

F.No. 19-37/2012/S-II (Pt)
Ministry of Communications
Department of Telecommunications
20, Ashok Road, Sanchar Bhawan, New Delhi-110001

Dated : July 3, 2017

Office Memorandum

Subject: Implementation of Central Equipment Identity Register (CEIR)

With the growing importance of mobile phones the handset has become a valuable item particularly in terms of the personal data / information stored in it. The mobile phone theft is a serious problem.

The introduction of new technologies has posed fresh challenges in network security, communication security and communication assistance to law enforcement agencies. The national telecom policy (NTP) of 2012 issued by the Department of Telecommunication provides a clear strategy for squarely addressing these concerns.

The relevant extract of NTP-2012 is reproduced as below:

“6.5. To facilitate establishment of a National Mobile Property Registry for addressing security, theft and other concerns including reprogramming of mobile handsets”.

2. About Equipment Identity Register

International Mobile Equipment Identity (IMEI) is a unique identification code for each mobile device. The IMEI is a 15 digit number that is used to identify the device. The IMEI also reveals the manufacturer, make & model. The Equipment Identity Register (EIR) is a database present in the mobile network that contains a list IMEIs of mobile terminals which are active in a mobile network. EIR maintains a white, grey and black list. The white list is composed of IMEIs of mobiles that are permitted for use. The gray list consists of devices that does not conform to the standards but could be permitted to connect under supervision or triggering an alert. The black list contains IMEIs of devices which have been reported stolen or lost and not to be provided service. Such IMEIs are denied access to the network.

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3. Purpose of CEIR

The theft and cloning of mobile phones has become a serious problem. The theft of mobile phones is not just a financial loss but also a threat to personal life of the citizens as well as national security. Counterfeit mobile phones in the market are another issue for DoT. A substantial number of counterfeit mobile phones are active in our mobile networks with fake IMEI numbers. They are illegal copies of popular brands and models of mobile phones and do not carry a valid and unique IMEI. Counterfeit mobile phones affect the quality of service to consumers. They can pose health risks to the users as they have not been tested against safety standards and may emit higher level of radiation than recommended. The Law Enforcement Authorities (LEA) also face problems for Lawful Interception(LI) when they seek to intercept based on the mobile equipment identity.

4. Objective of CEIR

With the aim to curtail the counterfeit mobile phone market and discourage mobile phones theft, protect consumer interest and facilitate law enforcement authorities for lawful interception, DoT intends to implement Central Equipment Identify Register (CEIR) that connects to the IMEI database of all the mobile Operators. CEIR acts as a central system for all network Operators to share black listed mobile terminals so that devices blacklisted in one network will not work on other networks even if the Subscriber Identity Module (SIM) card in the device is changed.

The implementation of the CEIR would resolve the issues namely:

- a) Curtail the counterfeit mobile phones while permitting the use of such existing mobile phones.
- b) Blocking of lost/theft mobiles across mobile networks thus discouraging theft of mobile phones.
- c) Maintaining the registry of all equipment identity facilitating data base of all valid equipments
- d) Protecting the interests of the consumers by making them aware of the information related to fake and cloned mobile equipments.
- e) Mechanism to report loss/theft of mobile equipment
- f) Facilitate IMEI based Lawful Interception

5. Salient Functions of CEIR

CEIR must perform the following functions:

- i. CEIR shall have a capability to maintain the database of IMEIs of all the devices registered on the mobile networks;
- ii. CEIR shall be able to identify IMEIs such as;
 - a. IMEIs which are not allocated
 - b. IMEIs which are null, duplicate or all zero
- iii. CEIR shall contain the information of the devices that are registered with all mobile networks;
 - a. IMEIs
 - b. IMEI status (white, grey, black)
 - c. Date of record creation
 - d. Date of last record update
 - e. IMEI status reason (invalid, stolen, cloned, valid)
- iv. CEIR shall be able to block services to subscribers with registered devices with invalid or blacklisted IMEIs;
- v. CEIR shall be able to identify the device model, version and other information;
- vi. CEIR shall allow the creation of a new record in the database containing the IMEIs whenever a new subscriber account is activated;
- vii. CEIR shall make available Operators' updated local black/white/grey list database information so as to prevent cloning across networks and keeping database information up to date;
- viii. CEIR shall be updated periodically;
- ix. CEIR shall have facility to access GSMA's IMEI database and shall have a capability to identify counterfeit IMEIs by comparing the IMEIs database provided by the GSMA;
- x. CEIR shall be interoperable with all the appropriate network elements and interfaces of mobile Operators;
- xi. Database shall support a flexible method of input
- xii. CEIR shall perform a check on the IMEI format to verify it is of a valid format and range.
- xiii. CEIR shall support existing mobile subscribers, including those with duplicate IMEI, without further addition of cloned, duplicate and fake IMEI.
- xiv. CEIR shall be scalable to meet the present and future requirements.

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6. Implementation Methodology

For a nationwide deployment it will be required to work out the hardware requirements in the form of servers, memory capacity, connectivity, and the software requirements in the form of various execution modules, databases and reporting formats and the development and deployment effort. It is suggested to have a pilot in one LSA with one operator involving the interfaces, mobile network and databases of that operator. This would facilitate customizing activity in close coordination with that operator. Subsequently the pilot can be scaled to cover all the operators of that LSA. Thereafter after due validation of the solution it can be extended to cover pan India.

7. Pilot Project by BSNL

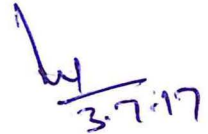
It is proposed to execute the pilot in the Maharashtra LSA with BSNL as the operator in view of the implementation methodology as above and the following rationale. The pilot project proposes to utilize the call detail record data of the mobile subscribers of BSNL. Further, the proposed CEIR need to be synchronized with EIR of BSNL installed at BSNL Pune. The pilot would also require development of software modules, for which ITPC, unit of BSNL Pune has core competence. Also BSNL provides data centre services which would be utilized for hosting the application and associated data bases. Since all the resources need for the execution of the pilot project are available and housed in Pune, hence the pilot may be executed by ITPC, BSNL, Pune.

8. Pilot Project

- a. The pilot project of CEIR may be executed by LSA Pune through ITPC Unit of BSNL. For the purpose, LSA Pune may finalize modalities and enter into MoU with ITPC, BSNL. BSNL would be responsible for design, development and installation of CEIR system. BSNL shall prepare DPR for the pilot and intimate funds required for pilot project.
- b. ITPC, Pune, BSNL may enter into MoU/ agreements, if necessary, with vendors/ OEMs/ developers for execution of the project.
- c. LSA Maharashtra, DoT would be nodal unit for implementation, testing, validation and would be responsible for the operation of the system. LSA Maharashtra will also be responsible for the release of payments to BSNL for the project.

- d. The software application / database for IMEI Cloning Detection and Restriction Process developed by MSAI and currently hosted by MSAI, may be migrated and also be hosted in CEIR server.
- e. Subsequently LSA Pune would be responsible for rollout of CEIR on pan India basis based on the assessment of pilot by LSA MH Pune and approval by DoT Hqs.
- f. DoT Hqs would be responsible for amendments in rules/ policies, if any, necessary for execution of the project.
- g. The pilot project would be executed in 6 months.

This issues with the approval of Secretary (T).


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(Hoshiar Singh)
Director (UDS)
03.07.2017

To

1. PSO to Secretary (Telecom)
2. PPS to Member (S)/(T)
3. CMD, BSNL
4. Advisor, LSA, Maharashtra
5. CGM, ITPC, Pune, BSNL
6. DDG (SPPI), DDG (SA)
7. ADG(IT) for uploading on DoT Website

