

Case Reference	R/E/I/097
Title	Service Difficulty – SingTel’s Fixed Line Service Disruption (“ Service Difficulty Incident ”)
Case Opened	28 October 2011
Case Closed	23 August 2012
Complainant	IDA initiated this proceeding pursuant to the Code of Practice for Telecommunication Service Resiliency (“ Code ”)
Respondent	Singapore Telecommunications Ltd (“ SingTel ”)
Case Summary	<p>On 28 and 29 October and 4 November 2011, a Service Difficulty Incident occurred in SingTel’s fixed line network, which caused some SingTel end users to experience disruptions to their fixed line telephone (mio Voice) services for varying periods of time.</p> <p>Based on IDA’s investigation, IDA found that the Service Difficulty Incident lasted for a total of 42 hours and 31 minutes, comprising the following periods:</p> <ul style="list-style-type: none"> (a) 1.56pm on 28 October to 6am on 29 October; (b) 5pm on 29 October to 4.30pm on 30 October; and (c) 8.08am to 9.05pm on 4 November. <p>The Service Difficulty Incident affected end users in parts of Tampines, Changi and Pasir Ris in incidents (a) and (b); and parts of Bukit Panjang, Bukit Timah and Woodlands in incident (c). In total, more than 500 end users were affected by the Service Difficulty Incident.</p> <p>IDA’s investigations revealed that the Service Difficulty Incident was caused by a hardware capacity limitation of the Central Processing Units (“CPUs”) of the Optical Line Terminals (“OLTs”) at SingTel’s Tampines Exchange and Bukit Panjang Exchange. As a result of this capacity limitation, key transmission data packets, namely Address Resolution Protocol and Dynamic Host Configuration Protocol packets, could not be expeditiously processed by the CPUs of the affected OLTs which affected some end users’ mio Voice service.</p> <p>As part of trouble-shooting efforts during the first two periods of disruption, SingTel used packet traces to identify the issue and developed a software patch to regulate the load on the CPU. SingTel also manually deactivated the Optical Network Terminals (“ONTs”) of affected end users to reduce the load on the OLT</p>

	<p>CPUs and re-activated these ONTs when the load stabilised. During the third period of disruption on 4 November, SingTel carried out a hardware upgrade for the OLT CPU to restore services.</p> <p>Following the Service Difficulty Incident, SingTel carried out hardware upgrades for all OLTs in its network (including those at areas that were not affected by the Service Difficulty Incident) to overcome the capacity limitation.</p>
<p>IDA's Determination</p>	<p>SingTel would be in breach of the Code for any service difficulty incident that exceeds one hour and affects an aggregate of 500 or more local fixed line telephone subscriber lines. It would not be a breach of the Code if SingTel can establish to the satisfaction of IDA that the occurrence of the Service Difficulty Incident was not within its control and occasioned through no fault on its part.</p> <p>In this case, IDA was not satisfied that SingTel had actively monitored the transmission packet load and taken adequate measures to ensure sufficient hardware capacity was provided to prevent the service disruptions.</p> <p>In view of the above, IDA concluded that the Service Difficulty Incident could have been avoided and SingTel had not established to IDA's satisfaction that the occurrence of the Service Difficulty Incident was not within SingTel's control and occasioned through no fault on its part. IDA therefore determined that SingTel was in breach of the Code.</p> <p>In determining the appropriate amount of financial penalty to be imposed on SingTel, IDA took into account all relevant factors, including the cause and nature of the Service Difficulty Incident, the duration of the Service Difficulty Incident, and relevant mitigating factors. This included the fact that the impact to end users was localised and affected an aggregate of more than 500 end users.</p> <p>Taking into consideration all of the above, IDA imposed a financial penalty of S\$300,000 on SingTel.</p>