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E.212 Parameters for the "tel" URI
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Abstract

Parameters are defined in the "tel" Uniform Resource Identifier (URI) to carry ITU E.212-related information.

1 Introduction

Three parameters are defined for the tel URI [RFC3966] to permit storage of E.212 [ITUE212] data. E.212 data has three components, the Mobile Country Code (MCC), the Mobile Network Code (MNC), and the Mobile Subscriber Identification Number (MSIN). Collectively, these form the Internation Mobile Subscriber Identity.

To store an IMSI, and therefore all three components, just one parameter would be needed if not for concern over exposing the MSIN in a public database like DNS. There is a need to publically view the MCC and MNC numbers though, so individual parameters are defined for those values.

The parameter for the entire IMSI will be "imsi", the parameter for the MCC will be "mcc" and the parameter for the MNC will be "mnc." In the parlance of RFC 4694 [RFC4694], these parameters are suitable for placement in static content.

2 Terminology

The key words "MUST," "SHOULD," and "MAY" in this document are to be interpreted as described in RFC 2119 [RFC2119].

3 Formal Syntax

The following syntax specification uses the Augmented Backus-Naur Form (ABNF) as described in RFC 4234 [RFC4234] and defines the three parameters, imsi, mcc, and mnc by extending the "parameter" production rule of the "tel" URI defined in [RFC3966].

```
parameter               = / imsi / mcc / mnc
imsi                    = ";imsi=" imsi-digits
mcc                     = ";mcc=" 3(DIGIT)
mnc                     = ";mnc=" (2(DIGIT) / 3(DIGIT))
imsi-digits             = (upto) 15(DIGIT) ; ed.note, fix this
```

4 Normative Rules

If the imsi parameter is in use, all three values are expected to be present. Rules for the use of the parameter's value are contained in the ITU document defining the IMSI.

The other two parameters, mcc and mnc are used in tandem to identify the network serving the telephone number.

5 Examples

For a telephone number +1-571-555-1000, served on a network whose MCC is 330, MNC is 110 and MSIN is 123456789, the two "tel" URI's that might appear with these parameters are:

```
tel:+15715551000;imsi=330110123456789
tel:+15715551000;mcc=330;mnc=110
```

6 Security Considerations

The one concern raised in this document is the potential concern over the privacy required for the MSIN that appears in the IMSI. If the IMSC parameter is used, the operator must understand the exposure that may be had by the data. The full IMSI ought to be restricted to situations in which the exposure of the MSIN is acceptable.

To alleviate this concern, the MCC and MNC parameters are defined, these are expected to be what appears in a pubic or otherwise widely (or externally) distributed environment.

7 IANA Considerations

This document requires no IANA actions.

8 Internationalization Considerations

There are no internationalization considerations in these parameters. All data are numeric.

9 References

9.1 Normative

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.

[RFC3966] Schulzrinne, H., "The tel URI for Telephone Numbers", RFC 3966, December 2004.

[RFC4234] Crocker, D. and P. Overell, "Augmented BNF for Syntax Specifications: ABNF", RFC 4234, October 2005.

[ITUE212] ITU-T Recommendation E.212, "The International Identification Plan for Mobile Terminals and Mobile Users, " May 2004.

9.2 Informative

(ed.note - do I need this, i.e., should it be mentioned in IANA consid.?)

[TELREG] Jennings, C. and V. Gurbani, "The Internet Assigned Numbers Authority (IANA) tel Uniform Resource Identifier (URI) Parameter Registry", Work in Progress, May 2006.

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