested ONT location (or equivalent to satellite, wireless), 9. End-User contact details, 10. Site contact details, 11. Site specific information (e.g. security, health and safety requirements).	Acknowledgement to the Acquirer of the: 1. Order id, 2. Acquirer Account ID, 3. Billing Account ID, and 4. Order status

Business Rules

ID	Description
01	Quote for an order is not relevant for churn

FUL R003	Place a batch order
As an	Acquirer
I want to	Place a batch order for new instances of a product, or to modify or disconnect existing products.

so that I can submit new, change, churn or cancel products for multiple End-Users.

Description

The Acquirer is placing a batch order to change multiple products in the one requests. There may be multiple End-Users and/or multiple locations.

Scenarios

Scenario 1. Valid batch order data set where access service is available

Given The Acquirer has been authenticated and authorised to order
When There are multiple requests in the one order.
Then 1. The batch order data set is validated against the business rules
2. And acknowledges back to the Acquirer that the order has been received with order details (Pending order status an estimated completion date)
3. And decomposes the batch into component orders (End-User/one location per line items)
4. And SLA clock will start on receipt of a valid batch order

Data Input	Data Output
Including but not limited to the following: 1. End-User location (which may include address, GNAF ID or lat/ long, description of required location on property), UNI ID (optional)), 2. SAP ID, 3. product component(s) (optional), 4. Acquirer's Account ID, 5. Billing Account ID, 6. Acquirer Required Date & time (optional, default to standard lead time), 7. End-User requested service location, 8. End-User requested NTU location (or equivalent to satellite, wireless), 9. End-User contact details, 10. Site contact details, 11. Site specific information (e.g. security, health and safety requirements). 12. End-User Authentication date (EUAD)	1. Send order Acknolwedged notification 2. Batch Order ID

Scenario 2. Invalid order data set

Given The Acquirer has been authenticated and authorized to order
When The XML is validated
And the data set is incomplete or invalid
Then 1. A reject order notification is being sent to the Acquirer
2. And the rejected order is logged with all the reject reasons
3. And the SLA clock will not start for the rejected order

Data Input	Data Output
Including but not limited to the following: 1. End-User location (which may include address, GNAF ID or lat/ long, description of required location on property), UNI ID (optional)), 2. SAP ID, 3. product component(s) (optional), 4. Acquirer 's Account ID, 5. Billing Account ID, 6. Acquirer Required Date & time (optional, default to standard lead time), 7. End-User requested service location, 8. End-User requested NTU location (or equivalent to satellite, wireless),	Send an error message

9. End-User contact details, 10. Site contact details, 11. Site specific information (e.g. security, health and safety requirements). 12. End-User Authentication date (EUAD)	

Business Rules

ID	Description
N/A	

5.2.2.1 **Cancel an In-flight Order**

FUL R004	**Cancel an in-flight order**
As an	Acquirer
I want to	Be able to cancel an in-flight order,
so that	The product is not delivered to the End-User.

Description

The Acquirer is placing an in-flight order cancellation request to cancel an order that has not completed provisioning. The point at which there is a billing implication will depend on the product rules and may differ from product to product.

Scenarios

Scenario 1. Successful request cancel an in-flight order

Given	The order has not been completed (according to the product catalogue rules defining completion)
When	1. The Acquirer has identified that the order need to be cancelled or as requestd by End-User 2. And an order identifier exists
Then	1. The data set is validated against the business rules associated with minimum products at an End-User location (cross-dependencies of the products within an order and installed at the location are not breached) 2. And acknowledges to the Acquirer that the cancel in-flight order has been received

Data Input	Data Output
Including but not limited to the following: 1. Order ID, **2.** Cancellation code	1. Send order Acknolwedged notification to Acquirer

Business Rules

ID	Description
N/A	

5.2.2.2 **Amend an In-flight Order**

FUL R005	**Amend an in-flight order**
As an	Acquirer
I want to	Be able to amend an in-flight order,
so that	The end product/s to be provided to the End-User at the same location can be amended.

Description

The Acquirer is placing an in-flight order modification request to change an order that has not completed provisioning up to the point of no return in the provisioning workflow. This may be a 'correction' or a change to a product attributes - what is allowed will depend on the product rules and may differ from product to product. For example, location cannot be modified for an in-flight order. If changes to a location is required than the current order need to be cancelled (charges may be applied depend on what stage the order is at).

Scenarios	
Scenario 1. Successful request an amend in-flight order	
Given	The order has not been completed And has not passed the Point of No Return (PoNR) in the provisioning workflow And there is no change requested to the End-User location And order ID exists
When	1. The Acquirer has identified the order need to be amended or requestd by the End-User 2. And provides an amended order request details (order identifier exists, the change is clearly identified by naming the product to remove and/or the product to add)
Then	1. The data set is validated against the point of no return business rules noted in the Product Catalogue. 2. And ackloweldged to the Acquirer that the order change has been received and has changed status

Data Input	Data Output
Including but not limited to the following: 1. Order ID, 2. Order change details, 3. Acquirer Account ID, **4.** Billing Account ID	Send an Acknolwedged notification to the Acquirer

Scenario 2. Failed request an amend in-flight order	
Given	The order has not been completed And order ID exists
When	The Acquirer has identified an in-flight order need to be modified or requested by End-User And provides amended an in-flight order request details including but not limited to order identifier exists, the change is clearly identified by naming the product to remove and/or the product to add.
Then	The data set is validated against the business rules and Point of No Return has been breached And a reject order notification is being sent to the Acquirer with reason(s) And the rejected order is logged with all the reject reasons

Data Input	Data Output
Including but not limited to the following: 1. Order ID, 2. Order changes details (eg product)	1. Send a Rejected notification to the Acquirer with reason code(s) 2. Place in rejected orders log

Business Rules	
ID	**Description**
N/A	

5.2.2.3 **Order Tracking**

FUL R006	Query/Enquire Status or details of an order
As an	Acquirer
I want to	Request the Provider to advise me of progress on the fulfilment activities or details of an order that I requested
so that	An order status or progress of an order can be provided to the End-User

Description
Acquirers shall be able to track the End-User order by initiating a request to retrieve an order state/status at any time.

Scenarios	
Scenario 1. Query/Enquire the status or details of an order	
Given	Acquirer is authenticated
When	Acquirer provided valid order details eg ID
Then	The order request details are validated And the status of the order is returned

Data Input	Data Output

Including but not limited to the following: 1. Order ID, 2. Batch ID (optional)	Order details, including but not limited to: 1. Current order stage **2.** Order status

Business Rules

ID	Description
N/A	

FUL R007	Keep Customer (Acquirer) Informed (KCI)
As a	Provider
I want to	Update the Acquirer on the progress on of the order fulfilment tasks. Track the completion of service configuration and activation activities
so that	The Acquirer is kept informed of the fulfilment progress.

Description

- Monitoring allows for the steps created by the order decomposition to be tracked and a holistic view of the order to be provided back to the Acquirer (and to Billing).
- An Order has been decomposed into a series of Sub-Orders that are being provisioned. This tracks the various sub-order provisioning completions.
- Provider will notify Acquirers on state/status updates as order progresses through the Service Fulfilment processes.

Scenarios

Scenario 1. Notify Status Update

Given	That a sub-order service configuration and activation has completed And the level of KCIs for an Acquirer has been established
When	The progress of the sub-orders and/or order causes a notification to be sent to the Acquirer
Then	Process Orchestration Engine communicates all steps in the fulfilment process including but not limited to successful completion of an order, Jeopardy notification, status update notification, order acceptance etc... And creates the required communication to the Acquirer, And sends the appropriate communication from time to time to the Acquirer and to other agreed parties (Partner/other Provider/End-user etc.), And the Acquirer may inform the End-user about the status of the resolution Optional Could be expanded to include sending of regular communication at (configurable) timed intervals upon the Acquirer's request.

Data Input	Data Output
Including but not limited to the following: 1. Order ID, **2.** fulfilment milestone	1.Updated Order Status 2. Notify Acquirer on milestone of an order (e.g. notify order Acknowledgement, notify order acceptance) and relevant order details based on the milestones/order stages.

Scenario 2. Notify Order Acknowledgement

Given	Acquirer has submitted an order
When	The order passed XML validation And has been recieved by the Fulfilment system
Then	Send Order Acknowledgement to Acquirer with order reference is being returned

Data Input	Data Output
Including but not limited to the following: 1. Order details, 2. Acquirer Account ID, **3.** Billing Account ID	Send order Acknowledged notification with Order ID

Scenario 3. Notify Order Accepted

Given	Order details are valid

When Order feasibility has been checked and is successful
Then Fulfilment system updates the order status to "Accepted"
And sends *Order Accepted* notification to the Acquirer that the order has been progressed with details on serviceability and order class with Provider Committed Date (NCD) for activation.

Data Input	Data Output
Order details, including but not limited to: 1. Service address, 2. Product, Order ID, 3. Acquirer Account ID, **4.** Billing Account ID	1. Send *Order Accepted* Notification to the Acquirer, including but not limited to: 1. Order ID, 2. Acquirer Contract ID, 3. Order status (accepted), 4. Feasibility details, 5. Provider Committed Date, **6.** Appointment Type

Scenario 4. Notify Order Rejected

Given Order details are valid
When Order feasibility has been checked and is not feasible .
Then Update the order status to rejected
And notify Order rejected to the Acquirer with reason

Data Input	Data Output
Order details, including but not limited to: 1. Service address, 2. Product, 3. Order ID, 4. Acquirer Account ID and **5.** Billing Account ID etc...	Send *Order Rejected* notification to the Acquirer with reason(s)

Scenario 5. Notify Cancel an In-flight Order Completed

Given A valid request to cancel an in-flight order has been received by the Provider
When An in-flight order has been cancelled

Then Send an *In-flight Order Cancel Completed* notification to the Acquirer
Acquirer receives notification that the cancellation is completed and is aware of any charges due

Data Input	Data Output
Including but not limited to the following: Order ID	1. Send a *Cancel an iln-flight Order Completed* notification (Any cancellation or term charges are identified in the message, with explanation) 2. Update order record

Scenario 6. Notify Amend an In-flight Order Completed

Given A valid request to amend an in-flight order has been received
When The original order is amended
Then Send a notification to the Acquirer advising amend to an in-flight order has been completed
Update any changes to the SLA clock

Data Input	Data Output
Order details, including but not limited to: 1. service address, 2. product, 3. order ID, 4. Acquirer Account ID, 5. Billing Account ID etc...	1. Send a *Amend an In-flight Order Completed* notification. 2. Message confirms what amendment has been made including but not limited to audit trail of request 3. Message conveys any changes as a result, including but not limited to new delivery/appointment date, additional charges

Scenario 7. Notify Order Jeopardy

Given An order is in fulfilment
When An event occurs that will delay the order or lead to failure
Then Provider sends an order delyy message

Data Input	Data Output
Including but not limited to the following:	Send an *Order Jeopardy* notification with reasons

1. Order ID, **2.** Delay reason(s)	

Scenario 8.. Notify Auto Cancel an In-flight Order

Given Order details are valid and Provider is waiting input from the Acquirer
When Provider is waiting for the Acquirer to take action and the designated period of time has passed
Then Sends an *Auto Order Cancelled* notification to the Acquirer with reason(s)

Data Input	Data Output
Including but not limited to the following: 1. Acquirer Account ID, 2. Billing Account ID, 3. Order ID, **4.** Assistance request timer	Auto send a *Cancel an In-flight Order* notification with reason, including but not limited to cancelled due to non-response

Scenario 9. Notify Order Completed

Given Order details are valid
When Order fulfilment has completed successfully
Then Provider sends an order completion message to the Acquirer containing completion data, including but not limited to:
1. Date/time completed,
2. excess charges,
3. commissioning test results,
4. service location information (e.g. rack/port etc),
5. billing start date

Provider initiates billing from this date
And the SLA clock stops
Provider closes order

Data Input	Data Output
Including but not limited to the following: Order details	1. Send *Order Completied*notification to Acquirer, including but not limited to: 1. Order ID, 2. Order Status, 3. Ccompletion date, 4. Billing Start Date

Business Rules

ID	Name	Description
N/A		

FUL R008	**Notify End-User Information**
As a	Provider
I want to	Request additional information from the Acquirer
so that	The action I am undertaking (applicable to various Processes) can be progressed

Description

The Acquirer is placing an order and during its fulfilment, Provider requires additional information from the Acquirer or their End-User to progress fulfilment.

Scenarios

Scenario 1. Notify End-User information required

Given That the order exists
When The Provider has identified that additional End-User information is required during the order provisioning process
Then Provider send requests to the Acquirer to provide End-User sourced data
And the Acquirer supplies all necessary data
And the Provider analyses the End-User data in order to progress the order fulfilment

Data Input	Data Output

Including but not limited to the following: 1. Order ID, **2.** Details on information required	A request sent to the Acquirer with the following details, including but not limited to: 1. Order ID, 2. Order Status,

Business Rules

ID	Description
N/A	

FUL R009	**Notify Assistance Required**
As a	Provider
I want to	Request assistance from the End-User, Acquirer or other Providers during order fulfilment
so that	The necessary fulfilment work/activity can be completed to progress through the order process

Description

The Acquirer has placed an order and NBN Co requires some action or information from the Acquirer, their End-User or another Provider to progress to fulfilment.

Scenarios

Scenario 1. Notify assistance required

Given	The order exists
When	Assistance is required from the Acquirer
Then	The data set is validated Request for assistance is sent to Acquirer/Provider Activity request response clock commences Note:This can stop the SLA clock if appropriate (this will be conveyed in the message)

Data Input	Data Output
Including but not limited to the following: 1. Order ID, **2.** .details on asistance activities, (activity instruction, activity description etc...)	Send the request to the Acquirer with the following details, including but not limited to: 1. Activity instruction, **2.** Activity description

Business Rules

ID	Description
N/A	

FUL R010	**Request More Time**
As an	Acquirer
I want to	Request more time to provide a response to an outstanding action
so that	The order open until the Acquire can provide the necessary response.

Description

The Acquirer has been requested to take action and they need more time to respond beyond the standard time period.
In cases where the Acquirer is unable to take action within a configurable timeframe the Provider will send a configurable reminder message to the Acquirer. If no further response is recieved from the Acquirer, the Provider will auto cancel the order.

Scenarios

Scenario 1. Request more time - accepted

Given	A request has been sent to the Acquirer to take action
When	The Acquirer requests more time to complete a request
Then	Refreshes the time-out clock to allow more time

Data Input	Data Output
Including but not limited to the following:	1.Refresh the SLA clock

1. Order ID, **2.** details on asistance activities (activity instruction, activity description etc…)	2.Notification sent to Acquirer

Scenario 2. Request more time - rejected

Given	A request has been sent to the Acquirer to take action
When	The Acquirer requests more time to complete a request has breached the maximum time
Then	Notify rejected with reason And the order will be cancelled

Data Input	Data Output
Including but not limited to the following: **1.** Order ID, **2.** details on asistance activities (activity instruction, activity description etc…)	Rejected requires more time notification sent to Acquirer

Scenario 3. Auto reminder notification

Given	A request has been sent to the Acquirer to take action
When	No reponse is yet to be received from the Acquirer
Then	Send a reminder message to the Acquirer

Data Input	Data Output
Including but not limited to the following: 1. Order ID, **2.** details on asistance activities (activity instruction, activity description)	Auto send a reminder notification

Business Rules

ID	Description
N/A	

5.2.2.4 **Modify Existing Service**

FUL R011	Modify Existing Service

As an	Acquirer
I want to	Modify an existing service being delivered to an End-User,
so that	An existing service(s) can be modified and delivered to the End-User.

Description

The Acquirer is requesting an upgrade/downgrade to an active service. The change service request will modify the services for the End-User.

Scenarios

Scenario 1. Create Modify Existing Service

Given	The Acquirer has been authenticated And authorised to order And service is exists
When	The Acquirer provides valid order details (And the product requested is supported)
Then	The data set is validated against the business rules And Modify existing service order is created And Acknowledges back to the Acquirer that the order has been received (pending status) And the SLA clock starts

Data Input	Data Output
Including but not limited to the following: Order details, including but not limited to: 1. Address, 2. Product component(s), 3. Acquirer Account ID, 4. Existing Service ID, **5.** Billing Account ID	Send Order Acknolwedged notification

Scenario 2. Unable to create Modify Existing Service order

Given	The Acquirer has been authenticated And authorised to order And the service exists
When	The Acquirer provides valid order details And the product requested is supported
Then	The data set is validated against the business rules and is failed And sends a notification to the Acquirer

Data Input	**Data Output**
Including but not limited to the following: Order details, including but not limited to: 1. Address, 2. Product component(s), 3. Acquirer Account ID, 4. Billing Account ID, **5.** Existing Service ID	Failed notification with reason(s)

Business Rules

ID	Description
N/A	

5.2.2.5 **Disconnect a Service**

FUL R012	**Disconnect a Service**
As an	Acquirer
I want to	Cancel an exiting service being delivered to an End-User,
so that	The delivery of the service to the End-User is discontinued.

Description

The Acquirer is placing an order as one of their activities to cancel an existing service supplied to the End-User. A cancel order can only apply to a single location.

Possible scenarios: Acquirer cancels an existing service where there are no cross dependancies of services that are not being cancelled

Scenarios

Scenario 1. Disconnect a Service order

Given	The Acquirer has been authenticated and is authorized to order And service is exists
When	The Acquirer provides valid order details (e.g. Acquirer Account ID, existing Service ID, product code, address, order type)
Then	The data set is validated against the business rules And an order is created And the SLA clock starts And Acknowledges back to the Acquirer that the order has been received (pending status).

Data Input	**Data Output**
Including but not limited to the following: 1. Order details, 2. Address, 3. Acquirer Account ID, 4. Existing Service ID, **5.** CRD	Send order Acknolwedged notification

Business Rules

ID	Description
N/A	

5.2.2.6 **Connection Forecast**

FUL R013	Connection Forecast
As an	Acquirer
I want to	Inform the Provider of my forecast order volumes,
so that	Provider can check that these fall within my contractual agreement and be prepared to accept them when issued, or be able to agree volumes that fall outside of my current contract.

Description

Acquirer prepares the forecast in the agreed format and submits.
Provider checks the requested forecast volume, evaluates for acceptance or rejection and notifies the Acquirer. Note that a forecast can be amended and re submitted.

Scenarios

Scenario 1. Connection forecast accepted by the Provider

Given	The Acquirer has been authenticated and is authorised to request forecasts
When	The Acquirer provides valid details (e.g. Acquirer Account ID, product code, order type, volumes etc)
Then	The data set is validated against the contratual limits and business rules And acceptance is sent back to the Acquirer that the order forecast has been agreed to by the Provider

Data Input	Data Output
Including but not limited to the following: 1. Acquirer Account ID, 2. Product code, 3. Order type, **4.** Volumes	Send order forecast acceptance notification

Scenario 2. Connection forecast cannot be agreed to by the Provider

Given	The Acquirer has been authenticated and is authorised to request forecasts
When	The Acquirer provides valid details (e.g. Acquirer Account ID, product code, order type, volumes etc)
Then	The data set is validated against the contratual limits and business rules and determined that cannot be acknowledged And the rejection is sent back to the Acquirer advising that the order forecast cannot be fulfilled by the Provider

Data Input	Data Output
Including but not limited to the following: 1. Acquirer Account ID, 2. Product code, 3. Order type, **4.** Volumes	Send order forecast rejection notification with reason

Business Rules

ID	Description
N/A	

6 APPOINTMENT MANAGEMENT

Appointment management covers processes for managing the establishment of mutual acceptable appointment time slots between the Provider and Acquirer. Appointment management is needed for handling visits to shared facilities or End-User facilities to install or repair equipments, for example, to access End-User premises, locked engineering or other facilities, or for joint testing between two enterprises.

6.1 High Level Interaction Process

FIGURE 8 and FIGURE 9 illustrates possible scenarios for scheduling an appointment transaction process.

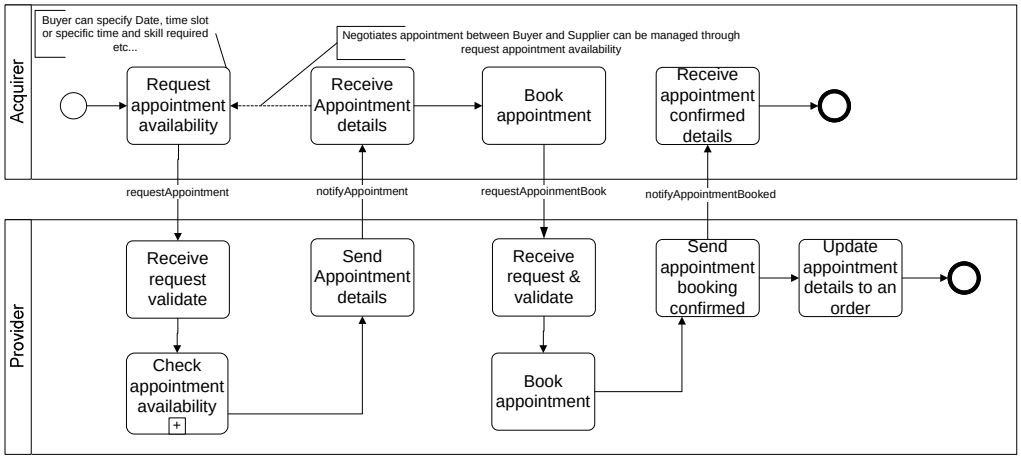


FIGURE 8

High Level Appointment scheduling transaction process – Initiated by the Acquirer

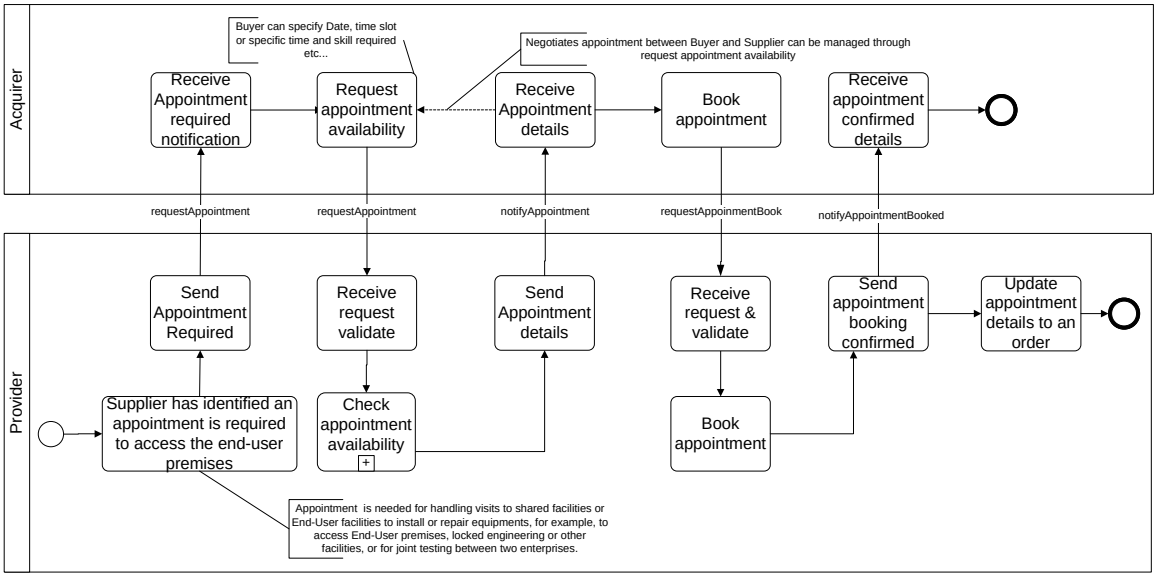


FIGURE 9

High level Appointment Scheduling Interaction Process – Initiated by the Provider

6.2 Appointment Management User Stories

APP R001	Request Appointment Availability
As an	Acquirer
I want to	Request availability of appointment slots
so that	An appointment can be reserved that suits me and my End-User.

Description

An Acquirer queries the available timeslots to schedule an appointment that is suitable to an End-User. The available appointments from Workforce Management are returned to the Acquirer.

Scenarios

Scenario 1. Appointment times slots available

Given	Acquirer is authorized to book an appointment and has requested a valid appointment type
When	Appointment slots of the required duration and required resource skill sets are available for the selected time window. Note - Where no slots are available within the selected time window, the search is expanded to match the SLA window of the product-instance type.
Then	Provider sends the matching appointment slots available

Data Input	Data Output
1. Product-instance Order, 2. Address, 3. Appointment Type, 4. Date Range (Default date range is the SLA period of the product-instance), 5. AM/PM, preference (e.g. first available, standard, out of hours etc.)	Response with Available Appointment slot options

Scenario 2. No matching appointment slots

Given	Acquirer is authorized to book an appointment and has requested a valid appointment type
When	Appointment slots of the required duration and required resource skill sets / geo location are available for the selected time window. Note - Where no slots are available within the selected time window, the search is expanded to match the SLA window of the product-instance type.
Then	Provider sends no appointments available response

Data Input	Data Output
1. Product-instance Order, 2. Address, 3. Appointment Type, 4. Date Range (Default date range is the SLA period of the product-instance), 5. AM/PM preference (e.g. first available, standard, out of hours etc.)	Response with No Available Appointment message with future available time slots options returned More advanced search options are possible - e.g. Slots before/after a specific time. Out of hour's slots - this may be a billable product-instance.

Business Rules

ID	Description
U.L2C.2_1 R1	"Priority" escalations are an example of an appointment type that carries a specific allocation of resources for each Acquirer. As such the Acquirer's can self manage the allocation of their priority escalations from this pool of dedicated resource by geography and skill type.
U.L2C.2_1 R2	Strict rules as to what types of appointments can be reserved ahead of an order

APP R002	Request Appointment Reservation
As an	Acquirer
I want to	Request Appointment Reservation prior to raising an order
so that	An appointment can be arranged during first contact with my End-User, or later

as required to deliver the product-instance.

Description

An appointment can be reserved prior or after an order is placed. Provider will reserve an appointment within a configurable timeframe. If a reserved appointment is not booked prior the configurable timeframe is reached, the reserved appointment will be auto cancelled by the system and a notification will be sent to the Acquirer.

Scenarios

Scenario 1. Appointment time slot is available

Given	Acquirer is authorised to book an appointment and has requested a valid appointment type
When	the Appointment slot of the required duration with the required resource skill sets / geo location is available for the selected time slot is available.
Then	Provider will hold the appointment for the Acquirer until it is confirmed or the time-out for the temporary reservation is reached.

Data Input	Data Output
1. Appointment date, 2. appointment time slot, 3. order id (optional), 4. ticket id (optional),	Appoint reservation ID

Scenario 2. Appointment slot not available

Given	Acquirer is authorized to book an appointment and has requested a valid appointment type
When	Appointment is not available
Then	Provider sends no appointments available response

Data Input	Data Output
1. Appointment date, 2. appointment time slot, 3. order id (optional), 4. ticket id (optional) Note that appointment reservation can be done prior to order submission	Response with No Available Appointment message with future available time slot options returned

Business Rules

ID	Description
N/A	

APP R003	Book Appointment
As a/an	Acquirer or Provider
I want to	Book an appointment, including confirming a reserved appointment, where this is necessary to deliver a service or resolve an incident.
so that	The appointment can be arranged in agreement with the End-User.

Description

Booking appointment is a process which involves the appointment confirmation process.

The Acquirer shall be able to schedule an appointment for Provider to gain access to the End-user's premises, e.g., to install equipment, or where the results of service tests/diagnostics indicate that a site visit is required. Provider may be able to offer the Acquirer the convenient time slots for carrying out activities at the Acquirer's or their End-User premises.

The Acquirer shall be able to accept or decline the time slots offered by Provider or vice versa. Provider shall offer available time slot(s) within the SLA time-scale for the service. The Acquirer should be able to offer the available access times from the End-User's point of view for each specified location by request.

The Acquirer can request an appointment beyond SLA if required by their End-User

Scenarios

Scenario 1. Confirm Appointment Booking

Given	Acquirer is authorised to book an appointment and has requested a valid appointment type, and validation confirms this is not a duplicate booking.
When	The appointment has been selected from the available time slots, or request confirmation of a previously reserved appointment
Then	Provider confirms appointments sends response to Acquirer

Data Input	Data Output
1. Appointment date, 2. Appointment time slot, 3. Order ID or ticket ID, 4. Preferred workforce 5. Ref ID	1. Confirmed Appointment, 2. Work order ID

Scenario 2. Reject an Appointment

Given	Acquirer is authorised to book an appointment and has requested a valid appointment type
When	Appointment time window is not available or does not suit the Provider or Acquirer
Then	Provider or Acquirer sends no appointments rejected response And available appointment options are provided

Data Input	Data Output
1. Appointment date, 2. Appointment time slot, 3. Order ID (optional), 4. Ticket ID (optional), 5. Preferred workforce 6. Ref ID	Response with No Available Appointment message with available appointment options

Business Rules

ID	Description
U.L2C.2_3 R1	The Provider can request an appointment beyond SLA if required by their End-User

APP R004	Query Appointment Details
As an	Acquirer
I want to	Query the details of an existing appointment
so that	The appointment details are made available for me to take necessary action.

Description

Once an appointment has been reserved or booked, the Acquirer can query the details of the appointment.

Scenarios

Scenario Appointment Query

Given	Acquirer is authorised to view an appointment and has requested a valid appointmentment search criteria
When	Acquirer requests details for a particular appointment or search criteria
Then	Provider send matching Appointment details to the Acquirer

Data Input	Data Output
Appointment query request	Appointment details sent to the Acquirer

Business Rules

ID	Description
N/A	

APP R005	Re-schedule an appointment
As a/an	Acquirer or Provider
I want to	Change an appointment time for an End-User
so that	A visit is rescheduled.

Description

Where circumstances change it may be necessary for an appointment to be rescheduled with an End-User. Where this is done at the request of the Acquirer or Provider, the SLA will restart for the affected activities.
The Acquirer or Provider can request an appointment beyond SLA if required by their End-User

Scenarios

Scenario 1. Successful Appointment Change

Given	Acquirer/Provider is authorized to change an appointment and has requested a valid appointment type
When	The point of no return has not been reached
Then	Provider gets the revised Appointment slot of the required duration with the required resource skill sets / geo location is available for the selected time slot is available. The original appointment booking is cancelled. Any dependant order processing activities are updated to reflect the revised time slot. (Changes requested after the PoNR will be accepted but may incur charges)

Data Input	Data Output
Appointment change request details sent from the Acquirer	Change Confirmation details sent to the Acquirer

Scenario 2. Failed Appointment Change

Given	Acquirer/Provider is authorised to change an appointment and has requested a valid appointment type
When	The point of no return has not been reached, the requested time slot is not available.
Then	A rejection message is returned to the Acquirer. (The Acquirer/Provider can revise his request or may choose to cancel the existing appointment pending discussions with the End-User.)

Data Input	Data Output
Appointment change request details sent from the Acquirer/Provider	Send Fail message with reason(s)

Scenario 3. Failed Appointment Change – Point of No Return Breached

Given	Acquirer/Provider is authorised to change an appointment and has requested a valid appointment type
When	The point of no return has been reached
Then	A rejection message is returned to the Acquirer

Data Input	Data Output
Appointment change request details sent from the Acquirer/Provider	Send Fail message with reason(s)

Business Rules

ID	Description
N/A	

APP R006	Update Appointment Details
As an	Acquirer
I want to	Change/add appointment details to an existing appointment
so that	Provider has current details for the appointment.

Description

Where circumstances change eg, (the contact details of the End-User for the appointment), the Acquirer will notify the Provider

Scenarios

Scenario Change/add details to an existing appointment

Given	Acquirer is authorised to change/add appointment and has identified an existing appointment
When	New details have been provided
Then	Provider update details (eg.contact phone number, Contact name) . This information will be attached in the work ticket.

Data Input	Data Output

Appointment change request details sent from the Acquirer	Change Confirmation details sent to Acquirer

Business Rules

ID	Description
U.L2C.2_6 R1	The Acquirer cannot change the appointment window or appointment type or the address.

APP R007	Appointment Cancellation Request

As an Acquirer
I want to Cancel an appointment which is no longer required
so that An unsuccessful visit is avoided.

Description

Where circumstances change it may be necessary for an appointment to be cancelled with an End-User. Circumstances may prevent a new appointment time being set. This will mean activities on the order will be suspended until a new appointment is booked. Where this is done at the request of the Acquirer, the SLA will restart for the affected activities when a new appointment is booked.

Scenarios

Scenario 1 Request Appointment Cancellation

Given Acquirer is authorised to cancel an appointment and has requested a valid appointment type
When The point of no return has not been reached
Then Provider cancel the appointment. Any dependant order or fault resolution processing activities are suspended. Where Fulfilment activities are suspended, the Acquirer will be prompted to rebook. (Cancellations requested after the PoNR will be accepted but may incur charges)

Data Input	Data Output
Appointment details sent from the Acquirer	Cancellation Confirmation details sent to Acquirer

Scenario 2 Notify Appointment Cancelled

Given Acquirer is authorised to cancel an appointment and has requested a valid appointment type
When The point of no return has not been reached
Then Appointment cancelled notification sends to the Acquirer

Data Input	Data Output
Appointment details	Appointment cancellation notification is sent to the Acquirer

Business Rules

ID	Description
N/A	

APP R008	Appointment Attempt Failure Notification

As a Provider
I want to Notify the Acquirer when an appointment could not proceed
so that The Acquirer contacts the End-User to rebook.

Description

The End-User is not available, fails to allow entry to the Provider accessing the premise or the Provider was unable to keep the appointment.

Scenarios

Scenario 1: Notify Appointment Attempt Failure – Unable to access End-User Premises/ Provider unable to keep appointment

Given Provider arrive at the agreed site at the agreed appointment time slot
When Provider were unable to undertake the agreed work at the agreed time or the Provider is unable to keep the appointment.
Then The appointment booking is cancelled. Any dependant order processing activities are suspended. Any associated no-show charges are billed to the

	Acquirer. Where Fulfilment activities are suspended, the Acquirer will be prompted to rebook. (The Acquirer will subsequently book another appointment if it is still required, for no earlier than the date specified by Provider (e.g. due to a delay). Any original SLA is voided

Data Input	Data Output
Appointment details	Appointment cancellation notification is sent to the Acquirer

Business Rules

ID	Description
N/A	

APP R009	Book Follow-up Appointment
As an	Acquirer
I want to	Book a follow-up appointment, including confirming a reserved appointment, where this is necessary to complete delivery of a service
so that	An appointment can be arranged in agreement with the End-User to rectify/complete necessary tasks.

Description

Acquirer follows the standard appointment booking process, identifying this appointment as linked to a previous appointment.

Scenarios

Scenario 1. Confirm Appointment

Given	Acquirer is authorized to book an appointment and has requested a valid appointment type
When	Select an appointment from the available time slots, or request confirmation of a previously reserved appointment
Then	Provider confirms appointments sends response to the Acquirer

Data Input	Data Output
Appointment Request	Confirmed Appointment

Business Rules

ID	Description
N/A	

APP R010	Appointment Required Notification
As a	Provider
I want to	Notify the Acquirer that an appointment is required to fulfil an order or resolve an incident.
so that	The Acquirer can negotiate a suitable appointment slot with the End-User.

Description

Circumstances may require Provider to access an End-User site. When this occurs, the Acquirer will be notified and requested to book a time for the End-User. Appointment options will be provided to the Acquirer.

Scenarios

Scenario Appointment Required Notification

Given	Provider needs to access an End-User premise
When	An appointment is required to activate a service or resolve an incident
Then	Provider will send the Acquirer an appointment notification with suggested available appointment slots for the affected End-User.

Data Input	Data Output
Order details or Trouble Ticket details	1. Appointment notification Request, 2. Available Appointment options

Business Rules

ID	Description

N/A	

APP R011	Appointment Detail Update Notification

As a Provider
I want to Notify the Acquirer that there are changes to the appointment details required to fulfil an order or resolve an incident.
so that The Acquirer is fully informed about the appointment booked with the End-User.

Description

Circumstances may require the Provider to provide additional or revised details to the Acquirer that may need to be communicated to the End-User. When this occurs, the Acquirer will be notified.

Scenarios

Scenario Appointment Details change

Given Appointment is booked
When An appointment details have been changed
Then Provider will send the Acquirer an Appointment update notification with the new and revised details.

Data Input	Data Output
Order or Trouble ticket details	Appointment details notification

Business Rules

ID	Description
N/A	

APP R012	Notify new/ additional appointment charge

As a Provider
I want to Notify the Acquirer that there are new or additional charges to the appointment which is associated to an order or an incident.
so that The charges are authorised and the associated order or ticket can be further progressed with.

Description

Notification from the Provider that new or additional charges related to the appointment will be received and requests authorisation from the Acquirer. Acquirer will be required to notify the Provider that they accept or reject to notified charges.

Scenarios

Scenario: 1 New or additional charges to appointment acceptable & authorised

Given Appointment is booked
When Provider notifies the Acquirer that new/ additional appointment charges be levied and requests authorisation
Then Acquirer will send the Provider authorisation that the Appointment charges are accepted

Data Input	Data Output
Includes but not limited to: 1. Appointment ID, 2. new or excess charge, 3. Description	Acquirer sends acceptance notification to new/ excess charges

Scenario: 2 New or additional charges to appointment rejected

Given Appointment is booked
When Provider notifies the Acquirer that new/ additional appointment charges be levied and requests authorisation
Then Acquirer does not authorise the charges and sends a rejection notification to the Provider.

Data Input	Data Output
Includes but not limited to: 1. Appointment ID,	Acquirier sends rejection notification to new/ excess charges

2. new or excess charge, 3. Description	

Business Rules

ID	Description
N/A	

APP R013	Single Appointment or truck roll to deliver End user service
As a	Acquirer
I want to	Schedule and book a single appointment
so that	The same appointment can be used to deliver the access service by the Provider and Layer 3 end user requested service

Description

Acquirer is notified by the Provider that an appointment is required to be booked to deliver service and is notified the required demand type. Acquirer to request available time slots and when a mutually agreeable slot is located, to progress with appointment booking and confirmation.

Scenarios

Scenario: 1 Acquirer has existing valid appointment with FWF

Given	The same FWF is delivering the access and L3 service components
When	Acquirer has appointment that satisfies the Provider demand type and their own work type and provides FWF & appointment reference to Provider
Then	Provider to validate the given appointment reference, assess against business rules and confirm appointment

Data Input	Data Output
Includes but not limited to: 1. Appointment ID, 2. Workforce provider, 3. Demand type, 4. Order ID, 5. Ticket ID.	Provider sends confirmation notification and confirms appointment Note that if the appointment reference/ FWF was invalid or did not comply within Provider business rules, the request would be rejected with reasons specified or notified to the Acquirer

Business Rules

ID	Description
N/A	

7 ASSURANCE

Assurance consists of a set of functions across the B2B Gateway that enables troubles to be reported, tracked, and maintained. This may be carried out after the Acquirer (Communications Provider, Acquirer) has carried out an initial diagnosis using the testing management.

7.1 High Level Interaction Process

FIGURE 10 illustrates high level end-to-end Trouble Ticket management B2B transaction processes.

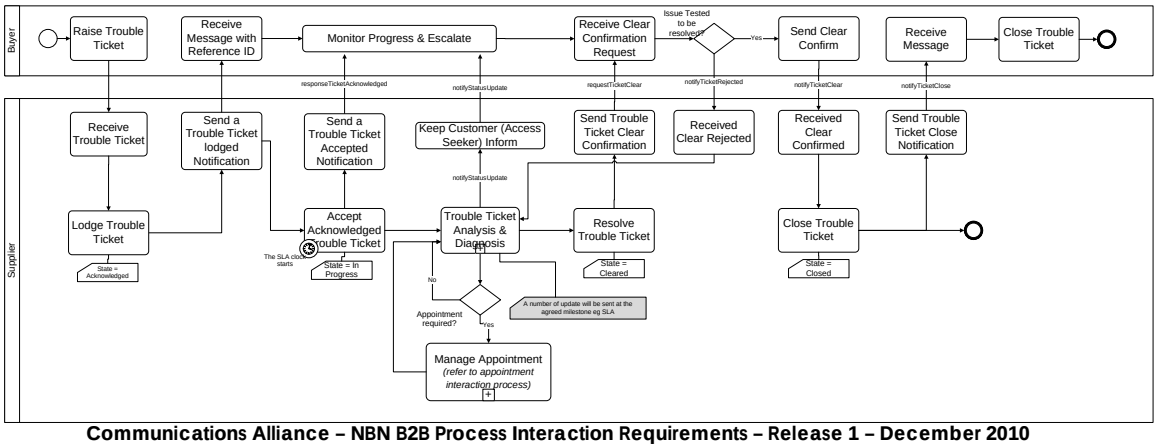


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FIGURE 10

Trouble Ticket Raised by the Acquirer/Communication Provider

FIGURE 11 illustrates high level end-to-end Trouble Ticket management B2B transaction processes in a scenario of an Alarm Event Ticket has been identified by Provider.

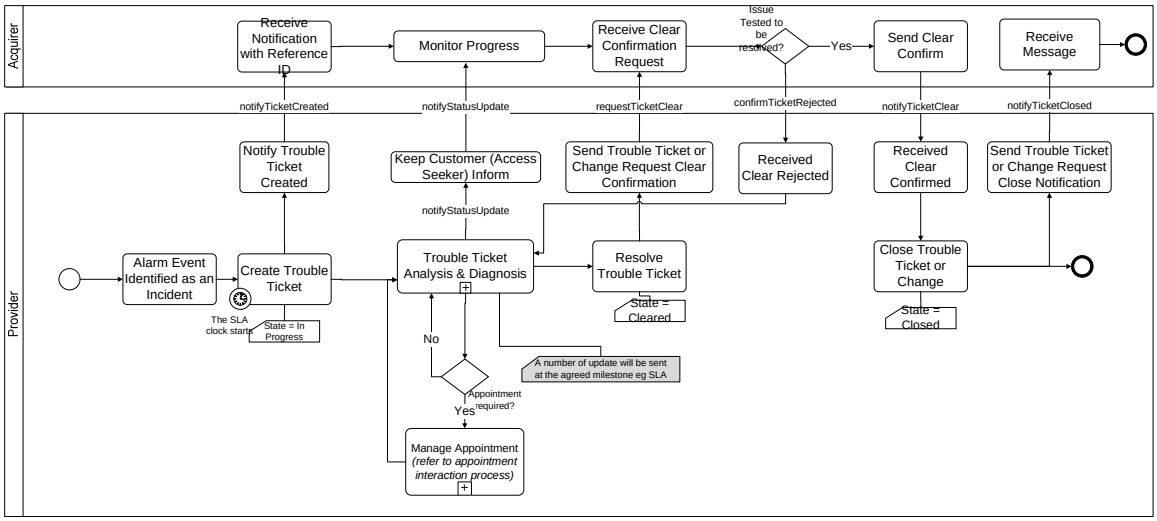

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FIGURE 11

Notify Acquirer/Communication Provider of Planned Outage or Hazard or Alarm Event

FIGURE 12 illustrates high level end-to-end Trouble Ticket management B2B transaction processes in a scenario of a Change management has been scheduled by Provider.

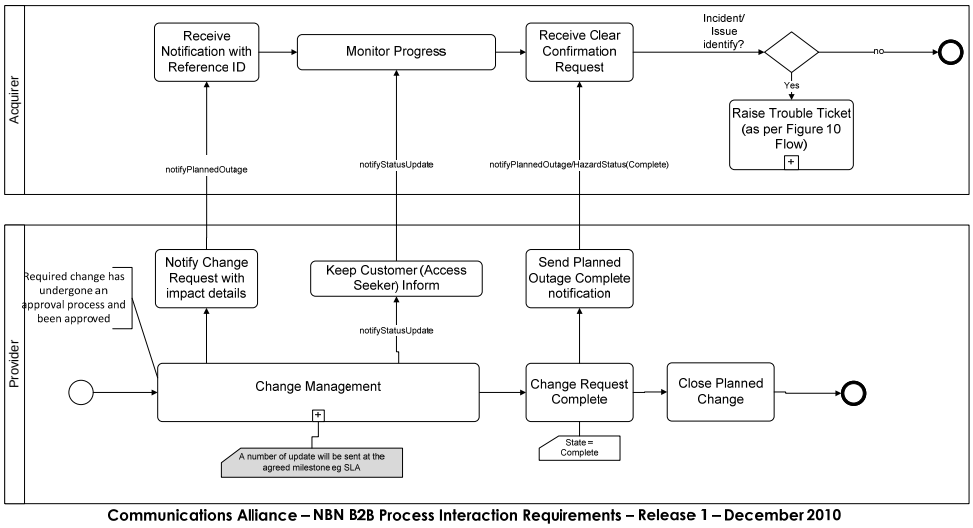

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FIGURE 12

Notify Acquirer of Planned Outage/Hazard

7.2 Assurance User Stories

7.2.1 **Raise Trouble Ticket**

TT-R001	**Raise a Trouble Ticket**
As an	Acquirer
I want to	Request Provider to resolve an incident in their domain which is affecting my service

so that	The service(s) is restored.

Description

Acquirer will have the ability to raise a Trouble Ticket via B2B. In a scenario where an incident occurs from the End-User or a service/fault that does not impact an End-User, Acquirer will need to identify whether the issue is Provider access network related and required to perform first level of support. If the Trouble Ticket is not resolved then Acquirer raises a Trouble Ticket with the Provider.

Scenarios

Scenario 1. Successful raise a Trouble Ticket

Given	Acquirer has determined an incident is related to the Provider network elements, has performed the first level of support and the Incident cannot be resolved.
When	Acquirer has provided valid Trouble Ticket details
Then	Check Accesss Seeker for authentication to raise a Trouble Ticket Notify the Acquirer that the Trouble Ticket has been lodged And a Trouble Ticket record is created.

Data Input	Data Output
Including but not limited to: 1. Trouble Ticket occurance date, 2. Service ID, 3. Service effected description, 4. location, 5. test results, 6. severity level, 7. related Trouble Ticket information Or For Network Trouble e.g. overall degradation, including but not limited to: Date, 1. Description, 2. Service ID (optional), 3. POI, 4. test results, 5. severity level, 6. related trouble tickets	1. Trouble Ticket record with reference ID 2. Send notification to Acquirer that Trouble Ticket has been lodged

Scenario 2. Unsuccessful raise a Trouble Ticket request

Given	Acquirer has determined the issue is related to the Provider network, has performed the first level of support and the incident cannot be resolved/changes are required.
When	Acquirer has provided invalid Trouble Ticket request details
Then	Details are validated Fail message is being returned with reason

Data Input	Data Output
Including but not limited to: 1. Trouble Ticket occurance date, 2. Service ID, 3. End-User service effected description, location, 4. related Trouble Ticket information	Failed message is being returned

Business Rules

ID	Description
U.T2R.2_10 R1	Acquirer must prove that they have performed initial diagnostics prior to raising a Trouble Ticket with the Provider by providing test results

7.2.2 **Trouble Ticket Management & Tracking**

TT-R002	Query Trouble Ticket History/Details
As an	Acquirer
I want to	Query the Trouble Ticket history on a specified service
so that	The Trouble Ticket history of the service information can be used for an existing Trouble Ticket resolution.

Description

Acquirer will have the ability to request details/history on a Trouble Ticket within a configurable limited date and business rules will be applied.

Scenarios

Scenario 1. Successfully submit Trouble Ticket Inquiry request

Given	The Trouble Ticket is related to the inquiring Acquirer
When	Acquirer provided valid Trouble Ticket details
Then	Data set is validated against business rules The Provider system executes the query providing Trouble Ticket history details that matches the Acquirer request criteria

Data Input	Data Output
Trouble Ticket ID, Service details, Trouble Ticket status	1. Trouble Ticket history details

Scenario 2. Unsuccessfully submit Trouble Ticket Inquiry request

Given	TheTrouble Ticket is related to the inquiring Acquirer
When	Acquirer provided invalid Trouble Ticket details
Then	Failure message is being returned

Data Input	Data Output
1. Trouble Ticket ID, 2. Service details, 3. Trouble Ticket status	Failure notification

Business Rules

ID	Description
N/A	

TT-R003	Notify Trouble Ticket Created (Alarm)
As a	Provider
I want to	Be able to send notification of Trouble Ticket generated from an Alarm & Event effecting the Acquirer networks and their End-Users
so that	Acquirer can manage End-User communication.

Description

Provider Alarm & Event Management system has indicated that an incident is needed to be resolved via Trouble Ticketing Management. Provider system will automatically raise a Trouble Ticket and notify affected Acquirer(s)

Scenarios

Scenario 1. Notify Acquirer an Trouble Ticket creation

Given	An event has been raised by Provider Alarm & Event management system
When	Trouble Ticket has been created And effected Acquirer(s) has been identified
Then	Send Trouble Ticket created notification to effected Acquirer(s) with related Trouble Ticket details

Data Input	Data Output
Trouble Ticket record, including but not limited to: 1. Resolution SLA, 2. Service impacted details, 3. ETR if known, 4. geographic details	Send a notification to impacted Acquirer(s) with Trouble Ticket details, including but not limited to Targeted resolution SLA and impacted Service details

Business Rules

ID	Description

N/A	

TT-R004	Keep Customer (Acquirer) Informed
As a	Provider
I want to	Send regular updates to Acquirer as a Trouble Ticket progresses through to resolution
so that	Acquirer has an up to date information on the progress of the Trouble Ticket resolution tasks at agreed milestones (i.e. Targeted resolution time)

Description

The system will send an update on the progress of a Trouble Ticket to Acquirer including but not limited to, SLA violated, escalation, Trouble Ticket category changes etc...

Scenarios

Scenario 1. Notify Trouble Ticket update to Acquirer

Given	A Trouble Ticket has been raised and is unresolved
When	Trouble Ticket details, including but not limited to category, have been updatedA pre-defined update notification criteria occurs in the resolution workflow e.g. escalation, SLA, expected resolution time, status change, Trouble Ticket category change etc...
Then	Provider determines, gathers and validates the data to be sent in the form of communication from the different parties involved (Partner/Provider/Acquirer etc.) Provider creates the required communications Provider sends the appropriate communications from time to time to the Acquirer

Data Input	Data Output
Trouble Ticket record: SLA, Trouble Ticket details, ETR (optional) etc..	Notification with Trouble Ticket details, targeted resolution times, SLA etc...

Scenario 2. Notify delay

Given	Trouble Ticket has been created
When	Provider identifies a jeopardy in their process which will impact agreed resolution target or component milestone
Then	Sends jeopardy notification to the Acquirer. Notification details reason and impact description (could be a reason code if agreed with Acquirers)

Data Input	Data Output
1. Trouble Ticket ID, 2. SLA, 3. Jeopardy reason code	Send jeopardy notification to the Acquirer with reason code and impacts description

Scenario 3. Notify Trouble Ticket Accepted

Given	Trouble Ticket has been lodged
When	Provider accepted the Trouble Ticket was lodged by the Acquirer
Then	Sends notification to the Acquirer with targeted resolution timrframe. And the SLA clock starts

Data Input	Data Output
Trouble Ticket ID,	1. Send notification to the Acquirer with Trouble ticket status as In Progress and resolution timeframe

Scenario 4. Notify Trouble Ticket Rejected

Given	Trouble Ticket has been lodged
When	Provider rejects the Trouble Ticket was lodged by the Acquirer
Then	Sends notification to the Acquirer with rejection code.

Data Input	Data Output
Trouble Ticket ID,	1. Send notification to the Acquirer that their Trouble Ticket has been rejected with reason code.

Business Rules

ID	Description
N/A	

TT-R005	Add Trouble Ticket Comments
As a	Acquirer or Provider
I want to	Add notes or comments to a Trouble Ticket
so that	Provider/Acquirer has the latest and complete information about the Trouble Ticket which will assist its resolution.

Description

Provider will have the ability to add notes/comments to a Trouble Ticket details at any time. Acquirer can add comments s to Trouble Tickets that they have raised or if they are the only affected Acquirer. Acquirer can only view Trouble Ticket notes that they have added.

Scenarios

Scenario 1. Add Trouble Ticket Notes/Comments

Given	Acquirer/Provider has the authority to add notes/comments to a Trouble Ticket details
When	Valid additional details are provided
Then	Data set is validated against business rules Trouble Ticket record is updated with new notes

Data Input	Data Output
Additional notes	1. Update Trouble Ticket record 2. Notify Trouble ticket updated to affected parties, including but not limited to Acquirer, Trouble ticket owner

Business Rules

ID	Description
U.T2R.2_15 R1	Acquirer/Provider will not be able to delete or edit existing resolution notes/comments

TT-R006	Request Service Information
As an	Acquirer
I want to	Obtain an active service information that experiencing an incident from the Provider
so that	Additional information can be associated with other information I have on the service problem, such that I can make a diagnosis on the root cause(s) of a Trouble Ticket.

Description

The Acquirer will be able to send a request to retrieve servive information to analysis a Trouble Ticket for diagnostic assistance.
The level of service information will be limited expose to the Acquirer.

Scenarios

Scenario 1. Request Service Information

Given	Acquirer has the authority to request for service information. And have an active service
When	Acquirer determines service information is required from the Provider to assist with diagnose analysis.
Then	Invoke the system to validate against service exposure business rules And provide service information to the Acquirer

Data Input	Data Output
1. Service ID, 2. Acquirer contract ID	Service details

Business Rules

ID	Description
N/A	

TT-R007	Notify Information/Assistance Required
As a	Provider
I want to	Request additional information from the Acquirer
so that	An action I am undertaking can be progressed (applicable to various processes)

Description

During the Trouble Ticket diagnostic process, Provider has identified aditional information or assistance is required to assist with the investigation process or activity in order to resolve an issue

Scenarios

Scenario 1. Notify Acquirer information required

Given	Trouble Ticket is created
When	Additional information is needed from the Acquirer
Then	Provider requests the Acquirer to provide sourced data (request volumes should be minimal if main process transactions include all necessary data) Acquirer supplies all necessary data Provider analyses the data in order to provide an appropriate advice/help/resolution of the issue

Data Input	Data Output
Trouble Ticket ID and any additional information required	Send a messgae to the Acquirer to request End-User information.

Scenario 2. Notify assistance required

Given	Trouble Ticket is created
When	Provider identified assitance required from the Acquirer in order resolve the issue
Then	Provider notifies that assistance is required from the Acquirer, End-User or another Provider (e.g. assistance during Appointment; End-User to disconnect UNI etc...) The SLA clock starts

Data Input	Data Output
Trouble Ticket ID and assistance description	Send message to the Acquirer with assistance activity required details

Business Rules

ID	Description
N/A	

TT-R008	Escalate Trouble Ticket
As an	Acquirer
I want to	Escalate anexisting Trouble Ticket with the Provider
so that	The Trouble Ticket priority/severity can be relected due to change in state, or to raise an attention with the Provider, and get the Trouble Ticket resolved accordingly.

Description

Acquirer will have the ability to escalate an open Trouble Ticket due to change in priority or an attention with the Provider

Scenarios

Scenario 1. Escalate Trouble Ticket

Given	Trouble Ticket has been raised with the Provider And Acquirer is authenticated to escalate a Trouble Ticket
When	Acquirer applies business rules to trigger escalation
Then	Send Trouble Ticket escalation request to the Provider with reasons for escalation required Provider identifies reason for the Escalation and acts according

Data Input	Data Output
Trouble Ticket ID and escalation reason	Request received and update Trouble Ticket

Business Rules

ID	Description

N/A	

7.2.3 Trouble Ticket Closure

TT-R009	Request Trouble Ticket Clear acceptance
As a	Provider
I want to	Verify the issue has been resolved
so that	The Trouble Ticket can be closed

Description

When a Trouble ticket is ready to be closed by human intervention or through an automated test by the system, Provider want to verify the Acquirer satisfaction

Scenarios

Scenario 1. Send Trouble Ticket clear request

Given	Trouble Ticket has successfully passed service testing
When	Provider believes Trouble Ticket has been resolved
Then	Provider sends Trouble Ticket clear request

Data Input	Data Output
Trouble Ticket details, including but not limited to: 1. Trouble Ticket ID, 2. status, 3. test results, 4. Clear code	Send Trouble Ticket clear request with clear code

Business Rules

ID	Description
N/A	

TT-R010	Request Trouble Ticket Clear Accepted/Rejected
As an	Acquirer
I want to	Advise Provider that the Trouble Ticket has been restored
so that	Provider can close their Trouble Ticket

Description

Acquirer tests with End-User and confirms that the issue has been restored, not restored or only temporarily restored.

Scenarios

Scenario 1. Send Trouble Ticket clear accepted

Given	Acquirer received Trouble Ticket clear acceptance request
When	Acquirer confirm the Trouble Ticket has been restored
Then	Acquirer sends an *Accepted* clearance confirmation to the Provider Provider close the Trouble Ticket

Data Input	Data Output
Trouble Trouble Clear Accepted with reason code	Update Trouble Ticket record and close the Trouble Ticket

Scenario 2. Send Trouble Ticket Clear Rejected

Given	Acquirer received Trouble Ticket clear acceptance request
When	Acquirer confirms the trouble report is not yet restored
Then	Acquirer sends a *Rejected* clearance request to the Provider Provider update Trouble Ticket record

Data Input	Data Output
Trouble Ticket Clear Rejected with reason	Trouble Ticket status remains open

Business Rules

ID	Description

N/A	

TT-R011	Re-open a Trouble Ticket
As a/an	Acquirer or Provider
I want to	Re-open a Trouble Ticket
so that	An investigation can continue on a previously closed Trouble Ticket.

Description

Acquirer or Provider will have the ability to re-open on a closed Trouble Ticket for further investigation.

Scenarios

Scenario 1. Successfully Re-Open a Trouble Ticket

Given	An individual has the authority to re-open a closed Trouble Ticket
When	Acquirer or Provider has identified a Trouble Ticket needs further investigation and is valid And impact party(ies) has been identified (if re-open by Provider)
Then	Provider validates against business rules Provider update Trouble Ticket status and reason code. Send a notification to impacted party(ies) once the Trouble Ticket has been re-opened

Data Input	Data Output
Trouble Ticket ID and reason code	1. Updated Trouble Ticket record 2. Notify impacted Party(ies)

Scenario 2. Unsuccessfully Re-Open a Trouble Ticket

Given	An individual has the authority to re-open a closed Trouble Ticket
When	Acquirer or Provider has identified a Trouble Ticket needs furtherinvestigation
Then	Data set is validated against business rules Fail message is returned with reason

Data Input	Data Output
Including but not limited to 1. Trouble Ticket ID, 2. status, 3. reason code	Failed message with reason

Business Rules

ID	Description
BR01	Trouble Ticket can only be re-opened within a configurable timeframe.
BR02	Acquirer can only re-open a Trouble Ticket created by them and only related to their Services.

7.2.4 Trouble Ticket Cancellation

TT-R012	Request Trouble Ticket Cancellation
As an	Acquirer
I want to	Cancel a trouble ticket
so that	Any further activity can be stopped.

Description

Acquirer have the ability to cancel on aTrouble Ticket that is created by them to stop any investigation activity

Scenarios

Scenario 1. Successful cancel a Trouble Ticket

Given	Trouble Ticket is still open
When	An individual has the authority to cancel a Trouble Ticket and Has identified a Trouble Ticket has been resolved

	Note: The only acceptable Industry reason for cancelling a Trouble Ticket in progress, is where an incident has been resolved.
Then	Data set is validated against business rules And Invoke Trouble Ticketing system to cancel a Trouble Ticket And send a notification advise an Acquirer that a Trouble Ticket has been cancelled And stop the SLA clock

Data Input	Data Output
Including but not limited to: 1. Trouble Ticket ID, 2. status & reason code	1. Updated trouble ticket record and close the Trouble Ticket 2. Send a notification advise Acquirer that the Trouble Ticket is now closed

Scenario 2. Unsuccessful Cancel a Trouble Ticket

Given	Trouble Ticket is still open
When	An individual does not have the authority to cancel a Trouble Ticket Or an incident of the Trouble Ticket is yet to be resolved
Then	Fail notification is being returned with reason

Data Input	Data Output
Including but not limited to Trouble Ticket ID, status and reason code	1. Failure notification with reason

Business Rules

ID	Description
N/A	

TT-R013	Notify Trouble Ticket Cancelled

As a	Provider
I want to	Advise Acquirer that Trouble Ticket has been cancelled
so that	Trouble Ticket can be closed at the Acquirer.

Description

A notification send to the Acquirer once the Trouble Ticket has been closed as requested

Scenarios

Scenario 3. Notify Trouble Ticket Cancelled

Given	An individual have the authority to cancel a Trouble Ticket
When	A Trouble Ticket has been cancelled
Then	Send a notification advise Acquirer that Trouble Ticket is now closed

Data Input	Data Output
Including but not limited to: 1. Trouble Ticket ID, 2. status & reason code	Send Trouble Ticket cancelled notification

Business Rules

ID	Description
N/A	

7.2.5 Change Management

TT-R015	Notify Planned Change/Hazard Notification

As a	Provider
I want to	Notify Acquirer a Planned Change/Hazard is required to resolve the issue
so that	The Acquirer is aware of the impact and gain agreement on progression and scheduling.

Description

In cases where Provider has identified a Planned Change/Hazard is required to resolved the incident. Provider needs to notify impacted Acquirer(s) in order for them to manage their End-User services.

Provider will manage Planned Change or Hazard through Change Management

Notes: No dialogue agreement for Planned outage between Acquirer and Provider is required via B2B. Required change has undergone an approval process and is outside of B2B interactions.

Scenarios

Scenario 1. Send Planned Change/Hazard notification

Given That the Provider has identified the need for a Planned Change/Hazard which will impact Acquirer(s)
When Planned Change/Hazard has been scheduled
Then The Provider identify relationship of the impacted areas, services, all impacted Acquirer, including but not limited to
And send notification to all impacted Acquirers with the following information, including but not limited to impacted geography, the scheduled time and activity details (this will convey in the message)

Data Input	Data Output
Planned Change/Hazard record, including but not limited to: 1. Geographic area, 2. ONT, 3. FAN failure, 4. Engineering work, 5. planned outage period, 6. contact details of (Provider) personnel, impacted services 7. Request for RSP participation in testing after change	Planned Change/Hazard notification with the following information, including but not limited to impacted geography, 1. the scheduled time, 2. activity details

Scenario 2. Send Planned Change/Hazard Completed notification

Given Planned Change/Hazard has been successfully completed
When Successful test has been determined
Then Send Planned Change/Hazard Completed notification

Data Input	Data Output
Planned Change/Hazard record, including but not limited to: 1. Geographic area, 2. ONT, 3. FAN failure, 4. Engineering work	Send Planned Change/Hazard Completed notification

Scenario 3. Notify Planned Change/Hazard Status update

Given Planned Change/Hazard has been scheduled
When Planned Change/Hazard status has been updated
Then Send Planned Change/Hazard status update to all impacted Acquirer(s)

Data Input	Data Output
Planned Change/Hazard ID, status	1. Notification send to all impacted Acquirer with status details

Business Rules

ID	Description
N/A	

8 BILLING

There are a number of Billing transactions that will be made available to the Acquirer through the B2B interface. These transactions include:

(i) Tariff/Pricing Information;

(ii) Billing/Charge Event Data Files;

(iii) Invoices;

(iv) Bill Analytics; and

(v) Enquiries or Disputes.

The ETIS EBG XML electronic billing standard has been proposed as the standard via which billing event data and invoices will be transmitted between Acquirer and Provider.

8.1 Tariff/Pricing

Tariff / Pricing Information for the Provider products and chargeable attributes will be available for download through a B2B Gateway request. The information must provide visibility of current and future product pricing (if known at the time of download) of products.

The following transactions will be available to support Tariff/Pricing information between Acquirer and Provider:

- The Acquirer will be able to perform an ad-hoc request to get Tariff/Pricing information from the Provider

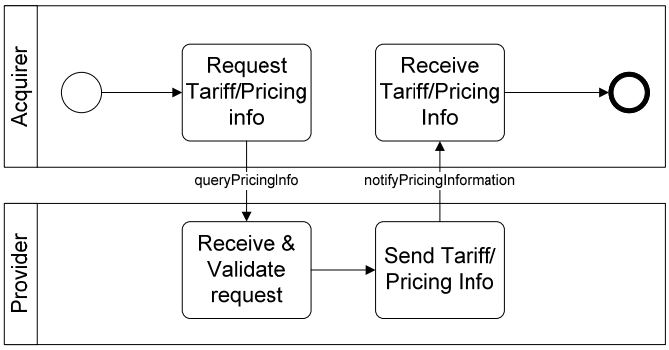

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FIGURE 13

Acquirer ad-hoc request Tariff/Pricing Information

- The Provider will send a notification to the Acquirer advising of pricing changes

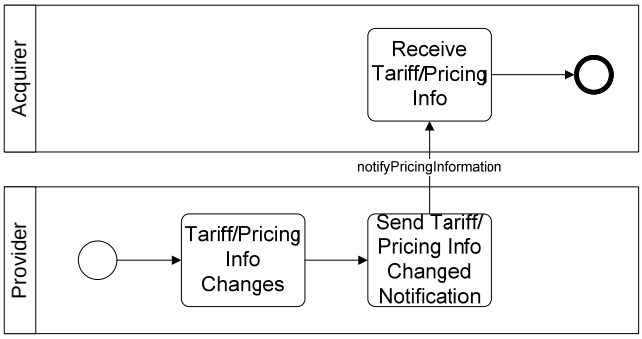

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FIGURE 14
Provider notify Tariff/Pricing Information Changes

8.1.1 Billing User Stories

BIL-R001	**Request Tariff/Pricing Information**
As an Acquirer, I want to request the Tariff/Pricing from the Provider, so that product price information can be updated in my system.	
Description	
The Acquirer will have the ability to request the current and future prices (if any) for products available to the Provider for resale.	
Success criteria	
Correct product pricing details provided to the requesting Acquirer	
Scenarios	
Scenario 1: Request Tariff/Pricing Information **Given** The Acquirer has at least one active billing account **When** Tariff/Pricing information request by the Acquirer **Then** The data set is validated against business rules And the Provider retrieves the Tariff/Pricing information that matches the Acquire rproduct suite	
Data Inputs	**Data Outputs**
1. Acquirer ID, 2. billing account ID 3. product instance ID	1. Acquirer current and future (if known) products Tariff/Pricing information, 2. volume discount information, 3. version/ timing information.
Business rules	
a) The Provider will only provide tariff/pricing information relevant to the Acquirer as defined by the contract(s) and AS profile. b) The Acquirer must currently be active within the billing system and able to operate as a reseller, i.e. not deleted or suspended.	

BIL-R002	**Notify Tariff/Pricing Changes**
As a Provider, I want to send a notification to the Acquirer of price changes, so that products prices information can be updated in the Acquirer system(s).	

Description
Providers will send a notification to the Acquirer with information of product price changes. This is only sends to the Acquirer once changes have been made in the Provider Billing system. In cases where Global tariff/pricing changes will announce as per Industry Engagement channel, therefore, will be not be covered in B2B interface.
Success criteria
Updated product pricing details provided to the Acquirer
Scenarios
Scenario: Notify price changes **Given** The Acquirer has at least one active billing account **When** Tariff/Pricing changes **Then** Tariff/Pricing change occurs in the NBN Co product catalogue, including new or deleted products and effective date changes

Data Inputs	Data Outputs
1. Product price/tariff details **2.** Acquirer ID **3.** Billing Account ID(s)	Send a notification to the Acquirer with Tariff/pricing changes information andversion/ timing/ effective date

Business rules
(1) The Provider will only provide tariff/pricing information relevant to the Acquirer as defined by the AS contract(s) and profile. (2) The Acquirer must currently be active within the billing system, i.e. not deleted or suspended.

8.1.2 **Technical Business Requirements**

(i) The Acquirer can request the current and future (if any) prices for the Provider products the Acquirer is eligible to resell.

(ii) A notification will be sent to the Acquirer of price changes by the Provider. The notification will contain the product details, current price, new price and future price (if applicable) with effective dates.

8.2 Billing Event Files (BEF)

The following transactions will be available to support the billing interaction between Acquirer and Provider:

- The Provider will send a notification to the Acquirer via the interface

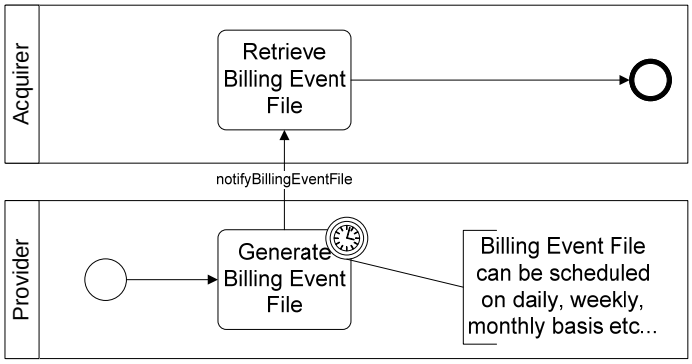

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FIGURE 15

Provider sends billing event file on a regular basis

- The Acquirer will have the ability to ad-hoc request billing event file

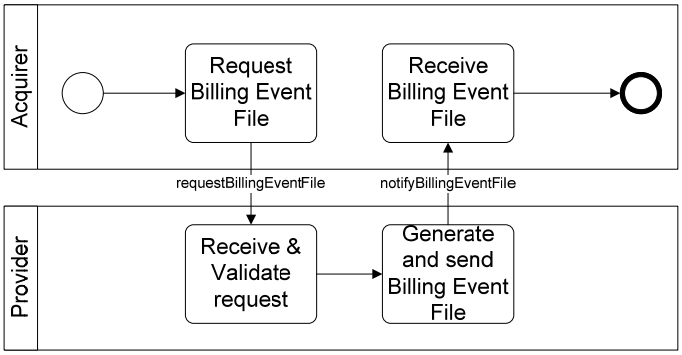

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FIGURE 16

Acquirer ad-hoc request for billing event file

8.2.1 Billing Event File (BEF) User Stories

BIL-R003	**Request billing Event File**
As an Acquirer, I want to request Billing Event File from the Provider so that I can on-bill those events to my end-users	
Description	
The Acquirer will have the ability to request a Billing Event File in the following situations: • A file that has been previously supplied is required to be resent • A new file is required prior to the automated delivery of the next scheduled file The BEF is using the ETIS EBG XML standard	
Success criteria	
Correct file details received by the Acquirer.	
Scenarios	
Scenario 1: Request previously supplied BEF **Given** An Acquirer has at least one active billing account	

When
Requested by the Acquirer
Then
A previously created file is located in the file store by NBN Co based on the parameters provide by the Acquirer and delivered to the Acquirer.

Scenario 2: Request a new BEF prior to the scheduled BEF event

Given
An Acquirer has at least one active billing account
When
Requested by the Acquirer
Then
A file is created containing the account information, file ID, and other identifying characteristics. All the charges and credits created since the last file supplied, if no 'from date' parameter specified, are selected. These details are processed into the standard format and incorporated in the file.

Data Inputs	Data Outputs
Acquirer Request Information including, but not limited to: **1.** Acquirer ID or Billing Account ID	**1.** A file is delivered to the Acquirer containing: o Account details o Product codes o Bill literal o Tariff class o Charge details o Tax treatment indicator o The date/time of charge o Service ID (comprising service address and Port ID) o Product ID o Activation date o Charge date for a single Acquirer

Business rules

1. Periodically extracted BEF data will be tagged with metadata relating to that extraction (e.g. run date, BEF ID) in the source DBoR.
2. AS requested (ad hoc) extracts will not be tagged as above.
3. All untagged data will be considered for extraction, i.e. even if the charge event date falls in a prior extract period.
4. Acquirer requested (ad hoc) requests will not impact on regular scheduled extracts in any way.

BIL-R004	Send Billing Event File

As a Provider, I want to send a BEF to the Acquirer, so that the Acquirer can process the BEF and then can on-bill those events to their Acquires without being constrained by the Provider's billing cycle.

Description

A Provider will provide the Acquirer with a file of billing event data in an AS configurable cycle frequency. The Provider will send a BEF to the Acquirer advise that the BEF is available.

The BEF is using the ETIS EBG XML standard

Success criteria

Receipt of correct BEF by the Acquirer

Scenarios

Scenario: Deliver Acquirer BEF in a configurable cycle

Given

<table>
<tr><td colspan="2">The Acquirer has at least one active billing account
When
A scheduled regular interval has been reached
Then
1. A file is created containing the account information, file ID, date and other identifying characteristics. All the charges and credits created since the last file was generated are selected and these are processed into a standard format and placed in the file. The file shall contain all recurring charges, once-off charges, rebates, adjustments and usage (if required).
Each of the billing event entries in the master DB is marked with the date and file id of the file in which they were placed.

2. Send the BEF to the Acquirer</td></tr>
<tr><td>Data Inputs</td><td>Data Outputs</td></tr>
<tr><td>Acquirer charges details, including, but not limited to:
1. Acquirer ID
2. Billing Account ID</td><td>2. A file is delivered to the Acquirer containing:
o Account details
o Product codes
o Bill literal
o Tariff class
o Charge details
o Tax treatment indicator
o The date/time of charge
o Service ID (comprising service address and Port ID)
o Product ID
o Activation date
o Charge date for a single Acquirer
3. Refer to ETIS ETEB03 schema for details. Below are the items likely to be used for a Billing Event in the BEF. The names are those of ETIS EBG XML.
o LineItemReferenceNumber
o ServiceInstance
o ServiceProduct
o Location
o ServiceOrder
o ChargeTypeId
o UnitType
o UnitOfMeasure
o Number
o StartDate
o EndDate
o NetAmount
o TaxType
o TaxRate

4. BEF extract event metadata is recorded against the extracted data</td></tr>
<tr><td colspan="2">Business rules</td></tr>
<tr><td colspan="2">N/A</td></tr>
</table>

8.2.2 **BEF Technical Business Requirements**

(i) The BEF will be sent to the Acquirer on a configurable cycle timeframe by the Provider.

(ii) The Acquirer must be able to request the current and future (if known) prices for the Provider Products billed by the Provider.

(iii) The Acquirer must be able to request the current and future (if known) prices for the Provider Products billed through the BEFs.

(iv) A unique number must be generated for each BEF and the BEF must support individual line item within the file.

(v) The BEF will not include the Acquirer payments and Acquirer Account level discounts and adjustments.

(vi) The Acquirer will have an option to split normal daily events normally non-recurring) and Invoice-generated events (normally recurring) into separate BEFs for provision to the Access Seeker.

(vii) A single Billing Event File will be associated to single Acquirer Billing Account.

(viii) No duplicate Billing Event File to be generated and send to the Acquirer.

(ix) The Billing Event can only exist in only one file.

(x) Request for historical Billing Event File will be managed via Billing Enquiry.

(xi) Billing Event File sequence ID will be associated per billing account.

(xii) The amounts on the Billing events will be net of GST. The Billing events will indicate the tax type and rate eligibility.

8.3 Billing Invoices

Fully electronic invoicing reduces operational costs associated with printing invoices and supports corporate sustainability through minimising environmental impact. An Acquirer will be notified of a new invoice via email and via the online Web Portal provided by the Provider. They can then view the invoice in HTML format and download the invoice from the Web Portal provided by the Provider.

The Billing invoice will be available in an ETIS EBG XML format. This is required so that the data can be imported into the Acquirer's billing, financial and / or reporting systems.

Please note, a PDF or similar format must be available from the Provider as a Tax Invoice for delivery to the Acquirer's accounts payable department.

8.3.1 **High Level Transaction Process**

The following transactions will be available to support the billing interaction between Acquirer and Provider for Billing Invoices:

- Provider sends Billing Invoice to the Acquirer on a periodic cycle

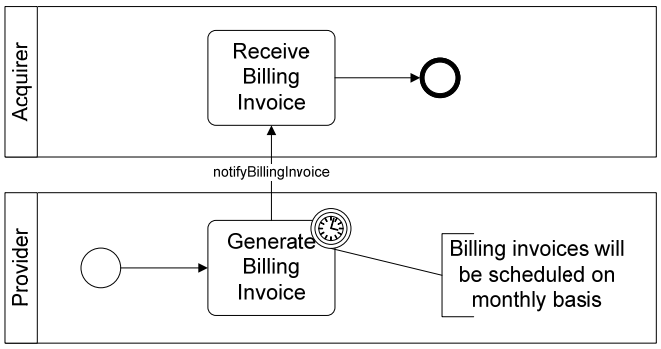

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FIGURE 17
Provider Send Billing Invoices to the Access Seeker on configurable periodic timeframe

- Acquirer can perform an ad-hoc request for previously generated invoices

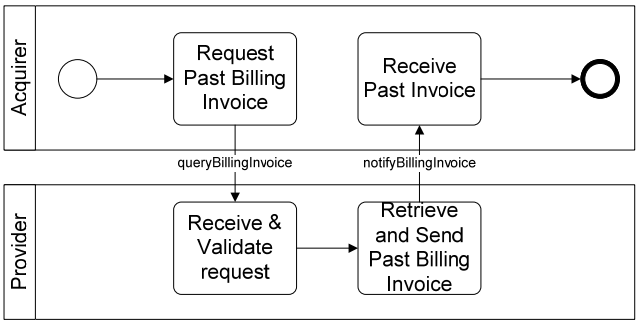

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FIGURE 18
Acquirer ad-hoc request for past invoices

8.3.2 Billing Invoice User Stories

BIL-R005	**Request Past Billing Invoices**
As an Acquirer, I want to request past Billing Invoices from the Provider so that I can have a record of my bills	
Description	
The Acquirer will have the ability to request for historic Billing Invoices within a configurable retention timeframe.	
Success criteria	
Acquirer receives correct past invoice	
Scenarios	
Scenario 1: **Given** A Acquirer has at least one active billing account **When** Requested by the Acquirer	

Past Billing invoices have been generated and request is within the retention timeframe **Then** Provider retrieve the past billing invoices and provides to the Acquirer

Data Inputs	**Data Outputs**
1. Acquirer ID or Acquirer Billing Account ID 2. Date 3. Invoice ID	Past Billing invoices in PDF and XML format
Business rules	
Limited to invoices available within the configurable retention period.	

BIL-R006	**Send Billing Invoice**
As a Provider, I want to send a Billing Invoice to the Acquirer, so that the Acquirer can receive the bill to make payment on the invoice.	
Description	
Provider will provide the Acquirer the periodically generated billing invoice on a configurable frequency.	
Success criteria	
Regular distribution of correct periodic billing invoice.	
Scenarios	
Scenario: Send Acquirer Billing Invoice on a configurable cycle **Given** An Acquirer has at least one active billing account with an outstanding balance and/or current transactions **When** On a scheduled cycle **Then** Provider generates and sends ETIS EBG XML version to the Acquirer and posts a PDF version on the Acquirer area of the portal.	
Data Inputs	**Data Outputs**
Acquirer account details, including, but not limited to: 1. Acquirer ID 2. Billing Account ID 3. Invoice ID .	ETIS EBG XML and PDF invoice format, including but not limited to: 1. Acquirer ID 2. Billing Account ID 3. Service ID (comprising service address and Port ID) 4. Product ID 5. Activation date 6. Charge date 7. Opening balance 8. Payments 9. Adjustments for a single Acquirer A list a BEF that constitutes the invoice amount
Business rules	
An invoice is required due to an outstanding balance or new financial transactions.	

BIL–R007 Notify Acquirer of Invoice Available Online
As a Provider, I want to send an Invoice online availability notification to the Acquirer, so that the Acquirer can easily reconcile the Invoice to the underlying bill analytics using the Web Portal provided by the Provider.
Description
An Invoice is made available online via the Web Portal provided by the Provider, giving the

Acquirer the opportunity to utilise a PDF version of the Invoice for printing and storing within their system. Email is sent notifying the Acquirer when a new Invoice is available online.	
Success criteria	
The Acquirer successfully received the email notification	
Scenarios	
Given An Acquirer may have many accounts with the Provider **When** A new Invoice/s is available for an Acquirer **Then** The Provider sends a notification to the Acquirer advising that a new Invoice is available online	
Data Inputs	**Data Outputs**
1. Acquirer ID or Billing Account ID 2. Contact e-mail addresses	Email notification
Business rules	
N/A	

8.3.3 Transaction Business Requirements

8.3.3.1 Billing Invoice Distribution

(i) The Acquirer will be able to request past billing invoices. Past billing invoices will be available for general retrieval for 13 months, and then from archive via a operations support request for the regulated retention period.

(ii) The Provider will generate and send the Billing invoices to the Acquirer on a configurable billing cycle.

(iii) Billing invoices will be available for retrieval by the Acquirer in a PDF file format via the B2B or portal provided by the Provider.

(iv) The Provider will send a notification email alert to the nominated contact or contacts of the Acquirer.

8.3.3.2 Billing Invoice Formatting

(v) The invoice will be a summary invoice from charges. It will contain rolled up totals for the Acquirer services at a product level as an option.

(vi) There will be sections for account information including balance brought forward along with details of any account–level adjustments and payments received.

(vii) The invoice will include a section detailing the Billing Event Files metadata that constitute the bill amount and will reconcile the totals of the BEFs with the bill amount. This reconciliation must cater for later adjustments to a billing event made during the billing period in the reconciliation.

8.4 Billing Enquiries/Disputes

A Billing Enquiry is a type of transaction that will allow Acquirers to ask generic questions, and receive clarifications, relating to their bill. A Billing Dispute will enable the Acquirer 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 or Web Portal, through the same web service provided by the Provider and used for raising a Trouble Ticket. The difference is that the fault type would be either 'billing enquiry' or 'billing dispute'. A workflow will be initiated and assigned to a specific billing workgroup for resolution. Status updates will be available to Acquirers at key points along the resolution process, as per FIGURE 19.

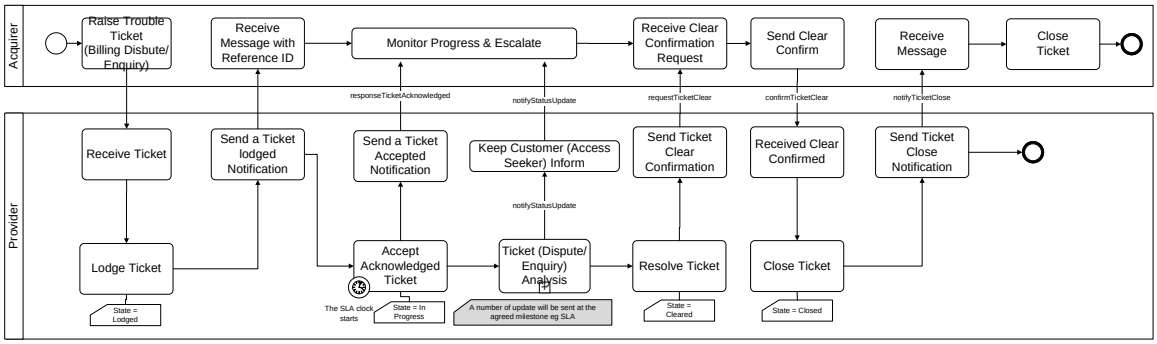

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FIGURE 19

Acquirer Raises Billing Dispute/Enquiry

8.4.1 Billing Disputes/ Enquiries: Technical Business Requirements

(i) The Acquirer must be able to raise a billing dispute or enquiry through B2B as per the Trouble Ticketing transaction process FIGURE 10.

(ii) A single Reference ID will be provided to the Acquirer for billing enquiries and dispute management for a given ticketed event.

(iii) The Provider must provide updates to the Acquirer when the status of a billing enquiry or dispute changes as per Trouble Ticketing status update.

(iv) The Provider must provide for a billing dispute to include a large number of individual billing items or events.

(v) The dispute transaction functionality must support a bulk dispute to be submitted covering multiple items in a single action.

(vi) The status of a dispute must be available for the Acquirer to retrieve at all times.

(vii) The transaction must enable the Acquirer to submit a single line item on a bill, or a group of similar line items, and record a dispute on them.

(viii) Dispute reason code must be provided.

(ix) The transaction must support a billing enquiry to be converted into a billing dispute.

(x) A Billing dispute or enquiry summary must be available to the Acquirer via request or retrieval.

8.5 Bill Reporting

Acquirers will be able to submit the following bill reporting via B2B interface:

- List of past BEFs
- List of past Invoices
- Payment history by date range
- List of Billing Accounts per Acquirer ID
- Billing account position
- List of Billing Account level adjustment, rebate and discount
- Dispute/Enquiry information (historical and current)

FIGURE 20 illustrates high level transaction process for query bill reporting.

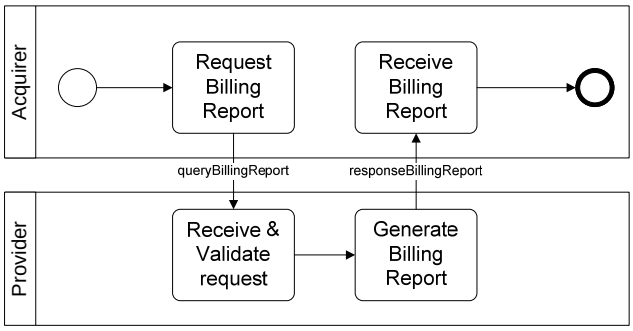

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FIGURE 20
Acquirer Requests Bill Report

8.5.1 Bill Reporting User Stories

BIL–R008 Acquirer Uses Bill Analytics
As an Acquirer, I want to perform analytics on my billing data so that I can use that information to help run my business, and so that I will not need to contact the Provider to supply that information to me.
Description
Bill analytics assists a number of business functions within an Acquirer. This includes financial

<table>
<tr><td colspan="2">reconciliation of billing data to NBN-supplied Invoices. It also provides information about the cost of NBN Services that comprise the Products the Acquirer supplies to its End-Users. For a wholesale / aggregator Acquirer, it also provides insight into its End-user's buying. Information from the analytics is grouped around areas meaningful to the Acquirer's business processes and typically includes items such as Product, location or geographic grouping and dates. Adding the ability for the Acquirer to add descriptive tags to the Products allows the grouping to be even more relevant and reduces the need for Acquirer requested changes to the NBN billing solution to achieve that same purpose. (As example, the Acquirer-added descriptions may add information such as General Ledger grouping, their End-User Product, or Acquire segmentation; this is not contained in Provider billing solutions other than the analytics and has no bearing on the Invoice).
The benefit to the Provider from supplying analytics is to increase self-service and reduce the need for Acquirers to contact the Provider for the information they can obtain for themselves.</td></tr>
<tr><td colspan="2">Success criteria</td></tr>
<tr><td colspan="2">A Billing dispute or enquiry summary must be available to the Acquirer via request or retrieval.</td></tr>
<tr><td colspan="2">Scenarios</td></tr>
<tr><td colspan="2"><u>Scenario 1: Acquirer request Billing Report</u>

Given
An Acquirer has many accounts with Provider
When
The Acquirer needs retrieve a billing report provided by the Provider.
Then
The data set is validated against business rules
And the Provider generate the billing report and response to the Acquirer request</td></tr>
<tr><td>Data Inputs</td><td>Data Outputs</td></tr>
<tr><td>1. Acquirer ID
2. Report Type
a. List of past BEFs
b. List of past Invoices
c. Payment history by date range
d. List of Billing Accounts per Acquirer ID
e. Billing account position
f. List of Billing Account level adjustment, rebate and discount
g. Dispute/Enquiry information (historical and current)
3.</td><td>1. Report ID
2. Report XML or Link to portal</td></tr>
<tr><td colspan="2">Business rules</td></tr>
<tr><td colspan="2">Report will normally be provided via web services in XML unless greater than a practical size for web service provisioning (TBD)</td></tr>
</table>

8.5.2 Bill Reporting: Technical Business Requirements

(i) The Acquirer can only request their own information in a billing report.

(ii) The Acquirer can request raw billing data to build their own billing report into their existing billing system.

(iii) The Acquirer can request a standard billing report provided by the Provider.

(iv) All billing data for reporting to be available for a configurable period of time after which it will be archived.

9 PRODUCT CATALOGUE ENQUIRY-USER STORIES

PC–R001 Query Product Catalogue	
As an Acquirer, I want to request details of my Product Catalogue as contracted with the Provider, so that I can use have update product catalogue information e.g. product catalogue version	
Description	
The Acquirer is able to request for Product Catalogue, Product Version and Product Specification information relevant to the Acquirer.	
Scenarios	
Scenario 1: Acquirer request Product Catalogue **Given** The Acquirer has been authenticated and is authorized to request Product Catalogue information **When** The Acquirer provides a specific product **Then** The data set is validated against business rules And the Provider provides a list of Products and Product Version to the Acquirer.	
Data Inputs	**Data Outputs**
1. Acquirer ID 2. Product ID	1. List of Products and Product versions
Scenario 2: Acquirer request Specific Product Catalogue Definition (Specification) **Given** The Acquirer has been authenticated and is authorized to request Product Catalogue information **When** The Acquirer provides a valid Product ID and Product Version **Then** The data set is validated against business rules And the Provider provides Product specification to the Acquirer.	
Data Inputs	**Data Outputs**
1. Acquirer ID 2. Product ID 3. Product Version	1. Product specification (e.g. in XML format)
Business rules	
Acquirer can only request the Product Catalogue, Product Version and Product Specification information relevant to them as contract with the Provider.	

PC–R002 Notify Product Update	
As a Provider, I want to send a notification to the impacted Acquired of product changes, so that they are aware and can update in their system	
Description	
Provider sends a notification to the impacted (contracted) Acquirer advising of product changes, for example: new product version is available or a price changed). 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.	
Scenarios	
Scenario 1: Notify Product Catalogue Update **Given** The product information has been updated in the Provider system **When** impacted Acquirer(s) has been identified. **Then** a notification sends to the Acquirer	
Data Inputs	**Data Outputs**
1. Acquirer ID 2. Product ID	A notification sent to the Acquirer with the product version and specification (XML format) attached
Business rules	

Acquirer can only request the Product Catalogue, Product Version and Product Specification information relevant to them as contract with the Provider.

10 NETWORK TESTING, PERFORMANCE & DIAGNOSTICS MANAGEMENT

10.1 Network Testing & Diagnostics

NTD-001	Request Test
As an	Acquirer
I want to	request a test (of the appropriate type) of the service within the Provider's domain
so that	A successful resolution of an Trouble Ticket can be confirmed

Description

Acquirer have the ability to submit test request to identify if there is any issue or to confirm successful resolution of a Trouble Ticket

Test will be performed automatically by the system with a defined set of test procedures. If automated test is failed then manual test will be performed.

Scenarios

Scenario 1. Successfully submit service test request and service passes automated test

Given	Acquirer has been authenticated and is authorized to request Acquirer has determined the appropriate type of test for the service, and nature of the Trouble Ticket , and prioritizes the tests to be performed
When	A valid Service ID has been provided
Then	Provider validates against business rules Then use the service ID to access Assurance suite to perform an automated test and return the successful result

Data Input	Data Output
1. Service ID 2. Test Type	Send successful test notification to Acquirer with test result report

Scenario 2. Successfully submit service test request and service fails automated test

Given	Acquirer has been authenticated and is authorized to request Acquirer has determined the appropriate type of test for the service, and nature of the Trouble Ticket , and prioritizes the tests to be performed
When	A valid Service ID has been provided
Then	Provider validates against business rules Then use the service ID to access Assurance system to perform an automated test and return the fail result And Acquired can raise a Trouble Ticket with the Provider

Data Input	Data Output
1. Service ID 2. Test Type	Send fail test result report to the Acquirer

Business Rules

ID	Description
N/A	

NTD-002	Request Minor Service Indicator
As an	Acquirer
I want to	request service information
so that	I can identify any minor service indicators that are occuring on the service

Description

The Acquirer will be able to request service information to identify any minor service indicators that are occurring on the Service, for example: NTU power status.

Scenarios

Scenario 1. Request Minor Service Indicator

Given	Acquirer has been authenticated and is authorized to request for minor service

	indicator
When	A valid Service ID has been provided
Then	Provider validates against business rules Provider retrieves service information and responses to the Acquirer's request.

Data Input	Data Output
Service ID	Send service information to the Acquirer

Scenario 2. Failed request Minor Service Indicator

Given	Acquirer has been authenticated and is authorized to request for minor service indicator
When	A invalid Service ID has been provided
Then	Provider validates against business rules Provider sends a failed notification to the Acquirer.

Data Input	Data Output
Service ID	Send service information to the Acquirer

Business Rules

ID	Description
N/A	

10.2 Performance – SLA/QOS Management

PM-001	Request Performance Data
As an	Acquirer
I want to	have the ability to request performance information from the Provider
so that	I can proactively determine how the Provider's service is performing, and be able to take action if problems exist

Description

The Access Seeker will be able to send a request for a service performance report.
Test will be performed automatically by the system with a defined set of test procedures. If automated test is failed then manual test will be performed.

Scenarios

Scenario 1. Request Performance Data

Given	The Access Seeker has a number of active services with the Provider. And Acquirer is authorised to request
When	A valid Service ID has been provided
Then	Provider validates against business rules Provider retrieves service information and responses to the Acquirer's request.

Data Input	Data Output
1. Acquirer ID 2. Service ID	Send performance data to the Acquirer

Scenario 2. Failed to Request Performane Data

Given	Acquirer has determined the appropriate type of test for the service, and nature of the Trouble Ticket , and prioritizes the tests to be performed
When	An invalid Service ID has been provided
Then	Provider validates against business rules Provider sends a failed notification to the Acquirer.

Data Input	Data Output
1. Acquirer ID Service ID	Send fail notification to the Acquirer

Business Rules

ID	Description
N/A	

11 NON-FUNCTIONAL REQUIREMENTS

11.1 B2B Certification

Detail still under development.

11.2 Security

Detail still under development.

11.3 Auditability

Detail still under development.

11.4 B2B Service Assurance

11.4.1 **Availability & Business Continuity**

Detail still under development.

11.5 Performance & Performance Management

Detail still under development.

12 REFERENCES

Communications Alliance NBN Publications Available from **www.commsalliance.com.au/Documents/national-broadband-network**
National Broadband Network Reference Architecture – High Level Architecture Options for the NBN (Release 1)
National Broadband Network Wholesale Service Definition Framework – Ethernet (Release 1)
National Broadband Network – Overview of Technical Standards (Release 1)
National Broadband Network – Planning Express Conduit (Release 1)
National Broadband Network – Fibre Ready Distribution Networks (Release 1)
National Broadband Network – Optical Access (Release 1)
National Broadband Network – Wholesale Service Description Framework – Telephony Access Service (Release 1)
National Broadband Network End User Premises Handbook (Release 2)
Draft National Broadband Network – End User Migration Reference Model

Communications Alliance was formed in 2006 to provide a unified voice for the Australian communications industry and to lead it into the next generation of converging networks, technologies and services.

In pursuing its goals, Communications Alliance offers a forum for the industry to make coherent and constructive contributions to policy development and debate.

Communications Alliance seeks to facilitate open, effective and ethical competition between service providers while ensuring efficient, safe operation of networks, the provision of innovative services and the enhancement of consumer outcomes.

It is committed to the achievement of the policy objective of the *Telecommunications Act 1997* - the greatest practicable use of industry self-regulation without imposing undue financial and administrative burdens on industry.

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