

Voice Switchover Process

KCOM's Hull and regional services: Migration plans for voice (PSTN) and integrated voice and digital data (ISDN2 and 30) services from legacy circuit-switched systems (System X) to our next generation IP-based infrastructure

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1 Important Notice

This document is issued to alert you to changes taking place that will have an impact on you and your end customers. Please ensure that you understand the contents and relay the relevant information to your end customers.

2 Introduction

KCOM has been working to upgrade its circuit-switched infrastructure, which is used to provide voice (PSTN) and integrated voice and digital data (ISDN2 and 30) services. This upgrade will require the migration from our legacy circuit-switched systems ("System X") to our next generation IP-based infrastructure. We intend to migrate our customers across Hull and East Yorkshire to the new network from October 2020, starting with a trial migration of all customers served by our Beverley exchange.

As we commence the closure of System X this guide sets out the phased approach that we are adopting. It therefore helps you to understand the near-term activities with migrations at our trial exchange and the subsequent migrations from our System X switches at all our remaining exchanges. In short, we are planning for System X switch off to proceed on an exchange-by-exchange basis with each of the exchanges being notified to our wholesale customers individually on successful completion of the Beverley trial migration. We will monitor progress throughout the migration period, capturing lessons learned for the progression of future migrations. Completion of all migrations is currently scheduled for December 2021.

There is no option to opt out of the Beverley trial; if you have working PSTN and integrated voice and digital data (ISDN2 or ISDN30¹) circuits operating from the Beverley exchange your customers will be impacted by the switchover process. Our expectation is that the existing customer base (wholesale and retail) served by the Beverley exchange will be migrated within 6 weeks of commencing the trial in October 2020.

Where deployed, we will continue to utilise the copper delivery for the end connection. Further communications will be issued when plans have been developed to switch all end customer connections to fibre but this activity is beyond the scope of this document.

This document outlines the key principles and behaviours expected to support the migration of lines from System X voice switching to the IP switched products providing guidance with specific focus on service changes and options post the migration if issues have been identified.

We will work closely with Communications Providers (CPs) and industry stakeholders to capture and review any feedback and learning throughout the initial migrations.

¹ See section 5.4 below. During the initial phases of migration ISDN30 services will be moved to a dedicated System X switch. Only in the later phases of migration activity will these services be migrated to our IP infrastructure. Separate engagement with CPs will take place in relation to our ISDN30 activities.

3 Terms of reference

End customer	The customer receiving the service(s) at their premises from the Communications Provider either directly or onward supplied by a special service provider.
Communication Provider (CP)	CP (including wholesale resellers) supplying a service to their end customer.
Special service provider	A supplier providing an additional over the top service to the end customers service e.g. health, alarm services, terminal equipment providers etc.
Business customers	Where services are supplied to retail business end customers in the business segment.
Residential customers	Where services are supplied to retail consumer end customers in the consumer segment.
Industry groups	Industry organisations such as utility companies who do not supply a telephony service direct to end customers but consume a service to manage their end customers.

4 Key dates

It is currently planned that the Beverley exchange migrations will commence in October 2020 and is expected to complete within six weeks.

Subsequent migrations are currently envisaged as set out below but it should be noted that these will be subject to change based on feedback from the initial Beverley trial. Initial notice for each exchange will be provided six months before planned migration with reminders at two and one-month intervals before migration.

High Level Migration Plan - Subject to Variation Based on Experience with Initial Trial Deployment								
KCOM Notifications and Reminders and Current Planned Migration Timetable								
	Q1 /20	Q2 / 20	Q3 / 20	Q4 / 20	Q1 / 21	Q2 / 21	Q3 / 21	Q4 / 21
Beverley Exchange 'System X' Migrations	Initial Notice	Notice : 2 months / 1 month / pre migration	Commence Oct' 20 / Deployment Period 6 weeks					
East Exchange 'System X' Migrations		Initial Notice	Notice : 2 months / 1 month / pre migration	Commence Dec' 20 / Deployment Period 19 weeks				
Newlands Exchange 'System X' Migrations			Initial Notice	Notice : 2 months / 1 month / pre migration	Commence Apr' 21 / Deployment Period 13 weeks			
West Exchange 'System X' Migrations				Initial Notice	Notice : 2 months / 1 month / pre migration	Commence Sept' 21 / Deployment Period 16 weeks		
Civic Exchange 'System X' Migrations						Initial Notice	Notice : 2 months / 1 month / pre migration	Commence Dec' 21 / Deployment Period 11 weeks

We will utilise existing contact information in all instances for advanced planning and day-to-day issue resolution. However, we also recognise that the Beverley trial and subsequent migrations will present migration scenarios that need additional technical support and these will be addressed on a case-by-case basis. We will work with CPs on these. If there are any particular concerns that CPs have, we will be happy to review these with you and work to manage them.

There should not be any requirement for end customer visits by us during the migrations. Our engineers will have clear guidance to follow for all migration journeys. This includes emergency roll-back measures in the unlikely event that service restoration is required to the legacy switch infrastructure. These processes will be in place in order to minimise any end customer disruption. Please note that, for new orders, where copper is not in situ within premises, KCOM will only deploy fibre voice services as a default, thus avoiding unnecessary new copper line plant being provided. We will liaise with wholesale customers, (including wholesale resellers), special service providers and industry groups to improve the migration experience for their end customers, specifically to identify:

- a. before or at the time of migration (where possible), lines that have special services or devices connected to the PSTN and ISDN lines;
- b. end customers who are deemed to be vulnerable and require additional support through the migration experience;
- c. lines that are used to supply services for Critical National Infrastructure; and
- d. businesses requiring additional support (including out of normal hours work).

The objective is to make sure any such information is shared with the relevant parties / suppliers, providing that the correct customer permissions have been obtained to allow pre-checks.

5 General principles and behaviour

Although there should only be a brief interruption to service, scheduled for off-peak hours, there are certain issues that need to be considered.

5.1 Migration principles – Protecting the end customer

In order to minimise any end customer disruption during any migration the following principles need to be applied by all. Please note that any emergency call activity on the target exchange will be monitored to ensure these calls are uninterrupted.

In the event of any issues being identified as a result of migration activities, the KCOM faults desk can be contacted on **01482 602151**.

While it is the responsibility of each CP (including resellers) to produce their own retail customer communications, we thought it helpful to highlight certain key points for your consideration when doing so. These are set out below:

- In general, you follow a common script, one written for your consumer end customers and one for your business end customers.
- The form and content of the individual communication is tailored to the end customers that you have, with special attention paid to communications sent to, and engagement with, vulnerable customers.
- That you send communications to each end customer at appropriate points in time (e.g. six months, three months, one week) alerting them to the technical change and the impacts (actual and potential) for them. Therefore, it is important

that residential and business customers with third party equipment that rely on their phone line to function (e.g. monitored burglar alarms, telehealth services, business terminal equipment, etc.) contact their vendor to ensure ongoing compatibility of any special services they may have.²

- CPs (including wholesale resellers), special service providers and industry groups have a responsibility to proactively identify PSTN and ISDN lines that have additional services. Importantly,
 - All providers should work closely together and share information as required
 - All providers should make information available to the end customers about the services they supply and what they should expect from the process
 - CPs (including wholesale resellers) should perform pre-order compatibility checks with end customers / third party suppliers.
- All providers should have dedicated points of contact to help with issue resolution throughout the migration process (in our case it is 01482 606101)
- In advance of any visit or migration taking place the CP should understand the impacts on end customer equipment (CPE).

5.2 Compatibility check

CPs (including wholesale resellers), special service providers and industry groups have a responsibility to proactively inform their end customers about the planned change to their existing PSTN and ISDN2 services.

The key steps that are expected from all parties to make sure the end customer has the best possible experience during the migration activity are:

- Provision of clear guidance to your end customers, advising them of the next steps, what actions are required of them and by when; and
- Supply of contact information including an escalation point of contact to help the end customer resolve any issues resulting from the migration.

We undertake to make sure where possible that the service is fully operational. If necessary, we will restore the legacy service based on its regression criteria.

5.3 Residential customers

It is important that CPs understand their residential end customer requirements, identifying and confirming compatibility of any additional third party equipment that may utilise the existing PSTN or ISDN2 service(s) prior to the migration activity. As noted previously, we have established a Digital Test Facility (DTF) to enable providers of these services to comprehensively test their equipment and devices on our new network. CPs should confer with their end customer's equipment supplier to ensure compliance.

Services affected are single line voice services (PSTN).

Please note that existing FTTP end customers living in a new build area whose voice service is delivered over fibre will not be affected by the switchover.

² We have built a Digital Test Facility (DTF) to allow third party suppliers to test their legacy and new equipment. We will make the DTF available to any relevant third party that our CP customers request access for. This will allow all third parties to undertake operational checks of existing and new equipment that utilise our network connectivity to deliver their services to your end customers. We are providing this facility to enable our wholesale customers to help ensure continuity of service to end customers, and to make sure that they can provide those end customers with capable and reliable services. While we are not responsible for the operation of these third party services, we are keen to make the transition to the new fibre-based network as easy as possible for you and to support both you and third party suppliers in making the transition.

For most of your end customers, the switch to the new network will have no impact on their single line voice service and therefore will not affect the way they currently use their phone service. However, the technical migration will enable us to introduce new wholesale services and features that CPs (including wholesale resellers) can market to their residential end customers.

To help with the migration process it is highly recommended that CPs:

- Understand if their end customers have any special services provided over their PSTN or ISDN lines e.g. monitored alarms, telehealth, terminal equipment, etc. This is important as third party equipment (particularly legacy devices) connected to your end customers' phone lines may not be compatible with our new technology.
- Ensure their end customers are aware of contact points should any issues arise with their third party service post migration.
- Ensure their residential end customers or their end customers' representative are aware of their individual responsibility to contact any organisation supplying third party equipment currently utilising the PSTN and ISDN2 services in advance of any migration taking place.

While we have already had some engagement with third parties who have used our DTF it is important that special service suppliers have enough time to react and make any necessary arrangements to test or replace equipment currently utilising PSTN and ISDN2 services.

This can be undertaken in our DTF, located at Salvesen Way, Hull (email:

TSOFrontDoor@kcom.com)

5.4 Business customers

It is essential that CPs (including wholesale resellers) review the requirements of their business end customer before any migrations commence. Please refer to Section 6 below for a summary of changes. Services affected are:

- Single line / multi line analogue voice services (PSTN)
 - ISDN2 (2 channel) services. Note ISDN2 services utilising multi numbering will be moved separately.
 - ISDN30e services. Other ISDN30 services will be moved separately.
- Communications to arrange a suitable time to do this will be undertaken individually

Existing FTTP end customers located in a new build area whose voice service is delivered over fibre (including SIP delivery) will not be affected by the switchover.

To help with the migration process it is recommended that CPs (including wholesale resellers):

- Identify the business needs of their end customer
- Understand the line configuration and what equipment is connected to each line
- Advise their business end customer to contact their equipment provider to ensure its compatibility with the new line format.

It is recognised that the existing service configuration to each business end customer can be very complex and it is therefore important that all parties supplying a component service are fully briefed and aware of the migration plan.

The CP must ensure that they allow the appropriate lead time for all equipment suppliers to complete compatibility testing at our DTF, if required, before the scheduled migrations take place.

The CP should formally advise its end customers of any potential migration impacts.

5.5 Migration process

We are advising you at least six months before the initial trial migration begins and to set out the schedule of subsequent migrations. More detailed timescales will be advised closer to the scheduled migration date.

Your end customers will be moved to our new network in batches between 22:00 and 06:00 hours. While the migration takes place your end customers will experience a short interruption to their service. During this service interruption your end customers will be unable to make or receive any phone calls or use any ISDN data services. We recommend that your customers keep a charged mobile phone to hand in case they need to make an emergency call for any reason during this period. The service interruption will also affect any equipment or services connected to the phone line(s).

As the PSTN and ISDN2 services provided at each of our exchanges is impacted, your end customers at each of these exchanges will also be affected (except those who have a voice over fibre phone service) as we will need to move them to the new IP infrastructure. In the event of any problems we will be able to roll-back the migration and continue to support an end customer's line on our System X switch on a temporary basis. This will be a time limited solution until a resolution is found, based on our regression criteria.

Please note that we cannot take any responsibility for third party equipment or services connected to end customers' lines and any issues reported will be investigated and regressed, if required, based on our regression criteria. In the event that your end customer(s) report any service issues or problems you are advised to assess whether you consider it to likely be a technical issue with our network, and if so to contact us immediately. However, if the issue is presenting itself with the end customer's third party equipment or associated service the end customer should contact the relevant third party provider. If your end customer is vulnerable you should contact us immediately and we will take the appropriate measures for special service restoration by rolling back the service. Alternatively, in all other instances you should advise your end customer(s) to contact their third party supplier in the first instance.

5.6 Customer Premises Equipment (CPE): Rules and principles

The commercial arrangement for managing CPE compatibility, testing or replacement equipment is direct between the CP (including wholesale resellers) supplying the equipment and the end customer.

Extension socket wiring beyond the normal network demarcation boundary (NTE) may have been installed by us as part of the service. This should not be affected by the migration.

During any migration, the CP or special service provider supplying the end customer equipment is responsible for identifying and testing where applicable to confirm compatibility with the new service or for supplying new equipment where it is deemed necessary to make sure the end customer remains connected.

6 Communication

6.1 What's expected from wholesale customers

CPs (including wholesale resellers), special service suppliers and industry groups have a responsibility to proactively inform their customers of the migrations and what that means to them.

It is expected that all CPs and industry groups will contact their own end customers with clear messaging that covers the key points highlighted below. It is recommended that this has been completed for those end customers in the Beverley trial migration area no later than July 2020 to avoid where possible any end customer confusion or misunderstanding.

Key message themes that need to be communicated at the appropriate time to all stakeholders are:

1. The impact of the migration
2. The migration timeline
3. What their end customers options are
4. How the migrations journey will work
5. Any changes to existing features and facilities

6.2 Summary of Changes

6.2.1 Residential end customers

Feature	Unchanged	Changed	Potential Issue
Phone Numbers	No need for new handsets		
Voice Only	No requirement for internet service		
Rental & Call Charges	Same		
Call blocking	Same		
Fax Machines	Same		
1471 (identification of last call received)	Same		
Calling Features	Caller Display; Three-Way Calling; Call Diversion; Reject Withheld No.; Call Waiting; Withhold Your No.		
Phone Extensions	Same		
Call Security	Same		
Your Call (Distinctive Ringing Service)		No longer available	
Third Party Services			Check service compatibility re: Telecare; Life-line Services; Fire & Burglar Alarms; Text-Relay Phone

Call Barring		New PIN required for set-up	
Call Diversion		Your end customer will need to input the destination number when setting up a call diversion. Please note that the ring duration before a call is diverted will be different	
Ring Back when Free		No longer available	
Powered Line	(Corded Phones)		
Message Minder (voicemail)		There are some changes to menu options which will be advised to CPs.	

More information about new services will be available closer to the switchover date.

6.2.2 Business end customers

Feature	Unchanged	Changed	Potential Issue
SIP Trunking and hosted voice services	Same (no migration taking place as already provisioned on IP infrastructure)		
Single and Multi-line	Same		Services will be moved over to the new network in batches expected to be between 22:00 and 06:00. Short outages will occur
ISDN2 (2 channel services)	Same		Lines will be moved over in one migration period to minimise disruption expected to be between 22:00 and 06:00, Short outages will occur during the transition. If this will cause issues with your end customers, then please contact us and we can arrange to do this at a time of your convenience. We will be in contact nearer the time to

			arrange a suitable time to migrate those lines with multi numbering features
ISDN30	Same		We will be in contact nearer the time to arrange a suitable time to migrate your lines

7 Lines with Special Services

CPs, CP resellers, special service providers and industry groups all have a responsibility for identifying and contacting their end customers who they deem to have lines that are being used to support any specialist equipment.

Ofcom have stated that KCOM and CPs should:

1. Take all reasonable steps to ensure that customers using telecare, other safety-of-life services and textphones do not lose access to those services as a result of migration, providing advice and support around the reconnection of those services as part of the installation process.
2. Provide for the rapid restoration of former communications services in the case of failure of telecare, other safety-of-life services or textphones.
3. Have robust information campaigns and security procedures for home visits to avoid the risk of harm to consumers.
4. Engage with local stakeholders at an early stage to ensure they are aware of the change and the potential implications.

7.1 Vulnerable customers

It is a CP's responsibility to have in place appropriate measures to identify and support vulnerable end customers and to communicate to us where such an end customer is vulnerable³ e.g. the nature of the vulnerability that requires priority fault repair. Where an end customer has been identified with special requirements and this has been communicated to us we will engage directly with the CP to ensure that the migration is managed appropriately. However, it is the CPs' responsibility to ensure that we hold that information. Furthermore, it is ultimately the supplier of that equipment who is responsible for making sure the end customer remains connected after any migration has taken place.

All end customers in the Beverley exchange area should be contacted by the CP supplying their PSTN/ISDN services providing clear instructions for their end customer or their representative with clear guidance of what to do and who to contact prior to any line migration activity taking place.

Where a CP identifies that additional equipment / support is required for migration, please inform us prior to the migration date. This should allow sufficient time in cases where any additional equipment or a third party supplier is required to visit the end customer premises to reconfigure existing equipment in preparation before the migration of service happens.

³ <https://www.ofcom.org.uk/about-ofcom/what-is-ofcom/consumer-vulnerability>

Where there has been a problem with the migration and it is identified that the end customer has lost connectivity to their specialist equipment, such as health pendants or alarm services, regression will be subject to our regression criteria. (please refer to section 6.3)

7.2 Critical National Infrastructure (CNI)

CPs (including wholesale resellers), special service providers and industry groups are expected to contact their CNI end customers explaining the impacts and migration options for them.

We recognise that, by exception, there may be specific short-term additional challenges with services supplied for CNI end customers, given some of the additional complexity of the installation types and end customer premises served. Where an issue is identified that could potentially prevent a planned migration taking place (within the trial time frame) the CP providing services to their CNI end customer should discuss their concerns with our migration planning team, who will conduct a review on a case-by-case basis. Information relating to CNI customers is dealt with in accordance with confidentiality requirements.

8 Data Inventory

Data reports detailing services provided are available per CP for each trial site on request. The reports can be requested by contacting Wholesale Provisioning via email at wholesalepartners@kcom.com

In case of data discrepancies where there is variance between the CP and KCOM records, the CPs should register the issue with Wholesale Provisioning for tracking purposes

9 Service provided by split CPs

There are scenarios where end customers may currently have their wholesale services supplied by multiple CPs, the most common instance being where the line and broadband packages can be supplied by different CPs.

We recognise the voice circuit CP as the existing CP when advising migrations. Broadband services will not be impacted.

10 Generic Glossary

CNI Critical National Infrastructure

CP Communications Provider

FTTP Fibre To The Premises

ISDN Integrated Services Digital Network

NTE Network Terminating Equipment

WLR Wholesale Line Rental

WLR Product(s) Wholesale Line Rental, Connect Business Voice, Business Voice Reseller – Analogue, ISDN 2, and ISDN 30.