Wholesale Market

SIMba

Backing up fixed network data lines

TIM

SIMba

SIMba offers a mobile backup service on the main connectivity provided by the Operator to its end customers. On an optional basis, its Fast Turn UP service allows the Operator to anticipate the delivery of new BB/UBB connectivity.

Service features
Capacity

Data bundle/month for SIM up to
5 Gbytes

Bandwidth profiles for dedicated APN up to
1 Gbps

Who the service is for
SIMba is designed for Operators who want to provide added value to their public and private connectivity offerings to their customers, especially the Business segment, which is particularly sensitive to the service reliability and availability requirement.

The Operator will have its own dedicated M2M SIMs and make them available to its end-customers on its routers equipped with Mobile backup.

SIMba service description
SIMba offers a mobile backup service on the main connectivity provided by the OAO to its end customers and on an optional basis with the Fast Turn UP service allows the OAO to anticipate the delivery of new BB/UBB connectivity.

SIMba is an integrated SIM solution, mobile data connectivity and cloud-based SIM management service on an Olivetti M2M platform (Cisco_Jasper), directly integrated and connected to the TIM mobile network, which allows the OAO to efficiently and flexibly manage its SIM fleet.
All types of national data traffic will be handled.

The Operator will have its own dedicated M2M SIMs and will make them available to its end customers on its own routers with Mobile backup: n
ational data traffic enabled, no international roaming data traffic, voice traffic or SMS.

SIMba is divided into two service profiles:
- **SIMba**
- **SIMba Light**

SIMba

The 'SIMba' service profile consists of the following elements:

✓ M2M LTE SIM bundled with national data traffic of different denominations;

✓ Dedicated LTE APN

✓ Collection of SIM data traffic and delivery to the Operator on: for this purpose, the customer shall have signed the Supply Agreement for the VIP service

Below is a schematic diagram of **the SIMba service profile architecture (with dedicated APN)**
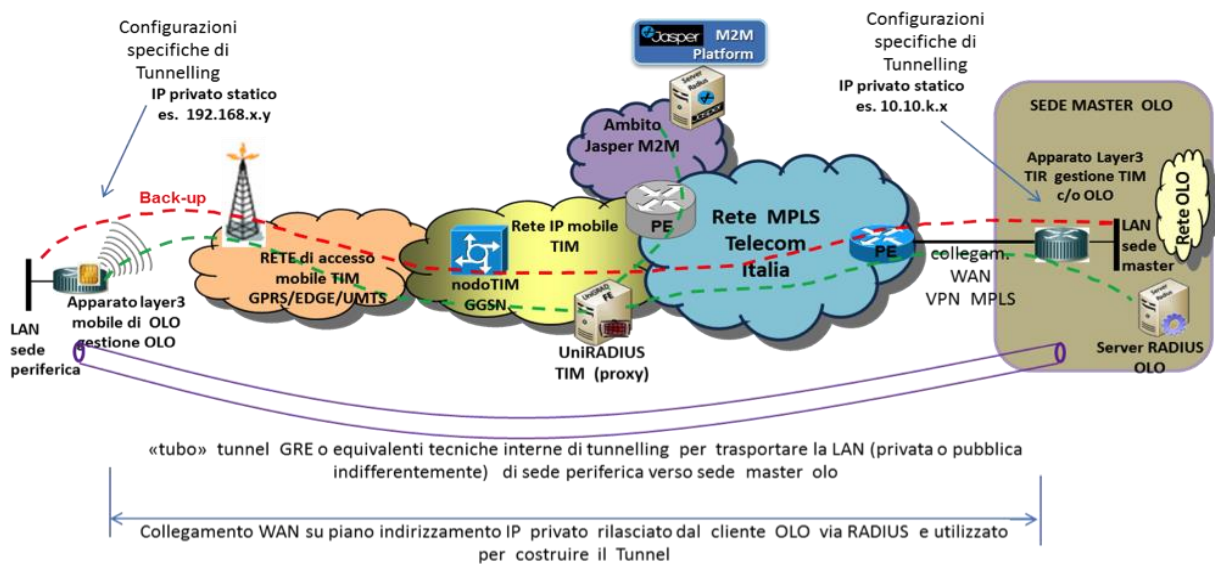
The main features of the SIMba service profile (with dedicated APN) are:

✓ Dedicated APN accessed by several end-customers of the same Operator. The mobile traffic generated by the SIMs and collected via Mobile APN will be delivered to a location indicated by the Operator via fixed connection and subscription to the VIP catalogue connectivity offer (VPN MPLS Wholesale).

The offer must include termination on INT (Intelligent Network Termination) managed by TIM. Access will be in fibre at the Customer's premises and delivery in MPLS cloud connecting the two TIM IP Nodes (slave locations) and a master location chosen by the Operator with INT management. The bandwidth associated with fibre access at the Operator's master site must be greater than or equal to the bandwidth associated with the dedicated APN.

✓ Access control to the APN and the assignment of IP addresses to the individual M2M SIMs is only available via the Customer's radius server, which must meet the compatibility requirements described in the contractual annex. The subnets that the Operator intends to assign to its end customers must be communicated to Telecom Italia for service configuration purposes.

✓ The Operator may assign static and dynamic, public and private IP addresses

✓ On redundant APNs, the Operator's radius will have to manage two separate subnets, one for each of the two EPGs. Consequently, an MSISDN will have two IP addresses depending on the EPG node that will manage the session (Annex 5 shows the Operator's activities).

✓ The Operator's Radius server shall be located at the VIP master site and reachable from the Telecom Italia Radius server (Proxy) via MPLS cloud or via public network.

✓ The Operator shall implement a VPN solution between the 3G/4G router at the end customer site and its CPE to manage IP Subnets.

✓ The Operator shall be responsible for routing (e.g., via BGP protocol) within the VPN of the previous point.

✓ Telecom Italia makes mobile access available for a single host and cannot manage the Customer's LAN subnets, which is the responsibility of the Operator and its end-customer.

✓ Using internal techniques (tunnelling or other), the Customer conveys internal LAN subnets to the CED, transparent to Telecom Italia.

✓ Router mobility via Radius server and Proxy option: M2M SIMs can be moved to different routers with an IP address assigned to the M2M SIM directly by the operator

The SIMba Light service profile is designed for OAOs that need low volumes of lines on which to request backup and lower solution costs as MPLS connectivity would no longer be provided. For this service profile, there is no dedicated bandwidth for the OAO, and the service will be provided on a best effort basis.

The main features of the SIMba Light service profile are:
✓ it offers a mobile backup service for the OAO's fixed data lines;
✓ sIM traffic will always be delivered over the OAO's network and managed by the OAO;
✓ it uses the shared APN, that is, shared between all OAOs requesting the service;
✓ oAOs are provided with mobile SIM data access to the Wholesale APN whs.tids.tim.it (shared between OAOs);
✓ an IPSEC tunnel is set up between the TIM network's Packet GW and the VPN concentrator of the OAO where all data traffic between the SIMs and the OAO machine visible on the public Internet network is routed;

SIMba

➤ the assignment of dynamic private addresses and authentication of SIMs delivered to OAOs will be carried out by TIM (with TIM radius); static IP addresses can be provided optionally for OAOs and for a fee;

➤ the SIM commercial profiles for monthly data bundles will be the same as for the SIMba service with dedicated APN;

➤ the features enabled by the Olivetti M2M platform remain identical to those already available in the SIMba profile (Dedicated APN).

See below for a schematic diagram of **the SIMba service profile architecture (with dedicated APN)**
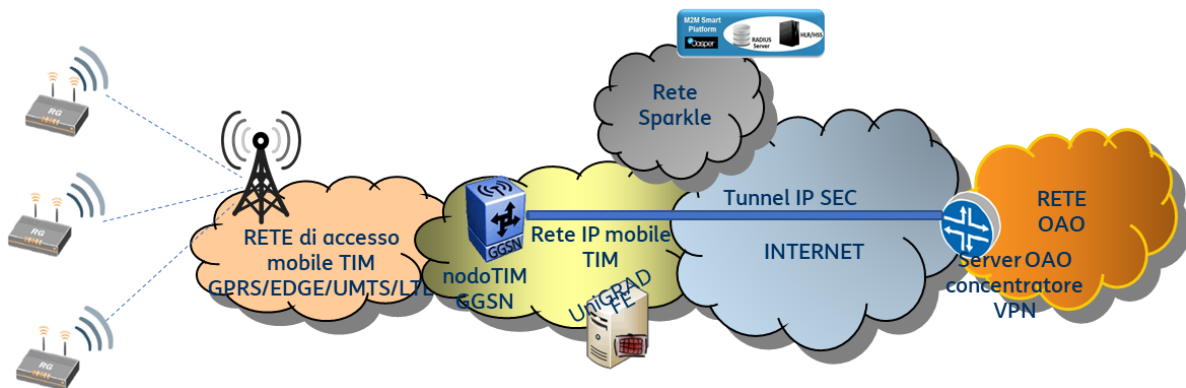
	APN	BANDA	INDIRIZZI IP	RADIUS	VPN
SIMba	Dedicato	Garantita sul picco	IP privati statici o dinamici <u>scelti da OAO</u>	**Radius OAO** Configurazione IP-SIM a cura OAO	**IP MPLS** Comporta VIP e quindi elevata affidabilità
SIMba Light	Condiviso	Best effort	IP privati dinamici <u>assegnati da TIM</u> *IP statici a pagamento*	**Radius TIM** Configurazione IP-SIM a cura TIM	**IP SEC** Tunnel su Internet

Olivetti M2M platform

The Operator is provided with a web-based console profiled by role, through which it can control and manage its entire SIM fleet.

The Service, provided through a dedicated technological platform, allows the Operator, through secure access to the portal https://olivetti.jasperwireless.com, to view information and manage, using the platform's features, the M2M SIMs consistent with the contract.

The Service can only be provided through the use of dedicated M2M SIMs. To use the Service, TIM will provide the Operator with Portal Access Credentials (User-Id and Password) to the email address of the Operator's technical contact indicated in the Activation Order.

By accessing the Portal, the Operator may vary the size of the dedicated M2M SIMs for which it requests the Service.

To use the 'SIMba' Service, the Operator must have:

- a PC with an internet connection to access the Portal in secure mode (https);

- browser: Internet Explorer, version 11 or the latest versions of Google Chrome and Mozilla Firefox;

- if the SIMba profile with dedicated APN is chosen, an active contract with Wholesale for the MPLS VPN VIP Service.

Fast Turn UP option
By requesting the Fast Turn UP option, Operators with active SIMba or SIMba Light service can anticipate the delivery of BB/UBB connectivity to their end customers while waiting for the main connectivity to be provided. At the end of such use, the Mobile Backup service is associated with the SIM.
Mobile traffic will always be delivered via the APN to the OAO's internal network terminator.
The features of Fast Turn UP are as follows:

- the service is an extension of the Mobile Backup concept of the SIMba or SIMba Light service;
- the OAO can request the Fast Turn UP option only on new SIMs (not native to Backup) by choosing from four profiles;
- it will not be possible to change the FTU profile after the order has been placed;
- for each SIM ordered, a UT fee is charged on delivery and a FTU fee on the profile upon activation of the SIM;
- once the subscribed profile has been activated, if the data limit is exhausted before the end of the period, an over deductible of 1GB is applied;
- once the time for the selected profile has elapsed, the SIM will automatically be associated with the backup tariff plan the Customer has already subscribed to;
- it is not possible to request renewals of the Fast Turn UP option on the same SIM, which migrates directly to the Backup service at the end of the period;
- Dw/up speed with the same theoretical maximum values as for backup use, that is, 150/75Mbps; sLAs for bandwidth (dw/up) are not provided;
- the shared purse does not apply to the Fast Turn UP service: for each SIM, consumption will be calculated only based on the relevant data ceiling; once migrated to back-up SIM the purse will be shared according to the service.

PRICING

The Service fee will be determined based on the choices made and will consist of :

- a one-off contribution for each M2M SIM delivered;

- a monthly fee per M2M SIM for a bundle of national packet data traffic;

- an amount for any traffic in excess of the bundles;

- a monthly fee for the APN;

- contribution and fee for VIP network (in case of SIMba service profile with dedicated APN)

The Olivetti M2M platform provides reporting information (amounts for SIM and APN fees, over deductible traffic, etc.) and the possibility of exporting daily summary data on traffic volumes.

The Operator may request the activation of the National Packet Data Bundle profile by choosing the type of format in Table A and the size of the data bundle from those indicated in Table B below.

Any amount of domestic data traffic not consumed in the calendar month will be lost and cannot be used in the following month.

Tabella A

Formato SIM M2M
Standard 2FF(mini), 3FF(micro), 4FF (nano), Triple CUT

Tabella B - Bundle dati Nazionale a pacchetto

Profilo	Bundle Dati	Over Franchigia[1] (Bundle ricorsivi)
	traffico/mese	traffico per bundle
Profilo A	400 MByte	400 MByte
Profilo B	600 MByte	600 MByte
Profilo C	1 GByte	1 GByte
Profilo D	2 GByte	2 GByte
Profilo E	5 GByte	5 GByte
(1) Traffico dati eccedente il Bundle mensile		

The compensation mechanism is active on the monthly SIM bundle: the **'shared purse'**, that is, the grouping and clearing of traffic on a monthly basis; this means that each bundle per line contributes to the construction of a single bundle from which all SIMs with identical configuration in terms of profiles and active options draw; in this way, any exceeding of individual bundles per line will be absorbed by the lower traffic of the other lines, within the limits of the maximum available traffic size (equal to N*X, where N is the number of M2M SIMs with identical characteristics and X is the monthly bundle size of a given type of traffic.
Depending on the data bundle subscribed to, there is a UT contribution per SIM and a monthly fee per SIM.

The SIMba service profile is provided through the dedicated mobile APN and involves a UT contribution for activation and a monthly fee depending on the transmission bandwidth capacity.

Table C - Dedicated APN

Banda APN (Mbps)
100
300
500
1000

The **SIMba Light service** profile is provided via a **shared APN** with best effort bandwidth and VPN setup with IP Sec tunnel between the mobile network gateway and the Customer's device.

There is a **UT contribution and a monthly fee**. Optionally, a static IP may be requested for which there is a UT contribution and a monthly fee.

Fast Turn UP option

The Fast Turn UP service is divided into four profiles (Table D) depending on the time duration and the associated data ceiling.

A FTU fee is applied to each FTU SIM upon delivery.

Once the SIM has been activated, the one-off fee for the subscribed profile (XS, S, M, L) is applied.

If the data allowance is exhausted before the end of the period, an over deductible of 1GB is applied.

At the end of the period foreseen by the profile, the tariff of the subscribed Backup profile automatically applies to the SIM.

Table D - Fast Turn UP option

FAST TURN UP					
Profili	Periodo (gg)	Plafond (GB)	Contributo profilo	Over Franchigia	Costo/O.F.
XS	30	150		A consumo 1GB	X€/GB (tariffazione basata sui Kbyte effettivamente sviluppati)
S	60	300			
M	90	450			
L	120	600			

Wholesale
Market