

**INTERNATIONAL  
ROAMING  
MOBILE IDENTIFICATION NUMBER (M I N)  
(IRM)**

**ASSIGNMENT  
GUIDELINES  
AND  
PROCEDURES**

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## IRM Assignment Guidelines and Procedures

A Message from the IFAST Chairman:

IFAST is a not-for-profit, United States based corporation that provides services to telecommunication operators worldwide by managing finite numbering resources, i.e. IRM and SID codes.

The management procedures for IFAST are specified in guidelines which were developed by the consensus of representatives of entities within the ANSI-41 based international wireless sector and international wireless networks in which intersystem operations for roaming and handoff are based on versions of ANSI-41. The guidelines are reviewed and updated periodically through online review or at IFAST annual meetings, open to all operators using or having an interest in ANSI-41 based mobile systems. The proper management of IFAST resources is dependent on operators abiding by the open and fair assignment principles expressed in the IRM and SID Assignment Guidelines. When operators fail to observe and conform to these principles, conflicts and other interoperability issues emerge.

IFAST publishes bi-monthly reports listing the current and pending status on codes that are being reclaimed from and assigned to various operators. These reports are intended to alert operators who are then expected to comment on any potential conflict or other interoperability issue that would arise should the assignment be completed. When an operator fails to notify IFAST of an impending conflict, a potentially serious international roaming conflict results and the entire IFAST community is jeopardized.

When a conflict is identified, IFAST will undertake all efforts to resolve the issue(s) by working with the affected operators, offering technical solutions, code replacements, etc. IFAST believes it is incumbent on those affected/responsible operators to reciprocate and help work toward a timely resolution. Anything short of this level of cooperation is considered an infringement of the international agreements and goodwill agreed to by all IFAST operators.



Syed Zaem Hosain  
IFAST, Chairman

## 1 PURPOSE AND SCOPE

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This document contains the guidelines and procedures for the assignment and use of **International Roaming Mobile** identification numbers (**IRM**) in ANSI-41 based mobile systems. IRMs perform, internationally, the same function as the Mobile Identification Number (MIN) in domestic networks. The use of IRMs is a temporary solution for international roaming between or into ANSI-41 based systems. The long term solution is the evolution to and use of the International Mobile Subscriber Identifier (IMSI), a 15-digit identifier defined in the International Telecommunications Union's (ITU) Recommendation E.212 - *The International Identification Plan for Mobile Terminals and Mobile Users*.

The MIN is a 10-digit number that traditionally has been identical to the domestic Mobile Directory Number (MDN) and is defined in ANSI/EIA/TIA-553. The MIN is used by home and visited wireless networks to identify the subscriber and to perform subscriber and service verification procedures. The use of a domestic number, if utilized across national boundaries when roaming internationally, can often result in conflicts with MINs in other countries, thereby, hindering or complicating international ANSI-41 based roaming. There has been no centralized international administration for MINs and their formats. TSB-29, by listing all known MIN assignments (NANP and non-NANP<sup>1</sup>) has provided a limited source for assignment coordination. The International Forum on ANSI-41 Standards Technologies<sup>2</sup> (IFAST) has assumed an active role in addressing this problem by creating and administering IRMs.

- 1.1 The IRM administrator is appointed by IFAST and manages and coordinates the assignment of the IRMs, under the oversight of IFAST.
- 1.2 These guidelines were developed by the consensus of representatives of entities within the ANSI-41 based international wireless sector and international wireless networks in which intersystem operations for roaming and handoff are based on versions of ANSI-41, as represented at IFAST.
- 1.3 These guidelines apply internationally for carriers using ANSI-41 based mobile systems and/or for carriers roaming into ANSI-41 based systems from other wireless network technologies. These guidelines do not supersede the regulations, procedures, or requirements of any appropriate national or international legal or regulatory authority.
- 1.4 Additional information may be found on the IFAST web site; [www.ifast.org](http://www.ifast.org)

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<sup>1</sup> North American Numbering Plan, the numbering plan of 18 North American Countries.

<sup>2</sup> An open international industry forum.

## **2 IRM FORMAT AND FUNCTION**

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- 2.1 In many ANSI-41 based countries, e.g., those countries served by the NANP, numbering resources cannot have a "0" and "1" as the first or fourth digit of an MDN and, consequently, of a legitimate MIN. IFAST determined that this non-utilized numbering plan capacity was appropriate for IRMs and determined to use this resource.
- 2.2 Therefore, the IRM is a valid MIN constrained to having a "0" or "1" as the first digit. As of March 29, 2004, an IRM may also have a "0" or "1" as the fourth digit where any value, 2 through 9, is used as the first digit.
- 2.3 An IRM Network Identifier is the 4-digit code assigned by IFAST. An IRM Network Identifier defines an IRM Block, which is a group of one million unique IRMs which all have the same IRM Network Identifier. There are 3,600 IRM Network Identifiers. 2,000 MIN Blocks of the format 0XXX and 1XXX and 1,600 MIN Blocks of the format NXX0 and NXX1 (N=2-9) are reserved to be assigned by IFAST as IRMs.
- 2.4 The IRM, when transmitted by a roaming terminal to a visited network, is utilized by the VLR of that network to identify the home network of the roaming subscriber in order to query that network to determine the validity of the subscriber and to ascertain billing and services information.
- 2.5 The digits following the IRM Network Identifier uniquely identify a subscriber of the network identified by the IRM and are in the format appropriate for the domestic numbering plan of the home network. The IRM assignee is responsible for the assignment and management of the digits following the IRM.

## **3 ASSUMPTIONS AND CONSTRAINTS**

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These guidelines are based on the following assumptions and constraints:

- 3.1 These guidelines and procedures should provide the greatest latitude to those providing ANSI-41 based mobile systems, as well as other wireless technologies carriers providing roaming into ANSI-41 based systems, while permitting the effective and efficient management of a finite resource.
- 3.2 The function of the IRM administrator will be performed by a person(s) or organization so agreed to by IFAST. IFAST management is responsible for IRM assignments if such a person or organization is not agreed to. The Administrator will conform to all aspects of these Guidelines and will be subject to the oversight of IFAST.
- 3.3 These guidelines do not describe the method by which IRMs are transmitted across and processed by networks. Network interworking arrangements are contained in other standards, documents, or business agreements.

- 3.4 Participation by all international carriers engaged in providing public correspondence based on a wireless medium is strictly voluntary.

## **4 ASSIGNMENT PRINCIPLES**

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The assignment principles defined below allow all international wireless service providers the greatest possible latitude in providing seamless international roaming capabilities in ANSI-41 based systems.

- 4.1 IRMs are to be assigned to any wireless service provider(s) meeting the criteria specified in Section 5 of these guideline, to provide roaming in ANSI-41 based networks.
- 4.2 IRMs are normally assigned uniquely to individual service providers. However, it is a national matter whether IRMs can/must be shared between service providers within a country. IRMs will be shared at the 5<sup>th</sup> digit level, i.e., the 4-digit IRM Network Identifier + the next digit (4+1 = 5-digit format) will identify the service provider.
- 4.3 Upon approval of the application, the IRM administrator will initially assign one IRM Network Identifier (or Block) per network. An applicant(s) must provide customer forecasts if requested by the IRM administrator when more than one code per network is requested.
- 4.4 IRMs shall be assigned to permit the most effective and efficient use of a finite resource in order to maximize the existing allocated resource inventory and to defer, as long as practical, the need to request additional MIN resources.
- 4.5 The IRM administrator will:
- \* Assign IRMs in a fair, timely and impartial manner to any applicant that meets the criteria for assignment (Section 6).
  - \* Assign IRMs on a first come, first served basis from the available pool.
  - \* Make all assignments based on the procedures in these guidelines.
  - \* Treat sensitive information received from applicants as proprietary and confidential, and not to be shared with non-administrator personnel.
- 4.6 Information that is requested of an applicant(s) in support of an IRM application shall be uniform and kept to a minimum.
- 4.7 Assigned IRMs should be implemented by the assignee as soon as possible, but no later than twelve months after assignment. If the assignee can demonstrate that an assigned IRM has not been deployed solely due to delays beyond its control, the time period can be automatically extended for up to 90 days. The IRM assignee must, however, apply to the Administrator for such an extension. At the discretion of the administrator, three additional 90-day extensions may be granted.

- 4.8 IFAST has the right to reserve any block of IRM network identifiers from assignment, subject to the appeals process.
- 4.9 An entity which is denied an IRM assignment or extension under these guidelines has the right to appeal that decision (Section 10).
- 4.10 The payment of an application fee and an administrative fee is required with an application for an IRM. Any entity applying for an IRM must pay outstanding invoices for their past IRM maintenance fees before any application can be processed by the Administrator.
- 4.11 As required, an IRM applicant(s) must comply with all applicable domestic regulations.
- 4.12 IRM assignees are required to pay an annual IRM maintenance fee (contact the IFAST Secretariat for fee schedule). In the case of a shared IRM, all assignees are required to pay the full maintenance fee. IFAST will submit an annual bill to each IRM assignee. Payment is expected within 30 days. However, if payment is not received within 5 months of billing, the assignee will receive a letter indicating that if payment is not received in an additional 30 days, the assigned IRM(s) will be returned to the IRM inventory for reassignment. Reassignment can occur following the normal "dormant" period (6 months).

## **5 CRITERIA FOR IRM ASSIGNMENT**

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- 5.1 The assignment criteria in the following paragraphs should be considered by a potential IRM applicant(s) before submitting an IRM application and will be used by the IRM Administrator in reviewing and processing an IRM application.
- 5.2 IRMs will be assigned to any ANSI-41 based wireless network that provides roaming between other ANSI-41 based networks in other countries, included in the NANP serving area. IRMs can also be assigned to wireless networks not based in a specific geographic country, e.g., Global Mobile Satellite Service (GMSS) networks.

## **6 ASSIGNEE and APPLICANT , RESPONSIBILITIES**

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Entities requesting IRM assignments and entities already assigned one or more IRMs shall comply with the following:

- 6.1 IRM applicants and assignees must meet all conditions specified in these guidelines. Copies of the guidelines may be obtained from the IFAST web site ([www.ifast.org](http://www.ifast.org)).
- 6.2 Applicants must apply to the IFAST Secretariat (contact details provided below). The application must be accompanied by payment of the application and first annual maintenance fees (see the IFAST website or contact the Secretariat for fee

information). Applicants should follow all application instructions found on the Application Form.

- 6.3 If sharing of IRMs is nationally authorized/mandated and if an IRM application is for a shared implementation, the application must include the details for each entity sharing the IRM. The applications and maintenance fees are per IRM and will, consequently, be shared by the multiple applicants.
- 6.4 The IFAST Secretariat will ensure the completeness of the application, including the payment of fees, and forward the application to the IRM Administrator for processing.
- 6.5 The IRM Administrator will process the application within 30 calendar days and inform the applicant of the result. This 30-day processing period includes a 2-week IFAST application comment cycle. If the application is denied, the IRM Administrator will provide a detailed explanation of the denial.
- 6.6 The Administrator may place an IRM Network Identifier in "Pending Assignment" status for a period not to exceed 60 days following notice of intent to apply for the IRM Network Identifier. The IRM Network Identifier will not be considered for assignment to another entity during this period. There is no fee associated with placing an IRM Network Identifier in this status.
- 6.7 Applicants for new IRM Network Identifier assignments are required to reveal any existing MIN block usage to IFAST that are not assignments approved by IFAST or the North American MBI Administrator ([mbiadmin.com](http://mbiadmin.com)). This applies even if the MIN codes are intended only for domestic use within the country (or countries) that the carrier operates in. This information will be used by IFAST to identify numbering conflicts and to attempt to resolve them.
- 6.8 Payment in full of IRM fees is the responsibility of the IRM applicant or assignee. The net amount received by IFAST is to be the total amount invoiced. IFAST shall not be responsible for paying any costs associated with the transaction (e.g. bank fees, taxes from the country of origin.)
- 6.9 Every assignee is responsible for reviewing the periodically published notice of new and pending IRM assignments and returns circulated by IFAST. This responsibility includes ensuring that relevant representatives of the assignee are receiving the email and that IFAST is notified within one week of any potential problem with the IRM assignment or return.
- 6.10 IFAST requires the following procedure to be followed in the event that an IRM assignee wishes to return an IRM(s) that is no longer required for operational use:
  - a) The assignee must ensure the IRM fee(s) and assignment are current.
  - b) The assignee must submit to IFAST, on or before the date of return, a letter, on official company letterhead, listing each IRM, or sequential IRM range.
  - c) The letter must contain an effective date in which the assignee agrees the IRM(s) will no longer be used.

- d) The letter must be signed by an officer or other official of the assignee responsible for the IRM(s) or roaming operations.
- e) An electronic or faxed version sent to IFAST is acceptable. The original however, must be forward to IFAST. Regular first-class post may be used.
- f) The assignee must certify that no portion of any of the IRM ranges being returned, that may have been sub-assigned to another entity, are still in use by that entity.

## **7 ADMINISTRATION RESPONSIBILITIES**

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- 7.1 IFAST will track and monitor IRM assignments and assignment procedures to ensure that all assignments of IRMs are being used in an efficient and effective manner. Ongoing Administrator procedures that foster conservation shall include, but not be limited to, the following:
  - a) An active Reclamation, Reassignment and Return program (detailed below) to reclaim unused, misused or no longer used IRMs.
  - b) Strict conformance with these guidelines by those assigning IRMs.
  - c) Appropriate and timely recommended changes to these guidelines, if they are found to result in inefficient or inappropriate use or assignment of IRMs.
  - d) Periodic specific and random audits of assignments and assignment procedures.
- 7.2 IFAST will utilize the following method with regard to IRM reclamation, reassignment and return:
  - a) An IRM that is reclaimed/returned, was never implemented by the original assignee, and is specifically requested by a different entity, can be assigned immediately.
  - b) An IRM that is reclaimed/returned, was implemented by the original assignee, and is specifically requested by a different entity, can be assigned following a 6-month dormant period.
  - c) An IRM that is reclaimed/returned, whether implemented or not by the original assignee, and is not specifically requested by an entity, will remain dormant for a minimum of 6 months or until all never-assigned IRM resources have been assigned.
  - d) If an IRM is reclaimed due to non-payment of the appropriate maintenance fees, and the original assignee pays those fees during the 6-month dormancy period, that IRM shall not be considered for reassignment to another entity.

## **8 MAINTENANCE OF GUIDELINES**

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It may be necessary to modify these Guidelines periodically to meet changing and unforeseen circumstances. The need for Guidelines modification may be identified by the



IRM Administrator, any entity in the international wireless telecommunications sector or IFAST. When need for modification is identified by other than IFAST, the identifying entity will submit the modification issue to IFAST. The forum will coordinate the modification process. Questions or concerns regarding the maintenance of the guidelines may be directed to:

***IFAST Secretariat***  
c/o IFAST Ltd.  
4410 Massachusetts Avenue NW, Suite 228  
Washington, DC 20016  
Phone: +1-410-340-7892  
Fax: +1-443-451-8224  
Email: ifastsec@ifastltd.org

## **9 CONFLICT RESOLUTION**

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- 9.1 Every attempt will be made at the time of allocation to avoid conflicts with existing IRMs. Organizations requesting specific IRMs should first seek the IRM availability by checking the listings found on the IFAST web site, **[www.ifast.org](http://www.ifast.org)**.
- 9.2 If a conflict, at some later point, is determined to exist, the following process should be followed:
- Immediately notify the IFAST Secretariat in writing.
  - Contact the organization(s) with whom the conflict exists and attempt a resolution. Then notify the IFAST Secretariat, in writing, regarding the result of this attempt to negotiate a resolution.
  - If resolution cannot be achieved, the issue may be brought before IFAST for a recommended solution.

## **10 APPEALS PROCESS**

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Disagreements may arise between the IRM Administrator and IRM applicants or assignees in the context of the administration and management of these guidelines. In all cases, the IRM Administrator and IRM applicants/assignees will make reasonable, good faith efforts to resolve such disagreements among themselves, consistent with the Guidelines, prior to pursuing any appeal. Appeals may include, but are not limited to, one or more of the following options:

- \* The IRM applicant/assignee will have the opportunity to resubmit the matter to IFAST for reconsideration with or without additional input. The appeal should be submitted in writing to the IFAST Secretariat. The Secretariat will include the appeal on the agenda of the subsequent IFAST meeting, for resolution. The Secretariat will

also post the appeal to the IFAST web site at least 2 weeks prior to the next IFAST meeting and will alert the IFAST membership of the posting.

- \* Guidelines interpretation/clarification questions may be referred to the IFAST for resolution. Unless otherwise mutually agreed to by the parties, these questions will be submitted in a generic manner protecting the identity of the appellant.
- \* The applicant/assignee may pursue the disagreement with the appropriate governmental/regulatory body.

Reports on any resolution resulting from the above options, the content of which will be mutually agreed upon by the involved parties, will be kept on file by the Administrator. At a minimum, the report will contain the final disposition of the appeal, e.g., whether or not an IRM was assigned.

Annex A: Schedule of IRM Fees

The following fees apply to IRM assignments as of July 1, 2005:

<b>Type of Fee (per individual IRM code)</b>	<b>Amount (US dollars)</b>
Initial assignment of an IRM code (includes first year's maintenance fee)	\$350
IRM maintenance fee renewal for one year.	\$175

## Annex B: IRM Reclamation Time Periods

The following timing applies to the reclamation of an IRM code due to unpaid maintenance fees as of July 1, 2005:

<b>Time Period</b>	<b>Explanation</b>	<b>Starts when</b>
Invoicing	IRM maintenance fees will soon be due.	Maintenance fees are due within 90 days
Owing	The IRM code is marked "Owing" on the IFAST website. The name of the assignee is still shown.	IRM maintenance fees are overdue between 1 and 179 days (less than 6 months, approximately).
Being Reclaimed	The IRM code is marked "Being Reclaimed" on the IFAST website. The name of the assignee is still shown.	IRM maintenance fees are overdue for more than 180 days and less than 360 (approximately 6 to 12 months).
Dormant	The IRM code is marked "Dormant" on the IFAST website. Information about the assignee is no longer shown on the website, but is retained by the IRM administrator.	IRM maintenance fees are overdue for more than 360 days and less than 540 (approximately 12 to 18 months).
Unassigned	The IRM code is available for reassignment.	IRM maintenance fees are overdue for more than 540 days (more than 18 months, approximately).