



**DECISION ISSUED BY**  
**THE INFOCOMM MEDIA DEVELOPMENT AUTHORITY**  
**ON**  
**THE REVIEW OF SINGAPORE TELECOMMUNICATIONS LIMITED'S**  
**REFERENCE INTERCONNECTION OFFER**

**4 SEPTEMBER 2023**

## DECISION ON THE REVIEW OF SINGAPORE TELECOMMUNICATIONS LIMITED'S REFERENCE INTERCONNECTION OFFER

1. On 22 February 2023, the Infocomm Media Development Authority (“**IMDA**”) issued a public consultation to seek comments on the proposed changes to Singapore Telecommunications Limited’s (“**Singtel**”) Reference Interconnection Offer (“**RIO**”) (the “**Public Consultation**”).
2. At the close of the Public Consultation, IMDA received comments from three respondents, namely:
  - (a) SIMBA Telecom Pte Ltd (“**Simba**”);
  - (b) StarHub Ltd (“**StarHub**”); and
  - (c) SuperInternet Access Pte Ltd (“**SuperInternet**”).
3. IMDA thanks all respondents for their views and comments, and has given careful consideration to the issues raised. IMDA sets out below its decision on the issues raised in the Public Consultation (“**Decision**”).

### Proposed requirement for Services-Based Operations licensees to procure insurance

4. Under the current RIO, only Facilities-Based Operations licensees (“**FBOs**”) are required to procure insurance, to cover liabilities incurred from taking services under the RIO. The insurance coverage required to be provided by an FBO under the RIO is \$10 million.
5. For this RIO review, Singtel proposed to also require Services-Based Operations licensees (“**SBOs**”) to procure insurance but of a lower coverage at \$1 million. Singtel submitted that this proposed change would ensure SBOs are sufficiently covered in case of any liability under the RIO. Singtel further proposed for the change to apply to both existing and future SBO Requesting Licensees of the RIO.
6. IMDA notes that the **intent of procuring insurance coverage is to reimburse the Requesting Licensee** in the event that the Requesting Licensee is found liable and is required to compensate Singtel for breach(es) of the RIO (e.g., act of negligence, including death, personal injury, fire, damages to premise/equipment etc.) and/or any third party claim involving gross negligence, wilful or reckless breach of the RIO. While IMDA notes that no comments were received from the Public Consultation, IMDA is of the view that Singtel’s proposed change to require all SBOs to procure insurance is not necessary due to the low potential liability exposure for the SBOs. This is because unlike FBOs, **SBOs can only subscribe to a limited number of RIO services** (as listed below) and **such services generally do not require SBOs to access Singtel’s premises frequently**. As such, this greatly reduces the circumstances whereby SBOs could incur liabilities under the RIO (such as abovementioned). The services that SBOs can subscribe under RIO are:

- (a) Schedule 1B – Virtual (Distant) Interconnection;
  - (b) Schedule 2A, 2B, 2C – Call Origination, Termination, Transit Services; and
  - (c) Schedule 4A – Emergency Call Service.
7. In addition to above low potential liability exposure for the SBOs, IMDA notes that there has been no past cases of SBOs incurring such liabilities. In this regard, IMDA is of the view that it is not necessary to require SBOs to procure insurance under the RIO, and can **leave to the individual SBO to assess whether it wishes to procure insurance to minimise its financial risks associated with potential RIO liability**. As such, IMDA will reject Singtel's proposal to require SBOs to procure insurance of \$1 million coverage under the RIO.

*Proposed requirement to impose additional security requirement on Requesting Licensees who subscribe for Schedule 2 services*

8. The current RIO requires only Requesting Licensee whose paid up capital is below \$1 million to put in place a security deposit/banker's guarantee, with a value that is 2.5 times the Requesting Licensee's monthly recurring charges or \$20,000, whichever amount is greater.
9. For this RIO review, in addition to the abovementioned security deposit requirement, Singtel proposed to require all Requesting Licensees of Schedule 2A, 2B or 2C (i.e., Call Origination, Call Termination or Call Transit) to provide either a banker's guarantee or security deposit of \$30,000. This aims to address issues of bad debts and financial risks at Singtel's end, especially arising from cessation charges which would be payable to Singtel after the Requesting Licensee terminates these Schedule 2 services. Specifically, Singtel proposed the \$30,000 security deposit/banker's guarantee to address cases where some Requesting Licensees had paid up capital greater than \$1 million, and hence were not required under RIO to place any security deposit/banker's guarantee with Singtel. For some of these Requesting Licensees, Singtel might face the financial risks of not being able to recover the cessation charges from them after the termination of the services. Singtel further proposed for the change to apply to both existing and future Requesting Licensees of the RIO.
10. One respondent disagreed with the proposed requirement as it was of the view that the proposal was too broad and would unnecessarily impact Requesting Licensees who had good business reputations and no intention to cease the provision of voice services (i.e., Schedule 2 services). The same respondent suggested that Singtel's ability to impose new security requirements should be limited to a subset of Requesting Licensees (e.g., those who could not meet the minimum paid up capital requirements, or without a minimum monthly volume of calls). This would then accurately target the Requesting Licensees who could potentially be at risk of ceasing services and fail to pay the cessation charges.

11. Another respondent also disagreed with the proposed change as it believed that the existing RIO terms already provides sufficient protection for Singtel. In addition, the respondent opined that all the proposed changes should not be retrospective (i.e., they should only apply to future Requesting Licensees), particularly regarding banker's guarantee or security deposit.
12. IMDA agrees with the respondents that the proposed change to impose additional security requirement on all Requesting Licensees of Schedule 2 services, may be too broad since some of these Requesting Licensees may already be required to have in place the RIO security requirements (which is \$20,000, or 2.5 times the Requesting Licensee's monthly recurring charges, whichever amount is greater) if their paid up capital is below \$1 million. Notwithstanding, IMDA notes that Singtel had encountered some default cases in relation to cessation charges in the past, thus there is a likelihood of financial risks Singtel has to bear if there are future defaults in cessation charges for Schedule 2 services. As such, IMDA is of the view that it would be reasonable to **require only those Requesting Licensees who have currently ordered/taken, or going to order/take, Schedule 2 services and who do not have any security requirement placed with Singtel under RIO, to be subject to this new proposed security requirement.** Further, the quantum of the said security requirement to be imposed on Schedule 2 Requesting Licensees will be **revised to \$20,000** since this is the average amount of cessation charges. IMDA will require Singtel to propose further modifications to the RIO Main Body clauses to incorporate these changes.

*Proposed removal of the alternative interconnection configuration*

13. Under the current RIO (Schedule 1), the default interconnection configuration for an FBO Requesting Licensee is to connect to the four Singtel Interconnect Gateway Switches ("IGS"), i.e., two serving the East zone and two serving the West zone. Notwithstanding, the current RIO also allows an alternative interconnection configuration whereby the FBO Requesting Licensee can interconnect to just one IGS serving the East zone and one IGS serving the West zone, subject to Singtel's agreement and the Requesting Licensee's acceptance of a lower network performance.
14. For this RIO review, Singtel proposed to remove the said alternative interconnection configuration. Singtel proposed this change to take into account the increased need for resilience and security, and to ensure that interconnection with Singtel would be provided with greater diversity for network resilience. For instance, with the proposed removal of the alternative interconnection configuration, in the event that one of Singtel IGS fails, the interconnection with the Requesting Licensee could still be maintained via the second Singtel IGS in that zone. This would prevent an outage on Singtel's switch affecting the Requesting Licensee's services. Singtel had also proposed for the change to apply to both existing and future Requesting Licensees of the RIO.

15. IMDA received mixed responses from industry. One respondent disagreed with the proposed change as it believed that this would raise the barrier to entry for new operators. However, another respondent supported the proposed change as it was of the view that the proposed change would provide a suitable level of network resilience. This same respondent opined that the proposed change should only apply to future Requesting Licensees. The respondent also further noted that new interconnection configurations/arrangements would be required when the RIO shifted to IP-based interconnection in the coming years.
16. Under the current interconnection regime, interconnection arrangements (e.g., specific network configurations, traffic flow details) are generally left to parties' mutual agreement as operators would know their networks best in terms of operational efficiency, network diversity and resilience. Nonetheless, IMDA notes the increasing importance for operators to keep their networks resilient and secured - particularly for Singtel, being the Dominant Licensee regulated to offer interconnection to any domestic operator. As such, IMDA agrees that the **removal of the alternative interconnection configuration would enhance the overall resilience of the interconnected networks and minimise disruptions to end-users** should there be outage on Singtel IGS which would affect Requesting Licensees' services. IMDA will thus allow for this change to Singtel's RIO.
17. However, as rightly pointed out by one of the respondents, IMDA is currently working with industry on the preparation works to migrate to IP-based interconnection. Given that the eventual transition to IP-based interconnection will change the current network interconnection configurations/arrangements under the RIO in the coming years, it may not be commercially reasonable to require the existing Requesting Licensees to invest and revise their network configurations now to adhere to the new proposed change by Singtel. In this regard, IMDA will require Singtel to **apply the proposed removal of the alternative interconnection configuration to only future FBO Requesting Licensees of this Schedule 1 service**.

*Proposed removal of the option for Requesting Licensees to interconnect at less than the minimum interconnection capacity*

18. Under the current RIO (Schedule 1), the minimum interconnection capacity for interconnection by an FBO Requesting Licensee to a Singtel IGS is two E1 links. Similarly, the minimum interconnection capacity for interconnection by an SBO Requesting Licensee to a Singtel SBO Gateway Switch ("**SGS**") is two E1 links. Notwithstanding, should a Requesting Licensee agree to accept a lower network performance, the RIO allows the Requesting Licensee the option to interconnect at less than the abovementioned minimum interconnection capacity.
19. For this RIO review, Singtel proposed to remove the option for Requesting Licensees (both FBOs and SBOs) to interconnect at less than the minimum interconnection capacity so as to cater for link diversity and improve network

resilience. While no comments were received from the Public Consultation for this proposal, IMDA agrees that having **link diversity would ensure the continual provision of the Requesting Licensee's service during outage and minimise disruptions to end-users**. As such, IMDA will allow the proposed removal of the option to interconnect at less than the minimum interconnection capacity in Singtel's RIO.

20. As with the abovementioned alternative interconnection configuration, IMDA notes that the minimum requirement for two E1 links may also be revised accordingly when the industry migrates to IP-based interconnection in the coming years. This is because under IP-based interconnection, the interconnection configurations will be different and the interconnection links will no longer be on E1-capacity basis. Given these eventual changes to the RIO requirements for IP-based interconnection, it would be reasonable for Singtel to **apply the proposed removal of the option for Requesting Licensees to interconnect at less than the minimum interconnection capacity, to only future Requesting Licensees (both FBOs and SBOs) of this service**. Notwithstanding, existing Requesting Licensees are encouraged to maintain link diversity for better network resilience.

*Proposed increase in timeframe for Singtel to provide Requesting Licensee with estimate of time taken to complete rectification work*

21. Under the current RIO (Schedule 5A and Schedule 13), where a Requesting Licensee submits a request to Singtel to rectify a defect/problem in the duct, manhole or other facility, Singtel is required to provide within 5 business days to the Requesting Licensee, the estimated time for Singtel to complete the rectification work. Notwithstanding Singtel is only providing an estimate of the time Singtel will take to complete the rectification work, Singtel is obligated by the Service Level Guarantees ("**SLGs**") under the RIO to provide a rebate to the Requesting Licensee, should Singtel fail to meet this estimated completion time as notified to the Requesting Licensee. Although the RIO allows Singtel to notify the Requesting Licensee of a revised completion time in the event that Singtel is unable to meet its initial estimated completion time, this will not affect the Requesting Licensee's ability to obtain a rebate from Singtel.
22. For this RIO review, Singtel proposed to increase the said notification period from 5 business days to 10 business days as Singtel would require more time to ascertain the ground situation and prepare an estimate of the time to complete the rectification work.
23. One respondent commented that the proposed change would delay the provision of estimated recovery timelines to Requesting Licensees, and negatively impact the Requesting Licensees' ability to plan alternatives, or update their customers affected by the defect/problem.
24. IMDA understands that in order for Singtel to assess how long it will take to complete the rectification work, Singtel will first need to access the affected site

to check on the overall physical situation. This may involve Singtel making arrangements to enter certain areas of a premise/building (e.g., MDF room) and/or open manholes to access ducts. **Where such access approval is required to be sought from an external party, Singtel may already need 3 to 5 business days to secure the approval.** After accessing the affected site, Singtel will also need some time to engage its own contractor and prepare its estimate of time for the rectification works. Hence, IMDA agrees that **5 business days may not be sufficient for Singtel to arrange and perform the above site verification and prepare the time estimate to get back to the Requesting Licensee.**

25. Given that Singtel is subject to a SLG penalty under the RIO should Singtel fail to meet its own estimate of the rectification work completion time, it may be reasonable to allow Singtel sufficient time to conduct site verification and prepare a good estimate of the rectification work completion time. However, IMDA views that **Singtel's proposed 10 business days may be too long and will cause unnecessary delay to the Requesting Licensee and its customer(s).** As such, IMDA will approve Singtel's proposed change to **increase the notification period from 5 business days to 7 business days, to provide the Requesting Licensee with the estimated time for Singtel to complete the rectification work.**

*Proposed removal of the minimal 6-month notification period from Singtel to Requesting Licensee on termination of licence for lead-in duct/manhole access in event of building MDF room closure*

26. Under the current RIO (Schedule 5A), where a building MDF room is pending closure, Singtel will provide prior notice of at least 6 months to the affected Requesting Licensee before Singtel terminates the Requesting Licensee's licence for access to the Singtel's building lead-in duct/manhole. Where Singtel is unable to provide such notice due to circumstances beyond Singtel's reasonable control, Singtel is required to inform the Requesting Licensee as soon as reasonably possible upon being informed of the pending closure of a building MDF room.
27. For this RIO review, Singtel proposed to remove the abovementioned notification obligation. Singtel submitted that the building owner would not be obligated to inform Singtel of the closure of a building MDF room, thus it should also not be Singtel's obligation to inform the Requesting Licensees of such closure. Rather, the building owner would independently inform the Requesting Licensee of the closure of the building MDF room since the right to access the building MDF room would already have been negotiated/arranged between the Requesting Licensee and the building owner. Given that it would be the Requesting Licensee's responsibility to acquire and maintain its own access to the building (including to the building MDF room), Singtel was of the view that it would not be appropriate to impose the notification obligation on Singtel.

28. One respondent disagreed with the proposed change by Singtel as it believed all Requesting Licensees would require advance notice of any potential disruptions to their services. Thus, Singtel's proposed removal of the said notification obligation would adversely affect the resilience of its interconnected operators.
29. At the outset, IMDA clarifies that the abovementioned **minimum 6-month notification period imposed on Singtel is with regard to Singtel's decision to terminate the Requesting Licensee's licence** to access Singtel's building lead-in duct/manhole. Notwithstanding that Requesting Licensees may be separately notified by building owners of any closure of MDF rooms, Singtel should contractually be obligated to notify its Requesting Licensees before it terminates any licence. This practice is consistent with all other terminations under the RIO. Further, IMDA views that it is crucial for Requesting Licensees to be given sufficient notice on any potential disruptions to their services so that these Requesting Licensees will have sufficient time to plan and make their own arrangements. As such, IMDA is of the view that it remains **reasonable for Singtel to be obligated to provide the said minimal 6-month notification period to the Requesting Licensee (where possible) if Singtel decides to terminate the Requesting Licensee's licence** for access to the Singtel's lead-in duct/manhole (arising from the pending closure of a building MDF room).

## CONCLUSION

30. IMDA will direct Singtel to submit to IMDA, its further proposed modifications to the RIO to give effect to IMDA's Decision. The specific RIO schedules with IMDA's directed modifications are:
- (a) Main Body of the RIO;
  - (b) Schedule 1 – Physical and Virtual (Distant) Interconnection;
  - (c) Schedule 5A – Licensing of Lead-in Duct & Lead-in Manholes;
  - (d) Schedule 8B – Access to Mandated Services; and
  - (e) Schedule 13 – Licensing of CDN.
31. As for the proposed changes by Singtel to the following RIO schedules, IMDA notes no comments were received during the Public Consultation. Given that the proposed changes for these schedules are either administrative or were proposed by Singtel to clarify and/or streamline the RIO processes, IMDA will conditionally approve these schedules while awaiting Singtel's further proposed modifications to the schedules, with IMDA's directed modifications as listed in the preceding paragraph.
- (a) Schedule 2A – Call Origination Service;



- (b) Schedule 2B – Call Termination Service;
  - (c) Schedule 2C – Call Transit Service;
  - (d) Schedule 4A – Emergency Call Service;
  - (e) Schedule 4B – Submarine Cable Connection Service;
  - (f) Schedule 8 – Co-location;
  - (g) Schedule 8 – Attachments;
  - (h) Schedule 8A – Co-location for Point of Interconnection (POI); and
  - (i) Schedule 8D – Co-location at Submarine Cable Landing Station.
32. As part of this RIO review, IMDA is also reviewing the charges in RIO Schedule 9 – Charges and will publish the determined rates upon completion of the review.