

DIRECT ROUTING

Service Description
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BUSINESS

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1. Hello and welcome...

Welcome to Direct Routing for Microsoft Teams. It's great to have the opportunity to work with you.

With Virgin Media Direct Routing, we're able to provide connectivity to the PSTN for your outbound calling needs, allowing you to take advantage of our competitive calling plans.

Delve into this service description whenever you need information on the services we can provide.

2. Direct Routing product overview

Direct Routing for Microsoft Teams allows users to connect to the outside world (PSTN) using our reliable and secure network.

Businesses can extend their Microsoft Teams experience to include external inbound and outbound calls between Teams and fixed or mobile calling devices.

Direct Routing improves corporate communications, helping employees to be more productive and efficient when using Microsoft Teams. Integrating Direct Routing into Microsoft Teams also makes home workers able to operate much more like they were in the office. By connecting Teams to the PSTN (Public Switched Telephone Network), customers and suppliers can call your business directly in Teams from their own landlines or mobiles. Similarly, they can be called on their landlines and mobiles directly from Microsoft Teams.

Direct Routing from Virgin Media Business is an enterprise grade voice service and a cost effective alternative to Microsoft calling plans. It provides native PSTN (Public Switched Telephone Network) connection to business users, enabling them to make and receive external phone calls on any device using Microsoft Teams. The service operates on a highly resilient Microsoft certified platform without the need for on-premises equipment, providing greater flexibility and simplifying cloud migration activities.

This ultimately brings better customer value, ensures ease of use and removes the necessity for on-site maintenance.

Our secure voice service runs over public internet and comes with a choice of deployment options to suite individual business needs.

As part of the Direct Routing solution each user enabled for external calling will be allocated a PSTN Telephone number. There will also be instances where external calling will be enabled for virtual users e.g. meeting rooms, call queues or auto attendants that may require external calling/ PSTN number.

The solution consists of the following components:

Virgin Media Business provided:

- Access to our SIP Trunking platform that includes Microsoft Teams Certified Session Border Controllers. This provides PSTN break out that enables the external calling capability for Microsoft Teams users. In addition is integrated with the Microsoft cloud environment - fully owned and managed by Virgin Media Business within its private data centres
- Customer Telephone Numbers for use with the service - these can be newly provided, moved across from an existing Virgin Media Business service or ported in from another carrier. Please note temporary numbers may be provided when users are in the process of porting in or

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transferring in telephone numbers. We offer between 2-10 numbers as standard, with larger requests to be agreed if required.

- Customer Voice Tariff includes 2000 UK Geo & 2000 UK Mobile voice calls for a fixed monthly fee which is included in the monthly per user pricing
- End points /devices - a range of Microsoft certified equipment for use with Microsoft Teams i.e. headsets, desk phones, audio/video room systems – these can be supplied by us on request.
- A wide selection of professional services ranging from support with solution design, migration to Teams, network audit, adoption/ deployment services and more.

Customer provided

- Microsoft 365 tenant that includes the Microsoft Teams environment and phone system and associated licenses for users taking the Direct Routing service
- End points /devices - a range of Microsoft certified equipment for use with Microsoft Teams i.e. headsets, desk phones, audio/video room systems

3. The benefits of Direct Routing

Microsoft Teams Direct Routing from Virgin Business Media is the flexible, accessible and cost-effective alternative to Microsoft Calling Plans allowing any organisation to make calls within Microsoft Teams using our SIP platform to route calls.

With Direct Routing, businesses can leverage Microsoft Phone System and Microsoft 365 licenses and utilise our calling plans without the need for an expensive on premise based PBX phone system.

Main benefits include:

- Business Phone Functionality – get the most out of investment in Microsoft Teams and turn it into a dedicated phone system complete with access to the PSTN, local and international calling, and number porting.
- Reduced Calling Costs – our calling plans can be less expensive and more flexible than Microsoft calling plans.
- Simplified User Management – we make it easy to add, manage and port numbers, and migrate users off legacy phone systems.
- Customer Support – Our expert technicians provide 24x7 support.

Implementation of Microsoft Teams Direct Routing can result in a significant cost saving in outgoing voice calls for an organisation, as well take advantage of the investment they have already made on Teams, without having to pay for additional outgoing landline and mobile systems.

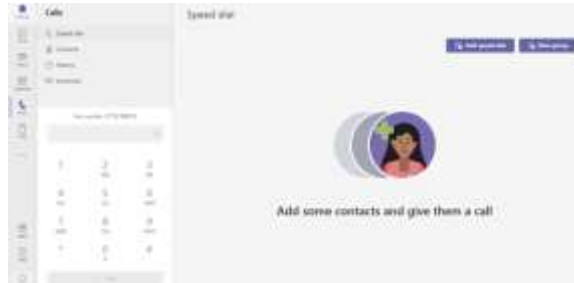
Target audience

Our Microsoft Teams Direct Routing solution is suitable for majority of business segments in the UK that have decided to use the Microsoft Teams as their primary communication and collaboration system.

Equally it is suitable for businesses considering migration into Microsoft Teams in the future as part of their transformational strategy into the cloud.

4. How does it work?

When Direct Routing is enabled for a user, within the calling tab in the Microsoft Teams client, a dial pad is added which enables them to make calls outside their organisation. Each user will have a DDI (Direct Dial Inwards) number assigned which can be seen at the top of the Dialpad as per below.



From a service point of view users enabled on Microsoft Teams Direct Routing will connect to their Teams environment via an internet connection which in turn is connected to Our SIP platform that is configured for Direct Routing and integrated with the Microsoft Teams environment.

These connections are TLS (Transport Layer Security) encrypted to ensure that between encrypting, transmitting, and decrypting the data, no information is lost, damaged, tampered with, or falsified.

Outgoing calls

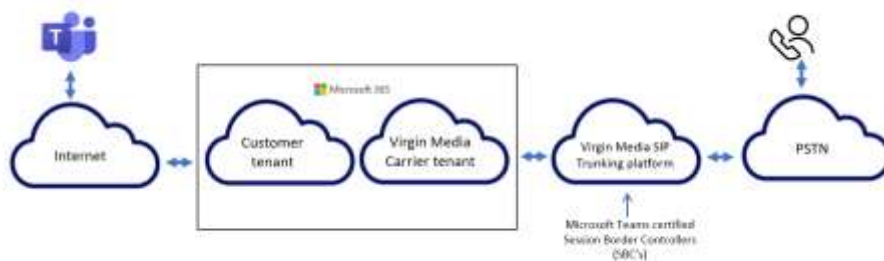
Once an external call is made (a call initiated from the Teams client) the user's Microsoft Teams phone system knows where to route the call (it will point to our SIP platform that would ensure breakout to the PSTN network and present the user's number according to user configuration to the called party. (See the number presentation section 6 below for more info)

Incoming calls

Subsequently if the call is received i.e. the Microsoft Teams Direct Routing enabled user receives an external incoming call on their DDI, the call is routed via our SIP platform that identifies the Teams user this call should be routed to and delivers the call to the user.

The user will see a pop-window and will hear a "ringing" sound that will notify the user of the incoming call. If provided the calling party CLI will be presented to the called user.

High level call flow overview



Please note organisational internal Microsoft Teams-to-Teams calls and Microsoft-enabled conferencing capability remains unchanged by our Direct Routing offering

5. Product configuration

Customer prerequisites

For an organisation to enable Direct Routing, the following will be required:

- Microsoft 365 or Microsoft 365 license including Teams (Teams Essentials, O365/MS365 F3, O365 E1, O365/MS365 E3, O365/MS365 E5)
- Microsoft Phone System add-on (O365/MS365 E5 has this add-on included)
- Virtual phone system licenses and /or resource accounts for meeting rooms, call queues or auto attendant configurations (if applicable)
- An Internet connection (either from Virgin Media Business or a third party) that meets suggested minimum bandwidth requirements (section 5)
- Number of users to be enabled for Microsoft Teams Direct Routing (you can purchase new numbers or bring in existing ones assigned to the users. Please note there 1:1 association between the user/ virtual user and DDI)
- You will be expected to assign and verify two domains provided by us within their Microsoft 365 tenant
- You will be expected to provide two user accounts/credentials and associated DDI telephone numbers to us for service testing and validation purposes (not applicable to the self-serve deployment option)
- You may be expected to create User account with Teams Administrator role assigned for our access dependent of chosen deployment options
- You will be responsible for PSTN number allocation for their Microsoft Teams / virtual users (we can offer support with this if taking the Tailored deployment option see section 10 for details)
- You will be expected to create Voice service for PSTN Usage, Voice Route & Voice Routing Policy and dial plan/s (we can offer support with this if taking the Standard and Tailored deployment options see section 10 for details)
- You will be expected to grant the voice route/s and dial plan/s created to their users (we can offer support with this if taking the Tailored deployment option see section 10 for details)
- Standard default configuration must be left intact for reference & troubleshooting in-life
- Number of users this solution supports as standard is 15 or more

Platform components

Our carrier grade SIP trunking platform is installed across two geographically diverse locations.

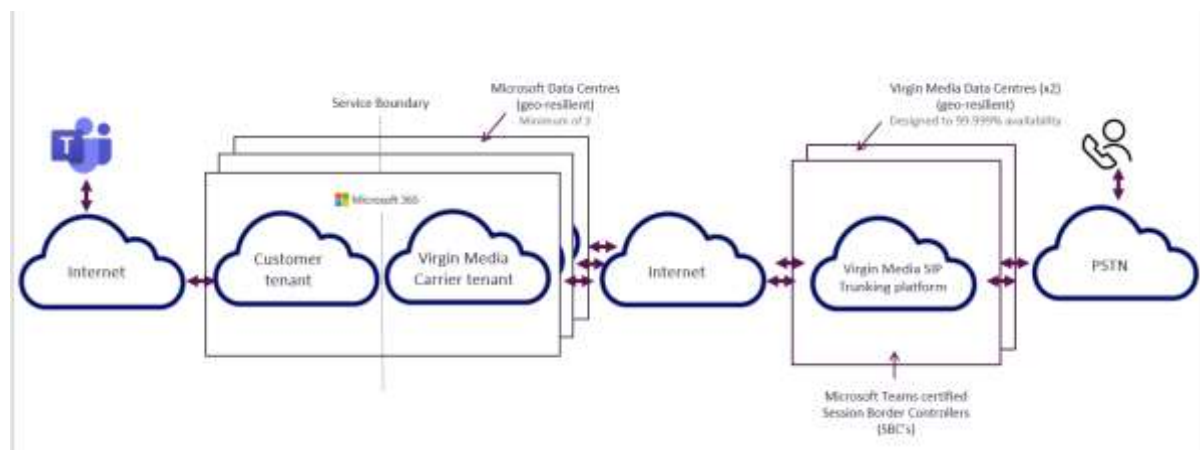
The Direct Routing Service is hosted on our SIP trunking platform.

The edge devices (Session Border Controllers (SBC's)) that you connect to for the Direct Routing service are Microsoft certified. They are also installed with High Availability which provides hot active standby servers within each of the two geographic locations as outlined in the table below.

Platform availability / resilience

The platform resiliency is capable of surviving the failure of either site. It is engineered to enable us to offer continuity of service even in the face of a disaster/force majeure event at one of the sites hosting our SIP Trunking platform and Direct Routing service

The Direct Routing service is designed for 99.999% availability.



Codec support

Between you and Microsoft data centre the SILK codec is used. From that point to the our SIP trunking platform and to the PSTN, a G711 codec is used.

Encryption

Between you and the edge point of our SIP Trunking platform encryption is used for both media (Secure RTP) and signalling (Transport Layer Security (TLS)) to ensure privacy is maintained for calls

Authentication

When standing up the service, two customer-specific domains names are provided to you.

When you add these domains to your Microsoft 365 tenant taking the service, Microsoft generates an authentication code (MS txt record) for each domain that you will need to provide to us.

Once we receive the MS txt records, our platform can be updated with the information to allow service activation.

Should the Domains in the Microsoft 365 tenant ever need to be recreated this would require new MS txt records to be generated and the Authentication steps would need to be repeated.

Without authentication, the service cannot operate, and the making and receiving of external calls will not be possible.

Bandwidth requirements

For the Direct Routing service, you would need to account for a minimum bandwidth of 100Kbps in each direction for each concurrent active call.

You can multiply the number of users by 100Kbps to get a total bandwidth but would only require so much bandwidth if you expect all users to be on calls at the same time. Our experience to-date shows that on average customers typically consume a ratio of 1 concurrent call for every 15 users

6. Technical configurations

Indicative technical configuration information for the enablement of the Direct Routing service will be provided within your Configuration Guide.

Calls and numbering

For every Microsoft Teams user to utilise the service, they must be allocated a geographic telephone number, commonly referred to as a DDI or CLI (Calling Line Identification). The geographic number(s) assigned to the service are also referred to as the network number and can be presented to the PSTN network when making outbound calls. This network number also serves as the reference for the emergency services database that stores caller location information.

We can either, or in combination:

- Port across your existing numbers, or
- We can provide you with new numbers

For hosted solutions, like this service, the numbers are not restricted to local phone switches. Therefore, you can have any geographical number (if you own it, or it's available as new) regardless of your location, e.g., you can have a London 0203 number even if you're based in Aberdeen.

New numbers

We can provide you with new numbers for your Direct Routing service. Our available ranges or area code availability may vary, please discuss your requirements with our sales representative.

We can request new geographic numbers for you at the point of your order or in life. Contiguous blocks can be ordered if available.

Ported numbers

We can port numbers over to your Direct Routing service from your existing service provider. Please note a Letter of Authority will be required for this. You can find more info in our porting guide here

<https://www.virginmediabusiness.co.uk/pdf/legal-documents/Landline-Number-Porting-Guidance.pdf>

For us to port your numbers you will need to complete and sign a Letter of Authority (LOA) to give us the power to request a number port on your behalf.

Once number porting requests have been placed and accepted by the Losing Communications Provider (LCP), these numbers can be added to the service and assigned to users. These will not be activated against individual users until the port completion date.

Porting orders will be accepted or rejected within 3 working days and it's not uncommon for ports to be rejected several times before being accepted and a port date issued. The most common reject reasons are due to:

- Single line request placed, but the line turns out to be a Multi-line request

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- Incorrect address
- Additional numbers on the line that you're not aware of
- Additional product on the line, e.g. Redcare or a Feature line Equinox range

Note: we may ask you to provide the CUPID code of your existing service provider. This can be achieved through asking your existing voice service provider.

Any ports that are submitted with incorrect information will incur a rejection charge and may as a result delay your delivery.

We can cancel or make date changes to a port up to midday, 2 working days before the port date. However, changes of the port type or information will lead to a cancellation and resubmission of the port request.

Please note all quoted lead-times are the minimum number of days required to progress the number import. We recommend that you allow at least a further 3 days on top of these lead-times.

Installation type	Minimum lead time (Working days)
Single line	10

The above lead-times are based on us having a porting agreement in place with the provider (CP) who is losing the number, losing CP (LCP). If this is not in place, then please allow an extra 80 days for service establishment to be setup.

Please note if you ask for a number to be ported, the existing telephone line for that number will cease because of the number being ported away from the service. Please ensure that any DSL services are moved before a porting request is made.

Installation type	Minimum lead time (Working days)
Multi line (ISDN + PBX)	10
Simple DDI (ISDN + PBX)	20
Complex (ISDN + PBX)	25

Number porting emergency restore

In the event of fault occurring during the porting process we will use reasonable endeavours to attempt to restore the port through liaison with Openreach and the Losing service provider.

Emergency restoration requests can be submitted up to 13.00 (1pm) following the day of the port.

Note: It is not mandatory for the losing service provider to restore ports and there is no agreed lead-time for this process. A restoration order can take many days and may result in a loss of service for a period. We will use reasonable endeavours to ensure a restore happens but cannot guarantee full co-operation from the losing service provider. Other restrictions and limitations may apply on a case by case basis. If additional services, broadband, were on this line then we cannot guarantee that these will be reinstated.

Useful websites for number porting

There are several websites that you can use to ensure the porting process runs as smoothly as possible:

- Ofcom Numbering Site Telecoms numbering - Ofcom
- This site enables you to check who the original range holder of the number is and check the CUPID reference numbers. CUPID numbers are the unique reference which details who the range holder is and is needed when you place a port request
- Number Portability Industry Processes http://www2.magratheatelecom.co.uk/industry_porting/

This site provides full detail on the end-2-end number portability process that has been agreed by industry.

Transferred numbers

We can transfer your existing Virgin Media Business telephone numbers to your Direct Routing service. Please discuss your requirements with our sales representative.

Support for number presentation

Because CLI services make personal telephone numbers accessible to third parties, and because telephone numbers are a form of personal data, CLI raises several important privacy and data protection issues. As a result, OFCOM requires that the line identity should always represent the correct identity of the business or the number where a return or subsequent calls should be made to.

Presentation Numbers are a simple way of ensuring that businesses comply with this mandate. If you have separate incoming and outgoing lines, then a separate Presentation Number can be used to route and return calls back to a different location, providing effective traffic management and resilience for inbound calls

There are 4 types of number presentation that we support:

Type 1 generated by our network. The number is stored in the network and applied to an outgoing call at the local exchange by the provider. Because the number is applied by network equipment there is no need for it to be verified each time a call is made – instead the level of authenticity will depend on the checks made by a network provider that a subscriber is entitled to use a particular Presentation Number.

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Type 2 (Default) this identifies a caller's extension number behind a DDI switchboard. Although the number or partial number is generated by the user's own equipment, the network provider is able to check that it falls within the range and length allocated to a particular subscriber. That way the authenticity of the number can be ensured. This type of number is considered to carry sufficient authenticity to be classified as a network number and is carried as such by some networks.

Type 3 limited to the far-end breakout scenario where a call's access to the public network may be different to where it was originated (e.g. where there are several transitions between several service providers). The number is generated by the user's equipment but isn't capable of being subjected to network verification procedures. You must therefore undertake to provide only authentic calling line numbers which have a direct association with the calling party. This number will always be 'dialable' and will result in a connection to the calling party.

Type 5 Presentation numbers that identify separate groups of callers behind a private network switch wishing to send different outgoing CLIs. A typical scenario is a call centre making calls on behalf of more than one client. Type 5 presentation numbers are generated by the user's equipment. Subscribers will need to enter into a similar contractual commitment with their network providers as for Type 1 presentation numbers i.e. that they are entitled to use the numbers they have selected

By default, we will configure your service with Type 2 number presentation. Should you wish to select one of the other number presentation options please discuss this with your order manager.

Support for Non-geographic telephone numbers

Our Direct Routing solution supports Non-Geographic numbers via our Number Management platform. For more information, please contact our sales representative.

7. Commercial construct

Direct Routing pricing is made up of four main components

1. **Set-up / deployment charges** – these are charges associated with the initial install of the service

	Frequency	Charge
Direct Routing Service per MS Tenant	One off	fixed price / available on request
Professional Service Self-Serve Deployment	One off	FOC
Professional Service Standard Deployment	One off	fixed price / available on request
Professional Service Tailored Deployment	One off	POA

2. Monthly rental PUPM (per user Per month) – charges associated with the use of the service

User Volume	Monthly Rental (per user)
15 - 999 users	fixed price/ available on request
1000 - 1999 users	fixed price / available on request
2000 - 4999 users	fixed price / available on request
5000 - 5999 users	fixed price / available on request
6000+ users	fixed price / available on request

Each user is assigned a voice tariff with 2000 UK Geo minutes & 2000 UK Mobile minutes (fair usage policy applies)

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3. Additional charges for number porting – charges associated with porting of numbers

Porting	Frequency	Charge
Porting Admin Charge	one off	fixed price / available on request
Order Rejection	one off	fixed price / available on request
Porting Change Date	one off	fixed price / available on request
Porting order cancelled	one off	fixed price / available on request
Out of Hours Porting: (Outside 08:00-16:00 Mon-Fri)*	one off	POA

* Excluding Bank Holidays

4. MACs – charges associated with Moves, Adds and Changes

MAC	Type	Charge In hours	Charge Out of hours
Add a user to the service (without Teams professional services)	Admin fee + No. of users	Fixed	POA
Microsoft Professional Services/ User changes (Non-complex)	Non-complex	Fixed	POA
Microsoft Professional Services (Complex) - Call Queue Changes, Auto-Attendant Changes, Policy Changes, New Configuration	Complex	POA	POA
Admin / Update emergency address associated with service	Non-complex	FOC	N/A

8. Microsoft Teams certified endpoints

We offer a range of Microsoft Teams certified endpoints and associated professional services including headsets, desk phones, conference phones, video conferencing systems and interoperability solutions for legacy video conferencing systems interworking.

This is a complementary service provided through us.

For more info, please visit [Microsoft Teams Devices Overview, Video Conferencing Devices](#)

9. Service and support overview

Our Microsoft Teams Direct Routing Service comprises of the following service areas:

These are described below.

- Deployment options
- Delivery
- Support / Faults
- Support / Customer Care
- Billing
- Moves, Adds and Changes (MACs)

Deployment options

We recognise that our customers have different requirements and in-house technical skills to support the on-boarding of this service onto Microsoft 365 and Microsoft Teams.

As a result, we've developed three deployment options to meet your specific needs and requirements, they are:

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Self-Serve

With customer self-serve you would be able to connect and on-board users at your own pace. We will provision the voice service for customer users and provide an indicative configuration guide that includes some suggested acceptance testing. You will be required to follow the provided Configuration Guide to enable their users for external calling.

Please refer to our customer Configuration Guide for more information on setting up Microsoft 365 environment and user provisioning.

Customer and Virgin Media Business Responsibilities

	What you do:	What we do:
After Purchase and before Implementation	<ul style="list-style-type: none"> Add the two Session Border Controller (SBC) domains to your Office365 tenant as per the Virgin Media Business supplied naming conventions Ensure there are sufficient Microsoft 365 licenses available for all users, Call Queues, attendants, and Common area phones As you have not opted for any deployment support you won't be required to provide access to your environment. 	<ul style="list-style-type: none"> We will work with you to agree delivery dates for any number provisioning We will provide you with an indicative configuration guide outlining the steps needed to set up the Direct Routing service and add users
During Direct Routing Service Provisioning	<ul style="list-style-type: none"> You or your nominated support partner must have the necessary authority, credentials and skill sets in Microsoft 365, Microsoft Teams and the Microsoft Team's PowerShell module to complete the full set-up of the Direct Routing Service You will need to take care of all Microsoft 365, Teams and Direct Routing configuration 	<ul style="list-style-type: none"> We will agree with you delivery dates for any number provisioning
Day of Go-Live	<ul style="list-style-type: none"> You must verify the service has been validated for two users who are able to successfully make and receive external calls. You must notify us on successful validation You will be responsible for testing the entire end to end solution. 	<ul style="list-style-type: none"> Once validated your service will commence and will be handed over to in-life support.

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Standard

With this service option we will configure and apply our predefined standard Direct Routing service settings. As part of this option we will configure and test two users to ensure everything is working as it should to allow you to proceed with on-boarding all of your remaining users at your own pace.

Customer and Virgin Media Business Responsibilities

	What you do:	What we do:
After Purchase and before Implementation	<ul style="list-style-type: none"> Add the two Session Border Controller (SBC) domains to your Office365 tenant as per the Virgin Media Business supplied naming conventions Ensure there are sufficient Microsoft 365 licenses available for all users, Call Queues, attendants, and Common area phones Nominate your suitably qualified representatives that will work with us during the delivery <p>As you have opted for Standard Deployment support you will need to provide:</p> <ul style="list-style-type: none"> A user account with Teams Administrator Role assigned Two user accounts and Credentials to complete service validation 	<ul style="list-style-type: none"> We will provide you with an indicative configuration guide outlining the steps needed to add users to your Direct Routing service
During Direct Routing Service Provisioning	<ul style="list-style-type: none"> You will need to take care of all Microsoft 365, Teams configuration You will need to complete all domain and user set-up in Microsoft 365 	<ul style="list-style-type: none"> We will configure a predefined standard Direct Routing service and will agree with you delivery dates for any number provisioning We will configure two test users with phone numbers and perform service validation
Day of Go-Live	<ul style="list-style-type: none"> As soon as the service is validated you will be able to go ahead and complete set-up for your Teams users You will be responsible for testing the entire end to end solution. 	<ul style="list-style-type: none"> Working together we will check the service is working by making inbound and outbound external call for both test users Once validated your service will commence and will be handed over to in-life support.

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Tailored

This service can take care of the entire deployment and or any other bespoke requirement which will be priced on application and discussed during qualification. This could include the migration from other phone system platforms like Skype for Business or legacy phone systems. Or tailored to support the set-up of call queues and auto attendants.

Customer and Virgin Media Business Responsibilities

	What you do:	What we do:
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">After Purchase and before Implementation</p>	<ul style="list-style-type: none"> • Add the two Session Border Controller (SBC) domains to your Office365 tenant as per the Virgin Media Business supplied naming conventions • Ensure there are sufficient Microsoft 365 licenses available for all users, Call Queues, attendants, and Common area phones • Nominate your suitably qualified representatives that will work with us during the delivery • Provide us with your requirements to feed into the configuration and policy settings e.g. Call, Queues, Auto-Attendant Routing, number presentation, customised and dial plans. <p>As you have opted for Tailored Deployment support you will need to provide:</p> <ul style="list-style-type: none"> • A user account with Teams Administrator Role assigned • As agreed a number of user accounts and Credentials to complete service validation • Ensure that all pre-requisites identified during any workshops are completed before our agreed dates 	<p>We will organise the discovery workshops with you which may cover the following:</p> <ul style="list-style-type: none"> • Overview of Standard Configuration setup • Gathering of your requirements and agreeing of a set of prerequisites • Identifying any additional configuration required that is different to our standard Direct Routing build • Agree and confirm the configuration that we will carry out • Identify needs for training requirements to perform the additional configuration • Discuss and agree the test and migration strategy • Run through our solution readiness checklist to ensure everything is in place and we're ready to start Direct Routing configuration.

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	What you do:	What we do:
During Direct Routing Service Provisioning	<p>Following the how-to remote technical session, your nominated technical representatives will configure</p> <ul style="list-style-type: none"> Any additional policies, users, Call Queues, Auto-Attendants and common area phones. Temporarily assign some of the new numbers to test any policies, users, Call Queues, Auto-Attendants, and common area phones created in readiness for migration of the existing numbers. 	<p>We will work with you to deliver the agreed scope of your requirements and complete the set-up and configuration of your Direct Routing service.</p> <p>Using the Teams Admin User account assigned to us we will configure the Standard Virgin Media Business Direct Routing service along with any additional configuration as discussed and agreed which may include but is not limited to the following:</p> <ul style="list-style-type: none"> Custom dial plans Auto-Attendants and Call Queues at the same time as demonstrating how to create more. Common Area phones policies Enable users for Teams Direct Routing with phone numbers Work with you to test the service, users and configuration applied
Day of Go-Live	<ul style="list-style-type: none"> Your responsibilities will be agreed and defined during the discovery sessions 	<ul style="list-style-type: none"> Working together we will check the service is working by following the agreed test plan. Once validated your service will commence and will be handed over to in-life support.

Customer and Virgin Media Business Responsibilities – High Level Summary

Activity	Self-Serve	Standard	Tailored
Tenant configuration	Customer	Customer	Customer /Virgin Media Business
User onboarding ¹	Customer	Virgin Media Business / Customer	Customer / Virgin Media Business ²
Delegated administration required	No	Yes	Yes

¹ Virgin Media Business configures and validates the service for two test users.

² Virgin Media business may assist with user on-boarding as per the agreed customer requirements

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Standard Direct Routing configuration includes the following:

- The Standard default voice service (PSTN usage)
- The Standard Voice Route and Voice Routing Policy
- The standard Tenant Dial Plan (normalised for UK dialling)
- For two Teams users you would allocate test telephone numbers, granting them access to the standard voice route and the standard dial plan.

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Delivery

Professional & Implementation Services

Introducing a cloud-based communications service can be transformational for a business. To ensure you get the desired deployment of the solution, Professional Services is critical within the pre-sales, consultation, build and adoption of the service.

You can purchase Professional Services, as necessitated by your needs:

Project Management: Our Project Managers ensure that your project is planned and delivered to the agreed scope, cost, quality, and timescale and in line with your benefits realisation plans. Our Project Manager will keep you up to date on the plan, progress, Risks, Actions, Issues and Dependencies at an agreed frequency.

Transition & migration: where required and on more complicated migrations; our Transition team will work closely with you on a transition strategy and test plan, and then during the delivery work closely with the project manager to ensure migration happens in the most optimum and least disruptive manner.

Installation: Our engineers and wider delivery teams will work on capturing and provisioning the service to your specifications, as well as porting and assigning numbers, and setting up end points on the hosted platform. Typically, user acceptance testing will be done at the main or first site location before deploying the rest of the services across all sites.

Go Live Support: On the day of go live, our go live support team will be with you either in person or virtually – to help users with common questions, help them get setup, and pick up on any niggles that may come up.

Diagram below describes steps undertaken to enable Direct Routing service.



Ahead of sale

During this stage you will be liaising with the account management and sales specialist team to scope out your requirements and to ensure you have chosen the appropriate deployment option described in section 10. Our Microsoft Teams specialist may also be involved in initial discussion dependent on your requirements.

This will consist of the following:

- Number of users needed to be enabled for Direct Routing

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- Numbering - i.e. New or ported DDIs incl. Non- Geo numbers if required
- Deployment approach i.e. 'big bang' vs phased migration
- In hours or Out of Hours Porting/ transfers needs
- Auto attendants, Call Queues , Meeting room systems etc. and or any other Microsoft Teams configurations you would like us to do on your behalf (please note this is only available if the Tailored deployment option is chosen)
- Microsoft Teams certified endpoints
- All other prerequisites described in section 5

We may need to arrange discovery sessions with your technical representatives during which we will produce documentation capturing your requirements if applicable.

Once your requirements have been fully understood our sales representative will issue you with an initial quote and once you are happy to proceed, they will work with you to populate an order form.

Next stop is contract documentation ready for signature.

On receipt of Signed Order

Once the signed order has been received it will be processed on our system and the delivery journey will begin.

Our sales representative will keep you updated on progress of it.

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Ahead of deployment

The following activities will be performed before your users will be provisioned for the Direct Routing service

Numbering Validation

Member of our telephony team will verify the numbering information captured on the order form and will be in touch if further clarification is needed. If all ok your order will be passed on to the Delivery team.

Prerequisites validation

Our order manager will contact you to verify that you have met all prerequisites, validate the order details and confirm you are ready to proceed. They will be your point of contact during delivery of your order.

Domain name management

During this stage we will generate and provide you with two domain names that will need to be added within your Microsoft 365 tenant and verified. These will be in the following format:

PRxxxxxxx.drSIP1.virginmediabusinessvoice.co.uk,

PRxxxxxxx.drSIP2.virginmediabusinessvoice.co.uk

As you go through the process of adding the domains you will be required to send us the two MS TXT records which subsequently will be added as our DNS entries. We will notify you once this is done, so you can complete the validation process and complete the Domain setup within your tenant. This step is fully described in the configuration guide we will provide you with.

Number management

During this stage we will order new, port or transfer numbers based on your requirement. For more information about our number management practices please refer to section 6 in this document.

Deployment

Service configuration and validation

Once you have confirmed the domains are successfully added to your Microsoft 365 tenant we will be ready to configure your Direct Routing service. This will include validation of the service at which point your service will be considered as active. If you are porting or transferring numbers to this service we will allocate temporary numbers in order to test the service is ready.

The testing validation and timelines associated with them will vary based on the deployment option you have chosen

For Self-Serve it will be your responsibility to configure the Direct Routing service in your tenant as per the configuration guide and to validate the service is live. Your order manager will check that you have completed this step successfully. At this point you have reached the Customer Promise Date and your service will begin billing. Please note if we are unable to reach you to confirm validation, we will assume the service is working as it should be and will commence billing.

For Standard we will configure your Direct Routing service in your tenant and two temporary users will be set-up and tested by our Microsoft Teams specialist. We will test and confirm successful completion of deployment. At this point you have reached the Customer Promise Date and your service will begin billing. Please note if we are unable to reach you to confirm validation, we will commence billing.

Microsoft Teams Direct Routing

For Tailored, in addition to the Standard option we will also complete the work as outlined in the agreed required configuration and timelines. We will test and confirm successful completion of deployment as outlined in the agreed scope of works. At this point you have reached the Customer Promise Date and your service will begin billing shortly.

The following test cases should be executed as part of any deployment of Direct Routing. These will be performed between you and Virgin Media Business for Standard and Tailored deployments (if agreed in the scope of works) and will be your responsibility for Self-Serve.

Microsoft Teams: Outbound Call to UK National or UK Mobile Number

Description	
Name	Teams User making outbound PSTN Call
Preconditions	User A: <ul style="list-style-type: none">- Microsoft Teams Client- Valid PSTN number linked to User A's Teams Account User B: <ul style="list-style-type: none">- Valid PSTN or Mobile Number in place that can be called and verified

Step	Description	Expected Result
1	With a Microsoft Teams client, User A places a call to the selected PSTN or Mobile device, User B	Ring Tone heard and answer
2	User B Answers the call	Speech can be heard in both directions User A's telephone number displayed on User B's device
3	Wait Approximately 10 seconds	
4	Clear the line on the Microsoft Teams client	PSTN or Mobile receives the call clear down

Microsoft Teams Direct Routing

Inbound Call to Microsoft Teams User

Description	
Name	PSTN/Mobile user calls Microsoft Teams user
Preconditions	User A: <ul style="list-style-type: none">- Valid PSTN or Mobile Number in place that can be used to make a call User B: <ul style="list-style-type: none">- Microsoft Teams Client- Valid PSTN number linked to User B's Teams Account

Step	Description	Expected Result
1	User A, With a PSTN line or Mobile phone place a call to the telephone number associated with your Microsoft Teams user, User B	Ring tone heard and answer
2	Microsoft Teams, User B, answers the call	Microsoft Teams client provides ringing before answer then answers the call User A's telephone number displayed on User B's device
3	Wait Approximately 10 seconds	Speech can be heard in both directions
4	Clear the line on the PSTN or Mobile side	The Microsoft Teams client disconnects from the call

Microsoft Teams Direct Routing

Call Placed On-Hold

Description	
Name	PSTN/Mobile user calls Microsoft Teams user and Hold placed
Preconditions	User A: <ul style="list-style-type: none">- Valid PSTN or Mobile Number in place that can be used to make a call User B: <ul style="list-style-type: none">- Microsoft Teams Client- Valid PSTN number linked to User B's Teams Account

Step	Description	Expected Result
1	User A, With a PSTN line or Mobile phone place a call to the telephone number associated with your Microsoft Teams user, User B	Ring tone heard and answer
2	Microsoft Teams, User B, answers the call	Microsoft Teams client provides ringing before answer then answers the call
3	Wait Approximately 10 seconds and execute Hold action from Microsoft Teams, User B, client	Music on hold heard on PSTN/Mobile line
4	Unhold the line from User B	Speech can be heard in both directions
4	Clear the line on the PSTN or Mobile side	The Microsoft Teams client disconnects from the call

Microsoft Teams Direct Routing

Microsoft Teams: Outbound Call to International Number

Description	
Name	Teams User making outbound PSTN Call to International Destination
Preconditions	User A: <ul style="list-style-type: none">- Microsoft Teams Client- Valid PSTN number linked to User B's Teams Account User B: <ul style="list-style-type: none">- Valid International Number in place that can be called

Step	Description	Expected Result
1	With a Microsoft Teams client, User A, place a call to the selected International Destination, User B	Ring Tone heard and answer
2	Call is answered	Speech can be heard in both directions
3	Wait Approximately 10 seconds	
4	Clear the line on the Microsoft Teams, User A, client	

Microsoft Teams Direct Routing

Microsoft Teams: Call Forward on Microsoft Teams

Description	
Name	Teams User with Call Forward Activated
Preconditions	<p>User A:</p> <ul style="list-style-type: none"> - Valid PSTN or Mobile Number in place that can be used to make a call <p>User B:</p> <ul style="list-style-type: none"> - Valid PSTN Number associated/connected to your Microsoft Teams user - Valid PSTN/Mobile Number activated as the Call Forward destination for the Microsoft Teams user

Step	Description	Expected Result
1	With a PSTN line or Mobile phone User A places a call to the telephone number associated with your Microsoft Teams user, User B	Call Forward activated on Microsoft Teams
2	Microsoft Teams user, User B, call forward activates to User B PSTN or Mobile number	PSTN or Mobile number starts to ring and shows the phone number CLI of the calling party
2	User B answers call on PSTN or Mobile phone	
3	Wait Approximately 10 seconds	Speech can be heard in both directions
4	User B clears the line	The Microsoft Teams client disconnects from the call

Handover

Customer Service Acceptance

At this stage you will be required to confirm to us that your service is working as expected. Our service delivery manager will request this from you.

Handover to Operations

Once we receive confirmation that the service has been accepted you will be handed over to our Operations Teams who provides in-life support.

Commencement of Billing

Final provisioning activity includes billing commencement. Please note in case of phased migration / porting approach the billing will start as soon as your first CPD (Customer Promise Date) is achieved

Support / Faults

In-life service

Once the order and testing has been completed, the service is handed over to our In-life teams. Billing will begin from this point and if you require support, you must follow the Customer Care Guidelines.

We recognise that support during the lifetime of the contract is of particular importance. Our Account Team will be providing full support with regular contact, which may include service review meetings reviewing performance and discussing future strategic options that align with your business outcomes.

Faults

Our Fault Management Centre (FMC) is our UK-based service desk for all Event, Incident and Problem Management activity, and is available 24x7x365. The FMC forms part of our Business Operations function and acts as the single point of contact for you across all technologies and solutions, and will own an incident from end to end, keeping you informed every step of the way. Our Incident, Event and Problem management activity aligns to best practice principles as defined within ITIL.

The FMC provide the following:

- Event Management
- Incident Management
- Problem Management
- Remote Diagnose and remediation (Fix)
- Jeopardy and Escalation Management
- Support of your Business Continuity and Disaster Recovery (BC & DR) plans

Additionally, within the Business Operations functions are three other teams, who provide support and guidance to the FMC on complex technical or security issues: the Business Operations, Technical Services and Security Operations teams.

Microsoft Teams Direct Routing

To deliver simplified support for our customers, we will provide you with a single number for all incident management enquires, and a unique PIN to ensure that your call is routed to the correct team first time.

Once the FMC support receive your call, an incident will be raised on our IT Service Management Tool (ITSM) Remedy with a unique incident reference number being assigned. The incident will capture all the pertinent details in relation to your incident, with an email being sent to you to confirm. That email will contain at a minimum:

- Name of users affected
- Start date and time of incident
- Circuit reference or component identifier (if applicable)
- Incident reference number

When logging an incident please also be prepared to supply information to help diagnose issues, for example:

- What is happening? Example: No audio / one way audio / break up of audio / delayed speech / echo / robotic / static noise?
- Is it on all calls or is it intermittent?
- Does it affect one single phone, a few, or all phones?
- Has the call been tried on another phone?
- Is the issue on incoming, outgoing or both?
- Does the issue happen on internal calls?
- What was displayed on the phone at the time of the call and afterwards?
- Are there any obvious patterns? Example: Always the same time of the day? Always when lots of people are taking calls?
- Has the internet connection been tested?

Once the incident is raised it will be allocated a suitably skilled and experienced Technical Support Analyst (TSA) who will be responsible for the technical investigation and management of your incident.

The TSA will be response for all initial and 2nd line technical investigation and for managing any other parties required to complete the investigation and resolution of the incident. This can include internal Network Management teams, engineering field teams and any third parties that are involved in the delivery of your solution (e.g., BT as an access tail provider).

In addition to the technical ownership of the incident, the TSA will ensure that you are informed and updated through the duration of the incident. We employ several methods of updates including phone, email, text and via our Customer Portal. The preferred method of communication will be agreed with you at the outset to best fit with your requirements and own operational routines. Even if the incident is passed to a third party to resolve, the TSA will remain your single point of contact ensuring you are updated in a timely manner, and as agreed on a per incident basis.

Throughout an incident all key milestones and activity will be recorded within our ITSM system (Remedy). Each milestone update will be logged, and time stamped to ensure a clear incident timeline is kept.

The procedure for reporting and co-ordinating a fault affecting service for you and the work, which will be undertaken to resolve it is outlined in the process in the Appendix.

Microsoft Teams Direct Routing

Pro-active Service Monitoring

Our SIP Trunking platform is monitored 24 x 7 x 365. The switches, routers, and voice gateways automatically generate alarms in the case of faults and our teams are on hand to triage the faults and resolve them as quickly as possible.

SLAs

Our service availability promise.

We pride ourselves on delivering high availability service and keeping the Microsoft Teams Direct Routing services up and running so you can continue with what you need to do. We've come up with a set of service availability targets for our Direct Routing services, so you know what to expect from us each month. We measure our performance in two ways, monthly downtime and the time for bringing you back online in the event of a problem, and in the event of a problem with the service which affects our service availability you can claim service credits.

Monthly downtime

The first way we measure service availability is by measuring the amount of outage time in a service period.

We work out service availability and outage time for each service period like this:

$$\frac{24\text{hrs} \times \text{days a rental month} - \text{Outage Time hrs}}{24\text{hrs} \times \text{days in a rental month}} \times 100\%$$

Where the service availability for the service is less than 99.999%, you can claim service credits as shown below. The applicable service credit is calculated by multiplying the charges for that service period by the applicable percentage shown below:

Monthly Uptime Percentage	Service Credit
< 99.999%	20% of monthly rental for the affected services in relation to the affected user(s)
< 98%	50% of monthly rental for the affected services in relation to the affected user(s)
< 95%	100% of monthly rental for the affected services in relation to the affected user(s)

Microsoft Teams Direct Routing

Bringing you back online

If a problem arises, we'll aim to fix it within the times shown in the table below:

Fault Category	Target Restoration Time
P1 Fault	6 hours (24/7)
P2 Fault	8 hours (24/7)
P3 Fault	1 working day
P4 Fault	3 working days

If you are unable to make or receive a call and we are unable to restore your service, you can claim service credits as shown in the tables below.

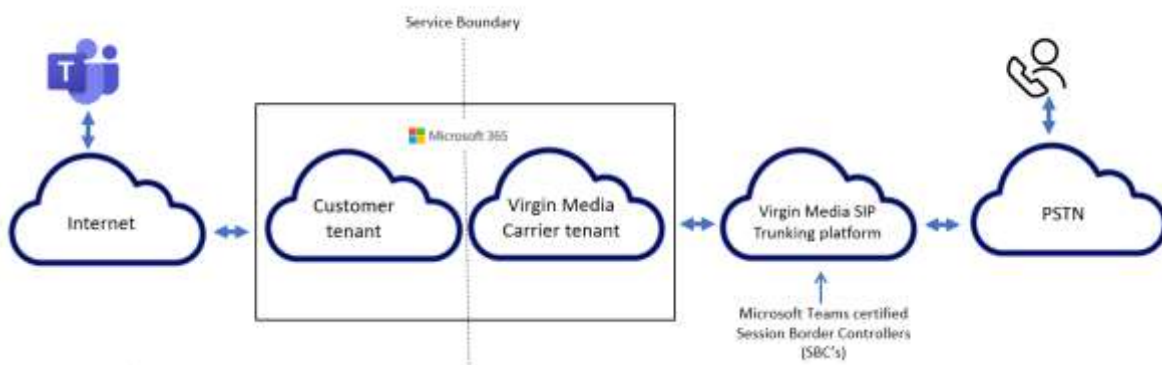
Service	Credit Scheme
Direct Routing	1 month's rental of the affected User(s)

For more information about our SLA's please visit this link
<<https://www.virginmediabusiness.co.uk/legal/terms-and-conditions/>>

Support demarcation

We do not support your tenant and any connectivity that supports your network. It's your responsibility to ensure you have the knowledge and experience to be able to maintain and update your own network components and their Microsoft Teams Tenant / Service. Virgin Media Business will support you with any issues that impact their service, where the fault is determined to be within our side of the network

Diagram below outlines the service boundary as described:



Microsoft Teams Direct Routing

Support / Customer Care

Our Customer Care team acts as a Single point of contact for all non-technical and customer services queries. Someone will be available to support Monday to Friday, from 8am until 6pm excluding bank holidays. Our solution will also provide you with a single 0800 number and unique PIN. This ensures that any calls made by customers are routed to the team straight away. This number will also get you through to the Fault Management Centre (FMC), should you need to log an incident or request an update on an existing incident.

As well as a dedicated telephone number, you can contact us via live webchat, or our online Customer Care Contact Form:

CONTACT FORM

Need a question answered or have a query?
Fill out the form below to begin your enquiry.

By entering your telephone number and email address, you're providing your consent for Virgin Media Business to contact you to discuss your requirements now and offers from time to time. You can opt out at any time if you change your mind. To view our privacy policy please click here.

WHAT'S YOUR QUERY?

My Services | Bill Enquiry
My Order | Technical Support

WHAT'S YOUR QUERY ABOUT?

Add services | Call features
Change billing name or address | Disconnect services
Move my access point | Moving premises
What services do we have?

Example Contact Form

Our Customer Care team also provides:

- Progress and clarify any billing queries
- Assistance with our online self- management portals
- Progress updates on orders and service requests including disconnections
- Support you with any Complaint management

Microsoft Teams Direct Routing

Lifecycle Management

Any planned changes made to our Network or to the components within the Microsoft Direct Routing service will follow our standard change process and you will receive a notification advising them of the changes being planned, any impact to service along with time of the change taking place

More information about change management can be found here:

<https://www.virginmediabusiness.co.uk/help-and-advice/technical-support/planned-outages-faqs/>

Moves, Adds and Changes (MACs)

Occasionally, you may want to perform a Move, Add or Change (MAC) to your Direct Routing service. Due to the flexible nature of the Direct Routing service, you can grow your users and implement Teams functionality.

If you'd like to:

Add Users to the Service: You can purchase additional users by a new order form. The users can be co-termined with the existing contract end date if required. You may elect to add the users into Teams yourself or opt for a professional service to complete on your behalf.

Take Microsoft Teams Professional Services: We offer a range of professional services for Microsoft Teams specific to Direct Routing. This ranges from simple implementation or changes to user to more complex Call Queue, Auto-Attendant and Policy configuration. This can be requested through your Account manager and may require some scoping activity depending on complexity of the requirement.

Change Emergency Address: You can request a change to the Emergency Address of the service via our Customer Care team. This will be applicable across your Direct Routing estate and needs to a valid address as per the Royal Mail database.

Stopping your Service

All cease requests should be placed through the Customer Engage Portal

www.virginmediabusiness.co.uk/engage

Or

Submitted online via our Customer Care form

<https://www.virginmediabusiness.co.uk/help/s/contactus-form>

Once submitted you will receive an automated response and a unique identification number specifically for the cease request. This number should be used when making any enquiries about progress

Microsoft Teams Direct Routing

Billing

You will be billed for the following elements:

- Monthly Charges
 - Monthly recurring rental charges for subscriptions and service add-ons, billed in advance.
 - Monthly call tariff based on usage related charges, billed in arrears.
- One off charge such as Professional Services, Deployment Option charges, Number Management charges, in life change requests (MACs), or Early Termination Charges

All billing queries are handled by our Customer Care team who can work with our Billing teams to support.

Note: Professional services and One-Off charges will typically be billed separately to your monthly recurring charges in line with specific orders.

MyBill Portal

My Bill is our online portal where you can log in to view your bills, report, analyse and manage cost centres. For more information and support to get started click [here](#)

MyBill is our useful, simple to use online billing application that's available to all our customers. Once you've registered, you'll be able to view all your invoices in one place, as well as being able to see vital cost breakdowns and comparison graphs via the clear and intuitive MyBill dashboard.

- Instant access - View your invoice online as soon as it's available, with email notifications as standard
- Access your history - View up to 13 months of historic invoices
- Create and download - Choose a variety of reports based on your invoice data and choose the format you find most convenient
- Print - PDF copies of your invoice can be printed at any time
- Multiple accounts - View multiple accounts simultaneously

More information can be found here - [MyBill \(virginmediabusiness.co.uk\)](https://virginmediabusiness.co.uk)

10. Support content

Further information can be found here:

Virgin Media Business O2 Direct Routing

<https://www.virginmediabusiness.co.uk/applications/Cloud-Collaboration-VoIP-solutions/Direct-Routing/>

Billing & Payments

<https://www.virginmediabusiness.co.uk/help-and-advice/bills-and-payments/>

11. Glossary

Acronym	Definition
Auto Attendant	Is a way to route inbound calls to your business. Use auto attendant to let your callers interact with the automated voice menus you define, and self-direct the calls without requiring any manual operator or receptionist. You can plan what you want your callers to experience when they call your company, define schedules and rules, and set up professional greetings for your business
Call Queue	Call queues provide a method of routing callers to people in your organisation who can help with a particular issue or question. Calls are distributed one at a time to the people in the queue (who are known as agents)
Carrier	A communications company that provides services such as telecommunications and internet
CLI	Calling Line identification
CUPID code	3-digit administrative codes used to identify Communications Providers
DDI	Direct Dial Inward is a service of a phone company that provides a single or block of telephone numbers for calling into a company's Private Branch Exchange "PBX" system.
Device	Any purchased Equipment such as Microsoft Certified end point
Dial Plan	A dial plan specifies how to interpret phone number sequences dialed by a user and how to convert them into an ITU-T E.164 normalized outbound dial string. Dial plans can be used to include country codes and area codes, support extension-based dialling, correct the numbers from an external entity, and more.
ECT	European Computer Telecoms – Inbound Platform that manages non-geographic numbers
FMC	Fault Management Centre
IP	Internet Protocol
ISDN	Integrated Services Digital Network

Microsoft Teams Direct Routing

Acronym	Definition
LoA	Letter of Authority
MAC	Moves, Adds and Changes
Microsoft 365 Tenant	A dedicated instance of the services of Microsoft 365 and your organisation data stored within a specific default location, such as Europe. It is required for enablement of the Direct Routing service
PBX	Private Branch Exchange
PSTN	Public Switch Telephony Network
SBC	Session Border Control
SIP	Session Initiation Protocol
Site	A physical location(s) where the Direct Routing service runs over the Virgin Media Business data centres
TDM	Time-Division Multiplexing
TLS	Transport Layer Security it is using encryption to protect the transfer of data and information.
User	Direct Routing license associated with a DDI. Can be assigned to a person or virtual user i.e. call queue or Auto Attendant

12. Appendix

Fault Process Chart



Sales Representative Responsibilities

Below outlines the responsibilities of our sales team.

Account Manager

- It is the responsibility of the Account Manager to maintain good relationships with you to ensure that we meet the requirements placed upon them by the terms of each contract. The Account Manager is responsible for expanding the facilities offered by us in line with new business opportunities.
- Creating a business account plan which best reflects your needs to support your strategic and tactical objectives.
- Liaison with you at senior management level.
- Attendance at strategic reviews.
- Continuously monitoring the performance and progress of the account against the agreed plan, responding proactively to any deviations.
- Communication of quotations and lead times for new services.

Account Support Executive

The Account Support Executive (ASE) works alongside the Account Manager and facilitates contact between you and our internal service-providing departments.

- Handling sales and account-related enquiries from you
- Providing an additional interface between you and us
- Installation/Provisioning departments and technical teams.
- Supporting the Account Manager in ensuring a successful client relationship.
- Engaging with Customer Care Desk team throughout the contract term.

Voice Sales / Microsoft Consultant Engineer

The Voice Sales Specialist supports the Account Manager with the technical queries relating to a proposed solution to ensure we are providing the best solution for you.

- Joining your internal calls as a Subject Matter Expert in the proposed solution.
- Ensure you have a full and clear understand to the capabilities of a Direct Routing and the benefits they receive from it.
- Providing confidence to you that your requirements can be met and advising of any variation from current practice.
- Perform demonstrations where available to showcase the solution from an Admin and End User perspective to bring the product to life.
- Engage with technical teams for tailored option

Thank you

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BUSINESS