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NICC B2B INTERFACE REQUIREMENTS DOCUMENT

Version V2.0.0

Network Interoperability Consultative Committee
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Document history

Revision	Date	Notes
Draft 1	November 2006	This is an update of Issue 2 of the framework requirements document developed by the consult21 systems and process steering group.
Issue 1	24th November 2006	Updated document reference and raised to issue status
Draft 2	1st February 2007	Updated Annexes (1) Requirements and (5) Issues as a result of proposals at NICC B2B Expert Group 12th Jan and agreed 26th Jan
Issue 2	1st March 2007	Issued
Issue V2.0.0	25th Sept 2007	Prepared for NICC publication by updating version number and adding NICC ND reference

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1. Introduction & Purpose

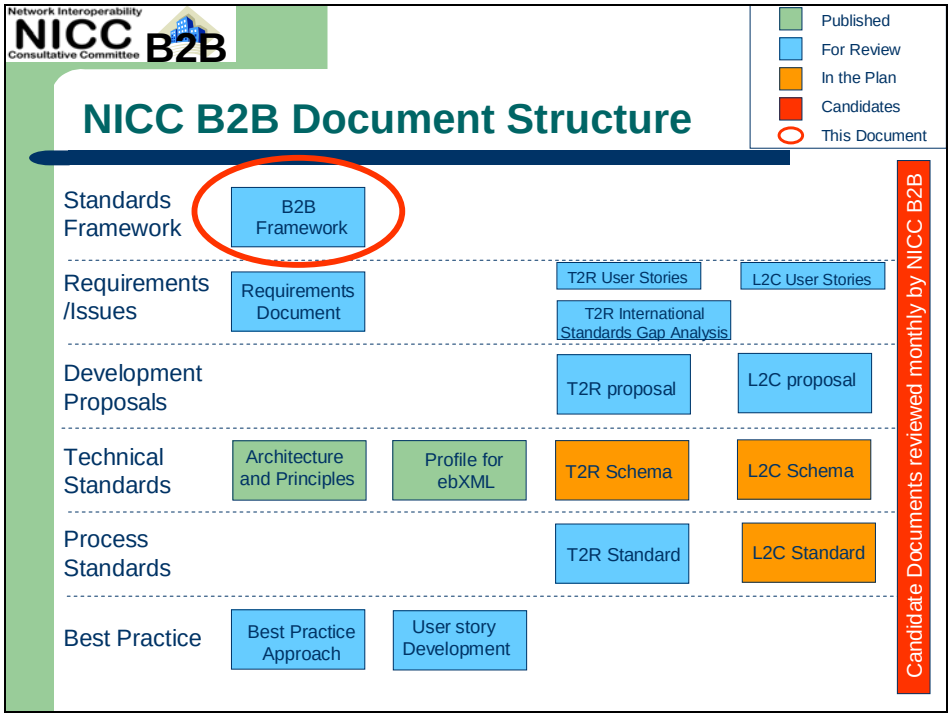
The purpose of this document is to record business process and system requirements for standards and best practice for designing, developing, implementing and running Business-to-Business (B2B) interfaces for automated business transactions between UK Communications Providers (CPs).

The BT Consult21 Systems and Processes working group first documented the requirements at a series of workshops and it is now proposed that it be adopted by the NICC B2B working group.

It is a “working” document and further input from all CPs always welcome.

2. NICC B2B Document Structure & Further Information

This document forms part of a suite of documentation developed and maintained by NICC B2B as shown below. They can be accessed from the NICC publication web site @ http://www.nicc.org.uk/nicc-public/publication.htm. and if they are in development from http://niccb2b.org.uk/ . For access and further details please contact niccb2b@niccb2b.org.uk .



3. Background

The need for cheap, reliable, fast and zero touch electronic trading between communication providers is becoming increasingly important as the market for telecommunication and associated services becomes more open and competitive. Development of the market will be hampered in terms of cost and quality of services if we rely on the current combination of diverse manual and electronic trading mechanisms.

As services from different suppliers are bundled and sold through increasingly complex supply chains the need for common B2B standards becomes greater since without them supply chains becomes costly and inflexible. They are needed to ensure the gateways that handle the electronic transactions required to order, bill and manage these services all work together using common processes and information formats.

If we do not establish process, information and technical standards there is a danger that the development of the electronic gateways will be much slower, more expensive and ultimately they may not meet the requirements of the emerging multi-service multi-party industry.

Fig 1: Current industry flows

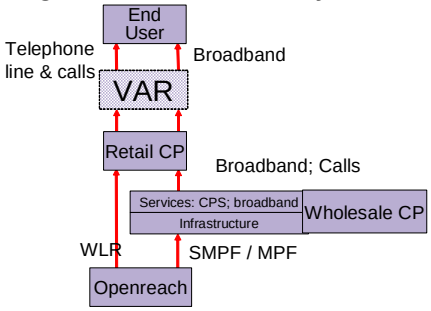
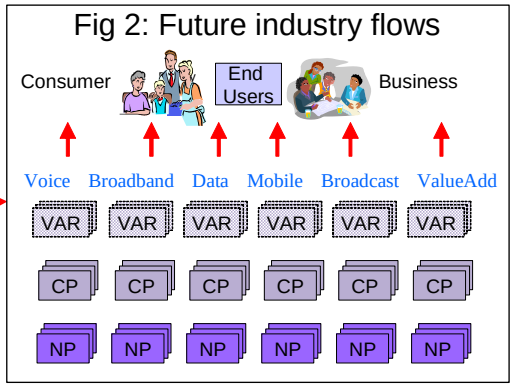


Fig 2: Future industry flows



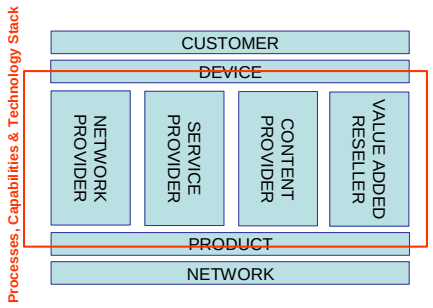
4. Scope

Automated business transactions between UK Network Providers (NPs), Communications Providers (CPs), Content Providers (ConPs) and Value Added Resellers (VARs) using Business-to-Business (B2B) interfaces to support the emerging eMarket for “multi-service, multi-supplier triple/quad play” services.

Exclusions include:

- tba

Fig 3: eMarket Scope for NICC B2B



5. Business Interface Requirements

The requirements captured in this document were developed at four one-day workshops in late 2005 and expert groups in 2006 run by the Consult21 Systems & Processes Working Group. The first three workshops were to develop the product requirements for the “Supply Service”, “Trouble to Repair” and “Obtain Payment” process areas. The fourth workshop was to start the process of developing the interface and technology framework, guidelines and standards needed to improve interfaces. It is proposed that they are adopted and further developed in the NICC B2B working group.

Annex 7 provides the key output from the workshops and subsequent expert group meetings. It provides a generic to-be process model and the supporting templates used to capture the requirements for each activity identified within the key processes at the workshops.

6. Technical Requirements

Following the process workshops an interface workshop captured technical requirements covering Portals, B2B/XML transactions, Web services & Bulk transfer, e.g. CDRs. These are included in Annex 1.

7. Existing Standards, Policies & Best Practice

A list of existing standards, policies, principles, etc, is included in Annex 2 covering: impact and alignment with this framework, eg Oasis and ebXML/UBL, Consult21/21CN Interface Principles, OSSJ.

8. Target Technical Architecture

A draft technical architecture covering Portal, Messaging, Transport, Content, data modelling and Governance is included in Annex 3. This will be regularly reviewed and aligned with internal architectures as required.

9. Stakeholders

The stakeholders include the Network Providers (NPs), Communications Providers (CPs), Content Providers (ConPs), Value Added Resellers (VARs) and device manufactures involved in the scope described above. A list of organisations actively involved can be found on the NICC B2B WG contact's page.

Within companies they are the systems architects and designers, and product and process teams that implement and maintain gateways.

10. Implementation, Use, Maintenance & Governance

This document will be used to build industry wide standards and best practice to guide design, development, deployment and in-life maintenance of interfaces.

Once these are agreed the Industry will need to use the NICC B2B or some other forum to review progress, applicability of standards and establish a governance framework to ensure the standards are kept up to date and useful.

11. Glossary

This work will try to drive a single meaning for process and interface terminology as it is important to reduce ambiguity. Until this is achieve this document will give meanings and mappings in Annex 6

ANNEX 1: Technical Requirements

The technical requirements in the table below were initially captured at the Consult21 systems interface workshop and subsequent systems and processes working groups and expert meetings from December 2005 to June 2006. They supplement the detailed process requirements in the templates in Annex 7. The key technical requirements were identified by Conuslt21 as:

- Rationalise the existing interfaces
- Future proof interfaces – reduce future development for new products
- B2B and Portal required
- Standard commercial processes & data required across products
- Standard definitions required - e.g.. Fault clear/ close. Clock start and stop
- Reduce manual processing, rejections (e.g.. location matching)
- Handle future complex scenarios, e.g.. Complex products, customer moves
- Alignment with TSR gateway work – make sure future interfaces build on the EMP work and consultation

In November 2006 the requirements were adopt by the NICC B2B working group to help drive their work to establish "product independent system & process standards for automated business transactions between UK Communications Providers (CP) using Business-to-Business (B2B) and portal interfaces". In January 2007 a NICC B2B Expert Group reviewed the requirements and issues from Annex 5, grouped and prioritised them under the following key areas:

1. Process / workflow
2. Sub/component processes
3. Information & Reporting
4. Documentation
5. Architecture
6. Security
7. Testing
8. Portal
9. In-Life

As described in the NICC B2B Standards Framework document, each of the areas above will be subject to more detailed analysis and definition using the requirements and issues in the table below as an input. This will result in a white paper proposal to the NICC B2B working group on how to take each area forward.

Table Key

- "(Old Ref)" provides a mapping to the original requirement in the list. References to "ixx" are a reference to the Issues register that is in Annex 4:
- "Group" shows the priority grouping of requirements that the requirement maps to.
- "Priority Score" was from the Consult21 WG and is replaced by the priority order of this list.
- Items in section 10: "Other /Removed" list the requirements and issues that we propose be dropped as duplicates or not relevant. Plus one item is a candidate principle for the next version of the principle document when we review that.

New Ref	Requirement (Old Ref)	Group/Action/ Owner/ Comments	Priority Score
1.	Process / workflow including use cases / scenarios, process & data model		
1.1	Bi-directional processes (3)	Process	17
1.2	Standardise CCC process (no local instruction_)(8)	Process	13
1.3	Standardise milestones that drive process Standardise data that drives process (9)	Process See embedded document for more	19

New Ref	Requirement (Old Ref)	Group/Action/ Owner/ Comments	Priority Score
		 Consult21_NICC B2B req 9.doc (... detail	
1.4	Timeliness of service / KCI - informing customer Do we need visibility of engineering activity Impact on process (10)	Process / KCI	17
1.5	A standard set of mandatory information to open a ticket across products. (21)	Process	18
1.6	Need Data Model to can be UK wide and cope with multi-party service scenarios, etc (29)	Process / Data	16
1.7	Need UK wide industry use case scenarios to ensure systems and process development fit for purpose (31)	Process / Data	17
1.8	Where possible need on “what starts/stop the clock” across products and processes (32)	Process	**21**
1.9	Handling complex orders and faults, e.g. VPN, White labelling, reseller, etc (i1)	Process to be included in scope	20
1.10	Completion notifications (i4) • How long ? • What states reported, e.g. engineer done, testing done, cleared, etc	Process / KCI	**24**
1.11	It is not clear whether current processes and gateways and architecture and plans support multi-party processes (i24)	Process / data This is central to the NICC B2B WGs role to establish standards and best practice that do support multi party services	
1.12	Simultaneous provision / migration of bundled products – CP’s need the ability to provide their end users with bundled products without rejections being returned from BT Group (Openreach) systems. This includes WLR 3, CPS and broadband products including IP Stream, SMPF and MPF via EMP. Moving forward this will need to include simultaneous provision / migration of wholesale connect and wholesale line access products. Detailed process and system documentation must be made available by BT in a timely manner to enable CP’s to adequately plan internally for system and process implementation. (i36)	Process	
1.13	Robust escalation process required with defined routes for escalation. (i39)	Process	
2.	Sub/component processes: address matching/location being the highest priority with others following when identified by the process work in step 2. Other examples include KCIs, appointing, start/stop clocks		
2.1	Post Code Rejections - Previously accepted CPS orders fail when WLR added due to mismatches with CSS. (i40)	Address Matching	
2.2	At a review of the candidates for standards & best practice at January 2007 meeting we agreed to include the following in this area: Address matching/location as the highest priority with others following when identified by the process work in step 1. Other examples include KCIs, appointing/work force management, start/stop clocks, CDR/Billing, bulk information transfer and dialogue services	Address Matching	
3.	Information & Reporting		
3.1	Data warehouse access Business Objects / Actuate reports (14)	Information & Reporting	16
3.2	Real time dashboard / updates (15)	Information & Reporting	12
3.3	The technical interface documentation should be in XML human readable format to aid common understanding and deciphering.	Information & Reporting	13

New Ref	Requirement (Old Ref)	Group/Action/ Owner/ Comments	Priority Score
	(23)		
4.	Documentation including glossary & change control		
4.1	Dictionary /Glossary to define language used and if necessary translations (30)	Documentation	15
4.2	Work instructions/mandating fields/forms to be always filled in (34)	Documentation	13
4.3	While new interfaces in Openreach and BTW comply technically with principles and requirements agreed in Consult21, the message content and processes that use the interfaces are as not product independent as required by the principles and requirements framework This potentially duplicates effort, increases costs of development and in-life maintenance, and reduces "agility" / speed of change (i20)	Documentation: Within BT this is to some extent already being addressed by process teams in BTW and Openreach, and by initiatives such as common capabilities. However while product teams continue to negotiate and establish products on a product by product basis, systems and processes will inevitability be driven by different requirements. The NICC B2B WG therefore has a role to develop and formalise standardisation of process and data across products.	
4.4	While process teams may use formal business process execution language, eg ARIS, etc, these are expressed to systems teams (1IT) and customers as Word or Power point documents. eg WLR & LLU Word, etc are an imprecise way to describe process and require much effort in specification, analysis, and subsequent requests for clarification. Once agreed maintenance of the documentation, version control etc, is difficult and can lead to confusion and additional costs and time in development and maintenance. (i21)	Documentation	
4.5	Interface specs are currently published in a number of places by BT Wholesale and Openreach when a single place to publish or at least link to documents would seem desirable to avoid confusion and improve change control (i22)	Documentation There are a number of internal BT initiatives looking at information publication and the NICC B2B forum could also review these and if necessary recommend improvements to the way interface specifications are published between CPs	
4.6	Need to establish how the “Core industry vertical standards need to be community owned” principle is implemented (i23)	Documentation	
4.7	Documentation must describe the end to end processes not just the functionality of a product, processes that are linked to SLAs / SLGs must be clearly defined. (i38)	Documentation	
5.	Architecture		
5.1	Minimum number of gateways (4)	Architecture	16
5,1	Decouple / Abstract internal . This means isolate interfaces from internal systems changes (7)	Architecture	8
5.3	Bi-directional trader between B2B – portal (12)	Architecture	13
5.4	Bulk transfer, e.g. billing records delivery Common CDR / rental format Reliable / automatable delivery mechanism (16)	Architecture	15
5,5	Single interface portal regardless of product (we send the required data to a single BT portal which then routes the information to the relevant product related area within BT) (20)	Architecture	16
5.6	Need to establishment of principles and best practice around migration (27)	Architecture ?	14

New Ref	Requirement (Old Ref)	Group/Action/ Owner/ Comments	Priority Score
5.7	We need to discuss and agree methods for resilience including message recover should either partner gateways become unavailable (26)	Architecture	16
5.7	Need to establish non-functional / operational requirements & SLAs (service wrap) for systems and technology involved as well as product, ie Portal and B2B gateways (35)	Architecture	
5.9	Bulk Orders / Novations / Product migrations processes need to be established (36)	Architecture	
5.10	Gaps in templates (i5) • Need to capture requirements for CDRs	Architecture	13
5.11	WLR 100+ outstanding issues. Frequent changes, Version control, moving from version to version, change control, notification of change, pressure to change and keep track of changes, backward compatibility, Compatibility with other customers, eg MNCs & other European telecos, CPs etc, different gateways and for different products. All suspect more likely to be resolved as BT group has to use same interface. All requiring recoding and potentially at different times. Could use MPF versioning policy (i27)	Architecture	
5.12	Sometimes new software releases are not backward compatible, eg notes field disappearing to be replaced by 5 notes fields so had to use new ones as no option to transfer old. (i28)	Architecture	
5.13	Bulk transfer / batch orders & response (i29)	Architecture	
5.14	Need flexibility in terms of configuration rather than hard coding (i30)	Architecture	
5.15	Dialogue services needed to be added in (i32)	Architecture	
6.	Security		
6.1	E2E security (transport/messaging/OSS) (6)	Security	**25**
6.2	Need to add a security section to the technical architecture and deal with issue of security for HMG orders (28)	Security	20
7	Testing		
7.1	Include the capability for a test portal and 24x7 support contact for whatever integration issues we discover. (25)	Testing	19
7.2	There is no test beyond checking the B2B gateway works so need to review current testing practice, propose and agree improvements (i26)	Testing	
8	Portal		
8.1	Each BT line of business should provide a portal as an alternative to the B2B gateway. This would provide access for those CPs not wishing to invest in B2Bs and back up if the gateway fails or there are exceptions that cannot be resolved by using the gateway. The aim being to increase automation and reduce need to phone call centres to raise orders, resolve problems, etc (1)	Portal	**24**
8.2	Portals should provide CPs with same look & feel and alignment of the user journey across Lines of Business (2)	Portal	19
8.3	Minimum number of portals (5)	Portal	15
8.4	CPs see same portal as BT customer services for orders and faults, if necessary with different access rights (11)	Portal	18
8.5	Need standard for browser presentation of service so works on browsers other than IE (17)	Portal	11
8.6	Need SLAs for portals (33)	Portal	15
9	In-Life		
	Tba		
10	Other /Removed – See Expert Group Notes for details & mappings		

New Ref	Requirement (Old Ref)	Group/Action/ Owner/ Comments	Priority Score
	of moved or removed requirements and issues		
10.1	24. Where possible work to a single standard even if this means only utilising a sub-set of that standard. For example developments in the US work to T1.277 which is a service testing spec and T1.278 which is a schema spec for fault management - trouble administration, which is very close to the T1.227/228 specs.	This is a principle and should be considered for inclusion in the B2B principle architecture document when it is next reviewed	12

ANNEX 2: Existing Standards & Policies

- ISO 15000-1: ebXML Collaborative Partner Profile Agreement
    - http://www.ebxml.org/specs/ebcpp-2.0.pdf
- ISO 15000-2: ebXML Messaging Service Specification
    - http://www.ebxml.org/specs/ebMS2.pdf
- Also possibly
- OASIS ebXML ebBP Business process Specification Schema
    - http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=ebxml-bp
- OASIS Universal Business Language UBL
    - http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=ubl
- ETOM
- Consult21 Briefing April 2005: 21CN Systems Architecture & Interfaces Principles

ANNEX 3: Existing Interfaces & Roadmap (Removed)

This annex was for the BT systems interface roadmap and has been removed as not relevant for NICC B2B requirements. It could be used in future to track the progress towards establishing and implementing standards

ANNEX 4: Target Architecture

Please note: This Annex was produced and agreed by the Consult21 Systems and Processes working group and will need to be reviewed by the NICC B2B working group.

Business-To-Business (B2B) Integration

The aim of this section is to provide an outline technical framework to support Business-to-Business Integration between customer and supplier organisations within the communications services market within the UK. It will not specify a particular set of solutions, but identify key drivers and constraints that need to be considered and suggest candidate options that should form the basis of discussion and ultimately agreement between members of the Consult21 Forum.

Firstly, to clarify what is meant by B2B rather than other mechanisms of integration, this section refers to system-to-system integration across the internet and not person-to-person or person-to-system (though issues regarding this will be covered). Within this loose definition, of fundamental importance is the need for an agreed, fixed and consistent process that can be fully automated between trading partners own infrastructure.

When addressing business to business integration, a number of factors must be considered before deciding the most appropriate mechanism. This mechanism is influenced by four key factors (in the order to be addressed):

- The process to be undertaken
- The data/documents to be exchanged at stages within the process
- The format of the data/document
- The protocol that will support the above.

In addition to these factors, and linked to the non-functional aspects of the process, issues regarding the size of the data/documents; the need for transactional(real-time)/non-transactional(batch) processing; the 'timeliness' of responses to support the process within both customer and supplier systems themselves.

In determining the best set of solutions that encompass the above criteria, Consult21 should look for the minimal set of integration types to retain flexibility but minimise investment when enabling inter-business trading.

The figure below offers a simple model to explain the required technical framework:

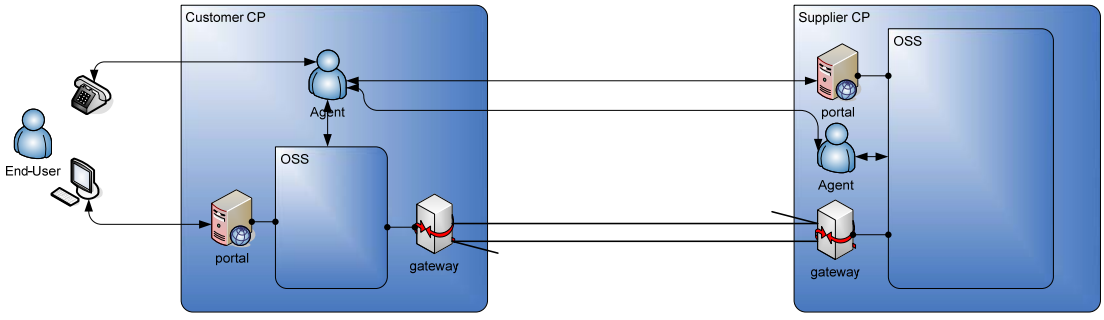


Figure 4: Required Technical Framework Model

In addition to traditional integration mechanisms for a customer CP placing service requests to a supplier CP via agents and portals, B2B enables close integration between customers' and suppliers' own systems and as such extends the reach of the supplier. Key factors that make up the strategic B2B requirements are:

- Provide secure access for customers and suppliers over the internet
- Support industry standard transport and collaboration protocols
- Support both transactional real-time and batch non-real-time service

- Utilise industry agreed (Consult21) process and document specifications (see notes regarding document format)
- Provide reliable messaging
- Provide a highly resilient and scaleable platform.
- Provide enablement support and in-life management/tools

The following sections address the issues listed above and should form the basis of the technology framework for B2B.

Collaboration Process & Agreements

Collaboration agreements will define how B2B services will be presented between gateways and will conform to agreed Business Process Specifications (BPS), and Collaboration Protocol Agreements (CPA)

These agreements will identify the type of transactions, operations and sequences in which transaction 'conversations' can legitimately proceed in order to complete given service requests and processes.

It is intended that agreements regarding process will be resolved by the Consult21 forum. These will be agreed in light of existing process standards (e.g. TMF, ITIL, etc) and work by other industry bodies

Document Definitions

The data documents passed between trading parties as part of a collaboration sequence will be defined and agreed with industry (Consult 21).

All documents should conform to a generic template dependent on transaction and request type. Where possible, a standard naming convention will be adopted, with variance due only to product specific features. This approach allows greater flexibility to all CP's and enables greater levels of re-use.

It is proposed that the B2B capability will support both multi-order and multi-line order in addition to single service requests within a document, though this has limitations with real-time internet based transactional interfaces (~4Mb max documents)

Document Format

The format for documents used within B2B collaborations is often defined by the transport protocol adopted for particular integrations. This framework proposes that the protocols adopted should allow independence of document format. That point made, the accepted industry way forward is the use of XML and agreed schema's.

Where this may not be applicable, e.g. in bulk data transfers, the adopted format should be agreed that provides the simplest integration into OSS systems; and not reliant on interpretation, e.g. free format text. CSV is the most obvious choice in this instance.

Transport Protocol

The primary factors regarding the choice of transport protocol should be the security and reliability, but additionally, and based on experience in other industries, should be asynchronous. The adoption of asynchronous messaging in both transactional and batch integration models is that failures in either the customer or supplier stack do not cause potential systems and process failure in the opposing stack.

In proposing the standards below, of key importance is that they are standards led and as such are not imposed by a particular CP based on bespoke implementation, and are independent of

vendor specific solutions, both of which allow for faster adoption and delivery, benefiting all players within the market.

It is proposed that the most appropriate transport protocol for transactional real-time messaging is ebXML 2.0 over https, providing secure reliable asynchronous transactional messaging.

For non-real-time (batch) transactions, it is proposed that secure ftp is adopted.

Both the above proposed protocols are document format agnostic and as such could, if appropriate, carry either XML or csv based payloads.

It should be noted that in the selection of these, issues regarding the frequency of the transfer of data must be addressed to ensure the right option is selected. Whilst possible, it is recommended that csv is not used within an ebXML messaging.

NOTE: Whilst a number of other transport protocols are being publicised, they are not being recommended for one of two reasons:

- Many other protocols are not reliable in their delivery, though are suitable for notification to persons rather than systems (SMS, SMTP)
- Some protocols in their native standard do not address issues of reliability and may 'block' processes (SOAP based sysnchronous web services), or have not yet achieved consensus surrounding proposed standards (asynchronous SAOP based web services)

As standards mature, these protocols may be considered for B2B integration

It is intended to extend the number of supported transport protocols over time, though a number of factors must be addressed by the business before this commences:

- Web Services – synchronous, single shot not reliable.
- FTP/SFTP – bulk transfer of data/documents
- Secure web mail box – disconnected working.
- Direct Connections

Gateway Function

When addressing B2B and integration with a partners own OSS, an number of factors need to be considered in order to maximise the performance of the B2B component whilst minimising the impact of changes either within the OSS or the B2B. Whilst not necessarily in scope for Consult21, best practise would indicate that presentation/integration logic does reside within the B2B component of an architecture, but business logic should reside within the OSS Stack. To this end, and for guidance only, the suggested functionality of the B2B in managing document transfer is:

- Partner Identification
- Strong Authentication
- Partner Authorisation for use of the specified collaboration Protocol Agreement (CPA)
- Partner Identity Match in XML payload
- Integrity Checks – valid XML

B2B Support Capabilities

The use of B2B must include an appropriate service surround that enables trading partners to initially gain access to B2B services, and once acquired allow them to manage their services with their suppliers. It is proposed that as part of agreeing B2B standards within the Consult21 forum, issues re. partner enablement and in-life support services be addressed. In both these instances, it is suggested that where possible suppliers of B2B service offer portal based enablement and support services that enable automated self service options for adoption; dashboards for customer monitoring of factors such as service availability and tools in the event of recovery scenarios.

Note: Whilst the portal can provide a valuable tool for management of B2B capability, core must be exercised when considering if B2B initiated transactions can be modified via the portal. The issue within this is that if an agreed process is broken by an 'external' change; i.e. A user modifying the service request via the portal, how should the B2B respond. Whilst on the supplier side this will lead to a greater level of complexity in providing service, there is an equivalent impact on the customer side when an expected response from a supplier is either missing or different from expected due to the portal based modification.

Data Model

A high level data model will form part of the architecture. Below is the initial attempt at this from the expert groups. This will be reviewed at updated as required

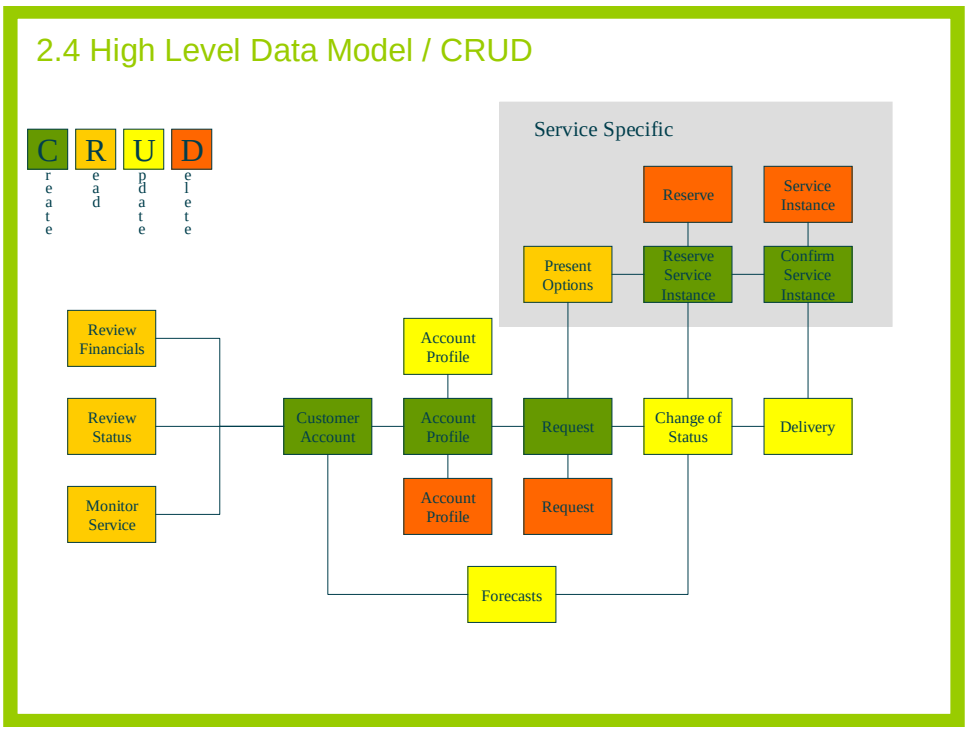
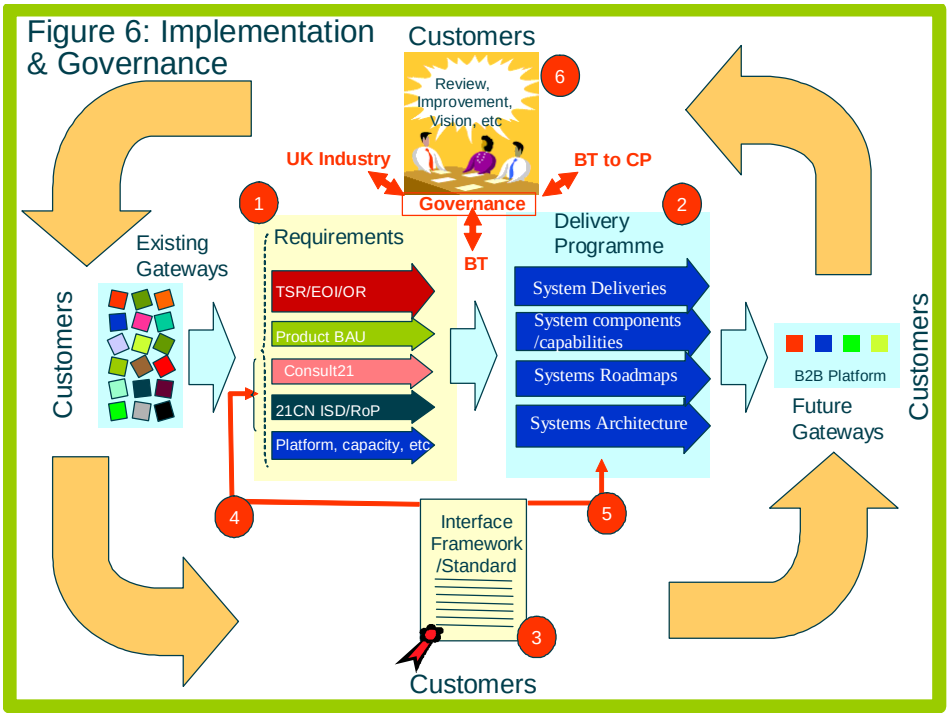


Figure 5: High Level Data Model

Governance.

Governance including review and improvement of the architecture, roadmap and their implementation, will be via Consult21 and or appropriate UK standards body like the NICC B2B working group. The following figure and notes, extracted from the Consult21 Systems and Process working group terms of reference shows how this is proposed to work.



1. Existing gateways are developing in response to requirements from a number of sources, including: BT Undertakings, product development, 21CN, Consult21 and internal platform requirements such as capacity, upgrades, etc.
2. Within BT there is single team responsible for delivering these requirements, maintaining the systems architecture and roadmap.
3. The Consult21 Systems & Processes Working Group has developed and agreed architectural principles that interfaces should comply with and written a framework requirements document summarising this information. It is planned that these should be developed and adopted as UK standards via the NICC B2B working group.
4. The principles, framework and standards will initially influence any 21CN gateways and increasing all gateways when they are at a stage that they can intercept the requirements set out in these documents. E.g. see Section 5 for what was agreed for 21CN & BT Undertakings
5. When agreed they will be built into the systems architecture that will influence all designs and may subsequently be built into reusable components/service capabilities used to build all gateways.
6. The working group, or NICC subgroup if appropriate, will meet periodically to review the standards, the implementation of them and any issues.

ANNEX 5: Issues Register

This issue register was originally set up for the Consult21 Systems and Process meetings and workshops, and subsequently adopted for the NICC B2B working group

As it says in Annex 1 above, they were reviewed at a NICC B2B in January 2007 and all moved to the key areas for NICC B2B analysis or removed as no longer relevant. See Expert Group Notes for details & mappings of moved or removed requirements and issues.

A new issues page of the NICC B2B web site will replace this Annex.

	Issues/Document shortfalls (with who or where raised and date if appropriate)	**Action/Owner/Comments**	**Priority (H,M,L)**

ANNEX 6: Glossary (Common Capability Model (CCM) Terms in Blue)

A good source of definitions can also be found at http://www.acronyms.bt.com/ for anyone with access to the BT intranet. This list will be replaced by the NICC B2B data model when it is established.

Term	Types	Values Used	Definition
Access	Indirect Access		
Access Server			
Access Service	Broadband		
	Narrowband		
AISBO			Alternative Interface Symmetric Broadband Origination – Wholesale access products such as LAN extension service and backhaul extension service
Appointment			An arrangement (eg with a Customer for an engineer) to attend at a given location and at an agreed time, eg to install or maintain services or equipment.
Backhaul	Radio		
Bearer Circuits			
Broadband			
Broadcast Service			
Call	CPS		Carrier Pre Select – An European Union regulatory project which allows customers to choose to have certain call types carried by another network operator
	NP		*Network Provider?*
	NTS		Number Translation Services – The term Number Translation Services describes a range of specially tariffed services, primarily used for telemarketing, which include 080X/0500 Freephone, 0345/0645/0845 local call fee access, 0870/0990 national call fee access and 08xx/09xx Premium Rate Services. These services are offered at specific price points in order that customers calling from any fixed network will be able to associate the number range with a particular pricing arrangement. For example, 0800/0500 calls are free to

			the caller.
	Transit		Call Transit sits in the Carriers Carrier segment of the market and meets the customer need of " connecting operators together" which covers one stop transiting of calls to other operators. Transit traffic consists of calls, which pass through BT's network on route between one OLO switch and another. The volume of transit traffic results from "build or buy" decisions taken by OLO network planners.
Calling Feature			*CCM Product or Service Characteristic*
Call Mapping			Call mapping is the underlying network service behind BT Retail products such as Call Minder and BT Answer. It was introduced due to licence and regulatory reasons.
CallMinder			
Call Minutes			
Charge			*CCM has Chargeable Event and Financial or Billing Transaction*
Circuit	Analogue		
	Digital		
Conference Organiser			
DataStream			
Debt			Ie Lack of Settlement, Late/ Overdue Payment CCM Billing Debt: An amount which has been identified as outstanding and which is being pursued via the debt collection (Dunning) process. This is distinguishable from an ongoing negative balance by the fact that it is associated with the debt collection process.
Dispute			CCM Financial Dispute: A disagreement between the business and a Customer which relates to an Invoice or item on an Invoice. A Dispute requires a formal response and must be distinguished from a simple query about invoice details, e.g. format.
DLE	Call Termination DLE		

DPNSS			
Equipment			CCM Physical Resource Instance: …describing different types of hardware that underpin Products & Services. In its simple form, it is the physical manifestation of an item of Physical Resource, eg a piece of equipment that has been installed and which may be identified by a serial number and located using Place. (Also CCM Physical Resource Specification for type of Physical Resource or Equipment. Synonym: Equipment
Escalation			
Exchange			
Fault			An identified/classified occurrence on a Service or Resource Instance that is causing a degradation in service delivery - for this and possibly for other Service Instances. A single Fault may be raised to cover many Troubles. A Fault may be initiated as a result of either Customer contact or Network Events/Alarms. This class represents an OCS Action Request/Fault Report arising from the initial Contact Report (Business Interaction Outcome).
FM			*Fault Management/Field Manager – not clear?*
FRIACO			Flat Rate Internet Access Call Origination (FRIACO) is a flat rated 'call package' that allows OLOs and BT Global Services to collect narrowband internet calls originating on the BT Network using an Ofcom allocated 0808 99 number range.
Indirect Access			
Infonow			
Invoice			
IPStream			
ISDN			Integrated Services Digital Network – an all digital network that allows a whole host of services to be carried together on the

			same circuits. It can be considered to be an extension of the public switched telephone network, the key similarity being that it permits any two compatible pieces of connected equipment to talk to each other. This means that ISDN can carry any form of data, such as voice, video and computer files
IP Telephony			
LAN			Local Area Network – A term usually used to describe the communications infrastructure within a building. Sometimes extended to bridged networks over a wider area. A LAN is a network that operates within a limited geographical area, such as within a building. It connects a variety of data devices, such as PCs, servers and printers. Communication between devices is at a very high data rate, between 1 and 50 Mbit/s
Learning Solutions			*Product Offering?*
Line			
Mailnow			*Product Offering?*
Megastream			*Product Offering?*
Netstream			*Product Offering?*
Network Feature			CCM Resource Characteristic?
Office Anywhere			
Order			A request from one Party to another for the provision of goods which may be of the form of a Product, Service or Resource.
Order Status			The state at a point in time in which the order may be as defined by the Order State Model.
Outage			
Number			See Telephone Number
Payment			A type of Financial Transaction where the business makes a Payment to a third party, eg a Supplier.
Phonebook			*CCM has Service Directory*
Private Circuit	Partial		
Router			
Settlement			A type of Financial Transaction where a

			payment is made to a third party as part of a contractual agreement, eg a Merchant Settlement where the business sells some or all of the goods that a Customer buys on behalf of a Third Party.
SDSL			Symmetric Digital Subscriber Line – Uses a single wire pair to carry a few Mbit/s of data. However unlike ADSL, upload and download speeds for the user are the SAME (hence symmetric versus asymmetric)
SiteConnect			*Product Offering?*
SMARTnet			*Product Offering?*
SMP			Significant Market Power (Ofcom)
Storage Area Network			
Telephone Number			Type of Resource Identifier assigned to a PSTN line and also used to identify the Service Instance provided to a Customer. It is a Resource in its own right, ie there is a finite number of Telephone Numbers, and is grouped into banks with specific prefixes, number combinations etc. The Telephone Numbers are managed according to E164 which is the ITU-T recommended numbering plan. Numbers are formatted as County Code, National Destination Code and Subscriber Number. Initially, the scope of the capability includes E1641 numbers only, but it is likely that additional formats will need to be supported in the future, e.g., ENUM and domains. Synonym: Directory Number
TISBO			Traditional Interface Symmetric Broadband Origination – e.g. partial private circuits
Trouble Ticket			CCM Fault Action Request: Type of Action Request relating specifically to a Fault. Synonym: Trouble Ticket
Trunk			

Trunk Segment			
UMTSnet			*Product Offering?*
Videostream			*Product Offering?*
Web Call Connect			*Product Offering?*
Wholesale Access			
Wholesale Calls			
Wireless LAN			

ANNEX 7: Consult 21 System Interface Requirements Process Templates

This annex contains “To-Be” process model developed at Consutl21 Systems and Process expert meetings in early 2006 and the supporting “As-Is” templates created in process workshops run in November and December 2005. The workshops covered the key processes impacting customers, i.e. Lead to Cash, Trouble to Repair and Billing.

Each “2B” section provides further definition of the process area and lists the templates included or referred to.

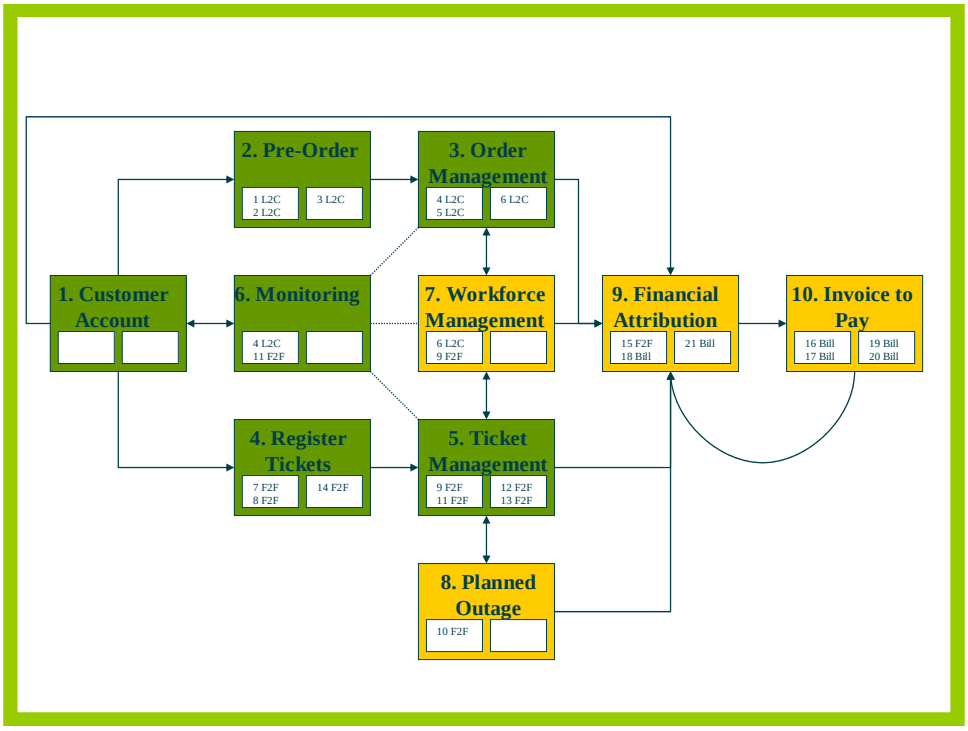


Figure 7: Generic To-Be Process Model

Colour code is Green for major impact anticipated and mauve for areas outside of the immediate scope of influence.

The Customer account activity is a new addition, the lack of identified sub-processes indicates that this is still work in progress rather then no sub-processes exist.

The monitoring activity effectively covers all of the other boxes and will be updated to include management, i.e. reaction to events as appropriate.

The financial attribution activity handles all costs and charges as well as contractual obligations that influences an actual invoice.

Contents:

Generic Process	As-Is Processes Templates Captured At Workshops
2B.0 Process Template	
2B.1 Customer Account	N/a
2B.2 Pre-Order	• 1 L2C Forecast Order.doc • 2 L2C Pre-order check.doc • 3 L2C Place Order.doc
2B.3 Order Management	• 4 L2C Order Status.doc • 5 L2C Order Complete.doc • 6 L2C Arrange appointment.doc
2B.4 Register Tickets	• 7 F2F Pre-fault check.doc • 8 F2F Raise Trouble Ticket.doc • 14 F2F Re-open trouble ticket.doc
2B.5 Ticket Management	• 9 F2F Arrange Appointment.doc • Refers to 11 F2F Progress update on trouble ticket.doc • 12 F2F Escalation.doc • 13 F2F Close trouble ticket.doc
2B.6 Monitoring	• Refers to 4 L2C Order Status.doc above • 11 F2F Progress update on trouble ticket.doc
2B.7 Workforce Management	• Refers to 6 L2C Arrange appointment.doc • 9 F2F Arrange Appointment.doc
2B.8 Planned Outage	• 10 F2F Manage planned outage.doc
2B.9 Financial Attribution	15 F2F Raise and confirm charge.doc 18 Billing Dispute.doc 21 Billing Settlement&Receipt Acknowledgement - Lack of.doc
2B.10 Invoice to Pay	16 Billing Invoice.doc 17 Billing Invoice Data Requirements.doc 19 Billing Settlement&Receipt Acknowledgement - Netting.doc 20 Billing Settlement&Receipt Acknowledgement Payment.doc

2B.0 Process Template

*Ref	*Name	*Description
Unique ref code	*A title for the interface*	*A paragraph describing the purpose of the interface*

*Product Groups	Key Exclusions
The product group that this interface requirement applies to	*Any key exceptions or circumstances in which an exception would apply*

*Interface Direction	Associated Interface
Details on who the interface is To and From, e.g. from CP Layer to Wholesale	*The Unique Ref Code of next time-based interface, e.g. the ID of the interface that provides a response back*

*Key Data Elements
The key data elements that the Interface is required to carry, e.g. Customer Address, etc. In particular, the interface Key must be specified, i.e. Unique Customer Identifier, Source Communication Provider, Identifier Product Identifier, etc. *This should be shown as a list of Data Names and Descriptions*

*Freq of Use	*Throughput	*Response Time	*Availability
How frequently is the interface expected to be used, e.g. 10/day, 20/month, 100/hr, etc	*What is the max volume of throughput is the Interface expected to handle at any one time, e.g. 1000/hr*	*How quick is a response required and from which interface*	*The availability and resilience requirements, e.g. 7am – 10pm, 7-days/week with an uptime of 99.5 %, or max downtime of 3 hrs/wk*

*Responses Required
Details of any acknowledgement that is required and the types of response expected. E.g. Request Accepted, Request Rejected (Code x), Service Unavailable, Service Timeout, etc

*Level of Automation Required
In most cases this will be 'Fully Automated' but this box enables details of exception process to be handled, e.g. Fax backup interface required

Business Justification	*Validation Requirements
Details on the justification that can be used to build a business case, should one be required. E.g. if the equivalent interface today costs £x to operate, then automating it could bring the cost down to £y	*Details on the Validation that is required either Before data is sent through the interface or After data is received through the interface*

*Technical Implementation Requirements
Details on the Technical Implementation Requirements. E.g. WEB Portal, XML, batch-file, etc

Futures
*A **Futures** section has now been added to each template an includes comments made against the following **seven criteria**:* *1. Products that require supporting - what BT products do you/are you likely to use the process with* *2. Stretch targets for processes - do things faster, more automation, etc.* *3. Flexibility for future growth - supporting ongoing change, do more, do it different etc.* *4. Industry best practice - what you know others do well* *5. Future proofing - known NGN developments in your own organisation* *6. Blue Sky - long term vision of the future* *7. Operator specific requirements - what do you do that is different to other operators*

** Items marked with asterisks are mandatory.*

2B.1 Customer Account

EXPERT GROUP SUMMARY:

- Scope:
    - Setting up and managing of customer accounts to enable customers to order services , raise fault tickets and generally monitor and manage all aspects of NP's services
- Assume
    - Low volume & outside scope of industry framework
    - All wholesale customers account managed
- Definition
    - Agreed low priority for now

TEMPLATES COVERED / REFERRED TO

None – See above

o

2B.2 Pre-Order

EXPERT GROUP SUMMARY:

2. Pre-Order - Options/prices/availability

- Fully automated
- Options back based on input parameters may iterate
- VISION std rq to many providers
- Additional options presented back – ie extra products/options
- Ability to reserve (auto time limited)
- Forms/template based pre-filled to add changes for repeats
- Presentation dependant on CP/customer size
- Eventual selection (ie hard order) facility

TEMPLATES COVERED / REFERRED TO

1 L2C Forecast Order.doc
2 L2C Pre-order check.doc
3 L2C Place Order.doc

1 L2C Forecast Order.doc

*Ref	*Name	*Description
CI002	**Forecast Order**	Forecast of volume requirements (per quarter / third) per product per service. E.g. WLR, CPS, PPC, WES, Switch Interconnect
***Product Groups**		**Key Exclusions**
2 & 3 (specifically WLR2, CPS, PPC, WES, BES & Switch Interconnect)		Other Wholesale products
***Interface Direction**		**Associated Interface**
CP → BTW / openreach (supplier)		
***Key Data Elements**		
Product Volume Time scale (i.e. the time period covered for the forecast)		
***Freq of Use**	***Throughput**	***Response Time**	***Availability**
Monthly per product	One per product per CP	5 working days	Business working hours 8:30 – 18:00

*Responses Required
Acknowledgement Agreed Reject
***Level of Automation Required**
Full

Business Justification	*Validation Requirements
Better mgt of internal resources for wholesale supplier	Percentage change check against previous forecast Relevant schedule and contract in place

*Technical Implementation Requirements
WEB Portal & XML
Futures
1. All products, and any combination of products from any "BT Group" company, both now and in the future 2. Response should be immediate Access / availability required 24/7 Should also have the ability to forecast costs 3. As 2 above 4. N/A 5. As 2 above 6. The forecast should become a consequence of the network, and timescales should be reduced to zero as forecasting becomes a part of the ordering process. 7. N/A

2 L2C Pre-order check.doc

*Ref	*Name	*Description
	Pre-order Check	Request to perform the following: • Match location • Service Available at location (Y/N) • Capacity availability in location (Y/N) • Number reservation for service • Line characteristics check (compatible products) • Appointment availability check • Reserve appointment (time period) • MAC request

*Product Groups	Key Exclusions

*Interface Direction	Associated Interface
Initiated by CP to W/S / OR (supplier)	

*Key Data Elements
Match location In: Postal address. Grid reference. Location description. Out: Valid address - matched location with address. Unknown address. Suggested address Service Available at location

In: Product/ Service. Product options/ features (bandwidth etc.). Post code. (Matched) address (from previous check). Grid reference

Out : serving exchange, availability information. Ready for service date. Conflicting services. Specify invalid options.

Capacity availability in location

In: matched address/site, quantity/volume.

Out: yes/no (capacity present and available – specific to the site)

Number reservation for service

In: matched address/site, number preferences/requests.

Out: number(s) plus expiry date

Line characteristics check (compatible products)

In: service id or line id/ circuit id. Product/ product options/features (required) list.

Out: line characteristics, can the feature be provided (y/n), appointment required y/n)

Appointment availability check

In: Product. Product options. date/time window. Site/ address. Service id/ SLA.

Out: list of slots/ references

Reserve appointment (time period)

In: slot ref.

Out: y/n. expiry time. (Slot is linked to a specific service request)

MAC request:

In: service id.

Out: MAC key, expiry date and time

Requirements:

- All interfaces require CP identity
- Could require agreed forecast serial number (for those that have a forecast)
- Customer reference number (for a group of services and different sites)
- need rule governing ordering in advance of RFS date.
- May need to identify location by number?
- Shouldn't allow re- use of appointment slot across orders. Slots are not transferable.
- Conflicting services identified

*Freq of Use	*Throughput	*Response Time	*Availability
Interactive. Not batch (end user products Daily high volume (7500/day in total for all CPs (infrastructure products))	1000s per hour potentially (end user products - depends on the product and CP market) 150 at any one point during a day (infrastructure products)	Real time. Sub-10 secs. (While customer is on the phone). Eg. For post code matching. Deferred response in some cases eg. Grid ref/description	24/7/365

*Responses Required

As above

*Level of Automation Required

Full

Business Justification	*Validation Requirements
	- Valid CLIs (match to postcode etc.) - CP owns service - CP product entitlement

*Technical Implementation Requirements
- Portal - Web service/ B2B/XML
Futures
1. All products, and any combination of products from any “BT Group” company, both now and in the future. 2. One “Location” database accessed by all Does this exist already Should end discrepancies from operator to operator 3. The ethos of the pre-order check should be, “What can I do”, instead of “Can I do it”. Are there any network constraints, such as faults, bottlenecks etc. 4. Airline and travel agent industry. 5. N/A 6. There should be “stand by” capacity available – when capacity becomes available, let me know and then provide to first choice. Or if option one is not available, let me know when it is. 7. N/A

3 L2C Place Order.doc

*Ref	*Name	*Description
	Place Order	Covers the following interfaces: • Order Entry • Acknowledge order • Reject order • Confirm order Covers the following order types: • Provide, • Modify, • Cease, • Transfer
***Product Groups**		**Key Exclusions**
***Interface Direction**		**Associated Interface**
Initiated by CP to W/S / OR (supplier)		

***Key Data Elements**

Generic	*Product Specific*
Order Entry CP Product, Billing account, CP contact details (name email (optional), number & address) volume, Sites/ Service Delivery Address, Customer/end user contact details (name email (optional),	Associated handover bearer Bandwidth Reserved number, (handover point, tie cable details, interconnection point). Separacy, diversity, resilience For Infrastructure products Service id = Circuit id

number & address) Site access details, Appointment details, product features/ options Customer required by date, order type(provide, modify, cease, transfer), linked order references, CP order reference, Service id (for modify, cease, transfer) Fasttrack request and equivalent processes *(information could be carried forward from Pre-order)*	
Acknowledge order Repeat of order details, Supplier (BT) order reference,(no commitment at this stage)	
Reject order CP order ref, Supplier (BT) order ref, Rejection reasons	

Confirm order CP order ref, Supplier (BT) order ref, Committed date, Rental liability date price (not always, could be a standard pricelist charge), features, service parameters (ddi, pin numbers), service id, linked order references	Port, Trib, jklm, SNEID

*Freq of Use	*Throughput	*Response Time	*Availability
Interactive or batch	50,000 per day potentially (depends on the product and CP market)	Product specific Real-time - 1 hour (acknowledgement) Real time- 24 hours (confirm/ commitment, rejection). Some products could be less	24/7

*Responses Required
As above

*Level of Automation Required
Full

Business Justification	*Validation Requirements
	- Valid CLIs (match to postcode etc.)

	- CP owns service - CP product entitlement - CP Billing account - Creditworthiness - Conflicting pending orders

***Technical Implementation Requirements**

- Portal
- Web service/ B2B/XML

Futures

1. All products, and any combination of products from any "BT Group" company, both now and in the future.
2. There should be "on demand" provisioning where possible for services and for capacity in the future.
3. Needs to be able to recognise customer, previous requirements on an end to end basis and be able to meet complex needs for Capacity, service and data requirements.

   In a CP to BT or a Customer to CP case, there would need to be a pick list available that takes into account previous orders and allows these to be used as a template for a new order (e.g. same as previous order)
4. N/A
5. N/A
6. Should have the ability for "one touch" ordering as a follow-on from pre-order checks

   7. N/A

2B.3 Order Management

EXPERT GROUP SUMMARY:

3. Order Management – firm order received

- Provision clock starts – re SLAs/contract starts
- Basic order only requires configure/activate
- More complex has physical connection/supply CPE
- Most complex has capacity provision and civils
- Big/complex = project management
- Complex order proactive updates
- Jeopardy management
- Change control/date management
- Testing & handover
- Delivery & agreement – provision clock stops
- Billing & settlement
- Billing clock/in life service management starts

TEMPLATES COVERED / REFERRED TO

4 L2C Order Status.doc
5 L2C Order Complete.doc

4 L2C Order Status.doc

*Ref	*Name	*Description
CI005	**Order Status**	Notifications required back to the CP whilst the order is being provided

*Product Groups	Key Exclusions
2 & 3	

*Interface Direction	Associated Interface
BTW / openreach (supplier) → CP for progression updates CP → BTW / openreach (supplier) for a status request	

***Key Data Elements**

Supplier (BT) Order reference number

Supplier (BT) Service id/ Circuit ID

Progression stage:

- Progression status plan specific to the order that the above then report against, e.g.
  - Order Accepted / Rejected (incl. reason)
  - Contract Delivery Date (latest expected delivery date) (CDD)
  - Planning complete (incl. costs)
  - Confirmed Costs (FOC / day 21)
  - Target Completion Date (TCD)
  - Testing complete
  - Data complete
  - Jumpering complete
  - Fit and Test Date
  - Wayleaves obtained
- Order referral
- Order Cancellation Plan (i.e. cancellation costs at various points within the delivery cycle)

*Freq of Use	*Throughput	*Response Time	*Availability
150,000 per day (min 30,000 per day)		Near real-time (10-15 minutes from the time the status changes)	24/7, 365 days/yr

***Responses Required**

Acknowledgement of receipt of the status

***Level of Automation Required**

Full

Business Justification	*Validation Requirements

***Technical Implementation Requirements**

CP → BTW / openreach WEB Portal & XML (on demand status check)

BTW / openreach → CP XML (order progression status updates)

Futures

1. All products, and any combination of products from any "BT Group" company, both now and in the future.

2. System should interrogate all of the available systems, in order to show all of the available status measurements.

3. There should be reciprocity wherever possible. There should also be the ability to "drill down" into 3rd party info when available.
   - We should be able to prioritise and re-prioritise orders
   - There should be a proactive notification of an order status to key individuals involved in an order based upon some pre-agreed RAG rules
4. Amazon, Play.com
5. N/K
6. Would want to know when ever there is a status change to an order etc.
7. Not at this time.

5 L2C Order Complete.doc

*Ref	*Name	*Description
CI006	**Order Complete**	Order Completion / Order Failure Report Notification from the CP that the Order has been fully delivered or has failed before going into full service (which could be some time after the service was delivered)

*Product Groups	Key Exclusions
2 & 3/ all	Interconnect Circuits

*Interface Direction	Associated Interface
CP → BTW / openreach (supplier)	

***Key Data Elements**

Supplier (BT) Order Reference Number

Status:

1. Order completed and tested
2. Order completed but not customer tested
3. Order E2E test failure

Service Delivery Site

*Freq of Use	*Throughput	*Response Time	*Availability
Approaching one per Order		Acknowledge in near real-time Within 1 hr in response to "Order E2E test failure"	Business working hours Mon-Sat 8:30 – 18:00

***Responses Required**

Acknowledgement in response to status 1 & 2

Engineer response to 3 (time to fix)

***Level of Automation Required**

Full

Business Justification	*Validation Requirements
CP ability to respond to a "Dead on Arrival" situation – improved customer experience Engineering costs to CP Revenue loss to supplier (BT) (refund for DOA service)	Recognised order at an appropriate place in the fulfilment process

***Technical Implementation Requirements**

WEB Portal & XML

Futures

All products, and any combination of products from any "BT Group" company, both now and in the future

2-7. See 4L2C "Order Status"

2. Ensure that all new capacity, services etc, are made known to all related systems (e.g. billing, inventory) and ensure the automated alignment across these systems so that the new capacity is can be used, billed, paid for etc. without the need for manual intervention.

6 L2C Arrange appointment.doc

*Ref	*Name	*Description
	Arrange Appointment	As for F2F Arrange Appointment

*Product Groups	Key Exclusions

*Interface Direction	Associated Interface
CP → BTW / openreach	

*Key Data Elements
Linked to Supplier Order Reference

*Freq of Use	*Throughput	*Response Time	*Availability

*Responses Required

*Level of Automation Required

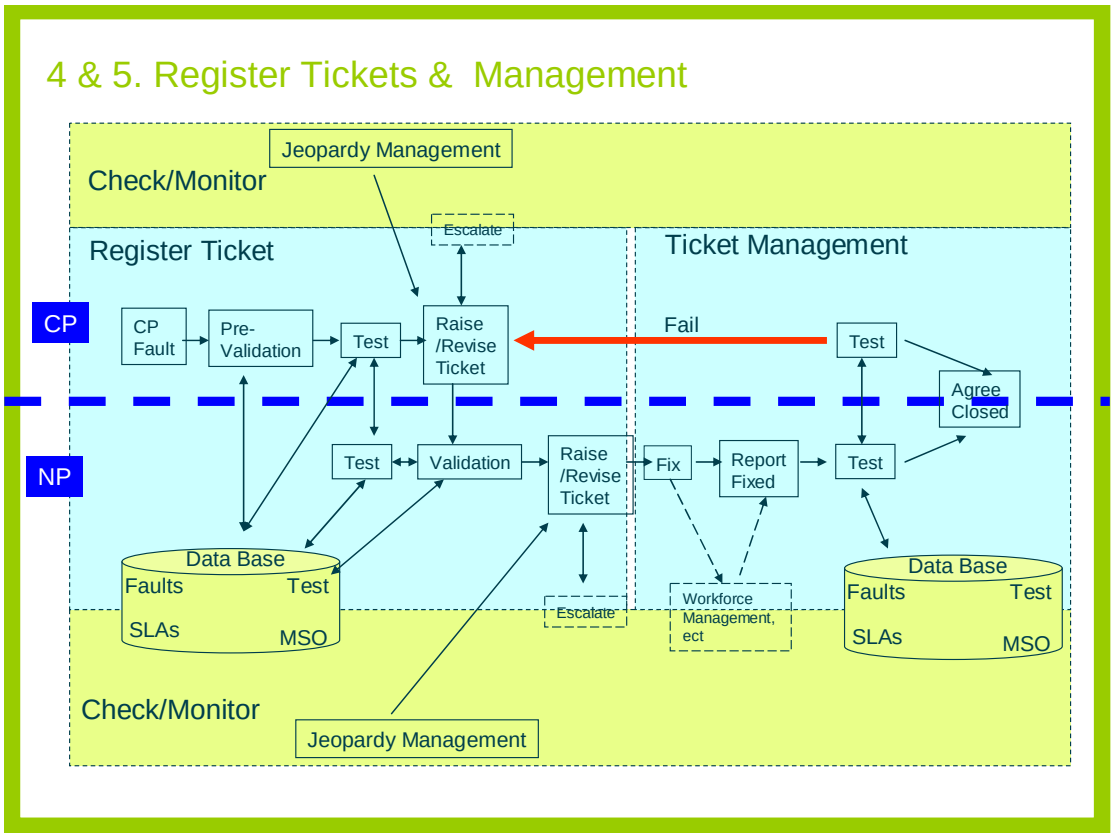
Business Justification	*Validation Requirements

*Technical Implementation Requirements

Futures
This is a status in a BAU process. This should be a standard for all "Appointments" which is another process that is required for more than just Orders See also 4L2C "Order Status" 3. Visibility of diaries across organisations to align appointments that require attendance from more than BT or Telewest

2B.4 Register Tickets

EXPERT GROUP SUMMARY



4 & 5. Register & Manage Ticket

- Communications Provider (CP) Actions
  - CP wants to Raise Fault
    - Runs test
    - Gets response
      - Pass
      - Fail
  - CP raises fault
  - CP checks status
  - E2E test when reported cleared
  - Agrees cleared or re-raises or escalates
- Network Provider (NP) Actions
  - NP raises ticket
    - Checks contract/SLA
    - Runs diagnostics
    - Checks test database
  - Fixes without engineer visist
  - If engineer required
    - Request appointment
    - Dispatches engineer
  - Reports Cleared
  - E2E testing ?
  - Agreed cleared with customer
- NP reports Status
  - Raises/fixed/appointment/dispatched /cleared/in jeopardy/escalated

5. Ticket Management

Agree Close Ticket
- CP to CP / B2B
- Multiple methods of closure
- Allow iterations
- Originator responsible for closure
  - First option customer closure
  - But timeout Plus
- NP/supplier indicates closed/fixed
- Chargeable / non-chargeable
- Milestones
  - Fixed
  - Cleared/closed
  - Plus history / fault log
  - (Could have multiple fixed dates)
  - Clear codes
- Issues
  - How to deal with “rubbish” tickets

TEMPLATES COVERED / REFERRED TO

7 F2F Pre-fault check.doc

8 F2F Raise Trouble Ticket.doc

14 F2F Re-open trouble ticket.doc

7 F2F Pre-fault check.doc

*Ref	*Name	*Description
	Pre-Fault Check (lines)	To find a fault or to know if there is an existing fault on the line, and to find type and location. To get real time visibility of major incidents that may affect CP product integrity.

*Product Groups	Key Exclusions
	Major Service Outage - If the fault is obvious.

*Interface Direction	Associated Interface
Both ways	

***Key Data Elements**

Request

- CP, Account code, Service id, product type (e.g.. Config details or line speed), fault type/code, affected resource id, fault details/ plain language description
- Location
- Data that may affect the algorithm.
- Answers to standard questions (e.g. Intrusive tests allowed?)
- Point of contact details

Response

- Fault type, fault location, appointment required?
- Ref to MSO or existing open fault
- Test reference
- Services on the line (OCB, Route to credit control).
- Impact on supported services
- Service based test result (IPstream: Radius log ids, cell count, etc)
- Anticipated fix time

*Freq of Use	*Throughput	*Response Time	*Availability
Approx. No. of faults times 5 (end user) Once per major incident (infrastructure)	Dependent on product and seasonal and local fluctuations Once per major incident (infrastructure) Multiple viewing	Updated in real time. Seconds - minutes	24/7/365

***Responses Required**

c

***Level of Automation Required**

Full

Business Justification	*Validation Requirements

Stops unnecessary fault reporting Provide visibility of major faults affecting customers. To stop unnecessary raising of faults.	• CP is provider of service. • Service id valid • Exceeding a specified threshold

*Technical Implementation Requirements

- Web Portal (typically for smaller CPs)
- XML (typically for larger CPs)

Futures

1. All products, and any combination of products from any “BT Group” company, both now and in the future

2. Real time tickertape updates. All info should be populated from the "Inventory"

Link an issue to an existing fault without the need to raise a new fault on any system.

3. Tell me when there is a fault. All downstream system should give automated updates and alert me when the fault is cleared in near real time. Direct link into a diagnostics package (Eco Repair)

4. BBC Ticker

5. N/A

6. Fault Clear should be cascaded to all "Customers" (end users), TLW included.

Automated set-up and clearance of IVR messages regarding major faults

Enable dynamic routing, within routing plans, to avoid faulty network (delivered through Network Hooks)

7. N/A

8 F2F Raise Trouble Ticket.doc

*Ref	*Name	*Description
	Raise Trouble Ticket	Log a trouble report of a particular service that requires investigation or fix
***Product Groups**		**Key Exclusions**
		MSO – discouraged but not excluded . Or during provision
***Interface Direction**		**Associated Interface**
Both ways		

*Key Data Elements

Request

- CP, Account code, CP ticket id, Service id, product type (e.g.. Config. details or line speed), fault type/code, fault details/ plain language description
- Affected resource id.
- Location of resource (if appropriate)
- CP Priority/ Severity (customer impact)
- Answers to standard questions (i.e. Intrusive tests allowed?)
- Test reference
- Appointment access details (for period of SLA fix)
- (Appointment reference)
- CP diagnostics
- Point of contact details

Response

- Fault type(s), fault code, fault location, appointment required? Description in plain language.
- Ref to MSO or existing open fault. Link to fault

- Trouble Ticket id.
- CP, Account code
- CP ticket id.
- Estimated clear time
- Priority based on SLA and fault (confirmation of prioritisation assigned by CP)
- SLA start time
- SLA end time (estimated – calculated at a point in time as best as possible)
- Time of next update
- Likelihood of site access required
- Affected resource id.
- Associated Care package (g. total care)
- Fault History
- Associated ticket ids.
- Location of resource (if appropriate)
- Tests carried out and results
  - 'No fault found'/ 'right when tested'.
  - 'Fault of type reported not found'
  - 'Early life failure'/ 'provisioning failure'
- Point of contact details

*Freq of Use	*Throughput	*Response Time	*Availability
Equivalent to No. of faults per product	Dependent on product and seasonal and local fluctuations. 10's per CP per day (infrastructure products)	Depends on SLA. Few minutes to 48 hours. Real time acknowledgement	24/7/365

*Responses Required

c

*Level of Automation Required

Full

Business Justification	*Validation Requirements
• Cost reduction • Accuracy • Record and analysis • Improve service to users • Reduce manual intervention • Improves process of fault handling	• CP is provider of service. • Account number valid • Pre-report diagnostics complete (product specific e.g.. WOOSH) • Service id valid • Resource id valid • Fault of reported type exists • Required info provided

*Technical Implementation Requirements

- Web portal (typically for smaller CPs) and
- XML (typically for larger CPs)

Futures
See 11F2F "Progress Update on Trouble Ticket" 1. All products, and any combination of products from any “BT Group” company, both now and in the future 2. To be populated automatically, by output from 7F2F "Pre Fault Check". • To include description of fault. • Require an auto acknowledgement in real time for receipt to activate an SLA. • Should include relevant information from all associated trouble tickets. • Real time updates upon the status 3. N/A 4. N/A 5. Self healing networks that can raise their own tickets, and manage the capacity to minimise disruption. 6. No Faults!!! 7. N/A

14 F2F Re-open trouble ticket.doc

*Ref	*Name	*Description
Unique ref code	**Re-open trouble ticket**	Re-open fault perceived to have been closed in error
***Product Groups**		**Key Exclusions**
***Interface Direction**		**Associated Interface**
Both ways		

*Key Data Elements
Request (from CP): • Trouble ticket id. • Reason for re-opening (e.g.. Customer feedback) • fault type/code, • Care level (one-off) • Severity (customer impact) • Appointment access details (for period of SLA fix) • (Appointment reference) • CP diagnostics Response(W/S to CP) as per original fault report response: • Fault type (s), fault location, appointment required? • Ref to MSO or existing open fault. Link to fault • Trouble ticket id. • Estimated clear time • SLA start time • SLA end time (estimated – calculated at a point in time as best as possible) • No fault found/ right when tested. • Fault of type reported not found • Early life failure/ provisioning failure

*Freq of Use	*Throughput	*Response Time	*Availability
	Dependent on product +		

Sub-set of faults	seasonal and local fluctuations	Depends on SLA. Few minutes to 48 hours	24/7

*Responses Required

*Level of Automation Required

Full

Business Justification	*Validation Requirements
• Cost reduction • Accuracy and record	• Trouble ticket id

*Technical Implementation Requirements

- Portal
- XML

Futures

1. All products, and any combination of products from any “BT Group” company, both now and in the future

This should go back to 8F2F "Raise Trouble Ticket", which should ask if this is a previous trouble ticket. Should then follow the same process as 11F2F "Progress Update Trouble Ticket"

2B.5 Ticket Management

EXPERT GROUP SUMMARY

See 2B.5 Ticket Management section

TEMPLATES COVERED / REFERRED TO

- 9 F2F Arrange Appointment.doc
- Refers to 11 F2F Progress update on trouble ticket.doc
- 12 F2F Escalation.doc
- 13 F2F Close trouble ticket.doc

9 F2F Arrange Appointment.doc

*Ref	*Name	*Description
	Arrange Appointment	Agree end user appointment for engineer visit site to fix fault.
***Product Groups**		**Key Exclusions**
Not for CPS. Undesirable for DSL (commercial reasons)		
***Interface Direction**		**Associated Interface**
Both ways		

***Key Data Elements**

Request (w/s supplier to CP)

- Trouble ticket id.
- CP ticket id.
- Affected resource id
- Fault details (description in plain language)
- Point of contact details
- Site code/id, address
- Type of access required (e.g.. Key holder or CP engineer required)
- Available appointment slots (Start and end times, or ASAP) (appointments in line with SLA). Expected duration

CP response (could be submitted more than once, e.g.. Select and then re-schedule)

- Trouble ticket id.
- Selected slot. Preferred time.
- Request for further slots
- Reject
- Access info. Site contact and telephone numbers
- Hazard info

Interface could be initiated by CP i.e. Request for a slot within a given period, e.g.. either on-line or through pre-allocated slots to CPs

*Freq of Use	*Throughput	*Response Time	*Availability
Proportional to No. of faults	Dependent on number of faults	Depends on product and SLA	Dependent on SLA 24/7/365 (infrastructure)

	10's per CP per day (infrastructure)	Real time appointing (infrastructure)	

*Responses Required

*Level of Automation Required

Full. Or manual escalation if required

Business Justification	*Validation Requirements
• Cost reduction • Improve service to users • Reduce manual intervention (cost) • Reduce abortive call-outs • Improves process of fault handling • Reducing additional communications	• Valid Resource ID • Trouble Ticket Ref • Authentication of recipient

*Technical Implementation Requirements

- Web portal (typically for smaller CPs) and
- XML (typically for larger CPs)
- (possibly SMS with end user)

Futures

This is the same action / process as 6L2C, and should be available to link to from all relevant process steps.

See also 11F2F "Progress Update on Trouble Ticket"

1. All products, and any combination of products from any "BT Group" company, both now and in the future
2. N/A
3. Visibility of diaries across organisations to align appointments that require attendance from more than BT or Telewest

12 F2F Escalation.doc

*Ref	*Name	*Description
	Escalation	Escalation of a fault initiated by the CP through the changing of fault details (eg. priority and severity) Driven by requirements of the SLA, fault priority, severity, and related escalation and jeopardy requirements

*Product Groups	Key Exclusions

*Interface Direction	Associated Interface
CP to W/S (supplier)	

*Key Data Elements

Data

- Trouble ticket id.
- CP priority
- Status
- Change to severity
- Escalation reason
- Fault type (s)/ code, fault location,
- Description in plain language
- Resource id.
- Escalation level. Authorised escalators and plan
- Required time to repair

*Freq of Use	*Throughput	*Response Time	*Availability
Daily	Dependent on product + seasonal and local fluctuations. Average 1 per CP per day (infrastructure)	Depends on SLA or events	Dependent on SLA 24/7/365 (infrastructure)

***Responses Required**

Accept or reject

***Level of Automation Required**

Manual with system update.

Business Justification	*Validation Requirements
• Create audit trail • To allow delivery against SLAs • Managing resource for importance and urgency	• Valid Resource ID • Trouble Ticket Ref • Authentication of escalator

***Technical Implementation Requirements**

- Web portal (typically for smaller CPs) and
- XML (typically for larger CPs)
- Phone
- Email

Futures

See 11F2F "Progress Update on Trouble Ticket"

1. All products, and any combination of products from any “BT Group” company, both now and in the future

13 F2F Close trouble ticket.doc

*Ref	*Name	*Description
	Close Trouble Ticket	• Closure of a fault with details of actions taken to fix. • Could trigger breach process.

		• Could trigger submission of charges

*Product Groups	Key Exclusions

*Interface Direction	Associated Interface
W/S to CP	

***Key Data Elements**

Data

- Trouble ticket id.
- CP ticket id
- Status of fault
- Affected resource id.
- Confirm fix or fault not fixed details W/S clear code. Final diagnosis. What was wrong. Root cause
  - Fault code
  - Description in plain language (inc update/history to date)
  - Fix code e.g.. New line card.
  - Confirmation of actual location of fault
  - Actual fix time (re-establishment of service)
  - Work done,
  - Engineering notes
- elapsed time (customer downtime minus parked time) For comparison with SLA
- Customer test y/n. Confirmed with end user y/n.
- Permanent fix or further work required
- SLA passed y/n
- Actual charges incurred

[Editor's note: Following discussion at the end of the meeting it was proposed that there should be a CP close confirmation interface. The interface discussed in the syndicate didn't define this (although it was discussed and there were mixed views on its necessity). The view was that if there was the facility to re-open an order without re-entering old data and with the original clock settings then the need for a 'CP close' interface was less of an issue. However it was still seen by some as necessary – Jeff Cutting Consult21]

*Freq of Use	*Throughput	*Response Time	*Availability
Proportional to No. of faults and fix time	Proportional to No. of faults and fix time	Depends on SLA or events. Real time (infrastructure)	Dependent on SLA 24/7/365 (infrastructure)

***Responses Required**

Accept close or re-open ticket

***Level of Automation Required**

Full

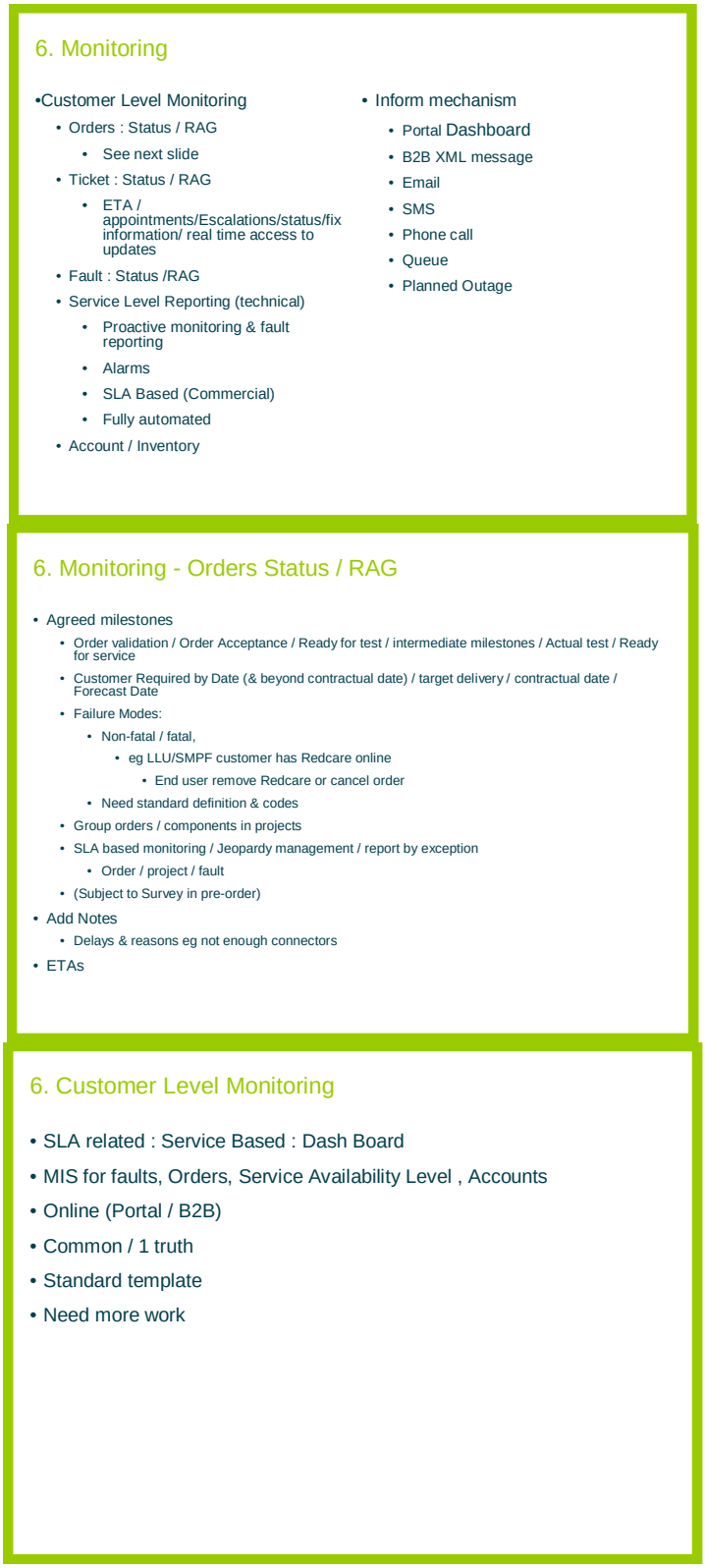
Business Justification	*Validation Requirements
• Improve service to users • Reduce manual intervention (cost) • Enabling analysis • Improves process of fault handling	• Valid Resource ID • Trouble Ticket Ref

*Technical Implementation Requirements
• Web portal (typically for smaller CPs) and • XML (typically for larger CPs) • Email • SMS

Futures
See 11F2F "Progress Update on Trouble Ticket" 1. All products, and any combination of products from any “BT Group” company, both now and in the future

2B.6 Monitoring

EXPERT GROUP SUMMARY



TEMPLATES COVERED / REFERRED TO

Refers to 4 L2C Order Status.doc above
11 F2F Progress update on trouble ticket.doc

11 F2F Progress update on trouble ticket.doc

*Ref	*Name	*Description
	Progress update on trouble ticket	Update CP with progress on Fault at predetermined intervals or as a result of events. By SLA, product and fault instance. Communication of current or changed status of ticket. Includes logging of fix details. Includes the escalation of a fault through the changing of fault details (eg. priority and severity) or as a result of a time trigger. Driven by requirements of the SLA, fault priority, and related escalation and jeopardy requirements

*Product Groups	Key Exclusions

*Interface Direction	Associated Interface
W/S to CP	

***Key Data Elements**

Data

- Trouble ticket id. CP priority
- Status of fault. Description in plain language
- Estimated clear time
- Checks carried out
- Work done
- Planned work/ next steps
- Change to severity
- Escalations
- Fix code (e.g.. New line card) - when fixed
- Confirmation of actual location of fault – when fixed
- Actual fix time – when fixed

Updates to

- Fault type (s)/ code, fault location,
- Additional requirements e.g.. appointment/access required? E.g.. Co-operative testing required
- Description in plain language
- Resource id.
- Location/site
- Ref to MSO or existing open fault. Link to fault (associated tickets)
- SLA start time
- SLA end time (estimated – calculated at a point in time as best as possible)
- Escalation level
- Time of next update
- Point of contact details
- No fault found/ right when tested.
- Early life failure/ provisioning failure

*Freq of Use	*Throughput	*Response Time	*Availability
Proportional to No. of	Dependent on product +	Depends on SLA or events	Dependent on SLA

faults and fix time	seasonal and local fluctuations. Average 10/ fault (infrastructure)	Real-time appointing(infrastructure)	24/7/365 (infrastructure)

*Responses Required

Escalation or confirmation of status change e.g.. Fix.

*Level of Automation Required

Full. Or manual escalation if required.

Business Justification

- Improve service to users
- Reduce manual intervention (cost)
- Improves process of fault handling
- Enables analysis

*Validation Requirements

- Valid Resource ID
- Trouble Ticket Ref

*Technical Implementation Requirements

- Web portal (typically for smaller CPs) and
- XML (typically for larger CPs)

Futures

Include 9F2F, 11F2F, 12F2F 13F2F

1. All products, and any combination of products from any “BT Group” company, both now and in the future
2.
    - Should include escalation management, to ensure that the correct tree is followed, and that escalations occur at the correct time!
    - Central diary for the management of resources
    - Ability to drill down to all of the affected network elements
    - Proactive notification based upon rag RULES
    - Automation of updates for all linked tickets
    - Auto forwarding of relevant information into charge raising 15F2F.
3. N/A
4. N/A
5. N/A
6. No Faults!
7. N/A

2B.7 Workforce Management

EXPERT GROUP SUMMARY

7. Work Force Management

- Can be evoked by:
  - Order management
  - Trouble Management
  - Planned outage
- Manages appointment Process
  - Includes third party suppliers
- Excludes
  - CPE/Kit/inventory
  - Skills assignment which comes later within NP process
- Assumes
  - Appointment dates & times have been pre-selected at pre-order check or order management
- Includes following activities
  - Confirm pre-order appointment slot
  - Cancel appointment & raise new one
  - Change appointment
    - Customer & NP
  - Appointment Failed
- Status
  - Needs to report order status
- **Issues/Outstanding:**
- When does the clock start ? When does it stop ? When is it suspended ?
- What statuses to report

TEMPLATES COVERED / REFERRED TO

Refers to 6 L2C Arrange appointment.doc
Refers to 9 F2F Arrange Appointment.doc

2B.8 Planned Outage

TEMPLATES COVERED / REFERRED TO

10 F2F Manage planned outage.doc

EXPERT GROUP SUMMARY

Agreed as low priority and out of scope for now

10 F2F Manage planned outage.doc

*Ref	*Name	*Description
	Manage Planned Outage	Agree (W/s with CP) an end user planned outage to fix a fault. Planned outages could be resulting from w/s fault. This could have the same interfaces as a customer reported fault
***Product Groups**		**Key Exclusions**
***Interface Direction**		**Associated Interface**
Both ways		

***Key Data Elements**

Request (w/s to CP)

- Trouble ticket id. or planned work reference number
- Available outage slots (Start and end times) (outage in line with SLA). Duration of outage within a time window.
- Justification and impact
- Backout plan – what happens if it doesn't work

CP response (could be submitted more than once, e.g.. Select and then re-schedule)

- Trouble ticket id. or planned work reference number
- Selected slot
- Request for further slots
- Reject
- Access info (if visiting end user)
- Hazard info (if visiting end user)

*Freq of Use	*Throughput	*Response Time	*Availability
Small sub-set of No. of faults	Small subset of number of faults	Depends on product and SLA	Dependent on SLA

***Responses Required**

***Level of Automation Required**

Full

Business Justification	*Validation Requirements
• *Cost reduction* • *Quality of service*	• Trouble ticket id or planned work reference

*Technical Implementation Requirements

- Portal
- XML

Futures

This should be a standard for all "Planned Outages" and not just those that relate to faults. This is another process that is required that is not fully defined here

1. All products, and any combination of products from any “BT Group” company, both now and in the future
2. Populate from trouble ticket as required.
   - Should allow direct access for normal planned outage / engineering works request to avoid faults being raised unnecessarily
3. Should update and append to all affected network elements until such time as the outage has been completed.
4. N/A
5. N/A
6. N/A
7. N/A

2B.9 Financial Attribution

TEMPLATES COVERED / REFERRED TO

15 F2F Raise and confirm charge.doc
18 Billing Dispute.doc
21 Billing Settlement&Receipt Acknowledgement - Lack of.doc

EXPERT GROUP SUMMARY

Agreed as low priority and out of scope for now

15 F2F Raise and confirm charge.doc

*Ref	*Name	*Description
	Raise and Confirm charge	Raising one-off charge for fault fix (w/s to CP). Eg. Where end customer has damaged equipment. DIY! Could charge ceiling or hourly rate.

*Product Groups	Key Exclusions

*Interface Direction	Associated Interface
Both ways	

***Key Data Elements**

Request (w/s to CP)

- Trouble ticket id.
- Charge amount
- Reason

CP response

- Fault reference number
- Charge authorisation

*Freq of Use	*Throughput	*Response Time	*Availability
Infrequent		Depends on product and SLA	Dependent on SLA

***Responses Required**

***Level of Automation Required**

Full

Business Justification	***Validation Requirements**
• Cost reduction • Quality of service	• Trouble ticket id

***Technical Implementation Requirements**
• Portal • XML

Futures
This could be seen as part of a "Financial Attribution" process that would relate to more than faults and is not fully defined here 1. All products, and any combination of products from any “BT Group” company, both now and in the future 2. This should be automatically invoked, on the closure of the trouble ticket. • Relevant fields should be copied across • Should also be accessible from planned outage and appointments processes 3. N/A 4. N/A 5. N/A 6. Automatic charging based upon agreed charging criteria helping to reduce the number of disputes 7. N/A

18 Billing Dispute.doc

***Ref**	***Name**	***Description**
Billing 3	Dispute	Dispute of Invoice
***Product Groups**		**Key Exclusions**
All		None
***Interface Direction**		**Associated Interface**
From receiving party to invoicing party		Invoice & Invoice Data

***Key Data Elements**
▪ **Dispute Data reference** ▪ **Element being disputed i.e.** o **Generic**: service component ID (e.g. site CLI and circuit); account number; order number (if applicable); effective billing date; invoice date; payment due date; control data for audit o **One-off**: ancillary charges; connection charges; transaction charges (e.g. CPS); set-up charges; rebates; cancellation charges; TRC; shift/re-arrangement charges. o **Recurring**: rental period covered; o **Usage Based**: Fraud EDRs; Rateable EDRs; Correction EDRs o Compliance to price list or price agreed;

- Reason for Dispute:
    - Volume differences (e.g. # of calls or date for bringing into service); pricing differences; service discrepancy (e.g. charge for fibre instead of copper)

*Freq of Use	*Throughput	*Response Time	*Availability
As per Invoice, invoice data or CDR feed	Variable	Acknowledgement of receipt of dispute: 1 working day.	24/7/365 for CDRs; office hours for all other invoice data

***Responses Required**

- Acknowledgement of receipt of dispute
- Tracking reference #
- Estimated time for resolution
- Reject/partial acceptance/acceptance of dispute
- Invoice updated to reflect result of dispute
- Credit issued if required
- Status of dispute resolution i.e. notes file associated with the dispute; outstanding/under review etc. associated with the invoice online.

***Level of Automation Required**

Manual; (Partial automation of dispute tracking.)

Business Justification	*Validation Requirements
Early dispute resolution; better understanding of dispute status.	Account reference; invoice number; items in dispute

***Technical Implementation Requirements**

Web portal or shared workspace.
Looking to find commonality with 'Trouble to Repair' interfaces

Futures

See 16 "Billing Invoice"

21 Billing Settlement&Receipt Acknowledgement - Lack of

*Ref	*Name	*Description
Billing 6	Settlement – Lack of	Non-settlement of invoice by due date

*Product Groups	Key Exclusions
All	None
***Interface Direction**	**Associated Interface**
From invoice originator	Invoice; dispute

***Key Data Elements**

- Invoice number

- Invoice amount
- Account number
- How late payment is
- Dispute references
- Consequences on non-payment
- Time until consequences or escalation procedure
- Late payment interest rate/charge

*Freq of Use	*Throughput	*Response Time	*Availability
Per unsettled invoice	Periodic	**As per contractual escalation procedure**	Office hours

***Responses Required**

- Acknowledgement of receipt of escalation
- Present formal dispute OR make payment
- Rejection of letter of demand

***Level of Automation Required**

Manual input from both parties

Fully automated tracking

Business Justification	*Validation Requirements
Cash flow visibility; credit management	Revenue Invoice references; cost invoice references; account numbers; dispute references; payment due date;

***Technical Implementation Requirements**

Web portal for information exchange and settlement advice.

Once payment has been agreed, the party making the payment will follow existing payment process.

Futures

See 16 "Billing Invoice"

2B.10 Invoice to Pay

TEMPLATES COVERED / REFERRED TO

16 Billing Invoice.doc
17 Billing Invoice Data Requirements.doc
19 Billing Settlement & Receipt Acknowledgement - Netting.doc
20 Billing Settlement & Receipt Acknowledgement Payment.doc

EXPERT GROUP SUMMARY

Agreed as low priority and out of scope for now

16 Billing Invoice.doc

<table>
<tr><th colspan="2">*Ref</th><th>*Name</th><th>*Description</th></tr>
<tr><td>Billing 1</td><td colspan="2">Invoice</td><td>Demand for payment for services</td></tr>
<tr><th colspan="3">*Product Groups</th><th>Key Exclusions</th></tr>
<tr><td colspan="3">All</td><td>None</td></tr>
<tr><th colspan="3">*Interface Direction</th><th>Associated Interface</th></tr>
<tr><td colspan="3">Both way</td><td>Invoice data</td></tr>
<tr><th colspan="4">*Key Data Elements</th></tr>
<tr><td colspan="4">▪ account number; invoice date; payment due date; Product type
▪ One-off: summary of charges per product type.
▪ Recurring: summary of charges per product type ;
▪ Usage Based: summary of charges per product type
▪ Compliance to price list or price agreed;
▪ Currency to be used
▪ Tax policy
▪ Discount package & application i.e. before & after
▪ Payment terms i.e. in advance, in arrears
▪ Bank account details for settlement</td></tr>
<tr><th>*Freq of Use</th><th>*Throughput</th><th>*Response Time</th><th>*Availability</th></tr>
<tr><td>One-off: Monthly or quarterly.
Recurring: Monthly or quarterly.
Usage based: Real-time</td><td>One-off & recurring: one per product type per period.
Usage based: N/A</td><td>Acknowledgement of receipt of invoice: 1 working day</td><td>24/7/365</td></tr>
<tr><th colspan="4">*Responses Required</th></tr>
<tr><td colspan="4">▪ Acknowledgement of receipt of invoice and completion of invoice</td></tr>
<tr><th colspan="4">*Level of Automation Required</th></tr>
</table>

e-billing, full automation

Business Justification	***Validation Requirements**
Reduce costs for both parties for manual intervention	▪ Account reference

***Technical Implementation Requirements**
PDF for Invoice CSV for back-up

Futures
1. All products, and any combination of products from any "BT Group" company, both now and in the future 2. Real time view of all costs Auto validation of invoices against all data sources (Switch minutes, capacity) Automatic invoice production 3. N/A 4. N/A 5. Packet billing IP Interconnect 6. Per second billing for capacity What will be paying for? Network or usage… 7. N/A

17 Billing Invoice Data Requirements.doc

***Ref**	***Name**	***Description**
Billing 2	Invoice Data	Detailed information supporting an invoice

***Product Groups**	**Key Exclusions**
All	None
***Interface Direction**	**Associated Interface**
Both way	Invoice

***Key Data Elements**
▪ **Generic**: service component ID (e.g. site CLI and circuit); account number; order number (if applicable); effective billing date; invoice date; payment due date; control data for audit ▪ **One-off**: ancillary charges; connection charges; transaction charges (e.g. CPS); set-up charges; rebates; cancellation charges; TRC; shift/re-arrangement charges. ▪ **Recurring**: rental period covered; ▪ **Usage Based**: Fraud EDRs; Rateable EDRs; Correction EDRs ▪ **Tax applicable i**.e. dependant upon country tax regime ▪ Compliance to price list or price agreed;

***Freq of Use**	***Throughput**	***Response Time**	***Availability**
One-off: Monthly or quarterly. **Recurring**: Monthly or	One-off & recurring: one per product type per period. Usage based: N/A	Acknowledgement of receipt of invoice: 1 working day (NOT for individual CDRs)	24/7/365

quarterly. **Usage based**: Real-time			
***Responses Required**			
▪ Acknowledgement of receipt of data (NOT for CDRs)			
***Level of Automation Required**			
e-billing, full automation			
Business Justification		***Validation Requirements**	
Reduce costs for both parties for manual intervention		▪ Account reference	
***Technical Implementation Requirements**			
CSV for invoice back-up data; format for CDR's to be agreed.			
Futures			
See 16 "Billing Invoice"			

19 Billing Settlement & Receipt Acknowledgement - Netting.doc

***Ref**	***Name**	***Description**
Billing 5	Settlement - Netting	Net settlement of invoices
***Product Groups**		**Key Exclusions**
All		None
***Interface Direction**		**Associated Interface**
Both ways		Invoices from each party

***Key Data Elements**

- Netting proposal: account numbers; revenue invoice references; cost invoice references; dispute references.
- Banking transfer reference

***Freq of Use**	***Throughput**	***Response Time**	***Availability**
On average once per month per party	Periodic	**1 working day**	Office hours

***Responses Required**

- Acknowledgement of proposal
- Acceptance/rejection/amendment of proposal

***Level of Automation Required**

Manual input from both parties
Fully automated settlement

Business Justification	***Validation Requirements**

Reduction of banking charges	Revenue Invoice references; cost invoice references; account numbers; dispute references.
***Technical Implementation Requirements**	
Web portal for information exchange and settlement advice. Once netting has been agreed, the party making the payment will follow existing payment process.	
Futures	
See 16 "Billing Invoice"	

20 Billing Settlement & Receipt Acknowledgement Payment.doc

***Ref**	***Name**	***Description**	
Billing 4	Settlement - Payment	Payment of invoice	
***Product Groups**		**Key Exclusions**	
All		None	
***Interface Direction**		**Associated Interface**	
From invoiced part to invoice originator		Invoice	
***Key Data Elements**			
▪ Invoice reference ▪ Remittance advice (may incl. notification of withholds, retentions etc) ▪ Banking transfer reference			
***Freq of Use**	***Throughput**	***Response Time**	***Availability**
On average once per invoice	Periodic	**Payment**: remittance advice within 24hrs	Office/Banking hours
***Responses Required**			
▪ Receiving party to acknowledge remittance advice and receipt of funds			
***Level of Automation Required**			
Interface interaction fully automated.			
Business Justification	***Validation Requirements**		
Reduce chasing for payment	Valid account details; valid invoice references & values; dispute reference numbers (if applicable)		
***Technical Implementation Requirements**			
Web portal			
Futures			
See 16 "Billing Invoice"			

Annex 8: Document History

Ref	Date	Author	Change/Comment
Issue 1	8/3/2006	Graham Crane on behalf of C21 S&P working Group	Submitted to Consult21 steering group for permission to publish. There is further work to do but S&P WG agreed this would be a good idea as it represented the output and requirements of the consultation on systems and processes to date
Draft 2a	21/4/2006	Graham Crane on behalf of C21 S&P working Group & expert group	Changes include: 1. Updated Annex 6 issues section with issues from 20th April experts meeting. Put into table form ready for prioritisation and agreeing action 2. Updated Annex 2 requirements section. Put requirements into table for further clarification (where required), prioritisation and agreeing actions 3. Updated Annex 8 to include to-be process definition templates 4. Added Annex 9 document history
Draft 2b	03/05/2006	ditto	Annex 8 Integrated new generic process model from expert group meetings into document and aligned AS-IS process templates from the workshops.
Draft 2c	05/052006	Ditto	• Updated with comments from March Working Group • Updated Requirements & Issues Annexes to reflect priorities from May Work Group • Removed Annex 1 as the templates that captured the output from the process workshops have been incorporated in Annex 8 with an explanation of the work. • The roadmap Annex now provides the proposed structure of the roadmap and refers to the previous roadmap and Pathfinder systems impact statement. • The contents and main document have been updated to reflect the changes to the annexes
Issue 2	05/05/2006	ditto	• Raised to issue 2 status for distribution to WG
Issue 2b	15/05/2006	Tim Short	Changed title after consultation with Lawyers