Basic Telephone Service Assurance

The Structural Separation Undertaking (SSU) is a set of commitments Telstra has made to the ACCC that requires Telstra to provide transparency and equivalence in relation to the supply by Telstra of regulated wholesale and comparable retail services on Telstra's Copper Network. The Network Services Business Unit (NSBU) has principal control over and responsibility for:

• service activation and provisioning; and

• fault detection, handling and rectification,

for regulated services provided to wholesale customers and comparable services provided to retail customers. NSBU staff and contractors must therefore understand and comply with the commitments made in the SSU.

The NSBU utilises the same systems, processes and procedures for the assurance of Basic Telephone Services (BTS) for both retail and wholesale customers, including the issuing, processing, management and completion of tickets of work issued to field staff. This ensures that the fault detection, handling and rectification of a BTS can occur in an equivalent manner regardless of whether a ticket of work was received by NSBU on behalf of a retail or wholesale customer.

Fault Detection, Handling and Rectification - Basic Telephone Service

This document describes the end-to-end view of processes and systems used in the fault detection, handling and rectification of faults in relation to the retail BTS. For the sake of clarity, this includes the fault rectification of retail line rental, local calls and the local exchange access component of the BTS under the SSU.

Fault management system

Service Improvement in Assurance Management (SIIAM) is a tool used for reporting customer faults and service difficulties. SIIAM manages the lifecycle of faults including incident capture, problem diagnosis, restoration activity tracking and fault restoration details. SIIAM will create cases from a number of different media such as auto-creation from external systems, manual and via the web. These cases are then either resolved by Blended agents (i.e. skilled as both Front of House consultants and Back of House testers) at the initial point of contact (out of scope of this process document), or escalated to various queues within SIIAM to be resolved by the appropriate remediation/repair group.

Linx Online Service (LOLS) is a web-extension of the SIIAM assurance Management System and is Telstra's wholesale service assurance fault ticketing system. The LOLS application is integrated in the background with the SIIAM application.

LOLS allows, in a secure online browser environment, the Access Seeker (AS) to:

- lodge a fault report for its end user
- view relevant real time notes and test results entered by Telstra operational workgroups, technical engineers and field staff;
- view reschedule notification emails sent by Telstra in LOLS notes;
- interact with Telstra technical staff with additional notes and updating information within LOLS;
- view up to date information on major network outages;
- view Incorrect Callout Charge information; and
- close a fault report.

Fault allocation

After fault diagnosis by the FoH Consultant, business rules that are configured in SIIAM/LOLS will determine the appropriate course of action for fault resolution. Initial SIIAM/LOLS testing and diagnosis will determine whether the case is assigned to testers or specialist groups for further testing and investigation or whether a sub-case is created and dispatched to the field workforce for rectification. Details from the preliminary testing that occurs during order entry will be provided on the ticket of work to assist in the restoration process.

Where a field sub-case is created on an order, SIIAM interfaces with the field workforce management system PROMISE to book an assurance appointment (where testing has indicated that access to the end user premises may be required) or to make a commitment timeframe in which to restore the service (where access to the end user premises is unlikely to be required) which is sent through to the field workforce for resolution.

Once this task is received in PROMISE, the Back Ground Optimiser (BGO) (automated system) allocates the tasks to the Communications Technician (CT). This may need further manual refinement or rescheduling by the Field Resource Co-ordinator.

Fault detection and handling

Prior to conducting testing the CT will contact the customer to advise they will be working on the fault and ask the customer to check for symptoms.

The CT will view the fault details in PROMISE MOBILE via their Tablet. PROMISE MOBILE is a software application through which the CT gets visibility of task details. The CT will then perform a T&DM or Customer Access Network Test Set (CTS), test which assists to identify the potential location of a fault and provide current service specifications.

T&DM is a tool used to provide field staff with a standard network based testing environment. To do this T&DM interfaces with Subscribers Universal Line Test Access Network (SULTAN). SULTAN is Telstra's national system for remote testing and fault diagnosis of Public Switched Telephone Network (PSTN) services, principally the Customer Access Network (CAN), customer premises equipment, and the associated exchange inlet.

T&DM provides the basic line tests of:

− Foreign Battery;

− Insulation Resistance to Earth;

− Insulation Resistance between the A and B Legs;

− Capacitance; and

− Open Circuits.

The service will proceed through each of these tests separately, and the results of a particular test will determine whether the service will proceed to the next test. If an out of specification result is received for any of the basic line tests, the CT is then automatically offered a second level test. This option runs all basic line tests again.

The CTS, JDSU, EXFO or VIAVI are Standard Model multi-functional test units designed to provide the CT with the core test functionality for copper pair testing in one unit. The functionality list of these test units are:

• Multi-meter (AC/DC, loop resistance);

• Resistance Fault Location (RFL);

• Pulse Echo Testset (PET);

• Capacitance meter;

• Balance meter;

• Remote device; and

• Noise/Pair quality.

All T&DM tests run in Promise mobility and CTS test results are recorded and reported in a database (CRUX) to assist in managing any future fault tickets of work.

Where the service is testing within specification and the customer is satisfied that the service is working without fault symptoms, then no further fault location/repair action is required and the fault ticket of work can be closed as completed.

Fault Rectification

Where the service is not testing within specifications, the CT will travel to the first work location (end user premises, exchange, pillar, pit, etc.). When the CT arrives at the first work location they will conduct further testing with appropriate fault locating equipment to identify the fault location. The CT will also keep the customer informed of progress, the expected completion time and the likelihood of service interruptions.

The CT will identify any potential source of a fault symptom within the network providing the service and complete any required repair, replacement or, if the current network path is unable to be restored, the transposition of the service to an alternate network path, to restore the service to specification. This work may be required to be completed at the exchange, in the street, or at the network boundary point (usually the main distribution frame or the first socket within the premises).

Upon repair of the service the CT will conduct another T&DM or Test Unit tests to ensure the service is testing within prescribed technical specifications before completing the ticket of work. Again, both T&DM and CTS test results are uploaded into CRUX.

The CT will then contact the customer and inform them that the service has been restored to ensure they are satisfied prior to the CT completing the ticket of work.

When completing the ticket of work in PROMISE MOBILE, the CT will populate the clearance code details needed to complete the task and add any relevant completion comments. The CT will ensure accurate restoration times are recorded when completing the ticket of work. The restoration time used is the actual time the service was restored and not the time when all activities associated with the ticket of work were completed.

Where the service has been restored by way of transposition to an alternate network path, the CT will enter a Customer Network Improvement (CNI) into the CNI database on the MAPS4P Android application on their mobility device, identifying the faulty network element and the required work to remediate the infrastructure to standard. As the affected network element is no longer provisioning the customer's service, these are managed in a separate process.

Where the attending CT is unable to complete the repair work (such as where additional resources are required) to restore the service, the ticket of work is passed over to another workgroup for rectification and completion. The CT will incomplete the ticket of work, following approval from their Team Manager, and add extensive details regarding: the minimum scope of work required to restore the service, possible solution, location of the fault, test results, details of customer contact, team manager sequence number, name and contact number, customer priority and whether the fault is affected by an outage. The CT will contact the customer and advise of the reasons for the delay in restoration.

The workgroup who receives the ticket for an incomplete repair will read all relevant notes and details provided by the CT and then conduct further necessary testing if required to further isolate the fault. As necessary, they will arrange for civil work to be completed, cable to be hauled and jointed, materials or parts to be obtained, and a lasting repair provided to restore the service, following the standard process.

There may be other reasons the CT is unable to complete a task. These reasons could include:
• extreme weather conditions;
• insufficient time and/or spare parts required; or
• customer not in attendance.

If the CT is unable to complete the task for any other reason, they will update the task to reflect the incomplete reason, with appropriate notes and incomplete code. The ticket of work will then be seen in a review queue in PROMISE SCHEDULE. From that point, the ticket of work will be manually managed by the customer service consultants for that geographic region, who will liaise with the customer to reschedule the appointment/commitment for a later date or seek after hour's attention if required – in order to restore the service.

Notification of Fault Restoration

When a service has been restored, and the CT enters the appropriate clearance code in PROMISE MOBILE, SIIAM will automatically receive a transaction update from PROMISE and the sub-case and case will be auto-closed. The response and restore times are also translated into the relevant fields in SIIAM.

When the service is restored and the case closed, the customer will automatically receive an SMS or e-mail (generated by SIIAM) to advise the service has been restored.