



smartnumbers direct connect

Service Description

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Intended purpose This guide provides details of the features provided by smartnumbers direct connect.

Intended audience This guide is intended for prospective purchasers and administrators of smartnumbers direct connect.

Conventions used This guide uses the following format for tips and additional information:



Additional information relating to the current section.

1 SERVICE OVERVIEW

The smartnumbers direct connect service helps large dispersed organisations achieve greater operational agility and resilience from their inbound voice services, and the opportunity to achieve significant cost saving through infrastructure rationalisation.

The smartnumbers direct connect service ensures that during periods where buildings or offices become inoperable or inaccessible, or when the communications link to the serving local telephony exchange (the DLE) is lost, incoming voice, fax, and data calls continue to be delivered DDI by DDI to alternative phone numbers.

This service achieves the above through the extension of the smartnumbers cloud to the customer's network. This removes the costs and constraints associated with voice services delivered over traditional Euro ISDN (Q931) channels using DDIs from a single or dual parented local exchange (DLE).

The smartnumbers direct connect service can also be used to deliver other smartnumbers services to the enterprise's voice network. In addition to improved resilience, a further significant benefit of this service and the wider smartnumbers family is the organisational agility it enables. As required, staff can work from any location at any time and continue to receive their calls wherever they choose to work from - without the typical costs associated in achieving this.

This flexibility enables major change programmes such as Estate Rationalisation; Hot-desking or Home working to be realised simply and quickly as demand dictates.

Furthermore, the services provide the capability to adopt a single number plan across all properties across the UK.

- **Inbound voice, fax and data call delivery** – each call made to the customer's DDI number range is delivered onto the customer's telephony network direct from the smartnumbers network - presented as n x E1 trunks (DASS2, Euro ISDN(Q931), SIP or DPNSS). The customer's internal telephony services have the responsibility to deliver calls to the telephone handset or to apply alternative call treatment.
- **Automatic re-direction of voice, fax and data calls** – the service has an automatic failover capability which diverts inbound calls to a secondary location whenever a network outage is detected.
- **Dial plans** - calls can be delivered to alternative national or international phone numbers DDI by DDI. The customer can create multiple dial plans for different scenarios. Up to five dial plans can be loaded into the service for activation at any time. Additional plans can be held offline.
- **Smart Business Portal** – the Smart Business Portal provides you with a convenient and secure way to manage all your voice continuity services.
- **Dial plan selection** – should staff be prevented access to offices or some other incident an authorised person can re-direct calls by simply calling the Business Continuity Administration service from any touch-tone telephone or by using the Smart Business Portal. This service presents a simple menu to dial plan selection
- **Personal override** - enables organisations to empower an individual, e.g. a manager or executive, to override the dial plan selection made by the Authorised Contact.

- **Linking to external services** - Other smartnumbers services can be linked to dial plans by entering the associated phone number into a dial plan. These services are priced and sold separately and include announcement services, voicemail, fax-to-email, and simple ACD services.

2 SERVICE DESCRIPTION

This section details the capabilities and features available with smartnumbers direct connect.

2.1 Normal operation

The service will deliver voice, fax or data calls from the network to the customers network through one or more smartnumbers Network Termination Units (NTU). Multiple NTUs are recommended for maximum resilience.

2.2 Automatic re-direction of voice, data and fax calls

The service has an automatic failover capability that re-attempts call delivery of inbound calls through an alternative site whenever specific network events are detected. These events are the following:

- Number Unobtainable (NU)
- Congestion
- Unknown (not NU, Congestion, No answer, Busy or Accept)

The service will also failover if there is an on-site equipment failure detected.

► *For more information, see "Excess Construction Charges (ECC) " on page 8*

Table 1: Single and multi-site features

Feature	Multi-site	Single site with diverse routing	Single site without diverse routing
Failover to another direct connect site	Yes	No	No
Site protected for single network cable failure	Yes	Yes	No
Automatic failover	Yes	Manual to dial plan	Manual to dial plan
Inbound voice and fax	Yes	Yes	Yes
Smart Business Portal	Yes	Yes	Yes
Dial plan selection	Yes	Yes	Yes
Personal override	Yes	Yes	Yes
Linked smartnumbers services	Yes	Yes	Yes

2.3 Dial plans

Dial plans provide alternative diverting of all calls if the normal delivery divert is inoperable.

Calls can be delivered to any alternative national or international phone numbers DDI by DDI. Multiple dial plans can be created for different scenarios. Up to five dial plans can be loaded into the service for activation at any time. Additional plans can be held offline.

2.3.1 Dial plan selection

The Authorised Contact can change the active dial plan from any telephone or web browser at any time, enabling the customer to adapt appropriately as events develop.

For example, initially, calls may be diverted to an announcement service while staff make their way to alternate locations. When staff have arrived at the alternate locations, or after a chosen period, a new plan may be selected which ensures staff will be offered their own calls.

2.3.2 Business Continuity Administration service

The Authorised Contact accesses the Business Continuity Administration service from any telephone using the Access Number, service ID and password provided by the Service Desk.

The Authorised Contact will then hear the service menu which is used to control the delivery of calls.

"Welcome to the Business Continuity Administration Service"

"Your calls are currently being diverted normally"

"To deliver calls normally, press 1"

"To deliver calls to your secondary destination, press 2"

"To deliver calls based on a dial plan, press 3"

By pressing the corresponding number option on the handset, new calls will instantly begin to follow the new call divert plan. Where the dial plan option is selected, the following additional options will be heard.

"Plan 1 is the current active plan"

"To select a plan, press the corresponding number on your keypad, from 1 to 5"

2.3.3 Smart Business Portal

The Smart Business Portal provides administrators with a convenient and secure way to manage the service or services. The portal enables administrators to review and edit dial plans, and authorise other administrators to access the portal.

Dial plans are used to divert calls off-net should the need arise. Plans are created and changes managed using the Smart Business Portal. Bulk changes can be made offline using an Excel spreadsheet, and submitted to the system using the Smart Business Portal.

A typical set of plans could be:

- Should normal call delivery onto the internal voice network become compromised divert to dial plan 1, which routes all calls to an announcement service to inform callers of disruption and reassure them of resumption of service.
- After staff have moved to a DR site, divert calls to the emergency phone numbers specified in dial plan 2.
- If staff cannot reach the DR site, divert calls to mobile or home phone numbers specified in dial plan 3.

2.3.4 Personal override

The service enables customers to empower an individual (e.g. a manager or executive) to override the dial plan selection made by the Authorised Contact.

This capability enables these individuals to “pull” calls to their current location. For example, in the situation where the Disaster Recovery (DR) site cannot be reached during a disruptive event, an authorised individual can override the phone number specified in the active dial plan for a phone number of their choice.

Calls to their DDI will then be delivered to the individual wherever they are. Individuals who have been given this capability simply dial their Personal Business Continuity service phone number, authenticate themselves through a user ID and password and define their alternative phone number using the simple menu. Where the CLI can be detected the service will offer this phone number as the new phone number to deliver all calls to.

2.4 Routing calls to other voice services

Dial plans must be populated with phone numbers. Phone numbers can point to any handset (fixed, mobile, IP) or another service for onward call treatment, such as an announcement service.

The smarnumbers platform provides a range of services, ordered separately, including:

- **Announcement** - this service provides a customer defined update message to callers in the event of an emergency. Typically this service is used during initial invocation of the service when staff may be unable to receive calls.
- **Personal voicemail** - during building evacuation, it is important that no incoming calls from customers are lost. A messaging service can be provided to automatically capture missed calls for each member of staff and deliver to the individual as a .wav file in an email.
- **Fax-to-email** – For users who receive and process information delivered as a fax, a fax-to-email service is provided which relays faxes into an individual's email inbox.
- **Team (ACD)** - where DDIs normally front an ACD, a team service can be used to distribute incoming calls to co-located or dispersed agents.

2.5 Online help and supporting documentation

An Administration Guide provides the essential information on how to use the service.

2.6 Password policy



Passwords cannot begin with zero.

Each user is allocated a unique ID and a password these are used to control the service. Authorised Contacts can change the password by calling the Service Desk.

3 SERVICE MANAGEMENT

This section provides information about the management aspects of smartnumbers direct connect.

3.1 Service Desk

The Service Desk provides a single point of contact for all requests for assistance in the use of the service. All requests must be made by the Authorised Contact.

- **Provisioning** – the Service Desk provisions the services on behalf of the customer.
- **Moves and changes** – the Service Desk facilitates any changes to customers' details or service.
- **Fault reporting** – faults can be reported to the Service Desk either by calling a dedicated phone number or sending an email to receive a case number.
- **Fault diagnosis and resolution** – the Service Desk will investigate and resolve all faults reported.
- **New orders** – the Authorised Contact can call the Service Desk directly to place requests for additional orders as required.

The terms of the Service Desk are specified in the customer terms and conditions.

3.1.1 Priority call handling

When a customer has an incident and invokes the service there may be a need to seek assistance from the Service Desk. The Authorised Contact can call the Service Desk and request priority call handling to:

- Change dial plans
- Seek assistance in understanding capabilities
- Reset passwords
- Clarify call routing
- Report faults

3.1.2 Engineer visits

Network engineers visiting Customer premises will do so only with a prior appointment made with the Customer's authorised contact.

Network engineers are not able to undertake work beyond the original purpose of the visit without written authorisation from the Customer contact, except for operational or safety reasons.

3.1.3 Excess Construction Charges (ECC)

Excess Construction charges will be raised, in addition to normal connection charges, where additional infrastructure is provided to give new or extended service at a Customer site or other requested location where the service provider would otherwise not choose to extend its network on the basis of normal commercial criteria.

Excess Construction Charges also apply to Line Plant Rearrangement work.

Excess charges apply to situations, including provision to a new location within the customer's site, and can apply where existing capacity needs to be increased.

When service is requested and additional infrastructure is required or line plant rearrangement is requested, a survey will be carried out and charges will be individually assessed. These charges are in addition to the standard connection charges which apply for the applicable service.

By way of example, charges apply in the following non-exhaustive circumstances:

- Breaking/Drilling through a Wall
- Provision of other building entry points (e.g. underground through floors)
- Cable (fibre or copper) installed into duct, buried or installed on poles including any jointing required
- Copper cable supplied for the Customer to lay to agreed entry and termination points
- Directly buried armour cable (in addition to cable charges)
- New Ductwork (including jointing boxes and any wayleave costs)
- Trunking and tray work within the Customer's site
- Provision of a new footway box on an existing duct divert to connect to the BT network

Every attempt will be made to deliver Direct Connect using diversely diverted links from the network to the customer's premise. However the provision of the diverse divert may be subject to Excess Construction Charges. Should the customer not wish to incur these Excess Charges, the Direct Connect service can still be provided with a single divert to the network.

► *For more information, see "Automatic re-direction of voice, data and fax calls" on page 5*

3.2 Dial plan activation and selection

The Authorised Contact can invoke a dial plan at any time by calling the Business Continuity Administration service phone number, entering the correct user ID and password, and then following the menu options.

Calls to the original dialled phone numbers will be re-diverted based upon the pre-defined dial plan selected.

When dial plans are active, and should the customer chose, individuals can be empowered to override their personal settings and "pull" calls to their current location.

4 PROVISIONING

On receipt of a valid order the provisioning team will liaise with the nominated authorised customer contact to provision the service.

A project plan will be agreed between the service provider and the customer that defines the planning, delivery, installation, commissioning and testing of the service.

The authorised customer contact will either:

- Choose a phone number type. The available phone number types are non-geographic (0844 and 0800), or geographic (e.g. 0203, 01285 etc)
- In order to continue to use existing DDIs, agree to Block Transfer (or Port) their phone numbers to the service.



Block Transfer and Porting are standard processes whereby the published DDI's are elevated from the serving local exchange and transferred to the service network. The Porting process retains a dependency upon the serving exchange whereas the Block Transfer process does not.

Not all DDIs are suitable for Block Transferring or Porting.

The authorised customer contact will be asked to provide user information required to build the service. A provisioning form will be sent out to capture this information.

Once provisioned, the authorised customer contact will be informed that the service is ready for use.

The authorised customer contact or the users themselves will receive electronic copies of the user documentation and notification of user IDs and passwords.



For security purposes passwords should be changed immediately following the instructions provided.

Additional information for any site visit may include:

- Customer Contact Name and phone number
- On-site contact name (where a visit is required)
- Floor and room number (Where a visit is required)

For smartnumbers Direct Connect orders, engineering visits and site surveys will always be required. The service provider will agree the contractual Customer Delivery Date (CCD) with the Customer before work is committed.

Engineers will carry out the work detailed on the order at the Customer's premises.

Variation to the order will not be accepted by on site engineers.

4.1 Service delivery

The smartnumbers direct connect service is provided, subject to survey, to any Customer, provided an appropriate network service can be made available. The service provider reserves the right to deliver the smartnumbers direct connect service over whichever delivery mechanism is the most appropriate to provide the service.

Charges for additional infrastructure to the network and specially provided network duct will be raised subject to site survey in accordance with the service providers price list.

Where available Customers may specify, at their own additional cost, to use the following options to increase resilience of service to particular sites: Diverse or Alternative Routing.

4.2 Project Plan

The customer and service provider will work to a Project Plan that will provide all the time lines and activities that are required by both parties to deliver the service.

5 TECHNICAL REQUIREMENTS

This section provides information about technical requirements of smartnumbers direct connect.

5.1 Site equipment

The service requires the deployment of equipment onto the customer's premises. This on-site equipment provides direct connectivity between the customer's voice network and the PSTN DMSU/DJSUs. For resilience purposes it is recommended that equipment is deployed onto multiple sites in case of site power failure or disruption to service caused by connectivity issues. Optimum configuration typically uses equipment deployed onto three sites, although this can vary.

5.1.1 Service presentation

The service will deliver voice, fax or data calls to national or international dialled phone numbers.

Interconnection between the DMSU/DJSUs and the customer's network is made through smartnumbers Network Termination Units (NTU).



The connection from the smartnumbers NTU to the customer's equipment or network must be provided and maintained by the customer. Refer to section 5.2.4 for connection type.

The NTU feature set is as follows:

- **Protocols supported:** Euro ISDN (Q931), SIP, DPNSS, DASS2
- **CLI:** Passthru
- **Link Clocking:** NTU provides
- **Channel Selection:** Low to High (DPNSS / DASS2), High to Low (ISDN(Q931) / SIP)
- **Link Selection Options:** Low to High, High to Low, Most Idle

5.2 Environment

The equipment to support the smartnumbers direct connect service must be contained in a stable temperature controlled operational non condensing environment. Specific environmental requirements for the smartnumbers direct connect equipment will be supplied to the Customer upon completion of the site survey.

5.3 Housing and power requirements

Customer provided 19" rack with cooling and power.

Minimum space and power requirements for 8 E1s (240 channels) is 18U and 0.379 KVA.

Each additional NTU, supporting an additional 8 E1s, consumes an additional 2U space and 0.179 KVA power.

Housing and power requirement figures should be used for guidance purpose only. Space and power requirements will be subject to a site survey.

Power failure of AC power will result in loss of service. Customer provided independent standalone batteries or a UPS system is recommended.



Back-up power arrangements must be covered by the customer's own service contracts for provision and in life service.

These technical specifications exclude the equipment provided by the service provider to deliver the voice circuits to the NTU and which are subject to a service provider site survey.

5.4 Capacity

There is no direct correlation between the number of channels and the number of DDI extensions owned by the customer.

Each channel can carry one simultaneous call.

Each NTU has a maximum of 240 presentation channels

There is no limit to the number of NTUs that can be deployed.

5.5 Connectivity

Each NTU offers the following connections:

8 x RJ45 DPNSS or Euro ISDN(Q931) or SIP or DASS2

6 ADDITIONAL SERVICES

This section provides information about additional features and services of smartnumbers direct connect.

6.1 Assistance for people with impairment

smartnumbers is a service that provides inbound calls to an organisation, and does not provide any on-site telephone equipment. However, BT has a range of services that can assist people with impairment.

- ▶ *For more information, refer to: <http://www.bt.com/includingyou/help-support-accessibility-commitment.html>*

6.2 Directory services

A number, or prime number, within the number range allocated to a Customer and with the Customer's agreement will be submitted to the Directory Enquiries database along with full Customer address details. All this information is made available in BT's Directory Enquiries and all other Directory Enquiry channels.

Entries into the Directory Enquiries database are as follows:

- **Full Directory Entry (DE)** - Ensures contact details are listed in all BT's Directory products and services.
- **Directory enquiries only (DQR)** - Removes details from printed directories but retains them on Directory Enquiry services. This option prevents disclosure of the customer's address.
- **Ex-directory (XD)** - Removes details from published directories and prevents phone numbers being divulged through directory enquiry services.
- **No enquiry record (NQR)** - Any phone number with a "non-telephony" use will be omitted from the Directory Enquiries database.

smartnumbers does not include the provision of directory Phone Books.

BT or its suppliers cannot be held responsible for any inaccuracies in the directory enquiry information published by any other entity.

6.3 Call Line Identity (CLI) for 999 calls

The 999/112 service enables BT to fulfil its licence obligations to allow callers to reliably access the emergency authorities (Fire, Police, Ambulance and Coastguard) on a voice call, and additionally provide the caller's location information to the Emergency Authority. A critical requirement is the provision of a CLI to the 999 operator that can be traced back to the originator of the 999/112 call.

When porting or block transferring a phone number to the smartnumbers service, customers must ensure that the CLI number used is changed to the number range that is configured for their outbound calls.

7 INTRODUCTION TO RESILIENT PLC

Resilient plc is a long standing UK SME which provides cloud-based smart voice services.

Our smartnumbers portfolio of services helps organisations to improve business agility and business continuity by changing the way inbound calls are delivered to the organisation and its people.

These services are used by an impressive list of customers both in the public and the private sectors:

- The UK Ministry of Defence has over 40,000 people using smartnumbers to support flexible work-styles.
- Most of the UK's Fire Services and the largest ambulance services use smartnumbers for resilience.
- Local Authorities, Health Trusts and Police Forces use smartnumbers for backup and emergency call diversion.
- Every UK high street bank uses smartnumbers for resilience and call distribution.
- Over 350 leading financial services companies trust smartnumbers
- 7 of the top 10 global investment banks use smartnumbers for resilience and call distribution
- Cisco uses smartnumbers to ensure call continuity to their headquarters office.

Delivered from the cloud, there is no hardware or software to deploy to enhance your existing telephony investment. We manage and measure customer services through UK-based teams and scale according to customer needs.

The vast majority of organisations work with us on a multi-year basis, reflecting their trust in our smartnumbers service as well as the professionalism and reliability of our solutions.