Draft IFAST Issue List

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ISSUE	DESCRIPTION AND RECOMMENDATIONS	IRG REF.
TLDN conflict	**Description:** Many systems send a TLDN to roaming partners in the national (usually North American) format (e.g. 10 digits, without a prefixed country code). **Recommendation:** Preferred implementation is to use internationally formatted TLDN's, as per ANSI-41-D. If this is not possible, it is probably possible to send the full E.164 number and arrange for special translations (e.g. Mexican numbers can be distinguished based on "52" prefix and different length than national numbers).	1.4
ANI compatibility	**Description:** When an international roamer user coming from a country outside of the Numbering Zone 1North American Numbering Plan Area (NANPA) goes to a visited network and tries to make a call to the PSTN or another interconnected network, the visited network may be configured to send the IRM beginning with 0 or 1 to the PSTN or the interconnected network, as the calling/billing number (ANI). However, if the PSTN or the interconnected network is configured to reject calls from an invalid "A" number (and in most countries numbers beginning with 0 or 1 are not valid), the roamer calls will fail. **Recommendation:** When the roaming service between two parts is established for the first time some tests will be necessary to ensure that ANI compatibility will not be a problem. From the time of signing of the roaming agreement these issues should be considered, to include negotiations with the PSTN or the interconnected network to solve this incompatibility.	3.3

SID Uniqueness	**Description:** A unique System Identification number is required for the correct operation of roaming and billing. **Recommendation:** A SID should be assigned by the national SID assignment authority. Carriers should verify that it conforms to the ranges defined by IFAST (www.ifast.org/SIDCountry.htm) and by TIA TSB29 for the country of operation of the carrier, and should avoid SID codes with known conflicts (www.ifast.org/SIDConflict.htm).	5
MIN Uniqueness	**Description:** A unique Mobile Identification Number is required for international roaming. **Recommendation:** Cellular and PCS systems within North America generally use the MDN assigned to a mobile as the MIN. Other systems (data systems within North America, and voice and data systems in other countries) should assign MIN codes from an IRM block assigned by IFAST.	3
IMSI	**Description:** IMSI is the future identifier for cellular and PCS systems that currently use MIN. **Recommendation:** Mobile phones or UIM cards may be programmed with an IMSI, in addition to a MIN. This is particularly valuable for systems that provide GSM roaming. Ensure that the IMSI is GSM-compatible. It may require a 2 digit MNC to be assigned. In North America, the assignment of a GSM-compatible MNC may require coordination between countries in order to support ITU-T E.214.	8
Emergency Number Dialing	**Description:** People making an emergency call in a foreign country may dial the wrong code. **Recommendation:** Ensure that Mobile Stations are programmed to set the ‘emergency call’ bit when the subscriber’s home emergency digit string is dialed. This ensures that the call can still be recognized as an emergency call, even when the wrong digit string is dialed.	10

International Dialing	**Description:** International roamers are less likely to make calls to their home country if they are confused by the national dialing plan. **Recommendation:** Ensure that '+' code dialing is supported, and that customer education is provided. This means that international roamers do not need to know the local access number in order to make an international call.	10
SS7 Routing	**Description:** ANSI-41 generally relies on point code routing to route messages between a home and serving system. Point code routing is only valid within an national network. **Recommendation:** Obtain an ANSI SS7 point code for your network, and subscribe to a service that either provides ANSI SS7 connectivity, or that can convert to ANSI SS7, including converting your national point code to its ANSI equivalent.	18

Network Selection	**Description**: The roamer has just arrived in a foreign country, and turned on their cellular phone and **no network is selected.** This is a very common situation, often for the following reasons: a. The home service provider does not have any roaming agreements in the visited country. Given the lack of international standardization, roaming agreements are hard to establish. b. The service provider is Band A (or B) and the visited network with which his home service provider has a roaming agreement is B (or A). This is part of the North American regulations, but the problem comes from the fact that cellular phones may not be programmed to scan both bands in search of an permitted network. A manual network selection is needed in these cases. c. The PCS cellular phone may select a network that does not have a roaming agreement with the home network. IRDB behaviour obliges the MS to mark as prohibited all networks which are not roaming partners. Again, a manual network selection is in place. In other situations, the PRL (preferred roaming list) needs a positive entry for the allowed networks, and even if there is a roaming agreement, if the terminal is not properly programmed, the roaming is not allowed.	n/a

Validation Failures	**Description:** The telephone selects a suitable network, but the subscriber cannot make calls. Possible reasons are: a. The roaming service is not allowed by the home network. A very common fraud prevention policy is to deny roaming services as default, unless the subscriber specifically asks for them. b. Visited network does not allow international calls. A very common fraud prevention policy. It makes roaming almost useless as a high percent of calls in roaming are international. c. The cellular phone does not have an IRM pre-programmed, but uses a national MIN that cannot be supported by the serving system because it is not internationally unique. Usually, IRM programming is made specifically under demand, not when the terminal is activated. [Is this true? I thought most countries were now programming IRM's in all phones] d. The visited network does not have the MIN range open. The MIN must be linked to a specific signalling point code for the home system. This results in hundreds or even thousands of entries in the MIN analysis tables of the switches, which creates many management problems. Errors are common. The implementation of Global Title translation would improve this situation, although it might not remove the need for roamer agreement tables for other purposes. e. The subscriber doesn't know how to dial in the visited network. There are a lot of national numbering schemes, and very different treatment of cellular, long distance and international calls. Network announcements and messages are given in the visited country's language, and the subscriber perhaps does not know why the call cannot be completed. Usually, international format dialling is not allowed for national calls. The + sign for international access is not often supported.	

Accessing Customer Care	**Description:** The subscriber cannot access the customer care centre, often for one of the following reasons: a. *611 is not a general access code for roaming customer care centre. Although it is becoming common there are still networks that have not implemented it. b. *611 is implemented, but the subscriber cannot reach it. If the subscriber is not allowed service in the home network, sometimes, they cannot dial *611 for assistance. c. The customer care centre does not have operators who can speak the subscriber's language. In countries in the Americas, at least English, Spanish and Portuguese support should be available, both for customer care and for network messages and announcements.	10
Services	**Description:** Roamers may have trouble accessing services, often for one of the following reasons: a. Codes for activating and deactivating network features are not standardized. b. Roaming in analog mode does not allow digital services, like SMS. Expansion of digital coverage would improve the number and quality of services provided by ANSI-41 networks. c. Calling number is not correctly presented in the terminal. In many cases, you cannot redial the received number without editing it first.	
Fraud	**Description:** Authentication is not generally implemented. The lack of authentication, mainly in analog networks, is a source of cloning fraud, and obliges carriers to implement a very strict fraud control policy which significantly restricts the services (such as long distance calling) available to international roamers.	n/a