

## 17. Fault handling and testing procedures

The purpose of this section 17 is to provide processes and requirements for the management and resolution of Network faults involving LMNP. These fault handling and testing procedures do not relate to the IPMS.

The primary responsibility for handling and resolving Customer fault enquiries lies with the Service Provider of that customer service. The Service Provider shall work with the Carrier providing Network services to resolve the fault. It is anticipated that the necessary business process relating to fault handling in general between Service Providers and their Carriers will already exist.

The specific inter-carrier process for LMNP fault handling and resolution should be developed by participating Carriers by way of amendments to existing Bilateral Agreements regarding fault handling.

Access to, and use of, the information in the IPMS databases shall be restricted to those required for operational purposes, such as for routing of calls and fault handling. Carriers shall not make use of the information obtained from these databases for any other purposes.

Each Carrier will progress its own fault handling within its own Network. Procedures for joint investigation or the co-ordination of fault handling, as agreed between the Carriers, shall be used, as for any other co-ordinated interconnect faults.

Each Carrier, together with the relevant Service Provider is responsible for its own Customer base and as such will have control of any service fault reports. Fault handling for the Ported Numbers is to be under the control of the Gaining/Host Carrier, although additional co-ordination may be required with the Losing/Donor Carrier. The Gaining/Host Carrier will work closely with the Losing/Donor Carrier and the other Carriers to resolve any fault reports, as for any other interconnect faults.

### 17.1 LMNP Fault Management Procedures

The following general procedures shall be implemented for the resolution of LMNP Network faults:

- a. The Gaining Carrier or Host Carrier, as the case may be, is to manage the investigation of faults reported on Ported Numbers during and after Porting.
- b. If a customer with a Ported Number reports a fault relating to their service to a Carrier other than the Gaining Carrier or Host Carrier for that service, then that Carrier must advise the Customer to contact its Gaining Carrier or Host Carrier to report the fault.
- c. If a Customer calling a Ported Number reports a fault to their Carrier, then that Carrier must investigate and resolve the fault as per their normal fault management procedures.

### 17.2 Standard Testing

Standard Tests will be conducted in accordance with the Operations and Support Manual for LMNP. Before reporting a fault to another Carrier, the Gaining Carrier or Host Carrier must verify that the:

- a. Activation time for Porting has expired;
- b. Customer equipment is correctly terminated;

- ~~c. Dial tone or an outgoing call capability is available on the Gaining Carrier or Host Carrier's Network;~~
- ~~d. Test calls from within the Gaining Carrier or Host Carrier's Network are successful; and~~
- ~~e. Test calls from other Carriers Network are unsuccessful (collectively, the **Standard Tests**).~~

~~Each Carrier while diagnosing a fault must use sufficient analysis to identify which Carrier's Network may be causing the fault and then direct the fault report to the identified Carrier in the first instance.~~

### **17.3 Additional Tests for Complex Ports**

In the case of a Complex Port, the Gaining Carrier or Host Carrier must conduct the Standard Tests set out in the Operations and Support Manual for LMNP, however the Gaining Carrier or Host Carrier does not need to test all Numbers if there are more than ten (10) Numbers associated with a service which are in a sequential number range.

### **17.4 LMNP Fault Reporting**

#### 17.4.1 Reporting of Network faults will be managed in accordance with the Operations and Support Manual for LMNP.

##### ~~17.4.1 During Porting Fault~~

~~Each participating Carrier must maintain a nominated contact point (or points) at its Fault Reporting Centre that must be used by participating Carriers for the direct reporting of faults occurring during Porting ("**During Porting Fault**").~~

##### ~~17.4.2 Post Porting Fault~~

~~Post Porting Faults are faults occurring after Porting, and are to be reported using existing fault reporting methods ("**Post Porting Fault**").~~

##### ~~17.4.3 Fault Clearance During Porting, or Immediately Post Porting~~

~~If the Gaining Carrier or Host Carrier becomes aware of such a fault, the Gaining Carrier or Host Carrier may call the Losing Carrier or Donor Carrier's contact point(s) to report the fault after the Gaining Carrier or Host Carrier has completed the Standard Tests~~

~~If the Losing Carrier or Donor Carrier receives a call from the Gaining Carrier or Host Carrier it should check the status and validity of the Port Request associated with the fault identified by the Gaining Carrier or Host Carrier. If the Port Request is invalid or the Port Activation is not yet closed then the fault report can be held, pending resolution of the state of the Port.~~

~~If the Port Request is valid and the Porting has been completed, testing must be initiated by the Losing Carrier or Donor Carrier.~~

~~If testing does not identify the existence of a fault then the Losing Carrier or Donor Carrier must advise the Gaining Carrier or Host Carrier accordingly.~~

~~If testing does identify the existence of a fault, then the Losing Carrier or Donor Carrier must initiate the rectification of the fault.~~

#### ~~17.4.4 Fault Reporting requirements~~

~~Each day, any Carrier that has had the responsibility for clearing a fault related to LMNP, must advise the Carrier that first reported the fault, and any other Carrier directly affected by the fault, of the rectification, clearance, or other status of the fault. Where it was found that the fault either did not exist, or the fault was not related to LMNP, that outcome shall be also included in the fault report.~~

#### ~~17.4.5 Guide to LMNP Fault Management Timetable~~

~~The following table summarises the resolution targets that apply to fault resolution~~

<b>Event</b>	<b>Resolution Target timeframe</b>
<del>Resolution of During Porting Faults</del>	<del>On the initial phone call or no longer than four (4) hours</del>
<del>Time for the Gaining Carrier to test that a Port has been successfully completed</del>	<del>Four (4) hours from the commencement of the Port but before 5pm</del>
<del>Time for the Losing Carrier/Donor Carrier to respond to a During Porting Fault</del>	<del>Two (2) hours</del>
<del>Immediate Post Porting Faults</del>	<del>End of the first full Business Day</del>
<del>Resolution of Special Investigations</del>	<del>Three (3) Business Days</del>

~~All resolution targets may be improved by Bilateral Agreement.~~

## **18. Capacity forecasting procedures**

The purpose of this section 18 is to assist LMNP participants to build and provision adequate capacity on their Network.

Each Carrier shall be required to provide each other Carrier participating in LMNP with forecast volumes of Ported Calls for agreed periods at agreed times. Forecasts are provided by the Carrier in the context of reasonable endeavours, and in good faith, and no Carrier is liable to any other Carrier, as a result of the accuracy or content of any forecast.

Carriers shall liaise as required, in order to resolve any issue as to the understanding or accuracy of any forecast. In particular if a Carrier becomes aware, during a period for which a forecast has been provided, of any material change to that forecast, (whether transient, or ongoing), it must promptly give any other affected Carrier notice of the change.

## **19. Support arrangements and escalation procedures**

The purpose of this section 19 is to provide the details for processes to allow for:

- management of Planned Outages
- management of Unplanned Outages
- escalation procedures
- disaster recovery

when these events are relevant to the management of Networks involved in LMNP. Unless specifically specified otherwise, the procedures do not relate to the IPMS.

## 19.1 Management of Outages

### 19.1.1 Planned Outages

Every effort must be made to ensure that Planned Outages that may affect LMNP do occur between 1am and 3am.

In the event that a Carrier identifies that they require an outage in the ~~IPMS or that~~ Carrier's Network that may affect LMNP, that Carrier must advise all involved parties via phone call and email at least 5 Business Days before the outage occurs (**Planned Outage**).

If there is any change to the Planned Outage date or time the change must be advised to all parties via phone call and email as soon as possible.

~~Carriers will also provide D~~details of all Planned Outages (including any change to those Planned Outages) to the TCF and the TCF will make those details available will be provided on the TCF website, ~~and updated when there is a change.~~

### 19.1.2 Unplanned Outages

In the event that a Carrier identifies that it is experiencing an Unplanned Outage, it must as soon as practicable:

- (a) notify all involved parties in LMNP via phone call and email. The back up method is fax notification to those parties; and
- (b) confirm receipt of notification from each party.

The following information must be included in notification:

- (a) Nature of problem;
- (b) Location of problem
- (c) Impact of problem
- (d) Estimated time of resolution.
- (e) Next update time

The Carrier that had the Network outage must give notice of the conclusion of the outage to all parties via phone call and email or fax (as a back up) as soon as practicable. To the extent that parties may have ceased processing pPorting transactions during an Unplanned Outage, they will recommence processing those transactions as soon as possible after the Network fault has been remedied. ~~can initiate queued porting transactions once confirmation is advised by the IPMS management that those transactions can be completed.~~

Carrier's will provide the TCF with contact details for planned and unplanned outages and Tthe TCF shall maintain a contact list for each of the parties on the TCF's website.

## 19.2 Escalation procedures

### 19.2.1 Procedure

If a fault is specific to LMNP traffic and does not affect other traffic types and if Bilateral Agreements do not provide specific arrangements for escalation procedures in the context of Network issues relating to LMNP, then parties shall use the following procedure:

- (a) In a LMNP environment, the Service Provider that owns the relationship with the Customer who originates the fault call is also responsible for coordination and escalation of the fault resolution process.
- (b) The escalation procedure is to be used as a means of bringing unresolved issues to the attention of Carriers at all levels responsible for, or having authority to, expedite corrective action. To that end all LMNP participants must ensure that they nominate relevant contact points for the escalation of Porting issues.
- (c) In the case that any Porting activity is not resolved within the specified time frame or is resolved unsatisfactorily, any LMNP participant may escalate this matter to the next escalation point nominated by the other party. Unless otherwise specified, that escalation point will have the relevant amount of time to investigate, resolve and respond as specified for that point of escalation.
- (d) The escalation procedure is to be initiated when an issue that requires resolution has been reported to an LMNP participant for remedial or corrective action, and after a given period, either:
  - no response had been provided in relation to the issue raised; or
  - the issue raised has not been resolved; or
  - an unsatisfactory reason is given for the delay in remedial/corrective action to resolve the issue raised.
- (e) Prior to initiating the escalation procedure, the affected LMNP participant should conduct preliminary enquires within their own organisation in an attempt to resolve any issues raised. At this point, the relevant party should identify if the issue is the result of a known problem. Where it is identified that the problem is associated with an existing unresolved problem (and all other conditions have been met) then the affected LMNP participant can raise an escalation.
- (f) Once the above steps have been undertaken, the relevant party should initiate the escalation procedure as follows:
  - Advise the nominated escalation contact point.
  - If the issue cannot be resolved at the first level, advise that Carrier's or Service Provider's second level escalation of the affected parties for resolution.

### 19.2.2 Contact Details for Escalation Procedure

At each level, the relevant escalation contact points must:

- supply adequate facilities for contact and commit to maintenance of that contact and when necessary provide an alternate point of contact; and
- acknowledge receipt of information provided by the other escalation contact point as soon as possible.

Carrier's will provide the TCF with contact details for escalation purposes and the TCF shall use these to maintain a list of escalation contacts for each of the parties on the TCF's website.

The levels of escalation and standard timeframes to escalate to the next level are:

Escalation level	Description	Standard timeframe for contacting next escalation level
• <b>Business As Usual</b>	Represents the handover point for initial fault investigation and repair.	
• <b>Level One</b>	Escalation level where service level agreements are assessed as being "in danger of" being compromised or are not met	2 hours
• <b>Level Two</b>	Escalation level where service level agreements are impacted and Level One escalation has not affected a satisfactory resolution. Also may be invoked where multiple customers' services are affected by the same problem.	4 hours
• <b>Level Three</b>	Level Two escalation has not affected a satisfactory resolution. Serious process or infrastructure integrity failure.	8 hours

### 19.3 Disaster Recovery

In the event a major Network fault occurs, there should not be a "bypass" of any escalation level but the standard timeframes can be shortened as the initiator request. The ultimate remedy to resolve an urgent fault will be a conference call between appropriate representatives and technical experts.

## 20. New entrant procedures

The purpose of this section 20 is to provide details and information for new entrants.

### 20.1 Contracted Service Deliverer

A Contracted Service Deliverer can perform number portability LMNP-database lookups on behalf of other Network operators. The Contracted Service Deliverer may also provide interconnection services to other Donor Carriers or Host Carriers,

(ie, also has a Transit Carrier role) and, if so, the requirements of a Transit Carrier or Bypass Carrier may also be applicable. A Contracted Service Deliverer must:

- a) be familiar, and ~~have complied~~ with the obligations required under the LMNP Terms and Network Terms;
- b) be familiar with the call handling procedures laid down in the Network Terms;
- c) complete a connection to the IPMS and all relevant commissioning testing;
- d) ensure that the ~~p~~Ported ~~n~~Number ~~r~~Register is updated with current data; and
- e) provide contact details for support and escalation to all interested parties~~the TCF~~.

## 20.2 Transit or Bypass Carrier

A Transit Carrier or Bypass Carrier is purely an intermediary carrier in the call delivery process. The Transit Carrier and Bypass Carrier play no active part in number portability database lookups or route determination. A Transit Carrier or Bypass Carrier must ensure that:

- a) Bilateral Agreements between the new entrant and other Network operators to whom the new entrant will connect are in place;
- b) interconnect Network testing between Networks to ensure satisfactory transiting of LMNP related signalling messages is complete. The exact detail and requirements of this testing will vary between Network operators; and
- c) contact details for support and escalation purposes have been provided to all interested parties~~the TCF~~.

## 20.3 New Network Operator

A new Network operator is a new Donor Carrier ~~on the New Zealand market that has its own Local Number or Mobile Number ranges~~, and ~~that therefore~~ qualifies as an access seeker or access provider in relation to the Local Number Portability and Mobile Number Portability services under the Telecommunications Act.

A new entrant Network operator must comply with sections 20.1, and 20.2 and in addition, must:

- a) ensure it has valid assignment of Local Numbers or Mobile Numbers and HOC codes;
- b) complete Network testing successfully, including call origination and delivery to the interconnection points; and
- c) provide contact details for support and escalation purposes to all interested parties.