

SIP Infrastructure Upgrade

(Updated 22/04/2024)

Introduction

At Gamma we continually review our service and network infrastructure to ensure we maintain the most resilient and secure platform to support our growing base of customers. As part of our ongoing commitment to our SIP trunking offering, we are updating our network infrastructure supporting the service. This document has been created to help you understand these changes and help you manage your customers.

SIP Trunking Infrastructure Upgrade

Gamma's investment in upgrading our network infrastructure will future proof our service offering, providing a platform for continued enhancements.

We know our customers are increasingly moving towards cloud solutions. Gamma is also on this journey and are moving away from appliance-based devices to software running on our own private cloud infrastructure. This will provide benefits for increased scalability, flexibility, and resilience.

The first stage of the network upgrade began in June 2022. This involved **new** SIP trunk orders provisioned on the upgraded network infrastructure.

The second stage of the network upgrade begun in October 2022, since this time we have migrated 70% of existing SIP trunks to the upgraded network infrastructure. During this time, Gamma has minimized service disruption to an extremely low level of Gamma SIP Trunks migrated. With any network migration of this scale, we have observed a small number of customer problem with specific call scenarios. To support our Gamma Partners, we have collated the most prominent problems in our **Known Behaviour** section below. The functionality of our SIP Trunk products remains unchanged, and we are working to provide a seamless migration process.

New Installations

New Installations: Scope of Change

This has been in place since June 2022, since this time we have not seen any issues outside of customer configuration problems.

Migrations

Overview

Existing SIP Trunks using the appliance-based Session Border Controller network infrastructure will be migrated to our new network infrastructure.

There are two separate processes for migrating SIP trunks depending on how the SIP trunk was

originally provisioned.

1. **Automated migration** process for standard SIP Trunk builds provisioned using the Gamma portal.
2. **Manual migration** process for SIP Trunks provisioned manually by Gamma. These may be referred to as complex SIP Trunk builds.

This document will indicate differences between **Automated migrations** and **Manual migrations**.

Overview of Migrations: Scope of Change

Automated Migrations

Migrations will be done outside UK business hours.

The migration will have the following impact:

- Calls in progress using the SIP Endpoint to be migrated will be taken down
- It will not be possible to originate or terminate new calls whilst the migration is in progress
 - There is the potential for this to also apply to resilient SIP Trunks

- The service impact will be less than 15 minutes

No configuration changes are needed. Migrated SIP Trunks will continue to use the same signalling and media IP addresses as previously.

Manual Migrations

Gamma will be contacting customers directly to discuss the migration process for complex SIP trunk builds and if configuration changes are required.

Some types of complex SIP Trunk build that cannot be managed by the Gamma portal now can be managed by the Gamma portal following the migration. This benefit will be communicated to channel partners as part of the migration process.

Migrations: Date of Change

It is imperative for Partners to engage with us to ensure they understand the bespoke migration process for their SIP Trunk. If Partners have a sensitive solution which requires a managed migration process due to special circumstances they should contact us directly.

Automated and Manual Migrations

Migrations began in 2022 with a phased manner allowing us to migrate SIP Trunks in a controlled manner. Since this time, we have successfully migrated more than 50,000 Gamma SIP Trunks with an extremely low percentage of Trunks experiencing unexpected service disruption. Gamma continues to work to migrate all remaining SIP Trunks, we expect this work will continue until at least 2025.

Migrations: What do I need to do?

Gamma recommends all partner operational team sign up for SIP Trunks alerts to keep informed regarding change on our network, please subscribe to Gamma SIP Trunk Alert on the Gamma portal for information about the SIP Network Infrastructure Upgrade project and other projects. On the Gamma portal select:

Reporting > Reporting > Subscribe to Notifications and Push Reports > then select **Subscribe** for **Gamma SIP Trunk Alert**.

Automated Migrations

For customers with standard SIP trunk builds provisioned using the Gamma portal the migration is transparent and no action is expected to be needed. We would however like to point you towards some issues below that we have encountered during these migrations. Whilst impact is low in numbers, we suggest you ensure you are aware of your customers configuration and reach out to us if you have any questions.

Manual Migrations

Gamma will be contacting Partners with complex SIP trunks builds to discuss and agree the migration process for SIP trunks. It is imperative that Partners contacted engage with Gamma to ensure they understand the migration process for their solution.

Migration Process

Automated Migrations

- Two weeks before the SIP Trunk migration is scheduled, Gamma will send email communications to the SIP trunk channel partner advising them of the migration date
- The Gamma portal information for the SIP trunk will show a banner communicating the migration date
- If the migration date needs to be rescheduled, Gamma will send email communications advising the new migration date and the Gamma portal will be updated with the new migration date
- If the migration needs to be cancelled, Gamma will send email communications advising of the cancellation and the Gamma portal information regarding the migration will be removed
- Following a successful migration, the Gamma portal information will be updated indicating the

SIP trunk has been migrated. This information will remain on the portal until 2 weeks after the migration

- If the migration is not successful, the SIP trunk will be restored to its original configuration
 - Gamma will send email communication to the channel partner notifying that the migration did not occur
 - Gamma Portal information regarding the migration will be removed
 - A new date for the migration will be dependent on resolution of the issue that prevented the migration

FAQs

1. How do I know if I have a complex build or a standard build?

Manual Migrations:

Complex builds include the following:

- SIP trunks using private IP addressing for interconnect with Gamma
- SIP trunks for the Sycurio (previously Semafone) Payment Card Industry application
- The SIP trunk was not provisioned using the Gamma Portal and was provisioned manually by Gamma
- Gamma Portal indicates that SIP trunk changes cannot be made using the Portal
- SIP trunk information is not available through the Gamma Portal

Please contact sipupgrade@gamma.co.uk if you have any questions regarding the SIP trunk build

2. What is the service impact of the migration?

Automated and Manual Migrations:

Calls in progress are taken down as part of the migration process. During the migration process it will not be possible to initiate new calls. The service impact will take less than 15 minutes.

3. How do I know when a SIP trunk will be migrated?

Automated Migrations:

Two weeks prior to the migration, Gamma will send an email notifying the migration date and the Gamma portal information for the SIP trunk will be updated with the migration date.

Manual Migrations:

This process began in the back end of 2023 and is expected to continue throughout 2024 and 2025. Gamma will be in touch with customers when we are ready to complete migration of your service.

4. Can I ask for a migration to be rescheduled?

Automated Migrations:

Please contact sipupgrade@gamma.co.uk to discuss the migration timing.

Manual Migrations:

Gamma will be contacting each customer with a complex SIP build individually to discuss the migration process and timing.

5. How do I know if a SIP trunk needs to be migrated?

The Session Border Controller (SBC) used by the SIP Trunk is available on the Gamma Portal by selecting the SIP Trunk at:

Provisioning & Service Management > Voice Connectivity > SIP Trunks > Service Management

The SBC is listed under "Service". An SBC with prefix of "MSX" will be migrated. An SBC with prefix of "SW" is on the new infrastructure and will not need to be migrated.

6. What happens if I find there are problems following a migration?

Issues should be reported through the Gamma Service Desk using the process described in the Customer Support Plan and these will be investigated using a defined process to identify the root cause and resolve. If necessary, the SIP trunk configuration can be restored to the previous infrastructure.

7. I know I have a complex SIP trunk build. When will Gamma be getting in touch to discuss the migration?

Manual Migrations:

Gamma began the process of migrating complex SIP Trunk builds in 2023. This process will continue until at least 2025 therefore it may be some time before contact some customers.

8. Will I need to do any changes for the migration?

Automated Migrations:

The migration of a standard SIP Trunk build provisioned using the Gamma portal requires no changes as there will be no change to existing IP addresses.

Manual Migrations:

We will be contacting customers with complex SIP Trunk builds to discuss any changes needed for the migration of these SIP Trunks.

9. I have a customer using a SIP trunk for calls in the middle of the night. Can I get the migration done at a different time?

Automated Migrations

Please contact sipupgrade@gamma.co.uk

Manual Migrations

Gamma will be contacting each customer with a complex SIP build individually to discuss the migration process and timing.

10. Will I be informed of the night when the migration will happen?

Automated Migrations

Two weeks prior to the migration Gamma will send an email notifying the migration date. The Gamma portal will be updated with the migration date.

Manual Migrations

We will be contacting customers with complex SIP Trunk builds to discuss any changes needed for the migration of these SIP Trunks.

11. My endpoints have been migrated from MSX11, MSX12. Does this mean I will be migrated again?

Yes, we need to migrate customers from MSX11 and MSX12 Session Border Controllers because of reasons not related to this network upgrade project and we are not able to migrate these customers directly to the new infrastructure. SIP trunks previously migrated from MSX11 and MSX12 will be migrated to the new infrastructure towards the end of the project. There will be no change needed to IP addresses for standard SIP trunk builds.

12. Why is Gamma doing this?

Gamma is making considerable investment in our SIP Trunking infrastructure to “future proof” the service.

The new infrastructure will improve resilience and capability and enable us to launch new features and services quicker whilst lowering the impact to your operational and technical teams in future.

13. What happens with Gamma voice-assured connectivity, such as Gamma

Assured, Gamma Converged & Gamma Ethernet?

Gamma will update firewalls provided by the Gamma Assured services to permit the IP address range required for SIP signalling and media.

14. Is IPv6 supported?

The upgraded Gamma infrastructure is IPv6 capable. Enabling customers to provision IPv6 addresses will be considered as a future product enhancement.

15. Is Gamma introducing new Session Border Controllers?

Yes, the network upgrade will be introducing new Session Border Controllers (SBCs). The Gamma Portal provides the identifying names for the Session Border Controllers being used for the SIP trunking service and the new SBCs will have a 'SW' prefix rather the existing 'MSX'.

16. Will the SIP Technical SLA change?

No, existing SLAs for Gamma SIP Trunk products are unaffected.

17. Will this enable any additional services?

There is currently no direct dependency for any additional Gamma services. However, this change does allow Gamma to continue to offer the current SIP Trunk service and help deliver our roadmap of future enhancements.

18. Does this make the service less secure?

No, the service has the same security standards and requirements. The IP address range required by the service is hosted by Gamma. The Gamma service undergoes regular security audits.

19. Who can I contact if I have any questions?

If you have any questions regarding information in this document, please email sipupgrade@gamma.co.uk

Known Behaviours

The below provides an overview of the most prevalent known behaviour that have been identified. This list is not exhaustive, and we have found a small number of other behaviours which are specific to customer environment/local configuration.

Media IP Changing Mid-Call

Behaviour: Your equipment changes the IP Address you use for media mid-call. Whilst we make every effort to migrate all media IP Addresses customer use, there have been occasions that when media IP addresses change mid call, we have not migrated the IP Address and for those calls we have seen OWA (One Way Audio).

Impact: One-Way Audio

Mitigation: If you believe your set up may behave in this manner, please confirm, and contact Gamma prior to your migration

Resolution: Please contact us prior to your migration taking place and Gamma can ensure all necessary media IPs are included as part of the migration

Media Port different from Negotiated Media Port

Behaviour: We have seen problems on occasion when the media port used by a customer is different from the media port negotiated, this can cause OWA (One Way Audio). This is normally due to local configuration such as Network Address Translation rules.

Impact: One-Way Audio

Mitigation: Please check and ensure local configuration is aligned with the Gamma SIP Trunk Technical Description

Resolution: Customers will need to resolve the local configuration to ensure their network is set up to ensure two-way transmission of media

CLI Handling due to no P-Asserted Identity Header (PA-ID)

Behaviour: Gamma expects all customers to send a PA-ID when making outbound calls, when this does not happen Gamma will insert a default PA-ID (the CLI will be the network number on the Gamma Portal). On occasion, when this happens, we have seen CLI presentation problems (where the default CLI is presented instead of the CLI in the FROM). If this happens, customers will need to resolve this by sending a valid PA-ID to ensure correct CLI Presentation

Impact: CLI Presentation

Mitigation: Please check your SIP Trunk is correctly configured to send a correct PAID header

Resolution: Partners should ensure they have configured PAID headers as outlined in the SIP Trunk Technical Description