

Carrier Selection (CS)

Document for implementation and operation

Guidance for implementation and operation of call-by-call selection and pre-selection in the Swiss network

Working Group on Carrier Selection

Table of contents

1	<i>Introduction</i>	4
1.1	Scope	4
1.2	References	4
1.3	Abbreviations.....	5
1.4	Definitions.....	6
2	<i>General technical requirements and specifications in the fixed network</i>	8
2.1	Foreword.....	8
2.2	Format and structure of carrier selection code	8
2.3	Digits sequence length minimum to be supported	8
2.4	Transport of carrier selection code in the network.....	8
2.5	Routing of traffic.....	8
2.6	Quality of service.....	8
2.7	Service transparency.....	9
2.7.1	Basic services	9
2.7.2	Supplementary services	9
2.7.3	Impact of Outgoing Call Barring on CS.....	9
2.8	Assignment of pre-selection to subscriber access and directory numbers.....	9
2.8.1	Single access.....	9
2.8.2	PABX access	10
2.8.3	Centrex access	10
2.8.4	Payphone.....	10
3	<i>Technical implementation in the fixed network</i>	11
3.1	Call filtering for call-by-call selection	11
3.2	Call filtering for pre-selection.....	11
3.2.1	Filtering of emergency calls	11
3.2.2	Filtering of value added services calls.....	11
3.2.3	Filtering of short codes calls	11
3.2.4	Filtering of cross border calls	11
3.2.5	Filtering of local calls.....	11
3.3	Call handling for call-by-call selection and pre-selection	12
3.3.1	Pre-selection variants.....	14
3.3.2	Priority among the different carrier selection methods	14
3.3.3	Impact of Operator Number Portability ONP on free choice of carrier.....	14
3.3.4	Impact of year 2002 numbering plan on free choice of carrier	14
3.3.5	Impact of Individual Number Allocation INA.....	14
4	<i>Operational Procedures for Pre-selection</i>	15
4.1	Introduction	15
4.2	Pre-selection Information Flow from Customer Decision to Ready for Service.....	15
4.2.1	The customer's contact to initiate his pre-selection choice (PSC)	16
4.2.2	Required form of pre-selection request for 1 st October 1999	16
4.2.3	Notice of choice provided by chosen carrier to the local carrier.....	17
4.2.4	Digital Signature.....	20
4.2.5	Special handling for PABXs orders	20

4.2.6	Cancellation of an order	21
4.2.7	Change an order	21
4.2.8	New connect service date to coincide with connection to the chosen carrier	21
4.2.9	Deactivation process	22
4.2.10	Emergency preselection to the requested party	22
4.2.11	Relocating telecom customers and number changes.....	22
	Flow chart on operational process to pre-select a new carrier.....	24
4.3	Charging principles	25
4.3.1	Principle of charge	25
4.3.2	Level of charge	25
4.3.3	Entity to be charged	25
4.4	Fault management process	25
4.5	The unacceptable practice of unauthorized switching of carriers.	26
4.5.1	'Slamming'	26
4.5.2	Definition of slamming	26
4.5.3	Recommendations to prevent such practices	26
5	<i>Carrier selection call-by-call from mobile</i>.....	27
5.1	Introduction	27
5.2	Call handling.....	27
	Table 2.....	27
5.3	Restrictions specific to mobile network.....	28
5.4	Ready for service date.....	28
6	<i>Open issues</i>.....	29
6.1	Issues requiring intervention of the regulator	29
6.1.1	Technical issues.....	29
6.1.2	Operational issues.....	29
6.2	Issues to be studied further	30
6.2.1	Technical issues.....	30
7	<i>Document information</i>.....	32
7.1	General information.....	32
7.2	History.....	32
7.3	Editors.....	33

1 Introduction

According to [1], it is compulsory for all carrier network providers to implement call-by-call selection by 1st January 1998, pre-selection for 50% of their subscribers by 1st September 1998 and for 100% of their subscribers by 1st January 1999. Due to technical problem, pre-selection will be available for 100% of the Swiss market on 1st April 1999.

This document is based on [1] and [2]. However, these regulatory prescriptions set only high level requirements related to the implementation of call-by-call selection and pre-selection.

This document fixes the technical and operational requirements to operate pre-selection in the Swiss network. It represents a compromise between operators for operation from 1st September 1998, but improvements are still under investigation.

1.1 Scope

This document covers technical and operational aspects of free choice of carrier for implementation of pre-selection and operation of pre-selection.

The mechanism required in the network in order to ensure the availability of call-by-call selection and above all pre-selection is briefly described, but the focus has been put on the implementation of the free choice of carrier in the fixed network. Due to lack of international standards the implementation of carrier selection in mobile networks can not be provided with the same functionality and in the same time frame as for the fix network. Mobile related aspects have therefore been compiled in a separate chapter in this document.

The most important complement to the existing definitions is related to the calling scope of pre-selection, which is a key to success for the launch of this service.

Clear, simple and precise operational processes for provisioning pre-selection are also crucial for avoiding customer confusions and ensuring fair competition. The second part of this document establishes basic rules to be considered as framework for the interconnection agreement between network services providers.

1.2 References

- [1] Loi sur les télécommunications (LTS)- 30.4.97
- [2] Ordonnance de la Commission fédérale de la Communication relative à la loi sur les télécommunications - 17.11.97
- [3] Annexe 2 à l'ordonnance de la ComCom - Prescriptions techniques et administratives concernant le libre choix du fournisseur des liaisons nationales et internationales - 17.11.97
- [4] ITU-T Recommendation E.164 - The international public numbering plan - 30.05.97
- [5] BAKOM SR 784.101.113 /2.1 Nummerierungsplan E.164 - 1998 - 01.12.97
BAKOM SR 784.101.113 /2.2 Nummerierungsplan E.164 - 2002 - 14.07.2000
- [6] "Technical specification for Number Portability in fixed networks"
- [7] Pre-Selection Service Level Agreement, Annex to the Standard Manual of Operational Procedures and Service Definitions for Preselection. July 2000

1.3 Abbreviations

AoC	Advice of Charge
BAKOM	BundesAmt für KOMmunikation (Federal office for communication)
BRI	Basic Rate Interface
CAC	Carrier Access Code
CIC	Carrier Identification Code
ComCom	Commission fédérale de la Communication (Federal commission for communication)
CS	Carrier Selection
CSC	Carrier Selection Code
DDI	Direct Dialling In
DN	Directory Number
DQ	Directory Enquiries (111)
GST	(Swisscom) Geschäftsstelle
ISDN	Integrated Service Digital Network
LAC	Local Area Code
LCR	Least Cost Router
LLC	Local Loop Carrier
NSN	National Significant Number
OCB	Outgoing Call Barring
PABX	Private Automatic Branch eXchange
PSC	Pre-Selection Choice / Pre-Selected Carrier
PoA	Power of Attorney
POTS	Plain Old Telephony System
PRI	Primary Rate Interface
PFD	PreFix Dialler
QoS	Quality of Service

1.4 Definitions

The following definitions apply for implementation by 1st of September 1998 and only for the purpose of this document.

Call-by-call selection or Easy access:

Call-by-call selection allows the caller to choose a carrier network for a single call by dialling the accurate carrier selection code (CSC) in front of the required number.

Call-by-call selection may be performed by mean of a smart box like PreFix Dialler (PFD) or Least Cost Router (LCR) inserted at the user-network interface.

Pre-selection:

Pre-selection is a fixed set-up procedure installed in the access network, allowing the caller to choose carrier network automatically without dialling supplementary digit.

Free choice of carrier:

This is the generic term used in this document for call-by-call selection and pre-selection.

Default selection:

This is the selection of the carrier chosen by access network provider if neither call-by-call selection nor pre-selection is used by the caller.

Default carrier:

This is the carrier network chosen by the access network provider to route calls when the customer expresses no preference.

Pre-selected carrier:

This is the carrier network determined by the pre-selection.

Local carrier, Local Loop Carrier, Access provider:

This is the carrier to whose network the subscribers are directly connected.

New selected carrier:

This is the newly pre-selected carrier as opposed to the old pre-selected carrier or default carrier.

Local call:

The agreed definition of a local call for 1st of September 1998 is a called number whose first digit is not 0 or 1 (7digits numbers). In other words, it is a National Significant Number (NSN) as defined in ITU-T E.164 dialled without Local Area Code (LAC). After 29th April 2002 these kind of calls do no longer exist.

National long distance call:

The agreement of the definition of a national long distance call for 1st of September is a national call, excluding local calls as defined above.

International call:

Call to destinations outside Switzerland. The number dialled by the caller includes the international prefix 00.

Value added services numbers:

08x (except 081), 09x (except 091), 155, 156, 157.

Routing dependent on Type of Carrier Selection:

"Routing dependent on Type of Carrier Selection" is the terminology used when the calls are not handled the same way for call-by-call selection and pre-selection.

Routing dependent on Carrier :

"Routing dependent on Carrier" is the terminology used when the type of calls concerned by call-by-call selection and pre-selection differs depending on the selected carrier.

2 General technical requirements and specifications in the fixed network

2.1 Foreword

Unless otherwise specified, the requirements are valid for call-by-call selection and pre-selection in the fixed network.

2.2 Format and structure of carrier selection code

The CSC is the sequence of 5 digits to inserted before the E.164 subscriber number for selecting an indirect carrier. It consists of the Carrier Access Code (CAC) and the Carrier Identification Code (CIC). The exact structure, usage and attribution of CSC are defined in [2], chapter 4.1.

2.3 Digits sequence length minimum to be supported

Fixed network switches must support at least a sequence of 22 digits dialled by the subscribers for call-by-call selection method in order to be able to deal with the CSC, the international prefix (00) and the maximum length of an E.164 number (15 digits according to [3]).

2.4 Transport of carrier selection code in the network

As defined in [2], chapter 8.

2.5 Routing of traffic

As defined in [2], chapter 9.

2.6 Quality of service

As defined in interconnection agreement.

2.7 Service transparency

2.7.1 Basic services

As defined in [2], chapter 6.1.

2.7.2 Supplementary services

- Call forwarding services:
Pre-selection must operate when forwarding or diverting a call.
- Other supplementary services, as defined in [2], chapter 6.2.

2.7.3 Impact of Outgoing Call Barring on CS

2.7.3.1 Call-by-call selection

The selected carrier is responsible for providing the service, but for 1st September 1998, inclusion of CSC in barring sets for OCB is under control of the LLC.

2.7.3.2 Pre-selection

The scope of barred calls for the pre-selected carrier must be exactly the same as the scope would be for the default carrier and must not exclude, limit or otherwise impede free choice of carrier.

2.8 Assignment of pre-selection to subscriber access and directory numbers

2.8.1 Single access

Pre-selection may be assigned to individual directory numbers (DN) for single lines.

This applies to plain old telephony systems (POTS) as well as to multiple subscriber number (MSN) of ISDN BRI.

2.8.2 PABX access

Pre-selection can be assigned only to an entire PABX plan. It is not possible to assign pre-selection to individual extensions among a DDI range of a POTS, BRI or PRI PABX plan.

2.8.3 Centrex access

For the time being, pre-selection is not available for Centrex access, only call-by-call selection is possible. The working group is trying to find a common solution to fix this problem.

2.8.4 Payphone

Pre-selection is not available for payphone.

3 Technical implementation in the fixed network

3.1 Call filtering for call-by-call selection

Emergency calls only are filtered.
See table 1.

3.2 Call filtering for pre-selection

3.2.1 Filtering of emergency calls

Emergency calls are ignored by pre-selection mechanism and handled via the default carrier. Every access network provider must make sure that all emergency calls can be completed accurately.
See table 1.

3.2.2 Filtering of value added services calls

Value added services calls are ignored by the pre-selection mechanism and handled via the default carrier until 31st August 2001. Beginning with the 1st September 2001 it will change with the introduction of Individual number allocation (INA). See table 1.

3.2.3 Filtering of short codes calls

Short codes calls are ignored by the pre-selection mechanism and handled via the default carrier.
See table 1.

3.2.4 Filtering of cross border calls

Cross border calls are ignored by the pre-selection mechanism and handled via the default carrier.
See table 1.

3.2.5 Filtering of local calls

From 1st September 1998, it has been agreed that calls within the same local area are filtered only if dialled without the LAC and leading "0".

With the introduction of the new numbering plan at 29th March 2002 this local number format is not valid anymore. The carrier selection must be ignored for called party numbers beginning with 2...9 and the call is to terminate with an appropriate announcement.

See table 1.

3.3 Call handling for call-by-call selection and pre-selection

Call handling for free choice of carrier to be implemented by 1st September is the following:

From code	To code	Remarks	Profile of call by call selection	Profile of Pre-Selection
000	007	International	Routed to selected carrier	Routed to selected carrier
00800		UIFN – Value added service	Routed to selected carrier	Selection ignored, routed/treated by default carrier
00801	0099	International	Routed to selected carrier	Routed to selected carrier
01	048	National codes, geographic numbers and various services	Routed to selected carrier	Routed to selected carrier
049		Data service	Routed to selected carrier	Selection ignored, routed/treated by default carrier
050	058	National codes, geographic numbers and various services	Routed to selected carrier	Routed to selected carrier
059		Cross border code	Routed to selected carrier	Selection ignored, routed/treated by default carrier
060	079	National codes, geographic and mobile numbers	Routed to selected carrier	Routed to selected carrier
080		Value Add Services	Routed to selected carrier	Selection ignored, routed/treated by default carrier From 1 st September 2001 routed to selected carrier
081		National codes, geographic numbers	Routed to selected carrier	Routed to selected carrier
082	085	Value Add Services	Routed to selected carrier	Selection ignored, routed/treated by default carrier From 1 st September 2001 routed to selected carrier
086		Voice Mail, CPS test number (0868 868 868), VPN services (0869)	Routed to selected carrier	Routed to selected carrier.
087	090	Value Add Services	Routed to selected carrier	Selection ignored, routed/treated by default

From code	To code	Remarks	Profile of call by call selection	Profile of Pre-Selection
				carrier From 1 st September 2001 routed to selected carrier
091		National codes, geographic numbers	Routed to selected carrier	Routed to selected carrier
092	097	National codes	Routed to selected carrier	Selection ignored, routed/treated by default carrier
098		Number Portability prefix, not allowed for end users. (setting according to session 17 minutes)	Routed to selected carrier	Selection ignored, released by default carrier
099		Network internal prefix, not allowed for end users. (setting according to session 17 minutes)	Routed to selected carrier	Selection ignored, released by default carrier
100	106	Sort codes	Routed to selected carrier	Selection ignored, routed/treated by default carrier
107	109	CSC	Must be barred by the selected carrier	Pre-Selection override
110	111	Short codes	Routed to selected carrier	Selection ignored, routed/treated by default carrier
112		Emergency Services	Selection ignored, routed by default carrier	Selection ignored, routed by default carrier
113	116	Short codes	Routed to selected carrier	Selection ignored, routed/treated by default carrier
117	118	Emergency Services	Selection ignored, routed by default carrier	Selection ignored, routed by default carrier
119	142	Short codes	Routed to selected carrier	Selection ignored, routed/treated by default carrier
143	144	Emergency Services	Selection ignored, routed by default carrier	Selection ignored, routed by default carrier
145	199	Short codes	Routed to selected carrier	Selection ignored, routed/treated by default carrier
2	9	7 digits numbers	Routed to selected carrier From 29 th March 2002 selection ignored, intercept	Selection ignored, routed by default carrier From 29 th March 2002 selection ignored,

From code	To code	Remarks	Profile of call by call selection	Profile of Pre-Selection
			with announcement	intercept with announcement

Table 1

3.3.1 Pre-selection variants

Only pre-selection by administrative subscription as defined in [2], chapter 3.2 is required by 1st September 1998.

The introduction of pre-selection on-line controlled by subscriber input is under investigation by the Q6 group and Bakom.

3.3.2 Priority among the different carrier selection methods

As defined in [2], chapter 3.1 and chapter 3.3.

3.3.3 Impact of Operator Number Portability ONP on free choice of carrier

See [6], chapter 2, "Routing and address principle".

3.3.4 Impact of year 2002 numbering plan on free choice of carrier

With the introduction of the new numbering plan at 29th March 2002 the local number format without leading "0" and the extension according the local area is not valid anymore. The consequence for the call handling is to ignore the carrier selection by call-by-call and pre-selection for the leading digit 2...9 and terminate the call with an appropriate announcement.

3.3.5 Impact of Individual Number Allocation INA

With the introduction of INA at 1st September 2001 is the individual allocation of the following number ranges to the end-user required: 0800, 084x, 0878 and 090x. The allocation of VAS number ranges to the TPS is not valid anymore and it is a routing to the subscriber required under consideration of the ONP. For the routing with Number Portability Routing Number NPRN is the originating carrier responsible, i.e. in the case of carrier selection the selected carrier. Hence also in the case of pre-selection is the routing to the selected carrier required.

4 Operational Procedures for Pre-selection

4.1 Introduction

The universal experience in liberalized telecom markets is that the introduction of choice consistently produces benefits for consumers in the way of lower prices, a greater variety of services and more responsive customer care. Choice also has the potential to introduce customer confusion.

Implementation of a small number of key guidelines can minimize potential confusion and allow customers easy access to new, and existing, service providers.

Pre-selection requires establishment of operational procedures defining how carriers communicate with each other regarding a customer's choice of carrier and, most importantly, how the carriers communicate with the customer so that the process is easy, convenient and secure from the customer's point of view. The issue analysis here examines operational requirements for pre-selection and is a result of the BAKOM working group. The whole process is based on the ComCom ordinance and its annex, valid from 1st of October 1999.

4.2 Pre-selection Information Flow from Customer Decision to Ready for Service

The end to end information flow from customer decision to ready for service is simple in content and relatively simple in form, the primary complication being the fact that it necessarily involves at least two competing service providers.

Paragraph 4.2.12 (page 24) of this paper shows in flow charts how pre-selection will be initiated for the phase of October 1, 1999 from the first step of a customer's call and processed until pre-selection is fully implemented..

4.2.1 The customer's contact to initiate his pre-selection choice (PSC)

To initiate his or her pre-selection choice (PSC), the customer has to go through only one single contact with the desired carrier. This is typically a phone call followed by an exchange of correspondence. The customer is not required to make direct contact with any other carrier. The chosen carrier has the power to act for the customer in completing the PSC process.

If a customer contacts the local carrier to initially select or change his or her PSC to another carrier, the local carrier simply refers the caller to the requested carrier.

4.2.2 Required form of pre-selection request for 1st October 1999

After the first contact with the desired carrier, the customer has to sign a Power of Attorney (PoA) or a data capture form. This form shows with the customer's signature the clear will of the customer to change its long distance carrier and gives the new carrier the authorization to act in his name for this issue. The preselected carrier stores this form at its location and is obliged to present it on demand to the local loop carrier, if there is evidence for a dispute..

4.2.2.1 The Power of Attorney (PoA) form

The layout of the PoA form is left to the free choice of the carrier, but the following data must be present:

- Order Identification (inserted by the operator)
- Customer's full name (user of the access or billed party)
- Address
- Telephone number(s)
- Date
- Place
- Signature
- Customer instruction to new carrier to conduct all negotiations with local loop operator
- Customer authorisation of local loop carrier to provide selected carrier with all necessary information in case of change of address and/or change of telephone number(s)

4.2.3 Notice of choice provided by chosen carrier to the local carrier

The chosen carrier will send the pre-selection orders per e-mail to the local loop carrier.

4.2.3.1 Exchange of files, files name and format

The orders shall be stored in an Excel file enclosed as attachment in a e-mail. Carriers must agree on the version their systems support. For 1st. October 1999, Excel 8.0/Windows 97 file format will be used. No later version must be used without mutual agreement.

The transmission of these excel files must be secure, i.e. sent with digital signature, according to [3].

The convention for naming files is the following:

CPS_xyz_Q_YYYYMMDD_xyz9999999999.XLS

where

CPS => Pre-Selection

xyz => 3 last digits of CSC

Q => A=Activation, R=Response (Ack/Nack), P=Order

performed, C=Cancellation, M=Modification, L=Location change, D=Deactivation

YYYY MM DD => date in format YYYY MM DD (e.g. 19980813 for 13th August 1998)

xyz9999999999 => the number of the first order in the file

XLS => Excel file extension

Orders are sent by the PSC in Excel files named

CPS_xyz_A_YYYYMMDD_xyz9999999999.XLS,

containing not more than 500 orders and including the fields described in the following table:

Field Name	Remark	Example
Order Id	Format: XYZ+10 characters where XYZ are the last 3 digits of the chosen carrier's CSC code and the 10 characters are forming a unique identifier	755000000001
Submit date	YYYY MM DD	1998 08 14
Company registered name		
Customer name		
Customer first name		
Street/No/Postbox		
Postcode		
Town		
Nat PSC name	Name of carrier for national calls Remark : From 1 st of September 98, it is technically not possible to chose a different carrier for national and international calls. As long as it remains so, if only one PSC name or PSC's CSC is provided by the PSC, LLC will assume that PSC name or CSC apply for both national and international traffic.	
Nat CSC	CSC for national calls	
Internat PSC name	Name of carrier for internat. calls	
Internat CSC	CSC for international calls	
Analog/ISDN	Nature of access	ISDN
Type	PABX or blank for single lines	PABX
DN/MSN1-MSN2...MSN10	10 separate fields. PABX main number to be filled in DN/MSN1 field	
Order accepted	Field reserved for answer of LLC	
Code for rejection	Field reserved for answer of LLC	
Reason for rejection	Field reserved for answer of LLC	
Signature	Field remains from the old process, but will not be filled out by any carrier any more.	
Activation date	Field reserved for answer of LLC	
Internal	Field reserved internal use of PSC	

Table 2

Within **one working day**, the LLC must send back to the PSC the same Excel files renamed

CPS_xyz_R_YYYYMMDD_xyz9999999999.XLS.

The field "Order accepted" must be filled for each order with Y (yes, accepted) or N (no, rejected).

Within 5 working days, as the ComCom ordinance specifies, the LLC must send for a second time the same file renamed CPS_xyz_P_YYYYMMDD_xyz9999999999.XLS to confirm that activation has been performed for all accepted orders. The field "Activation date" must be filled.

4.2.3.2 Reasons for rejection of a CPS order

If an order is rejected (N in field "Order accepted"), the field "Code for rejection" as well as the field "reason for rejection" have to be filled out.

In order that the software systems can recognise the codes and reasons for rejection automatically, no other than the agreed codes and reasons are allowed to be filled in these columns. No other reasons to reject an order are allowed.

The following codes and reasons are allowed

Code for rejection	Reason for rejection	Explanation
NoMatch	Wrong name	The last name does not match the number
NoMatch	Wrong first name	The first name does not match the number
NoLLC	Wrong number	customer is not customer of this LLC
NoIC	(no reason has to be given)	lack of interconnect agreement
Publiphone	(no reason has to be given)	Publiphone, not possible for preselection
Format	Column x is missing (x stands for a variable)	:the preselected carrier is not using the right format of the excel-sheet
CTX	(no reason has to be given)	Centrex number, for the meantime not possible to preselect
New Cust	yyymmdd (this stands for a variable for the date, the customer will have dial tone under this number)	this number is not yet in place, but will be in place at the indicated date.
DDI	Mainnumber is xxx xx xx (variable for the main number)	The number given by the preselected carrier is a number out of a DDI, the main number is given by the LLC
TMA	(no reason has to be given)	Too many accesses, meaning that there is more than one access in one row, which is not allowed. In

		order to ease the process, this rejection code will not be used for too many ISDN light accesses on one row.
--	--	--

The reason “no match” should be given, whenever the telephone number does not match with the name written in the LLC database. However: if name does not match exactly (e.g. Gaby Scala instead of Gabriela Scala, Schaerer instead of Schärer) but no ambiguity possible, the order must not be rejected.

4.2.4 Digital Signature

Digital signature is an official requirement of the regulator, as specified in [3], in the frame of CPS-orders sent electronically per e-mail.

Therefore Swisskey certificate for digital signature must be used. The key length is 512 bits. CPS e-mails without digital signature will be considered as not reliable and rejected.

The instruction how to get digital signature is provided on the Swisskey website (<http://www.swisskey.ch>, certificates & services, instructions). The Swisskey personal ID or Corporate ID certificates are distinguished by the personal verification of the certificates holder's identity. This verification is handled by a registration service (chambers of commerce) in front of which a candidate needs to present him-or herself in person with an official ID document. The name of the digital signature (or key) owner as well as the e-mail address of the key owner must be sent to the LLC in order that the LLC can get the public key from Swisskey Homepage. The LLC will provide the same information to allow all operators to get LLC public key from Swisskey website.

4.2.5 Special handling for PABXs orders

Experience has proven that it is more complicated to pre-select a PABX.

The process will be faster, when the LLC gives the missing main number to the preselected carrier, when the LLC rejects the order with the rejection code DDI. In this case, the preselected carrier will resend the order with the main number as the order.

To speed up the process, it is possible to send this order in a special file, just with this DDI order.

4.2.5.1 Rules for calculating delays

Acceptance/Rejection of orders must be done within 1 working day.

Activation must be effective within 5 working days.

If the order is sent day x (between 00.00 and 24.00), confirmation/ rejection must be received the next working day. Activation must be effective day x + 5 working days

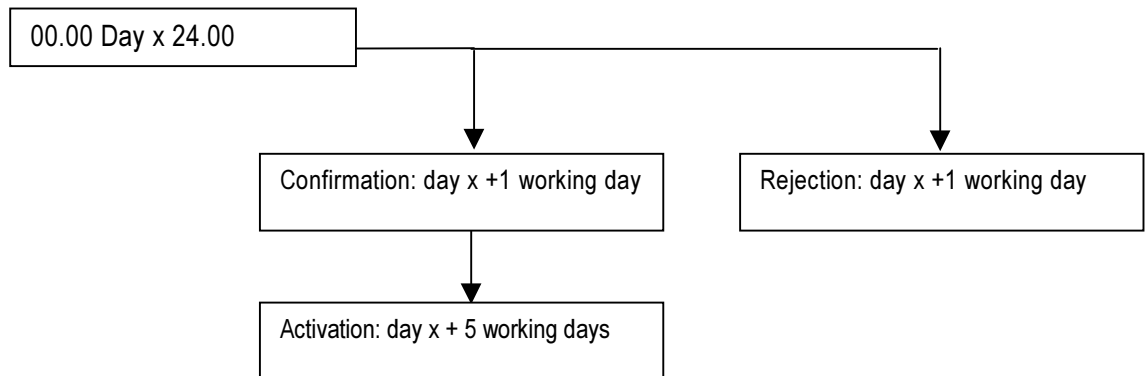


Figure 1

4.2.6 Cancellation of an order

Cancellation of an order is possible until the 4th day, so long as pre-selection has not yet been activated.

A fee is charged to PSC only if the order has been positively acknowledged.

Cancellation orders must be sent separately in files named CPS_xyz_C_YYYYMMDD_xyz9999999999.XLS

Cancellation orders will include:

- Order ID
- Company/Customer Name
- Phone number(s)
- Cancellation

4.2.7 Change an order

If a change is required for an order (i.e. implementation date postponed), PSC sends a changed order separate from other orders (i.e. if in the same e-mail, in a different attachment) in a file named CPS_xyz_M_YYYYMMDD_xyz9999999999.XLS

Change order will include:

- Order ID
- Company/Customer name
- Phone number(s)
- Change required

4.2.8 New connect service date to coincide with connection to the chosen carrier

In the case of a new connection for local service, the date of local service connection must coincide with the date the customer is connected to the chosen carrier. Unless the completion dates are identical, the customer will not have access to a long distance provider in the interim.

4.2.9 Deactivation process

If a customer wishes to discontinue PSC and select his LLC as default carrier, the process is based on the normal CPS activation process.. The customer must contact his LLC only. If the customer contacts the currently selected carrier to order the change, the currently selected carrier simply refers the caller to the LLC.

The LLC sends to the PSC a deactivation notification in a file named
CPS_xyz_D_YYYYMMDD_xyz9999999999.XLS

Deactivation notification will include:

- Order ID
- Company/Customer name
- Phone number(s)
- Deactivation

Remark: the deactivation Order ID does not refer to the activation Order ID for this access.

4.2.10 Emergency preselection to the requested party

If the LLC by accident activates preselection to a wrong PTS, which did not order Preselection, the customer can no longer place calls and is really blocked. In this situation the carrier , who actually requested CPS is not responsible for the mistake but is seen as the responsible one from the customer and gets a bad image. Such as the carrier, where the customer has been by accident preselected to.

The customer then has to be activated to the right carrier as soon as possible by the LLC.

However, if such mistakes happen just before weekends at least the LLC should be able to deactivate the customer of the wrong carrier in order for the customer to place calls during the weekend.

In this case the originally chosen carrier calls 175 and orders the immediate deactivation.

In order to secure the process the carrier sends additionally an e-mail to the following address:

CPS.DeactivationUrgent@swisscom.com

4.2.11 Relocating telecom customers and number changes

When the LLC is processing an order for a customer who is moving from one location to another or changing numbers, it keeps the customers pre-selection profile, if the customer gives no other notice.

The LLC sends to the PSC a relocation notification in the following cases and must contain at least:

- In case of relocation without number change:
 - The reason for notification
 - The phone number(s)

- The effective mutation date
- The new billing address
- In case of relocation with number change:
The PSC will receive 2 notifications
 - 1) a preliminary notification after new number assignation containing:
 - The reason for notification
 - The old and new phone number(s)
 - The desired mutation date
 - The new billing address
 - 2) a notification when new number is connected containing:
 - The reason for notification
 - The old and new phone number(s)
 - The effective mutation date
 - The new billing address
- In case number change without relocation:
The PSC will receive 2 notifications:
 - 1) a preliminary notification after new number assignation containing:
 - The reason for notification
 - The old and new phone number(s)
 - The desired mutation date
 - 2) a notification after completion of number change:
 - The reason for notification
 - The old and new phone number(s)
 - The effective mutation date

These data are sent on a daily basis if necessary, by electronic mail in the format of an excel-sheet attachment

4.2.12 Flow chart on operational process to pre-select a new carrier

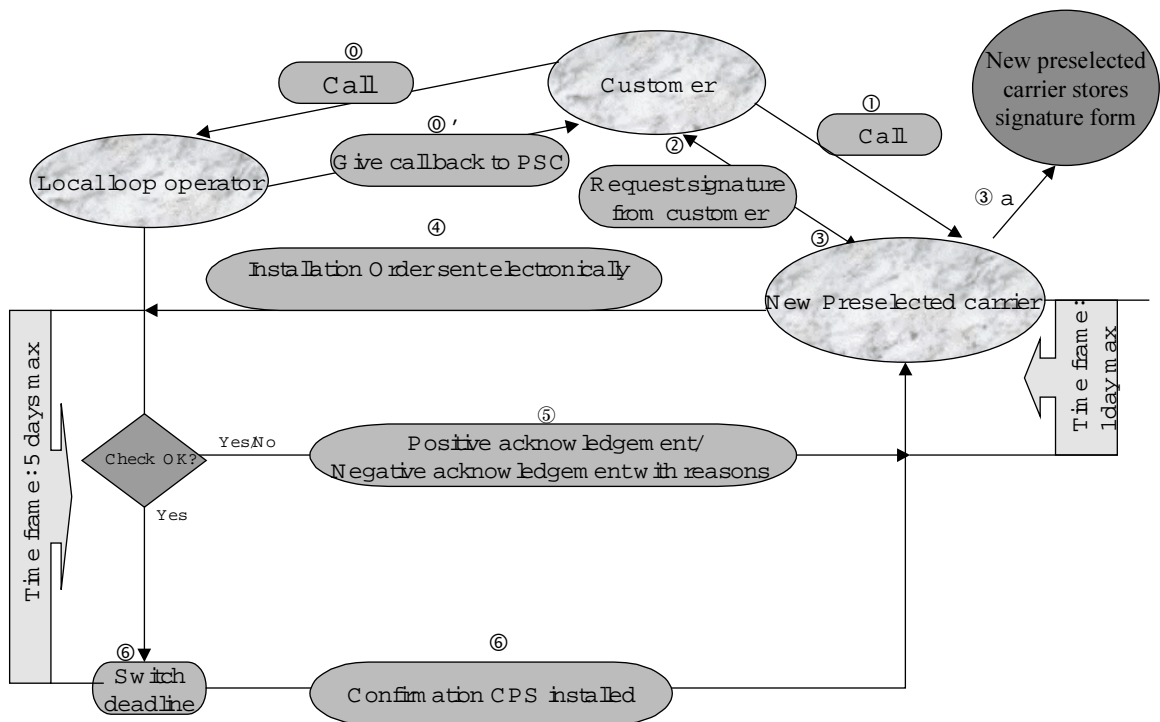


Figure 2

The different steps represented on the figure 1 above are the following:

0. Customer calls LLC
- 0'. LLC refer the caller to PSC
1. Customer calls PSC
2. PSC requests customer's signature by sending to him or her a data capture form or a PoA
3. Customer sends signed form
- 3a PSC stores the signature form in house
4. PSC sends activation order electronically to LLC.
5. Within one working day, the LLC gives an acknowledgement for every order, accepted or not. A code and reason for rejection is mandatory.
6. Activation of pre-selection is performed by LLC for all the orders the LLC has accepted the orders before.

4.3 Charging principles

4.3.1 Principle of charge

2 different charges can be applied: activation fee or relocation fee.

Activation fee applies to positively acknowledged activation orders.

Rejection will not be subject to a charge.

Relocation fee applies when the LLC informs the PSC in case of move of the customer.

The charge will apply per order, but only one access per order is allowed. An access can be a single line analogue, a single line ISDN (with up to 10 MSNs), an analogue PABX with/without DDI, an ISDN PABX with/without DDI.

4.3.2 Level of charge

Activation fee is CHF 29 (VAT excluded).

Relocation fee is CHF 10 (VAT excluded).

4.3.3 Entity to be charged

Unless otherwise agreed between carriers, the LLC charges the PSC.

4.4 Fault management process

The carrier called by the customer initiates the fault management process. Details of the fault management process must be defined in the interconnection agreement.

4.5 The unacceptable practice of unauthorized switching of carriers.

4.5.1 'Slamming'

In other telecom markets some operators have dishonestly attempted to initiate PSC changes without the permission of the customer. In the telecom industry this practice is commonly referred to as slamming. It is the commitment of all carriers to its customers to do all they can to prevent this kind of activity in Switzerland.

4.5.2 Definition of slamming

Slamming is defined as CPS activation or deactivation without written permission of the customer.

Examples of misleading practices include:

- Sending a CPS Order to Swisscom when the PTS has not received the customer's written permission.
- Any loss of the CPS Profile without the customer's written permission.

4.5.3 Recommendations to prevent such practices

In order to prevent such practices the industry came to an agreement to implement financial payments whenever slamming occurs (see Reference [7]).

Through this agreement each party is obliged to pay 1000.-CHF penalties for each case of Slamming as defined above.

The agreement is an integral part of the Interconnect Agreement between any PTS and Swisscom, and should be valid reciprocally between the Parties whether or not Swisscom is the Local Loop Carrier.

The agreement has to be signed individually by each PTS, however as the agreement has been worked out by the industry working group it is the wish of the working group that all PTS participate to this agreement to prevent slamming.

The Swiss Regulatory Authority (Bakom) must be advised of every case of slamming as defined in the agreement.

For any further details of the proceeding consult reference [7].

The customer can at any time check to which carrier he is preselected by using a nation wide test number defined by Bakom. This number is 0868 868 868. An announcement informs the customer to which network he is currently preselected to. He can then call up his preferred carrier if he is not satisfied with the selected carrier.

5 Carrier selection call-by-call from mobile

5.1 Introduction

Following the amendment to the annex 2 of ComCom ordinance regarding carrier selection from mobile, only call-by-call selection of carrier is relevant for mobile users until the technology allows safe introduction of carrier pre-selection in the mobile network.

It had not been necessary to solicit an industry working group to set up the technical requirements for call-by-call carrier selection in the fixed network. However, due to the specificity of the mobile network and the delays in implementation of carrier selection in the mobile network, the CS working group has undertaken to define the basic technical rules and limits for carrier selection call-by-call from mobile network.

There is no need to define operational procedure for call-by-call carrier selection and the billing aspects have to be negotiated bilaterally between carriers, therefore this document sets the technical standards as defaults. If not mentioned otherwise, the requirements settled in [1] and [2] shall be valid.

5.2 Call handling

According to [2], only international calls are subject to choice of carrier from mobile network. Therefore, only calls dialled with international prefix must be routed to the selected carrier. However, calls to 00800 must be filtered and national calls dialled with the international prefix and Swiss country code may also be filtered (0041).

Traffic (CSC+)	Profile of call-by-call selection from mobile
Emergency calls (112, 117, 118, 143, 144)	Call-by-call selection ignored (routed via default carrier)
Short codes calls (apart from emergency calls)	Routed to announcement
International calls (00, except 00800 and 0041)	Routed to selected carrier
00800 and 0041	Routed to announcement
Other calls (01...09, 2...9)	Routed to announcement

Table 2

A specific announcement should be supplied, saying that calls not being routed, according above table, have to be dialled without CSC.

5.3 Restrictions specific to mobile network

- Access to carrier selection applies to Swiss mobile customers using the own Swiss network. The obligation to provide carrier selection doesn't apply to customer using pre-paid SIM cards as well as to national and international roamers.
- Carrier Selection calls may be filtered in case of call forwarding due to number length limitation according to the international standards. This restriction will fall if the international standards are modified and allow the transmission of the required amount of digits in the signalling protocol.
- VPN subscribers might not be allowed to use call-by-call carrier selection. It is however dependent on bilateral agreement to supply the service, i.e. VPN break out calls.
- Due to current technical limitations, the carrier selection calls are not possible for customers having one of the outgoing call barring features activated. However, in the future and as soon as the international standards will allow it, the customer shall be able to decide whether he wants to include the carrier selection calls in the barring set or not.
- Calls from mobile customers living in Liechtenstein are handled as normal Swiss calls. Calls to 075 are considered as Swiss calls as long as the area code 75 is valid to reach Liechtenstein.
- There is no firm restriction for PTS to use several CSCs from the mobile network, but due to technical limitation in mobile switches, PTS are requested to inform the mobile operator during the interconnect negotiation which of their allocated CSC they will use.

5.4 Ready for service date

The implementation of technical settings required for using carrier selection from mobile has to be completed by 1st March at the latest for operators having already a mobile network in service and from day 1 for operators launching the service after this date.

Usage of carrier selection from mobile remains of course dependent on the existence of a direct or indirect (via a transit network) interconnect agreement between the mobile operator and the concerned PTSs.

6 Open issues

This document consists of agreements between operators for the phase from October 1st.. However, the following issues could not be solved by the working group.

6.1 Issues requiring intervention of the regulator

6.1.1 Technical issues

1. Call barring for call-by-call selection in fixed network is discriminating for selected carrier due to lack of technical possibilities in the Swisscom network.

A decision by ComCom is requested

2. The impossibility to preselect centrex access is discriminating and should be changed.

A decision by the ComCom is requested.

6.1.2 Operational issues

6.2 Issues to be studied further

6.2.1 Technical issues

1. Local call definition

Definition
Call charged at lower rate. A local call is then operator dependent.
Call charged at lower rate by the dominant operator ([1] art. 23)
Call within the same LAC.

2. Local call filtering

Local calls filtering	Preferred solution for	Acceptable for	Not acceptable for
Local calls are not filtered but are passed to the pre-selected carrier. The setting is identical for all operators.	Swisscom	Sunrise, Colt	VTX, Omnicom
Calls charged at lower rate by the incumbent operator are ignored by the pre-selection mechanism and sent to the default operator. The setting is identical for all operators.	Omnicom	VTX	Swisscom, Sunrise, Colt
All calls within the same LAC are ignored by the pre-selection mechanism and sent to the default operator. The setting is identical for all operators.	Colt	Swisscom, VTX	Omnicom, Sunrise
For every operator, calls charged at lower rate are ignored by the pre-selection mechanism and sent to the default carrier network. As all operators will presumably apply different scopes for calls charged at lower rate, setting is not identical for all operators. However, the maximum scope for local calls filtering is calls within the same LAC, even though an operator defines a scope for local calls larger than this. The definition of the maximum scope for local calls filtering remains valid after introduction of year 2001 numbering plan.	VTX, diAx, Omnicom, Sunrise	Colt	Swisscom

3. Carrier dependent routing

Definition of standard profiles for carrier dependent routing to be studied

4.

7 Document information

7.1 General information

Document name / version	Doc CS-Q6 / Rev 11
Date of issue	25th July 2000
Number of pages	33
Last changes	25th of July 2000
Status	Approved
Written on	Microsoft Word 97

7.2 History

Rev	Motif of changes
1	First draft
2	Miscellaneous update, update according to Swisscom mobile input
3	Update after review of technical part at meeting on 22 nd June
4	Merged chapter 4 after review of operational part at meeting on 22 nd June
5	Reworked chapter 4 after operational meeting on 16 th July
6	Update after operation roll out test planning meeting on 29 th July
7	Update after 24 th August meeting
8 (draft)	Update before 28 th Jan 99 meeting
9 (draft) – 9A	Versions submitted to WG approval
10	Approved at session 22 – 14 th Dec 1999
11	Changes as discussed in session 26, May 30 th 2000

7.3 Editors

Contact persons	
diAx Barbara Lévy Thurgauerstrasse 60 CH-8050 Zurich	Tel : + 41 1 300 44 85 Mobile : +41 76 300 44 85 Fax : +41 1 300 46 70 E.mail : levy@diAx.ch