SELT!





Reliable

Completely designed and manufactured in Italy according to the most advanced industrial standards.

VoIP

Immediate availability of dedicated resources for networking and IP telephony, and cost-efficiency thanks to the link with SIP carriers.

Complete

SAMoffice 2C is a complete communication system that can be used both as PBX and KTS with group call functionalities.

Multi-sites

For the geographic delivery of corporate communications through IP or TDM QSIG links with branches, agents, external staff, etc.

Open

Integration with company applications and IT infrastructure for ROI maximization.

Simplified management

Administrator can manage the system via web or through a dedicated client. SAMoffice 2C is extremely easy and quick to install and configure.

SAMoffice 2C is the compact communication system of SAMIP family able to satisfy the needs of companies and offices up to 32 users.

SAMoffice 2C is designed to meet the needs of the companies aware of technological innovation, such as VoIP lines, fixed-mobile convergence devices, solutions with CTI integration between phone and PC and with the aim to speed up the corporate processes, and flexibility.

SAMoffice 2C is the ideal partner of any company that searches for maximum productivity and efficiency in its communications.

Main characteristics

SAMoffice 2C can be used as full-IP or hybrid IP-TDM to meet specific needs, present or future, of any company. **SAMoffice 2C** is designed for the connection, natively, with any typology of traditional telephone line (ISDN or PSTN) as well as VoIP trunk lines provided by ISP and SIP carriers.

The integrated VoIP resources can be used to connect SELTA NETfon Bluelight IP terminals or telephones with SIP standard or with SIP client installed on personal computers, smartphones or tablets linked through WI-FI network.

The possibility to connect **SAMOffice 2C** to any network or communication device, both IP and TDM, even as a gateway, together with the availability of a wide range of internal extensions, make SAMoffice 2C the ideal partner to communicate with any device.

Each **SAMoffice 2C** system is provided with:

- VoIP resources for IP terminals or VoIP trunk lines
- TAPI 1st Party licence, for the integration with MS Outlook phonebook and/or the use of external applications on PC
- Personal Mobility licences
- Inbound Routing licences for incoming calls routing
- Click-2-dial licences to call from the phonebook via web browser
- Integrated courtesy announcements (4 synchronized announcements up to 32" each)

The Integrated Messaging functionality allows the use of Voice Mail / Automatic attendant 2 ports for 32 mailboxes and 30 minutes recording. Through the AA it is also possible to receive faxes and reroute external calls to SAMoffice 2C. Thanks to "Voice-2-Mail Gateway", users can receive the recorded messages in their own mailbox.

SAMIP systems can carry out advanced Gateway functions in combination with the Selta Bravo UCoE solution, capable of enabling Virtual PBX and Unified Communication scenarios and Smart Working applications.

Sistem	N. Subrack	Peripheral units	Terminals IP*	Terminals TDM*
SAMoffice 2C	1	2	32	32

External lines

Up to 120 TDM trunk lines: Up to 8 BRI TO/SO ISDN base accesses Up to 1 PRI T1 ISDN primary accesses Up to 16 PSTN analogue trunk lines Up to 16 IP connections with SIP Carrier

Internal extensions

Up to 32 IP NETfon Bluelight extensions Up to 32 IP SIP extensions

Up to 20 digital SAEfon CL extensions Up to 24 analogue extensions

Integrated DECT

Up to 32 DECT extensions Up to 8 Radio Base Stations

DSP Resources

Up to 72 VoIP channels with DSP Farm cards

System data

Central unit

Intel Xscale main processor, TDM commuting matrix with 4096 channels and 16 PCM wires, ARM auxiliary processor.

Operating system

Linux Montavista

Technical specifications

Dimensions and weight

Subrack (mm): H.45 x L.440 x W.400; 5 Kg

Mounting

19" data rack (1U); wall

Connectors

- LAN connection: 10/100 Base T Ethernet port switch, IEEE 802.3/802.3u, Auto Sense , Automatic cable crossover (MDI/ DI-X),
- AUX port for input and output (2 DIN, relay output)
- COM-RS232 port
- COM-RS232 port Console Rj45

Powering

- External AC/DC powering
- AC IN: 100-250 Vca 47/63 Hz
- AC OUTPUT: -48V DC: 1A

Consumptions

Estimated data for the base system:

• SAMoffice 2C: max. 60 W

Certifications

- CE marking (Directive 1999 / 05/EC of EC: ETSI EN 300 386; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3;
- Interoperability with Hyper-way network (SAMIP® platforms network) Telecom Italia Lab.
- PSTN interface (ETSI TBR-21)
- ISDN-PRA interface (ETSI TBR-4; ETS 300102; ETS 300125)
- ISDN-BRA interface (ETSITBR-3; ETS 300102: FTS 300125)
- Caller ID (ETS 300 778-1)
- Environmental tests (ETS EN 300 019 class 3.2 in use) performed by SELTA Lab.

VoIP Characteristic	
Signalling: • SIP (RFC 3261) • H.323 (ITU-T) • Voice codes: • g.711 (ITU-T) • g.729a/b (ITU-T) • g.723 (6.3) (ITU-T) • g.723 (5.3) (ITU-T) • Network Echo Canceller (ITU-T G.168) • Voice Activity Detection (VAD) • Comfort Noise Generation (CNG) • Configurable Jitter Buffer	
- QoS through DiffServ (RFC 2474/2597/2598) - QoS through TOS	
(RFC791) - H.323 Gatekeeper sup port (ITU-T)	

CTI Applications

-Trunk lines Backup

- Music on hold

- 1st party TAPI (Microsoft
- 3rd party TAPI (Microsoft TAPI 2.2)
- Personal Telephony CTI
- Supervisor Telephony CTI - Contact Center:
- multi-channel ACD
- Integrated VM/AA
- Facility UM (Unified Messaging):
- Voice2Email
- FAX2Email
- SMS2Email
- Integrated Hotel Services
- on phone and atten dant console
- Web Hotel on browser
- · Link with external PMS
- Call recording:
- · ASAP call recorder

- SIP gateway	User termination
 analogue/ DECT/digital 	gement:
terminals	• analogue (CEI 1

 analogue/ISDN lines (BRI/PRI)

VoIP & ToIP services

- RBS DECT
- QSIG networking
- S0 Data

- H.323 gateway (ITU-T H.225.0 / H.225.0)
- SIP networking with SIP-T protocol (RFC 3204)
- T38 Fax (ITU-T)
- supports standard SIP terminal:
- hardphone
- softphone
- supports standard SIP Wi-Fi terminal (IEEE 802.11)
- supports hybrid SIP Wi-Fi terminal
- 2/3 g (IEEE 802.11/ITU-T IMT-2000)
- supports standard H.323 terminals (basic call) (ITU-T)
- proprietary IP terminals for
- KTS services:
- hardphone (NETfon)
- softphone
- internet connection to corporate LAN through NETfon:
- telecommuting
- · peripheral branch
- Power-over-Ethernet (PoE) (IEEE 802.3af802.3af)

n mana-03.TBR

- 21)
- proprietary digital (SAEfon CL family) (CEI 103)
- ISDN on S0 interface (ETSI TBR-3)
- DECT (embedded) - operator console (CEI
- 103):
- attendant console (SAEfon CL76D)
- attendant console on PC (Microsoft TAPI 2.2)
- attendant console for partially sighted and blind users on PC
- trunk line management: • analogue (ETSI TBR-21)
- ISDN PRA (ETSITBR-4, 300 102, 300 125)
- ISDN (BRA) (ETSI TBR-3, 300 102, 300 125)
- private network line management: • analogue E&M
- digital QSig (2Mbit/s) (ETS 300 011/300 170/300 171/300
- 172/300 173/300 237/300 238/300 260/300261) - legacy phone services of
- Caller ID 5 class (ETS 300
- Additional ISDN services:

- malicious call identifica tion (ETS 300 128/129 /130)
- Caller ID (ETS 300 089/ 091/092)
- · connected user identification
- (ETS 300 094/ 096/097)

PBX Legacy Services

- calling line / connected user restriction (ETS 300090 / 091 / 093 / 095/096/098) hold and retrieve (ETS)
- 300196-1) three-way conference
- (ETS 300 188-1) "SIP pilot" and ETSIDSS1
- standard billing remote meter reading
- QSIG services:
- basic call (ISO/IEC 11572)
- name identification (ISO/ IFC 13868)
- diversion (ISO/IEC 13673) call transfer (ISO/IEC
- 13869) call offer (ISO/IEC 14843)
- call completion on busy subscriber (ISO/IEC 13870) call completion on no
- reply (ISO/IEC 13870) path replacement (ISO/
- IFC 13874) advice of charge (ISO/ IEC DIS15050)
- message waiting indcation
- Management **Utility for SIP users** e Provisioning

Phone services for SIP users

- -Calling Line Identification Presentation/Restriction (CLIP/CLIR)
- Connected Line Identifi cation Presentation/Re
- striction (CLIP/CLIR) - Hold and retrieve (RFC 3261)
- Call forwarding (RFC 3261)
- Call transfer (RFC 3515/ 3891) - Conference (DRAFT 00)
- Instant messaging (RFC 3428 partial)
- Video-call (RFC2327)
- Multi-linearity - DTMF transmission/reception

(RFC 3261/2833)

- Controlled recording from IP Management: management system - Hierarchical management
- SIP user through class of service
- controlled access to system resources
- Outband outcoming speed dialling forbidden numbers
- easy access to "trustedhost"
- SIP remote user - Voice mail - groups management in
- mode
- with interaction through traditional user:
- "forking SIP" (RFC 3261) - service management
- call forwarding

call transfer

- online and offline
- configuration upload of central unit and peripherals FW by web
- upload of courtesy announcements by web
- · facility to manage configuration releases online and offline
- maintenance online alarm collection
- accounting and CDR - Web Personal Provisionina
- Multi-site Management: • alarm
- accounting
- SNMP-TRAP Services (RFC 1157) support

SAMIP® systems are designed and produced in Italy in SELTA factories.



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VoIP

It allows the immediate use of dedicated resources for networking and IP telephony, or for containing costs thanks to the connection with SIP Carriers.

Modular

It grows flexibly based on actual business needs.

Complete

It has a wide range of telephone services for the needs of any user, landline or mobile.

Multi-sites

It allows the geographical distribution of corporate communications via IP or QSIGTDM connections with branches, agents, mobile personnel, etc.

Open

The system is suitable for integration with business applications and IT infrastructure to maximize the return on technology investment.

Simplified management

The administrator can manage the system via the web or through a dedicated client.

SAMoffice 4 is the integrated communication solution of SAMIP® family developed by SELTA to satisfy the needs of small and medium size enterprises.

The system allows the deployment of all the most advanced telephone features and is designed to deliver high performance communication service for each kind of user, both IP and traditional, up to a maximum of 160 "line/trunk" ports.

Thanks to its flexibility and modularity, SAMoffice 4 is the ideal solution for companies that want to integrate data and voice network and pay particular attention to cost savings and improvement of internal processes.

SAMoffice 4 is a communication server that offers to each user the same service no matter the device for the connection with the system or the applications used.

The integration of SAMoffice 4 with vertical applications (e.g. Selta IPvalue Web Contact Center), new or existing, completes the system and tightens it to the activities, processes and specific demands of companies and markets.

Main characteristics

SAMoffice 4 was designed for the connection to any traditional network (ISDN or PSTN) as well as to VoIP lines provided by ISP and SIP Carriers.

The system modularity allows the configuration of **SAMoffice 4** according to the company requirements ensuring the possibility to meet the future business growth at the same time.

The VoIP resources (up to 128 contemporary communication channels) can be used for networking in multi-site scenarios and for the deployment of all the available services on SELTA IP terminals.

The integrated SIP Proxy makes possible the connection with SIP standard phones and clients installed on PC, smartphone or tablet, reachable in Wi-Fi network as well. **SAMoffice 4** systems provide users with added-value features such as Voice Mail, automatic attendant, Voice2mail Gateway to receive voice messages in their mailbox directly. The comprehensive suite of features offered by SAMoffice 4, even for blind users, services based on TAPI, etc., fulfill all the requirements of modern businesses.

SAMIP systems can carry out advanced Gateway functions in combination with the Selta Bravo UCoE solution, capable of enabling Virtual PBX and Unified Communication scenarios and Smart Working applications.

Sistem	N. Subrack	Peripheral units	Terminals IP*	Terminals TDM*
SAMoffice 4	1	4	128	64
	1+1 Ext.	8	128	128

External lines

up to 120 TDM city lines:

- basic accesses BRI TO / SO ISDN
- PRI T1 ISDN primary accesses
- analogical urban lines PSTN

up to 128 IP connections with SIP Carrier

Telephone extensions

up to 128 IP extensions NETfon Bluelight up to 128 IP SIP extensions

up to 128 SAEfon CL digital extensions

up to 128 analog extensions

Integrated DECT

up to 96 DECT extensions

up to 16 Radio Base Stations **DSP** resources

up to 128 VoIP channels with DSP Farm unit

System data

BHCC

50.000 Busy Hour Call Completion

Central unit

Intel Xscale main processor, 4096-channel TDM switching matrix and 32 PCM wires, ARM auxiliary processor Operating system Linux Montavista

Technical specifications

Dimensions and weight

Subrack (mm): H.90 x L.490 x P.410; 10 Kg mounting

in rack dati 19" (2U per ogni subrack)

Connectors

- · connection to the LAN: 10/100 Base T Ethernet port switch, IEEE 802.3 / 802.3u, AutoSense, Automatic cable crossover (MDI / DI-X), PoE 802.3af
- AUX port for inputs and outputs towards the field (2 DIN, relay output)
- COM-RS232 port
- \bullet 2 LVDS interfaces for Extended and / or Media Server modules (expandable to 8) vlaau2
- Integrated AC / DC power supply
- AC IN: 90-264 Vca 50/60 Hz 2.4 / 0.8A
- Integrated batteries

Energy Consumption

Estimated data for the base system:

- SAMoffice 4 conf.Full IP: 40 W
- SAMoffice 4 conf. TDM: 63 W Peak traffic consumption: 110 W

Certifications

- CE marking (European Community directive 1999/05 / EC: ETSI EN 300 386; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; EN 60950)
- Interoperability on TI's Hyper-way network (network of SAMIP exchanges) Telecom Italia Lab.
- PSTN interface (ETSI TBR-21)
- ISDN-PRA public network interface (ETSI TBR-4; ETS 300102; ETS 300125)
- ISDN-BRA Public Network Interface (ETSI TBR-3; ETS 300102; ETS 300125)
- Caller ID (ETS 300 778-1)
- Environmental tests (ETS EN 300 019 class 3.2 in use) performed in an internal laboratory

Voll	Characteristic

- Reports:
- SIP (RFC 3261)
- H.323 (ITU-T)
- Voice encodings:
- g.711 (ITU-T) • g.729a / b (ITU-T)
- g.723 (6.3) (ITU-T) • g.723 (5.3) (ITU-T)
- Echo Canceller network
- (ITU-T G.168) Voice Activity Detection (VAD)
- Comfort Noise Generation (CNG)
- Configurable Jitter Buffer
- QoS via DiffServ (RFC 2474/2597/2598)
- QoS via TOS (RFC791)
- H.323 gatekeeper support (ITU-T)
- Backup on urban lines
- Music on hold

Applications and CTI

- TAPI 1st party (Microsoft **TAPI 2.2)**
- TAPI 3rd party (Microsoft TAPI 2.2)
- Personal Telephony CTI
- Supervisor Telephony CTI Contact Center:
- Multichannel ACD
- IVR
- SMS services
- WEB services
- Click to chat
- Click to talk (VoIP)
- Call me back
- Co-browsing CRM oriented
- Statistical reporting
- Call Flow Editor
- INTEGRATED VM / AA
- UM facility (Unified Messaging):
- Voice2Fmail
- FAX2Email
- SMS2Email
- Integrated hotel services
- By phone and P.O.
- Web Hotel on browser
- Links with external PMS
- Call recording:
- · ASAP call recorder

- SIP gateway
- analog terminals / DECT / digital

VoIP and ToIP services

- analog / ISDN lines (BRI / PRI)
- DECT RBS
- QSIG networking
- S0 Data - H.323 gateway (ITU-T H.225.0 / H.225.0)
- SIP networking with SIP-T protocol (RFC
- Fax T38 (ITU-T)
- Support SIP terminals standard:
- hardphone
- softphone
- Support Wi-Fi terminals Standard SIP (IEEE 802.11)
- Support SIP terminals Hybrid Wi-Fi - 2/3 g (IEEE 802.11 / ITU-T IMT-2000)
- H.323 terminal support standard (basic call) (ITU-T)
- Proprietary IP terminals for KTS services:
- hardphone (NETfon)
- softphone
- Internet connection to the corporate LAN with NETfon phone:
- telework
- peripheral office
- Power-over-Ethernet (PoE) (IEEE 802.3af802.3af)

Telephone Services

for SIP users

Utility per utenza SIP

- Calling Line Identification Presentation / Restriction (CLIP / CLIR)
- Connected Line Identifies- servizio tion Presentation / Restric- - Accesso controllato alle tion (CLIP / CLIR)
- Mass / recovery on hold (RFC 3261)
- Deflected (RFC 3261)
- Transfer (RFC 3515/3891)
- Conference (DRAFT 00)
- Instant messaging (RFC 3428 partial)
- Video call (RFC2327)
- Multilinearity
- Transmission / reception DTMF (RFC 3261/2833)

- Registrazione controllata da sistema di gestione
- Gestione gerarchica utenza SIP tramite classi di
- risorse di sistema:
- uscita in outband
- numerazione abbreviata
- numeri vietati - Accesso agevolato a utenza remota SIP di tipo
- "trusted-host"
- Voice mail - Gestione gruppi in moda-
- lità "forking SIP" (RFC 3261) - Gestione servizi con interazione verso utenza tradizionale:
- deviata trasferta

- Termination management

Legacy PBX services

- of user: • analog (CEI 103, TBR 21)
- proprietary digital (SAEfon CL family) (CEI 103)
- ISDN on S0 interface (ETSITBR-3)
- DECT (integrated)
- Operator Station (CEI103):
- terminus terminal
- operator station on PC (Microsoft TAPI 2.2) · operator's seat for hypo-
- sighted and blind on PC
- Termination management of urban line:
- analog (ETSI TBR-21)
- ISDN PRA (ETSI TBR-4, 300 102, 300 125)
- ISDN (BRA) (ETSI TBR-3, 300 102, 300 125)
- Termination managment of private network:
- analogue E&M digital QSig (2Mbit / s)
- (ETS 300 011/300 170/300 171/300 172/300 173/300 237/300 238/300 260/300261)
- Legacy telephone services of class 5 Caller ID (ETS 300 778-1
- Additional services ISDN:
- subscriber identification jammer (ETS 300 128 / 129/130)

- caller identification (FTS 300 089/091/092)
- identification connected (ETS 300 094/096/097)
- caller restriction / connected (ETS 300090 / 091/093/095 / 096/098)
- hold and retrive (ETS 300196-1)
- three-way conference (ETS 300 188-1)
- standard taxation "SIP pilot" and ETSI-DSS1
- remote reading of costs - OSIG services:
- · basic call (ISO / IEC 11572) • name identification (ISO /
- IEC 13868)
- diversion (ISO / IEC 13673) • call transfer (ISO / IEC
- 13869)
- call offer (ISO / IEC 14843) call completion on busy subscriber (ISO / IEC 13870)
- call completion on no reply (ISO / IEC 13870)
- path replacement (ISO / IEC 13874) • advice of charge (ISO
- DIS15050)
- · message waiting indication

Management e Provisioning

- IP Management: • online configuration e offline
- FW loading of units central and peripheral
- via web · loading ads of
- courtesy via web • facility for managing the configuration release
- online maintenance e offline
- online alarm collection accounting and CDR - Web Personal Provisio-
- Multi-site Management:
- alarm accounting - Support SNMP Service

TRAP (RFC 1157)

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VoIP

Immediate availability of dedicated resources for networking and IP telephony, and cost-efficiency thanks to the link with SIP Carriers.

Modular

Grows in a flexible way according to the real company needs.

Reliable

The system architecture includes the redundancy of the main elements (central unit, power supply, links with subracks) for an elevated resiliency in critical situations.

Complete

It has a wide range of telephone services for the needs of any user, landline or mobile.

Multi-sites

For the geographic delivery of corporate communications through IP or TDM QSIG links with branches, agents, external staff, etc.

Open

Integration with company applications and IT infrastructure for ROI maximization

Simplified managment

Administrator can manage the system via web or through a dedicated client.

SAM4000E is the integrated communication solution for the Enterprise world, designed to offer high reliability in critical situations.

SAM4000E is designed to provide high performance communication services to a huge number of users, both IP and traditional, and manages up to 2560 "line/trunk" ports. The redundancy of the common control elements (CPU and power supply) makes SAM4000E the ideal solution for "mission critical" applications in environments that need high reliable communication systems. **SAM4000E** is the communication server for big size businesses, whose processes rely on integration between voice and data, guaranteeing each user the same services regardless of device or application. Thanks to its flexibility, SAM4000E perfectly adapts to multi-site or campus-type scenarios, together with the other systems of the SAMIP® family, and can be used as hosted/managed PBX thanks to its centralized management system designed to connect several users located in different sites in an easy and transparent way.

The integration of SAM4000E with vertical applications (e.g. Selta IPvalue Web Contact Center), new or existing, completes the system and tightens it to the activities, processes and specific demands of companies and markets.

Main characteristics

SAM4000E was designed for the connection to any traditional network (ISDN or PSTN) as well as to VoIP lines provided by ISP and SIP Carriers. The system modularity allows the configuration of SAM4000E according to the company requirements ensuring the possibility to meet the future needs of the organization at the same time. The VoIP resources (up to 320 contemporary communication channels) can be used for networking in multi-site scenarios and for the deployment of all the available services on SELTA IP terminals. The integrated SIP Proxy makes possible the connection with SIP standard pho-nes and clients installed on PC, smartphone or tablet, reachable in Wi-Fi net-work as well.

The comprehensive suite of features offered by **SAM4000E** such as Voice Mail, automatic attendant console, Conference Server, integrated DECT, services based on TAPI, etc., fulfill all the requirements of modern businesses.

SAMIP systems can carry out advanced Gateway functions in combination with the Selta Bravo UCoE solution, capable of enabling Virtual PBX and Unified Communication scenarios and Smart Working applications.

System	Subrack no.	Peripheral units	IP terminals*	TDM terminals*
SAM4000E	1	15	1512	240
	1+1 Ext.	31	1512	496
	1+2 Ext.	47	1512	752
	1+3 Ext.	62	1512	992
	1+4 Ext.	78	1512	1248
	1+5 Ext.	94	1512	1504
	1+6 Ext.	110	1512	1760
	1+7 Ext.	126	1512	2016

* Maximum equipment not reachable simultaneously

External lines

Up to 500 TDM trunk lines:

- BRI TO/SO ISDN base accesses
- PRIT1 ISDN primary accesses
- PSTN analogue trunk lines

Up to 240 IP connections with SIP Carrier

Internal extensions

Up to 512 IP NETfon Bluelight extesions Up to 600 IP SIP extensions

Up to 2016 digital SAEfon CL extensions Up to 2016 analogue

extensions Integrated DECT

Up to 768 DECT extensions

Up to 128 Radio Base Stations

DSP Resources

Up to 320 VoIP channels with DSP Farm card

System data

BHCC

50.000 Busy Hour Call Completion

Central Unit (redundable)

Intel Xscale main processor, TDM commuting matrix with 4096 channels and 32 PCM wires, ARM auxiliary processor.

Operating system

Linux Montavista

Technical specifications

Dimensions and weight

Subrack (mm): H.225 x L.490 x W.240;9 Kg

Mounting

19" data rack (5U for each subrack)

Connectors

- LAN connection: 10/100 Base T Ether- net port switch, IEEE 802.3/802.3u, AutoSense , Automatic cable crossover (MDI/DI-X), PoE 802.3af
- AUX port for input and output (2 DIN, relay output)
- · COM-RS232 port
- 2 LVDS interfaces for Extended modu-les and/or Media Server (expandable to 8 and redundable)

Powering

- DC/DC converter (redundable)
- DC IN: -48Vdc powering voltage input $(-38Vdc \div -60Vdc)$, max current for each subrack = 9A
- Integrated AC / DC power supply (optional)

Consumptions

Estimated data for the base system:

- SAM4000E Full IP configuration: 97 W
- SAM4000E TDM configuration: 154 W Max peak consumption: 220 W

Certifications:

- · CE marking (Directive 1999 / 05/EC of EC: ETSI EN 300 386; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; EN
- Interoperability with Hyper-way network (SAMIP® platforms network) Telecom Italia Lab.
- PSTN interface (ETSI TBR-21)
- ISDN-PRA interface (ETSI TBR-4; ETS 300102; ETS 300125)
- ISDN-BRA interface (ETSITBR-3; ETS 300102: ETS 300125)
- Caller ID (ETS 300 778-1)
- Environmental tests (ETS EN 300 019

class 3.2 in use) performed by SELTA Lab.

VoIP Characteristics	VoIP & ToIP services	
- Signalling: • SIP (RFC 3261) • H.323 (ITU-T) - Voice codes: • g.711 (ITU-T) • g.729a/b (ITU-T) • g.723 (6.3) (ITU-T) • g.723 (5.3) (ITU-T) • g.722 (ITU-T) - Network Echo Canceller (ITU-T G.168) - Voice Activity Detection (VAD) - Comfort Noise Generation (CNG) - Configurable Jitter Buffer - QoS through DiffServ (RFC 2474/2597/2598) - QoS through TOS (RFC791) - H.323 Gatekeeper support (ITU-T) - Trunk lines Backup - Music on hold	- SIP gateway *analogue/ DECT/digital terminals *analogue/ISDN lines (BRI/PRI) *RBS DECT *QSIG networking *S0 Data - H.323 gateway (ITU-TH.225.0/H.225.0) - SIP networking with SIP -T protocol (RFC 3204) - T38 Fax (ITU-T) - supports standard SIP terminal: *hardphone *softphone - supports standard SIP Wi-Fi terminal (IEEE 802.11) - supports hybrid SIP Wi-Fi terminal - 2/3 g (IEEE 802.11/ITU - T IMT- 2000) - supports standard H.323 terminals (basic call) (ITU-T) - proprietary IP terminals for KTS services:	- Us gen e an 21) • prr fon • ISE TBR • DE - opp 103 • att fon • att (Mid • Mid • att part user • ISE 3000 - pri mar • an
CTI Applications	•hardphone (NETfon) •softphone - internet connection to	• dig (ETS
-1st party TAPI (Microsoft TAPI 2.2)	corporate LAN through NETfon:	173

- TAPI 2.2)
- 3rd party TAPI (Micros TAPI 2.2)
- Personal Telephony (
- Supervisor Telephon - Contact Center:
- multi-channel ACD
- SMS services
- WEB services
- Click to chat
- Click to talk (VoIP)
- Call me back
- Co-browsing
- CRM oriented Statistical reporting
- Call Flow Editor
- Integrated VM/AA - Facility UM (Unified Mes-
- saging):
- Voice2Email
- FAX2Email
- SMS2Email
- Integrated Hotel Services
- on phone and atten
- dant console
- Web Hotel on browser
- · Link with external PMS
- Call recording:
- ASAP call recorder

CTI ny CTI	- Power-over-Ethernet (PoE) (IEEE 802.3af802.3af) Phone services for	778-1 - Additional ISDN services: • subscriber identification Utility for SIP users	message waiting indication Management &
soft osoft	- internet connection to corporate LAN through NETfon: •telecommuting •peripheral branch	170/300 171/300 172/300 173/300 237/300 238/300 260/300261) - legacy phone services of Caller ID 5 class (ETS 300	reply (ISO/IEC 13870) • path replacement (ISO/IEC 13874) • advice of charge (ISO/IEC DIS15050)
	hardphone (NETfon)softphone	 analogue E&M digital QSig (2Mbit/s) (ETS 300 011/300 170/200 171/200 	 call completion on busy subscriber (ISO/IEC13870) call completion on no
	- 2/3 g (IEEE 802.11/ITU -T IMT- 2000) - supports standard H.323 terminals (basic call) (ITU-T) - proprietary IP terminals for KTS services:	102, 300 125) • ISDN (BRA) (ETSI TBR-3, 300 102, 300 125) - private network line management:	IEC 13868) • diversion (ISO/IEC 13673) • call transfer (ISO/IEC 13869) • call offer (ISO/IEC14843)
up-	- supports standard SIP Wi-Fi terminal (IEEE 802.11) - supports hybrid SIP Wi-Fi terminal	users on PC - trunk line management: • analogue (ETSI TBR-21) • ISDN PRA (ETSI TBR-4, 300	 remote meter reading QSIG services: basic call (ISO/IEC11572) name identification (ISO/
3)	•softphone	partially sighted and blind	standard billing
Buffer	supports standard SIP terminal:hardphone	 attendant console on PC (Microsoft TAPI 2.2) attendant console for 	three-way conference (ETS 300 188-1)"SIP pilot" and ETSI- DSS1
tion era-	- SIP networking with SIP -T protocol (RFC 3204) - T38 Fax (ITU-T)	103): • attendant console (SAE-fon CL76D)	096/098) • hold and retrieve (ETS 300196-1)
eller	- H.323 gateway (ITU-T H.225.0/H.225.0)	• DECT (embedded) - operator console (CEI	user restriction (ETS 300090/091/093/095/
	PRI) •RBS DECT •QSIG networking •S0 Data	 proprietary digital (SAE- fon CL family) (CEI 103) ISDN on S0 interface (ETSI TBR-3) 	 connected user identification (ETS 300 094/096/097) calling line / connected
	•analogue/ISDN lines (BRI/	21)	091/092)

- Calling Line Identification Presentation/Restriction (CLIP/CLIR)
- Connected Line Identifica- SIP user through class of tion Presentation/Restriction (CLIP/CLIR)
- Messa/ripresa da attesa (RFC 3261)
- Deviata (RFC 3261)
- Trasferta (RFC 3515/3891)
- Conferenza (DRAFT 00) Instant messaging (RFC 3428 parziale)
- Video-chiamata (RFC2327)
- Multilinearità
- Trasmissione/ricezione DTMF (RFC 3261/2833)

- management system
- service controlled access to system resources
- Outband outcoming
- speed dialling
- forbidden numbers
- easy access to "trustedhost" SIP remote user -Voice mail
- groups management in "forking SIP" (RFC 3261)
- service management with interaction hrough traditional user:
- call forwardin

Provisioning - Controlled recording from - IP Management:

PBX Legacy ServicesPBX

malicious call identifica

Caller ID (ETS 300 089/

091/092)

tion(ETS 300 128/129/130)

- User termination mana-

• analogue (CEI 103, TBR

gement:

- · online and offline confi-- Hierarchical management guration • upload of central unit and
 - peripherals FW by web · upload of courtesy announcements by web · facility to manage confi-
 - guration releases • online and offline main-
 - tenance • online alarm collection
 - accounting and CDR - Web Personal Provisioning - Multi-site Management:
 - alarm
 - accounting
 - SNMP
 - -TRAP Services (RFC 1157) support

SAMIP® systems are designed and manufactured in SELTA's plants in Italy.



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SAMoffice 8







VoIP

Immediate availability of dedicated resources for networking and IP telephony, and cost-efficiency thanks to the link with SIP Carriers.

Modular

Grows in a flexible way according to the real company needs.

Complete

A wide range of phone services to satisfy the needs of any user, wired or mobile.

Multi-sites

For the geographic delivery of corporate communications through IP or TDM QSIG links with branches, agents, external staff, etc.

Open

Integration with company applications and IT infrastructure for ROI maximization

Simplified management

Administrator can manage the system via web or through a dedicated client.

SAMoffice 8 is the integrated communication solution of SAMIP® family developed by SELTA to satisfy the needs of midsize and large enterprises.

The system allows the deployment of all the most advanced telephone features and is designed to deliver **high performance** communication service for each kind of user, both IP and traditional, up to a maximum of 640 "line/trunk" ports.

Thanks to its flexibility and modularity, SAMoffice 8 is the ideal solution for companies that want to integrate data and voice network and pay particular attention to cost savings and improvement of internal processes.

SAMoffice 8 is a communication server that offers to each user the same service no matter the device for the connection with the system or the applications used. The integration of **SAMoffice 8** with **vertical applications** (e.g. Selta IPvalue Web Contact Center), new or existing, completes the system and tightens it to the activities, processes and specific demands of companies and markets.

Main characteristics

SAMoffice 8 was designed for the connection to any traditional network (ISDN or PSTN) as well as to VoIP lines provided by ISP and SIP Carriers.

The system modularity allows the configuration of **SAMoffice 8** according to the company requirements ensuring the possibility to meet the future business growth at the same time.

The VoIP resources (up to 192 contemporary communication channels) can be used for networking in multi-site scenarios and for the deployment of all the available services on SELTA IP terminals.

The integrated SIP Proxy makes possible the connection with SIP standard phones and clients installed on PC, smartphone or tablet, reachable in Wi-Fi network as well.

The comprehensive suite of features offered by **SAMoffice 8**, such as Voice Mail, automatic attendant console, Conference Server, integrated DECT, services based on TAPI, etc., fulfill all the requirements of modern businesses.

System	Subrack no.	Peripheral units	IP terminals*	TDM terminals*
SAMoffice 8	1	8	384	128
	1+1 Ext.	16	384	256
	1+2 Ext.	24	384	384
	1+3 Ext.	31	384	496

*Maximum equipment can not be reached simultaneously

External lines

Up to 300 TDM trunk lines:

- BRITO/S0 ISDN base accesses
- PRI T1 ISDN primary accesses
- PSTN analogue trunk lines

Up to 128 IP connections with SIP Carrier

Internal extensions

Up to 384 IP NETfon Bluelight extensions Up to 384 IP SIP extensions

Up to 496 digital SAEfon CL extensions Up to 496 analogue extensions

Integrated DECT

Up to 384 DECT extensions Up to 64 Radio Base Stations

DSP Resources

Up to 192 VoIP channels with DSP Farm cards

System data

BHCC

30.000 Busy Hour Call Completion **Central Unit**

Intel Xscale main processor, TDM commuting matrix with 4096 channels and 32 PCM wires, ARM auxiliary processor.

Operating system

Linux Montavista

Technical specifications

Dimensions and weight

Subrack (mm): H.135 x L.490 x W.410; 7 Kg Mounting

19" data rack (3U for each subrack) Connectors

- LAN connection: 10/100 Base T Ethernet port switch, IEEE 802.3/802.3u, Auto Sense, Automatic cable crossover (MDI/ DI-X), PoE 802.3af
- AUX port for input and output (2 DIN, relay output)
- COM-RS232 port
- 2 LVDS interfaces for Exten-ded modu les and/or Media Server (expandable to 8)

Powering

- embedded AC/DC powering
- AC IN: 90-264 Vca 50/60 Hz 2,4/0,8A
- integrated batteries (optional)
- DC IN (optional): -48Vdc powering voltage input (-38Vdc ÷ -60Vdc), max current for each subrack = 4,5A

Consumptions

Estimated data for the base system:

- SAMoffice 8 Full IP configuration: 40 W
- SAMoffice 8 TDM configuration: 86 W Max peak consumption: 165 W

Certifications

- CE marking (Directive 1999 / 05/EC of EC: ETSI EN 300 386; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; EN 60950)
- · Interoperability with Hyper-way network (SAMIP® platforms network) Telecom Italia Lab.
- PSTN interface (ETSI TBR-21)
- ISDN-PRA interface (ETSLTBR-4: ETS 300102; ETS 300125)
- ISDN-BRA interface (ETSITBR-3; ETS 300102; ETS 300125)
- Caller ID (ETS 300 778-1)
- Environmental tests (ETS EN 300 019 class 3.2 in use) performed by SELTA Lab

VolP Characteristics

- Signalling: • SIP (RFC 3261)
- H.323 (ITU-T)
- Voice codes:
 - g.711 (ITU-T)
 - g.729a/b (ITU-T)
 - g.723 (6.3) (ITU-T)
- g.723 (5.3) (ITU-T) • g.722 (ITU-T)
- Network Echo Canceller (ITU-T G.168)
- Voice Activity Detection (VAD)
- Comfort Noise Generation (CNG)
- Configurable Jitter
- QoS through DiffServ (RFC 2474/2597/2598)
- QoS through TOS (RFC791) H.323 Gatekeeper sup
- port (ITU-T) Trunk lines Backup
- Music on hold

CTI Applications

- 1st party TAPI (Microsoft TAPI 2.2)
- 3rd party TAPI (Microsoft TAPI 2.2)
- Personal Telephony CTI
- Supervisor Telephony CTI
- Contact Center:
- multi-channel ACD IVR
- SMS services
- WEB services - Click to chat
- Click to talk (VoIP)
- Call me back
- Co-browsing
- CRM oriented
- Statistical reporting
- Call Flow Editor
- Integrated VM/AA - Facility UM (Unified
- Messaging):
 - Voice2Email
 - FAX2Email
 - SMS2Email

 - on phone and atten dant console
 - Web Hotel on browser
 - · Link with external PMS Multi-linearity
- Call recording:
- · ASAP call recorder

- SIP gateway
- analogue/ DECT/digital terminals

VoIP & ToIP services

- · analogue/ISDN lines (BRI/PRI)
- RBS DECT
- QSIG networking
- S0 Data
- H.323 gateway (ITU-T H.225.0 /H.225.0)
- SIP networking with SIP-T protocol (RFC 3204)
- T38 Fax (ITU-T)
- supports standard SIP terminal:
- hardphone
- softphone
- supports standard SIP Wi-Fi terminal (IEEE 802.11)
- supports hybrid SIP Wi-Fi terminal
- 2/3 g (IEEE 802.11/ITU-T IMT-2000)
- supports standard H.323 terminals (basic call) (ITU-T)
- proprietary IP terminals for KTS services:
- hardphone (NETfon)
- softphone
- internet connection to corporate LAN through NETfon:
- telecommuting
- peripheral branch
- Power-over-Ethernet (PoE) (IEEE 802.3af802.3af)

- User termination manaaement:
- analogue (CEI 103,TBR 21)
- proprietary digital (SAEfon CL family) (CEI 103)
- ISDN on S0 interface (ETSI TBR-3)
- DECT (embedded)
- operator console (CEI 103):
- attendant console (SAEfon CL76D)
- · attendant console on PC (Microsoft TAPI 2.2)
- · attendant console for partially sighted and blind users on PC
- trunk line management: QSIG services:
- analogue (ETSI TBR-21) basic call (ISO/IEC 11572) • ISDN PRA (ETSITBR-4,
- 300 102, 300 125)
- 300 102, 300 125) - private network line
- management: analogue E&M
- digital QSig (2Mbit/s) (ETS 300 011/300 170/300 171/300 172/300 173/300 237/300 238/300
- legacy phone services of Caller ID 5 class (ETS 300 778-1
- Additional ISDN services:

260/300261)

• malicious call identifica tion (ETS 300 128/129

PBX Legacy Services

- /130) • Caller ID (ETS 300 089/ 091/092)
- connected user identification (ETS 300 094/ 096/097)
- calling line / connected user restriction (ETS 300090 / 091 / 093 / 095/096/098)
- hold and retrieve (ETS 300196-1)
- three-way conference (ETS 300 188-1)
- DSS1standard billing remote meter reading
- name identification (ISO)
- IEC 13868) • ISDN (BRA) (ETSI TBR-3, • diversion (ISO/IEC 13673)
 - call transfer (ISO/IEC 13869)
 - call offer (ISO/IEC 14843)
 - call completion on busy subscriber (ISO/IEC 13870)
 - call completion on no reply (ISO/IEC 13870)
 - path replacement (ISO/ IEC 13874) advice of charge (ISO/
 - IEC DIS15050) · message waiting indcation

Phone services Management **Utility for SIP users** for SIP users & Provisioning

- -Calling Line Identification Controlled recording Presentation/Restriction
- (CLIP/CLIR) - Connected Line Identifi cation Presentation/Re
- striction (CLIP/CLIR) - Hold and retrieve (RFC
- 3261) - Call forwarding (RFC
- 3261) - Call transfer (RFC 3515/ 3891)
- Integrated Hotel Services Conference (DRAFT 00) - Instant messaging (RFC
 - 3428 partial)
 - Video-call (RFC2327)
 - DTMF transmission/reception (RFC 3261/2833)

- SIP user through class of
- service
- system resources
- Outband outcoming speed dialling

- Voice mail
- · call forwarding · call transfer

- from management system online and offline
- Hierarchical management
- controlled access to
- forbidden numbers easy access to "trustedhost" SIP remote user
- groups management in "forking SIP" (RFC 3261)
- service management with interaction through
- traditional user:

- IP Management:
- configuration upload of central unit and peripherals FW by
- web · upload of courtesy
- announcements by web • facility to manage
- configuration releases • online and offline
- maintenance • online alarm collection accounting and CDR
- Web Personal Provisio-
- Multi-site Management: • alarm
- accounting - SNMP- TRAP Services

(RFC 1157) support

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