

INA

General Set-up

Guidance for the INA project in Switzerland

TSP Head Group

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1 General aspects

1.1 Applicability

This document defines the fundamental requirements and rules of application for Individual Number Allocation (INA) and other projects using the INA concept as defined by the Head Group, based on the legislative decrees and regulations listed in Chapter 1.2 (below) as well as the requirements of the INet-Server platform. It includes information about routing, tariff models, Advice of Charge (AOC), the INet-Server platform, interfaces and processes for activation/deactivation and porting of INA numbers as well as for tariff handling.

This document specifies the framework for permitted multilateral tariff profiles for INA calls. All Telecommunication Service Providers (CDP- and INA -TSPs) must support this framework as far as required by the definitions. This framework specification provides the basis upon which the necessary infrastructures within each provider's network, to exchange the profiles between the networks (INET-Server) and handle the billing must be built.

1.2 References

- [1] SR 784.10, FMG
Fernmeldegesetz, Loi sur les télécommunications (LTC)
- [2] SR 784.104, AEFV
Verordnung über die Adressierungselemente im Fernmeldebereich
Ordonnance sur les ressources d'adressage dans le domaine des télécommunications (ORAT)
- [3] SR 784.101.113 / 2.10
Technische und administrative Vorschriften für die Einzelnummerzuteilung
Prescriptions techniques et administratives concernant l'attribution individuelle de numéros
- [4] SR 784.101.1, FDV
Verordnung über Fernmeldedienste
Ordonnance sur les services de télécommunication (OST)
- [5] SR 784.101.113 / 2.12
Technische und administrative Vorschriften betreffend die Kurznummern der Auskunftsdienste zu den Teilnehmerverzeichnissen
Prescriptions techniques et administratives concernant les numéros courts des services de renseignements sur les annuaires
- [6] SR 784.101.113 / 2.8
Technische und administrative Vorschriften für die Aufteilung der E.164 Nummern
Prescriptions techniques et administratives concernant la répartition des numéros E.164
- [7] SR 942.211, PBV
Verordnung über die Bekanntgabe von Preisen (Preisbekanntgabeverordnung, PBV)
Ordonnance sur l'indication des prix (OIP)
- [8] SR 780.1, BÜPF
Bundesgesetz betreffend die Überwachung des Post- und Fernmeldeverkehrs (BÜPF)
Loi fédérale sur la surveillance de la correspondance par poste et télécommunication (LSCPT)

[9] Branch Agreement for Telecommunications Value Added Services

[10] INA SLA (published on the Teldas Webpage)

The actual version of any of the referred documents is applicable and the General Set-ups will be updated as far as it is concerned.

The latest versions of the referred documentations are available on the OFCOM home page:
<http://www.bakom.admin.ch/org/grundlagen/00563/00564/index.html?lang=en>

Exception: the current version of the document [9] is available on the asut home page:
http://www.asut.ch/content/content_renderer.php?id=483&link_type=1&lan=1&cms=0&bcid=262&s=1

1.3 Abbreviations

AOC	Advice of Charge
BAKOM	Bundesamt für Kommunikation, Office Fédéral de la Communication (OFCOM)
CDP	Charging Determination Point
CDPi-ID	Charging Determination Point international Identifier
CDPn-ID	Charging Determination Point national Identifier
CDP-TSP	Service Provider containing the Charging Determination Point
CDR	Call Data Record
CGP	Charge Generation Point
CS	Carrier Selection
CSC	Carrier Selection Code
INA	Individual Number Allocation
INA -TSP	Service Provider for the service according the INA number
LE	Local Exchange
LL	Local Loop
NPRN	Number Portability Routing Number
POI	Point of Interconnection
PRS	Premium Rate Services
SRS	Shared Rate Service
TC	Tariff Class
TSP	Telecommunication Service Provider

1.4 Definitions

The definitions are in alphabetic order.

AOC

The calling party receives an Advice of Charge (AOC) during the call or at the end of the call indicating how much the call has cost. The AOC is generated by either pulse metering (12 kHz pulses) for analogue accesses or by the Advice of Charge ISDN Supplementary Service in the case of ISDN accesses. The AOC is produced at the CGP Charge Generation Point (Local Exchange (LE) of the Access TSP) according to the charging tariff information of the CDP-TSP (selected carrier/TSP or access TSP), [3].

With the revised FDV [4] the Universal Service Licence holder does not have to offer anymore AOC to its own directly connected customers or, to any selected TSP for their call-by-call or carrier pre-selection operations. Therefore AOC is an option that can be offered by all TSPs to their own directly connected customers and they may also support AOC for the selected TSP when the charging tariff information for AOC is available.

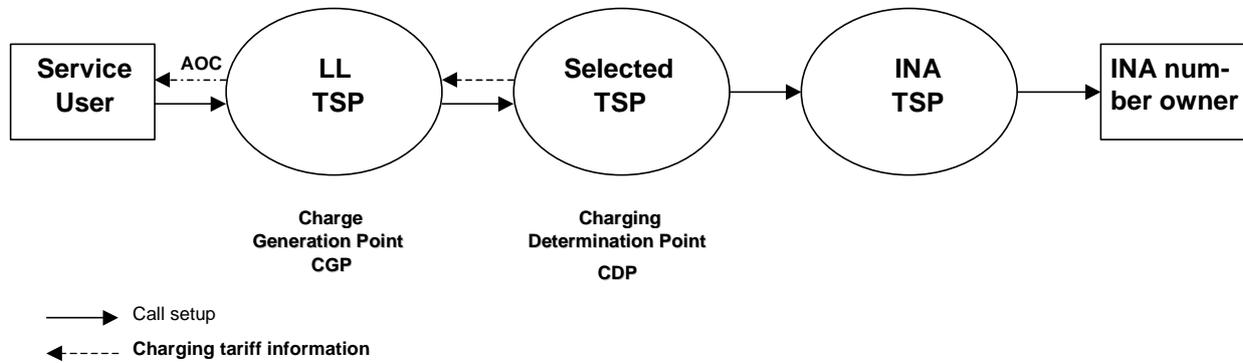
Head Group Recommendation:

- AOC shall be available beside geographical numbers also for non-geographical (INA) numbers with an Industry Standard tariff.

Without AOC, the call charge would only be known by the calling party upon receipt of the detailed bill, i.e. typically once per month.

Charging principles

Overview excluding Transit TSPs (Transit TSPs have no impact on the principles).



Examples:

- a) Call with CS call-by-call or pre-selection:
 LL TSP = CGP: AOC to the service user upon request
 Selected TSP = CDP-TSP: Charging info to the LL TSP (optional)
 INA -TSP: Stores the tariff on the INet-Server
 By using the tariff stored in the INet-Server the LL TSP can optionally also be the CDP if the Selected TSP does not forward charging information.
- b) Call without CS, default CS:
 LL TSP = CGP & CDP-TSP: AOC to the service user upon request
 INA -TSP: Stores the tariff on the INet-Server
- c) Call without CS, default CS and the LL TSP is also the INA -TSP:
 LL TSP = CGP & CDP-TSP: AOC to the service user upon request
- d) Call with CS call-by-call or pre-selection and Selected TSP = INA -TSP:
 As Example a)

Billing system updates

See Chapter 5.1.1 System Updates.

Interoperability

OFCOM requires full interoperability for INA numbers: calls to any INA number must be possible from any originating network without any restriction for the interconnection (“any to any” connectivity). This requires the file transfer of rated CDRs, which supports the access over the POI to INA services with Off-line tariffs.

Note that for prepay and payphones, the access to INA numbers can be blocked by the CDP-TSP due to restrictions for the online rating.

Head Group Decision:

- The INA-TSP may limit access for marketing or technical reasons e.g. the PRS can be blocked against access from abroad or inbound roamers as invoicing is impossible.
- In such cases the INA -TSP must terminate the call with an appropriate announcement free of charge.

- For prepay and payphone, the access to INA numbers must be granted for industry standard tariffs.

Legal aspects

According to the BÜPF, Art. 15, lit 3 [8] the call data (CDR) must be available for at least 6 months for any observation purposes.

Head Group Decision:

- The originating carrier with the CDP must store the CDRs for at least 6 months. In the case of XDR files the INA -TSP must store the concerning CDRs for at least 6 months.
- The used tariffs with allocated INA numbers will be unlimited stored on-line on the INet-Server.
- The INA -TSP is not obliged to store the tariffs of its services subject to their continued storage on the INet-Server.

Off-line Tariff Type A

Off-line Tariff Type A permits the calculation of the call fees during the call or at the end of the call (as On-line Tariff) in relation to the call duration. The tariff model contains a larger range of tariffs than those used for On-line Tariff and permits tariff changes during the call dependent on the call duration. The CDP-TSP is not obliged to rate this tariff type but can rely on the xdr files sent by the INA-TSP.

The number range for Off-line Tariff Type A is: 01 to 9'999

Head Group Decision:

- In addition to the stored tariffs on the INet-Server the transfer of rated CDRs is required. The INA -TSP sends its rated CDRs in a XDR file via the INet-Server to the CDP-TSP. The CDP-TSP can use the rated CDRs to invoice the customer rather than calculate the bill based on the tariff parameters.
- The number of different tariffs that are stored on the INet-Server is in practice not limited.
- If an INA-TSP wishes to modify or remove a tariff, which is also used by other INA-TSPs, the change or removal requires the consent of all affected INA -TSPs. The tariff changes may thus only be made twice annually (June and December) by Head Group decision. The agreed changes will be notified at least 60 calendar days in advance of the change together with the date and time of the change. All INA-TSPs using this tariff must update their rating for the XDR files and their wholesale billing at this time. The CDP-TSPs which also rate Off-line Type A tariffs must update their billing at the same pre-notified time. Should Head Group consent to any change not be forthcoming; a change to a new tariff class, considering notification requirements, must be made.

Off-line Tariff Type B

Off-line Tariff Type B is defined as follows:

The call fee is not related solely to time but also depends on call or transaction related events, e.g. the calling party may use post-dialling and press digit "1" to make a donation of CHF10, digit "2" for to make a donation of CHF20, etc. This requires the INA-TSP and/or Content Provider to carry out a post-call processing when the call has been completed.

The Off-line Type B TC will be available on the INet-Server with applicable event-dependent tariffs. As solely the content provider can identify these events, rated CDRs must be transferred. The risk sharing must be negotiated between the INA -TSP and the CDP-TSP.

According to [5] the access to directory service numbers 18xy must also be granted for payphone and pre-paid card users. Therefore the CDP-TSP has to indicate to the 18xy directory service provider when the calling party is a payphone or pre-paid user. For such calls an Industry Standard tariff must be applied.

The number range for Off-line Tariff Type B is: 20'000 to 29'999

Note that for 18xy numbers, the Tariff ranges from 29'900 to 29'999 have been reserved.

Head Group Decision:

- Off-line Tariff Type B billing always requires an exchange of rated CDR over the INet-Server.
- Before the introduction of any service based on a new Off-line Type B Tariff the INA-TSP must inform the affected CDP-TSPs.
- A separate indication for the Off-line Tariff Type B must be stored on the INet-Server.
- Different tariff types must be defined on the INet-Server according to the risk categories with the appropriate charge limitation.
- The applicable event-dependent tariffs for each Off-line Type B TC must be stored in the INet-Server.
- A Text-ID shall be assigned to each event-dependent tariff briefly describing the event. A list of Text-Ids, complete with the assigned text, will be stored on the INet-Server.
- The assignment, modification, change and removal of a Text-ID and associated text must follow the same rules as for the TC.
- The Text-ID must also be available in the rated CDRs of the XDR file.
- If an INA-TSP wishes to change or remove a tariff which is also used by other INA-TSPs, the change or removal requires the consent of all affected INA -TSPs. Tariff changes may thus only be made twice annually ((June and December) by Head Group decision. Agreed changes will be notified at least 60 calendar days in advance of the change together with the date and time of the change. All INA-TSPs using this tariff must update their rating for the XDR files and their wholesale billing at this time.
Should Head Group consent to any change not be forthcoming; the change to a new tariff class, considering notification requirements, must be made.

On-line Tariff

On-line Tariff permits the calculation of the call fees during the call or at the end of the call, in relation to the call duration. The On-line tariff model permits tariff changes dependent on day and time but not on call duration with the exception of a start interval.

Specific requirements for On-line Tariff:

1. The CDP-TSP must be able to calculate the bills according to the tariffs stored on the INet-Server. The transfer of rated CDRs (XDR file) cannot be used.
2. The number of TCs used for AOC must be limited dependent on the limitation rules of the involved network elements such as switches.
3. TCs for Freephone and Shared Rate Services have a tariff restriction (free of charge respectively national tariff in maximum) and a reduced billing share in comparison to the Premium Rate services. Therefore these services must use the tariffs listed in the INA NUMBER Block with assigned tariff classes. These tariffs cannot be used for 090x and 18xy services according to the INA NUMBER Block with excluded tariff classes. Both INA NUMBER Blocks are visible in the System Status of the INet-Server
4. Pre-paid and payphone needs a tariff that can be rated on-line.
5. The different billing shares for Shared Rate and Premium Rate Services require the definition of the related TC by the Head Group.

The requirements 2 to 5 can be fulfilled with **Industry Standard tariffs**, which are a subset of the On-line tariffs and will be defined by the Head Group.

Before the introduction of the INet-Server Release 2008 the CDP-TSP must be able to rate only Industry Standard tariffs without the transfer of rated CDRs (XDR file) and after the introduction of Release 2008 all On-line tariffs can be rated without the XDR file transfer.

According to the Decree on Price Announcements [7] tariffs above the defined level of CHF 2.- (basic charge or per minute) requires the tariff announcement and above CHF 10.- basic charge or CHF 5.- per minute requires in addition the verification of a confirmation signal prior to start the retail billing. This requires for Industry Standard tariffs with a higher tariff levels as defined in [7]

the realisation of the tariff announcement with a following confirmation request and the validation of the confirmation signal on the network side of the INA -TSP. This procedure must be done prior to connect the called party. The successful validation of the confirmation signal leads to the routing of the call to the called party (INA number owner) and the sending of the answer message; the unsuccessful validation leads to an interception of the call with an appropriate announcement.

The number range for On-line Tariff is: 10'000 to 19'999

Head Group Decision:

- The maximum number of Industry Standard tariffs shall not be more as 100
- If feasible in all the related network elements, the number of Industry Standard tariffs can be increased twice annually by a Head Group decision concurrent with the tariff change process.
- Any INA -TSP can propose a tariff change.
- The implementation date of a new Industry Standard tariff (either new or from On-line tariffs and changes) as well as its removal must be notified at least 60 calendar days in advance. At this date the Download Flag on the INet Server must be changed to 'No'. Therefore those tariff changes are only possible twice per year by Head Group decision in June and December. All INA-TSPs using this tariff has to update their wholesale billing at this time and all CDP-TSPs have to update their retail and wholesale (for reconciliation) billing at the same time.
- It is recommended that all CDP-TSPs must be able to rate and support AOC for the Industry Standard tariffs.
- All CDP-TSPs must be able to rate all On-line tariffs without the XDR file transfer as soon as the INet-Server Release 2008 is introduced.
- The modification and removal of a tariff, which is also used by other INA-TSPs requires the consent of all affected INA -TSPs.
Should the Head Group consent to the modification not be forthcoming, the change to a new tariff class is necessary, considering notification requirements.
- The Industry Standard tariffs can also contain tariffs above the threshold level for the tariff announcement and the validation of a confirmation signal according to [7]. The INA -TSP using such Tariff Classes (TC) has to fulfil the required tariff announcement and validation procedure prior to connect the called party. Otherwise it has to agree with the called party on a Non-Industry Standard tariff with a start interval of free of charge during the called party sends the tariff announcement and validates the confirmation signal.
- Payphone and prepay must have access to value added services with Industry Standard tariffs.

Originating TSP

The Originating TSP is the Swiss network from which the call emanates. The Originating TSP is responsible for the direct or indirect routing to the INA -TSP with the appropriate NPRN. This TSP can be the LL TSP, the selected TSP or the international incoming TSP. The originating TSP as LL or selected TSP is responsible for the retail charging of the service user.

Subject to the requirements of the INA number owner and the INA-TSP's approval, Swiss INA numbers can also be accessed from abroad. If this is not required, calls from abroad can be rejected by the international incoming TSP. According [3] no out-payment to the number owner is applicable for international access. The INA -TSP must be able to differentiate the following traffic scenarios:

1. International incoming calls from an international origin with a foreign CLI or no CLI
2. International incoming calls with a national CLI
 - a Swiss mobile roaming abroad
 - b Re-filing (trombone) to Swiss INA numbers
3. National calls with a foreign CLI (foreign mobile roaming in Switzerland)
4. National originating calls

These scenarios require 2 different CDP-IDs for international CDPi-ID (case 1 & 2) and national CDPn-ID (case 3, 4).

Head Group Decision:

- The international incoming TSP is not obliged to block international incoming calls with a foreign or no CLI, depending on the access permission. It can route the calls with the corresponding NPRN to the INA -TSP.
- The international incoming TSP must prefix the INA number with its international CDPi-ID.
- The INA -TSP handles the international calls according the permission (access from abroad) and the CDPi-ID.
- The national CDP-TSP must prefix the INA number with its national CDPn-ID.
- In all cases, the INA-TSP handles the calls with CDPn-ID as national calls.

Rated CDRs

A Rated CDR is generated for each call with Offline A TC or each event per call with Offline B TC and contains all necessary data to invoice the customer and to confirm: **who** has called **when**, **whom** (service number), **how long** and at **what costs**. The Rated CDR substitutes the calculation of the bill by the CDP-TSP because it contains the calculated costs according to the concerned tariff parameters. Therefore it contains at least the following call data:

- Date and time of the start of the call (or event for Offline B)
- Call duration (or event duration for Offline B)
- Calling party number
- Called service number
- Amount in currency

If the originating TSP wants to calculate or check the rating, the corresponding tariff data on the INet-Server can be used.

The transfer of Rated CDRs must follow the time limitation process, controlled by the INet-Server. For INet-Server cost allocation purposes, the usage of XDR file transfers via the INet-Server must be registered per INA-TSP.

Head Group Decision:

- The INA -TSP must upload Rated CDRs to the INet-Server at least once per calendar day between 00:01 and 11:59, for all completed calls
- The CDP-TSP must download Rated CDRs from the INet-Server at least once per calendar day between 12:00 and 23:59.
- Rated CDRs are required for Non-Industry Standard tariffs before the introduction of the INet-Server Release 2008 and afterwards only for Non-Online tariffs. Rated CDRs for Non-Online tariffs will only be provided by mutual agreements and at an agreed fee.
- The INet-Server must provide statistics of the transferred CDRs per INA-TSP on request.
- XDR files with records older than 5 calendar days might not be accepted by the CDP-TSP, except in case of an impacting and published IT-breakdown (CDP-TSP/INet-Server according to INA SLA definition in chapter 8) where 10 calendar days shall apply.
- The INA -TSP must have the XDR files available for 30 days after the CDP-TSP has acknowledged the download, in the case of detected content errors.

Tariff announcements

An announcement with the applicable tariff must be available for a call to each INA number with a tariff above the threshold level defined in [7]. The announcement itself shall be free of charge or, in the case of a tariff change, be charged at the previously applicable tariff. This can be done at the beginning of the call, before the change from one tariff to another or after the service selection by user transaction.

Head Group Decision:

- Two solutions are possible:

1. The announcement is connected by the Service Subscriber i.e. after answer, which requires an initial free of charge period (start interval) during the announcement (not feasible with On-line tariffs containing basic charge). It must be considered that with the answer additional fees can be charged which are independent of the tariff, e.g. airtime fee for the calling mobile party.
 2. The announcement is connected by the INA -TSP prior to connect the called party, which doesn't have an impact on the tariff model.
- The duration of the announcement is limited to a maximum of 20 seconds.
 - In general the tariff announcement rules according to the PBV of seco [7] are applicable.

Tariff profile

The tariff profile contains a combination of different charging parameters according to the tariff framework. The INA -TSP introducing a new tariff for an INA number of his service subscriber (Number Owner) must define:

- The new tariff class number
- The allocated INA numbers
- The tariff profile

Every tariff profile of the charging type On-line and Off-line Type A must be stored on the INet-Server according to the defined data model.

Exception:

Unlike all other INA numbers, [3] chapter 2.2, states that Shared Rate (084x) and Personal Number (0878) services may be handled by:

1. The CDP-TSP determines the tariff for its customers calling those numbers.
2. The INA -TSP determines the tariff in all cases for all users of every CDP-TSP.

Head Group Decision:

- Solution 2, whereby tariff determination is made by the INA–TSP, is to use in all cases.
- The CDP-TSP may grant its customers (service users) a discount on calls to Shared Rate Services and Personal Numbers. This discount concerns only the CDP-TSP tariff share and must be published.

2 Regulatory Requirements

See [2] to[7]

3 Tariff Framework

3.1 General aspects

INA billing principles

For the INA billing the following principles are defined:

- **Retail billing** is the responsibility of the CDP-TSP and is invoiced towards the end-user. The invoiced amount is based on the retail tariffs, which are published on the INet-Server.
- **Billing share** is mutually agreed between the CDP-TSP and the INA-TSP as a percentage of the retail tariff. The billing share compensates the CDP-TSP for the billing service and risk. The billing share is also intending to cover the costs of customer complaint handling and fraud management.
- **Retail share** is the share of the retail tariff that is invoiced with Wholesale Billing by the INA-TSP directly to any CDP-TSP, for the retail share the **direct billing principle applies**. The INA-TSP may outsource the invoicing of the retail share to another TSP, offering an appropriate transit billing service and this TSP will be a default Transit TSP. In this latter case this Transit TSP sends the wholesale invoice to the CDP-TSP on behalf of the INA-TSP:
- **Access charges** are to be paid by the INA-TSP to the CDP-TSP respectively to the Transit TSP, in the latter case including an additional transit charge. The Transit TSP then pays the

access charge to the CDP-TSP, i.e. the **cascade billing principle applies**. The access charges and its billing principles are **independent** from the retail billing rules.

Value Added Tax (VAT)

The INet-Server tariffs are the published retail tariffs including VAT.

Invoicing considering VAT and billing share

The calculation in the billing system is without the VAT, which is subsequently added to the final total amount.

As a logical consequence of this, inter-carrier billing also excludes VAT. A separate amount representing the applicable VAT is added to the monthly wholesale bill.

The content of the charge field in the rated CDRs also excludes VAT i.e. the amount represents:
[retail tariff] - [VAT].

For the retail share is additional the billing share to consider which is a percentage of the retail tariff, i.e.

$$[\text{retail share}] = [\text{retail tariff}] - [\text{VAT}] - [\text{billing share}].$$

Example:

- Tariff class 10010 with usage charge 100 Rp. / Min. and no set-up charge. This is the retail tariff including VAT at 7,6%
- The retail share is: 100 Rp. / 1,076 - billing share (e.g. 8%)
 100 Rp. / 1,076 x 0.92 = 85.50 Rp. / Min.
- For a call of 2 Minutes the rated CDR contains CHF 1.71

Remark: It is to consider that the CDP-TSP can charge his customer an additional fee (e.g. air fee in the mobile network) and the repartition of this fee (retail share) is to negotiate bilaterally.

Invoicing of < 1 second

Calls with call duration of (less than one) second should be handled in a customer-friendly manner, standardised throughout the industry to avoid disputes with the customer or between the TSPs.

Head Group Recommendation:

Wholesale billing:

- Round down to 0 second
- No call duration dependent charging
- No set-up charging

Retail billing:

- Each CDP-TSP may make its own rule
- The XDR file follows the rule of the INA -TSP and therefore the retail billing of these concerned services can be different to the services rated by the CDP-TSP's own billing system

3.2 On-line Tariff

Individual tariff profiles i.e. a profile applies for one or more specific INA numbers, for On-line charged calls consist of either a sub-set or all following parameters. The applicable values of the parameters are also described:

Parameter name	Short description	Lower limit	Upper limit
Basic Charge (Grundgebühr)	A number of pulses applied immediately when the called party answers the call	0 pulses	255 pulses (each valued at CHF

			0.10)
Start Interval	Time between called party answer and start of first time dependent rate	0 seconds	3276 seconds in steps of 10ms
Charge Rate	Up to 3 different charge rates (peak, off-peak and night) per day category but not more than 6 different charge rates per week (note * below), each being defined as follows: time in seconds between two pulses each with a value of CHF0.10	170ms in steps of 10ms	3276 seconds in steps of 10ms
Day Category	3 different day categories, namely: <ul style="list-style-type: none"> • week-day • Saturday • Sunday or public holiday (Swiss national public holidays, defined annually and common for all TSPs)- 	-	-
Rate Switching Times	Up to 6 fixed points in time during a day of each day category where the charge rates are changed	00.30 in steps of 30 minutes up to	23.30

* Note: This applies only for the Industry Standard Tariffs.

3.3 Off-line Tariff Type A

Individual tariff profiles i.e. a profile applies for one or more specific INA numbers, for Off-line charged Type A calls consist of the following:

Parameter name	Short description	Lower limit	Upper limit
Communication Charge Periods	Up to 10 time periods per day category (x= seconds) for which a specific charge rate applies. Example: communication charge rate 1 starts at answer and lasts x seconds. X seconds after answer communication charge rate 2 applies and lasts y seconds. After expiry of charge rate 2, communication charge rate 3 starts and lasts till the end of the call. (max 10 starts/periods).	Minimum duration of a communication charge rate is: 1 second	Maximum duration of a communication charge rate is: complete call duration
Charge Types	Charges (or credits) can be: <ol style="list-style-type: none"> 1. Per second 2. Per call (flat rate (drop charges) 3. Mixed (flat and seconds) 4. Per credit (charge types 1 to 3 but credit instead of charge) 		
Charge Rates	<ul style="list-style-type: none"> • Per minutes • Per call 	CHF 0.00 per 60 sec. CHF 0.00 per call	CHF 10.- per 60 seconds CHF 400.- per call
Day Category	3 different day categories, namely: <ul style="list-style-type: none"> • week-day • Saturday 	-	-

	<ul style="list-style-type: none"> Sunday or public holiday (public holiday nation wide, defined each year, common for all TSPs) 		
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3.4 Off-line Tariff Type B

A tariff profile applies to one or more specific INA numbers. The tariff profiles for Off-line charged calls Type B contain:

Parameter name	Short description	Lower limit	Upper limit
Notification	Defines that the tariff type belongs to the Off-line type B		
Service category	Description of the service category		
B 1	Information services e.g. directory and hotline services with the possibility to forward or to put through the call dependent on the user demand. Order validation or user verification is not necessary.		
B 2	Telecommunication services as e.g. gaming, entertainment and chats with the possibility of the service selection by the user. User verification can be required dependent on the content of the service.		
B 3	Internet services e.g. download of files (data, software, pictures, audio, video) and On-line audio/video services dependent on the user demand. Order validation or user verification is required dependent on the price (tariff) or the content.		
B 4	E-Commerce with the possibility to order goods or to spend money dependent on the user demand. Order validation or user verification is required dependent on the price (tariff) or the kind of goods.		
Risk types within each service category	Description of the charge on demand according the risk type with the appropriate charge limitation. The call is to release when the limit is achieved.		
1	Low risk not requiring mandatory a specific order validation for the service category B1 to B2		CHF 10
2	Charge per call:		CHF 20
3	Charge per call:		CHF 50
4	Charge per call:		CHF 100
	High risk with specific order validation for the services category B3, B4		

5	Charge per call:		CHF 200
6	Charge per call:		CHF 300
7	Charge per call: In addition the following upper limit has to be considered: Charge per event ID		CHF 400 CHF 100.-
Event-ID	The Event-ID can be call and transaction related and determines the applicable Off-line Type A TC per call	1	100 IDs per call
Text-ID	The Text-ID is associated with an event. To each Text-Id belongs a text that gives a short description of the service respectively event.	1	100 IDs per call 1000 IDs in total
Communication Charge Periods	These parameters are defined in the allocated tariff Type A of every event.		
Charge rates			
Day Category			

In order that retail billing is transparent to the customer, the INA Call Detail Record of the XDR file must contain a Text-ID associated with a brief description of the service or event.

Examples:

- Hotline
- Directory Service with/without putting through
- Gaming
- Entertainment
- Internet download
- Internet On-line
- Spending money
- Shopping

Head Group Decision concerning text:

- During the introduction of Off-line Tariff Type B the Head Group will handle new texts or text modifications on a monthly base and afterwards a longer period will be determined, e.g. every 3 month.
- The new text will be activated on the INet-Server 5 working days after the approval of the Head Group with an order to the Helpdesk.

3.5 Announcement and limitations rules for On-line and Off-line tariffs

Head Group Decision:

- Tariff announcement rules:
With the new revision of PBV [7] the appropriate rules are defined in this Decree and the definitions by the Head Group are obsolete now.
- Limitations for Shared Rate Services and Personal Numbers:
 - The tariffs are limited by OFCOM [6] between zero and the national tariff according to the "price cap" detailed in [4].
 - The applicable tariff classes and the related modifications of the tariff profile must be accepted by the Head Group
 - The requested tariff classes within the limit above will be administrated by the Help Desk on the INet-Server for the automated validation

- Call queuing:
 - During any call queuing phase no charging shall be applied or at least charging of the higher PRS tariff must be avoided. At least the user is to inform of this higher charge by a tariff announcement from the content provider prior to the charge being applied [7].
- Maximum charges for Premium Rate Services with On-line or Off-line Type A Tariff: The charge limitation rules are defined in the Branch Agreement [9].
- Limitations for Premium Rate Services with Off-line Type B Tariff
 - Charge per call according the defined upper limits per risk type under clause 3.4

3.6 Wholesale tariff parameters

In addition to the user's retail rates, the tariff model also contains the billing share (e.g. 8%) for the CDP-TSP that determines the retail share for the INA -TSP (see 3.1) in addition to the access and transit fees. The parameter for the billing share (wholesale percentage) is available from the INet-Server database. In the case of the XDR file transfer the billing system receives the wholesale percentage as a parameter in the rated CDR. The access and transit fees are independent of the INA numbers and are defined in the respective Interconnection Contract.

The INet-Server must consider that the wholesale tariff parameters can be agreed multilaterally or bilaterally.

Head Group Decision:

- As the wholesale tariff parameters per service number can be multilateral as well as bilateral, the access to the stored bilateral parameters on the INet-Server must be restricted to those parties directly concerned.

4 Tariff Data Model

This is specified in the INA Technical Framework and Principles.

5 Update & Synchronisation of the TSP database

The INA processes must consider the different requirements of data updates and data synchronisation.

5.1 Update

The update processes cover the requirements of the data handling for INA numbers and their tariffs. The processes are determined by time dependent sequences according [3]. These processes are not as time critical as the synchronisation processes and must be done at least once per day.

System updates

BAKOM requires that any change from an existing tariff class to another must be notified a minimum of 2 calendar days in advance.

The launch date and time of a new tariff must be notified a minimum of 2 calendar days in advance, according [3]. Some billing systems are only able to launch new tariffs at a defined date and the time is fixed, e.g. 23:59.

Head Group Decision:

- The following changes must be notified a minimum of 4 calendar days in advance:
 - between existing tariff classes
 - launch of a new INA number with an existing tariff class
 - Any change to the international access permission (access from abroad flag).
- The modification or removal of a tariff profile that is used by other INA-TSPs must be agreed in the Head Group and is only possible twice per year. This modification and removal must be notified a minimum of 60 calendar days in advance. It will be carried out per order to the Help Desk of the INet-Server.

- The launching date for a tariff profile with a date and a fixed time e.g. at 23:59 is currently sufficient. All billings systems should be amended to recognise a specified time as soon as possible.
- The launch of a new and the modification of an existing tariff class must be notified 10 calendar days in advance with the exception of a new Industry Standard Tariff, which requires 60 calendar days notice.
- The billing update must be done at least once daily.

5.2 Synchronisation

The synchronisation processes cover the requirements of the porting of INA numbers and as far as possible the immediate update of the routing relevant data of the 3rd Parties according [3]. The synchronisation processes must be based on a limited time window for activation of the INA number by the Recipient, the deactivation of the INA number and the activation of the NPRN routing by the Donor, and the update of the NPRN routing by the third parties. There must be at least 2 porting windows daily, one during and one outside normal working hours. The target is to have a standard porting range that should be from 07.00 to 19.00 with a porting window of 2 hours each i.e. 6 porting windows per day. It should also be possible to determine a porting window outside this time frame.

Head Group Decision:

- The porting window is 2 hours after the agreed date and time
- The handover has to be executed within this time frame.

6 Special Reporting

Special reporting is necessary for a variety of reasons, e.g. cost allocation to the user, billing disputes and penalty findings.

Head Group Decision:

- The INet-Server must provide Special Reporting for:
 - Amount of INA transactions per user (TSP, OFCOM) for number information and billing processes
 - Tariff history per INA number
 - Modify TC and Access abroad
 - INA number status change

7 Parallel Phase

Current no project requiring a parallel phase is planned.

8 Document information

Document name	Individual Number Allocation (INA) General Set-up
Date of issue	23 May 2000
Changes	Rev. 9.0, 01 April 2003: chapter 3.4 Off-line Tariff Type B Rev. 9.1, 30 October 2003: new chapter 3.1 Rev. 9.2, 20 February 2004: update of the clause On-line Tariff and chapter 1.2 and 3.5 Rev. 9.3, 14 December 2005: update clause Off-line Tariff Type A , B and On-line Tariff, Rated CDRs, Tariff announcements and chapter 3.4 Rev. 9.4 24 August 2006: 5.3: the whole chapter is removed Rev. 9.5, 6 March 2008:

	<p>1.4: update of AOC; Legal aspects; Interoperability; Off-line Tariff Type A and Type B; On-line Tariff; Rated CDRs; Tariff announcements</p> <p>3.1: update INA billing principles</p> <p>3.4: update Off-line Type B</p> <p>3.5: update Head Group Decision</p> <p>3.6: update wholesale tariff parameters</p> <p>5.1: update System updates</p> <p>5.2: update Synchronisation</p> <p>6: update Special Reporting</p> <p>Rev 10.0, 27 January 2011</p> <p>3.3 & 3.4: upper limit of charge rate per minute and per call aligned with legal requirements FDV art. 39</p> <p>Rev 10.1, 1 November 2011</p> <p>1.4: rated CDRs – extension of CDR validity from 5 to 10 days in case of announced IT breakdown</p>
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