

**WHOLESALE REFERENCE OFFER
OF SMP OPERATOR**

TV SERVICES OVER CABLE

ANNEX 4 – SERVICE LEVEL AGREEMENTS

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1 GLOSSARY

ADI	Asset Distribution Interface, an Interface Format commonly used for distributing VoD assets between content archives
BAL	Beneficiary Access Line, one or more physical network links between SMP operator and Beneficiary over which all network traffic required to operate the wholesale services will be organised
Bouquet	A group of digital TV services that are together sold as a Product
BSS	Business Support Systems are the components that a telecommunications network provider uses to run its business operations towards customers. BSS and OSS platforms are linked in the need to support various end to end services
CA	Conditional Access, the protection of content by requiring certain criteria to be met before granting access to this content. The term is commonly used in relation to digital television systems
CAL	CAS Access Line, a network link between SMP operator and the externally hosted CAS for Beneficiaries
CAS	Conditional Access System, the System that enforces the CA
CASV	Beneficiary's (externally hosted) CAS Vendor
CATV	Cable Analog TV
CDR	Customer Detailed Records
CM	Cable Modem
CMTS	Cable Modem Termination System, the general term for the central headend controller in a cable modem network based on the EuroDOCSIS family of standards
CPE	Customer Premises Equipment
DHCP	Dynamic Host Configuration Protocol, the standard Internet protocol to allow a networked device to obtain an IP address for one of its network interfaces from a DHCP server in the network.
DTV	Digital TV
DVB	Digital Video Broadcast standard
DVB-C	Digital Video Broadcast standards specific to cable networks
EAE	Early Authentication and Encryption, term in the EuroDOCSIS standard whereby a cable modem is authenticated and establishes secured communication even before the exchange of data on the IP network level starts
EIT	Event Information Table, part of DVB SI metadata that is typically used to carry the EPG data
EPG	Electronic Program Guide, an application showing on screen which content is being broadcast now and in the immediate or further future on each channel
EU_ID	End User Identified, the unique ID used to identify a service account between SMP operator and Beneficiary. The EU_ID is created upon initial activation of CATV service after which all communication (orders, billing, status) between SMP operator and Beneficiary is based on this EU_ID.
EuroDOCSIS	Family of industry standards used for IP data services over cable networks in Europe
HFC	Hybrid Fiber/Coax, a telecommunications industry term for broadband network which combines optical fibre and coaxial cable. It has been commonly employed globally by cable operators since the early 1990s
IHN	In Home Network
KPI	Key Performance Indicator

MPEG	A family of video compression standards
MPTS	Multi Program Transport Stream, a digital audio/video transport stream that groups multiple channels and typically is broadcast to fill up one frequency on the cable network.
NIU	Network Interface Unit, a device installed in consumer's homes to provide proper termination of the cable network and connectivity for the various services offered by cable operator
NTP	Network Termination Point (as defined in section 4.1 of the Main Body)
PSI	Program Specific Information the metadata for transport streams as defined by the MPEG standards
OSS	Operational Support Systems, computer systems used by telecommunications service providers dealing with the "network functions" including the telecom network itself and the supporting processes such as maintaining network inventory, provisioning services, configuring network components and managing faults. BSS and OSS platforms are linked in the need to support various end to end services
PVR	Personal Video Recorder
QAM	Quadrature/Amplitude Modulation, the modulation technique used on DVB-C networks
RTSP	Real-Time Streaming Protocol, commonly used to control the streaming behavior of video servers (start/stop/pause/slow/fast/forward/reverse)
SI	Service Information, additional metadata for transport streams as defined by the DVB standards, complements the PSI from MPEG
SMS	Subscriber Management System, the business IT system of SMP operator, Beneficiary or CASV responsible for management of subscribers
SLA	Service Level Agreement
SOAP	Simple Object Access Protocol, an industry standard for allowing systems to communicate by exchanging XML messages
SOR	Statement of Requirements
SPOC	Single Point of Contact
STB	Settop Box (the digital TV Decoder)
VHE	Video Head-End, the main facility in the SMP operator network where the DTV signals are prepared for broadcast over the HFC network
VoD	Video on Demand
WRO	Wholesale Reference Offer
WSDL	Web Service Description Language, an XML based language for describing the interface of a web service
XML	Extensible Markup Language, an Internet standard for representing structured data under form of simple text files

2 SCOPE OF THIS DOCUMENT

1. This annex describes the Terms and Conditions upon which Coditel will deliver installation and maintenance of the Wholesale TV Services over Cable.
2. The scope of this document is to set a framework for operational collaboration between both parties that ensures the respect of the fixed deadlines and an acceptable quality of the provided Services.
3. The Service Level Agreements are aimed at the timers for validation of orders, installation of orders and repair of interruptions.
4. The intention of this annex is to motivate the SMP operator to respect the agreed Service Levels.
5. The working of this Service Level Agreement is subject to a learning curve, i.e. the current values included are values that are to be evaluated on a regular basis. This learning curve will extend for 6 months after the deployment of the first wholesale orders. This annex may be updated or amended as agreed with the competent regulator or as decided by the competent courts. Every update or amendment will be communicated to the Beneficiary in an appropriate manner.

3 PREREQUISITES

6. Both parties agree to respect the content of this document.
7. When specific follow up or support needs to be performed, both parties are obliged to provide a SPOC with its respective name, telephone number or e-mail.

3.1 FORECASTS

8. In order to ensure reasonable operational workload, the Beneficiary should ensure a reasonable spread of his orders during the month. For the execution of the present Contract, the maximum daily volume intake is defined as 10% of the monthly forecasted volumes. The orders exceeding on a daily basis the maximum daily volume intake are exempted from the SLA conditions.
9. In case of massive orders, provisioning will be done on project-basis. In that case, planning can be negotiated between the Beneficiary and Coditel. The Beneficiary must upfront inform Coditel when forecasted volume is exceeded. In that case, although SLA will not apply, Coditel will execute these orders on a best effort basis.

3.2 NON APPLICABILITY

10. Timers that are delayed due to the Beneficiary are not valid within this Service Level Agreement.
11. In case of force majeure, the SMP operator might decide to temporarily postpone the Service Levels until the consequences following the force majeure have been resolved. Examples of force majeure are amongst other natural disasters, exceptional weather, strikes, refusals of licence, full system break down. In such cases, the SMP operators will resort to a best effort system for validation, installation and repair.
12. All acts or reports from the Beneficiary outside of working hours will be answered the next working day after the initial report.

3.3 TRANSITION PERIOD

13. The SLA will take effect 6 months after the successful closure of the implementation and testing phase.

4 SERVICE LEVEL AGREEMENTS

14. This paragraph includes the most relevant SLAs in the operational processes framework. The purpose is that these SLAs will be reviewed periodically based on experience.
15. Timers, used in the definition of the hereunder SLAs, are always expressed in working days unless specified otherwise. For a timer of the action must be completed before end of working day after reception of the order or other Beneficiary message, unless specified otherwise. Timers expressed in months consist of 21 working days. Under the present document, a working day for order purposes is considered as being from 9h00 to 16h30 excluding Saturday, Sunday and Belgian holidays.
16. Any order for which the timer has been exceeded due to force majeure, as specified above, is considered not being applicable to the SLA and thus will not be included in the calculation of the KPI, related to this SLA.
17. The SLAs included below are binding and a revision of the latter is possible after BIPT approval or after a court's decision .
18. The KPIs, related to the SLAs, will be measured bi-monthly.
19. The Beneficiary shall inform Coditel of any change to its network or equipment which are likely to affect the performance of the services which are to be supplied by Coditel and subsequently Coditel's ability to comply with this SLA.

4.1 PROVISIONING

4.1.1 Provisioning Validation SLA

20. The provisioning validation timer starts the day following the day Coditel has sent an acknowledgment message for the Beneficiary order. When an order is validated, any request for modification to the order details may only be effected by cancelling the original order and submitting a revised order. Timers relating to an order whose modification is sought by the Beneficiary are not valid within the SLA.
21. The timer ends on the sending day of the validation message by Coditel.

Provisioning Validation SLA Percentage of orders validated within the corresponding validation timer	
50%	1 working day
95%	5 working days

99%	10 working days
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22. The provisioning validation SLA is not valid if the order sent by the Beneficiary has been rejected and a Reject message has been sent by Coditel.

4.1.2 Provisioning Execution SLA

23. The provisioning execution timer starts the day following the day the validate message has been sent to the Beneficiary by Coditel.

24. The timer ends on the sending day of the installation done confirmation by Coditel.

Provisioning Execution SLA Percentage of orders done within the corresponding execution timer	
80%	15 working days
90%	25 working days
100%	35 working days

25. No timer will apply in the following circumstances:

- 25.1. The installation requires work on Coditel's network outside the End-User premises;
- 25.2. The installation requires a connection on the End-User premises to Coditel's network;
- 25.3. Failure of the Beneficiary to follow the procedures set out in the SLA.

26. This timer is frozen by a stop clock in the following cases:

- 26.1. an appointment (if needed) is not accepted at the proposed date,
- 26.2. in case of absence of the End-User at appointment date,
- 26.3. in any case of incomplete or incorrect information to be provided by the Beneficiary with relevance for the provisioning process.
- 26.4. Coditel is not able to reach the Beneficiary or the Beneficiary is not able to reach the End-User;
- 26.5. in case Coditel cannot have a sufficient access to the part of the network at the End-User premises or in case Coditel cannot complete the installation for reasons beyond Coditel's reasonable control.

4.2 REPAIR

4.2.1 Repair SLA on the End User line

27. The repair time on the End User line timer starts when Coditel receives a Trouble mention by the Beneficiary and ends at the closure of this Trouble Ticket after the feedback has been given by Coditel to the Beneficiary.
28. If an appointment is needed at the End-User address and the problem resides at the high bandwidth part, it is the Beneficiary that arranges an appointment at the End-User premises.

Problems arising from or otherwise caused by the following circumstances are excluded from the SLA:

- a. Where the Trouble is caused by third party activities;
 - b. Where a Trouble is due to changes in the End-User apparatus;
 - c. Where a Trouble is reported and no problem is detected when the service is tested;
 - d. Where the Beneficiary fails to operate its services in accordance with Coditel's terms and conditions ;
 - e. Failure of the Beneficiary to follow the procedures set out in the SLA.
29. This timer is frozen by a stop clock in the following cases:
 - 29.1. an appointment (if needed) is not accepted at the proposed date,
 - 29.2. in case of absence of the End-User at appointment date,
 - 29.3. in any case of incomplete or incorrect information to be provided by the Beneficiary with relevance for the repair process.
 - 29.4. Coditel is not able to reach the Beneficiary or the Beneficiary is not able to reach the End-User;
 - 29.5. in case Coditel cannot have a sufficient access to the part of the network at the End-User premises or in case Coditel cannot complete the repair for reasons beyond Coditel's reasonable control;
 - 29.6. the problem is sporadic and can hardly be identified ;
 - 29.7. the problem requires civil engineering work or requires an intervention on the network outside the End-User premises ;
 - 29.8. the problem is a network problem affecting several End-Users.

Repair SLA Percentage of orders done within the corresponding execution timer	
80%	Day of trouble ticket opening + 5 (before end of the following second half working day)
90%	7 working days
100%	18 working days

30. If an appointment is needed at the end-user address, the repair timers will only apply if the Beneficiary specifies in the Trouble Ticket its end-user availability.

5 WRONGFUL REPAIR REQUESTS

31. Coditel will charge the Beneficiary with the fee related to Wrongful Repair Requests (see Annex 5 – Pricing and Billing) if the fault is not attributable to Coditel or if the fault results from the abnormal use of the line or any other Beneficiary - or end user of the Beneficiary - fault. In such case, the Beneficiary may not request Coditel to charge the End-user directly for with all or part of the fee related to a Wrongful Repair Request.

6 DOCUMENTED REPORTS

32. Coditel will provide every two months the BIPT and each Beneficiary with documented reports on the Services ordered by this Beneficiary during these two months, containing all information needed to calculate the provisioning KPI's described in this document.

7 ESCALATION PROCEDURE

33. By default Internal Escalations are performed automatically. The target of departments is to limit the number of external escalations by launching pro-actively internal escalations as soon as timers are exceeded.
34. Escalation is possible when a trouble ticket has been created.
35. External Escalation can be initiated by the Beneficiary to level 1 at Coditel after the defined timer has been passed. Further escalation can be requested to level 2 at day of first external escalation submitted +1 day. Escalation to level 3 can be requested at day of first external escalation submitted + 2 days.
36. Immediately External Escalation to Level 2 and Level 3 is accepted from persons at the same level in the Beneficiaries Organization in case the Level 1 escalation is done before and the level 1 escalation shows structural problems or unavailability. Level 2 and 3 will first check whether lower escalation steps have been taken, before proceeding.
37. The escalation matrix is available on the Coditel Wholesale website.

8 FORECASTING PROCEDURE

8.1 GENERAL PRINCIPLES

38. The forecasts are mandatory to guarantee to respond to orders placed during the provisioning period and this is needed to help Coditel to plan a reasonable capacity to fulfill Beneficiary's demand.
39. Beneficiaries are guaranteed that Coditel will set up the necessary resources for the period concerned to meet its market needs, independent of the needs of other Beneficiaries. In addition, the forecast entitles the Beneficiary to the conditions for delays determined in the Service Level Agreement.
40. For the orders exceeding the forecasts no guarantee will be offered and they will be carried out, as soon as possible, according to the remaining capacity available. If the forecasted volumes cannot be installed, the Beneficiary will be informed within 30 working days and parties will cooperate to find the most acceptable solution.

8.2 LEVEL OF DETAIL IN FORECASTS

41. The following services, part of the wholesale services, must be subject to forecasts.

Product	Frequency	Forecast period
Analog TV	Monthly	6 months
Digital TV	Monthly	6 months
Interactivity	Monthly	6 months
Broadband	Monthly	6 months

42. The forecasted volumes (new clients and migrations) are ventilated per installation type, all products analog TV, digital TV, interactivity and broadband combined. It can be expected that most Beneficiaries who request interactivity or broadband products will need an intervention. However the validation will show whether an intervention is necessary for each product. This validation will be done according to the rules set out in this document.

8.3 VLAAMS-BRABANTBRUSSELS PROCESSING OF FORECASTS

43. The Beneficiary is responsible for the accuracy of the forecast. Therefore, the Beneficiary is requested to provide this forecast by e-mail to his SPOC, at the latest one month prior to the first forecasted period in time.

44. For the three first series of forecasts of a new Beneficiary, both Parties will enter into good faith discussions about the submitted forecasts and the feasibility to implement the forecasts concerned.
45. Forecast shall be done through the use of the templates provided by Coditel. These templates will only be considered as valid when they are properly completed. In case data is missing or is not correct, the forecast will be rejected (within 5 working days following its reception). In the latter case, the reasons of rejection will be indicated on the template by Coditel.
46. Once confirmed, the forecasted volumes are globalized by Coditel into one basket. Capacity reservation, and calendar dimensioning, is done accordingly to fit the needs of the entire market.

8.4 DEVIATIONS BETWEEN SUCCESSIVE FORECASTS

47. The globalized volumes forecasted by the entire market at month M will be compared with the volumes forecasted at month M-1. For each forecasted month common to the 2 successive forecasts, the maximum deviation between the successive forecasts of this month at month M and at month M-1 will be - 10 % to + 10 %.

8.5 DEVIATIONS BETWEEN FORECASTED VOLUMES AND ACTUAL VOLUMES

8.5.1 Underrun

48. Underrun occurs when actual ordered volumes are below forecasted volumes. Any underrun mechanism applies to the entire globalized volume of orders of the entire market.
49. A reasonable underrun of the forecasted volumes can be absorbed by Coditel and has no direct consequences for the Beneficiary. A reasonable underrun is considered to be no more than a 10% deviation of the forecasted volume. In case of severe underrun (i.e. more than 10%) and in case this underrun was caused by a single Beneficiary who excessively increased the volume proposed by Coditel, Coditel reserves the right to limit the allowed modification for the forecast of the following 3 months for that Beneficiary to a level deemed necessary by Coditel.

8.5.2 Overrun

50. Overrun occurs when actual ordered volumes are above forecasted volumes. Any overrun mechanism applies to the entire globalized volume of orders of the entire market.
51. As from the first order exceeding the globalized forecasted volume, independently of which Beneficiary might be the cause of this overrun, all orders of all Beneficiaries for the remainder of the month will be carried out by Coditel as soon as possible, according to the remaining capacity available.

9 REFERENCED DOCUMENTS

52. The following documents may be referenced in this document and together with it form the complete WRO:

Coditel Wholesale Reference Offer - TV Services over Cable – Main Body
Annex 1: General Terms and Conditions
Annex 2: Technical Specifications
Annex 3: Planning and Operations
Annex 4: SLA
Annex 2.3.1: Network Connections and Configuration
Annex 2.3.2: Network Connections – Configuration Form
Annex 2.4.1: CATV Content Offer
Annex 2.5.1: DTV Content Offer
Annex 2.5.2: DTV Network Description – AV Formats, Services, SI/PSI Scheme
Annex 2.5.3: DTV Specification for CA Host Integration in Coditel VHE
Annex 2.6.1: VoD Asset Ingest – Content Formats, Metadata and Ingest Protocol
Annex 2.6.2: VoD Session Setup
Annex 2.6.3: VoD Control Protocol for Video Streaming
Annex 2.7.1: Broadband Internet: Service Profiles and Modem Configuration Files
Annex 2.7.2: EuroDOCSIS Cable Modem Specifications
Annex 2.7.3: Specifications for Cable Modem Provisioning
Annex 3.1: Specifications for Installation of Wholesale Services
Annex 3.2: Certification Procedures on Staff, Procedures and Equipment
Annex 3.3: Web Application – Description of XML Content Formats
Annex 3.4: Beneficiary ID Card - Template

53. All these documents and templates will be available on the Coditel Wholesale Secured website.

Refer to comments on Main Body

10 APPENDIX: FORECAST TEMPLATE

54. Remarks:

54.1. Mi refers to the month in which the forecasting templates are submitted

54.2. All quantities (M1 tot M12) are in incremental values

“Customer Operations” Forecast

Forecasting Template

Customer reference:
Edition:
Split: With or Without customer visit
Reception date:

	M ₁	M ₂	M ₃	M ₄	M ₅	M ₆	M ₇	M ₈	...	M ₁₂
Sub-area 1.1										
Sub-area 1.2										
Sub-area 2.1										
Sub-area 2.2										
Area 3										
Area 4										
Area 5										