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BT NETWORK INTERCONNECTION PROVISIONING MANUAL

SECTION 4 - IN-SPAN INTERCONNECT

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## 4.1 INTRODUCTION

This section describes the provisioning activities required for the interconnection of:

1. A new OPERATOR switch with BT switches via an In-Span Interconnect and the provision of new Interconnection Links via an In-Span Interconnect between existing switches.
2. A new interconnect traffic route via an In-Span Interconnect from an existing OPERATOR switch to the BT network.
3. A new interconnect circuit on an existing traffic route via an In-Span Interconnect from an OPERATOR switch to the BT network.

## 4.2 PROCEDURES AND TASK OVERVIEW

### 4.2.1 Preliminary Planning

New Switch introduction will be identified by the OPERATOR at Technical Review Meetings, see sections 4.3.1 and 4.3.2.

Demand for new traffic routes and new 2Mb/s capacity on existing traffic routes will be identified through traffic and capacity forecasts.

A number of technical issues (e.g. routing requirements) will require discussion at the Technical Review Meeting Forum prior to an order being placed, these are described in Section 2 of this Manual - Interconnect Planning. Contact points are shown in the Customer Service Plan.

### 4.2.2 Capacity Profile and Advance Capacity Order

Before placing Capacity Orders, the OPERATOR shall supply BT with a Capacity Profile in relation to Capacity Provision and Re-arrangement. The first four months of each Capacity Profile agreed by BT shall form an Advance Capacity Order. Further information concerning Capacity Profile and Advance Capacity Order can be found in Section 3 of this Manual.

### 4.2.3 Capacity Orders

Orders will pass from the OPERATOR to the CTC. An example of an Order Form and explanatory notes are contained in Appendix 22 to this Manual.

The CTC will confirm the contractual Ready For Test (RFT) date with the OPERATOR and will deal with its agents within BT to plan the work necessary to fulfil the order.

Contractual Capacity Order time scales are contained in Paragraph 11 of the Planning and Operations Annex (Annex A) to the BT Standard Interconnect Agreement.

### 4.2.4 Provision of In-Span Interconnection (ISI)

The Stages, Key Activities and Activity Descriptions for the provision of new Interconnect Links by PDH In-Span Interconnect are shown in Annex A and by SDH In-Span Interconnect in Annex B.

The manufacturer and type of equipment used to terminate the PDH ISI shall be selected from the list in Appendix 2 to this Manual and shall be agreed between the OPERATOR and BT. The manufacturer and type of equipment which BT shall use to terminate SDH ISI are listed in Appendix 2 to this Manual.

Every order placed by the OPERATOR for PDH and SDH ISI shall be accompanied by a Tributary Assignment Form, an example of this form with explanatory notes can be found in Appendix 3 to this Manual. Tributaries shall be assigned in accordance with the agreed Transmission Plan contained in the Technical Master Plan.

The single mode Optical Fibre Cable Performance Specification is contained in Appendix 4 to this Manual.

The Optical Fibre Cable Specification is contained in Appendix 5 to this Manual.

The Optical Fibre provided will be jointly tested and the results recorded. The Fibre Acceptance Procedure is outlined in Appendix 6 to this Manual.

The joint procedures for testing 34, 140 Mbit/s and STM 1 SDH Optical Line Systems are outlined in Appendix 7 to this Manual. Once the line systems have been tested each party will offer the results to the other to demonstrate acceptable performance.

The joint procedures for End to End Multiplex Tributary Testing are outlined in Appendix 8 to this Manual.

Before working on optical fibres it is essential that appropriate safety measures are taken, these are described in the Operations and Maintenance Manual.

#### 4.2.4.1 Interconnect Extension Circuits

Where connection is required to a switch other than in the switch building serving the ISI, an Interconnect Extension Circuit (IEC) may be provided.

The requirement for IECs will be identified at the time the order is placed by the OPERATOR and the IECs will be provided in parallel with the links to the switch building.

#### 4.2.4.2 Third Party Interconnect

Third Party Interconnect enables the OPERATOR (the Requesting Party) to interconnect to a BT switch via an existing ISI interconnect path with another CP (the Third Party). The same fibre is used by the OPERATOR (the Requesting Party) and the CP (the Third Party) with the capacity being differentiated at the 2 Mbit/s level. The OPERATOR (the Requesting Party) will be responsible for obtaining agreement from the Third Party Operator for the use of the existing ISI interconnect path. It is the responsibility of the OPERATOR (the Requesting Party) to ensure that the Third Party Operator arranges any necessary augmentation of the interconnect path.

**Third Party ISI Diagram**



Third Party ISI responsibilities

If an Operator is to order Third Party ISI Interconnect Circuits (2Mb/s) the circuits will be forecasted and ordered by that Operator, who will be the Requesting party of these interconnect circuits. The ISI transmission system that is to be used to connect these interconnect circuits to BT will have been provided jointly between BT and the Third Party Operator and is expected to be already carrying interconnect circuits between BT and that Third Party Operator’s own switches.

Third Party ISI activities

* The Operator requiring the Third Party ISI circuits submits the Capacity Profile in the normal manner indicating:
* The circuit requirement
* That the Link type is “ISI-3rdP”
* The BT SNEid of the ISI transmission system to be used (that exists between the Third Party and BT) in the Point Of Connection column
* The 2Mb/s tribs to be used on this ISI system which should be entered in the notes column on the Capacity Profile
* The Operator requiring the Third Party ISI circuits must submit a Letter of Authority from the Third Party Operator to accompany the Capacity Profile, this Letter of Authority should:
* Clearly identify both the 2Mb/s tribs and the ISI system to be used by the Operator requiring the Third Party ISI circuits, which should align with the requirement shown on the Capacity Profile
* State that the Third Party Operator is in full agreement with the use of the identified 2Mb/s tribs by the Operator requiring the Third Party ISI circuits
* Be on headed notepaper of the Third Party ISI Operator
* Be submitted to the BT Technical Account Manager for the Operator requiring the Third Party ISI circuits
* The Third Party Operator should submit a copy of the same Letter of Authority to the BT Technical Account Manager for the Third Party Operator at the same time as the submission by the Operator requiring the Third Party ISI circuits
* Once the Capacity Profile has been agreed with BT, the Operator requiring the Third Party ISI circuits must submit the Capacity Order for the Third Party ISI circuits to the BT CTC in the normal manner. The Capacity Order should include:
* The Link type set as “ISI-3rdP”
* The BT SNEid of the ISI transmission system to be used (that exists between the Third Party and BT) in the Link Id Number column
* The 2Mb/s tribs to be used on this ISI system entered in the Trib, Port and JKLM columns
* The Operator requiring the Third Party ISI circuits must provide the relevant connections between their network and the Third Party Operator’s network for the onward connection of the Third Party ISI circuits.

Third Party ISI Timescales

The provision timescales for Third Party ISI circuits are the same as for normal (non-Third Party) ISI circuits and are as detailed in paragraph 11.1 within Annex A of the BT Standard Interconnect Agreement.

#### 4.2.4.3 Private Circuits from a Point of Connection (PCPOC)

Private Circuits from a Point of Connection enables a party to connect to an existing Point of Connection. Private Circuits from a Point of Connection are ordered by the OPERATOR and are provided by BT subject to the provisions in the Planning and Operations Annex (Annex A) to the BT Standard Interconnect Agreement and to the terms and conditions referred to in BT’s retail conditions for private service.

Faults or problems should be reported by the third party to the OPERATOR and not to BT. If, after investigation, the OPERATOR finds that the fault is in the PCPOC provided by BT then the OPERATOR shall report the fault to BT.

### 4.2.5 Ready For Test

As soon as the capacity is ready for test, A Ready For Test 'RFT' certificate will be sent by the CTC to the OPERATOR to certify that the capacity has achieved RFT. An example of the certificate is contained in Appendix 20 to this Manual.

### 4.2.6 Arranging Operational Testing

Once the capacity has agreed RFT dates, a proposed test plan with dates for all the capacity in the order will be proposed by the OPERATOR to the BT Interconnect Testing Team and the parties will use this as the basis to jointly agree the date(s) for operational tests.

The OPERATOR should use the form in Appendix 33 of this Manual in order to arrange, or “book” Operational Testing with the BT Interconnect Testing Team, unless otherwise agreed in writing.

If the parties fail to agree an acceptable plan for the testing they should follow the disputes procedure set out in Paragraph 10 of the Planning and Operations Annex (Annex A) to the BT Standard Interconnect Agreement.

If either company cannot proceed with the test plan as scheduled a new plan mutually convenient to both companies will be agreed between the nominated operational people in both parties.

In the event of testing difficulties, which cannot be resolved quickly by the people carrying out the tests the appropriate escalation procedure defined between the OPERATOR and the BT CTC should be followed.

Please refer to section 4.3 for more information on testing requirements.

### 4.2.7 Bringing Into Service

When the appropriate operational testing has been completed satisfactorily the capacity will be left in an in an 'In Service' state, (also known as Ready For Service 'RFS').

At this point, for additional capacity on existing routes, calls may be applied in both directions as appropriate.

The CTC will then confirm that relevant commercial and technical issues are in order and will advise the OPERATOR that the capacity is open for customer service by issuing an Interconnect Completion certificate. An example of the certificate is contained in Appendix 18 to this Manual.

Once the Appendix 18 has been issued, the capacity and associated transmission systems will then be supported jointly by BT and the OPERATOR according to the agreed Operations and Maintenance activities detailed in the appropriate Operations and Maintenance Manual.

### 4.2.8 Traffic on New Routes

For new routes, as soon as the Interconnect Completion certificate has been issued by the CTC, the operator may send calls over the capacity in the OPERATOR to BT direction.

Calls in the BT to OPERATOR direction will commence on completion of the relevant Data Management Amendment 'DMA'.

## 4.3 TESTING

Testing is performed to ensure that an OPERATOR connection of capacity to the BT network will not have adverse effects on the network and customers of either party and ensure that the connection will function effectively.

Testing requirements for the first connection between the OPERATOR switch and the BT network will consist of a combination of three activities, namely

Validation Testing (VT)

Integration Testing (IT) and

Operational Testing (OT)

The testing levels and specific combination will depend on whether the proposed switch type / build combination, protocol, service types and facilities to be used have been connected to the BT network previously.

Testing of subsequent connections and additional capacity on existing connections will require operational testing only, provided that the build, facilities and service types have not changed since the previous capacity provision.

All of the current testing requirements referred to in this section can be found at:

<https://www.btwholesale.com/pages/static/Library/Technical_Documents_and_Procedures/Interconnect_Manuals/index.htm>

Note that BT reserve the right to increase the testing level at any time should the testing indicate that the connection under test varies significantly in performance to that observed in previous testing to that switch.

### 4.3.1 New Switches

For each new switch they wish to connect, the OPERATOR must submit the following items:

Switch System Questionnaire (SSQ) - Appendix 10 to this Manual

Statement of Compliance (SOC) - Appendix 12 to this Manual

Signalling Service Description (SSD) - Appendix 9 to this Manual

Note that the choice of switch and build, signalling method and protocol and chosen facilities will affect the level of testing required and that the implications of the chosen switch and build level may be the subject of a specific technical meeting between the companies. Additionally, if the chosen protocol is UK-ISUP, the OPERATOR must refer to Section 10 of this manual, which details specific additional requirements for this protocol.

BT will compare the information supplied by the OPERATOR to the known build of switches connected to the BT network (a copy of this list is contained in Appendix 1 to this Manual). If the switch / build are not known, or the, protocol service types or facilities are different from that previously considered as known, integration (and possibly interface) testing is required.

One of the options in 4.3.2 will be required to be completed and BT will provide an initial assessment of the level of testing required on the basis of the information supplied.

### 4.3.2 New Switch Testing Levels

Note that with reference to section 4.2.6 in this Manual, the VT and IT requirements will need to have been completed to the satisfaction of BT *before* the OPERATOR switch can be connected to the BT network for Operational Testing. The ITarrangements will be organised either via the TAM or directly with the BT Network Interconnect Responsible Officer (NIRO) where that arrangement is agreed in writing by all parties.

Note that in all cases, the BT NIRO will have the final decision on which testing requirements are needed and whether testing has been completed adequately.

#### 4.3.2.1 Full Testing

A new switch type not previously connected to the BT Network or a major build change to a previously connected switch may require VT using a protocol simulator, followed by IT within a captive model and finally Operational Testing (OT) at Test Case 1a (see section 4.3.8) on the first traffic route.

#### VT testing should be completed by the OPERATOR using the tests defined in the BT Validation Testing Manual and the test results supplied to BT for consideration.

#### IT may be completed using either the BT Network Integration Facility (NIF) or the OPERATORS facility using the using the tests defined in the BT Integration Testing Manual.

#### 4.3.2.2 Intermediate Level Testing

A new switch, of a type previously connected to the BT Network but with different facilities, with a revised build level or being used in a new application, will require a scaled down IT requirement followed by OT at Test Case 1a (see section 4.3.8) on the first connection.

At the discretion of the BT NIRO, if the changes will not affect the signalling interface, the IT requirement may be waived and/or the OT level reduced to Test Case 1b.

Note: A change to a different signalling protocol will generally be considered by BT as requiring Full rather than Intermediate Testing.

#### 4.3.2.3 Reduced Testing

Switch types / build combinations which are known to BT will require OT at Test Case 1b (see section 4.3.8) on the first Traffic Route, provided that the protocol, services types and facilities do not vary from those previously successfully tested.

### 4.3.3 Integration Testing Requirements

#### 4.3.3.1 Booking

#### Testing will be arranged by the TAM on behalf of the OPERATOR (unless otherwise agreed) with the BT NIRO. Bookings will not be accepted until a valid SSQ (or SCN) has been received and assessed. The initial booking will be tentative and a firm booking will not be in place until (as applicable) valid VT results and Provisioning Manual Appendices 9, 12, 26 and 30 are received.

Note: Test resource will be allocated on a strict “first come first served basis” with no exceptions.

#### 4.3.3.2 Timescales and Durations

#### The outline timescales for IT are indicated in Annex D of this section (Integration Testing Timescales and Key Activities), including key activity dates which the OPERATOR must meet in order to maintain the confirmed booking.

Actual testing duration is normally 2 weeks for Full testing and up to 1 week for Reduced testing (or re-testing). This assumes that both parties will have the appropriate resource available for the duration of the testing.

#### 4.3.3.3 Logistics

Testing is physically achieved by either the OPERATOR bringing its equipment to the Network Integration Facility (NIF) in a secure environment (if this is physically possible given the size and portability of the equipment) or by the provision of Megastreams from the OPERATORS site to the NIF.

Should there be a requirement for Megastreams to be provided the cost must be met by the OPERATOR as is the responsibility for making and progression of such orders.

#### 4.3.3.4 Delays

#### The durations stated in 4.3.3.2 are generally long enough to complete all of the required testing. However, if the testing encounters unexpected delays (missing resource, slow resolution of issues etc.) then all of the testing may not be completed in the agreed duration. If this is the case, BT will attempt to continue the testing beyond the end date provided that testing is making suitable progress and that resources are available.

If the duration cannot be extended, a new slot will be scheduled to start as soon as resource is available.

#### 4.3.3.5 Completion

On satisfactory completion of Integration Testing, BT will issue an “Integration Testing Report” report which detail results of the completed testing and will also detail any areas of concern, which may then require further testing during OT. A list of such recommended tests will be included in the interim report, and these tests must be performed during OT. When completed, a final report will be issued which will summarise the success of the additional tests.

### 4.3.4 Changes to Existing Switches

If the OPERATOR wishes to make a change to an in service switch build, including adding new service types, signalling protocols or facilities, they must use the Switch Change Notification (SCN) form to inform BT in advance of any operational deployment. A copy of this form is contained in Appendix 11 to this Manual.

Both companies will jointly assess the implications of the proposed change and agree the appropriate testing procedure (if any). Generally this will follow the guidance for intermediate testing as detailed in section 4.3.2.2. If Operational Testing is required, the level will be Test Case 4a or 4b.

### 4.3.5 Switch Hot Changeover

BT will accept the ‘Hot Changeover’ (i.e. the in-service change of one switch type for another) of switches by an OPERATOR subject to the conditions below:

* The new switch replaces an existing in-service switch.
* The new and old switch will use the same IWPC unless otherwise agreed.
* The new and old switch will use the same interconnect signalling protocol.
* Services and applications that the OPERATORS new switch is using have previously completed IT and OT at Test Case 1a level (Appendix 1 to this manual refers).
* No additional functionality is added to the switch as a result of the changeover (if additional functionality is provided it must be turned off until suitable assessment is made, see section 4.3.4).
* Both BT and the OPERATOR have the right to monitor the routes after changeover and request Operational Testing to take place should calls fail or other anomalies occur.
* The new switch has undergone Operational Testing at Test Case 1a by the OPERATOR after commissioning by the manufacturer, and the results made available to the BT NIRO in advance of the changeover.
* The OPERATOR must retain the option to revert the route(s) to the previous switch should serious network management conditions occur (in either network) as a result of the changeover.
* If a break in service occurs during the changeover, the OPERATOR must arrange a Planned Engineering Work (PEW) via the BT CTC (if the changeover is being made via a means transparent to BT, with no service break, the OPERATOR must still inform the CTC of the scheduled changeover time(s))
* The OPERATOR must accept that any faults that occur during or immediately following such changeovers are on their network, as the routes have been previously tested during Operational Testing and progress resolution of such faults accordingly.
* The OPERATOR agrees that only one new switch is changed over at a time, i.e. further switches must wait until an agreed (with the BT NIRO) assessment period has passed.

### 4.3.6 List of Known Builds

Following the satisfactorily completion of *all* of the appropriate phases of testing (VT, IT & OT as defined in section 4.3.2) the new/updated switch and build will be considered as “Known” and hence suitable for in service connection to the BT Network (and therefore for carrying operational traffic).

At this point the “List of Known Builds” (see Appendix 1 to this manual) will be updated by the BT NIRO to include the switch type / build and the tested protocols, service types and facilities.

### 4.3.7 Timescales

Generic timescales for the complete cycle of testing phases is set out in Paragraph 14 of the Planning and Operations Annex (Annex A) to the BT Standard Interconnect Agreement.

#### 4.3.7.1 Integration Testing Timescales

Expected timescales for completion of Integration Testing including key OPERATOR activities are defined in Annex D of this section and sub-section 4.3.3.2.

#### 4.3.7.2 Operational Testing Timescales

Timescales for completion of Operational Testing will depend on the software build of the OPERATOR switch, the number of service types to be tested, the number of routes and the number of 2Mb/s on each route. The Operational Testing Manual Guide contains details of the typical time scales for each Test Case.

### 4.3.8 Operational Testing Requirements

Operational Testing is used to confirm that the switch data and network equipment is suitable for connection to the BT network for customer services. In general, the OT phase will concentrate more on service types and the end to end customer service experience. Testing will be performed in all cases with non-operational traffic (i.e. test calls) and the testing requirements are defined in Operational Testing Manuals (OTMs).

The level of Operational Testing, known as 'Test Case', required on a particular route or capacity is related to testing performed on previous traffic routes or capacity. In general the amount of testing required will reduce as more routes are completed from the BT Network to the OPERATORS switch. However, the first route Test Case will always depend on the testing level as specified in Section 4.3.2.

Operational testing is specified in the Operational Testing Manuals and the specific requirements and procedures for operational testing, including information about service types, test cases and typical timescales is contained in the Operational Testing Manual Guide.

### 4.3.9 Testing Faults & Waivers

Where testing identifies issues that need to be resolved before the testing can be completed successfully, the party deemed to be owning the issue must endeavour to resolve that issue before the allocated time for the testing expires, otherwise the testing will be deemed to have failed and the full testing will need to be repeated at a later date.

Where an issue cannot be cleared in a short space of time, and is deemed to be non-service affecting, the parties may agree a Waiver (form contained in Appendix 34 to this Manual) which will clearly detail the proposed resolution and time scale for resolving the issue.

When the waiver is in place (agreed and signed by both parties), testing may move on to the next step, or, if appropriate the route may be allowed into service.

Note that the party which was not resolving the issue may insist on further IT and/or OT testing or monitoring of routes to confirm the success of the patch / build change to correct the issue.

When the issue has been resolved to the satisfaction of both parties (including completion of additional testing requirements) the waiver is considered to be void.

If the waiver is not cleared in the agreed timescale, BT reserves the right to increase testing levels for the subsequent routes until the issue is resolved.

## 4.4 DOCUMENT HISTORY

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| --- | --- | --- | --- |
| **ISSUE No.** | **DATE** | **AUTHOR** | **SUMMARY OF CHANGES** |
| 4.0 | 07/09/2012 | [Graham Hinch](mailto:graham.hinch@bt.com?subject=Provisioning%20Manual%20Comments) | Full issue, no changes from draft |
| Draft 4.0 | 03/04/2012 | [Graham Hinch](mailto:graham.hinch@bt.com?subject=Provisioning%20Manual%20Comments) | Change to section 4.2.6 to reflect current practice and include reference to new Appendix 33 (Operational Test Booking Form).  Re-organisation of section 4.3 to follow logical order and include reference to Annex D (Integration Testing Timescales) and new Appendices 9 (Signalling Service Description) & 34 (Waiver Form) |
| 3.4a | 21/01/2005 | Kevin Young | Paragraph 4.3.4 amended to include requirement that both new and old switch use the same interconnect signalling protocol and correction to refer to Test Case 1a |
| 3.3 | 24/02/2004 | Kevin Young | Additional text added to further explain Third Party ISI |
| 3.2a | 11/07/2002 | Kevin Young | Revision of all sections; change of CMC to CTC; Revised testing information; Hot Change Over section added; Removal of new PDH ISI flowcharts; Revision of SDH flowcharts to include written request for new ISI system & ISPOC Site Meeting. Text in Annex C (Key activities – Description) amended (changes shown in red text). |
| 3.1 | 16/10/2000 | Kevin Young | Conversion of all previous ISI sections into one ISI sections, restructured accordingly. |

# ANNEX A - KEY PROCESSES

### *Additional Capacity (Existing ISI)*

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### *New Traffic Routes and New ISI Links (New ISPOC Location)*

### *New Traffic Routes and New ISI Links (Existing ISPOC Location)*

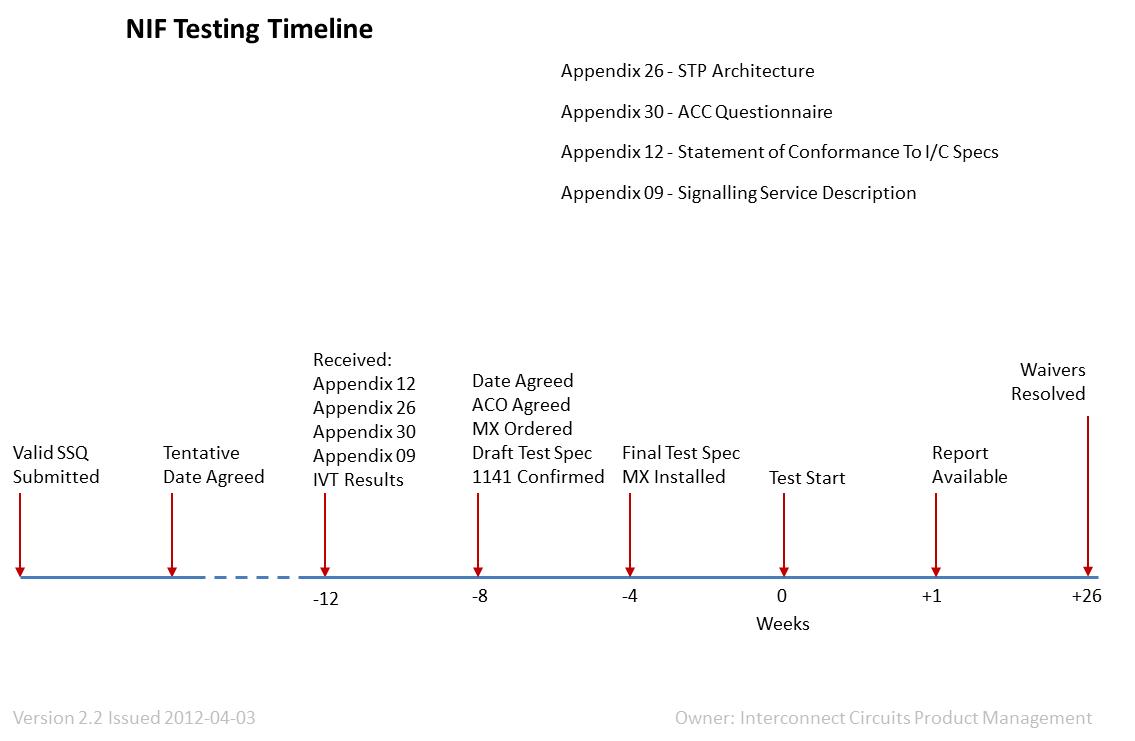


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# ANNEX B - ACTIVITY OWNERS

| **Activity Name** | **Activity Descriptions** | **Owner** |
| --- | --- | --- |
| **OPERATOR sends Firm Order to BT including Trib Allocation** | **OPERATOR sends Capacity Order and details of the Trib Allocation proposed by the Operator using the Tributary Assignment Form to BT.** | **OPERATOR sends the Capacity Order to the BT CTC.** |
| **Order Validation by BT** | **The BT CTC will validate the Capacity Order against the agreed arrangements for the interconnect contained in the Technical Master Plan. An invalid order will be passed back to the OPERATOR and will not be progressed.** | **BT CTC** |
| **Written request for new ISI system** | **The OPERATOR submits a written request to BT for the provision by both BT and the OPERATOR of a new ISI system. Such a request must be justified by the forecast requirements within the relevant Capacity profile.** | **OPERATOR** |
| **Same ISI POC to be used?** | **If an existing ISI POC can be used then there is no requirement to lay new duct or build a jointing chamber. Subject to a capacity check it may not be necessary to install a new cable as the existing transmission equipment will be used. If an existing ISI POC cannot be used then it will be necessary to lay new duct, build a jointing chamber and install new cable.** | **BT/OPERATOR** |
| **Network Capacity Assigned** | **BT assigns DLTs and Intra Building Links for the 2 Mbit/s interconnect systems.** | **BT NETWORKS** |
| **ISI Planning Meeting** | **A meeting is held between representatives of the OPERATOR and BT to discuss and agree a number of issues relating to the order for ISI Interconnection. The issues will include: the location of the In-Span Point of Connection, the type of Add Drop Multiplexor to be used , the cable specification, laser safety and the RFT date.** | **The meeting is arranged by BT.** |
| **ISPOC Site meeting** | **A meeting is held between representatives of the OPERATOR and BT at the ISPOC location to agree exact location details, duct entry points and ducts to be used for new cable etc.** | **BT/OPERATOR** |
| **Street Works Application** | **If street works are required to allow either party to lay new duct or to build a jointing chamber box then application(s) will need to be made to the relevant authority for permission to carry out this work.** | **The application is submitted by the BT NETWORKS and/or the OPERATOR.** |
| **Street Works Clearance OK?** | **The response to the application(s) for permission to carry out Street Works is received and if permission(s) is granted civil engineering may commence. If permission is refused or if the result is to delay the work then this information is given to the other party and a further ISI planning meeting held to discuss the implications. The outcome may be to accept the delay or agree an alternative ISPOC for which a new Street Works Application will be made.** | **The party making the application will advise the other party of the result of the application and a further meeting will be arranged if necessary.** |
| **Civil Engineering Complete** | **BT and/or the OPERATOR has completed the civil engineering work required to build new duct / jointing chamber.** | **BT NETWORKS /OPERATOR** |
| **Capacity Check** | **BT checks the available capacity on the existing transmission equipment. If there is sufficient spare capacity no action is needed. If there is insufficient spare capacity on the existing transmission equipment then a new cable, or new fibres in an existing cable, will be required.** | **BT NETWORKS** |
| **Planning Meeting** | **A meeting is held between representatives of the OPERATOR and BT to discuss and agree the issues relating to the new transmission equipment required to fulfil the order.** | **The meeting is arranged by BT.** |
| **New Cable Required** | **Where new cable is required the requirement is identified and the OPERATOR subsequently provides the cable. This activity is linked to both Hand Over Connecting Cable and In House Install and Test OLTE.**  **Where new fibres in an existing cable are to be used the new fibres are identified by the OPERATOR and the information is communicated to the BT ISI Planners. This activity is linked to both Hand Over Connecting Cable and In House Install and Test OLTE.** | **BT NETWORKS** |
| **Hand Over Connecting Cable** | **The ISI is established by either BT or the OPERATOR bringing the cable to the jointing chamber where , either it is joined to the other parties cable or , if agreed and the cable meets the required standards , then a suitable length can be handed over to the other party to be drawn into the other parties building. There should be a planned and co-ordinated handover of the cable from one Operator to the other, which includes the details of the fibres that are to be used.** | **BT NETWORKS /**  **OPERATOR** |
| **Handshake Fibres Safe** | **BT and the OPERATOR agree that appropriate safety measures are in place prior to working on the optical fibres.** | **BT NETWORKS and OPERATOR** |
| **Fibres Tested** | **The responsibility for carrying out the acceptance tests lies with the majority owner of the fibre cable. The test results shall be copied to the other party.** | **BT NETWORKS or OPERATOR** |
| **Results OK?** | **Analysis of the results of the acceptance tests of the fibre optic cable should be agreed by both parties. If the results are unsatisfactory, remedial action should be taken and the fibres retested.** | **BT NETWORKS and OPERATOR** |
| **In House Install & Test ADM (SDH)** | **Each party shall arrange the installation and testing of their own Add Drop Multiplexor** | **BT NETWORKS and OPERATOR** |
| **SDH System Complete**  **(SDH)** | **The optical fibre and ADMs are installed and the test results are satisfactory. A date is arranged for the Joint SDH testing.** | **BT NETWORKS and**  **OPERATOR** |
| **SDH System Tested**  **(SDH)** | **The procedure for the joint (BT/OPERATOR) testing of the SDH System is in Appendix 7 to this manual.** | **BT NETWORKS and OPERATOR** |
| **SDH System Confirmation**  **(SDH)** | **Both parties are required to sign to confirm that the SDH System has been tested and meets the specified requirements.** | **BT NETWORKS and OPERATOR** |
| **Planning Review Meeting (SDH)** | **BT holds an Internal Planning Review Meeting.** | **BT NETWORKS** |
| **Tributaries Assigned** | **Tributaries are assigned and documented on the Tributary Assignment Form. The form should be signed by both parties.** | **BT NETWORKS and OPERATOR** |
| **Advise RFT Date** | **BT advises the OPERATOR of the RFT date(s) for the order.** | **BT CTC** |
| **SRAs issued to BT and OPERATOR** | **Signalling and Routing Advices for the route are issued by BT and sent out within BT and to the OPERATOR.** | **BT NETWORKS within BT. BT CTC to OPERATOR.** |
| **Circuit Provision and Databuild** | **The 2 Mbit/s interconnect systems are provided and the data built.** | **BT NETWORKS** |
| **Schedule Test Dates** | **BT and the OPERATOR agree Operational Test Schedule for the order.** | **BT CTC and OPERATOR** |
| **RFT Declared** | **The Interconnect route is declared to be Ready For Test and a Ready for Test Certificate is issued to the OPERATOR.** | **BT NETWORKS** |
| **Operational Testing** | **The OPERATOR will have contacted the CTC to arrange when Operational Testing can take place. At the time when Operational Testing is due to start the operational teams in both BT and the OPERATOR will contact each other and will jointly carry out the Interconnection Tests as specified in the Operational Testing Manual.** | **BT CTC** |
| **Bring Into Service** | **Subject to satisfactory test results both parties will sign the Ready for Service Certificate. Once the RFS Certificate has been signed off the circuits will be available for introduction to public service. The bringing into service activities are described in paragraph 4.2.7.** | **BT CTC and OPERATOR** |

# ANNEX C - INTEGRATION TIMESCALES AND ACTIVITIES

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END OF SECTION