



3rd November 2017

Mr. Syed Tausif Abbas
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Telecom Regulatory Authority of India
Mahanagar Doorsanchar Bhawan
Jawahar Lal Nehru Marg
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New Delhi – 110002

Subject: Consultation Paper on "In Flight Connectivity (IFC)"

Dear Sir,

This is in reference to your Consultation Paper number 14/2017 dated 29th September 2017 on "In Flight Connectivity (IFC)".

As desired, we hereby enclose our response to the questions raised in your above mentioned Consultation Paper. We hope our response will be given due consideration. We shall be obliged to address any further queries from your good office in this regard.

Thanking you and assuring you of our best attention always.

Yours sincerely,

Satya Yadav
Addl. Vice President – Corporate Regulatory Affairs
Tata Teleservices Limited
And
Authorized Signatory
For Tata Teleservices (Maharashtra) Limited

Encl: As above

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TTL response to Consultation Paper on "In-flight Connectivity"

Question 1: Which of the following IFC services be permitted in India?

- a. Internet services
- b. Mobile Communication services (MCA service)
- c. Both, Internet and MCA

Question 2: Should the global standards of AES/ESIM, shown in Table 2.1 of CP, be mandated for the provision of AMSS in Indian airspace?

Question 3: If MCA services are permitted in Indian airspace, what measures should be adopted to prevent an airborne mobile phone from interfering with terrestrial cellular mobile network? Should it be made technology and frequency neutral or restricted to GSM services in the 1800 MHz frequency band, UMTS in the 2100 MHz band and LTE in the 1800 MHz band in line with EU regulations?

Question 4: Do you foresee any challenges, if the internet services be made available 'gate to gate' i.e. from the boarding gate of the departure airport until the disembarking gate at the arrival airport?

TTL Response

A considerable growth in demand of using Mobile Services in the Aircraft has been witnessed, world-wide. Currently, high throughput satellite in KU Band and KA Band are available in the market, which offers high speed data access to fliers in the aircraft. India has been moving at a fast pace in the telecom space and is the 4th fastest growing telecom country in the world. Hence, we recommend that both MCA services and Internet Services may be permitted in India by the authority.

Aircraft earth station (AES) operates on national and international airlines around the world. Circulation of AES is usually a subject of a number of national and international rules and regulations including satisfactory conformance to a mutually agreed technical standard and operational requirements. A recommendation M.1643 was issued by ITU-R in 2003 which provides the technical and operational requirements for aircraft earth stations (AES) of aeronautical mobile-satellite service (AMSS). The AES operations comply with the provisions of Recommendation ITU-R . M.1643 for the protection of the fixed service (FS), FSS and radio astronomy service (RAS). Considering that the AES/ ESIM conforms to the international rules and regulations which also comply with the provisions of recommendation of ITU, the global standards of AES/ ESIM shown in Table 2.1 of the consultation paper may be mandated for the provision of AMSS in Indian airspace.



Considering the above, as there is a worldwide development, creating Indian specific standards may not be advisable. However, these standards can be transposed through TSDSI and Indian organizations can work on white spaces in these standards in such a way that global device eco-system is not disturbed.

TTL recommends MCA services to be made technology / frequency neutral in India. The MCA service provider should ensure the interference is mitigated for complete spectrum and can integrate with multiple operators for Mobile service. For offering Internet through Wi-Fi can be simple with any one TSP/ISP. MCA shall be permitted through Satellite only with point of interconnect with all operators/ all technologies so that it is isolated system on-board and reliable communication is available all the time without causing interference.

We also do not foresee any challenges in making 'gate to gate services available. Authentication and identification of customer has to be ensured like any other public Wi-Fi service for internet. For mobile service, standard methodology of authentication at home network shall suffice.

Question 5: Whether the Unified Licensee having authorization for Access Service/Internet Service (Cat-A) be permitted to provide IFC services in Indian airspace in airlines registered in India?

Question 6: Whether a separate category of IFC Service Provider be created to permit IFC services in Indian airspace in airlines registered in India?

Question 7: Whether an IFC service provider be permitted to provide IFC services, after entering into an agreement with Unified Licensee having appropriate authorization, in Indian airspace in airlines registered in India?

Question 8: If response to Q.7 is YES, is there any need for separate permission to be taken by IFC service providers from DoT to offer IFC service in Indian airspace in Indian registered airlines? Should they be required to register with DoT? In such a scenario, what should be the broad requirements for the fulfillment of registration process?

TTL Response:

TTL recommends that any Cat 'A' ISP license/ UL holder may be permitted to provide IFC services in Indian Airspace in airlines registered in India, in partnership with other IFCs/ MCA vendors. We do not recommend creation of a separate category of IFC Service provider in Indian airspace. Since we recommend permitting only AT 'A' ISP Licensee and UL holder for offering IFC services, agreement of an IFC with a Unified Licensee is out of scope.



Question 9: If an IFC service provider be permitted to provide IFC services in agreement with Unified Licensee having appropriate authorization in airlines registered in India, which authorization holder can be permitted to tie up with an IFC service provider to offer IFC service in Indian airspace?

TTL Response:

Since, we have recommended above in response to question 7, 8 & 9 that only CAT 'A' ISP and Unified Licensee may be permitted to provide IFC services in India, the IFC service provider may get into an agreement with the Airlines or vice-versa.

Question 10: What other restrictions/regulations should be in place for the provision of IFC in the airlines registered in India.

TTL Response:

TTL suggests to put standard regulations, which are part of the Unified License, on Lawful Interception, Authentication etc in place. These regulations under licensing conditions may suffice. We also recommend that global standards may be adopted in India as well for Radiation norms for IFC.

Question 11: What restrictions/regulations should be in place for the provision of IFC in the foreign airlines? Should the regulatory requirements be any different for an IFC service provider to offer IFC services in Indian airspace in airlines registered outside India vis-à-vis those if IFC services are provided in Indian registered airlines?

TTL Response:

Customers entering in to airlines offering IFC services in Indian Airspace, but are registered outside India may be considered as roaming customers. We recommend that IFC service providers of International Airlines may get into roaming agreements with IFC service providers in India or can have bilateral agreements in place to ensure that the CDRs to LEAs etc can be provided as and when required and all type of issues arising out of such an arrangement can be addressed.

Question 12: Do you agree that the permission for the provision of IFC services can be given by making rules under Section 4 of Indian Telegraph Act, 1885?

TTL Response:

Yes! TTL is of the view that provision for IFC services in Indian airspace can be permitted by making rules under Section 4 of Indian Telegraph Act, 1885 OR as determined by the authority.



Question 13: Which of the options discussed in Para 3.19 to 3.22 should be mandated to ensure control over the usage on IFC when the aircraft is in Indian airspace?

TTL Response:

TTL agree that the security concerns are fully addressed before permitting IFC. It should be possible to monitor the traffic to and from user terminal in Indian airspace if so desired by designated security agencies. We recommend that the domestic carriers should be mandated should go through DOS for satellite selection. International carriers may abide by the home country laws and the same should be made applicable for Indian carriers moving to international destinations.

Question 14: Should the IFC operations in the domestic flights be permitted only through INSAT system (including foreign satellite system leased through DOS)?

Question 15: Should the IFC operations in international flights (both Indian registered as well as foreign airlines) flying over multiple jurisdictions be permitted to use either INSAT System or foreign satellite system in Indian airspace?

TTL Response:

TTL is of the view that the choice of IFC operations in International & Domestic flights, registered in India and as well as foreign Airlines, through INSAT system may be left over to the IFC service providers.

Question 16: Please suggest how the IFC service providers be charged in the following cases? (a) Foreign registered airlines. (b) Indian registered airlines.

TTL Response:

We suggest that the revenue may be accounted in line with UL service provider in case of Indian registered airlines. Since we have recommended IFC roaming service agreements between Indian IFC service provider and Foreign IFC service provider, the license fee can be charged from Indian registered IFC service provider as a part of roaming revenue coming from International IFC service provider (After deducting the pass-through).

Question 17: Should satellite frequency spectrum bands be specified for the provisioning of the IFC services or spectrum neutral approach be adopted?

TTL Response:



TTL recommends a spectrum neutral approach rather than specifying a frequency spectrum band for provisioning of IFC services in Indian airspace.

Question 18: If stakeholders are of the view that IFC services be permitted only in specified satellite frequency bands, which frequency spectrum bands should be specified for this purpose?

TTL Response:

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