

Carrier Pre-Selection (CPS) IT Automation Description Document

Version Number : Issue 10.1
Version Date : 22nd April 2008
Author : CPS IT Automation Group

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2 Revision History

Version	Date	Description
0.1	01/04/99	First cut draft - not for publication
0.2	29/04/99	Second cut draft – merge of suggested process details derived by Alan Easton from GNP file handling documentation.
0.3	30/04/99	Third cut draft – addition of bulk order request
0.4	07/5/99	Fourth cut draft – addition of notes from meeting 4/5/99
0.5	27/5/99	Fifth cut draft – additions from meetings 13 th /19 th May
0.6	17/6/99	Sixth cut draft – input from A. McEwan and A. Easton.
1.0	30/6/99	First issue for publication
1.1	1/7/99	Formatting corrections
1.2	2/7/99	Correction to Cancel Other Support
1.3	25/8/99	Format corrections, removal of trouble ticket automation references.
1.4	10/10/99	Format corrections and updates based on review against CPS Process Group document version 2.2
1.5	14/10/99	Format corrections and updates based on review of process document version 3.0I
1.6	11/01/00	Changes made following requests from BT and clarifications sort by Kingston Communications
2.1	4/8/00	Changes resulting from CPS IT Automation Group Meeting 2/8/00 <ul style="list-style-type: none"> Revise references to IT Automation Group Version change to reflect OfTel Website numbering Include Router-Router connectivity diagram Add additional information regarding CPS Operator Set Up Add Error Code Descriptions Include sequence diagrams on record files
2.11	23/8/00	Changes from CPS IT Automation Group Meeting 16/8/00 <ul style="list-style-type: none"> Update references – section 3.4 Revise section 4.3 Transmission Security Include new BT Operator-EDI Access form – section 4.6 Reword section 9 – Document compliance with End to End process Delete section 10
2.2	7/9/00	Changes from CPS IT Automation Group 30/8/00 <ul style="list-style-type: none"> Add reference to phased implementation of CPS – section 3.1 Add note re. Operators internal systems – section 3.1 Define RIPE TCP/IP Address – section 4.6 Add additional notes re. name conventions – sections 5.1 and 6.2 Add comment re. Multi CLI orders – section 7.1 Strengthen note re Bulk Transfer – section 5.2.7 and 7.7 Reword section 9 to reference e to e process doc version 4.3 Add definition of Dummy Order – Appendix A.1 Add Message Scenario diagrams for Change Order and Ceases – Appendix B
3.0	18/10/00	Changes from IT Automation Group 11/10/00 <ul style="list-style-type: none"> Revised EDI Access Form – section 4.6 Further detail on multi CLI orders and dummy records – section 7.1.4 Remove ‘optional field’ from AOID description - various file formats section 7 Correct Access Line Change diagram – Appendix B Release for publication on OFTEL Web Site as version 3.0
3.1	7/11/00	Changes from IT Automation Group <ul style="list-style-type: none"> Revised EDI Access Form - section 4.6 Additional detail re Dummy Records – section 7.1.4 Released for posting to OfTel Website as version 3.1
3.11	22/11/00	Add reference to Binary Mode FTP Transfer
4.0	15/12/00	Incorporate lessons from trial and amend message scenarios

		Replace references to E-E Document section numbers with Section names
4.1	1/5/01	Changes from IT Automation Group, including: <ul style="list-style-type: none"> • Correction to CPSF file prefix (section 5.2.3) • Tightened specification of fields containing dates by inclusion of a Date type which is initialised to spaces. (section 3.7) • Updated reference 2 (section 3.4) and clarified use of reference (section 8.3) Other minor corrections including: <ul style="list-style-type: none"> • Removal of references to auto rejection of CPSN (sections 6.4, 6.6, 7.3.2) • Added K to Record Type Description for CPSR (section 7.1.3) • Relaxed rules on validation of Order Suffix for Cancel Own orders following confusion during ORT. Order Suffix will now be ignored for Cancel Own orders. (section 7.1.3)
5.0	15/5/01	<ul style="list-style-type: none"> • Up issued to version 5.0 following review for publication.
5.1	05/09/01	Changes from IT Automation Group, including: <ul style="list-style-type: none"> • Corrections to text in section 3.1 • References updated • BT Technical Contact Updated in Section 4.6 • Corrections to the details for fields within the CPSR, CPSS, CPSN, CPSA and CPSB header and data records • Corrections to the details for fields within the CPSH header record • Correction to the details for the File Number field within the CPSF header record • Added clarification to section 7.4.4 with regard to rejection of electronic orders • Corrected detail to Stage Date field in CPSS data record. • Added diagram for renumber orders to Appendix B • Added Appendix C as placeholder for specification of the billing CSV file. • Minor changes to Appendix A to bring into line with the End to End Process Description [2]
5.2	17/09/01	Changes following review by the IT Automation Group, including: <ul style="list-style-type: none"> • "Reply Card" replaced with "Reply Slip" throughout. • Added statement on padding of fields in section 3.7 • Clarified service pack requirements in section 4.2.1 • Added statement on CHAP in section 4.3 • Reworded sections 4.4 and 4.5.1 • Removed names and IP addresses from section 4.6 for security reasons • Corrected text in figure 2. • Emphasised exception in section 6.2 • Added statement on changing/cancelling multi-cli orders to section 7.1.4 • Added clarification on fields 2 and 4 of the CPSH header record in section 7.2.2 • Added clarification on field 3 of the CPSS data record in section 7.4.3 • Corrected text for error codes 10 and 13 in A.2.
8.0	19/09/01	Minor changes from 5.2 following review by IT Automation Group Add clarification to use of Order Number – section 7.1.3 Field 6 Add clarification to use of Notification No. in renumber order , 7.1.3 and 7.5.3 Include Billing File specification as Appendix C Renumbered to Version 8.0 to align with E-E Process Document v8
8.1	08/01/02	Changes for CPS Phase 3 including Reply Slip Replacement Clarify processing of Reply Slip Number in Phase 2 when order has been rejected by BT 7.1.3 Update Billing File to include Centrex Appendix C
8.2	10/01/02	Updates following a review of V8.1 (draft) conducted as part of the CPS IT Automation Meeting No. 27 held on the same day. See meeting minutes for further details.
8.3	16/01/02	Updates following a review of V8.2 (draft) conducted as part of the CPS IT Automation Meeting No. 28 held on the same day. See meeting minutes for further details.
8.4	13/03/02	Updates following action from the CPS IT Automation Group. See meeting minutes

		for meetings No.29 (06/02/02) and No.30 (27/02/02) for full details. Includes revision of resubmission functionality to reflect BT Software drop on 4 th March 2002.
8.5	30/05/02	Updates following action from the CPS IT Automation Group. See meeting minutes for meetings No.31 (27/03/02), No.32 (17/04/02) and No.33 (23/05/02) for full details. These finalise the changes needed for the launch of CPS Phase Three and include the replacement of all reply slip functionality with postcode based matching. Additional functionality relating to Centrex orders is also included.
9.0	31/05/02	Published version for CPS Phase Three. Minor revisions following industry conference call on 30/05/02 (Meeting No.34) for a review of V8.5
9.1	18/10/02	Minor revisions to clarify and correct some wording. Full details in minutes/actions for meeting No.37 and 38. Also removal of all obsolete Phase 2 functionality description, including all references to Reply Slip processing and Multi-CLI processing.
9.2	25/03/03	Minor revisions following minutes/actions detailed in Meetings No.41 and 42.
9.3	29/05/03	Minor revisions following minutes/actions detailed in Meetings No.43 and 44. Addition of Appendix 'Cease Notifications Sent By BT' and Appendix 'Post Code Matching Algorithm'.
9.4	02/07/03	Minor revisions following minutes/actions detailed in Meeting No.46 following a formal review of V9.3.
9.5 (Drafts 1-4)	09/09/03-24/11/03	Changes for CPS Phase 4 as follows: WLR CPS Setup orders, CPS Retain notifications, CPS Change of Address (same CLI) notifications, Ignore Pending Cease, Ignore Pending Retain, and Ignore Pending Change of Address notifications, Billing Reconciliation. In addition: Amended Appendix 'Error Codes' - IT spec is now the 'master' list (but still subject to ratification by the CPS Process Group); and more error codes made obsolete. Added Appendix 'CPSN Notifications and Renumbers'. NOTE: Changes for 'Cancel Other Reason Code' are documented for future reference, but are not implemented in Phase 4, and there are no current plans to do so.
Issue 9.5	01/12/03	Section 7.5.3 (CPSN) - amended field 12 (Gaining Provider Id) and field 13 (Filler) following decision at CPS IT meeting on 26/11/03. Document moved to Issue status.
9.6 (Draft 1 and 2)	14/07/04-27/07/04	Modifications for CPS Phase Five as follows: (a) Introduction of Suspend message for Change of Address functionality (b) Cancel Other functionality that was marked as excluded in Phase 4 is now introduced (c) Modification of use of WLR-CPS Order Setups and CPS Order Setups when requesting CPS on a WLR line.
Issue 9.6	20/09/04	Formal issue of 9.6 – same as Draft 2 version
9.7 (Draft 1 and 2)	25/01/05–21/03/05	Modifications to reflect either recent changes in industry functionality or clarifications from industry IT meetings: <ul style="list-style-type: none"> • Removal of optionality of CPS Notifications • Extension of Cancel Other Reason Codes, including revisions requested by OFCOM in February 2005. • Addition of Appendix for cross-vetting table for Multiple Pending Orders • Modification of all references to OFTEL to OFCOM and all associated weblinks. • CPS Error Code Stages • Removal of Kilostream from transmission options.
Issue 9.7	17/06/05	Formal Issue of 9.7 – including all draft changes plus:

		<ul style="list-style-type: none"> • addition of missing Cancel Other Reason Code 9120 • removal of Error Code 1 from Error Code stages
Issue 9.8	17/11/05	Addition of four Cancel Other Reason Codes added to the CPS Gateway during July 2005.
Issue 10.0	22/03/07	<p>Draft 1: Changes for OFCOM RIDs scheduled for April 2006.</p> <p>Draft 2: Changes for Bulk Migration and Disaster Recovery</p> <p>Draft 3: Additions for SAD Migration</p> <p>Draft 4: Review comments from BT Wholesale review of Draft 2 and 3 (21st Feb 2007)</p> <p>Issued: Draft 4 accepted as issued version at IT Group meeting on 21/03/2007</p>
Issue 10.1	22/04/08	<p>Draft 1: Changes for Openreach WLR3 Gateway usage of CPS Gateway and the removal of the Error Codes from this document to be now maintained by the CPS Static Data Store. In addition, changes for Change of Address New CLI and the provision of the Gaining Provider ID in CPSN records have been added.</p> <p>Issued: Review comments from BT Wholesale (27/11/2007) and straight to issue as comments were cosmetic.</p> <p>NB: Currently there are discussions ongoing within industry concerning Error Code 53 and when this will be returned for Renumber and CoA Orders. For precise industry functionality contact the CPS IT Group or consult the most recent minutes.</p>

This document has been prepared using Microsoft® Word 97, all future changes must be carried out in this version or greater. Some layout and formatting may be lost if viewed or printed in a lower version.

3 Introduction

3.1 Purpose

This document outlines the specification of the electronic interface that Annex II licensed telecommunications operators must use when ordering Carrier Pre-Selection (CPS) services on behalf of their customers. This is a mandatory requirement agreed within the industry, primarily to protect the best interests of the consumer. The specification aims to define a common approach that can be undertaken by both high and low volume operators and new market entrants.

Carrier Pre-Selection has been implemented over a period of time and in a number of phases. The elements defined within this document are intended to support the implementation of Change of Address for New CLIs within CPS as well as the provision of Gaining RIDs on CPS Notifications and have been agreed by UK industry representatives. Functionality prior to this implementation will become obsolete on the morning of October 8th 2007 (any changes to this date will be notified via the WLR/CPS IT Group Mailing List). Prior to that date, live CPS Gateway functionality will comply with Version 10.0 of this document.

The document may require amendment to fully support subsequent CPS phases or design changes introduced during future developments.

Only the standards for operator interconnectivity and message transfer are addressed by this document. Individual operators are responsible for developing mechanisms for creating receiving and interpreting the messages in line with their own internal business processes.

3.2 Audience

This document is aimed at UK telecommunications operators offering or intending to offer a Carrier Pre-Selection service either as a Network Operator or an Operator who is obliged to offer a service as an Access Operator.

3.3 Document Preparation

This document has been prepared by the WLR/CPS IT Automation group. The following text represents the terms of reference that the group has worked to:

WLR/CPS Industry IT Automation Forum: Terms of Reference

3.4 References

1. Geographic Number Portability: INTERFACE SPECIFICATION ELECTRONIC LINK BETWEEN TELECOMMUNICATION OPERATORS. Issue 4.3
2. Carrier Pre-Selection Industry Process Definition: Industry End to End Process Description Issue 10.0

3. CPS Static Data Store Issue 1.1
4. Request For Comment 542, File Transfer Protocol, Nancy J. Neigus, Bolt Beranek and Newman, Inc. Cambridge, Mass. August 1973. See Also: RFCs 354, 454, 495 at WWW.IETF.ORG

3.5 Terminology

This document uses a set of defined terms and formats to define the automated process. The following sections define these terms and standard formats.

The definition of any terminology used within this document.

Term	Definition
AckOp	Acknowledging Operator - the operator receiving a file
AckOpID	Acknowledging OID.
AO	Alternative form of CPSAO as used in the E-E Process Document
CPSA	Carrier Pre-Select Service Cancel Other Acknowledgement/rejection File
CPSAO	CPS Access Operator, equivalent to the AO Term used in the E-E Process Document
CPSB	Carrier Pre-Select Bulk Transfer File
CPSF	Carrier Pre-Select File Level Rejection File
CPSH	Carrier Pre-Select Handshake File
CPSN	Carrier Pre-Select Notification of Cease File
CPSO	CPS Operator
CPSOID	CPS OID
CPSR	Carrier Pre-Select Order Request File(i.e. CPS orders).
CPSS	Carrier Pre-Select status Notification. File
LOID	Losing OID
LOPID	Licensed OID
OID	Operator Identifier (3 digit code).
RO	Requesting Operator – the operator sending a file
ROID	Requesting OID.
RID	Reseller ID (issued by OFCOM)

3.6 File Format Table Key

Column Key	Column Name	Description
Fn	Field Number	Number of the field in the record.
Field Name	Field Name	Name of the field in the record.
Off	Offset	Position offset of field within record.
Size	Size	Size of field.
Type	Field Type	Type of values permitted in the field. See Field Types below.
Mandatory	Mandatory status	Whether field is: Y - mandatory in all cases. N - not mandatory.

Description/Notes	Description/Notes	Description of field and notes on its usage.
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3.7 Field types

Valid character sets for field.

Field Type	Description
Alpha (A)	Characters [A-Z], [a-z], <space>
Numeric (N)	Numeric characters only [0-9]
Date	YYYYMMDD
Alpha/Numeric (A/N)	Characters [A-Z], [a-z], <space>, [0-9]
CR/LF	CR/LF pair. CR (ASCII 13) followed by LF (ASCII 10). Valid ONLY as end of record marker.

Note:

- Only the characters specified in the table above are valid. Any other characters will cause file rejection (“R” prefix).
- The Interface Specification is case insensitive throughout unless otherwise stated.
- In the case of a non-mandatory field which is not being used date, alpha and alphanumeric fields must be set to all spaces, numerics must be set to all 0.
- All fields are fixed length and therefore must be padded using a default of spaces for date, alpha and alphanumeric fields or 0's for numeric fields. Unless otherwise stated, date, alpha and alphanumeric fields are left-justified before they are padded, whilst numeric fields are right-justified before they are padded.
- Numeric fields, where specifically stated, may be left justified with spaces.
- Mid spaces are invalid for all numeric and date fields

3.8 Generic Rules

Orders (i.e. CPSR's) which are submitted via the Electronic Link will be subject to the rules, as stated in the CPS Industry Process Definition document (Ref: [2]).

3.9 Change Control

The policy for System Change Control, as it relates to the CPS Electronic Interface, is stated in the CPS Industry Process Definition document (Ref: [2]).

4 CPS Operator to Access Operator System Set Up Process

The following section aims to define the steps that must be undertaken by a CPSO and CPSAO to set up the automated link for CPS order handling processes as defined within this document.

4.1 Connectivity Infrastructure

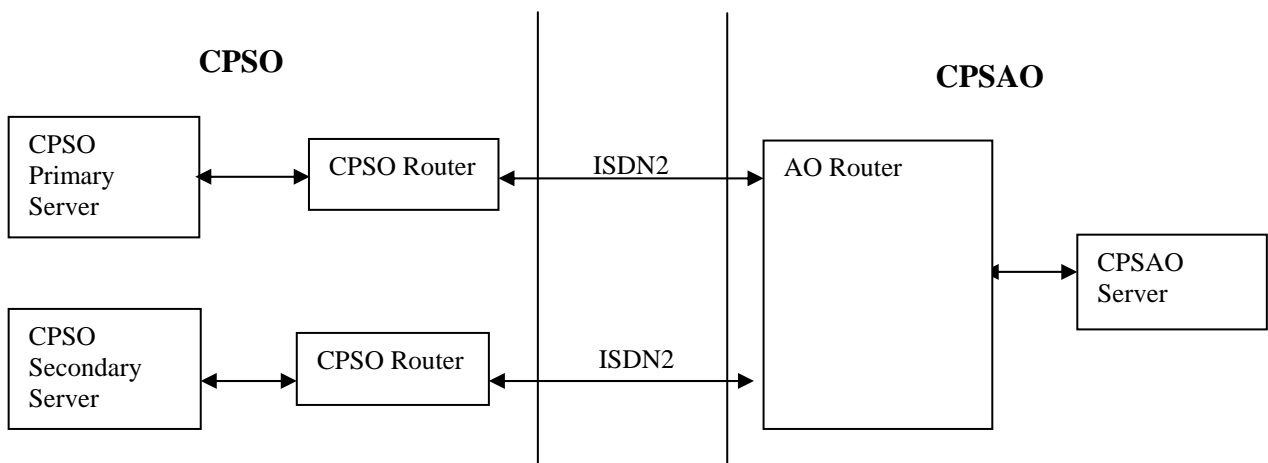
Messages will be transmitted between the CPSO and CPSAO using push/push FTP.

A secondary site can optionally be used by the CPS Operator in the event of a shutdown / failure of their primary site.

If a CPSO chooses to use a secondary site using a different host IP address and/or different ISDN number and/or Different Router IP address then the CPSO must request secondary site support.

Connectivity between the two operators will be Router-Router using an ISDN transmission link. as illustrated in the following diagram:

Router to Router Connectivity



4.2 Hardware and Software Revision Levels

Suggested minimum requirements are as below:

4.2.1 Host System Specification

If the FTP file server is running on a Windows configuration, the server must be a PC Compatible running either Windows NT Workstation or Server, v4.0 or higher with a minimum of service pack 3 (service pack 6 is recommended).

Other operating systems, such as Unix, may be used on the FTP file server.

4.2.2 *Transmission Link*

The standard for this link will be ISDN2. Other mediums may be agreed between individual pairs of Operators. PSTN is not acceptable.

4.2.3 *FTP Revision Level*

Should match RFC¹ 542 dated August 1973, Ref: [3]. Recommend Washington FTP software.

4.3 Transmission Security

It is agreed that, in accord with and following the GNP model, encryption is not a requirement for the information interchange involved.

Operators may choose to put in place their own company standard connectivity security arrangements subject to conforming with the infrastructure outlined in Section 4.1 above.

The ftp link must include a CHAP username and password.

4.4 Testing Procedures

The testing procedures that should be undertaken between the CPSO and the CPSAO before 'live' transmission is commenced are detailed in the industry End to End Process document.

4.5 Operational Procedures

4.5.1 *Transmission Password Management Policy*

There will be no formal timed aging process. A procedure will be agreed for a CPSO to request a CPSAO and vice versa to change their password on an ad hoc basis at the Order Desk Management Forum.

4.5.2 *IT Automation Service Query or Fault Contact Point*

As a mandatory part of the set up information required from a CPSO for CPS operation, the CPSO and the CPSAO must nominate a single point of contact (role name) to co-ordinate all service queries and fault reports. The telephone number and e-mail address of the role name must be provided.

¹ **Requests for Comments (RFCs) are a series of notes, started in 1969, about the Internet (originally the ARPANET). The notes discuss many aspects of computing and computer communication focusing in networking protocols, procedures, programs, and concepts, but also including meeting notes, opinion, and sometimes humour. The specification documents of the Internet protocol suite, as defined by the Internet Engineering Task Force (IETF) and its steering group (the IESG), are published as RFCs.**

It should be noted that service queries and faults in this instance relate only to the electronic interfaces between a CPS operator and an Access Operator. They do not refer to any end user customer queries associated with a CPS service or product provided by any operator.

4.6 CPS Operator Set-up

Each Operator will be required to liaise with the Access Operator in question to provide and receive enough information to be able to enable and operate the CPS processes.

For connection with BT, Operators will be required to complete a BT-Operator EDI Access form as shown overleaf:-

Guidance Notes for completion of this form

The purpose of this form is to capture the technical information required to facilitate a 2 way electronic link with BT.

All CPSOs require a “Primary Site”. They can also establish a “Secondary Site” for use in a disaster recovery situation.

This form can be used to Set-up a Primary Site / Secondary Site or Re-Arrange an existing Primary / Secondary Site.

This form should be passed to the relevant technical people in each organisation to complete and then returned within sufficient time to allow firewall configuration and implementation at both ends. The form will then be used as a record of connections and to help with timely fault management etc.

If there is already an existing link into or out of BT that may be used for this connection, please provide all information, clearly state that this is an existing connection, and state the current usage.

In most organizations the top part of each table will be relevant to the system people and the bottom half will be relevant to the network/firewall people, therefore it might need to be completed by 2 or more people. The project manager should ensure correct completion of this form.

The purpose of the 2 tables is to split the incoming and outgoing connections for each company, in some cases it may be desirable to have different access systems for each direction where others may want just one system and one network connection for both (which is the recommended way) directions. Where the form prompts for duplication please complete it fully.

Guidance ref for CPSOs required fields – Table A

1. CPSOs electronic operator name	Your common trading name for example ‘BT’
2. CPSOs CUPID (Formally LOPID)	Your operator id for example 001
3. CPSOs Client machine type	Your sending machine for example NT4, Service Pack (SP5)
4. CPSOs Client machine name	Name of your sending machine
5. CPSOs Client IP Address	Ripe TCP/IP address of the sending machine
6. CPSOs ISDN Router Phone Number	Calling phone number from your ISDN Router
7. CPSOs ISDN Router IP Address	Ripe TCP/IP address of the sending router
8. CPSOs ISDN Router make, model & firmware	For example CISCO 2100 BRI
9. CHAP username	Username for handshaking between routers – agree between techs
10. CHAP password	Password for handshaking between routers – agree between techs

Guidance ref for CPSOs required fields – Table B

1. CPSOs electronic operator name	Your common trading name for example ‘BT’
2. CPSOs Host machine type (SP5)	Type of your receiving machine for example NT4, Service Pack (SP5)
3. CPSOs Host machine name	Name of your receiving machine
4. CPSOs Host IP Address	Ripe TCP/IP address of the receiving machine
5. CPSOs System username for BT	Username for BT to send data via
6. CPSOs System password for BT	Password for BT to complement username above
7. CPSOs ISDN Router Phone Number	Receiving phone number of your ISDN Router
8. CPSOs ISDN Router IP Address	Ripe TCP/IP address of the receiving router
9. CPSOs ISDN Router make, model & firmware	For example CISCO 2100 BRI
10. CHAP username	Username for handshaking between routers – agree between techs
11. CHAP password	Password for handshaking between routers – agree between techs

NOTE: At least two CPSOs have experienced problems in using a Cisco 803 Router for this configuration. It is not currently known if any CPSOs have successfully used this particular router successfully.

Please indicate the purpose of the site you are submitting the details of in the below checkbox:

Primary Site Secondary Site Change in Site Details

This table requires completion to enable Operators to connect to BT

Ref		<u>TABLE A</u>		
	CLIENT - CPSOs to provide	<u>Complete Below</u>	<i>HOST - BT to Provide</i>	<u>Complete Below</u>
1	CPSOs electronic operator name			
2	CPSOs CUPID			
3	CPSOs Client machine type		BT Host machine type	
4	CPSOs Client machine name		BT Host machine name	
5	CPSOs Client IP Address		BT Host IP Address	
			BT system username & password for each CPSOs	
6	CPSOs ISDN Router Phone Number		BT ISDN Router Phone Number	
7	CPSOs ISDN Router IP Address		BT ISDN Router IP Address	
8	CPSOs ISDN Router make, model & interface		BT ISDN Router interface	
9	CHAP username		CHAP username	
10	CHAP password *		CHAP password *	

1. Standard TCP/IP FTP (port 20/21 etc) will be the only network activity and transfer method allowed.
2. A security banner will be displayed prior to the ftp logon prompt.
3. Industry Service Hours will be enforced for the ftp service.
4. A RIPE TCP/IP address must be used, see <http://www.ripe.net/ripenc/new-mem/> or <http://www.arin.net/whois/index.html>

* For security reasons, it is suggested that passwords and IP addresses are provided separately from the main data.

This table requires completion to enable BT to connect to Other Operators

Ref		<u>TABLE B</u>		
	HOST – CPSOs to provide	<u>Complete Below</u>	<i>CLIENT – BT to Provide</i>	<u>Complete Below</u>
1	CPSOs electronic operator name			
2	CPSOs Host machine type		BT Client machine type	
3	CPSOs Host machine name		BT Client machine name	
4	CPSOs Host IP Address		BT Client IP Address	
5	CPSOs System username for BT			
6	CPSOs System password for BT *			
7	CPSOs ISDN Router Phone Number		BT ISDN Router Phone Number	
8	CPSOs ISDN Router IP Address		BT ISDN Router IP Address	
9	CPSOs ISDN Router make, model & interface		BT ISDN Router interface	
10	CHAP username		CHAP username	

11	CHAP password *		CHAP password *	
----	-----------------	--	-----------------	--

Company	Technical Contact	Tel:
BT		
<i>CPSO</i>		

Document History	Name	Date
Receipt of request acknowledged by BT		
Form returned with BT information added.		
Connectivity test completed.		
Primary Site / Secondary Site for Disaster Recovery / Change in Site Details (delete as required) now completed.		

5 CPS File Transfer

5.1 Standards for File Transfer

The minimum standard protocol stack for CPS file transfer over the Electronic Link is PPP, TCP/IP and FTP.

The method of file transfer supported between Access and CPS Operators will be push/push.

5.1.1 Push/Push File Transfer Method Overview

- Push/Push transfer method will be used for all CPS file types, i.e. files are always pushed from the RO to the AckOp.

5.1.2 Generic Directory Structure – CPSO File Directory

A CPS operator will require a system with the following directory structure. Beneath the base directory there will be sub directories for each Access operator they deal with. Each of these will contain six sub directories:

- a directory for receiving handshake files for sent order request files
- a directory for receiving Status Notification Files
- a directory for receiving Handshakes for sent Bulk Request Files
- a directory for receiving Cease Notification Files
- a directory for receiving handshakes for sent Acknowledgements/Rejections of Cancel Other Notifications
- a directory for receiving rejected Order Request files and file Rejection Notifications

Directory names must be capitalised – lower case characters are not acceptable

Please refer to diagram in Figure 1 - CPSO Directory Structure

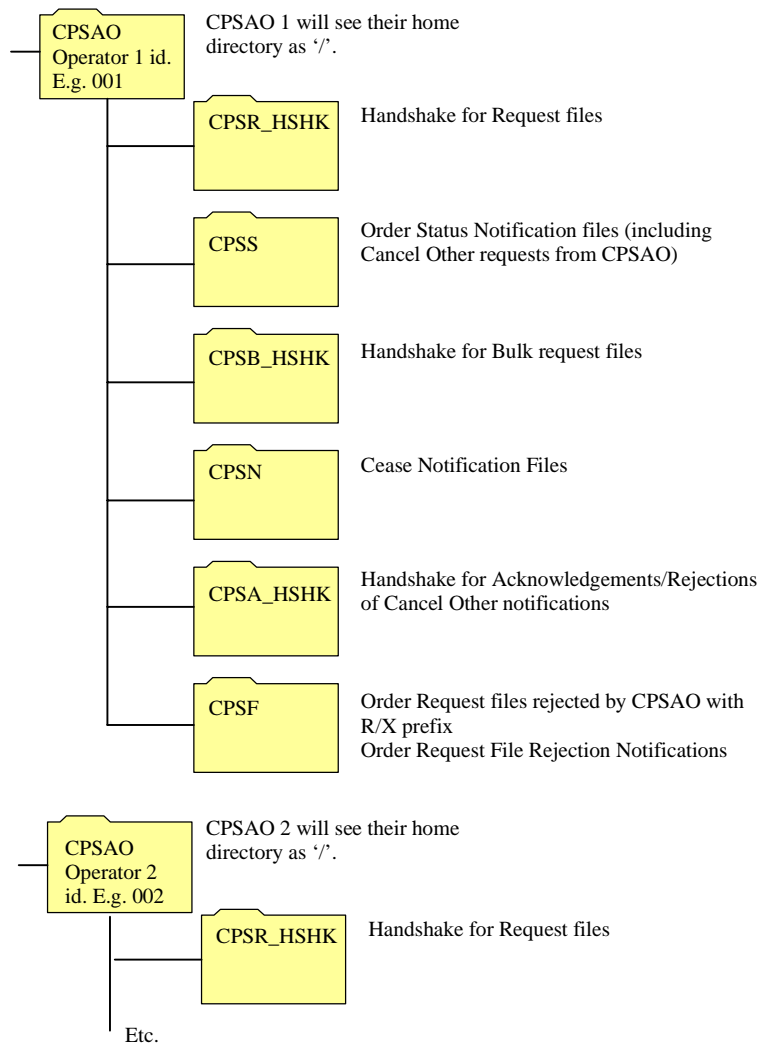


Figure 1 - CPSO Directory Structure

5.1.3 Generic Directory Restructure – CPSAO File Directory

An Access operator will require a system with the following directory structure. Beneath the base directory there will be sub-directories for each CPS operator they deal with. Each of these will contain six sub-directories:

- a Receive Order directory,
- a directory for receiving handshakes for sent Status Notification files,
- a Receive Bulk Change directory,
- a directory for receiving handshakes for sent Cease Notification Files,
- a directory for receiving Acknowledgements/Rejections of sent Cancel other notifications
- a directory for receiving Handshakes for File level Rejections

- Directory names must be capitalised – lower case characters are not acceptable

See Figure 2 – CPSAO Directory Structure.

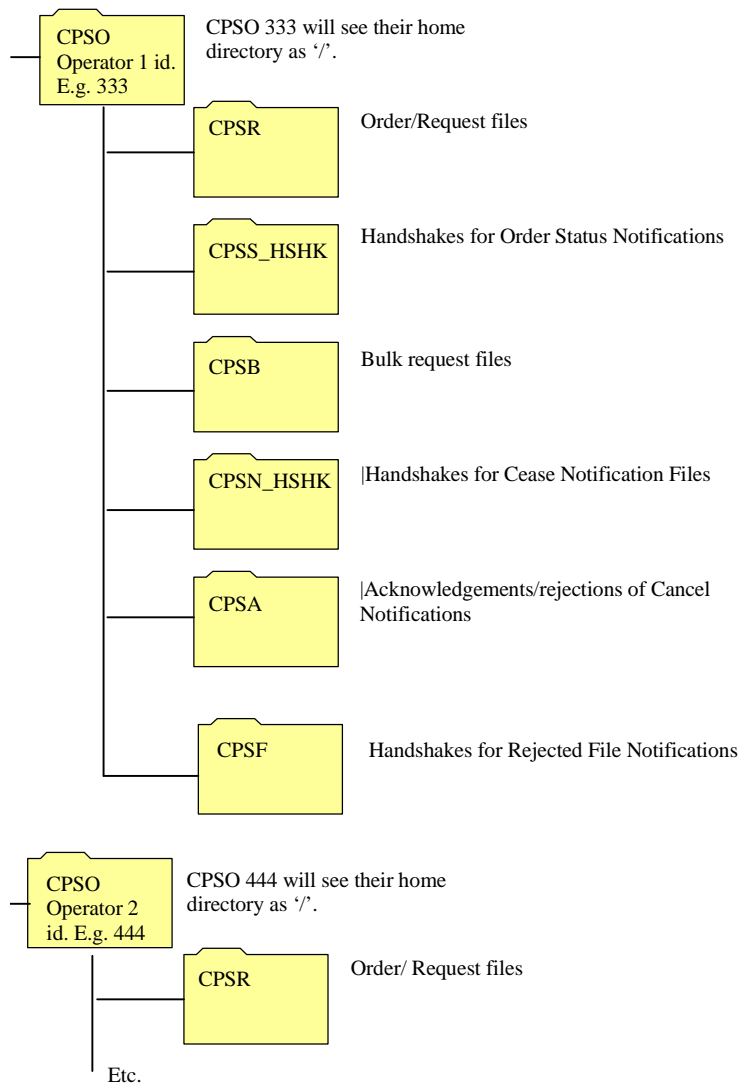


Figure 2 - CPSAO Directory Structure

5.1.4 Generic File Transfer Process

CPS files are sent using FTP TCP/IP protocol using a registered public IP address.

FTP requires the following configuration information on both the AckOp and RO system:

- Public Stable IP address
- Username
- Password
- Base (or home) directory

The Base (or home) directory is the directory that the FTP user will find themselves logged into after they supply a valid username/password combination. Each CPSO will see this directory as '/' with sub-directories '/CPSR', '/CPSS_HSHK', etc.

Files are sent into sub-directories dependent on file type as specified above. File names must be capitalised.

In order to ensure file integrity, a file status prefix of “A” should be used whilst transferring the file, and changed to the correct status prefix (“U”, “R” or “X”) only when the transfer has been completed successfully.

In order to optimize the efficiency of the interface, file transfer sessions will automatically time out after 15 minutes. Consequently the maximum number of records per file is 9999.

5.1.5 File Transfer Method

Files must be transferred using binary mode ftp transfer. If ASCII mode is used a carriage return will be lost and files will be rejected due to record length errors.

5.1.6 Storage/Re-transfer of files

Further information on storage time scales can be found within the CPS End to End Process Document, reference 2.

- A copy of each CPSS file should be stored by the CPSAO following transfer in case the RO requests a re-send of a file.
- Files must be available from the CPSAO for a minimum of 28 days following transmission
- When a re-send is requested by the RO, a copy of the original file (same filename/file number) should be made available using the normal process.
- A file should be made available for re-send within 3 working days.

Both AckOp and RO should store all electronic orders and related responses for a period of six years (as per reference 2).

5.1.7 Integrity of Transferred Files

5.1.7.1 Confirmation

Receipt of files is acknowledged by use of a handshake file. Each transmission made within the ‘system’ must be answered by the recipient to the sender’s pre-determined address, with the exception of the actual handshake files and any returned files.

If a sender does not receive a handshake file to authenticate receipt of a transferred file after three attempts then an email notification detailing the failure will be sent to the nominated contact point within the recipient organisation. The email will request confirmation on the action to be taken (either resending the file or mimicking the handshake) If no response is received from the email, then a follow up telephone call will be made.

5.1.8 Housekeeping of Transferred Files

If invalid filenames are used (typically this will happen if FTP fails and filenames remain with the 'A' prefix, or if lower case filenames are used) then such files should by default remain unprocessed. In such cases, the recipient Operator (either CPSO or CPSAO) may perform housekeeping of these files on their own file system by deleting them after 1 whole working day. For example if a file is dated 'Monday' (any time of day) then the recipient Operator may delete the file on or after 'Wednesday' (any time of day).

5.2 Push/Push File Transfer Detail Description

The following sections note the detail of the file transfer process and covers the seven types of files included within CPS:

- CPS Orders
- CPS Transmission Handshake Files
- CPS File Level Rejection Notifications
- CPS Status Notifications
- CPS Notification of Ceases
- CPS Cancel Other Acceptance/Rejection File
- CPS Bulk Orders

5.2.1 CPSR File Handling - CPS Orders

- CPSR files are sent by the CPSO to the CPSAO's CPSR directory. The transient prefix of "A" should be used whilst sending the file. The "U" status prefix should be used to indicate that the transfer is completed and that the CPSR file is ready to be processed by the CPSAO.
- The CPSAO should process CPSR files in the CPSR directory. Once processed the CPSAO should remove the CPSR file from the CPSR directory. These must be stored by the CPSAO for audit purposes.
- The CPSAO may reject an entire CPSR file for various reasons. In these cases the rejected CPSR file should be sent back to the CPSO system and placed in the CPSO's CPSF directory with an "R" or "X" status prefix. The CPSO should not handshake the returned CPSR file.
- The CPSAO will also send a file level rejection notification to the CPSO's CPSF directory identifying the cause of rejection.
- The CPSO may re-submit a rejected X-prefix CPSR file using the same filename.
- The CPSO may only re-submit a rejected R-prefix CPSR file using a new unique CPSR file number (and hence new filename).

5.2.2 CPSH File Handling - CPS Transmission Handshake Files

- CPSH files are generated by both CPSO's and CPSAO's.
- They are sent from one to the other on receipt of any valid file type from another operator except another Handshake file (CPSH) or a file with an "R" or "X" status prefix. They

are placed in the “HANDSHAKE DIRECTORY” of the sender of the original file confirming its receipt. The “U” status prefix should be used. The transient prefix of “A” should be used whilst sending the file.

- The Handshake file is intended to reduce the uncertainty of success of the file transfer process only. It will not contain information about the status of the processing of the records in the files that it confirms receipt of.
- CPSH files are not subject to automatic rejection handling. If the RO finds fault with a CPSH file this should be dealt with manually.

5.2.3 CPSF File Handling – CPS File Level Rejection Notification

- CPSF files are generated by the AckOp in response to an unrecognisable or invalid file transmission from the RO. They are placed in the CPSF directory of the sender of the file. The “U” status prefix should be used. The transient prefix of “A” should be used whilst sending the file. The CPSF file should identify the reason for file rejection.
- CPSF files are not subject to automatic rejection handling. If the RO finds fault with a CPSF file this should be dealt with manually.
- The file level rejection notifications will always be sent to the operator that owns the directory that the file in error was deposited in, e.g. If a file with an invalid suffix of 666 is received in a directory owned by operator 555, the rejection notification will be sent to operator 555.

5.2.4 CPSS File Handling - CPS Status Notifications

- CPSS files are generated by the CPSAO and sent back to the CPSO system and placed in the CPSS directory with an “U” status prefix. The transient prefix of “A” should be used whilst sending the file.
- The CPSAO should keep a copy of the CPSS file in case the CPSO requests a re-send of the CPSS file.
- CPSS files are not subject to automatic rejection handling. If the RO finds fault with a CPSS file this should be dealt with manually.

5.2.5 CPSN File Handling - CPS Notification of Ceases

- CPSN files are generated by the CPSAO and sent to the Losing CPSO system and placed in the CPSN directory with an "U" status prefix. The transient prefix of "A" should be used whilst sending the file.
- The CPS Access Operator should keep a copy of the CPSN file in case the Losing CPSO requests a re-send of the CPSN file.
- CPSN files are not subject to automatic rejection handling. If the RO finds fault with a CPSN file this should be dealt with manually.

5.2.6 CPSA File Handling – CPS Cancel Other Acceptance/Rejection File

- CPSA files are generated by the Losing CPSO and sent back to the CPSAO system and placed in the CPSA directory with an “U” status prefix. The transient prefix of "A" should be used whilst sending the file.
- CPSA files are not subject to automatic rejection handling. If the CPSAO finds fault with a CPSA file this should be dealt with manually.

5.2.7 CPSB File Handling - CPS Bulk Orders

(NOTE: Bulk transfer is not currently supported and there are no plans to provide it)

- CPSB files are sent by prior arrangement between the gaining CPSO and CPSAO.
- CPSB files are sent by the CPSO to the CPSAO’s CPSB directory. The transient prefix of “A” should be used whilst sending the file. The “U” status prefix should be used to indicate that the transfer is completed and that the CPSB file is ready to be processed by the CPSAO.
- The CPSAO should process CPSB files in the CPSB directory. Once processed the CPSAO should remove the CPSB file from the CPSB directory. These must be stored by the CPSAO for audit purposes.
- CPSB files are not subject to automatic rejection handling. If the CPSAO finds fault with a CPSB file this should be dealt with manually.

6 CPS File Type Overview and General Definitions

6.1 File Types

Automated CPS involves the use of the file types:

File Name	File Type Identifier	Description
CPSR	R	Carrier Pre-Select Order Request file
CPSH	H	Carrier Pre-Select Handshake File
CPSF	F	Carrier Pre-Select File Level Rejection Notification file
CPSS	S	Carrier Pre-Select Order Status Notification file
CPSN	N	Carrier Pre-Select Notification of Cease file
CPSA	A	Carrier Pre-Select Acknowledgement/Rejection of Cancel Other Notification file

6.2 Filename Formats

All alphabetic characters in filenames must be in upper case; each CPS file type has a specific filename format, as follows:

- CPSR SNNNNNR.NNN
- CPSH SNNNNNH.NNN
- CPSF SNNNNNF.NNN
- CPSS SNNNNNS.NNN
- CPSN SNNNNNN.NNN
- CPSA SNNNNNA.NNN
- CPSB SNNNNNB.NNN

Where

“S” is the status indicator (U, R, X or A) (see below).

“NNNNNN” is the file number. Must be unique per file type and OID.

“NNN” is the file suffix. It identifies the operator raising the original “order”, ie the RO, which has generated subsequent messages. Hence it is the CPSO’s OID for all file types **except for CPSN files** and is the CPSAO’s OID for CPSN files (and their associated handshakes).

6.3 Filename Rules

The following rules apply to CPS filenames:

Only filenames in the (8.3) format “XXXXXXXXX.nnn” will be recognized and processed. Filenames must be capitalised, e.g.. A123456R.026.

If a file needs to be re-sent, the original file number should not be re-used unless the file has previously been “X” rejected and no previous file number, file type and OID combination has been “R” rejected.

6.4 File Statuses

The following file statuses are recognized:

Filename Status (prefix)	Status Description
A	Transient file. This state indicates that the file transfer is either in progress or has failed. Files in this status should NOT be processed.
U	Unprocessed file. Indicates file transfer was successful and that the file may be processed by the other operator.
X	Rejected file (CPSR only). The submitted CPSR file has been rejected due to invalid ROID.
R	Rejected file (CPSR only). The submitted CPSR file has been rejected (see File Rejection below).

6.5 Order of Validation

Order of validation is:

- Filename validation (file ignored if incorrect file name format).
- Header record validation on CPSR, CPSB, CPSS, CPSH, and CPSN files (4-digit reject error codes within CPSF).
- Data record validation (4-digit reject error codes within CPSS).

Note: There is no particular order specified for record level validation.

6.6 Generic File Level Rejection Rules

The following rules apply to file level rejection of CPSR files:

- File level validation must be carried out before any record level processing is attempted.
- Only files of correct filename format (i.e. contain valid prefix, valid file type and valid “8.3” format) will be processed. Files with invalid names will be ignored rather than rejected by the CPSAO system.
- If the ROID is invalid or unrecognized by the CPSAO, the file is rejected to an X status prefix. These X-prefix rejected files may be re-submitted to the CPSAO with the same filename (and file number) if necessary.

- In a number of cases the file may be rejected to an R status prefix by the AO. These R-prefix rejected files should not be re-submitted with the same filename. The problem should be corrected by the RO and the data records regenerated in a new file (with new file name/file number).
- If the filename is not unique (i.e. the file number is not unique for this ROID and file type) and the file has been previously processed or previously rejected (R-prefix), the file will be rejected by the CPSAO to an R status prefix.
- If a non-valid character is present within the file the file will be rejected to an R status prefix. See Field Types Table for valid characters.
- If the file does not contain the correct number of correctly sized records the file will be rejected to an R status prefix.
- If any 'End of Record' marker is missing, the entire file will be rejected.
- The returned rejected file will be accompanied with an error file that identifies the cause of the rejection.
- A CPSF file may not be rejected by the recipient of the file, thus preventing 'ping ponging' of rejection files.

6.7 File Processing

The following rules apply to the reading of files:

- Files are processed in order of receipt.
- Records within files are processed in the order they appear (i.e. from the top downward).

6.8 Record Types

There are currently 17 different types of active file record types (if header and detail records are ignored as types). These types are as follows;

- A = CPS set-up Order
- B = CPS Remove Order
- C = Confirm Acceptance/Rejection of Cancelled Other notification
- D = Cease Notification or SAD Migration Cease
- E = Cancel Own Order
- F = Cancelled Notification
- G = Change Order
- H = Status Update
- I = Renumber Order or Change of Address New CLI Order
- J = Bulk Migration Order
- K (was Dummy, Phase 2 – now redundant, no longer in use)

- L = WLR CPS Setup
- M = CPS Retain
- N = CPS Change of Address (this applies to same CLI)
- O = SAD Migration Order
- P = Cease Notification for a corresponding Bulk Migration order.
- T = CPS Change of Address (this applies to a different CLI)

Not all the above records types are applicable to every message type. The applicable record types for each message are shown within the record format structures.

7 CPS File Formats - Record Structures

The following sections detail the file formats used to represent each CPS message type.

The Industry End-End Process Description describes in detail the scenarios which result in messages being passed between operators. Appendix B summarises these scenarios and illustrates the flow of files/records used to transfer information.

7.1 CPSR - CPS Orders

7.1.1 File Format Rules

- A CPSR file must contain a HEADER record followed by one or more CPSR DATA records.

7.1.2 Header Record

Fn	Field Name	Offset	Size	Type	Mandatory	Description/Notes
1	CPSR Record Version	0	2	Numeric	Y	Indicates CPSR record version. Must be "02". Must match record version field within each CPSR record (otherwise rejects to R-prefix.)
2	Requesting Op ID (ROID)	2	3	N	Y	CPSOID. Must be valid OID (otherwise rejects to X-prefix) & must match suffix in the filename (otherwise rejects to R-prefix).
3	File Number	5	6	Numeric (with leading zeroes).	Y	Non-zero number identifying the file – must be unique within ROID and File Type. Must match file number in filename (otherwise rejects to R-prefix).
4	Number of CPSRs	11	4	Numeric (with leading zeroes).	Y	Number of CPSR data records in the file. Must be valid (i.e. match the number of data records found), otherwise rejects to R-prefix.
5	Acknowledging Op ID	15	3	N	Y	Acknowledging Operator ID. This will be the CPSAO OID.
6	File Type	18	1	Alpha	Y	Indicates file type: R=CPSR. Must match file type in filename (otherwise rejects to R-prefix).
7	Reserved	19	44	Alpha/ Numeric	N	Ignored: ensures header record length same as data records.
8	Filler	63	28	Alpha/ Numeric	N	Filler.
9	End of Record marker	91	2	CR/LF	Y	End of header record marker.
	Total size	93				

7.1.3 Data Record

Fn	Field Name	Offset	Size	Type	Mandatory	Description/Notes
1	Record Version	0	2	Numeric	Y	Must be "02"
2	Record Type	2	1	A	Y	Valid message types are A, B, E, G, I, J, L or O.
3	Requesting Operator ROID	3	3	N	Y	(Key Information) As per header
4	Reseller Id	6	3	A	N	Identifies the reseller originating the order if appropriate. Must be a valid OFCOM RID. Should represent the party with the end customer relationship. Mandatory for CPS Setups (Record Type = A), Bulk Migration (Record Type = J), SAD Migration (Record Type = 'O'), WLR CPS Setups (Record Type = L), and CPS Renumber and CPS Change of Address New CLI orders (Record Type = I). May be supplied for other record types, but value supplied will only be validated against mandatory types, otherwise it will be ignored.
5	Requesting Operators own use	9	4	A/N	N	See Appendix E : 'Requesting Operator's Own Use' Field Values for more details.
6	CPS Order Number	13	8	A/N	Y	For Remove, Set Up, WLR CPS Setup, Bulk Migration, SAD Migration, Renumber and Change of Address New CLI orders the Order Number must be unique within operator ID. For Change orders, the Order Number must have the same value as the Order Number of the original Setup, WLR CPS Setups, Remove, Renumber or Change of Address New CLI order which is being changed. (Change orders for Bulk Migration and SAD Migration orders are not applicable). For Cancel Own orders, the Order Number must have the same value as the Order Number of the original Setup, WLR CPS Setup, Bulk Migration, SAD Migration, Remove, Renumber or Change of Address New CLI order which is being cancelled.
7	CPS Order Suffix	21	1	N	Y = 0 for set up, WLR CPS Setup, Bulk	Used to uniquely identify changes to existing order etc. Change orders are limited to 9 incremental versions

					Migration, remove, renumber and Change of Address New CLI; =1-9 for change For 'Cancel Own' the value will be ignored by the CPSAO.	(Key Information).
8	Authorisation Letter Reference	22	8	N	N	Not mandatory, with the exception of Centrex orders where entry is mandatory for all new Order Set-Ups. It details the authorisation letter reference number that is used for Centrex orders. The value must be unique within Operator ID per Authorisation Letter.
9	CLI	30	12	Numeric / spaces	Y	Trailing Spaces filled where necessary left justified.
10	Date of switch over	42	8	Date	Y for change of date orders only	Format YYYYMMDD or spaces. For WLR CPS Setups, valid date format will be ignored (since the date is determined via WLR process) and invalid date format will be rejected.
11	Routing Prefix	50	4	N (8nnn)	Y for setup, WLR CPS Setup, Renumber Order, Change of Address New CLI and SAD Migration only	
12	CPS Options Selection	54	1	A	Y for setup, WLR CPS Setup, Bulk migration, Remove, Renumber, Change of Address New CLI and SAD Migration order types only	A = Option1 B = Option 2 C = Option 1 and 2 D = Option 3
13	CPS CLI Instance	55	4	Numeric	N	Not mandatory.
14	CPS total CLIs	59	4	Numeric	N	Not mandatory
15	Cease	63	8	N	Y for	For renumbers, this is used to

	Notification Number				renumber Orders and Change of Address New CLI orders only. Value is otherwise ignored.	tie the order to the cease notification Provided by CPSAO to the CPSO on notification of pending and actual cease– see CPSN Notification No. field description below. For Change of Address New CLI, this is used to allow the waiver of the consumer protection period for such orders.
16	Postcode 1	71	4	Alpha/ Numeric	Y for order types Set Up, WLR CPS Setup, Bulk Migration, Change of Address New CLI and SAD Migration orders only unless value is absent on the customer's relevant postcode. At least one of the Postcode 1 or Postcode 2 fields must be populated with at least one character for a Set Up or WLR CPS Setup.	<p>First part of postcode. This field and the Postcode 2 field are used by the Access Operator as a sanity check to ensure that the correct CLI has been entered.</p> <p>See the End to End Process Manual for details of what postcode should go into these fields.</p> <p>Note that in instances where there is no relevant postcode, or where the relevant postcode refers to an overseas address, CPSOs are to e-mail Tunbridge Wells CMC. The CMC will provide the CPSO with the data to populate the postcode field</p>
17	Postcode 2	75	3	Alpha/ Numeric	Y for order types Set Up, WLR CPS Setup, Bulk Migration, Change of Address New CLI and SAD Migration orders unless value is absent on the customer's relevant postcode.	Second part of postcode. See field Postcode 1 for validation rules.
18	Filler	78	13	Alpha/	N	Filler.

				Numeric		
19	End of Record marker	91	2	CR/LF	Y	End of header record marker.
	Total size	93				

7.1.4 Resubmission of CPSR Records

The following applies to the resubmission of rejected CPSR records:

- The CPSO must submit a new electronic order (with a new order number). In terms of the scope of the industry process, there will be no link between the resubmitted order and the original order.

7.1.5 Multi CLI orders

All orders are treated as single CLI orders and are therefore processed independently of each other.

7.2 CPSH - CPS Handshake File

7.2.1 File Format Rules

- A CPSH file will only contain HEADER record.
- A CPSH file is generated by either an CPSAO or CPSO in response to the receipt of either a CPSR, CPSS, CPSF, CPSN, CPSB or CPSA file.
- A CPSH file does not confirm the acceptance of the contents of the received file. It merely confirms that it has been received.
- CPSH files and records are not rejected by the RO or AO.

7.2.2 Header Record

Fn	Field Name	Offset	Size	Type	Mandatory	Description/Notes
1	CPSH Record Version	0	2	Numeric (01)	Y	Indicates record version of CPSH. Currently "01" (initial version).
2	Requesting Op ID (ROID)	2	3	N	Y	Should match the suffix in the filename. When responding to CPSN files this will be the CPSAO ID. In all other cases it is the CPSO OID.
3	File Number	5	6	Numeric (with leading zeroes).	Y	Non-zero number matching the name of the handshake file.
4	Acknowledging Op ID	11	3	N	Y	When responding to CPSN files this will be the CPSO ID. In all other cases it is the CPSAO OID.
5	File Type	14	1	Alpha	Y	Indicates file type, i.e.

						H=CPSH.
6	Handshaked File Number	15	6	Numeric (with leading zeroes)	Y	Non-zero number identifying file that the handshake confirms receipt of.
7	Handshaked File Type	21	1	Alpha	Y	Indicates the file type of the file being handshaked, i.e. R=CPSR F=CPSF S=CPSS N=CPSN A=CPSA B=CPSB
8	Time of Receipt	22	14	Numeric (yyyymm ddhhmm ss)	Y	Identifies the time the file was received
9	Filler	36	20	Alpha/ Numeric	N	Filler.
10	End of Record marker	56	2	CR/LF	Y	End of header record marker.
	Total	58				

7.3 CPSF - CPS File Level Rejection Notification

7.3.1 File Format Rules

- A CPSF file will only contain HEADER record.
- A CPSF file is generated by a CPSAO when rejecting other files received from the CPSO. It is sent to the same directory as the rejected file.
- None of the files sent by the CPSAO are subject to automated rejection mechanisms by the CPSO and therefore the CPSO must never send a CPSF file to a CPSAO.
- A CPSF file identifies the reason for rejection.
- CPSF files are not subject to rejection.

7.3.2 Header Record

Fn	Field Name	Offset	Size	Type	Mandatory	Description/Notes
1	CPSF Record Version	0	2	Numeric (01)	Y	Indicates record version of CPSF. Currently "01" (initial version)..
2	Requesting Op ID	2	3	N	Y	The CPSO OID.
3	File Number	5	6	Numeric (with leading zeroes).	Y	Non-zero number identifying the file. Should be unique within file type and ROID.
4	Acknowledging Op ID (AOID)	11	3	N	Y	CPSAO OID
5	File Type	14	1	Alpha	Y	Indicates file type: F=CPSF

6	Rejected File Number	15	6	Numeric (with leading zeroes)	Y	Non-zero number. Should match number of the file that is being rejected
7	Rejected File Type	21	1	Alpha	Y	Indicated the file type being rejected: R=CPSR
8	Error Code1	22	4	N	Y	Identifies rejection reason 1
9	Error Code2	26	4	N	N	Identifies rejection reason 2
10	Error Code3	30	4	N	N	Identifies rejection reason 3
11	Error Code4	34	4	N	N	Identifies rejection reason 4
12	Error Code5	38	4	N	N	Identifies rejection reason 5
13	Error Code6	42	4	N	N	Identifies rejection reason 6
14	Error Code7	46	4	N	N	Identifies rejection reason 7
15	Error Code8	50	4	N	N	Identifies rejection reason 8
16	Error Code9	54	4	N	N	Identifies rejection reason 9
17	Error Code10	58	4	N	N	Identifies rejection reason 10
18	Filler	62	20	Alpha/ Numeric	N	Filler.
19	End of Record marker	82	2	CR/LF	Y	End of header record marker.
	Total	84				

7.3.3 CPS File Processing Error Code Generation – File Level Validation

The above data record references error codes that can be generated as a result of problems detected during the initial receipt processing of a CPS file. A list of these codes can be found in the CPS Static Data Store spreadsheet document, (CPS File Level Rejection (CPSF) Error Codes)

7.4 CPSS - CPS Status Notification

7.4.1 File Format Rules

- A CPSS file must contain a HEADER record followed by one or more CPSS DATA records.
- A CPSS record is generated in response to the processing of a CPSR record.
- There is no correlation between the records in a CPSS file and those in a processed CPSR file. For example, a CPSR file may contain order numbers 1-100, but the CPSSs for those CPSRs may be spread across any number of CPSS files.
- A CPSS record may confirm a change in the status of an Order but may also be used to identify a rejection of an Order or Cancel the original Order (Cancel Other).
- Only the Cancel Order notification records can be rejected by the RO using the CPSA records.

7.4.2 CPSS Header Record

Fn	Field Name	Offset	Size	Type	Mandatory	Description/Notes
1	CPSS Record Version	0	2	Numeric	Y	Value "02"
2	Requesting Op ID (ROID)	2	3	N	Y	CPSO OID Should match filename suffix.
3	File Number	5	6	Numeric (with leading zeroes).	Y	Non-zero number identifying the file. Should be unique within file type and ROID.
4	Number of CPSSs	11	4	Numeric (with leading zeroes).	Y	Number of CPSS records in the file.
5	Acknowledging Op ID (AOID)	15	3	N	Y	CPSAO OID
6	File Type	18	1	Alpha	Y	Indicates file type: S=CPSS.
7	Filler	19	114	Alpha/ Numeric	N	Filler.
8	End of Record marker	133	2	CR/LF	Y	End of header record marker.
	Total	135				

7.4.3 Data Record

Fn	Field Name	Offset	Size	Type	Mandatory	Description
1	Record Version	0	2	Numeric	Y	Value "02"
2	Record Type	2	1	A	Y	Status record or Order Cancelled notification values "H" and "F" respectively
3	Requesting Operator ROID	3	3	N	Y	(Key Information) For all orders this is the CPSO ID.
4	Reseller Id	6	3	A	N	The RID as sent in the corresponding order/CPSR
5	Requesting Operators own use	9	4	A/N	N	Returns value supplied (if any) in original CPSR record. See Appendix E : 'Requesting Operator's Own Use' Field Values for more details.
6	CPS Order Number	13	8	A/N	Y	Unique within operator ID and File Type. Number on the original order (Key Information)
7	CPS Order Suffix	21	1	N	Y	Used to uniquely identify changes Existing order etc. (Key Information) Suffix of the order which the status notification refers to
8	Authorisation Letter Reference	22	8	N	N	Returns value supplied in original CPSR. It details the authorisation letter reference number that is used for Centrex orders.

9	CLI	30	12	Numeric / spaces	Y	The CLI is left justified with spaces if necessary
10	Status Stage	42	1	A/N	Y values 0,1,2,3,4,5	Order Cancelled (0), Order rejected (1), accepted (2), confirmed (3), switched (4), timed-out (5). Status Stage 2 and 5 are relevant to Centrex orders only.
11	Date of switch over	43	8	Date	Y for Status Stages 3 and 4 only.	Format YYYYMMDD or spaces or 00000000. Note that where the Status Stage is 0, 1, 2 or 5 CPSOs must ignore any values held in this field. For Status Stage 3, for responses to WLR CPS Setup orders, this date will be correct at the time of processing. Note, the date may change via the WLR process, and any such date changes will not be notified via the CPS process.
12	Time of switch over	51	6	Numeric HHMMS S	Y for Status Stage 4 only.	Time of the order switch over on the given day in 11 above. Note that where the Status Stage is 0, 1, 2, 3 or 5 CPSOs must ignore any values held in this field.
13	Stage Date	57	8	Date	Y	Date that the current stage was reached - order accepted, confirmed, switched etc. Format YYYYMMDD or spaces
14	Error Code1	65	4	N	N	Identifies rejection reason 1 or Cancel Other Reason Code.
15	Error Code2	69	4	N	N	Identifies rejection reason 2
16	Error Code3	73	4	N	N	Identifies rejection reason 3
17	Error Code4	77	4	N	N	Identifies rejection reason 4
18	Error Code5	81	4	N	N	Identifies rejection reason 5
19	Error Code6	85	4	N	N	Identifies rejection reason 6
20	Error Code7	89	4	N	N	Identifies rejection reason 7
21	Error Code8	93	4	N	N	Identifies rejection reason 8
22	Error Code9	97	4	N	N	Identifies rejection reason 9
23	Error Code10	101	4	N	N	Identifies rejection reason 10
24	CPS CLI Instance	105	4	Numeric	N	Not mandatory. Returns value supplied in original CPSR record.
25	CPS total CLIs	109	4	Numeric	N	Not mandatory. Returns value supplied in original CPSR record.
26	Transaction Charging Stage	113	1	Alpha/ Numeric	Y for Status Stages 1 and 5. May be passed at Status Stage 3 and 4 for a Bulk Migration,	For Status Stages 1 and 5: B = Pre, C = Post, K = Letter Match/Mismatch, Status Stage 5 is relevant to Centrex orders only. For Status Stage 3 and 4 only:

					SAD Migration or Records Only transfer.	R = Records Only. J = Bulk Migration or SAD Migration This field should be ignored for all other Status Stages.
27	Filler	114	19	Alpha/Numeric	N	Filler.
28	End of Record	133	2	CR/LF	Y	
	Total	135				

7.4.4 CPS Order Processing Error Code Generation – Customer Validation

The above data record references error codes that can be generated as a result of problems detected during the processing of a CPS order and can be termed Customer Validation errors. These record level errors are generated as a result of process or content errors. For example, if a CLI quoted within a CPSR data record is not recognised by the CPSAO a process error (customer validation) will be generated. A list of these error codes is shown in the CPS Static Data Store document.

If a CPSS record contains one or more non-zero reject codes, then this indicates that the electronic order has been rejected. The CPSO may resubmit a new order with a new order number.

7.5 CPSN Notification of Cease

7.5.1 File format roles

- A CPSN file must contain a HEADER record followed by one or more CPSN DATA records.
- A CPSN file can only be sent from a CPSAO to a CPSO.

7.5.2 Header record

Fn	Field Name	Offset	Size	Type	Mandatory	Description/Notes
1	CPSN Record Version	0	2	Numeric	Y	Value "02"
2	Requesting Op ID (ROID)	2	3	N	Y	Requesting Operator ID (ROID). Should match ROID in filename, this is the CPSAO ID
3	File Number	5	6	Numeric (with leading zeroes).	Y	Non-zero number identifying the file. Should be unique within file type and ROID.
4	Number of CPSNs	11	4	Numeric (with leading zeroes).	Y	Number of CPSN records in the file.
5	Acknowledging Op ID (AOID)	15	3	N	Y	Acknowledging Operator ID (AOID). This is the CPSOID.
6	File Type	18	1	Alpha	Y	Indicates file type: N=CPSN.

						Should match file type in filename
7	Filler	19	49	Alpha/ Numeric	N	Filler.
8	End of Record marker	68	2	CR/LF	Y	End of header record marker.
	Total	70				

7.5.3 Data Record

Fn	Field Name	Offset	Size	Type	Mandatory	Description
1	Record Version	0	2	Numeric	Y	Value "02"
2	Record Type	2	1	A	Y	D= Cease (including SAD Migration Cease), M = Retain , N = Change of Address (this applies to same CLI) P= Cease due to Bulk Migration T=Change of Address New CLI
3	LOID	3	3	N	Y	Identifies the losing operator ID
4	Reseller Id	6	3	A	N	RID, if available, as held on AO's back-end systems.
5	ROID	9	3	N	Y	Identifies the sending Access Operator (CPSAOID)
6	Notification No	12	8	N	Y in Pending Cease and Actual Cease notifications for customers renumbering or undertaking a change of address with a new CLI only. Must not be sent in Pending Cease and Actual Cease notifications in any other circumstance	Identifies the notification. This must be quoted by the CPSO when submitting a renumber order or a Change of Address New CLI order. Although Notification No. is different for Pending Cease and Actual Cease notifications, either value may be used in the renumber or Change of Address New CLI order order. This field only applies to Pending Cease and Actual Cease notifications with Record Type = "D" or "T". Any value in any other notifications (ie, Ignore Pending Cease, Ignore Pending Change of Address New CLI, Pending/ Actual/ Ignore Pending Retain, Pending/ Actual/ Ignore Pending/ Suspend Change of Address, Pending/ Actual/ Ignore Pending Bulk Migration Cease) should be ignored if present. See Appendix H for more details.
7	Date of switch over	20	8	Date	Y for 'Pending', 'Actual' and	Format YYYYMMDD or spaces or 00000000. The switchover date for 'Ignore

					‘Suspend’ notifications (ie, Pending Cease/ Retain/ Change of Address, and Actual Cease/ Retain/ Change of Address Same CLI and Suspend Change of Address and Actual Cease/ Retain/ Change of Address New CLI and Bulk Migration Pending and Actual Cease)	Pending’ notifications (ie, Ignore Pending Cease/ Retain/ Change of Address Same CLI / Bulk Migration / Change of Address New CLI) should be ignored if present.
8	Time of switch over	28	6	HHMMS S	Y for ‘Actual’ notifications (ie, Actual Cease/ Retain/ Change of Address Same CLI / Change of Address New CLI Actual Bulk Migration)	The switchover time in ‘Pending’, ‘Ignore Pending’ and ‘Suspend’ notifications (ie, Pending Cease/ Retain/ Change of Address Same CLI/Change of Address New CLI, Ignore Pending Cease/ Retain/ Change of Address Same CLI/Change of Address New CLI, Suspend Change of Address, and Pending Bulk Migration) will always be 6 zero’s, indicating blank time, ie nil time specified.
9	Notification type	34	1	A	Y	P= Pending A= Actual I = Ignore Pending S = Suspend
10	CPS Options	35	1	A	Y	The CPS Option being ceased. A = Option1 B = Option 2 C = Option 1 and 2 D = Option 3
11	CLI	36	12	Numeric / spaces	Y	Trailing Spaces filled where necessary
12	Gaining Provider Id	48	3	A	N	Indicates the code of the Gaining Provider, where this is known.
13	Filler	51	17	Alpha/ Numeric	N	Filler.
14	End of Record	68	2	CR/LF	Y	

	Marker					
	Total	70				

7.6 CPSA Acknowledgement/Rejection of Cancel Other Notice

7.6.1 File format roles

- A CPSA file must contain a HEADER record followed by one or more CPSA DATA records.
- A CPSA file can only be sent from a losing CPSO to a CPSAO.

7.6.2 Header record

Fn	Field Name	Offset	Size	Type	Mandatory	Description/Notes
1	CPSA Record Version	0	2	Numeric (01)	Y	Indicates record version of CPSA. Currently "01" (initial version).
2	CPSO ID (LOID)	2	3	N	Y	Losing Operator ID (LOID). Should match LOID in filename.
3	File Number	5	6	Numeric with leading zeros	Y	Non-zero number identifying the file. Should be unique within file type and ROID
4	Number of CPSAs	11	4	Numeric (with leading zeroes).	Y	Number of CPSA records in the file.
5	CPSAO ID	15	3	N	Y	CPS Access Operator that sent the notifications
6	File Type	18	1	Alpha	Y	Indicates file type: A=CPSA. Should match file type in filename
7	Filler	19	78	Alpha/ Numeric	N	Filler.
8	End of Record marker	97	2	CR/LF	Y	End of header record marker.
	Total	99				

7.6.3 Data record

Fn	Field Name	Offset	Size	Type	Mandatory	Description
1	Record Version	0	2	Numeric	Y	Currently "01" (initial version).
2	Record Type	2	1	A	Y	C = Cancel Other acceptance/rejection
3	Requesting Operator ROID	3	3	N	Y	Key Information
4	Reseller Id	6	3	A	N	Identifies the reseller originating the order if appropriate. Ignored until the reseller process is agreed.

5	Requesting Operators own use	9	4	A/N	N	
6	CPS Order Number	13	8	A/N	Y	Unique within operator ID and File Type. Repeat from 'Cancel Other' and original CPS Order. (Key Information)
7	CPS Order Suffix	21	1	N	Y	Ignored
8	CLI	22	12	Numeric / spaces	Y	Trailing Spaces filled where necessary
9	CPSAO ID	34	3	N	Y	Identifies the Access operator that sent the notification
10	Error Code1	37	4	N	Y	Acknowledges the record or identifies rejection reasons 1
11	Error Code2	41	4	N	N	Acknowledges the record or identifies rejection reasons 2
12	Error Code3	45	4	N	N	Acknowledges the record or identifies rejection reasons 3
13	Error Code4	49	4	N	N	Acknowledges the record or identifies rejection reasons 4
14	Error Code5	53	4	N	N	Acknowledges the record or identifies rejection reasons 5
15	Error Code6	57	4	N	N	Acknowledges the record or identifies rejection reasons 6
16	Error Code7	61	4	N	N	Acknowledges the record or identifies rejection reasons 7
17	Error Code8	65	4	N	N	Acknowledges the record or identifies rejection reasons 8
18	Error Code9	69	4	N	N	Acknowledges the record or identifies rejection reasons 9
19	Error Code10	73	4	N	N	Acknowledges the record or identifies rejection reasons 10
20	Filler	77	20	Alpha/ Numeric	N	Filler.
21	End of Record Marker	97	2	CR/LF	Y	
	Total	99				

8 Service Level Agreements

The following section details the service level agreements that will be put in place that are specific to the transmission process. Other SLAs are implied by the CPS process. (Ref: [2]).

The following represents working suggestions only at present and are yet to be agreed by the industry

8.1 Transmission of CPS Handshake Files

A handshake file should be transmitted within 1 working hour of the receipt of the file that it refers to.

Where a file has been sent more than once, the sender requires one *successful* handshake from the recipient. Alternatively, one to one handshakes are acceptable.

8.2 Transmission of CPS Status Notification Files

8.2.1 Initial Order Processing

An order must be processed and where required the CPSO notified of its status by the CPSAO within 1 working day of the CPSAO receiving the order.

8.2.2 Order Lifecycle Status Changes

Order status changes must be notified to the CPSO by the CPSAO within 4 working hours of the status changing.

8.3 Service Availability

The service should be available for use by RO orAckOp to a level of 98% within the agreed availability window.

The working day window for electronic file transfer is as defined within the “Industry End to End Process Description” document, reference 2.

Availability percentage is defined as;

$$Availability = \{1 - x / y\} * 100$$

where x=Service downtime in minutes per
calendar period

y=number of minutes in a CPS
calendar period

It is suggested that an agreed period be 1 working week (i.e. 5 days).

9 Document Compliance with End To End Process Document

This document is compliant with the End to End Process Description version 10.0.

New requirements may be identified in subsequent versions of the End to End Process which are not supported by the IT processes described in this document.

Appendix A : Error Codes

All Gateway Error Codes are found and maintained within the CPS Static Data Store spreadsheet document.

A.2 CPS Cancel Other Notification (CPSS) Reason Codes

All Gateway Cancel Other Notification Reason Codes are found and maintained within the CPS Static Data Store spreadsheet document.

A.3 CPS Acknowledge/Rejection Of Cancel Other (CPSA) Error Codes

All Gateway Cancel Acknowledge/Rejection Of Cancel Other Error Codes are found and maintained within the CPS Static Data Store spreadsheet document.

A.4 CPS File Level Rejection (CPSF) Error Codes

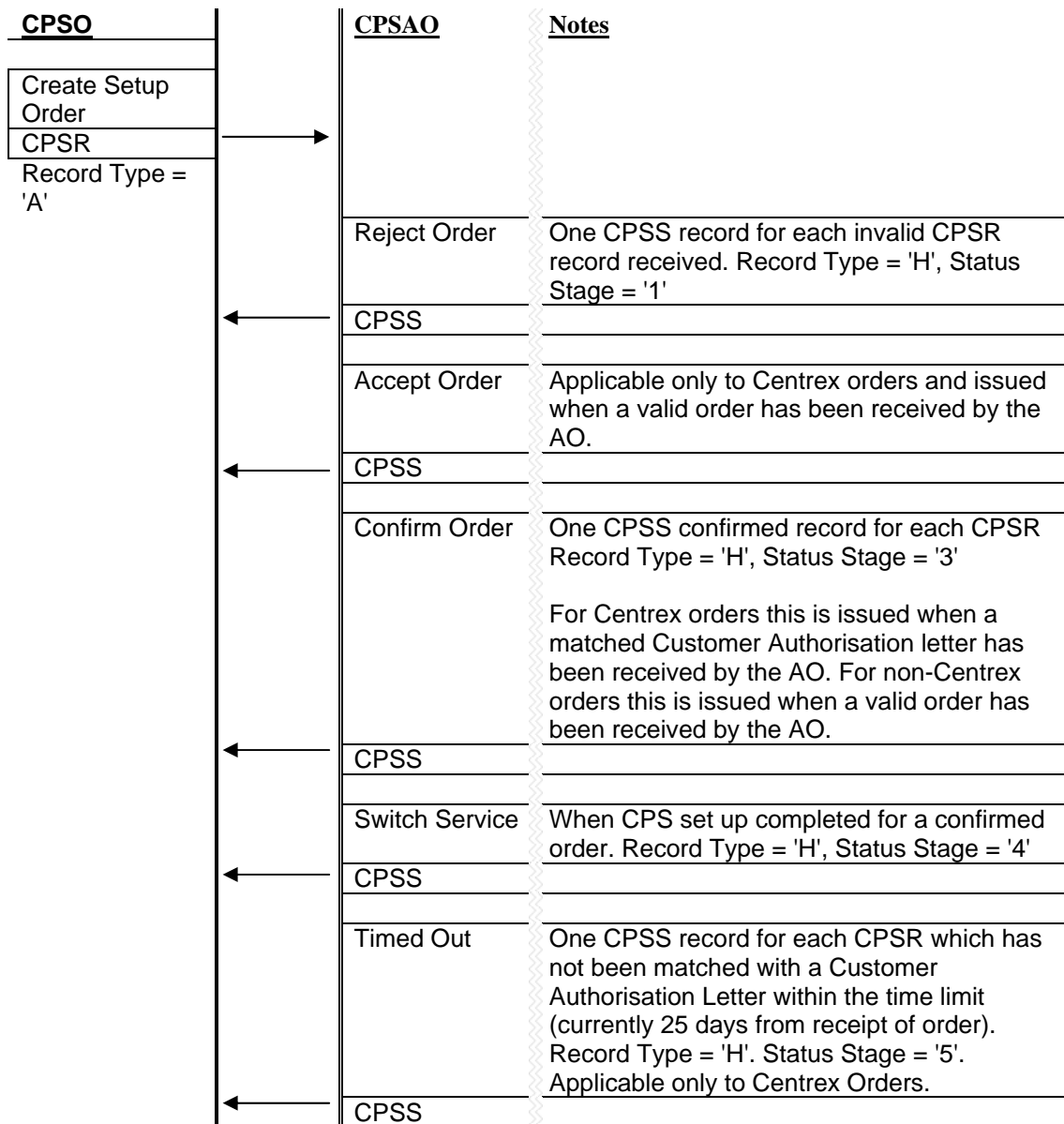
All Gateway File Level Rejection Error Codes are found and maintained within the CPS Static Data Store spreadsheet document.

Appendix B : Message Scenarios

The scenarios shown below are not complete and are for illustration purposes only. For a full description of these scenarios please refer to the Industry End to End Process Description.

B.1 CPS Set-Up Orders

See “CPS Set-Up Orders” section of End-End Process Description



Note: The sequence of messages in the normal (i.e. no rejection) course of events will be:-

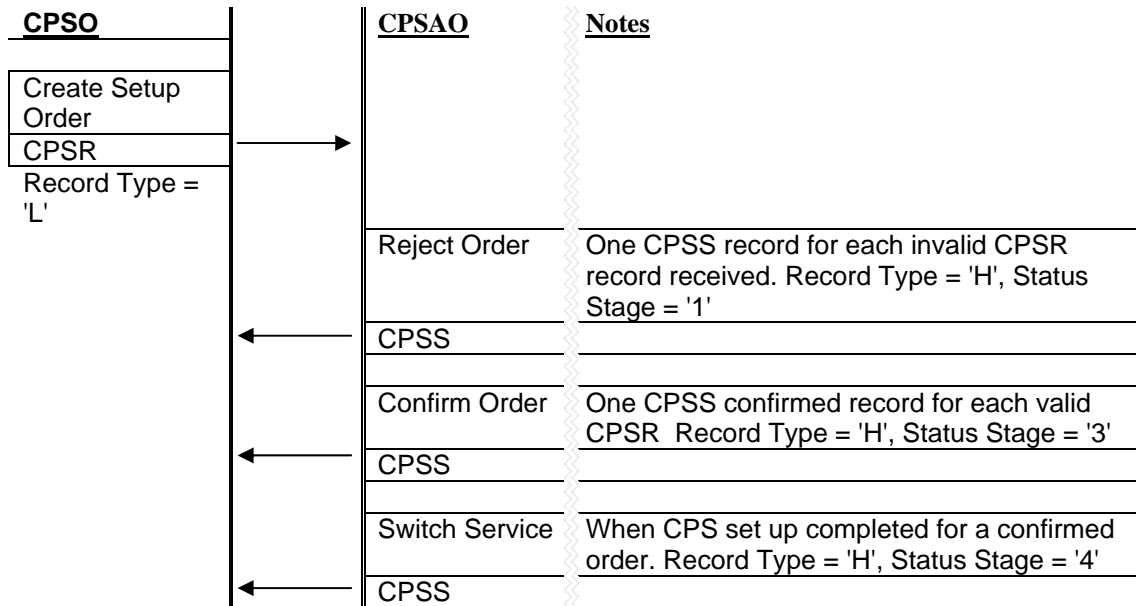
1. Create Order (CPSR from CPSO)
2. Accept Order (CPSS from CPSAO) (Applicable to Centrex Orders only)
3. Confirm Order (CPSS from CPSAO)

4. Switch Service (CPSS from CPSAO)

Reject Order messages (CPSS from CPSAO) may be received at any point. Timed Out messages (CPSS from CPSAO) are received as the last message in the sequence and are applicable only to Centrex Orders. In this event messages 3 and 4 above will not be sent.

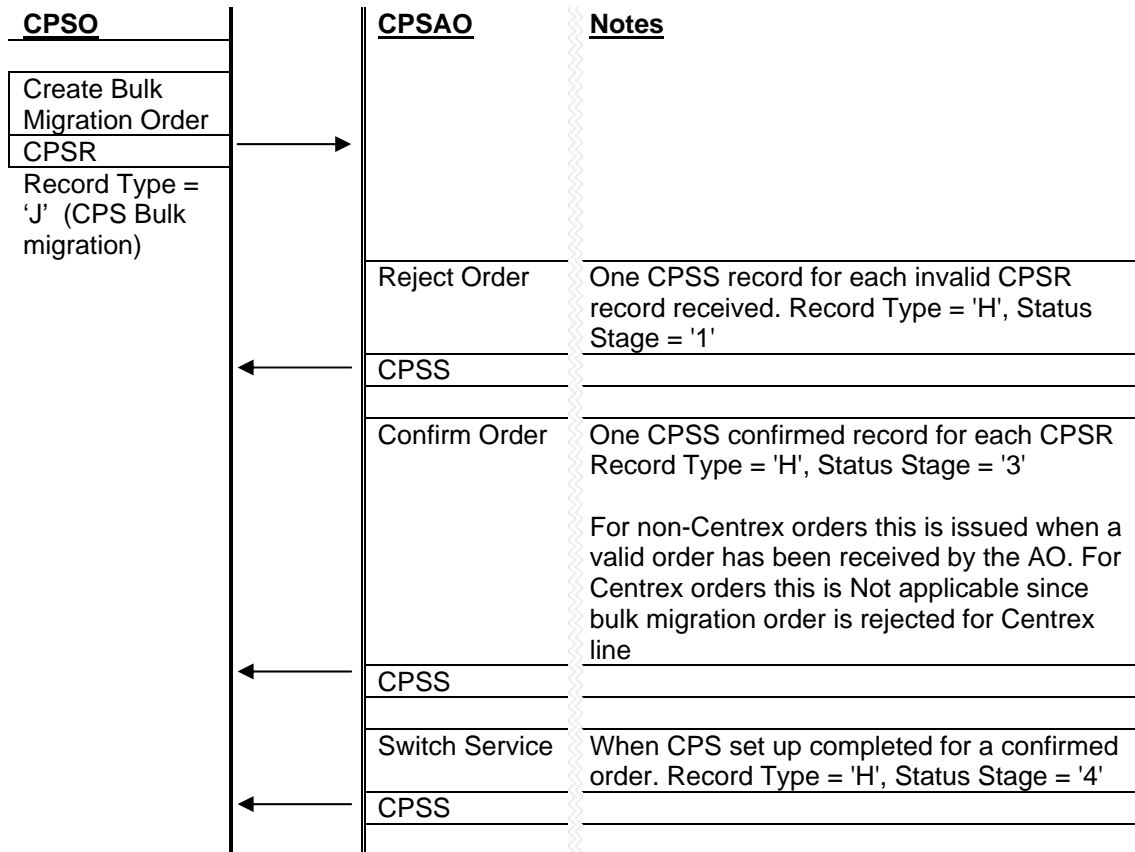
B.2 WLR CPS Setup Orders

This scenario is only applicable where CPS is being set up as part of a related Wholesale Line Rental service (new provide only)



B.3 Bulk Migration Orders

This scenario is only applicable where a Bulk Migration order is being placed



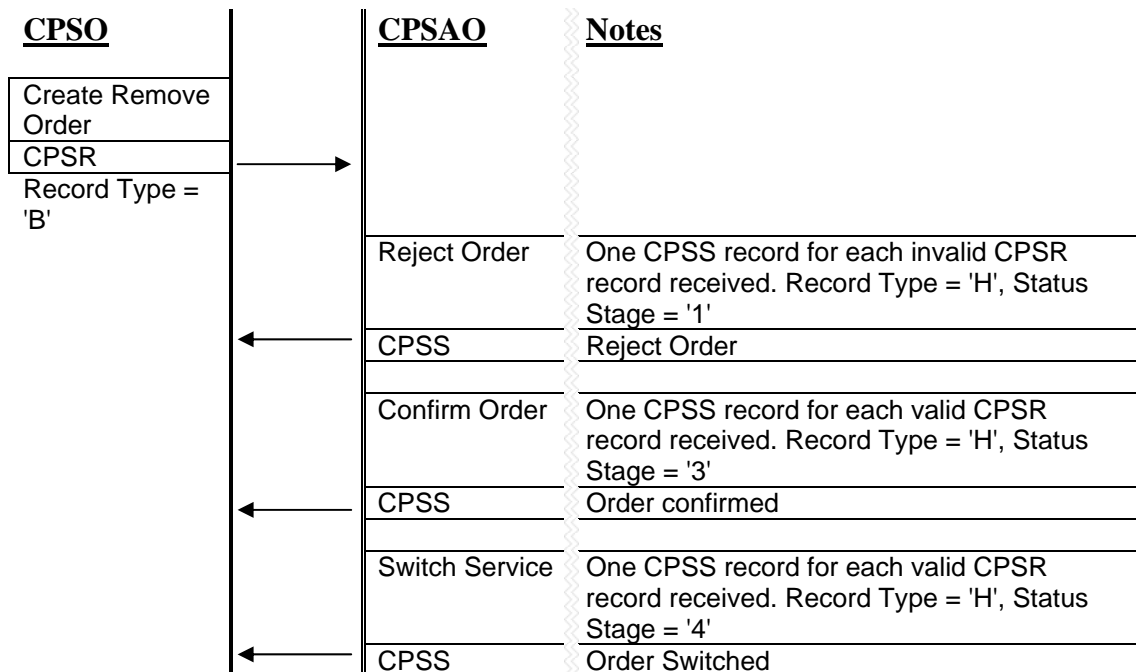
Note: The sequence of messages in the normal (i.e. no rejection) course of events will be:-

5. Create Order (CPSR from CPSO)
6. Confirm Order (CPSS from CPSAO)
7. Switch Service (CPSS from CPSAO)

Reject Order messages (CPSS from CPSAO) may be received at any point.

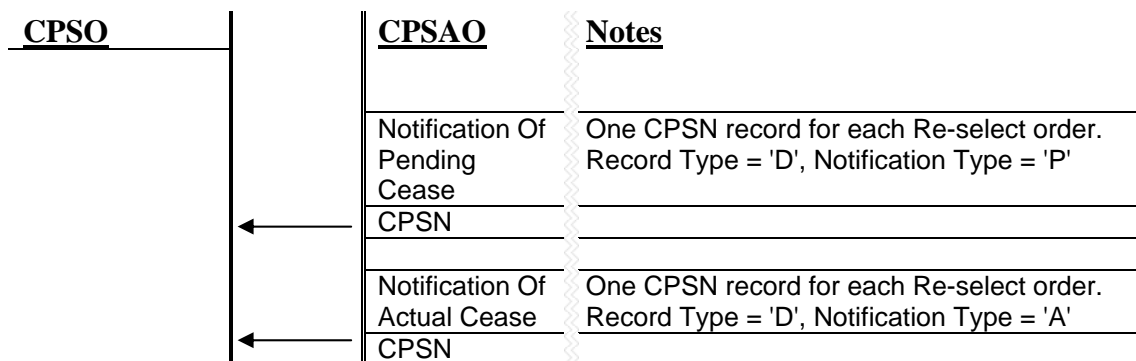
B.4 CPS Remove Orders

See "CPS Remove Orders" section of End-End Process Description



B.5 CPS Re-Select Order

See "CPS Re-Select Order" section of End-End Process Description



B.6 CPS Cancel Other

See "CPS Cancel Order" section of End-End Process Description

<u>CPSO</u>	<u>CPSAO</u>	<u>Notes</u>
	Create Cancel Other order CPSS	One CPSS record for each cancellation. Record Type = 'F', Status Stage = '0'
Reject Order CPSA		One CPSA record for each rejected CPSS record. Record Type = 'C'
Accept Order CPSA		One CPSA record for each accepted CPSS record. Record Type = 'C'

B.7 CPS Cancel Own

See "CPS Cancel Order" section of End-End Process Description

<u>CPSO</u>	<u>CPSAO</u>	<u>Notes</u>
Create Cancel Own order CPSR Record Type = 'E'		One CPSR record for each order cancellation
	Reject Cancel Order CPSS	One CPSS record for each rejected CPSR record. Record Type = 'H', Status Stage = '1'
	Primary Order Cancelled CPSS	One CPSS record for each valid CPSR record received. Record Type = 'H', Status Stage = '0'

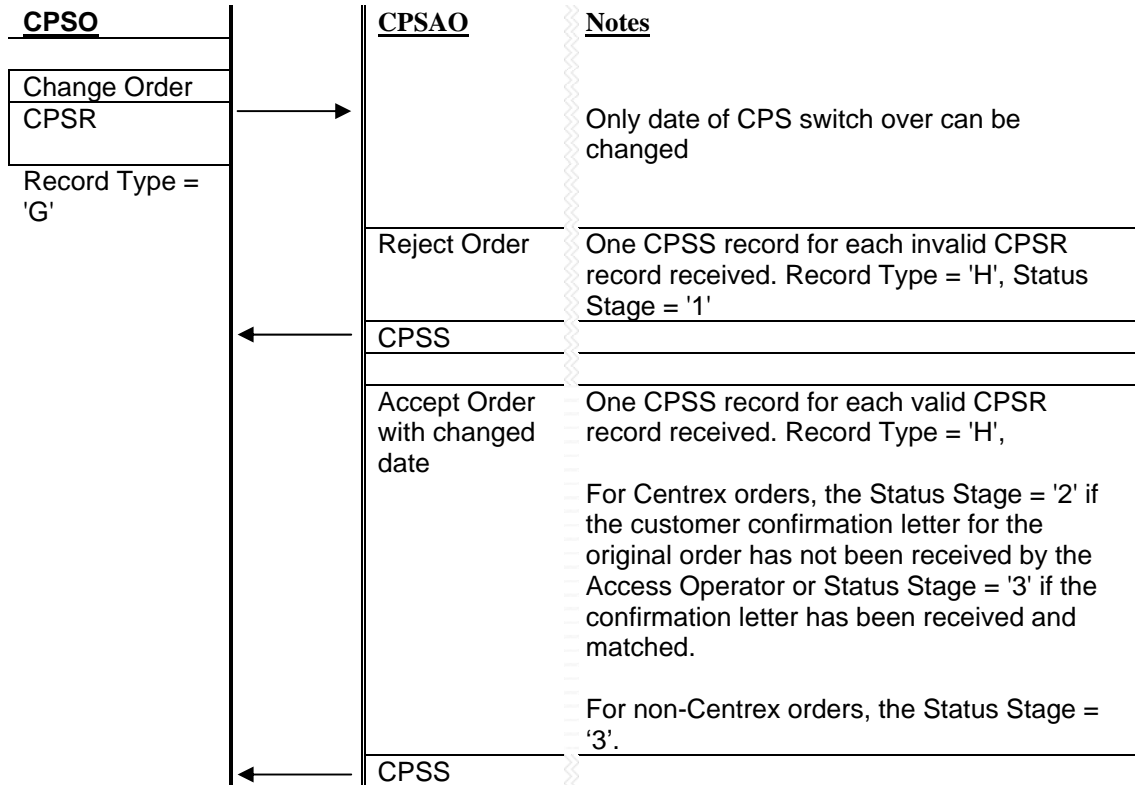
B.8 Time Expired Orders

See "CPS Cancel Order (Cancel Orders – Timing)" section of End-End Process Description

<u>CPSO</u>	<u>CPSAO</u>	<u>Notes</u>
	Notification Of time expired CPSS	One CPSS record for each order where a matching Customer Authorisation Letter has not been received within 25 days of order placement. Record Type = 'H', Status Stage = '5'. Applicable only to Centrex Orders.

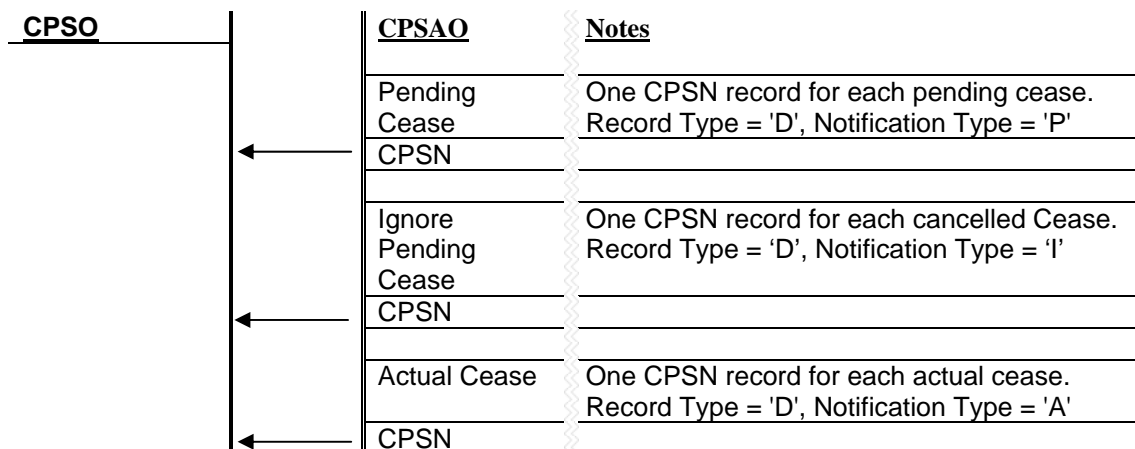
B.9 Change Order

See "CPS Change Order" section of End-End Process Description



B.10 Access Line Changes (CPS Cease Notification Via CPSAO)

See "Access Line Changes" section of End-End Process Description



Note:- Pending Cease is always followed by either an Ignore Pending Cease or Actual Cease

B.11 Change of Address (CPS Change of Address Notification Via CPSAO)

<u>CPSO</u>	<u>CPSAO</u>	<u>Notes</u>
	Pending Change of Address	One CPSN record for each pending Change Of Address. Record Type = 'N', Notification Type = 'P'
←	CPSN	
	Ignore Pending Change of Address	Only generated if Change Of Address is cancelled. Record Type = 'N', Notification Type = 'I'
←	CPSN	
	Suspend Change of Address	Only generated if the service is temporarily suspended during the Change of Address process. Record Type = 'N', Notification Type = 'S'
←	CPSN	
	Actual Change of Address	One CPSN record for each actual cease. Record Type = 'N', Notification Type = 'A'
←	CPSN	

Note:- Pending Change of Address is always followed by either an Ignore Pending Change of Address or Actual Change of Address. A Suspend Change of Address can optionally occur between the Pending Change and the Actual Change if the service is suspended for any length of time during the relocation of the service (and typically resumed sometime after <today>).

B.12 Retain CPS (CPS Retain Notification Via CPSAO)

Currently only applicable where a CPS service is being retained as part of a Wholesale Line Rental order. May be extended for use with other products later.

<u>CPSO</u>	<u>CPSAO</u>	<u>Notes</u>
	Pending Retain	One CPSN record for each instance where CPS is retained as part of related product order Record Type = 'M', Notification Type = 'P'
←	CPSN	
	Ignore Pending Retain	Only generated if related product order is cancelled. Record Type = 'M', Notification Type = 'I'
←	CPSN	
	Actual Retain	One CPSN record for each related product order which has completed. Record Type = 'M', Notification Type = 'A'
←	CPSN	

Note:- Pending Retain is always followed by either an Ignore Pending Retain or Actual Retain

B.13 CPS Renumber Orders

See "CPS Renumber Orders" section of End-End Process Description

<u>CPSO</u>	<u>CPSAO</u>	<u>Notes</u>
	Pending Cease CPSN	One CPSN record for each pending cease. Record Type = 'D', Notification Type = 'P'
	Actual Cease CPSN	One CPSN record for each actual cease. Record Type = 'D', Notification Type = 'A'
Renumber Order		One CPSR record with the new CLI and the cease notification number (Fn15) from the Pending or the Actual Cease notification (CPSN) (Fn6). May be also be sent before receipt of the actual cease notification.
CPSR Record Type = 'I'		
	Reject Order CPSS	One CPSS record for each invalid CPSR record received. Record Type = 'H', Status Stage = '1'
	Confirm Order	One CPSS record for each valid CPSR record received. Record Type = 'H', Status Stage = '3'
	Switch Service CPSS	When CPS service switched for a confirmed order. Record Type = 'H', Status Stage = '4'

B.14 CPS Change of Address New CLI Orders

See “CPS Change of Address New CLI Orders” section of End-End Process Description

<u>CPSO</u>	<u>CPSAO</u>	<u>Notes</u>
	Pending Cease CPSN	One CPSN record for each pending cease. Record Type = 'T', Notification Type = 'P'
	Actual Cease CPSN	One CPSN record for each actual cease. Record Type = 'T', Notification Type = 'A'
Change of Address New CLI Order		One CPSR record with the new CLI and the cease notification number (Fn15) from the Pending or the Actual Cease notification (CPSN) (Fn6). May be also be sent before receipt of the actual cease notification.
CPSR Record Type = 'I'		
	Reject Order CPSS	One CPSS record for each invalid CPSR record received. Record Type = 'H', Status Stage = '1'
	Confirm Order	One CPSS record for each valid CPSR record received. Record Type = 'H', Status Stage = '3'
	Switch Service CPSS	When CPS service switched for a confirmed order. Record Type = 'H', Status Stage = '4'

Appendix C : Billing CSV File

The billing support file is an ASCII comma delimited file (CSV). It is comma delimited between fields and line delimited between records. The line delimiter may be either <CR/LF> (i.e. ASCII 13 followed by ASCII 10) or just <LF> (i.e. ASCII 10).

Alpha-numeric fields use double quotes as an additional field delimiter (to allow the possibility of a comma appearing within those fields). For example, the two fields Order number and Effective Date would each appear with double quotes separated by a comma; thus "AA000861", "01-02-2001", <etc>.

Numeric fields (eg, Price) do NOT use the double quotes.

The file contains a header record, followed by data records. The file may or may not contain a trailer record, depending on circumstances.

An example of actual file content is provided in a later section.

C.1 File Name

The file name will be of the format:

Transactions_to_<dd-mm-yyyy>_for_<OPERATOR NAME>_(<nnn>).csv
where <nnn> is the 3-digit Operator Id.

For example:

Transactions_to_31-10-2001_for_A._N._OPERATOR_PLC_(123).csv

C.2 Header Record

This is the first record in the file and contains the field (column) names for the data records. All header fields are within double quotes with fields separated by a comma.

Field	Position	Data type	Data Description
Order	1	Alpha-numeric	Field title. Actual value = "Order"
Effective Date	2	Alpha-numeric	Field title. Actual value = "Effective Date"
RID	3	Alpha	Field title. Etc.
Type	4	Alpha-numeric	Field title.
Interface	5	Alpha	Field title
Order Type	6	Alpha-numeric	Field title
Transaction Type	7	Alpha-numeric	Field title
Price	8	Alpha-numeric	Field title
Telephone Number	9	Alpha-numeric	Field title
CPS Option	10	Alpha-numeric	Field title
Authorisation Letter Reference	11	Alpha-numeric	Field title Actual value = "Authorisation Letter Reference"
Error Codes	12	Alpha-numeric	Field title

Notes	13	Alpha-numeric	Field title
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C.3 Data Records

All alpha-numeric fields are within double quotes with fields separated by a comma. Numeric fields do not use double quotes.

Field	Position	Data type	Data Description
Order	1	Alpha-numeric	CPS Order Number for this transaction (as per order sent in CPSR file).
Effective Date	2	Alpha-numeric	Effective date for this transaction. Format dd-mm-yyyy. See below.
RID	3	Alpha	The RID submitted as part of the transaction
Type	4	Alpha-numeric	The major type of the order. Possible values: <ul style="list-style-type: none"> • Simple • Complex • FeatureNet • FeatureLine/Embark (n.b. single value)
Order Type	5	Alpha-numeric	As per order sent in CPSR file. Possible values: Setup WLR CPS Setup Bulk Migration SAD Migration Remove Re-number Change Cancel Invalid (ie, none of the above)
Interface	6	Alpha	The interface that originated the transaction. Possible values: <ul style="list-style-type: none"> • DS • OR
Transaction Type	7	Alpha-numeric	As per Transaction Based Charging Matrix (in E2E). Possible values: (see below)
Price	8	Numeric, to two decimal places	The price applied to this transaction. Always shown to two decimal places, even if trailing zero(s). For example £9.90 would appear as 9.90 (and without double quotes).
Telephone Number	9	Alpha-numeric	CLI for this transaction (as per order sent in CPSR file).
CPS Option	10	Alpha-numeric	CPS option for this transaction (as per order sent in CPSR file).
Authorisation Letter Reference	11	Alpha-numeric	Authorisation Letter Reference for this transaction (as per order sent in CPSR file).
Error Codes	12	Alpha-numeric	See below.
Notes	13	Alpha-numeric	See below.

Field – Effective Date

This is the date which applies to the particular transaction type. So, for example, this will be the date of “Order Rejected” or the date of “Order Complete” etc.

Field – Transaction Type

Possible values:

- Order Received
- Order Accepted
- Order Rejected
- Order Placed on BT provision and repair systems
- Order Confirmed
- Order Complete

Field – Error Codes

A semi-colon separated list of error codes that apply to the order. Each code is represented by its error code, a hyphen, and its text description. For example:

“29–Conflicting Service; 42–Not enough Lead time for Set Up Order”

Field – Notes

This is a non-mandatory free text field, for additional notes.

In practice, for successful orders the Notes field will be blank (ie, actual value = “”).

C.4 Trailer Record (Incomplete Orders)

If incomplete orders are present then these will be recorded in a trailer record. If there are no incomplete orders then the trailer record will not exist.

Incomplete orders occur in the case where an order is rejected, but the corresponding reject code does not appear in the corresponding cell of the Transaction Based Charging Matrix (in E2E). (Note: This is a form of safeguard. Incomplete orders are accounted for in the support file for completeness. In such cases, it is expected that the missing reject code is fed back to the Process Group for inclusion in the Matrix and subsequent systems implementation).

The trailer record follows the same template as the data records above, but with the following contents:

Field	Position	Data type	Data Description
Order	1	Alpha-numeric	Actual value <Blank> (ie, “”)
Effective Date	2	Alpha-numeric	Actual value “00-00-0000”
RID	3	Alpha	Actual value <Blank> (ie, “”)
Type	4	Alpha-numeric	Actual value “Incomplete”
Interface	5	Alpha	Actual value <Blank> (ie, “”)
Order Type	6	Alpha-numeric	Actual value “<n> orders” (where <n> is the number of incomplete orders).
Transaction Type	7	Alpha-numeric	Actual value <Blank> (ie, “”)
Price	8	Numeric, to two decimal places	The total price applied to these transactions. Always shown to two decimal places, even if trailing zero(s). For example £1234.50 would appear as 1234.50 (and without double quotes).
Telephone Number	9	Alpha-	Actual value <Blank> (ie, “”)

		numeric	
CPS Option	10	Alpha-numeric	Actual value <Blank> (ie, "")
Authorisation Letter Reference	11	Alpha-numeric	Actual value <Blank> (ie, "")
Error Codes	12	Alpha-numeric	Actual value <Blank> (ie, "")
Notes	13	Alpha-numeric	Actual value <Blank> (ie, "")

C.5 Example File

Line number / record type	Example of actual record content
Line 1 (header record)	"Order", "Effective Date", "RID", "Type", "Interface", "Order Type", "Transaction Type", "Price", "Telephone Number", "CPS Option", "Authorisation Letter Reference", "Error Codes", "Notes"
Line 2 (data record)	"00000123", "30-10-2001", "BZZ", "Simple", "DS", "Setup", "Order Complete", 4.46, "01234567890", "C", "12345678", "", ""
Line 3 (data record)	"00000124", "30-10-2001", "BYY", "Simple", "OR", "Setup", "Order Rejected", 2.11, "01234567891", "A", "12345679", "29-Conflicting Service", ""
Line 4, etc (data records)	As previous data records.
Last line (trailer record) - conditional – may or may not be present	"" , "00-00-0000" , "" , "Incomplete" , "" , "1 orders" , "" , 0.00 , "" , "" , "" , "" , ""

Appendix D : Operator ID Cross-Reference Table

The following table is provided as an illustration of which Operator Ids should be supplied in which fields for all CPS File Types.

The values shown for each Operator Id are for illustration and assume that the Access Operator (AO) is BT with a LOPID of '001' whilst the CPS Operator (CPSO) has been given a hypothetical LOPID of '999'.

CPSO's using this table should replace the '999' value with their own LOPID and should replace the '001' value with the appropriate Access Operator LOPID if their Access Operator is not BT.

Field positions within the file header are indicated with the table below as 'Fn x' where 'x' is the field position – hence 'Fn 2' indicates that the field is the second field in the header record for that file type.

File Type	File Type Code	Sent By	File Name Suffix	ROID Position	ROID	AckOpID Position	AckOpID
Handshake for CPSN	CPSH	CPSO	001	Fn 2	001	Fn 4	999
Handshake, other	CPSH	CPSO/AO	999	Fn 2	999	Fn 4	001
CPS Order, Header	CPSR	CPSO	999	Fn 2	999	Fn 5	001
CPS Order, Data	CPSR	CPSO	999	Fn 3	999	n/a	n/a
File Level Rejection	CPSF	AO	999	Fn 2	999	Fn 4	001
Status Notification, Header	CPSS	AO	999	Fn 2	999	Fn 5	001
Status Notification, Data	CPSS	AO	999	Fn 3	999	n/a	n/a
File Type	File Type Code	Sent By	File Name Suffix	CPSAOID Position	CPSAOID	LOID Position	LOID
Cease Notification, Header	CPSN	AO	001	Fn 2	001	Fn 5	999
Cease Notification, Data	CPSN	AO	001	Fn 5	001	Fn 3	999
Acknowledge Cancel Other, Header	CPSA	CPSO	999	Fn 5	001	Fn 2	999
File Type	File Type Code	Sent By	File Name Suffix	ROID Position	ROID	CPSAOID Position	CPSAOID
Acknowledge Cancel Other, Data	CPSA	CPSO	999	Fn 3	999	Fn 9	001

Appendix E : ‘Requesting Operator’s Own Use’ Field Values

This Appendix describes the BT implementation of the Requesting Operator’s Own Use field.

In this section the term ‘initial order’ can refer to a setup, WLR CPS Setup, Remove, Renumber, Bulk Migration or SAD Migration order.

The values for the Requesting Operator’s Own Use (ROOU) field for each of the examples is as follows

	Value
Initial Order CPSR	IIII
Change Order CPSR	CCCC
Cancel Own Order CPSR	OOOO

The following shows what BT is returning in the ROOU field within the CPSS record:

Normal Non-Centrex

Order	Notification	CPSS ROOU Value
Initial Order		
	Confirmed	IIII
	Switched	IIII

Normal Centrex

Order	Notification	CPSS ROOU Value
Initial Order		
	Accepted	IIII
	Confirmed	IIII
	Switched	IIII

Order with change of date

Order	Notification	CPSS ROOU Value
Initial Order		
	Confirmed	IIII
Change Order	Accepted	IIII
	Switched	IIII

Order with Cancel

Order	Notification	CPSS ROOU Value
Initial Order		
	Confirmed	IIII
Cancel Order	Accepted	IIII

Order with rejected change of date

Order	Notification	CPSS ROOU Value
Initial Order		
	Confirmed	IIII
Change Order	Rejected	CCCC
	Switched	IIII

Order with rejected Cancel Own

Order	Notification	CPSS ROOU Value
Initial Order		
	Confirmed	IIII
Cancel Order	Rejected	OOOO
	Switched	IIII

Where there is a rejection of a change or cancel own BT may not have associated the change/cancel order with the initial order at the point of rejection (or may be rejecting the change/cancel because it can't find the order). Without an association BT cannot return the initial value so for consistency BT always pass back the change/cancel ROOU value for rejections.

Appendix F : Cease Notifications Sent By BT

The following table describes when BT sends Cease Notifications following a CPSO's request for CPS (ie, Setup order) where CPS already exists on the line for the **same** CPSO. (For further information refer to CPS E2E Process doc (v 9.0) section 3.4.2.8).

Existing CPS Option for CPSO1	CPS Option requested by CPSO1 (in Setup order)	Subsequent CPS Option for CPSO1 (ie, after Setup is processed)	Pending/Actual Cease sent from BT to CPSO1
A	A	A	Ceases NOT sent
A	B	C	Ceases NOT sent
A	C	C	Ceases NOT sent
A	D	D	Ceases NOT sent
B	A	C	Ceases NOT sent
B	B	B	Ceases NOT sent
B	C	C	Ceases NOT sent
B	D	D	Ceases NOT sent
C	A	C	Ceases NOT sent
C	B	C	Ceases NOT sent
C	C	C	Ceases NOT sent
C	D	D	Ceases NOT sent
D	A	A	Ceases sent (ie, Pending and Actual Ceases for Option D)
D	B	B	Ceases sent (ie, Pending and Actual Ceases for Option D)
D	C	C	Ceases sent (ie, Pending and Actual Ceases for Option D)
D	D	D	Ceases NOT sent

A = Option 1 = International

B = Option 2 = National

C = Option 1&2 = International and National

D = Option 3 = All Calls

In all cases in the table above, BT will send replies (in CPSS files) to the Setup orders, as normal.

However, Cease Notifications (in CPSN files) are only sent in the cases indicated where there is a “net reduction” in the level of CPS. In these cases, BT will send a Pending Cease at the point where the corresponding Setup becomes Confirmed (Status Stage 3), and an Actual Cease at the point where the Setup becomes Switched (Status Stage 4).

Appendix G : Post Code Matching Algorithm

Post codes must be supplied for all Setup orders, WLR CPS Setup orders, Bulk Migration Orders and SAD Migration Orders. Although it is recommended that CPSOs should aim to supply 100 percent accurate post codes, a level of tolerance has been built into BT's systems that will allow for 'close matches' to be accepted, according to certain conditions specified below.

Note that the following is provided for informational purposes only. The various options below can be switched on/off when agreed at CPS Industry Meetings. Users of this document are advised to read the minutes of the CPS Industry Meetings, in case of any revisions to the functionality below, or the turning on/off of any options.

Different lengths (excl spaces)	The postcode has failed validation
Straightforward comparison (i.e. exact)	If for every string position, n , the character at n in the submitted postcode is identical with the character at n in the BT postcode, then the submitted postcode has passed the postcode vetting.
One Character typo	If replacing one non-space character in the submitted postcode with another alpha-numeric (non-space) character and making no other change would produce a string which would pass the <i>straightforward comparison</i> , then the submitted postcode has passed the postcode vetting.
Two characters transposed	If transposing one pair of non-space characters within the submitted postcode and making no other change would produce a string which would pass the straightforward comparison , then the submitted postcode has passed the postcode vetting.
Equivalence class masking	If for every string position, n , the character at n in the submitted postcode is in the same equivalence class as the character at n in the BT postcode or is identical with it, the submitted string has passed the postcode vetting.

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Only one of the “pass” conditions is needed for the overall postcode validation to be successful.

Each of the last three vets in the table above can be switched off (ie, effectively removed from the table).

Further, for masking, the equivalence classes are configurable, but at the time of writing are the following:

(0, O), (1, I), (2, 3), (5, 6), (G, Q), (A, B, D), (E, F, S), (H, W, N), (J, L), (P, T, U), (X, Y)

An Equivalence class can contain 2 or more characters.

No character can appear in more than one equivalence class.

Postcode Examples

Postcodes	Comment
Matching IP15 6GA with	
IP15 6G	Fails vetting – different size
IP15 6GA	Passes validation – postcodes the same
IP15 SGA	Passes validation – 1 character mistyped
I1P5 6GA	Passes validation – 2 characters transposed
IP16 5GA	Passes validation 2 characters transposed
IP15 6AG	Passes validation 2 characters transposed
1T16 5QB	Passes validation – both postcodes mask to IT15 5QB
ZZZZ ZZZ	Fails the vetting
IJ15 6BA	Fails the vetting (2 characters invalid)
IP15 5GB	Passes the vetting (masking)
IT16 6GA	Passes the vetting (masking)

Appendix H : CPSN Notifications and Renumbers

Refer to section 7.5.3 (CPSN data record).

This Appendix is intended as a guide to clarify the use of CPSN notification types, in particular the use of Notification Number (field 6) in the case of Renumbers and Change of Address New CLI notifications.

CPSN notification types are as follows:

		Notification Type (field 9)			
		Pending	Actual	Ignore Pending	Suspend
Record Type (field 2)	Cease	(1) Notification Number used to indicate if Renumber taking place or not	(2) Notification Number used to indicate if Renumber is taking place or not	(3) Notification Number should be ignored if present	(4) This combination of field values are not possible
	Retain	(5) Notification Number should be ignored if present	(6) Notification Number should be ignored if present	(7) Notification Number should be ignored if present	(8) This combination of field values are not possible
	Change of Address Same CLI	(9) Notification Number should be ignored if present	(10) Notification Number should be ignored if present	(11) Notification Number should be ignored if present	(12) Notification Number should be ignored if present
	Change of Address New CLI	(13) Notification Number used to indicate if CoA New CLI is taking place or not	(14) Notification Number used to indicate if CoA New CLI is taking place or not	(15) Notification Number should be ignored if present	(16) This combination of field values are not possible

Note, 'types (1)-(16)' are used in this Appendix for ease of reference. The main body of the document refers to their full names (eg, Pending Cease, Actual Cease, etc).

Re: Notification Number (field 6) and Renumbers and Change of Address New CLI orders – see table above:

This field only applies in (1), (2), (13) and (14) (ie, Pending Cease and Actual Cease)

In these cases the *existence* of a Notification Number (field 6) is used to indicate if a Renumber or a Change of Address New CLI is taking place.

In the case of (1) and (2), conversely, the *NON-existence* of a Notification Number is used to indicate if a Renumber is NOT taking place.

In (3)-(12) plus (15) and (16), the Notification Number (field 6) should be ignored if present.

In (4), (8) and (16) a Suspend Notification Type is not possible when combined with a Cease, Retain or Change of Address New CLIs. Suspend Notification Types are only applicable to Change of Address Same CLI Record Types.

Appendix I : CPS Error Code Stages

All CPS Error Code Stages are found and maintained within the CPS Static Data Store spreadsheet document.

Appendix J : Multiple Pending Orders

These two tables show the cross-vetting of multiple pending orders on BT CPS systems.

Cross-vetting takes place in two stages:

- The first table shows cross-vetting which takes place at the point of order arrival (ie, where any new arriving order is vetted against any other existing pending orders). In these cases, the arriving order may be rejected, or may be placed to co-exist with the existing order.
- Where orders co-exist, the second table shows the cross-vetting which takes place at the point of order switching (ie, where any switching order is vetted against any other existing pending orders). In general, the order which is due to switch first will switch successfully, and any subsequent switching order (which may now be 'invalid') will be cancelled or handled manually.

Note, the sequence of order switching is independent of the sequence of order arrival (eg, if order 1 arrives before order 2, then order 2 may switch before or after order 1).

(a) Order Arriving Table

		Pending Order existing on BT CPS systems						
		CPS Setup	WA CPS Setup	CPSO Requested Renumber or Change of Address New CLI (I)	Remove	Reselect	CSS Requested Renumber	WACPSRetain, WACPSCOA, Billing Migration, Cease, Upgrade, CPS COA
Order arriving on BT CPS systems	CPS Setup	B		B	B			
	WA CPS Setup							A
	Remove	C		C	C			
	CPSO Requested Renumber or Change of Address New CLI (I)	D		D	D			
	Customer Requested Renumber or Change of Address New CLI (on BT back end systems)							
	Reselect							
	WACPSRetain, WACPSCOA, Bulk Migration, SAD Migration, Cease, Upgrade, CPS COA							

This table shows only cross vetting of multiple pending CPS orders. Other vets/rejections are BAU and are not shown on the table.

Where no cross vetting is shown then the arriving order will be placed independently of the existing order (subject to BAU vetting). At this point both orders will co-exist. See Order Switching table for subsequent outcomes.

A blank cell implies that both orders will be accepted by BT CPS Systems.

- A WA CPS Setup will be rejected if WACPSRetain or WACPSCOA
- B Arriving CPS Setup will be rejected
- C Arriving Remove will be rejected
- D Arriving Renumber will be rejected

(b) Order Switching Table

		Order switching on BT CPS systems						
		CPS Setup	WA CPS Setup	CPSO Requested Renumber or Change of Address New CLI (I)	Remove	Reselect	CSS Requested Renumber	WACPSRetain, WACPSCOA, Billing Migration, Cease, Upgrade, CPS COA
Pending Order (ie, not yet switched) on BT CPS systems	CPS Setup	A				J	I	D
	WA CPS Setup							
	Remove			H		K		D
	CPSO Requested Renumber or Change of Address New CLI (I)							D
	Customer Requested Renumber (on BT back end systems)				C			E
	Reselect	B			B			B
	WACPSRetain, WACPSCOA, Bulk Migration, SAD Migration, Cease, Upgrade, CPS COA				F		G	

A Should not happen - Second order rejected on arrival - See Order Arriving table

- B Reselect will be cancelled, Ignore Pending Cease sent
- C Renumber will be cancelled on BT back end systems, Ignore Pending Cease sent
- D Setup, Renumber or Remove will be Cancel Othered
- E Renumber goes to Alarm - Application Support Group will handle as appropriate
- F Renumber goes to Alarm - Application Support Group will handle as appropriate
- G Reselect goes to Alarm - Application Support Group will handle as appropriate
- H Remove will be Cancel Othered
- I Setup will be Cancel Othered
- J Reselect goes to Alarm if Setup has no specified switching date or specified Setup switching date is later than the Reselect switching date - Application Support Group will handle as appropriate
- K Remove is Cancel Othered if the Remove has no specified switching date or Remove switching date is later than Reselect switching date

End of Document