



One Touch Switch Message Specification

Consumer Switching

Version Draft V1.1a - MARKED UP VERSION
29/08/2023



Contents

1. Introduction.....	4
1.1 Change Log	4
1.2 Material changes in release 0.0.1.....	5
1.3 Material changes in release 0.3 relative to 0.0.1	5
1.1 Material changes in release 0.4 relative to 0.3	6
1.2 Contributing Authors	6
2. Residential One Touch Switch Message Specification	6
2.1 Envelope specific requirements for One Touch Switch.....	7
2.2 Residential Switch Match Request	8
2.3 Residential Switch Order Request	20
2.4 Residential Switch Order Update Request	23
2.5 Residential Switch Order Trigger Request.....	25
2.6 Residential Switch Order Cancellation Request	28
2.1 Message Summary	30
3. Example Messages, Single service Category switching	31
3.1 Broadband only customer switching scenarios.....	31
3.2 Single line voice only customer switching scenarios, no Broadband	33
3.3 Dual line voice to single line only switching scenarios, no Broadband	35
3.4 Voice only switching, no Broadband, dual line to dual line	39
4. Example Messages, broadband and voice customer, single supplier, single service switching	46
4.1 Broadband only switch, linked voice line at the same provider	46
4.2 Single line voice switch, linked Broadband	49



Figures

No table of figures entries found.



1. Introduction

[The One Touch Switch Message Specification complements and supports the One Touch Switch Technical Design and the One Touch Switch Industry Process document.](#)

[This document provides the messaging specification to support the One Touch Switch process.](#)

[The core integration elements of the Post Office and Letterbox design, API specifications, security requirements and the messaging envelope are all defined in the TOTSCo hub \[developers guide\]\(#\) API specification. This document focuses only on the One Touch Switch message formats and their use.](#)

[All documents are available from the TOTSCo web site at the following URL.](#)

[For a definition of the One Touch Switch process, please refer to the One Touch Switch Industry Process document available at the same location.](#)

<https://totsco.org.uk/process-technical-documents/>

~~The One Touch Switch Message Specification complements and supports the One Touch Switch Technical Design, v0.3 issued 30th September 2022 and the One Touch Switch Process Industry document, v4.1 issued 30th September 2022.~~

~~This document provides the messaging specification to support the One Touch Switch process.~~

~~The core integration elements of the Post Office and Letterbox design, API specifications, security requirements and the messaging envelope are all defined in the TOTSCo hub [developers guide](#). This document focuses only on the One Touch Switch message formats and their use.~~

~~All documents are available from the TOTSCo web site at the following URL.~~

~~For a definition of the One Touch Switch process, please refer to the One Touch Switch Industry Process document available at the same location.~~

~~<https://totsco.org.uk/process-technical-documents/>~~

1.1 Change Log

Version Date Changed By	Reason for change
V0.0.1 First draft 27/09/2022 OTS-DDG	First draft output from the OTS-DDG (design drafting group) on behalf of TOTSCo. First draft, specifically providing message formats for the OTS process. Only issued for review within the DDG.

V0.2 Draft 12/12/2022 OTS-DGG	Issued only for review within the DDG and TOTSCo.
V0.3 Industry Release 17/01/2023 OTS-DDG	Evolution of message content. Added list of example messages by scenario. Added a link to the API specification on swagger.
V1.0 Industry Release 06/4/2023 OTS-DDG	Adding the switch order reference to all message responses.
V1.1 Industry Release 27 10/048/2023 OTS-DDG	<p>Correction to the example of the envelope in section 2.1</p> <p><u>Updated failure messages with correct response codes</u></p> <p><u>Removed 2nd class post as method of sending Switching Implications in a Residential Switch Match Confirmation</u></p> <p><u>Address/uprn changed from interger to string</u></p> <p><u>Additional parameter added within service/ identifier type for 'ServiceInformation'</u></p> <p><u>Additional parameter added within the action field of a match request for "identify"</u></p> <p><u>Addition of activation date to switch order trigger request</u></p> <p><u>Removal of address as an option to return in a switch match failure</u></p>
<u>V1.1a Industry Release</u> <u>29/08/2023</u>	<u>Correction to the address/uprn field</u>

~~1.2 — Material changes in release 0.0.1~~

~~Separated from the One Touch Switch Technical Design document.~~

~~1.3 — Material changes in release 0.3 relative to 0.0.1~~

~~Added examples section containing many potential switching scenarios (to be finished in a subsequent version).~~

~~Expansion and refinement of the message sets.~~

~~The message format names have been standardised with the following structure:~~

- ~~• A consistent prefix of "residentialSwitch" for all message format names.~~
- ~~• The next portion is the type of message: "Match", "Order", "OrderUpdate", "OrderTrigger" and "OrderCancellation".~~

- ~~The final portion is “Request”, “Confirmation” or “Failure”.~~

~~Removed faultElement and faultElementValue, replacing them with the concept of substitution text in faultText. Separate OTS Response Codes spreadsheet now document the fault codes and text.~~

~~Added grepBrandName to the residentialSwitchMatchRequest, permitting the GRCP to specify the brand name to be used in communications sent by the LRCP.~~

1.1 Material changes in Message Specification v1.1 relative to v1.0~~release 0.4 relative to 0.3~~

Additional parameter added within service/identifier type for ‘ServiceInformation’ within a match confirmation. This field is to be used by providers that offer multiple IAS under a single account and allows the LRCP to specify which service is being specified within an SOR.

Additional parameter added within the action field of a match request for “identify”. This allows a customer to use their DN as an identifier when they are looking to cease their IAS with their existing provider, but they are not looking to cease or port their NBICS.

Addition of activation date to switch order trigger request. The date has been added as a mandatory field within the switch order trigger request to remove any ambiguity around the date the GRCP began providing service.

Removal of address as an option to return in a switch match failure. It was felt that there were data privacy concerns around returning an address in specific match failure scenarios, so the fields have been removed from the match failure message.

~~The switch order reference has been added to all reply messages, where it was passed in the request, to aid in processing by the recipient of that message.~~

~~For changes to the envelope structure, please refer to the TOTSCo hub API specification.~~

1.2 Contributing Authors

Author	Organisation
Dave Stubbs	Virgin Media
Niall Gillespie	BT
Nick Holland	8x8

2. Residential One Touch Switch Message Specification

The following sections define the suite of messages supported for the residential One Touch Switch process. Each message will be documented with a brief example of the message format, a list of the message elements and their specifications and, if appropriate, their values.



2.1 Envelope-specific requirements for One Touch Switch

For One Touch Switch, the elements in the envelope defined for the TOTSCo hub should be populated as follows.

The source ID should be the RCPID of the sender of the message as it appears in the list obtained from the TOTSCo hub directory.

The destination ID should be an RCPID from the list obtained from the TOTSCo hub directory representing the required recipient.

The source and destination list types should be "RCPID".

The source correlation ID should be a value generated by the sender of the message that would allow any response to be linked to that message.

The destination correlation ID should only be populated when responding to a message, and this should contain the correlation ID that was provided in the source information of the original message being responded to.

The routingID should be the message format name.

The "auditData" should be provided in the event of any fault message being returned and should contain the fault code.

TOTSCo will use all of the above information for analytics and reporting.

```
{
  "envelope": {
    "source": {
      "type": "RCPID",
      "identity": "ABCD",
      "correlationID": "XYZ987"
    },
    "destination": {
      "type": "RCPID",
      "identity": "DCBA",
      "correlationID": "ABC123"
    },
    "routingID": "residentialSwitchMatchFailure",
    "auditData": [{
      name: "faultCode",
      value: "000001101"
    }]
  },
  "message": {
    ...
  }
}
```

2.2 Residential Switch Match Request

A residential match request defines the information identifying the customer and the services they wish to switch. The following shows the complete message format. For the switching services array, at least one service must be specified.

```
"residentialSwitchMatchRequest": {
  "grpBrandName": "Fred's Communications Ltd (Telesales)",
  "name": "Miggins",
  "account": "0003316563216",
  "address": {
    "uprn": "12345",
    "addressLines": ["Flat 1", "Rose Cottage", "22 Cheshunt Mews", "Cypress Street", "Tyre Industrial Estate", "Blnatyre"],
    "postTown": "Glasgow",
    "postCode": "SW1P 3UX"
  },
  "services": [
    {
      "serviceType": "IAS",
      "action": "cease"
    },
    {
      "serviceType": "NBICS",
      "serviceIdentifier": "0101111222",
      "action": "port"
    }
  ]
}
```

The elements of the JSON are defined below.

JSON element	Description	Format	Notes
residentialSwitchMatchRequest	Identifies the message as being a residential switch request.	Object	Required
grpBrandName	Brand name the gaining provider wishes to be presented to the customer on the implications of switching communication and sorry to see you go letters sent to the existing customer. If not provided, the brand name from their directory listing can be used instead.	String	Optional
name	This will be the surname of the customer requesting to switch.	String	Required
account	The customer account number as known to the losing provider. For residentialSwitchMatchRequest, this is an optional element. For business, it may be mandatory.	String	Optional
address	A container of the address elements	Object of address elements	Required
address/uprn	The UPRN-number of the premise where the customer is switching services. This is string representation of the number including	IntegerString	Optional

JSON element	Description	Format	Notes
	leading zeros, 12 digits long. A UPRN can be up to 12 digits long. For the avoidance of doubt, do not include any leading zeroes.		
address/addressLines ¹	Address lines identifying the premise where the switch will take place. Must be formatted according to PAF rules, with no abbreviations. Do not include the post town, postcode or county.	String array	Required
address/postTown	The post town of the address where service is being switched. This should be the post town as defined by Royal Mail and included in PAF and commercial products based on PAF. ²	String	Required
address/postCode	The post code of the address where service is being switched. Formatted with a space between the inward and outward components.	String	Required
services	A container of the services requested to be switched.	Array of services Objects	Required
service/serviceType ^{1,3}	An industry-agreed name for the service to be switched. Currently, "IAS" and "NBICS" are supported.	String	Required
service/serviceIdentifier	For services that cannot be identified by just presenting the service type, a serviceIdentifier specifies how the losing provider will find that service. ³	String	Optional
service/action	Specifies the action the losing provider is asked to take with the service specified. Valid values are "cease", and "port" and "identify".	String	Required

Form

This message is always sent by the gaining provider.

Service identifier is used primarily for voice services to identify the phone number (DN⁴) to be switched (ported), and is not required if the voice service is to be ceased without any port of the existing number. It is optional against the IAS service in case there are any instances where such an identity would be available and prove useful to match with, otherwise it can be ignored for that service. The LRCP should use the serviceIdentifier in an intelligent manner to match against their asset records, e.g.:

¹ This notation represents that this row documents a JSON element of a single service within the list of "services", or within the "address" element. Similar notation is used throughout this document.

² Royal Mail defines a set of post towns across the UK. The names of small towns are often held in the "locality" field which would appear in the address array.

³ For NBICS, the telephone number will be presented without +44 and including the trunk code (0). For a residential broadband service, the identifier will not be required, unless an identifier is needed to differentiate between multiple IAS services being supplied by the losing provider.

⁴ DN is an abbreviation of "Directory Number" – a term often used within the telecoms industry for the telephone number assigned to a voice service. CLI (calling line identity) is presented on outbound calls. For simple line, the DN is presented as the CLI, but a different CLI can be presented from business lines. So DN is a better term to use than CLI.

- For NBICS, it is expected that most LRCPs will interpret any servicelidentifier as being the DN of the voice service.
- LRCPs will be encouraged to publish the URL of a help/FAQ page, where they can document what forms of servicelidentifier and type they will accept for IAS (and if they support anything other than DN on NBICS).

All address elements should conform with standard PAF formatting rules⁵ in the messages. When processing the request, the losing provider will ignore case sensitivity and must be aware that not all providers will format the address in the same way, some lines may be in different positions, possibly concatenated together, therefore matching is not a simple line-to-line comparison and should allow for variations in formatting.

~~It is a requirement that abbreviated address elements not be allowed and that should a losing provider identify abbreviations in the address supplied by the customer, they should be expanded to the full words. For example, rd. should always be road, ave. should always be avenue etc. Likewise, gaining providers must have the same consideration if their data stores address elements with abbreviations or at least accommodate them in their address matching rules.~~

Each service being switched on behalf of the customer must be listed in the services object with the action required to be taken by the losing provider.

Action	Meaning
cease	Identifies that the service identified is requested to be ceased as a result of the switching activity. This can apply to IAS and NBICS.
port	Identifies that the number on an NBICS switch will be transferred ⁶ to the gaining provider as part of the switching activity. It is mandatory to include the DN as the servicelidentifier in the NBICS service block when requesting a number port, and port also implies the cessation of the voice service.
identify	The action has been included to allow customers to use a service identifier, such as a DN, as a means of identification without having to request their service is ported or ceased. This implicitly indicates to the LRCP that the customer wants to retain their NBICS if possible. Typically this will be the DN of an NBICS service.

At least one service must be listed in a request with either cease or port to constitute a valid switch request.

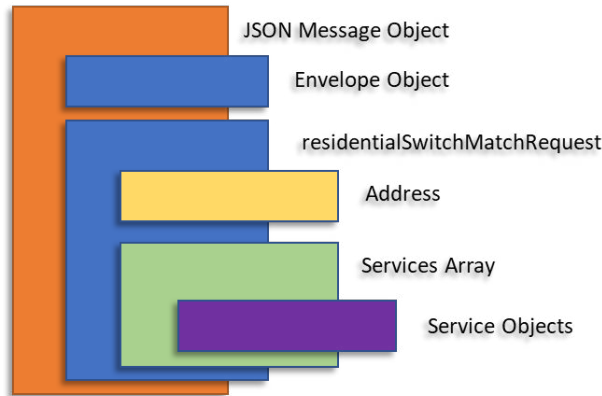
Matching of surname should be case insensitive, and the Industry Process gives further guidance on matching of surnames with non A-Z characters.

⁵ Readers who are unfamiliar with PAF formatting rules are encouraged to read Royal Mail's [PAF Programmers' Guide](#).

⁶ The transfer of the number to the gaining retail provider may involve a change of voice CP (a full number port), or the GRCP may use the same VCP as the LRCP (sometimes termed a number transfer). An action of "port" covers all scenarios by which the customer may move their number to the GRCP.

If a UPRN is presented, then as long as the postcode ~~and post town~~ is also a match, the losing provider can consider the address a match without having to compare the address line by line. The losing provider may do a full comparison, if more appropriate, for the way they manage addresses.

The object structure for this message is as follows.



2.2.1 Residential Switch Match Confirmation

Below is an example of a successful switch match response (not related to the previous matching example). This message is only ever sent by the losing provider.

```
"residentialSwitchMatchConfirmation": {
  "implicationsSent": [
    {
      "sentMethod": "email",
      "sentTo": "d***@my-domain.com",
      "sentBy": "2022-09-25 09:10:00"
    },
    {
      "sentMethod": "1st2nd class post",
      "sentBy": "2022-09-26 10:00:00"
    }
  ],
  "matchResult": {
    "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
    "services": [
      {
        "serviceType": "IAS",
        "switchAction": "ServiceFound",
        "serviceIdentifiers": [
          {
            "identifierType": "ONTReference",
            "identifier": "123456789"
          },
          {
            "identifierType": "ONTPortNumber",
            "identifier": "1"
          },
          {
            "identifierType": "NetworkOperator",
            "identifier": "A001"
          }
        ]
      },
      {
        "identifierType": "ServiceInformation",
        "identifier": "1GB Broadband, Installed 23rd March 2019."
      }
    ]
  }
}
```

```

    ]
  },
  {
    "serviceType": "NBICS",
    "switchAction": "ServiceFound",
    "serviceIdentifiers": [
      {
        "identifierType": "CUPID",
        "identifier": "123"
      },
      {
        "identifierType": "DN",
        "identifier": "0101111222"
      }
    ]
  },
  {
    "serviceType": "NBICS",
    "switchAction": "OptionToRetain",
    "serviceIdentifiers": [
      {
        "identifierType": "PartialDN",
        "identifier": "13"
      }
    ]
  }
]
},
"alternativeSwitchOrders": [
  {
    "matchResult": {
      "switchOrderReference": "123e4567-e89b-12d3-a456-426614174001",
      "services": [
        {
          "serviceType": "IAS",
          "switchAction": "ServiceFound",
          "serviceIdentifiers": [
            {
              "identifierType": "ONTReference",
              "identifier": "123456789"
            },
            {
              "identifierType": "ONTPortNumber",
              "identifier": "1"
            },
            {
              "identifierType": "NetworkOperator",
              "identifier": "A001"
            }
          ]
        },
        {
          "identifierType": "ServiceInformation",
          "identifier": "1GB Broadband, Installed 23rd March 2019."
        }
      ]
    }
  }
]
},
  {
    "serviceType": "NBICS",
    "switchAction": "ServiceFound",
    "serviceIdentifiers": [
      {
        "identifierType": "CUPID",
        "identifier": "123"
      },
      {
        "identifierType": "DN",

```

```

    "identifier": "0101111222"
  },
  {
    "serviceType": "NBICS",
    "switchAction": "OptionToCease",
    "serviceIdentifiers": [
      {
        "identifierType": "PartialDN",
        "identifier": "13"
      }
    ]
  }
]
}

```

The elements of the JSON are defined below.

JSON element	Description	Format	Notes
residentialSwitchMatchConfirmation	Identifies the message as being a residential switch request confirmation, i.e. a positive match response.	Object	Required
implicationsSent	A container of the implications sent methods..	Array of implications Objects	Required
implicationsSent/sentMethod	Specifies how the implications of switching have been sent to the customer. Current supported values are "email", "sms" and, "1st class post" and "2nd class post". The LRCP must specify at least one method, and may specify a list of methods.	Object of methodsString	Required
implicationsSent/sentTo	<p>If the implications of switching were sent by email, this property contains an obfuscated copy of the email address. The domain should be fully visible to aid the customer to identify the email hosting provider the email went to. It is recommended to mask all but 2 characters of the email address. If the addressee is 4 or 5 characters, then all but 1 character must be masked, and if the addressee is less than 4 characters then all characters of the addressee must be obfuscated. For example...</p> <p>***@hotmail.com d***@hotmail.com d****@hotmail.com d*****e@hotmail.com d*****y@hotmail.com</p> <p><u>(Note that the above rules are proposed to replace the rules documented in v4.1 of the Industry Process when it is next updated.)</u></p> <p><u>If the implications of switching were sent by SMS, see the Industry Process for the obfuscation rules.</u></p>	String	Optional

JSON element	Description	Format	Notes
implicationsSent/sentBy	Specifies the expected date and time the implications will be sent to the customer. The time element may be an actual time of dispatch (e.g. for an automatically generated email), or an estimated completion time (e.g. end of batch time for generation of letters), or an end of SLA (e.g. for manually generated email / letter). Formatted as CCYY_MM_DD hh:mm:ss	String	Required
matchResult	A container for the details of a switch order. The principal match result represents the result as requested by the gaining provider. Subsequent match results represent alternative options available to the customer.	Object	Required
alternativeSwitchOrders	A container of alternative switch options. Each alternative option will be another matchResult object.	Object	Optional
matchResult/switchOrderReference	The switch order reference is a UUID created by the losing provider to represent the match result actions. xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx	String	Required
matchResult/services	A container of the services requested to be switched.	Array of services Objects	Required
service/serviceType	An industry agreed name for the service to be switched. Currently, "IAS" and "NBICS" are supported.	String	Required
service/switchAction	Either the action the losing provider will take when the switch is performed, or information to the gaining provider about whether the service matched, or not. Please see the definition table for a list of values and their meanings.	String	Required
service/serviceIdentifiers	A list of name and value pairs which the gaining provider can use to identify if an intra-network switch is feasible, and if so, ensure that the correct asset (copper line, full-fibre service) is switched.	Array of service identifier objects	Optional

JSON element	Description	Format	Notes
service/identifierType	<p>For a provided service, the identifier type specifies the nature of that identifier. The type should make sense to a GRCP that use the same network operator as the LRCP.</p> <p>For NBICS, "DN" will be used where the gaining provider had previously supplied the full DN. If the gaining provider had not previously fully identified that service, then "PartialDN" will be used and a masked copy of the DN will be returned in the identifier. (Openreach's MLPA service exposes an XML tag also called "PartialDN" for a WLR line belonging to a different CP. All RCPs can return "PartialDN" where appropriate, even if the voice service is not an Openreach WLR service.)</p> <p>For IAS an identity is not required but must be provided to assist with switching on some networks, e.g. intra Openreach..</p>	String	Required
service/identifier	A value which makes sense in the context of the identifierType.	String	Required

A successful match response contains the details of how and when the implications of switching have been sent to the customer (or the SLA for when they will be sent) and the details of the match concerning the services they have provided.

If a match request was made for multiple services, at least one but not all were found then the match response will list all the services in the request, identifying which were found and which were not found. The gaining provider can then use this information to either obtain the correct information from the customer or determine if they have the correct provider.

For each service identified, information about that service will be provided so that the gaining provider can verify the type of switch being performed, especially if they are switching on the same network as this may affect the type of order they may need to raise.

ServiceIdentifiers are optional for IAS, but within specific industry segments, for example for Openreach CPs, this information would be required to assist in creating the appropriate order types targeting the correct asset (copper line or full-fibre service). For voice lines, the serviceIdentifiers must be returned if the voice service has a physical line (e.g. WLR)⁷, but can be omitted on a VoIP service where the customer has not provided the existing DN⁸.

A successful match to a switching request will return a switch order reference that represents the services requested to be switched that were found. Optionally additional switch matches and order references will also be returned in the alternativeSwitchOrders element if other switching combinations are available to the customer. For example, if a switch just requested to switch the

⁷ Where the broadband is provided over the same copper line as the WLR, the serviceIdentifiers returned on IAS and NBICS will be identical.

⁸ If the customer did not provide the DN, we do not want the LRCP to expose the DN (as this could be mis-used as a reverse lookup). It is not necessary to return the DN to proceed with a switch that ceases VoIP service.

broadband but the losing provider also found a voice service, the main switch order reference will be returned specifying just broadband to be ceased, and voice to be retained, but a second switch order reference will be returned indicating a cease of both broadband and voice services is available.

Some RCPs have historically supported multiple POTS (typically copper TDM) voice services on a single account, and the CPE for some RCPs has two voice ports to support two VoIP services. So a successful match may contain information about additional NBICS service, and multiple alternativeSwitchOrders to cover all the supported combinations of retention and cessation.

Many values can be returned for the switchAction attribute as follows:

Value	Meaning
ServiceFound	The LRCP has found this service for the matched customer. This is a positive result, and the GRCP may raise a switch order asking for this service to be ceased.
ServiceWithAnotherRCP	<p>In the Openreach world, WLR and broadband can be provided over a single copper pair, but via different CPs (e.g. WLR with Post Office⁹, and FTTC with Zen).</p> <p>Post Office can use Openreach's EMLC service to check if there is any broadband on their WLR line – if so, Post Office would return this value against the IAS. If EMLC returned no broadband, Post Office would return ServiceNotFound (or omit IAS if not included in the match request).</p> <p>Zen should be aware that FTTC requires an underlying WLR service, and would return this value against the NBICS. However if Zen had SOGEA broadband, there would be no WLR service.</p> <p>It is feasible that other networks may have similar concepts (and it may be that only Openreach has these complex patterns).</p>
ServiceWithAnotherCust	<p>Although rare, it is feasible that WLR and broadband are on different billing accounts, both with the same RCP. The customer(s) owning those billing accounts may be the same person, two different people, or the CRM data is not good enough to tell which.</p> <p>This value represents that the LRCP has found this service, but it is recorded against a different customer / billing account (not the matched customer / billing account). The GRCP may try a second match, for the same LRCP, but using different customer / account details.</p>
ServiceNotFound	The LRCP has not found this service. The overall match may be positive with a SOR (e.g. broadband has been found, but the voice has not).
ForcedCease	The LRCP has identified a service that was not requested to be ceased but will be automatically ceased if the switch is progressed with the services that have matched. For example, switching a WLR voice line to another network provider would result in the forced cessation of an IAS service provided over the same copper line; switching a SOGEA or FTTP broadband service would result in the forced cessation of a VoIP service linked to that broadband.
OptionToCease	The LRCP has identified another service, NBICS or IAS, that can also be ceased within the switch but is not mandated to be ceased. This will only ever be used within the alternativeSwitchOrders element of the response from the LRCP.

⁹ The Post Office telecoms business has been purchased by Shell Energy Broadband, but this was a real example and is hard to replace with a current example.

Value	Meaning
OptionToRetain	The LRCP found another service, NBICS or IAS, that has not been requested to be ceased and can be retained.

At least one service must have a status of ServiceFound to constitute a valid match.

If the LRCP returns either ServiceWithAnotherRCP or ServiceWithAnotherCust, the GRCP must advise the customer that there are potential additional impacts. These values can be returned either for a service which was explicitly requested to be ceased or ported, or for a service that was not requested, but is linked technically to the requested service.

The LRCP should also return the network operator of the service with another RCP or customer – e.g. in all the examples given, the network operator would be Openreach.

The GRCP may ask the customer if they are aware of having services on multiple billing accounts or across multiple RCPs. If the customer is aware, they may be able to provide information for a second match, specifying either a different LRCP, or different customer / account details. If this second match is successful, the GRCP would have enough information to gain the customer's express consent to all the impacts of switching, and to proceed with a double OTS switch.

A GRCP may also proceed with a single switch, but must ensure that their systems designers fully understand the combinations, and could defend their decisions to Ofcom. E.g.

- An inter network switch of only IAS could proceed if the NBICS was provided by Openreach as WLR (inferred from the combination of Openreach and PartialDN¹⁰) – the WLR service with the other RCP or customer could survive the loss of broadband.
- However a port out of a WLR number would mean the forced cessation of any broadband service on the copper line – so this could not proceed without a double match and express customer consent to the double cessation.

GRCPs may decide that these rules are too complex and risky, and if the customer cannot provide valid information for a successful second match, the GRCP would not proceed with a switch based on a single match that returned either of these ServiceWithAnother... values.

The values ForcedCease, OptionToCease and OptionToRetain are only returned on a service which was not requested, but is linked technically or commercially to the requested service – they also imply that the service was found, and are thus in place of ServiceFound. When the service was found with another RCP or another customer, the LRCP would not comment on whether that service must be ceased or could be retained.

Identifier Types for NBICS services

¹⁰ If the NBICS was MPF, the MPF operator would return an Openreach ServiceId for the MPF service. Additionally any broadband on an MPF line has to be with the same MPF CP (and probably on the same customer billing account).

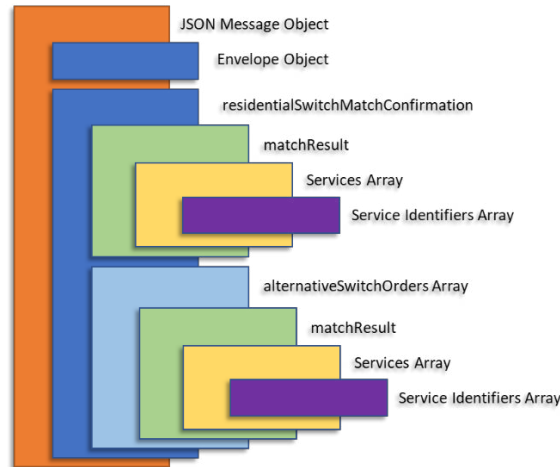
identifierType	Description and example
NetworkOperator	<p>An identifier for the operator of the network on which the service is provided. To be used to assist in helping the gaining provider determine the ordering processes necessary to switch services.</p> <p>RIDs are 3 alpha chars, RCPIDs are 4 alpha chars. Network operators will be identified by A and 3 numbers, e.g. A001. "A" should be memorable as "Access Provider", and for clarity RCPIDs will not start with A.</p> <p>E.g. if the NBICS is found as WLR, the network operator would be the Annn value assigned to Openreach.</p> <p>If the NBICS is found as VoIP service, the network operator can be returned as "VOIP", or may be returned as the VoIP network operator where it helps the community of RCPs using that network operator to arrange intra-network number transfers.</p>
DN	The UK formatted number is expressed in all digits without spaces. For example 01213339999.
PartialDN	<p>The UK formatted number is masked so only the final 2 digits are identifiable. For example 99.</p> <p>"PartialDN" is an XML tag used by Openreach. All RCPs can return "PartialDN" where appropriate, even if the voice service is not an Openreach WLR service – e.g. they have found a second voice service, and the partial DN might help the customer to understand which service has been found, without exposing the full DN.</p>
CUPID	<p>Where the requested action was "port", the LRCP should return the CUPID of the current voice provider. This can be used by the GRCP in conjunction with their supply chain to determine the lead time for porting (e.g. do all parties support express porting).</p> <p>It is expected that all RCPs will either know the CUPID, or will make a real-time call to their supply chain to obtain the CUPID.</p>

Identifier Types for IAS services

identifierType	Description and example
NetworkOperator	<p>An identifier for the operator of the network on which the service is provided. To be used to assist in helping the gaining provider determine the ordering processes necessary to switch services.</p> <p>Network operators will be identified by A and 3 numbers, e.g. A001. "A" should be memorable as "Access Provider".</p>
DN	For NBICS, if a DN had been provided in the matching request, the response may also contain that full DN
PartialDN	In scenarios such as broadband over a copper line also used for WLR, the PartialDN of the WLR will also be returned as the serviceIdentifier for the IAS.
ONTReference ONTPortNumber	These two types match XML tag names used by Openreach for their full-fibre services. ONT is "Optical Network Termination" – the Openreach owned box which terminates the fibre, and offers either 1 or 4 data ports depending on the model.
ServiceInformation	In the event a customer has more than one IAS instance at the same address under the same account number, then this identifier can be supplied with a plain text value that is human-readable and useful to the customer in clearly identifying the service instance. This could contain the product/speed, the install date, the install location etc.

identifierType	Description and example
	"1GB. Installed 25th September 2022 (Garage)"
	Other networks may use their own terminology and identifierTypes.

The object structure for this message is as follows.



2.2.2 Residential Switch Match Failure

If the losing provider fails to make a match, the resulting message will represent this through a fault code and description.

```

"residentialSwitchMatchFailure": {
  "faultCode": "11013",
  "faultText": "failure to match with the supplied information Account not found";
  "address": {
    "uprn": "12345",
    "addressLines": ["Flat 1", "Rose Cottage", "22 Cheshunt Mews", "Cypress Street", "Tyre Industrial Estate", "Blnatyre"],
    "postTown": "Glasgow",
    "postcode": "SW1P 3UX"
  }
}

```

The elements of the JSON are defined below.

JSON element	Description	Format	Notes
residentialSwitchMatchFailure	Identifies the message as being a residential switch request failure.	Object	Required
faultCode	A code defining the nature of the fault found processing the match request	String	Required
faultText	A human-readable description of the fault code	String	Required
address	A container for the losing providers version of the address if they cannot determine a match, but think they have the correct account.	Object of address information	Optional

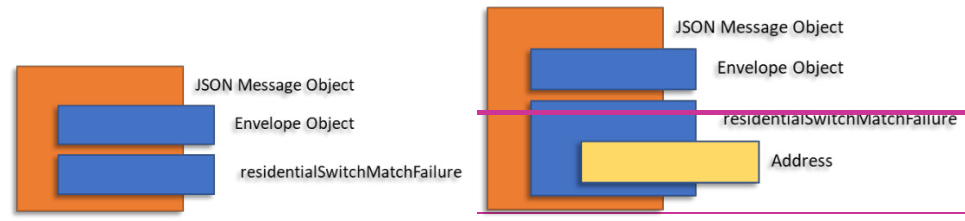
JSON element	Description	Format	Notes
address/uprn	The UPRN number of the premise if known.	Integer	Optional
address/addressLines	Address lines identifying the premise where the switch will take place. Must be formatted according to PAF rules, with no abbreviations. Do not include the town, postcode or county.	String array	Required
address/postTown	The town where service is being switched.	String	Required
address/postCode	The post code of the address where service is being switched. Formatted with a space between the inward and outward components.	String	Required

This message is returned in response to a switch request where a match was not determined.

~~Most responses will simply contain a fault code and description, however in situations where an account number was supplied, but the address does not provide enough confidence to confirm the actual match (please refer to the OTS Process Design document for details), then the address held by the losing provider will be returned on this fault response.¹¹~~

If any individual element fails to process, unrecognised or invalid values, then the fault should report them as well to assist in diagnostics.

The object structure for this message is as follows.



2.2.2.1 Response Codes

See the separate “One Touch Switch Response Codes” spreadsheet for the list of response codes the losing provider will generate in the event of an error processing a message.

2.3 Residential Switch Order Request

At the point a GRCP has approval from a customer to begin switching, the gaining provider will send a residential switch order message to signal that the customer has given their express consent to go ahead with this switch, and including the SOR which is to be progressed.

¹¹~~At the time of writing (Jan 2023), this proposal (to return the address held by the LRCP when the match is sufficiently strong) has not been validated by a data privacy expert. However, it is proposed as a proportionate response to the likelihood of address quality issues (e.g. addresses using an historic postcode in areas where Royal Mail has changed the postcodes).~~

```
"residentialSwitchOrderRequest": {
  "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
  "plannedSwitchDate": "2023-04-03"
}
```

The elements of the JSON are defined below.

JSON element	Description	Format	Notes
residentialSwitchOrderRequest	Identifies the message as being a residential switch order.	Object	Required
switchOrderReference	The switch order to be actioned.	String	Required
plannedSwitchDate	The planned switch date represents when the gaining provider expects to deliver service to the customer and is encoded in the format CCYY-MM-DD.	String	Required

The message presents the switch order reference related to the switching option the customer has given consent to (if the match result included alternativeSwitchOrders, the GRCP will have interacted with the customer to agree which option should be progressed) and also the planned switch date.

As a reminder, the Industry Process documents that a switch order must be placed within 31 days of generation of a switchOrderReference (counting the day of generation as day 0). The LRCP will reject any order received from day 32 onwards.

The object structure for this message is as follows.



2.3.1 Residential Switch Order Confirmation

In response to a valid residential switch order, the losing provider will reply with a residential switch order confirmation.

```
"residentialSwitchOrderConfirmation": {
  "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
  "status": "confirmed"
}
```

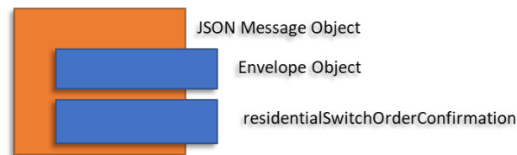
The elements of the JSON are defined below.

JSON element	Description	Format	Notes
residentialSwitchOrderConfirmation	Identifies the message as being a residential switch order confirmation.	Object	Required

JSON element	Description	Format	Notes
switchOrderReference	The switch order to be actioned.	String	Required
status	The status allows the losing provider to confirm the new state of the switching request, in this case, the value will always be "confirmed".	String	Required

The message confirms to the gaining provider that the losing provider has received the order, it is still valid and they will action the order when it is triggered.

The object structure for this message is as follows.



2.3.2 Residential Switch Order Failure

If the requested switch order reference cannot be found or the services can no longer be switched¹², then the failure message will be returned.

```
"residentialSwitchOrderFailure": {
  "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
  "faultCode": "1201",
  "faultText": "invalid or missing switch order reference"
}
```

The elements of the JSON are defined below.

JSON element	Description	Format	Notes
residentialSwitchOrderFailure	Identifies the message as being a residential switch order failure.	Object	Required
switchOrderReference	The switch order to be actioned.	String	Required
faultCode	A code defining the nature of the fault found processing the order request	String	Required
faultText	A human-readable description of the fault code	String	Required

The message contains a fault code and description.

If any individual element results in a failure to process or finds unrecognised or invalid values, then the fault should report them as well to assist in diagnostics.

¹² E.g. the services were active when the SOR was generated, but have been ceased since then (e.g. ceased for non payment), and the GRCP attempts a switch order using the SOR.

The object structure for this message is as follows.



2.3.2.1 Response Codes

See the separate “One Touch Switch Response Codes” spreadsheet for the list of response codes the losing provider will generate in the event of an error processing a message.

2.4 Residential Switch Order Update Request

If a gaining provider is taking longer to deliver service and the switch order could expire, then they should notify the losing provider by updating the planned switch date. Please refer to the OTS Process Design document for when to send this message.

```
"residentialSwitchOrderUpdateRequest": {
  "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
  "plannedSwitchDate": "2023-04-03"
}
```

The elements of the JSON are defined below.

JSON element	Description	Format	Notes
residentialSwitchOrderUpdateRequest	Identifies the message as being a residential switch order update.	Object	Required
switchOrderReference	The switch order reference to be updated.	String	Required
plannedSwitchDate	The planned switch date represents when the gaining provider expects to deliver service to the customer and is encoded in the format CCYY-MM-DD.	String	Required

The message contains the switch order reference related to the switching activity the customer has given consent to and also the new planned switch date.

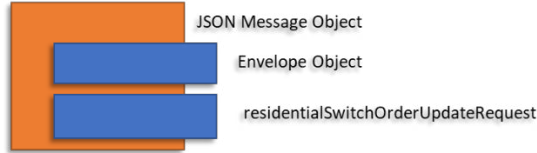
As a reminder, the Industry Process documents that a switch order must be triggered within 31 days of the plannedSwitchDate (counting the plannedSwitchDate as day 0). If the GRCP knows that that are unlikely to send the trigger within 31 days, they should send an update message. The GRCP may choose to send an update for any customer requested amendment of the switch date¹³, or if they are aware of a significant delay from their supply chain¹⁴.

¹³ For simplicity of implementation, a GRCP may send an update for any customer change of switch date, even if the new date is still inside the original 31 day window.

¹⁴ GRCPs are unlikely to send an update for a minor supply chain delay, e.g. if an engineering issue arises on the day of installation, and these are typically resolved in a timeframe much shorter than 31 days.

The Industry Process does not document any arbitrary limit on how many times a switch order can be updated.

The object structure for this message is as follows.



2.4.1 Residential Switch Order Update Confirmation

In response to a valid residential switch order update, the losing provider will reply with a residential switch order update confirmation.

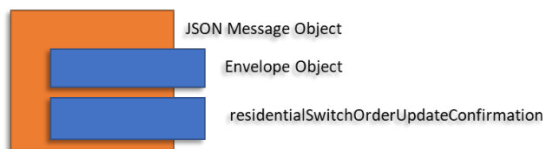
```
"residentialSwitchOrderUpdateConfirmation": {
  "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
  "status": "updated"
}
```

The elements of the JSON are defined below.

JSON element	Description	Format	Notes
residentialSwitchOrderUpdateConfirmation	Identifies the message as being a residential switch order update confirmation.	Object	Required
switchOrderReference	The switch order to be actioned.	String	Required
status	The status allows the losing provider to confirm the new state of the switching request, in this case, the value will always be "updated".	String	Required

The message confirms to the gaining provider that the losing provider has updated the order, it is still valid and they will action the order when it is triggered.

The object structure for this message is as follows.



2.4.2 Residential Switch Order Update Failure

If the requested switch order reference cannot be found, or is already complete or cancelled, then the failure message will be returned.

```
"residentialSwitchOrderUpdateFailure": {
```

However, where a customer misses an appointment, the GRCP may regard any re-appointing as falling under a customer change of switch date, and may thus trigger an update.


```

"switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
"faultCode": "1301",
"faultText": "invalid or missing switch order reference"
}

```

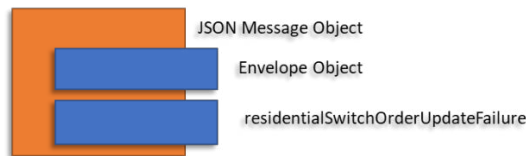
The elements of the JSON are defined below.

JSON element	Description	Format	Notes
residentialSwitchOrderUpdateFailure	Identifies the message as being a residential switch order update failure.	Object	Required
switchOrderReference	The switch order to be actioned.	String	Required
faultCode	A code defining the nature of the fault found processing the match request	String	Required
faultText	A human-readable description of the fault code	String	Required

The message contains a fault code and description.

If any individual element results in a failure to process or finds unrecognised or invalid values, then the fault should report them as well to assist in diagnostics.

The object structure for this message is as follows.



2.4.2.1 Response Codes

See the separate “One Touch Switch Response Codes” spreadsheet for the list of response codes the losing provider will generate in the event of an error processing a message.

2.5 Residential Switch Order Trigger Request

At the point a GRCP has completed the provision of service, they will inform the losing provider by issuing the residential switch completion message.

Again, this is a basic message only containing the switch order to be completed.

```

"residentialSwitchOrderTriggerRequest": {
  "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
  "activationDate": "2023-04-03"
}

```

The elements of the JSON are defined below.

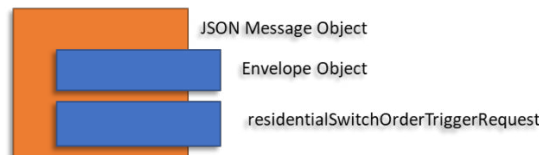
JSON element	Description	Format	Notes
residentialSwitchOrderTriggerRequest	Identifies the message as being a residential switch order trigger.	Object	Required
switchOrderReference	The switch order reference to be triggered.	String	Required
activationDate	The date that the GRCP started to provide services to the customer. The LRCP's billing should stop on this date. It is encoded in the format CCYY-MM-DD.	String	Required

This message will be sent by the gaining provider only once, as once the losing provider has processed it the order should be closed to any further action.

The [sysdate](#) [that_in](#) the trigger message is ~~sent is implied to be~~ the last day of rental liability for the LRCP. The LRCP may process the message on a later date, but must backdate the last day of rental liability to the [sysdate](#) [inof](#) the trigger message.

As a reminder, the Industry Process documents that a switch order must be triggered within 31 days of the plannedSwitchDate (counting the plannedSwitchDate as day 0). The LRCP may have locally cancelled any switch order with an outstanding trigger from day 32 onwards, and may thus reject any later trigger attempt with a response indicating the switch order is cancelled because of the expiry of the 31 day window.

The object structure for this message is as follows.



2.5.1 Residential Switch Order Trigger Confirmation

In response to a valid residential switch order trigger, the losing provider will reply with a residential switch order trigger confirmation.

```
"residentialSwitchOrderTriggerConfirmation": {
  "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
  "status": "triggered"
}
```

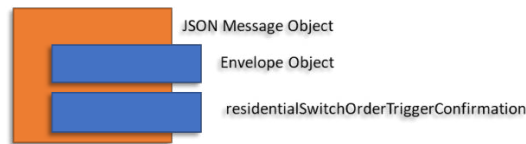
The elements of the JSON are defined below.

JSON element	Description	Format	Notes
residentialSwitchOrderTriggerConfirmation	Identifies the message as being a residential switch order trigger confirmation.	Object	Required

JSON element	Description	Format	Notes
switchOrderReference	The switch order to be actioned.	String	Required
status	The status allows the losing provider to confirm the new state of the switching request, in this case, the value will always be "complete".	String	Required

The message confirms to the gaining provider that the losing provider has triggered the order and the actions agreed in the matching request for that order will be carried out.

The object structure for this message is as follows.



2.5.2 Residential Switch Order Trigger Failure

If the requested switch order reference cannot be found, or is already complete or cancelled, then the failure message will be returned.

```
"residentialSwitchOrderTriggerFailure": {
  "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
  "faultCode": "1401",
  "faultText": "invalid or missing switch order reference"
}
```

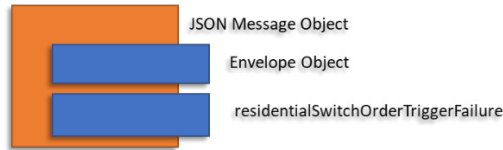
The elements of the JSON are defined below.

JSON element	Description	Format	Notes
residentialSwitchOrderTriggerFailure	Identifies the message as being a residential switch order trigger failure.	Object	Required
switchOrderReference	The switch order to be actioned.	String	Required
faultCode	A code defining the nature of the fault found processing the match request	String	Required
faultText	A human-readable description of the fault code	String	Required

The message contains a fault code and description.

If any individual element results in a failure to process or finds unrecognised or invalid values, then the fault should report them as well to assist in diagnostics.

The object structure for this message is as follows.



2.5.2.1 Response Codes

See the separate “One Touch Switch Response Codes” spreadsheet for the list of response codes the losing provider will generate in the event of an error processing a message.

2.6 Residential Switch Order Cancellation Request

In the event a customer wishes to cancel an order with the GRCP, if there is an active switch in progress, they should notify the losing provider by sending a cancellation.

```
"residentialSwitchOrderCancellationRequest": {
    "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000"
}
```

This message can be sent by the gaining provider only once, as once the LRCP has processed it, the order should be cancelled and not available to be used again.

The elements of the JSON are defined below.

JSON element	Description	Format	Notes
residentialSwitchOrderCancellationRequest	Identifies the message as being a residential switch order cancellation.	Object	Required
switchOrderReference	The switch order reference is to be cancelled.	String	Required

The object structure for this message is as follows.



2.6.1 Residential Switch Order Cancellation Confirmation

In response to a valid residential switch order cancellation, the losing provider will reply with a residential switch order cancellation confirmation.

This message has no additional content.

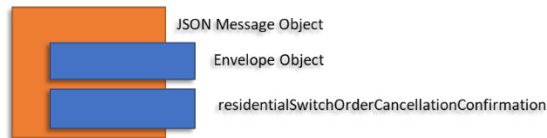
```
"residentialSwitchOrderCancellationConfirmation": {
    "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
    "status": "cancelled"
}
```

The elements of the JSON are defined below.

JSON element	Description	Format	Notes
residentialSwitchOrderCancellationConfirmation	Identifies the message as being a residential switch order cancellation confirmation.	Object	Required
switchOrderReference	The switch order to be actioned.	String	Required
status	The status allows the losing provider to confirm the new state of the switching request, in this case, the value will always be "cancelled".	String	Required

The message confirms to the gaining provider that the losing provider has cancelled the switch order and the actions agreed in the matching request for that order will not be carried out.

The object structure for this message is as follows.



2.6.2 Residential Switch Order Cancellation Failure

If the requested switch order reference cannot be found, or is already complete or cancelled, then the failure message will be returned.

```
"residentialSwitchOrderCancellationFailure": {
  "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
  "faultCode": "1501",
  "faultText": "invalid or missing switch order reference"
}
```

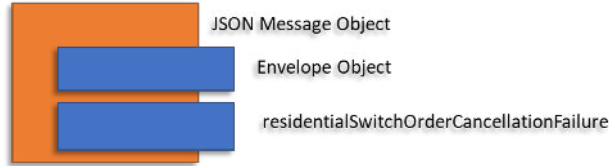
The elements of the JSON are defined below.

JSON element	Description	Format	Notes
residentialSwitchOrderCancellationFailure	Identifies the message as being a residential switch request failure.	Object	Required
switchOrderReference	The switch order to be actioned.	String	Required
faultCode	A code defining the nature of the fault found processing the match request	String	Required
faultText	A human-readable description of the fault code	String	Required

The message contains a fault code and description.

If any individual element results in a failure to process or finds unrecognised or invalid values, then the fault should report them as well to assist in diagnostics.

The object structure for this message is as follows.



2.6.2.1 Response Codes

See the separate “One Touch Switch Response Codes” spreadsheet for the list of response codes the losing provider will generate in the event of an error processing a message.

2.1 Message Summary

The following table identifies who is responsible for raising each message type.

Gaining Provider	Losing Provider	Post Office
<i>residentialSwitchMatchRequest</i>	<i>residentialSwitchMatchConfirmation</i>	<i>messageDeliveryFailure</i>
	<i>residentialSwitchMatchFailure</i>	
<i>residentialSwitchOrderRequest</i>	<i>residentialSwitchOrderConfirmation</i>	
	<i>residentialSwitchOrderFailure</i>	
<i>residentialSwitchOrderUpdateRequest</i>	<i>residentialSwitchOrderUpdateConfirmation</i>	
	<i>residentialSwitchOrderUpdateFailure</i>	
<i>residentialSwitchOrderTriggerRequest</i>	<i>residentialSwitchOrderTriggerConfirmation</i>	
	<i>residentialSwitchOrderTriggerFailure</i>	
<i>residentialSwitchOrderCancellationRequest</i>	<i>residentialSwitchOrderCancellationConfirmation</i>	
	<i>residentialSwitchOrderCancellationFailure</i>	



3. Example Messages, Single service Category switching

The following sections list all potential switching scenarios expected with broadband service and up to two voice lines where only the broadband or the voice lines are being switched. The process can support more than two voice lines, but no examples are included for those, but should simply expand on the two line examples.

3.1 Broadband only customer switching scenarios

The customer only has a broadband service with their current provider, no associated voice services, and is switching the broadband service to a new provider.

Action for switch is **cease**, the resulting switchAction is **ServiceFound**.

3.1.1 Openreach style broadband response.

For switching of services on networks where ordering interfaces require information on the current network provider and service identifiers, the losing provider would include these in the serviceIdentifiers attribute list. Openreach is an example that has these requirements for a “transfer order”.

3.1.1.1 Request

```
"residentialSwitchMatchRequest": {
  "grcpBrandName": "Fred's Communications Ltd (Telesales)",
  "name": "Miggins",
  "account": "0003316563216",
  "address": {
    "uprn": "12345",
    "addressLines": ["Flat 1", "Rose Cottage", "22 Cheshunt Mews", "Cypress Street", "Tyre Industrial Estate", "Blnatyre"],
    "postTown": "Glasgow",
    "postCode": "SW1P 3UX"
  },
  "services": [
    {
      "serviceType": "IAS",
      "action": "cease"
    }
  ]
}
```

3.1.1.2 Response

```
"residentialSwitchMatchConfirmation": {
  "implicationsSent": [
    {
      "sentMethod": "email",
      "sentTo": "d***@my-domain.com",
      "sentBy": "2022-09-25 09:10:00"
    },
    {
      "sentMethod": "2nd1st class post",
      "sentBy": "2022-09-26 10:00:00"
    }
  ],
  "matchResult": {
    "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
    "services": [

```

```

{
  "serviceType": "IAS",
  "switchAction": "ServiceFound",
  "serviceIdentifiers": [
    {
      "identifierType": "ONTReference",
      "identifier": "123456789"
    },
    {
      "identifierType": "ONTPortNumber",
      "identifier": "1"
    },
    {
      "identifierType": "NetworkOperator",
      "identifier": "A001"
    }
  ]
}

```

Note that there are other identifier types for Openreach – the example above is for an full-fibre FTTP services terminated on an ONT (Optical Network Termination) with a reference and port number.

3.1.1 Virgin Media style broadband response.

This is the same example as above, but for Virgin Media, there are no special ordering interfaces or need to present service identifiers in the order process, so the serviceIdentifiers section in the IAS service object includes only the NetworkOperator.

3.1.1.1 Request

```

"residentialSwitchMatchRequest": {
  "grpcBrandName": "Freds Communications Ltd (Telesales)",
  "name": "Miggins",
  "account": "0003316563216",
  "address": {
    "uprn": "12345",
    "addressLines": ["Flat 1", "Rose Cottage", "22 Cheshunt Mews", "Cypress Street", "Tyre Industrial Estate", "Blnatyre"],
    "postTown": "Glasgow",
    "postCode": "SW1P 3UX"
  },
  "services": [
    {
      "serviceType": "IAS",
      "action": "cease"
    }
  ]
}

```

3.1.1.2 Response

```

"residentialSwitchMatchConfirmation": {
  "implicationsSent": [
    {
      "sentMethod": "email",
      "sentTo": "d***@my-domain.com",
      "sentBy": "2022-09-25 09:10:00"
    },
    {

```



```

        "sentMethod": "2nd1st class post",
        "sentBy": "2022-09-26 10:00:00"
    }
},
"matchResult": {
    "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
    "services": [
        {
            "serviceType": "IAS",
            "switchAction": "ServiceFound",
            "serviceIdentifiers": [
                {
                    "identifierType": "NetworkOperator",
                    "identifier": "A002"
                }
            ]
        }
    ]
}
}
}
}

```

3.2 Single line voice only customer switching scenarios, no Broadband

3.2.1 Customer switching voice line with number port

The customer only has a single voice service with their current provider, no associated broadband services, and is switching the voice service to a new provider and porting their phone number.

Action for switch is **port**, the resulting switchAction is **ServiceFound**.

3.2.1.1 Request

```

"residentialSwitchMatchRequest": {
    "grpcBrandName": "Freds Communications Ltd (Telesales)",
    "name": "Miggins",
    "account": "0003316563216",
    "address": {
        "uprn": "12345",
        "addressLines": ["Flat 1", "Rose Cottage", "22 Cheshunt Mews", "Cypress Street", "Tyre Industrial Estate", "Blnatyre"],
        "postTown": "Glasgow",
        "postCode": "SW1P 3UX"
    },
    "services": [
        {
            "serviceType": "NBICS",
            "serviceIdentifier": "0101111222",
            "action": "port"
        }
    ]
}
}
}

```

3.2.1.2 Response

If the voice service was Openreach WLR, the Annn code for Openreach would be returned as the NetworkOperator, and similar for Virgin Media.

For a specialised voice provider (e.g. Vonage), the NetworkOperator would either be a specific Annn value or simply "VOIP".

```

"residentialSwitchMatchConfirmation": {
    "implicationsSent": [

```

```

    {
      "sentMethod": "email",
      "sentTo": "d***@my-domain.com",
      "sentBy": "2022-09-25 09:10:00"
    },
    {
      "sentMethod": "1st 2nd class post",
      "sentBy": "2022-09-26 10:00:00"
    }
  ],
  "matchResult": {
    "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
    "services": [
      {
        "serviceType": "NBICS",
        "switchAction": ServiceFound,
        "serviceIdentifiers": [
          {
            "identifierType": "CUPID",
            "identifier": "123"
          },
          {
            "identifierType": "DN",
            "identifier": "0101111222"
          },
          {
            "identifierType": "NetworkOperator",
            "identifier": "VOIP"
          }
        ]
      }
    ]
  }
}

```

3.2.2 Customer switching voice line only without porting

The customer only has a single voice service with their current provider, no associated broadband services, and is switching the voice service to a new provider but not porting their phone number (analogous to STAC in mobile auto-switch).

Action for switch is **cease**, the resulting switchAction is **ServiceFound**.

3.2.2.1 Request

The DN may optionally be included in the request, or may be omitted if not supplied by the customer.

```

"residentialSwitchMatchRequest": {
  "grpcBrandName": "Fred's Communications Ltd (Telesales)",
  "name": "Miggins",
  "account": "0003316563216",
  "address": {
    "uprn": "12345",
    "addressLines": ["Flat 1", "Rose Cottage", "22 Cheshunt Mews", "Cypress Street", "Tyre Industrial Estate", "Blnatyre"],
    "postTown": "Glasgow",
    "postCode": "SW1P 3UX"
  },
  "services": [
    {

```

```

    "serviceType": "NBICS",
    "serviceIdentifier": "0101111222",
    "action": "cease"
  }
}

```

3.2.2.2 Response

If the DN is included in the request, it will be reflected in the response. However if the DN is not included in the request, the response should include PartialDN (required to identify an Openreach WLR service to be targeted when the GRCP is another Openreach CP, but also returned by many RCPs) or some other circuit identifier of use for other intra-network switches.

There is no need to return the CUPID of the current voice CP as the number will not be ported. However the NetworkOperator should be returned, to aid the GRCP in understanding whether an intra-network switch is possible.

```

"residentialSwitchMatchConfirmation": {
  "implicationsSent": [
    {
      "sentMethod": "email",
      "sentTo": "d***@my-domain.com",
      "sentBy": "2022-09-25 09:10:00"
    },
    {
      "sentMethod": "1st2nd class post",
      "sentBy": "2022-09-26 10:00:00"
    }
  ],
  "matchResult": {
    "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
    "services": [
      {
        "serviceType": "NBICS",
        "switchAction": "ServiceFound",
        "serviceIdentifiers": [
          {
            "identifierType": "CUPID",
            "identifier": "123"
          },
          {
            "identifierType": "DN",
            "identifier": "0101111222"
          },
          {
            "identifierType": "NetworkOperator",
            "identifier": "A001"
          }
        ]
      }
    ]
  }
}

```

3.3 Dual line voice to single line only switching scenarios, no Broadband

3.3.1 Customer switching single voice line only with port

In this scenario, a customer has two voice lines, but it only porting a single line to the new provider.

Action for line to switch is **port**, and the second line would not be included in the request. The resulting switchAction for the requested line is **ServiceFound**. For the other line, the default action is **OptionToRetain**, and the alternative action is **OptionToCease**.

3.3.1.1 Request

```
"residentialSwitchMatchRequest": {
  "grpBrandName": "Fred's Communications Ltd (Telesales)",
  "name": "Miggins",
  "account": "0003316563216",
  "address": {
    "uprn": "12345",
    "addressLines": ["Flat 1", "Rose Cottage", "22 Cheshunt Mews", "Cypress Street", "Tyre Industrial Estate", "Blnatyre"],
    "postTown": "Glasgow",
    "postCode": "SW1P 3UX"
  },
  "services": [
    {
      "serviceType": "NBICS",
      "serviceIdentifier": "0101111222",
      "action": "port"
    }
  ]
}
```

3.3.1.2 Response

For the matching line, serviceIdentifier(s) should be returned as per the previous examples.

For the second line, only PartialDN should be return (to help the customer identify the line in question). It is not necessary to return the NetworkOperator, as the line will either be retained or ceased (and not switched). It is also not necessary to return the CUPID as the number will not be ported.

```
"residentialSwitchMatchConfirmation": {
  "implicationsSent": [
    {
      "sentMethod": "email",
      "sentTo": "d***@my-domain.com",
      "sentBy": "2022-09-25 09:10:00"
    },
    {
      "sentMethod": "1st2nd class post",
      "sentBy": "2022-09-26 10:00:00"
    }
  ],
  "matchResult": {
    "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
    "services": [
      {
        "serviceType": "NBICS",
        "switchAction": "ServiceFound",
        "serviceIdentifiers": [
          {
            "identifierType": "CUPID",
            "identifier": "123"
          },
          {
            "identifierType": "DN",
            "identifier": "0101111222"
          }
        ]
      }
    ]
  }
}
```


Action for the switch is **cease**, the resulting switchAction for the switched line is **ServiceFound**. For the other line, the default action is **OptionToRetain**, and the alternative action is **OptionToCease**.

3.3.2.1 Request

```
"residentialSwitchMatchRequest": {
  "grpBrandName": "Freds Communications Ltd (Telesales)",
  "name": "Miggins",
  "account": "0003316563216",
  "address": {
    "uprn": "12345",
    "addressLines": ["Flat 1", "Rose Cottage", "22 Cheshunt Mews", "Cypress Street", "Tyre Industrial Estate", "Blnatyre"],
    "postTown": "Glasgow",
    "postCode": "SW1P 3UX"
  },
  "services": [
    {
      "serviceType": "NBICS",
      "serviceIdentifier": "0101111222",
      "action": "cease"
    }
  ]
}
```

3.3.2.2 Response

```
"residentialSwitchMatchConfirmation": {
  "implicationsSent": [
    {
      "sentMethod": "email",
      "sentTo": "d***@my-domain.com",
      "sentBy": "2022-09-25 09:10:00"
    },
    {
      "sentMethod": "1st2nd class post",
      "sentBy": "2022-09-26 10:00:00"
    }
  ],
  "matchResult": {
    "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
    "services": [
      {
        "serviceType": "NBICS",
        "switchAction": "ServiceFound",
        "serviceIdentifiers": [
          {
            "identifierType": "CUPID",
            "identifier": "123"
          },
          {
            "identifierType": "DN",
            "identifier": "0101111222"
          },
          {
            "identifierType": "NetworkOperator",
            "identifier": "A002"
          }
        ]
      },
      {
        "serviceType": "NBICS",
        "switchAction": "OptionToRetain",
        "serviceIdentifiers": [

```

```

    {
      "identifierType": "PartialDN",
      "identifier": "13"
    }
  ]
}
],
"alternativeSwitchOrders": [
  {
    "matchResult": {
      "switchOrderReference": "123e4567-e89b-12d3-a456-426614174001",
      "services": [
        {
          "serviceType": "NBICS",
          "switchAction": "ServiceFound",
          "serviceIdentifiers": [
            {
              "identifierType": "CUPID",
              "identifier": "123"
            },
            {
              "identifierType": "DN",
              "identifier": "0101111222"
            },
            {
              "identifierType": "NetworkOperator",
              "identifier": "A002"
            }
          ]
        },
        {
          "serviceType": "NBICS",
          "switchAction": "OptionToCease",
          "serviceIdentifiers": [
            {
              "identifierType": "PartialDN",
              "identifier": "13"
            }
          ]
        }
      ]
    }
  ]
}
]
}
}

```

3.4 Voice only switching, no Broadband, dual line to dual line

In the following scenarios, the customer has two voice lines from their current provider, no associated broadband services, and is attempting to switch both lines, one line to be ported and the other to be ceased without transferring the number.

Variations of this scenario would be where both lines are requested to port or both requested to cease, all the response messages would remain the same in those scenarios.

3.4.1 Sub scenario, both lines found

Actions for switch are **port** and **cease**, the resulting switchAction for both switched lines is **ServiceFound**.

3.4.1.1 Request

```
"residentialSwitchMatchRequest": {
  "grpBrandName": "Fred's Communications Ltd (Telesales)",
  "name": "Miggins",
  "account": "0003316563216",
  "address": {
    "uprn": "12345",
    "addressLines": ["Flat 1", "Rose Cottage", "22 Cheshunt Mews", "Cypress Street", "Tyre Industrial Estate", "Blnatyre"],
    "postTown": "Glasgow",
    "postCode": "SW1P 3UX"
  },
  "services": [
    {
      "serviceType": "NBICS",
      "serviceIdentifier": "0101111222",
      "action": "port"
    },
    {
      "serviceType": "NBICS",
      "serviceIdentifier": "0101111333",
      "action": "cease"
    }
  ]
}
```

3.4.1.2 Response

```
"residentialSwitchMatchConfirmation": {
  "implicationsSent": [
    {
      "sentMethod": "email",
      "sentTo": "d***@my-domain.com",
      "sentBy": "2022-09-25 09:10:00"
    },
    {
      "sentMethod": "1st2nd class post",
      "sentBy": "2022-09-26 10:00:00"
    }
  ],
  "matchResult": {
    "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
    "services": [
      {
        "serviceType": "NBICS",
        "switchAction": "ServiceFound",
        "serviceIdentifiers": [
          {
            "identifierType": "CUPID",
            "identifier": "123"
          },
          {
            "identifierType": "DN",
            "identifier": "0101111222"
          },
          {
            "identifierType": "NetworkOperator",
            "identifier": "A002"
          }
        ]
      },
      {
        "serviceType": "NBICS",
        "switchAction": "ServiceFound",
        "serviceIdentifiers": [

```



```

"switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
"services": [
  {
    "serviceType": "NBICS",
    "switchAction": "ServiceFound",
    "serviceIdentifiers": [
      {
        "identifierType": "CUPID",
        "identifier": "123"
      },
      {
        "identifierType": "DN",
        "identifier": "0101111222"
      },
      {
        "identifierType": "NetworkOperator",
        "identifier": "A002"
      }
    ]
  },
  {
    "serviceType": "NBICS",
    "switchAction": "ServiceNotFound",
    "serviceIdentifiers": [
      {
        "identifierType": "DN",
        "identifier": "0101111333"
      }
    ]
  }
]
}

```

3.4.3 Sub scenario, only one line found, but an alternative number was found

Action for switch are **port** and **cease** but only one of the numbers is found on the account. The resulting switchAction for the switched line is **ServiceFound**. For the other line the resulting action is **ServiceNotFound**. However another line has been found on the account and that is returned with an action of **OptionToRetain**, and the alternative action is **OptionToCease**.

3.4.3.1 Request

```

"residentialSwitchMatchRequest": {
  "grpcBrandName": "Freds Communications Ltd (Telesales)",
  "name": "Miggins",
  "account": "0003316563216",
  "address": {
    "uprn": "12345",
    "addressLines": ["Flat 1", "Rose Cottage", "22 Cheshunt Mews", "Cypress Street", "Tyre Industrial Estate", "Blnatyre"],
    "postTown": "Glasgow",
    "postCode": "SW1P 3UX"
  },
  "services": [
    {
      "serviceType": "NBICS",
      "serviceIdentifier": "0101111222",
      "action": "port"
    },
    {
      "serviceType": "NBICS",
      "serviceIdentifier": "0101111333",
      "action": "cease"
    }
  ]
}

```

```
}
 ]
 }
```

3.4.3.2 Response

Note that the matchResult must contain the ServiceNotFound, but it is not necessary to repeat this in the alternativeSwitchOrders.

```
"residentialSwitchMatchConfirmation": {
  "implicationsSent": [
    {
      "sentMethod": "email",
      "sentTo": "d***@my-domain.com",
      "sentBy": "2022-09-25 09:10:00"
    },
    {
      "sentMethod": "1st2nd class post",
      "sentBy": "2022-09-26 10:00:00"
    }
  ],
  "matchResult": {
    "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
    "services": [
      {
        "serviceType": "NBICS",
        "switchAction": "ServiceFound",
        "servicidentifiers": [
          {
            "identifierType": "CUPID",
            "identifier": "123"
          },
          {
            "identifierType": "DN",
            "identifier": "0101111222"
          },
          {
            "identifierType": "NetworkOperator",
            "identifier": "A002"
          }
        ]
      },
      {
        "serviceType": "NBICS",
        "switchAction": "ServiceNotFound",
        "servicidentifiers": [
          {
            "identifierType": "DN",
            "identifier": "0101111333"
          }
        ]
      },
      {
        "serviceType": "NBICS",
        "switchAction": "OptionToRetain",
        "servicidentifiers": [
          {
            "identifierType": "PartialDN",
            "identifier": "44"
          }
        ]
      }
    ]
  }
},
]
```

```

"alternativeSwitchOrders": [
  {
    "matchResult": {
      "switchOrderReference": "123e4567-e89b-12d3-a456-426614174001",
      "services": [
        {
          "serviceType": "NBICS",
          "switchAction": "ServiceFound",
          "serviceIdentifiers": [
            {
              "identifierType": "CUPID",
              "identifier": "123"
            },
            {
              "identifierType": "DN",
              "identifier": "0101111222"
            },
            {
              "identifierType": "NetworkOperator",
              "identifier": "A002"
            }
          ]
        },
        {
          "serviceType": "NBICS",
          "switchAction": "OptionToCease",
          "serviceIdentifiers": [
            {
              "identifierType": "PartialDN",
              "identifier": "44"
            }
          ]
        }
      ]
    }
  }
]
}

```

3.4.4 Sub scenario, only one line found, other number was found on another account

Action for switch are **port** and **cease** but only one of the numbers is found on the account. The resulting switchAction for the switched line is **ServiceFound**. However, the other line has been found on another account and is returned with an action of **ServiceWithAnotherCust**.

3.4.4.1 Request

```

"residentialSwitchMatchRequest": {
  "grcpBrandName": "Fred's Communications Ltd (Telesales)",
  "name": "Miggins",
  "account": "0003316563216",
  "address": {
    "uprn": "12345",
    "addressLines": ["Flat 1", "Rose Cottage", "22 Cheshunt Mews", "Cypress Street", "Tyre Industrial Estate", "Blnatyre"],
    "postTown": "Glasgow",
    "postCode": "SW1P 3UX"
  },
  "services": [
    {
      "serviceType": "NBICS",
      "serviceIdentifier": "0101111222",
      "action": "port"
    }
  ]
}

```

```

    {
      "serviceType": "NBICS",
      "serviceIdentifier": "0101111333",
      "action": "cease"
    }
  ]
}

```

3.4.4.2 Response

```

"residentialSwitchMatchConfirmation": {
  "implicationsSent": [
    {
      "sentMethod": "email",
      "sentTo": "d***@my-domain.com",
      "sentBy": "2022-09-25 09:10:00"
    },
    {
      "sentMethod": "1st2nd class post",
      "sentBy": "2022-09-26 10:00:00"
    }
  ],
  "matchResult": {
    "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
    "services": [
      {
        "serviceType": "NBICS",
        "switchAction": "ServiceFound",
        "serviceIdentifiers": [
          {
            "identifierType": "CUPID",
            "identifier": "123"
          },
          {
            "identifierType": "DN",
            "identifier": "0101111222"
          },
          {
            "identifierType": "NetworkOperator",
            "identifier": "A002"
          }
        ]
      },
      {
        "serviceType": "NBICS",
        "switchAction": "ServiceWithAnotherCust",
        "serviceIdentifiers": [
          {
            "identifierType": "DN",
            "identifier": "0101111333"
          }
        ]
      }
    ]
  }
}

```



4. Example Messages, broadband and voice customer, single supplier, single service switching

The following sections list all potential switching scenarios expected where a customer has both broadband service and a single voice line from the same supplier on the same account and only one of them is being switched.

4.1 Broadband only switch, linked voice line at the same provider

In the following examples, the broadband is being switched only.

4.1.1 No hard dependency, voice can remain

The customer has broadband and voice service with their current provider, but selects only to switch the broadband. Their voice service can remain, but can optionally be ceased.

Action for the switch is **cease**, the resulting switchAction is **ServiceFound** for the broadband and **OptionToRetain** for the voice. The alternative option presents the action for the voice line as **OptionToCease**.

4.1.1.1 Request

```
"residentialSwitchMatchRequest": {
  "grpBrandName": "Fred's Communications Ltd (Telesales)",
  "name": "Miggins",
  "account": "0003316563216",
  "address": {
    "uprn": "12345",
    "addressLines": ["Flat 1", "Rose Cottage", "22 Cheshunt Mews", "Cypress Street", "Tyre Industrial Estate", "Blnatyre"],
    "postTown": "Glasgow",
    "postCode": "SW1P 3UX"
  },
  "services": [
    {
      "serviceType": "IAS",
      "action": "cease"
    }
  ]
}
```

4.1.1.2 Response

```
"residentialSwitchMatchConfirmation": {
  "implicationsSent": [
    {
      "sentMethod": "email",
      "sentTo": "d***@my-domain.com",
      "sentBy": "2022-09-25 09:10:00"
    },
    {
      "sentMethod": "1st2nd class post",
      "sentBy": "2022-09-26 10:00:00"
    }
  ],
  "matchResult": {
    "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
    "services": [
      {
        "serviceType": "IAS",
        "switchAction": "ServiceFound",
      }
    ]
  }
}
```


4.1.2 Hard dependency, voice line will also cease

The customer has broadband and voice service with their current provider but selects only to switch the broadband. However, the voice service is linked and will be forcibly ceased.

Action for the switch is **cease**, the resulting switchAction is **ServiceFound** for the broadband and **ForcedCease** for the voice. There is no alternative switch option.

4.1.2.1 Request

```
"residentialSwitchMatchRequest": {
  "grpBrandName": "Fred's Communications Ltd (Telesales)",
  "name": "Miggins",
  "account": "0003316563216",
  "address": {
    "uprn": "12345",
    "addressLines": ["Flat 1", "Rose Cottage", "22 Cheshunt Mews", "Cypress Street", "Tyre Industrial Estate", "Blnatyre"],
    "postTown": "Glasgow",
    "postCode": "SW1P 3UX"
  },
  "services": [
    {
      "serviceType": "IAS",
      "action": "cease"
    }
  ]
}
```

4.1.2.2 Response

```
"residentialSwitchMatchConfirmation": {
  "implicationsSent": [
    {
      "sentMethod": "email",
      "sentTo": "d***@my-domain.com",
      "sentBy": "2022-09-25 09:10:00"
    },
    {
      "sentMethod": "1st2nd class post",
      "sentBy": "2022-09-26 10:00:00"
    }
  ],
  "matchResult": {
    "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
    "services": [
      {
        "serviceType": "IAS",
        "switchAction": "ServiceFound",
        "serviceIdentifiers": [
          {
            "identifierType": "ONTReference",
            "identifier": "123456789"
          },
          {
            "identifierType": "ONTPortNumber",
            "identifier": "1"
          },
          {
            "identifierType": "NetworkOperator",
            "identifier": "A001"
          }
        ]
      },
      {
        "identifierType": "serviceInformation",
        "identifier": "1GB Broadband, Installed 23rd March 2019."
      }
    ]
  }
}
```



```

    {
      "sentMethod": "1st2nd class post",
      "sentBy": "2022-09-26 10:00:00"
    }
  ],
  "matchResult": {
    "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",
    "services": [
      {
        "serviceType": "NBICS",
        "switchAction": "ServiceFound",
        "serviceIdentifiers": [
          {
            "identifierType": "CUPID",
            "identifier": "123"
          },
          {
            "identifierType": "DN",
            "identifier": "0101111222"
          },
          {
            "identifierType": "NetworkOperator",
            "identifier": "VOIP"
          }
        ]
      }
    ]
  },
  {
    "serviceType": "IAS",
    "switchAction": "OptionToRetain",
    "serviceIdentifiers": [
      {
        "identifierType": "NetworkOperator",
        "identifier": "A001"
      },
      {
        "identifierType": "serviceInformation",
        "identifier": "1GB Broadband. Installed 23rd March 2019."
      }
    ]
  }
]
},
"alternativeSwitchOrders": [
  {
    "matchResult": {
      "switchOrderReference": "123e4567-e89b-12d3-a456-426614174001",
      "services": [
        {
          "serviceType": "NBICS",
          "switchAction": "ServiceFound",
          "serviceIdentifiers": [
            {
              "identifierType": "CUPID",
              "identifier": "123"
            },
            {
              "identifierType": "DN",
              "identifier": "0101111222"
            }
          ]
        }
      ]
    },
    {
      "serviceType": "IAS",
      "switchAction": "OptionToCease",
      "serviceIdentifiers": [
        {

```




```
],  
  "matchResult": {  
    "switchOrderReference": "123e4567-e89b-12d3-a456-426614174000",  
    "services": [  
      {  
        "serviceType": "NBICS",  
        "switchAction": "ServiceFound",  
        "serviceIdentifiers": [  
          {  
            "identifierType": "CUPID",  
            "identifier": "123"  
          },  
          {  
            "identifierType": "DN",  
            "identifier": "0101111222"  
          }  
        ]  
      },  
      {  
        "serviceType": "IAS",  
        "switchAction": "ForcedCease"  
      }  
    ]  
  }  
}
```

End of Document