Asia Pacific Telecommunity

International Mobile Roaming
Working Group

Working Group Report

15 May 2012
Table of Content

1. Background of the International Mobile Roaming (IMR) Working Group (WG)

2. Survey on IMR

3. Transparency of IMR Information

4. Measures to Address Mobile Bill Shock

5. Substitutes for IMR Services

6. Regulation of IMR Prices

7. Works Undertaken by Regional and International Organisations on IMR

8. Other Issues

9. Next Step
1. Background of the International Mobile Roaming (IMR) Working Group (WG)

Following the First IMR Workshop organized by Asia Pacific Telecommunity (APT) in June 2010 in Brisbane, Australia, a WG has been formed and tasked to work on a series of initiatives in relation to IMR. One of the key objectives of the WG was to put forward recommendations to APT on ways to address the issue of high IMR prices.

When the WG was first set up in June 2010, its members included:
- Australia Communications and Media Authority (ACMA), Australia
- Authority for Info-communications Technology Industry (AITI), Brunei Darussalam
- Celcom Axiata Berhad, Malaysia
- Department of Broadband, Communications and the Digital Economy (DBCDE), Australia
- National Broadcasting and Telecommunications Commission (NBTC), Thailand
- Office of the Communications Authority (OFCA), Hong Kong – Chairperson of the WG
- Pakistan Telecommunication Authority (PTA), Pakistan
- Telecom Cook Islands, Cook Islands

In August 2011, APT sent an invitation to participants who have attended the Second IMR Workshop¹ to join the WG. The following additional members subsequently joined the WG:
- Axiata Group Berhad
- GSM Association
- Robi Axiata Limited, Bangladesh

The document will report the works that have been undertaken by the IMR WG so far and put forward guidelines and recommendations for addressing the issue of high IMR prices. The guidelines and recommendations have been discussed by APT members at the Third IMR Workshop which was held in May 2012 in Bangkok, Thailand.

¹ The second workshop on IMR was co-organised by APT and OFCA in June 2011 in Hong Kong.
2. Survey on IMR

One of the agreed initiatives of the IMR WG was to conduct a market survey on IMR, such that the WG would have a better understanding of the current situation of IMR for developing strategies, guidelines and recommendations on IMR to the benefits of APT members.

In October 2010, the WG distributed the following two questionnaires to APT members:
- “IMR Questionnaire – Part One on Regulatory and Consumer Issues” covering retail pricing, wholesale pricing, taxation, transparency and substitute services
- “IMR Questionnaire – Part Two on Technical Issues” covering quality of service measurement and bypass

Responses to the questionnaires on various aspects are summarized below. For the avoidance of doubt, the following paragraphs in this chapter reflect the IMR situation of the economies that have responded to the questionnaires, and should by no means be interpreted as the situation of all APT members. Individual economies are recommended to conduct their own market analysis and detailed impact assessments before making any regulatory decisions in relation to IMR.

Survey Responses on Retail Pricing

Overall, not much information on IMR retail pricing has been collected through the questionnaire. Two responding economies replied that pricing information was considered commercially sensitive and was not provided by the operators in their economies. Another responding economy replied that they did not require telecommunications licensees to provide the data on a regular basis and were therefore unable to provide the requested information. Only three responding economies provided the list of top ten destinations in terms of outbound roaming traffic. The average roaming charges for top ten destinations were also provided by three economies only. Some responding economies did not provide IMR services on prepaid basis and therefore could not compare prepaid and postpaid charges. Some economies reported that there were differences between prepaid and postpaid charges.
In relation to the structure of retail prices, voice calls were generally charged per minute or per 30 seconds, while SMS were charged per unit. For data services, charges were based on data volume. Some economies offered fixed/capped plans with unlimited usage. Regarding the general trend of IMR charges over the past three years, the responses were divergent. Some responding economies reported that retail roaming charges were based on the Inter Operator Tariff plus a mark-up, where the mark-up ranged from 10% to 15%.

There were divergent responses on whether there would be any need to regulate retail prices of IMR services. Responses included self-regulation, regulation through specific regulatory authority in the economy as well as regulation through collaboration between two or more economies. On the other hand, some responses considered that there was no need to regulate as IMR was a premium service and regulation of IMR prices might result in subsidizing the smaller wealthy customer base at the expense of the mass consumers. Some responses considered that there was no sufficient justification to intervene the IMR market at this juncture, but consumer awareness of roaming substitutes should be enhanced. Some responding economies did not regulate retail prices of IMR service as their mobile markets were competitive and there were roaming substitutes made available to the consumers.

To address the issue of mobile bill shock, the responding economies quoted various measures such as:
- sending SMS to alert customers when certain thresholds have been exceeded,
- allowing customers to opt out of individual services,
- setting a charge ceiling and a usage cap for usage-based mobile services,
- enhancing transparency of service information (e.g. roaming prices, terms and conditions, etc.),
- sending message to roamers at the time of their arrival, and
- launching consumer education campaigns.

Survey Responses on Wholesale Pricing
Overall, not much information on IMR wholesale pricing has been collected through the questionnaire. Some responding economies were unable to respond to the questions because the requested data could not be sourced or they did not have such information at hand as tariffs were no longer regulated in their economies. Besides, some responding economies replied that the requested information was considered commercially sensitive and was not provided by the operators in their economies.

In relation to the total revenue of mobile network operators (MNOs) generated from IMR, only three responding economies provided such data. For the basis of wholesale tariff, some replied that symmetric basis was used. On the other hand, asymmetric basis was adopted in some responding economies due to the asymmetric traffic volume. Regarding the issue of how the MNOs charged different visited networks in the same economy, some MNOs offered the same wholesale tariff to different visited networks in the same economy while some might offer discounts to individual visited networks. The views on the general trend of IMR wholesale prices were divergent too.

There were divergent responses on whether there would be any need to regulate the wholesale prices of IMR services. While some suggested there was no need to regulate, some others considered that there was a need to do so. Some suggested self-regulation by the industry and some suggested collaboration between two or more economies. One responding economy did not agree to regulate the wholesale prices of IMR service because their mobile market was competitive. Another responding economy also considered that there was no sufficient justification to intervene the IMR market at this juncture but consumer awareness of roaming substitutes should be enhanced.

Survey Responses on Taxation

Majority of responding economies did not impose taxation on the wholesale or retail rate of IMR services. One responding economy did impose taxation on the retail rate, but did not consider that taxation was the driving factor for high charges of IMR services.
Survey Responses on Transparency

All responding economies stated that MNOs and mobile virtual network operators (“MVNOs”) in their economies, as home networks, would communicate to their users the charging rates of IMR services. The most common channels were through websites, pamphlets and hotlines. One responding economy replied that SMS-based Push-Pull services were available to communicate IMR charges to users. USSD was also quoted by some respondents.

Nevertheless, not all operators in the responding economies as home networks would communicate to their users the charging rates upon their arrival to the visited economy. One operator would advise their customers about discounts or special rates by SMS-based Push-Pull services. Some operators would send SMS message on arrival to remind their customers of the high roaming charges and to refer them to the operator website for details.

In some responding economies, there were no regulatory requirements for operators to inform their customers about IMR charges. On the other hand, it was a statutory requirement for operators in some responding economies to do so. For example, operators in some economies were required under their licences to publish their service charges, while operators in some economies were required to comply with certain codes of practice in relation to customer billing, charging and disclosure of prices.

So far, none of the responding economies offered a webpage where consumers could compare the IMR charges of all different operators, and consumers would have to do their own research for comparison of charges.

Survey Responses on Substitutes

Different types of substitutes for voice roaming were already available in the responding economies. For data roaming, Wi-Fi was generally regarded by the responding economies as the most common substitute although Wi-Fi coverage in some areas might be limited at this stage.
Some operators also provided flat-rate data roaming services which allowed customers to enjoy unlimited data usage on a fixed daily, weekly or monthly fee.

According to the responding economies, the main reason why certain types of substitutes were not available in their economies was due to regulatory concerns or low market demand. Generally speaking, the responding economies did not consider that substitutes had resulted in substantial downward effect on IMR prices.

The responding economies generally considered that consumer demand for substitutes remained unclear at this stage. However, majority of them shared similar views that substitutes provided benefits to consumers as they offered alternatives to budget-conscious consumers. There was general consensus that sufficient information of substitutes should be made available to consumers for choosing the best services that would suit their needs and budgets. Information of substitutes could be obtained through websites or retail shops of operators. Some responding economies suggested enhance consumer awareness of substitutes through the Internet, TV advertisements, posters or bill inserts. Some responding economies issued consumer alerts to educate consumers about various types of substitutes.

Survey Responses on Quality of Service (QoS) Measurement

MNOs in the responding economies monitored the end-to-end QoS for IMR. Some MNOs conducted regular monitoring tests whereas some MNOs only conducted tests during the initial inception of IMR services with their roaming partners and when an issue was raised by a roaming partner. Regarding the monitoring methods and QoS parameters, some MNOs followed the monitoring methods and conducted measurements on the QoS parameters set out in the GSMA Official Document “IR.81 – Global Roaming Quality (GRQ) Measurement Implementation 1.0”. MNOs in the responding economies did not publish their QoS measurement results for public information.

There were several ways to ensure performance of the link connections for provision of satisfactory QoS for IMR, e.g. to ensure that the links
have adequate capacity, reliability, redundancy and diversity, to set the requirements in the service level agreements between the MNOs and the providers of the link connections, to constantly monitor the loading and performance of the links to prevent congestion and ensure that the requirements are met.

To improve QoS for IMR, some responding economies suggested the industry and regional/international standardization organizations to establish QoS benchmarks as well as testing and monitoring methods for operators to follow.

Survey Responses on Bypass

A few responding economies regarded certain types of telecommunications as illegal and bypass, e.g. traffic concealment by licensed carriers to avoid taxes or contribution to universal service, termination of traffic by unlicensed operators using technologies like VoIP and SIM boxes, flow of international voice traffic from PSTN to PC-to-PC calls through service provided by VoIP providers.

On the other hand, VoIP service was legitimate and allowed in other responding economies.

In most of the responding economies, there was no specific investigation method for detecting heavy mobile callers in relation to bypass through VoIP and SIM boxes.

3. Transparency of IMR Information

Transparency is one of the essential components for achieving effective consumer protection, and is particularly important when the tariffs or charging scheme of the concerned services are relatively complicated or when such information is not easily accessible to the general public.

As far as IMR service is concerned, the tariffs may not be easy for the general public to understand as different level of charges may be applicable to different call types, e.g. charges for receiving incoming calls
(which may be a local call or an international call) in the visited country, charges for making local calls in the visited country, charges for making outgoing calls in the visited country back to the home country, as well as charges for unanswered incoming calls forwarded to automatic voicemail boxes. Furthermore, the charging scheme for IMR services may be different from that of the domestic mobile services. For instance, the unit of call duration for calculation of charges may be different, or certain types of fixed charges for call connection may be levied in addition to time-based charges. It is also important for consumers to note that there may be differences in IMR charges among the different mobile networks in the visited country, as well as differences in call charges during peak hours and off-peak hours.

As such, it is of paramount importance to enhance the transparency of IMR information, in particular the tariffs and charging scheme, in order to arouse consumer awareness and thereby protect consumer interests.

For example, measures have been introduced to the European Union (“EU”) Roaming Regulation, i.e. Regulation (EC) No 717/2007 and Regulation (EC) No 544/2009, for addressing the transparency issue. Firstly, the retail price caps imposed by the Regulation are simple and easy for the general public to understand. Secondly, Articles 6 and 6a of the Regulation (EC) No 544/2009 lists out the basic pricing information that must be provided to a customer by a mobile operator free of charge when the customer enters a member state within the EU other than his home country. The customer should also be provided with a telephone

---

4 The basic pricing information shall include:
   (a) the maximum charges the customer may be subject to for:
      (i) making calls within the visited country and back to the home country, as well as for calls received, and
      (ii) sending SMS while in the visited country; and
   (b) the charges applicable to the provision of data roaming services in the visited country.
number for obtaining, free of charge and irrespective of his location within the EU, more detailed information on IMR prices by means of SMS or mobile voice calls.

The importance of transparency is also well recognised by APEC TEL. Subsequent to a workshop on IMR, APEC TEL has developed the “Guidelines for the Provision of Consumer Information on International Mobile Roaming”\(^5\), which provides best practice approaches on provision of IMR information to consumers. The guidelines recommend that information on IMR should be made available to consumers through a variety of easily accessible and automated means including:

- SMS/MMS or voicemail on arrival at a visited country (the message should provide information on how customers can change their preferred roaming network, and contain a customer service telephone number of the provider from which service charges and further roaming information can be obtained);
- operators’ websites and SMS (operators are encouraged to provide their customers with access to information on account balances and service charges at no or minimal cost to the customer); and
- point of sale or activation of service (customers should be directed to further detailed information outlining roaming service conditions, options and charges, etc.).

With a view to providing guidelines on the type of information that should be made available to consumers, the WG has prepared two sets of guidelines, one for regulators and the other for operators. The guidelines were initially presented and discussed at the Second IMR Workshop held in June 2011 and were further discussed at the Third IMR Workshop held in May 2012. Having considered the comments received, the WG put forward the following guidelines with a view to enhancing transparency of IMR information.

---

\(^5\)http://www.apec.org/Groups/SOM-Steering-Committee-on-Economic-and-Technical-Cooperation/Wor king-Groups/Telecommunications-and-Information.aspx
Guidelines for Regulators to Provide Information on International Mobile Roaming (IMR) Services

This document aims at providing guidelines to regulators on the type of information and consumer advices in relation to IMR services that should be made available to the general public, including a general notification to consumers, that IMR charges are significantly more expensive than charges of domestic mobile services and providing information about alternatives to IMR services that consumers may consider using when traveling overseas.

Regulators should have a webpage on their websites dedicated for provision of IMR-related information and advices to consumers, and the webpage should include the following:

1. A plain description of IMR services
2. A prominent notification that using IMR services may be significantly more expensive than using domestic mobile services
3. That IMR charges may apply to the following activities undertaken on a mobile phone while travelling overseas:
   - making and receiving calls
   - receiving and retrieving voicemail messages
   - sending and receiving SMS messages and multi-media messages
   - using mobile data services, including but not limited to browsing the internet, sending and receiving emails
4. Before their departure, consumers are highly encouraged to obtain from their mobile service providers the detailed information of IMR charges applicable to their visited countries, and should take note of the following:
   (a) how call duration would be counted for calculation of IMR charges (e.g. on per-second or per-minute or any other basis)
   (b) whether any fixed charge for call connection would be levied in addition to the charge based on call duration
   (c) data service prices while roaming
   (d) whether there would be any difference in charges during peak and off-peak hours
   (e) whether there would be any difference in charges among different mobile networks in the visited country, and remind consumers that
they may manually select the designated network under the “manual” mode of the network selection when traveling in the visited country.

5. Hyperlinks to the webpages of individual operators dedicated for IMR-related information (Regulators should work with their operators to ensure that their operators have followed the "Guidelines for Operators to Provide Information on IMR Services" when providing information on their websites).

6. Information of various types of alternatives to IMR services, including but not limited to a description of how these alternatives are used, their advantages and limitations, etc.

The aforementioned information is the recommended minimum information that regulators should provide to consumers in relation to IMR services. Regulators may consider providing further information and/or consumer advices in relation to IMR services on their websites, depending on their market situations. If considered appropriate, a regulator may discuss with its operators and agree on a common set of information that should be provided by all its operators in relation to IMR services for publication on the regulator’s website.

Regulators should regularly review the IMR-related information provided on their websites to ensure that the information is up-to-date as operators may revise their IMR-related information from time to time.

- End of Guidelines for Regulators -

Guidelines for Operators to Provide Information on International Mobile Roaming (IMR) Services

Introduction

This document aims at providing guidelines to home operators on the type of information in relation to IMR services that should be provided to their customers with a view to enhancing transparency on IMR services. Home
operators should at all times provide clear, accurate and up-to-date information on IMR services, and information should be presented in a way that is easy for the general public to understand. Furthermore, it is good practice for home operators to display IMR-related information on their website so that it would be easier for their customers to locate the information.

**Part A: Generic information about IMR services**

The following information about IMR services is unlikely to change much over time. In addition to providing such information through their websites and customer service hotlines, home operators may consider making the information available in their printed documents such as pamphlets or brochures.

1. A short plain description of IMR services
2. A prominent notification that using IMR services may be significantly more expensive than using domestic mobile services
3. IMR charges may apply to the following activities undertaken on a mobile phone while travelling overseas:
   - making and receiving calls
   - receiving and retrieving voicemail messages
   - sending and receiving SMS messages and multi-media messages
   - using mobile data services, including but not limited to browsing the internet, sending and receiving emails
   It is good practice for home operators to emphasize differences in charging structure between IMR services and domestic mobile services.
4. IMR charges may not be included in the regular service plan/contract of domestic mobile services
5. What customers need to do so that they can use IMR services
6. What customers need to do so that they can deactivate part or all of the IMR services
7. A hyperlink to the webpage or a customer service hotline from which customers can obtain detailed information about IMR charges (also applicable for printed documents)

**Part B: Up-to-date information about IMR services**
The following information about IMR services is likely to change over time. This information is better suited to be made available through home operators’ websites and customer service hotlines, where it can be kept up-to-date more easily.

1. A list of countries where IMR service is available
2. A list indicating the choices of visited networks in each country where IMR service is available
3. For each country where IMR service is available or for each charging zone for IMR service, a detailed list of relevant charges for IMR service which may include:
   a. For Voice Calls (breakdown of charges into initial charge / flag fall and per-minute rate should be provided if applicable)
      i. making local voice calls within the visited country;
      ii. making voice calls back to the customer’s home country; and
      iii. receiving voice calls within the visited country
   b. For SMS Messages (charges may be on per-message basis or based on a bundle of messages)
      i. sending local SMS messages within the visited country;
      ii. sending SMS messages back to the customer’s home country; and
      iii. receiving SMS messages within the visited country
   c. For Multi-Media Messages (charges may be on per-message or per-MB basis, or based on a bundle of messages or data volume)
      i. sending local multi-media messages within the visited country;
      ii. sending multi-media messages back to the customer’s home country; and
      iii. receiving multi-media messages within the visited country
   d. For Mobile Data Services within the visited country (charges may be on per-MB basis or based on a bundle of data volume)
   e. Other charges (breakdown of charges into initial charge / flag fall and per-minute rate should be provided if applicable)
      i. receiving and retrieving voicemail messages; and

---

6 Home operators may choose to adopt zonal charging for IMR service, under which the same rate would be applied to a set of countries that fall under the same zone. In case home operators adopt zonal charging for IMR service, it is necessary for them to list out clearly the countries that are covered in each charging zone.
ii. making calls to the customer service hotline of the home operator (short code / phone number to be called should be provided to customers)

4. An indication of the likely time lag between the use of IMR services and IMR charges appearing on a post-paid customer's phone bill

Part C: Information for customers on arrival in a visited country

Once a home operator is aware that a customer is roaming outside the home country, it should send an SMS or other message to the customer concerned, containing the following information:

1. Notification to the customer that he/she is using IMR service and IMR charges apply;
2. IMR charges for making calls within the visited country, making calls back to the customer's home country and receiving calls within the visited country; and
3. How the customer can obtain further information about IMR charges.

The home operator may offer its customers the option to opt out from the aforementioned notification messaging service. The home operator should allow those customers, who have previously chosen to opt out, to reactivate such notification messaging service at anytime without incurring any cost by giving a reasonable notice period to the home operator.

- End of Guidelines for Operators -

4. Measures to Address Mobile Bill Shock

As IMR charges are normally much higher than domestic mobile service charges and the charging scheme between these two services may be different, it has been reported from time to time that some customers receive unexpectedly high mobile bill charges for using IMR services, i.e. the so-called mobile bill shock.
While the guidelines in Chapter 3 will help enhance the transparency of IMR information (in particular the tariffs and charging scheme) and thereby avoid mobile bill shock, there is a need to introduce further proportionate measures to provide better consumer protection from bill shock. This is particularly valid as far as data roaming services are concerned because sometimes mobile users may not be aware of mobile data usage as a result of automatic data downloading or software updating, and it may not be easy for a layman to understand or estimate data usage volume of different types of mobile applications. Introducing measures to address mobile bill shock will not only offer consumer protection, but also help maintain customer confidence on mobile data usage and thereby support the continuous healthy growth of the services.

For instance, relevant customer protection measures have been introduced in the EU Roaming Regulation with a view to minimizing the risks of mobile bill shocks arising from the use of data roaming services. Under the Regulation, operators in the home country are required to inform their customers the risk of automatic data roaming connection, as well as to explain to their customers how to switch off such connections in order to avoid consumption of data roaming services. Furthermore, operators must provide customers with information free of charge on the accumulated expenditure on data roaming services, and guarantee that the accumulated expenditure would not exceed a specified financial limit unless the customer gives an explicit consent. Notification should be sent to customers when the data roaming services have reached 80% of the agreed financial limit.

Similarly, Info-communications Development Authority (“IDA”) of Singapore has introduced measures to address the issue of mobile bill shock arising from the use of data roaming services. Mobile operators are required to implement the following customer protection measures:

---

7 The default financial limit is €50 of outstanding charges per month. Operators may offer other financial limits which may be higher or lower than the default limit.

8 When the financial limit is exceeded, a notification shall be sent to the roaming customer specifying (a) the procedure to be followed if the customer wishes to continue the provision of data roaming services; and (b) the cost associated with each additional unit to be consumed. If the roaming customer does not respond as requested in the notification, the operator in the home country shall immediately cease to provide data roaming services to the customer, unless and until the roaming customer requests the continued or renewed provision of such services.
Operators should obtain explicit consent from customers before providing any roaming services (including data roaming) and provide customers with prices, terms and conditions of roaming service.

Customers are allowed to deactivate data roaming service before leaving Singapore and reactivate the service after returning to Singapore.

Customers are allowed to set monthly charge ceiling for data roaming services at SGD 100.

In Hong Kong, mobile network operators and mobile virtual network operators have voluntarily\(^9\) introduced various measures on their own initiatives to address the issue of mobile bill shock. The measures include allowing customers to opt out of individual services, setting a charge ceiling, setting a usage ceiling for usage-based mobile services, and alerting customers through SMS when their pre-determined ceiling is reached or approached. With a view to facilitating the public to gain access to and compare information on bill shock measures adopted by individual operators, OFCA has published the measures adopted by individual operators on a centralized webpage.\(^{10}\) The enhanced transparency of information helps the public to make more informed choices on services that best suit their needs.

In addition to bill shock measures, some mobile operators in Hong Kong offer flat-rate daily plan for data roaming services in designated countries. The daily flat-rate for using data roaming services in Mainland China can be as low as US$8.7. With a flat-rate pricing structure, users can easily control their budgets to be spent on data roaming services when travelling abroad and hence avoid unnecessary bill shocks. Such offers are expected to encourage the take-up and usage of mobile data services.

In view of the important role of bill shock measures in addressing the issue of mobile bill shock, the WG has proposed during the Second IMR Workshop the following measures to be implemented by operators:
- allowing customers to opt out of individual services;
- allowing customers to set charge ceiling;
- allowing customers to set usage ceiling for usage-based services (e.g.

\(^9\) Acting on the recommendation of Office of the Communications Authority (“OFCA”)

data roaming services); and
- alerting customers through SMS when their pre-determined ceiling is reached or approached.

While it would be useful for APT member economies to follow a common framework for implementing bill shock measures, the WG generally considers that the details of implementation, such as whether customers are allowed to set their personalised ceiling values or only certain default ceiling values are available to customers, should be decided by individual economies subject to the market conditions as well as the negotiation between the regulators and operators.

The WG received comments that it would not be necessary to allow customers to set both charge ceiling as well as usage ceiling. Normally, a layman may not have a clear idea on data usage volume of different types of applications and hence setting a usage ceiling may not be very effective in addressing the bill shock issue. On the other hand, setting a charge ceiling would be more direct and effective for a customer who wishes to avoid bill shock. As such, the WG considers that operators should at least allow customers to set charge ceiling, but they may offer usage ceiling as additional protection measure.

The WG also received comments that the setting of charge ceiling and usage ceiling as well as the notification measures when the ceiling is reached or approached should apply to post-paid customers only, in view of the fact that pre-paid customers are already protected from bill shock as their service will be automatically restricted when they have consumed the pre-loaded amount.

In addition to the aforementioned bill shock measures, certain services made available by operators may also help address the issue of mobile bill shock. Apart from flat-rate daily plan for data roaming services mentioned above, the WG notes that an Asian mobile operator is intending to offer all its smartphone customers a “usage meter” application which will allow customers to obtain near real-time information on their data roaming usage. This would help customers to better monitor the data usage and thereby avoid mobile bill shock.
The recommended measures on addressing the issue of mobile bill shock were further discussed at the Third IMR Workshop. Having considered the comments received from the workshop participants, the WG put forward the following recommended measures for addressing mobile bill shock.

****************************

Recommended Measures to Address Mobile Bill Shock

Minimum measures to be implemented by home operators

- Allowing both post-paid and pre-paid customers to opt out of individual services including while roaming

- Allowing post-paid customers to set a charge ceiling (i.e. a maximum charge which will apply to the use of services over a specific period)

- Sending notifications to post-paid customers when their pre-determined charge ceiling is reached or approached

Further measures to be implemented by home operators as best practices

- Allowing post-paid customers to set usage ceiling for usage-based services (e.g. data roaming services)

- Sending notifications to post-paid customers when their pre-determined usage ceiling is reached or approached

- Offering flat-rate plans for data roaming services

- Offering free of charge functionalities or applications which allow customers to obtain up-to-date information on their roaming usage

- End of Recommended Measures -

****************************
5. **Substitutes for IMR Services**

One of the tasks of the WG is to provide information on substitutes for IMR services to the APT members. Generally speaking, roaming substitutes are much more affordable than conventional IMR services. For example, the use of roaming substitutes can help Hong Kong consumers to enjoy up to 90% saving when they travel overseas.

While the availability of roaming substitutes may not directly result in price reduction in conventional IMR services, there is general consensus that roaming substitutes should be facilitated and promoted so that consumers are well aware of the choices that are available in the market for making an informed decision on the type of service that best suits their needs and budgets. For example, if a user only needs to receive incoming calls when travelling overseas, he may consider International Call Forwarding Service which allows him to receive incoming calls at substantially reduced rates. On the other hand, if a user only needs to make outgoing calls when travelling overseas, he may consider Call Back Service which allows him to make outgoing calls at substantially reduced rates. If a user needs to receive incoming calls as well as make outgoing calls when travelling overseas, he may consider subscribing both services or consider Single-Card-Multiple-Number Service if it is available in his home country.

In the aspect of roaming substitutes, regulators should in general take up the role of enabler or facilitator, while service providers have the prime responsibility to market the service to potential customers.

**Substitutes for Voice Roaming**

Based on the survey results, the WG notes that various types of substitutes for voice roaming are already made available in some economies in the Asia Pacific region. The advantages and limitations of the more prevalent substitutes for voice roaming are summarized in the table below.
<table>
<thead>
<tr>
<th>Substitutes</th>
<th>Advantages</th>
<th>Limitations</th>
</tr>
</thead>
</table>
| **Single Card Multiple Number Service**<sup>11</sup> | - No need for users to carry multiple SIM cards and switch cards when travelling to different destinations.  
- Users can make and receive calls at the local numbers of their destinations and are charged local rates.  
- Users can continue to receive incoming calls made to their usual mobile numbers. | - Requires prior arrangement of the operators and the administrations in both the home country and the visited country  
- May be available to certain destinations only |
| **International Call Forwarding Service**<sup>12</sup> | - Users can continue to receive incoming calls made to their usual mobile numbers when traveling outside their home country.  
- Lower charging rate for receiving calls.  
- The service can be used in most destinations in the world. | - The service is for receiving incoming calls only (i.e. not for making outgoing calls)  
- Users need to have access to a local mobile or fixed number in their destination for receiving calls. |
| **Call Back Service**<sup>13</sup> | - Lower charging rate for making calls.  
- The service can be used in most destinations in the world. | - The service is for making outgoing calls only (i.e. not for receiving incoming calls).  
- It takes a longer time to establish a call connection.  
- Users need to have access to a local phone in their destination for making calls. |
| **Voice over Internet Protocol (VoIP) Service over Mobile Data**<sup>11</sup> | - Lower charging rate for making and receiving calls. | - Users are not able to receive incoming calls made to their usual mobile numbers.  
- Users would need to have a |
<table>
<thead>
<tr>
<th>Substitutes</th>
<th>Advantages</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wi-Fi Network</strong></td>
<td>- Local calls are charged at local rates.</td>
<td>- Users are not able to receive incoming calls made to their usual mobile numbers.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- There may be language barriers when purchasing and using the local pre-paid SIM cards.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Service providers in some destinations may be required under their laws or regulations to verify and record the personal particulars of customers who purchase pre-paid SIM cards.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The un-used balance of the pre-paid SIM card may go to waste.</td>
</tr>
<tr>
<td><strong>Local Pre-paid SIM Card</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>International Calling Card Service</strong></td>
<td>- Lower charging rate for making calls.</td>
<td>- The service is for making outgoing calls only (i.e. not for receiving incoming calls).</td>
</tr>
<tr>
<td></td>
<td>- The service is available in most destinations in the world.</td>
<td>- Users need to have access to a local phone in their destinations for making calls.</td>
</tr>
</tbody>
</table>

As shown in the table above, many substitutes individually cannot be regarded as perfect or effective substitutes for IMR services due to their inherent limitations (e.g. some substitutes cater for either incoming calls or outgoing calls only, while other substitutes do not allow users to
receive incoming calls at their usual mobile number). However, it should be noted that a user may use substitutes in combination which in effect can work as an effective substitute for IMR. For example, a user may use both International Call Forwarding Service and Call Back Service such that he can receive incoming calls at his usual mobile number and make outgoing calls when travelling overseas.

**Substitutes for Data Roaming**

Wi-Fi is generally regarded as a close substitute to conventional mobile data roaming services in spite of its limitation in coverage. In many economies, Wi-Fi facilities are being rolled out rapidly and the coverage is expected to expand in the near future.

Local prepaid SIM card for data services may be another substitute for data roaming. While local prepaid SIM card for voice services is not an effective substitute for voice roaming as the user cannot receive incoming calls at his usual mobile number, local prepaid SIM card for data services may be an effective substitute for data roaming. The advantage of prepaid SIM card is that overseas visitors can control their budgets to be spent on data services when travelling abroad and hence avoid unnecessary bill shocks.

**Factors Facilitating the Development of Substitutes for IMR Services**

*(a) Policies and Regulatory Frameworks to Facilitate the Development of Substitutes*

Appropriate policies and regulatory frameworks are of paramount importance for the healthy development of substitutes for IMR services. Clear policies and regulations that confirm the legality of substitutes for IMR services provides certainty to service providers so that they may have confidence to invest in the service development and enhancement. The introduction of substitutes for IMR services may to a certain extent hinge on the state of liberalisation of the telecommunications market. In a fully liberalized telecommunications market, service providers are generally allowed to offer substitutes for IMR services with less resistance from incumbent operators and intervention by the authorities.
Apart from a formal regulatory framework governing the substitute services, it is also important to enhance the competitiveness of substitutes for IMR services by facilitating market entry and maintaining fair competition in the market of substitutes for IMR services so that more service providers can compete in terms of service functionalities and pricing. In general, limiting the number of licences to be issued to service providers or imposing minimum investment requirements should be avoided. This is because users can enjoy the benefits of wide range of substitutes available at reasonable prices only if there is sufficient competition in the market of substitutes for IMR services. For example, the external telecommunications market in Hong Kong has been fully liberalized for more than a decade and there were 252 external service providers and 42 external facilities operators as at October 2011. This has resulted in very competitive market environment in Hong Kong which has a population of 7 millions only, and is one of the critical factors that underpin the vibrant development of various types of substitutes in the market.

(b) Consumer Awareness of Substitutes

Most mobile service users are not frequent travellers and therefore may not have the incentive to search for information of various substitutes for comparison. Furthermore, users may not be aware of substitutes provided by small service providers which normally do not have much resource for marketing and promotion. Awareness of substitutes for IMR services should therefore be enhanced so that users are well aware of the available alternatives for making an informed decision on the services that best suit their needs and budgets. It would also be useful to educate consumers about various types of substitutes for IMR services. Service providers of substitutes should be encouraged to make the detailed information of their services (e.g. service charges, service features, methods of use and service limitations) easily accessible to the general public.

(c) Pricing Structure of Substitutes

Pricing structure of substitutes for IMR services is one of the critical
factors that will affect the take-up of services. Fixed fee component, e.g. a fixed monthly fee or an upfront subscription fee, may discourage service subscription, especially for low-usage users. Service providers are encouraged to take this into account when determining the pricing structure.

(d) Coordination among Regulatory Authorities

Certain substitutes may require prior arrangement of the operators and the administrations in both the home country and the visited country. Regulatory authorities of the concerned economies may need to coordinate their regulatory policies on various pertinent issues, including but not be limited to use of numbering resources, customer registration requirements, etc.

Single-Card-Multiple-Number Service (“SCMNS”) is one of the examples that require such arrangement. For example, regulatory authorities in both Mainland China and Hong Kong share the view that SCMNS can be a perfect substitute for voice roaming between both places, and have been maintaining close liaison with each other with a view to facilitating the provision of SCMNS in Mainland China and Hong Kong. The coordination between the regulatory authorities of the Mainland and Hong Kong is one of the factors that underpin the healthy development of SCMNS market.

The WG’s Recommendations on Substitutes

The WG understands that the success of any substitute may depend on a number of factors, such as the policy and regulatory framework, the development stage of the telecommunications market and consumer demands, etc. All these factors may vary from economies to economies in the Asia Pacific region. As such, the WG does not consider it reasonable or practical to require all APT members to introduce and develop the same set of roaming substitutes. Instead, the WG has put forward the recommendations for discussion and consideration by APT members at the Third IMR Workshop. Having considered the comments received from the workshop participants, the WG put forward the following recommendations on roaming substitutes.
**Recommendations on Roaming Substitutes**

APT members are recommended to conduct assessments in relation to the feasibility of introducing various types of roaming substitutes in their economies as a way to indirectly address the issue of high IMR prices.

**Recommendations for regulators:**

- Assessing whether there are any regulatory or market barriers which may hinder the introduction of various types of roaming substitutes in their economies, and if yes, the feasibility of removing such regulatory or market barriers

- Educating consumers about the availability of various types of roaming substitutes, and providing information about the advantages and limitations as well as the method of use of each type of substitute

**Recommendations for operators:**

- Exploring the commercial viability of offering various types of substitutes

- **End of Recommendations** -

**6. Regulation of IMR Prices**

Due to the trans-national nature of IMR services, effective regulation of IMR prices requires bilateral/multilateral/regional effort in order to benefit mobile service users in all the economies concerned, and this requires a legislative framework which encompasses all the economies concerned.

**Price Regulation on a Regional Basis**
While the WG has been keeping track of the developments in the EU Roaming Regulation, the WG is fully aware of the fundamental difference in the regulatory frameworks between Europe and Asia. In Asia Pacific, there is no common supranational regulatory framework that encompasses all economies in the region. This makes it almost not possible to implement similar IMR price regulation across the Asia Pacific economies.

The issue of regulating IMR prices has been discussed at the Second IMR Workshop and the participants in general considered that it would not be feasible for APT member economies to pursue the implementation of IMR price regulation in Asia Pacific on a regional basis. In addition to the lack of a common supranational regulatory framework that encompasses all Asia Pacific economies, the following are some other difficulties or obstacles that may make price regulation in Asia Pacific on a regional basis extremely difficult.

(a) The development stages of telecommunications industry as well as the usage level of IMR services vary significantly among economies in the Asia Pacific region. The adoption of a single framework to regulate IMR prices across all Asia Pacific economies may create unintended adverse impacts to some economies.

(b) Due to the large variations in GDP, economic growth rates, cost structures and inflation rates among the Asia Pacific economies, it is neither reasonable nor practical to adopt uniform price caps for IMR services across all Asia Pacific economies.

(c) Volatility in foreign exchange rates may reduce tariff transparency if the uniform price caps across all Asia Pacific economies are priced in US Dollar.

(d) Some economies no longer impose any ex-ante price regulation on retail services, while control of the wholesale price and interconnection tariffs is also minimal.
(e) There may be huge differences in the volume of roaming traffic flow among the Asia Pacific economies. Regulation of wholesale IMR prices without carefully taking into account the traffic imbalances may result in unintended consequences. On the other hand, it would be extremely difficult to take into account traffic imbalances among all Asia Pacific economies on a regional basis.

(f) It is generally considered that a robust quantitative impact analysis should be conducted before making any decision on whether IMR prices should be regulated. However, the reality is that regulators may not have sufficiently detailed data for making comprehensive impact analysis for price regulation on a regional basis.

Apart from the aforementioned difficulties, the WG also notes that price regulation may not necessarily make the IMR services market more competitive. For example, according to the EU experience on regulation of IMR prices, prices for voice roaming and SMS roaming tended to cluster around the price caps. As a result, even if price regulation is imposed, it may still be difficult to establish effective competition in the IMR services market.

**Bilateral or Multilateral Arrangement on IMR**

Although IMR price regulation on a regional basis may not be feasible in the Asia Pacific region, APT member economies may explore the feasibility of bilateral or multilateral arrangement on IMR as a way to address the issue of high IMR prices.

For instance, Info-communications Development Authority (“IDA”) of Singapore and Malaysian Communications and Multimedia Commission (MCMC) have concluded negotiations with their mobile operators on reduction of wholesale and retail roaming prices between Singapore and Malaysia on a bilateral basis. Under the bilateral cooperation, price reductions for roaming calls and roaming SMS started on 1 May 2011 for both prepaid and postpaid subscribers.\textsuperscript{14}

\textsuperscript{14} Data roaming, Multimedia Messaging Service (MMS) and video calls are not covered in the bilateral arrangement between IDA and MCMC.
Another example is the joint decision by the Department of Broadband, Communications and the Digital Economy (“DBCDE”) of Australia and the Ministry of Economic Development (“MED”) of New Zealand to launch a full market investigation into the trans-Tasman mobile roaming market. The two agencies jointly issued a discussion paper in May 2010, which concluded that for Australians and New Zealanders roaming across the Tasman, the transparency of prices was inadequate and the prices offered were relatively high. The agencies subsequently decided to launch a full investigation in April 2011. During the investigation, the agencies will primarily seek to determine (i) whether there is wholesale market failure; (ii) if so, whether it is affecting retail customers; (iii) if so, whether market forces are likely to resolve the failure and the impact on retail customers; and (iv) if not, whether regulatory intervention is appropriate to remedy the market failure and/or its impact on retail customers. The agencies will prepare a draft decision that outlines their market definition, an assessment of competition in the market and the options for joint action in the event of a market failure being determined. These options may include regulatory intervention. The draft decision will be made publicly available for comment by interested stakeholders prior to a final decision being made. The two agencies expect to release their final decision on the outcome of the investigation in 2012.

The aforementioned examples demonstrate that bilateral or multilateral arrangement on IMR is a workable solution in lowering IMR prices. That said, the WG recommends that certain measures should first be put in place for addressing the issue of high IMR prices before proceeding to consider the option of regulating IMR prices on a bilateral or multilateral basis. In particular, measures should be adopted to:
- enhance transparency (as recommended in Chapter 3);
- address mobile bill shock (as recommended in Chapter 4);
- remove any regulatory barriers which may cause high input costs of IMR; and
- remove any regulatory barriers which may hinder the introduction of various types of roaming substitutes (as recommended in Chapter 5).

For the third bullet point above in relation to high input costs of IMR, the WG notes that some economies have not yet liberalised their international gateways and the level of competition in external telecommunications
facilities is limited, resulting in high costs of international link which is one of the cost components of IMR. Double taxation is another regulatory barrier that may cause high input costs of IMR. The WG recommends that reforms may be considered with a view to lowering the input costs.

If the measures recommended above have been put in place and the issue of high IMR prices still remains a concern, APT member economies are recommended to explore the feasibility of bilateral or multilateral arrangement to address the issue of high IMR prices.

The WG received comments that, in identifying any specific IMR routes that warrant bilateral or multilateral arrangement, detailed analysis of pricing and level of competition should be done on a consistent basis across potential routes. The comments pointed out that competition might already exist or likely to arise in future for high volume IMR routes, and hence suggested to focus on routes where competition has not yet developed and may not be likely to arise in future.

Before any decision is to be made on bilateral or multilateral arrangement on IMR, the WG considers that it is of paramount importance for regulatory authorities to conduct consultation with all relevant stakeholders. Generally speaking, regulatory authorities should first seek the mutual understanding from mobile operators in their economies before commencing bilateral or multilateral discussion on IMR with another economy.

IMR prices may be regulated through different forms, e.g. regulation of wholesale prices only, regulation of retail prices only, or regulation of both wholesale and retail prices. Each of them has pros and cons, and has different impacts on the stakeholders (including consumers, larger and smaller operators, regulatory authorities, etc.). Regulatory authorities should collect detailed pricing and market data from the industry, and conduct quantitative impact assessments on consumers and the industry before deciding whether IMR prices should be regulated, and if yes, the form of regulation.
<table>
<thead>
<tr>
<th>Option</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulation of wholesale prices only</td>
<td>- Allow flexibility in retail pricing</td>
<td>- International or regional cooperation is needed to ensure reciprocity among the economies concerned</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Wholesale price reductions may not necessarily result in reduced retail prices</td>
</tr>
<tr>
<td>Regulation of retail prices only</td>
<td>- Immediate benefits for IMR users from reduced retail prices</td>
<td>- Without regulation of wholesale prices, the margin between the wholesale and retail prices may become so small that it may no longer be profitable to provide IMR services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Risk of waterbed effects on prices of other mobile services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Little incentive for operators to offer innovative retail tariff plans and packages</td>
</tr>
<tr>
<td>Regulation of both wholesale and retail prices</td>
<td>- Immediate benefits for IMR users from reduced retail prices</td>
<td>- International or regional cooperation is needed to ensure reciprocity among all economies concerned</td>
</tr>
<tr>
<td></td>
<td>- Ensure a reasonable margin for all operators</td>
<td>- Complicated and time-consuming for regulatory authorities to implement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Little incentive for operators to offer innovative tariff plans and packages</td>
</tr>
</tbody>
</table>

Based on the above considerations, the WG has put forward the recommendations for discussion and consideration by APT members at the Third IMR Workshop. Having considered the comments received from the workshop participants, the WG put forward the following

---

15 Waterbed effects arising from regulation of IMR prices may affect prices of local mobile services, as well as IMR prices for countries which do not fall within the scope of price regulation (if the regulation of IMR prices applies to a few economies only). The magnitude of such waterbed effects, if any, may depend on the proportion of overall mobile revenue attributed to IMR services and may vary from operator to operator. Such effects should be taken into account when assessing the impact of regulation of IMR prices.
recommendations on bilateral or multilateral arrangements on IMR.

****************************

Recommendations on Bilateral or Multilateral Arrangements on IMR

When (i) measures to enhance transparency; (ii) measures to address mobile bill shock; (iii) measures to remove any regulatory and market barriers which may cause high input costs of IMR; and (iv) measures to remove any regulatory and market barriers which may hinder the introduction of various types of roaming substitutes, have been put in place and the issue of high IMR prices still remains a concern, APT member economies are recommended to explore the feasibility and appropriateness of bilateral or multilateral arrangements to address the issue of high IMR prices.

In identifying any specific routes that warrant bilateral or multilateral arrangement, the authorities concerned are recommended to conduct detailed analysis of pricing as well as level of competition on a consistent basis across potential routes, and focus on routes where competition has not yet developed and may not be likely to arise in future.

The authorities concerned are recommended to consult all relevant stakeholders and seek mutual understanding from mobile operators in their economies when commencing bilateral or multilateral discussion on IMR with another economy.

The authorities concerned are recommended to gather detailed pricing and market data from the industry, and conduct quantitative impact assessments on consumers and the industry when deciding bilateral or multilateral arrangements. The assessments should analyse the impacts of different forms of regulation (i.e. regulation of wholesale prices only, regulation of retail prices only, or regulation of both wholesale and retail prices).

- End of Recommendations -

****************************
7. Works Undertaken by Regional and International Organisations on IMR

While the aforementioned initiatives may address the issue of high IMR prices in the short and medium term, the issue requires regional and international cooperation in the long term. The following provides an overview on the works that have been undertaken by regional and international organisations on IMR.

International Telecommunication Union ("ITU")

A rapporteur group has been formed under the Study Group 3 ("SG3") of ITU's Telecommunication Standardization Sector (ITU-T) to study the issue of IMR. The focuses of the rapporteur group are to investigate the possible effects of regulation regarding IMR and consider developing recommendations and/or guidelines on IMR. So far, there has been broad consensus in the group that the issue of high IMR prices needs to be addressed and that economies should engage in bilateral/multilateral cooperation in addressing the issue.

After a meeting held in April 2011, the SG3 agreed to work on a draft recommendation on “Charging in International Mobile Roaming Service” which will be put forward for discussion at the next SG3 meeting to be held in January 2012. The draft recommendation mainly focuses on three aspects. Firstly, there are recommendations regarding the empowering of consumers, so that they are at least aware of what the prices of IMR would be and can take measures to ensure that they would not spend more than they wish to. Secondly, there are a set of market-based solutions favouring greater competition and thus lowering prices. Thirdly, there are factors and considerations that should be taken into consideration for regulatory intervention.

World Trade Organisation ("WTO")

Discussion on the applicability of the General Agreement on Trade in Services ("GATS") to IMR was held at the WTO Council for Trade in
Services in June 2011. During the meeting, it was proposed to start a work programme within WTO for considering the implications of GATS rules for IMR. In general, members supported such work programme and indicated interests to join future discussions on IMR.

The second discussion on mobile roaming was held in September 2011. A document prepared by SG3 of ITU, summarizing its works on IMR as well as the draft recommendation mentioned in the preceding paragraph, was circulated to WTO members during the discussion. A representative from ITU attended the WTO discussion and presented the document. The ITU representative indicated that the part on regulatory intervention was the most delicate and sensitive part of the document and expected that it would be likely to change considerably in the final text.

There is general support from the WTO members for further discussion on IMR.

Organisation for Economic Co-operation and Development (“OECD”)

The OECD Committee on Information, Communications and Computer Policy as well as the Working Party on Communication, Infrastructures and Services Policy have been undertaking work on IMR services for over two years and issued three reports. The first one, entitled “International mobile roaming charges in the OECD area”\(^\text{16}\), found that the prices for voice and SMS roaming services were extremely high and provided a preliminary assessment of market developments. The second report, entitled “International mobile roaming services - Analysis and policy recommendations”\(^\text{17}\), provided further analysis on the origin and nature of the problems and the challenges. The two reports largely focused on voice and SMS roaming services. To complement the work, a third report, entitled “International mobile data roaming”\(^\text{18}\), compared mobile data roaming prices in OECD countries and found prices to be up to a 100 times more expensive than comparable domestic services. This

\(^{16}\) http://www.oecd.org/dataoecd/41/40/44381810.pdf

http://www.oecd-ilibrary.org/docserv/mainfulltext/5kmh7b6zs5f5.pdf?expires=1320819375&id=id&accname=guest&checksum=67A897928C6358CABD45C6EF34D5092CE

\(^{17}\) http://www.oecd-ilibrary.org/docserv/mainfulltext/5kg9zb67l6r3.pdf?expires=1320819501&id=id&accname=guest&checksum=DEFCB62BDCD4C292DBEE871EE175FFD3
report also addressed the market and policy issues specific to data roaming services.

**Asia-Pacific Economic Cooperation (“APEC”) Telecommunications and Information Working Group (“TEL”)**

In TELMIN 7 held in 2008, the issue of high IMR prices was recognised as a barrier to international communications and this subject has been high on the APEC TEL agenda since APEC TEL 39 held in 2009. In APEC TEL 39, there was a survey on IMR services for voice and data and it was found that IMR prices varied widely among economies and pricing information was difficult to find and understand. Given the complexity of the IMR issues, APEC TEL 40 adopted a multi-pronged approach to (i) encourage economies to collect IMR data from operators; (ii) encourage regulators to raise consumer dissatisfaction with operators; (iii) develop and distribute consumer guidelines; (iv) address double taxation; (v) increase roaming coverage for prepaid customers; (vi) reduce roaming fraud; and (vii) liberalise international gateways.

One of the initiatives undertaken by APEC TEL is the development of the “Guidelines for the Provision of Consumer Information on International Mobile Roaming”\(^\text{19}\). The objectives of the guidelines are to improve information provision to empower consumers, as well as to encourage regulators and operators to inform consumers of substitutes. The guidelines were approved with Ministerial endorsement at TELMIN 8, and there were renewed commitments to develop strategies and measures to educate consumers regarding IMR issues. In addition to the guidelines, a workshop on IMR has been held in March 2011.

**Sharing of APT’s Works on IMR with Other Organisations**

As mentioned above, a number of regional and international organisations have been working on the IMR issue. Having considered the trans-national nature of IMR services and the fact that some APT members are also members of other regional or international organisations that are currently working on the IMR issue, the WG

\(^{19}\) http://www.apec.org/Groups/SOM-Steering-Committee-on-Economic-and-Technical-Cooperation/Wor king-Groups/Telecommunications-and-Information.aspx
considers that there is a need to share with such regional and international organisations the works that have been undertaken by the APT IMR WG so that there would be a harmonised approach within the region for resolving the IMR issue. The WG also considers that it would be useful if other regional or international organisations can share with APT their works on IMR as well as any recommendations to be put forward by them on the IMR issue.

As such, the WG has put forward the recommendations for discussion and consideration by APT members at the Third IMR Workshop. Having considered the comments received from the workshop participants, the WG put forward the following recommendations.

******************************************************************************

**Recommendations on Sharing of APT’s Works on IMR**

It is recommended that APT should share the final Working Group Report on IMR (including its recommendations) by placing the report on the APT website of the workshop. It is recommended that the report be presented at other APT meetings including the 12th APT Policy and Regulatory Forum.

- End of Recommendations -

******************************************************************************

8. Other Issues

In addition to the issues discussed in the previous chapters, the WG has also studied the bypass issue. Generally speaking, the WG considers that it may be useful to organise seminars and workshops for APT members on the topic of curbing bypass. If considered useful, economies may conduct mutual exercises and share intelligence among them to identify bypass routes.

During the Second IMR Workshop, a number of presentations have been
made on the issues of bypass and fraud. APT members may download the relevant presentation slides from APT website for reference.

9. **Next Step**

The guidelines and recommendations put forward in this report for addressing the issue of high IMR prices will be presented at the 12th APT Policy and Regulatory Forum to be held on 21-23 May 2012.
An SCMNS user will be provided with a SIM card that supports a few local mobile numbers for use in different places, for example, Hong Kong, the Mainland and Macau. When the user enters a roaming area (e.g. the Mainland), his/her mobile phone will automatically select the local mobile number which can be used in the area (in this example, the Mainland mobile number). The merit of SCMNS is that users do not need to swap SIM cards for receiving incoming calls and making outgoing calls when travelling across these places. In addition, they can continue to receive incoming calls at their domestic mobile numbers and local rates are charged for making and receiving local calls in a roaming area. However, SCMNS may be available to certain destinations only.
International Call Forwarding Service (“ICFS”)

ICFS allows users to receive incoming calls to their domestic mobile numbers when travelling outside their home country. An ICFS user will be provided with a dedicated number by the ICFS provider. After pre-setting a local mobile/fixed number of the destination to which the dedicated number is to be forwarded, the user then needs to forward his/her mobile calls to the dedicated number before leaving the home country. All incoming calls to the user’s domestic mobile number will be forwarded to the pre-set number. The merits of ICFS are that (a) the user can continue to receive incoming calls to his/her domestic mobile number and (b) ICFS can be used in most places of the world. However, it should be noted that ICFS is for receiving incoming calls only (i.e. not for making outgoing calls) and the user is required to acquire a local mobile/fixed number of the destination before he leaves the home country to receive incoming calls.
CBS allows users to make outgoing calls when travelling outside their home country. To use the service, the user will first dial the access number provided by the CBS provider, then wait for the confirmation tone and hang up the phone. In a few seconds, the user’s phone will ring and there will be a message prompting the user to dial the destination number. The system will then connect the call to the called number. CBS can be used in most places of the world. However, CBS is for making outgoing calls only (i.e. not for receiving incoming calls). Furthermore, the user needs to have access to a local phone in the destination for calling the CBS provider. It also takes a longer time to establish a call connection.