

MLL Telecom Ltd

Session Border Controllers as a Service

Service Definition



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SBCaaS - Service Definition

About MLL

MLL Telecom is a leading provider of managed Wide Area Networks and telecommunication services including LAN, Unified Communications (UC), Wi-Fi, and Security to the UK public sector. Our services are provided through our MLL's UK-based support teams and engineering service and selected partners. Formed in 1991, MLL has established a reputation for customer-focused service delivery and agility.

Service Overview

MLL is a service integrator that provides MLL SIP and Session Border Controllers (SBC) as a service from dedicated, geographically diverse data centres providing true cloud solutions.

MLL SIP services

The solution offers customers SIP services only. This service can be provided through a secure internet service, lease line services or through existing MLL connectivity services.

SBC as a Service (SBCaaS)

The solution is offered to customers who already have SIP services but require a hosted SBC as a service. MLL SBCaaS provides customers with a tenancy configured in our geographically diverse data centres providing a true cloud-hosted solution.

Microsoft Teams Direct Routing

MLL SIP also offers customers the ability to extend their existing Microsoft Teams environment to allow for PSTN in and outbound calling. MLL Microsoft Direct Routing solution provides customers a Microsoft calling plan as well as MLL SIP trunks configured in an active/ standby topology.

MLL SIP to traditional Phone systems

For customers who have IP-based PBXs, MLL SIP offers a SIP trunking service based on an active/standby topology, together with MLL's SBCaaS.

The service is fully supported by MLL's UK based 24x7x365 NOC and field engineering services.

Service Description

MLL SIP Services

The SIP service is provided through dedicated, diversely provided 10G circuits from our PSTN carrier into the MLL core connectivity network. The traffic is then routed to the buyer's locations based on connectivity choices.

MLL SIP Service provides SIP signalling as a method for Communication Providers to inter-connect with MLL's VoIP network, supporting calls to/from the PSTN as well as VoIP to VoIP calling between SIP accounts created within the Gamma SIP Trunk Service. The following types of calls will be supported across this interface:

- Voice calls to/from PSTN or geographic destinations (01,02)

- Voice calls to/from non-geographical, corporate or VoIP numbers (03, 05, 08)
- Voice calls to/from Premium numbers UK (09) and International
- Voice calls to/from Mobile destinations (07)
- Voice calls to/from International destinations (00xx)
- Operator, Emergency and non-Emergency calls (100, 101, 111, 112, 116xxx, 118, 119, 123, 159, 1800x, 195, 999).

This service can be delivered over the following:

- The internet through direct or indirect peering with MLL
- A wide area network (MPLS/ SD-WAN) service.

MLL SBCaaS

The Session Border Controller(s) (SBC) serves primarily to secure, mediate and control IP communications between a private/internal network and the public Internet/PSTN.

MLL provides a resilient managed SBC as a service cloud-based environment. This consists of a cluster of SBCs in a load share configuration, hosted in two geographically separated MLL datacentre locations. A minimum order quantity of 50 SIP channels applies.

MLL SBC as a service (SBCaaS) is based on G.711 codec or alternately uses MLL's Gamma SIP trunks. The hosted SBCs provide a multi-tenant routing service (including Direct Routing to Teams).

MLL's SBCaaS is configured to work in line with the Buyer's MS Teams voice services and traditional Voice Over IP into IP-based PBXs.

MLL's SBCaaS product offers three product services:

- Microsoft Teams Direct Routing as a Service (MS TDRaaS)
- MLL SIP to traditional Phone systems (as described above).

The table below summarises the features for each service.

Feature	SBCaaS	MS Teams Direct Routing	SIP
Managed Trunks and Number Porting		P	P
Testing and Configuration	P	P	P
STCM		P	P
NGN Support	P	P	P
Public Connectivity	P	P	P
Private Connectivity	P	P	P

MLL Microsoft Teams Direct Routing as a Service (MS TDRaaS)

MLL's Microsoft Teams Direct Routing as a Service provides an enriched service offering based on Gamma SIP services, MLL SBCaaS. This service points to customers who already have Microsoft Phone licences, including E3 and E5 licences, but wish to enable the PSTN calling capability.

The solution is a resilient managed service. The offering is based on two geographically diverse data centres from MLL, each hosted in a separate co-location space, and connected within an existing MLL Point of Presence. Traffic is load-shared across the two diverse sites.

This SBCaaS service offering is based on the Active / Active topology offering a load-balanced configuration.

Each of the two resilient connections is defined by Session Border Controllers (SBCs), interfacing on the public side to the Microsoft Teams Platform (in Azure), which has multiple connections of its own for resilience. The MLL SBCs will route calls to and from specific sub-domains in Microsoft Teams.

This service will include the base build and number porting for single and multiple range direct dial numbers (DDIs) and MS Tenant administration instructions on numbers to extension management for the customer to administrate.

In addition, this service will also offer SIP Trunk call management (STCM) as an option that can be selected for business continuity and disaster recovery support. The service also supports public and private connectivity options which are not included but can be provided on request together with the following:

- Managed Installation including migration planning
- O365 Tenant Configuration
- Agreed dial-plan design, including response groups.

Features and Benefits

The following SIP features will be supported:

- Calling Line Presentation (CLIP)
- Calling Line Restriction (CLIR)
- Call Park, Transfer and Conferencing
- Emergency Call Divert
- Fraud Alert
- CLI Flexibility
- Call Admission Control
- Call Barring
- DTMF support
- Emergency, Non-Emergency and other short code Calls.

MLL's SBCaaS is a robust industry-standard offering that provides the following features and benefits:

- Microsoft Teams certified SBCs

- Resilient topology
- Geographically diverse data centres located in the UK
- SIP proxy support between Microsoft O365 and the PSTN exchanges
- Grow the service as the Buyer's business demands grow
- Per-Channel pricing model
- Free 5,000 mins per channel per month to 01/02/03 numbers
- Free 2,000 mins per channel per month to 07 numbers.

MLL's SIP Trunk Service

MLL's SIP Trunk Service connects a business together with MLL's nationwide network, gives access to the PSTN and provides a more flexible and lower-cost alternative to ISDN. Our SIP trunks work seamlessly with all the leading IP PBX brands in the UK market, including support for Microsoft Skype for Business / Teams environments.

Resilient topology: The configuration offered is based on an active primary service providing in and out bound PSTN service into MLL's data centre, with a secondary location geographically diverse to that of the primary service which acts as standby in the event of any PSTN failures.

Free Minutes: Each channel configured will benefit from 5000 free minutes on direct dialled 01,02, and 03 numbers and 2000 free minutes on 07 numbers.

Direct IP Connection: MLL connects local exchange equipment directly to its own carrier exchanges enabling users to make and receive telephone calls using SIP Trunking delivered as a direct or public IP connection.

Next-Gen PSTN Access: Allowing inbound and outbound telephony for termination to a full range of national and international destinations. SIP trunks are connected directly to the Buyer's local exchange equipment if they support the SIP protocol.

Accredited Service: MLL's solution is accredited and compatible with all major PBX vendors and collaboration platforms including Cisco, Mitel, Avaya, 3CX, Microsoft Teams, and Skype for Business.

Note: For SIP Trunking services, all calls are directly delivered over the Gamma network and do not require Carrier Pre-select (CPS).

MLL's service starts from a minimum of 50 SIP channels in single Active / Standby or Active / Active (Load balanced) topologies with no upper limit.

Active / Standby

This design offers dual endpoints in active / standby mode working off MLL's geographically diverse SBC HA clusters. For this configuration, all traffic will route to the primary endpoint. In the event of failure, all calls will automatically route to the secondary endpoint.

SIP Trunking Access

MLL SIP Trunks are provided with or without access. SIP Trunking can be delivered over suitable internet access where it already exists or, if required, MLL will provide dedicated QoS-based access, ranging from ADSL and FTTC to single or highly available Ethernet access.

Key Features

The following functionality is supported:

CLIP/CLIR	Network provided features include Calling Line Identification Presentation (CLIP) / Restriction (CLIR) - a service that transmits or restricts a caller's number to the called party's telephone equipment during the ringing signal. Note: for any calls made to the Emergency Services, this will present the default CLI, which is the first number in the allocated DDI range.
CLI Flexibility	As an optional service, customers have the ability to present, Non-Registered CLIs, as the Presentation A-Number CLI. Calls made to the Emergency Services, will automatically present the default CLI, which is the first number in the customer allocated DDI range.
Call Park, Transfer & Conferencing	These features are provided using the SIP re-invite mechanism.
Call Divert	This feature provides the facility to preconfigure call diverts for both individual numbers and DDI number ranges from the portal. Under failure conditions, the user can use a portal and activate either all preconfigured numbers with a single action.
Call Barring	Customers are able to modify their profiles to restrict or allow access to international, mobile or premium rate numbers, as required.
Facsimile & DTMF	A facsimile service is supported using both in-band facsimile and modem transport using G.711 A-law codec and renegotiation to T.38 (subject to interoperability testing). RFC2833 is the preferred method for the transport of DTMF tones and is dependent on successful codec negotiation and requires payload type 101 to be assigned. RFC2833 will be used with both G.711 and G.729 codecs.
Emergency Call Support	Gamma's SIP Trunking service is a VoIP service as defined by Ofcom and supports Emergency Services calls.
Call Admission Control	Through a process known as Call Admission Control (CAC), the maximum call limit of an endpoint defines its capacity for routing calls in the network. As each customer endpoint will have 2 ports, one for outgoing and one for incoming, the CAC limit will be allocated to both ports to allow maximum flexibility.

Key benefits of SIP

- Number flexibility
- Cheaper per channel than ISDN
- Free 5000 minutes UK calls, free 2000 minutes mobile calls, and fraud protection
- Business-grade voice and data convergence
- Line and PBX rationalisation
- Business continuity as a standard

- Voice and data from one connection
- Add and remove lines quickly and easily
- Data agnostic - connect as the Buyer requires
- Save up to 50% on call costs compared to ISDN.

SIP Trunk Call Manager (STCM)

To enhance the SIP and MLL SBCaaS product line-up, MLL Telecom are able to offer SIP Trunk Call Manager (STCM).

SIP Trunk Call Manager provides all the features and benefits of SIP Trunks together with centralised call control and a host of features. This includes our market-leading call bundles and the only fraud management tool that protects Buyers by enabling them to set spending limits. SIP Trunk Call Manager offers a powerful business continuity solution, giving the Buyer's customers the ability to manage their numbers in the estate and all aspects of their inbound calls. Enables the Buyer's customers to consolidate all their numbers onto a single platform and help them never miss a call.

The centralised inbound call management service is managed via a web portal or App that allows the customer to manage, control and report on their Inbound Telephone calls and numbers.

STCM delivers key features including scalable call queuing; date, day, and time of day call routing; hunt groups; voice mail; and access to call performance statistics.

STCM Features

STCM Feature	Description
Destination Control	The End User can change the termination number to which their inbound calls are routed. Termination numbers must be UK mobile or fixed line destination numbers. 08 and International termination are available on request.
Day of week Routing	The End User can set up specific call routing to be applied according to the day of week from Monday to Sunday.
Time Control	The End User can set up specific call routing according to time of day.
Divert Control	The End User can divert calls according to no answer, busy or on failover.
Area Control	The End User can define the call routing or treatment of a call based on the caller's number or area code.
Distribution Control	Load balancing of incoming calls across multiple destination numbers. Routing options are percentage or serial.
Date Control	Date Control Nodes are used to define routing for calls made within a particular date range.
Hunt Groups	Hunt Group nodes are used to determine routing of calls to a specific group of users or destinations. Routing options are serial, prioritised, random or parallel.

STCM Feature	Description
Call Queuing	The Call Queue control feature is used to establish a network-based call queue within a call routing plan. Various properties can be programmed to determine the queuing experience for the caller.
IVR	The IVR (Interactive Voice Response) control feature enables the creation of a personalised menu announcement with up to 12 options, enabling defined routing/action based on the caller's selection on their keypad.
Announcements	Announcements can also be used in a call plan at any stage to play audio to callers. Users can upload their own files or choose from a selection of Gamma provided announcements.
Advanced Statistics	Displays Inbound call data for all Inbound numbers active on the End User Inbound account. The End User can search for results based on call outcomes, time/date stamp, by caller's telephone number, Inbound or destination number. Results can be downloaded by the User in .CSV format.
Call Whisper	The End User can record an announcement to be played as a prompt to the call answering agent but is unheard by the caller.
Voicemail	The End User can create a call plan with options to route calls to a voicemail node, with a range of email notification options.
STCM App	Call statistics and call plan changes can be accessed via a handheld smartphone/device application.
STCM Reports	User can sign up for daily, weekly or monthly emails containing either a .CSV file of all the advanced statistics for the specified period, or a summary csv file with the high-level statistics for each number within the account. Up to 3 email addresses can be designated to receive the emailed reports.
Limit Caller Admission	Calls to chosen destinations in your call plan can be limited to a configured number of concurrent calls. Once the threshold has been reached excess callers can be treated as follows; diverted, played a message, queued or sent to voicemail.
Shared Values	Calendars and schedules can be shared amongst multiple numbers, allowing for easy adds/moves/changes.
Aliasing	In many large numbering estates users may have many numbers that have the exact same routing plans. Aliasing allows the user to link numbers with the same routing plans together, so changes to one are reflected on any that are linked.
Virtual Numbers	Virtual Numbers allows the user to create sub plans or routing plans that can only be accessed only from another plan, this allows for complex routing to be shared across multiple numbers, reducing the need for repetition and providing simpler complex call plan management.

STCM Feature	Description
GoTo	GoTo is used in conjunction with Virtual Numbers to create routing links from one plan to another (to save on repeated building), i.e. 'go to this Inbound or Virtual Number xxxx from this point in the plan.
Custom Fields	Custom Fields allows the user to add their own unlimited number of column labels or text references (names etc.) to each Inbound number. This data can then be searched and filtered within the Advance Statistic and Push Reporting.

The following optional features are also available:

- Auto Attend (IVR)
- Announcement
- Area Based Routing
- Limit Caller Admission.

Key benefits of STCM

- Tailored business continuity – never miss a call
- Direct control – allows users to configure and control their own solutions
- 01, 02, 03 and 08 termination on subscribed Gamma SIP Trunks – no number translation
- Seamless provisioning via the Gamma SIP portal

Optional Products / services

Inbound services NGNs

The Inbound portfolio comprises three Product variables:

- Contact Point
- Contact Path
- Contact Pro.

Six additional services are available as optional, chargeable extras with each of these Products: Voicemail,

- Advanced Statistics,
- Inbound Reports
- Inbound Call Recording,
- Call Whisper
- and access to the Inbound App.

This may be a geographic Inbound number, a non-geographic 08 or an 03XX number. Existing geographic/non-geographic numbers may be ported into the Gamma network and provisioned on the Inbound service providing that a live porting agreement is in place between Gamma and the Originating and Losing Communications Provider of the number(s). Details of porting agreements are available on request.

Number Porting:

MLL offers number porting based on single numbers as well as number ranges

The solution offers provided have assumed a minimum of 4 DDI ranges

New numbers:

MLL can also offer new DDI ranges based on current availability

A Data Management Amendment (DMA) may be required if transferring an entire Ofcom-allocated range (e.g. 1,000 or 10,000 Geographical Number blocks) from one range holder to another. The process is outside of the standard porting regulations and can take up to 90 days from request.

Choice of SIP topology configuration:

The solution offered is based on an active/ standby topology configuration, however, MLL can also provide:

- Active/ Active
- Load balanced
- Resiliency+

Standards-based delivery

MLL will use industry standards for project and service delivery as summarised in the table below:

Delivery and Service Management	Industry Standard
Service Management	ITIL
Project Management	PRINCE2
Quality Management	ISO 9001
Security Management	ISO 27001 and Cyber Essentials Plus
Environmental Management	ISO 14001
Health and Safety Management	ISO 45001

Delivery

For SIP services and number porting, MLL provides Buyers with an implementation coordinator who will manage the SIP service installation and porting of the Buyer's inbound and outbound numbers, including non-geographic numbers, onto MLL's Gamma platform. For larger projects, including the provision of SBCaaS and MS Teams Direct Routing, MLL recommends Buyers purchase optional project

management which will provide a PRINCE2-qualified Project Manager as MLL's stakeholder to manage the project delivery.

MLL follows an ISO 9001 audited delivery process and maintains an ISO 27001 audited configuration and change management process for customer hosting infrastructure. MLL uses PRINCE2 methodologies to deliver projects, typically employing the following 4 stages of project delivery:

- Internal project set-up (including contract award, team assignment, etc)
- Project Initiation (Kick-off meeting, risk assessment, technical discovery, technical workshop, project and technical documentation)
- Project Delivery (solution delivery, risk and issue management, change management, progress reporting, escalation management, governance, progressive handover to MLL's Business as Usual (BAU) team, etc)
- Project Handover (complete handover to MLL's BAU team, project review, lessons learnt, project closure, etc).

MLL's team will undertake regular project reviews with the Buyer to an agreed frequency. For larger projects, governance will be provided through a project board comprising senior sponsors from MLL and the Buyer.

Lead time to deliver services in this offer will range from 5 working days for SIP services on existing connectivity provisioned by MLL, to up to 90 working days from contract award for a complex SBCaaS delivery, assuming no unexpected delays.

In Scope

Included within the scope of this Service is:

- Supply of SIP and managed SBC Service, including number porting and bundled call minutes, to the Buyer
- SIP Trunk Call Manager and associated features
- Implementation Services (as per SFIA rate card)
- Support Services (as per SFIA rate card).

Out of Scope

Excluded from the scope of this Service are:

- Any configuration or support of the Buyer's Microsoft Teams environments
- Legacy ISDN, exchange line and fax services
- Solutions for Call Recording, ISDN30 circuit integration, and PCI compliance

Support

MLL SBCaaS is inclusive of MLL provided 24x7 managed services.

Monitoring and Reporting

- Services will be proactively monitored by MLL and MLL's partner, Gamma, based on pre-defined thresholds on a 24 x 7 basis.
- Any failure will be analysed and where appropriate raised as an Incident with MLL's Service Desk and the Buyer's Service Desk will be notified.
- Incidents will be managed using MLL's Incident Management Service through to resolution.
- MLL will provide access to the MyMLL service portal to raise and track Incidents and Service Requests.

Service Desk

MLL's Network Operations Centre is based in Marlow, Buckinghamshire, supporting customers on a 24 x7x365 basis.

The NOC and Service Desk undertakes the following functions:

- Receives Incident or Service Requests by agreed contact methods – telephone, email or via MyMLL portal.
- Records Incident or Service Requests on the Service Management System.
- Allocates a Call to Severity 1, 2, 3 or 4 and where relevant manage the Incident through to Resolution in accordance with the Service Levels.

Support Model

MLL's service support model is based on ITIL compliant processes with clearly defined roles and responsibilities, supported by industry recognised systems and tools.

The availability of the SBC service will be proactively monitored by MLL. Incidents will be raised either proactively by MLL or reactively by the Buyer and logged in MLL's ITSM. MLL will conduct Level 1 triage and support and resolve the Incident where possible. Where Incidents require escalation to Level 2 support, the MLL NOC will raise this with MLL's SBC Support Partner.

SIP services will be proactively monitored by MLL's SIP provider, Gamma, based on pre-defined thresholds on a 24 x 7 basis. Incidents will be raised either proactively by Gamma or reactively by MLL or the Buyer and logged in MLL's ITSM.

Irrespective of any escalations MLL will remain the single point of contact for the support of the services to the Buyer.

MLL utilise the following Severity Definitions for Incident Management:

Category	Definition
Severity 1	The Services are Unavailable across the entire Buyer's estate
Severity 2	The Services are Unavailable at one of the Buyer's sites

Severity 3	The Services are Unavailable to an individual user
Severity 4	All other Incidents, including any Incidents raised initially at a higher Severity Level that were subsequently deemed to be attributable to the Buyer or in any other way not attributable to the Supplier.

MLL will ensure that Incidents are resolved within the Incident Resolution Time, based on the Severity Level of the Incident.

Service Hours

Service	Service Hours
SBC & SIP	Monday – Sunday (including Bank Holidays) - 00:00-23:59 (24 hours per day, 7 days per week)

Service Levels

MLL utilise the following Severity Definitions for Incident Management and provide the following Incident Resolution SLAs for the SBC service:

Severity Definitions and Associated Service Levels				
Category	Definition	SBC Restore Remotely (1)	SBC Hardware to Site (2)	SIP Resolution Time
Severity 1	The Services are Unavailable across the entire Buyer's estate	4 hours	NBD Despatch Only	6 Hours
Severity 2	The Services are Unavailable at one of the Buyer's sites	8 hours	NBD Despatch Only	12 Hours
Severity 3	The Services are Unavailable to an individual user	3 Business Days	N/A	24 Hours
Severity 4	All other Incidents, including any Incidents raised initially at a higher Severity Level that were subsequently deemed to be attributable to the Buyer or in any other way not attributable to the Supplier.	N/A	N/A	10 Working Days
Notes (1) If the restore can be performed remotely (for example a configuration or software patch) the SLA is deemed as met. (1) If the fix requires a hardware replacement – the restore time is reasonable endeavours. (2) SBC hardware to site is NBD dispatch from the manufacturer to DC sites. Once the hardware has arrived the engineer will be dispatched based on DC access and replace the hardware.				

MLL will agree the Severity of each Incident with the Buyer based on the above definitions and will manage all Incidents through to resolution based on the assigned Severity level.

Availability

Availability	
Service	Availability Target
SBC Core	99.99%
SIP Trunk Service – Resilient Build – Core	99.99%
SIP Trunk Service – Resilient Build – Non-Core	99.50%

Core functions are defined as Gamma Switching infrastructure, transmission equipment and core network, the service that supports call routing and termination.

Non-Core functions include Gamma Support Systems, access to the portal and feature based services such as Call Divert.

MACs

SBC Remote MACs (32 Requests Per Year)	
MAC	Service Level Target
Standard	3 Business Days
Expedited	1 Business Day

MACs will be chargeable as per the SFIA rate card.

Service Credits

Service Credits apply to the SBC platform availability SLA only. SIP availability, Incident Resolution, and MAC SLAs are excluded from the Service Credit regime.

SBC Availability Service Credit

Service	Coefficient (m)	Service Level Threshold % (a)	Service Failure Threshold % (b)	Minimum Service Credit % (c)	Maximum Service Credit % (d)
SBC	5	99.99%	95.99%	5%	25%

Contract Exit

Numbers can be ported from MLL's Gamma platform to another supplier following the industry standard process.

SIP Trunks are non-transferrable.

Requests for termination of service should be directed in writing to the Buyer's MLL Account Manager.

Social Value

MLL is committed to providing social value as part of its contractual deliverables which will be agreed with the Buyer and detailed in the call-off contract. Key social value themes for MLL include:

Fighting Climate Change - Underpinned by MLL's existing ISO 14001 environmental management system and published carbon reduction plan with a net zero target date of 2040.

Tackling Economic Inequality - We will deliver tailor-made offers to support the communities and citizens in the localities in which we serve our customers.

Equal Opportunity - This is a fundamental principle of our business and the basis of our customer relationships.

Company Information

Company Details

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