AT&T Comments on Draft CEPT/ECC Recommendation (17)02 – Harmonised European Management for Geographic E.212 Mobile Network Codes (MNCs)

7 February 2017

AT&T Inc. and its affiliates that provide communications services to, from and within Europe (collectively "AT&T"), are pleased to provide the following comments on the consultation by the CEPT Electronic Communications Committee's Working Group on Numbering and Networks (WG NaN) on the draft *ECC Recommendation (17)02—Harmonised European Management and Assignment Principles for Geographic E.212 Mobile Network Codes (MNCs)* released on 29 November 2016 ("*Draft Recommendation*"). AT&T had provided comments on WG NaN's earlier related draft *ECC Report 212 – Evolution in the Use of E.212 Mobile Network Codes,* released on 25 October 2013.

AT&T wishes to comment, in particular, on the *Draft Recommendation* proposal that: "*For services provided in more than one country, excluding mobile roaming services, an applicant for a geographic MNC should, as a more appropriate alternative, be encouraged to apply to the ITU-T TSB for the assignment of an MNC under a shared MCC in the 90x series to avoid the need for multiple assignments of MNCs under different geographic MCCs*."[1] For the reasons described below in more detail, AT&T does not believe that shared Mobile Country Code (MCC) 90x MNCs ("ITU 90x MNCs") are a "more appropriate alternative" to geographic MNCs for services to be provided in multiple countries. Indeed, AT&T asserts that allowing the extra-territorial use of geographic MNCs, at least for machine-to-machine (M2M) services and Internet of Things (IoT) in general, provides a more effective solution for multiple country offerings and, crucially, in the context of concerns about MNC exhaustion, also avoids the need for multiple assignments of MNCs under different geographic MCCs. AT&T believes that national numbering policies should allow the extra-territorial use of E.212 resources (as well as E.164 resources),[2] in addition to the option of using shared ITU 90x MNCs. Importantly, *either* alternative avoids the necessity of multiple MNC assignments under different MCCs while enabling service provision in multiple countries.[3] AT&T, therefore, urges WG NaN to revise the *Draft Recommendation* to avoid favouring a particular technical numbering solution for services offered in multiple countries.

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[1] Recommendation No. 3 at page 3 of *Draft Recommendation*.

[2] If not in general, AT&T recommends allowing the extra-territorial use of national numbering resources to facilitate the deployment of, and innovation in, global M2M services.

[3] In its report Enabling the Internet of Things, the Body of European Regulators for Electronic Communications (BEREC) advised a "complimentary" numbering solution to support M2M services, advocating that the extra-territorial use of numbers and the use of ITU numbers seems to be a reasonable approach. *BEREC Report on Enabling the Internet of Things*, Report BoR 16(39), 12 February 2016 at pages 17 and 19. *See* http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/5755-berec-report-on-enabling-the-internet-of-things

Extra-Territorial Use of Numbering Resources Effective Alternative for Global M2M Services, E.212 Management

AT&T believes that to facilitate the growth and development of M2M services, and to dampen unnecessary demand for E.212 MNC resources,[4] national numbering plans should explicitly allow the extra-territorial use of national numbering resources. The new business models for global M2M services demand innovative numbering solutions to accommodate the requirements of M2M service customers, service providers and manufacturers.[5] Although a number of alternatives exist, the most immediate and effective solution is to explicitly allow the extra-territorial use of numbering resources. Such extra-territorial use of numbering resources for M2M services should work in both directions—that is, national regulators should allow use of their numbers outside their national territories, as well as allowing the use of foreign numbering within their national territories.[6]

Critically, allowing the extra-territorial use of national numbering resources does not limit the authority of national regulators. National regulators retain oversight, and can address policy interests in other areas while endorsing flexible numbering policy. Indeed, two CEPT member countries recently enshrined the extra-territorial use of numbers in revised national numbering regulations, based on the outcome of public consultation that identified the importance of M2M services and IoT and a broad need to stimulate their deployment.

In June 2016, the German regulator Bundesnetzagentur (BNetzA), recognising the growth potential of connected applications (i.e., M2M services), issued new rules for International Mobile Subscriber Identification (IMSI) codes[7] that expressly permit their extra-territorial use. Specifically, BNetzA's new rules allow foreign IMSIs (i.e., IMSIs with non-German country codes) to be used in Germany, as well as for IMSIs with a German country code to be used outside of Germany.[8] BNetzA notes that allowing the use of non-German IMSIs (and vice-versa), whether permanently activated in a German network or used

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[4] This applies not only to the acquisition of new MNCs, but importantly, efficiently uses already assigned MNCs.

[5] To achieve the necessary economies of scale, M2M device manufacturers often partner with a single mobile network operator (MNO) to maximise the MNO's commercial agreements for wireless connectivity in multiple countries where the manufacturer intends to market its products. This single platform approach, often referred to as a "global SIM," centers on the extra-territorial use of numbering resources.

[6] The international M2M roaming framework—endorsed through mobile network operators' endorsement of the GSM Association's (GSMA's) M2M Roaming Principles—addresses and makes transparent international roaming used for M2M services.

[7] IMSIs, the unique identification numbers that allow for device recognition and network routing, include the MCC and MNC, in addition to the Mobile Subscriber Identity Number (MSIN).

[8] "Bundesnetzagentur Promotes Machine-to-Machine Communications Using Public Networks" [Press Release], 15 June 2016, available at http://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/BNetzA/PressSection/PressReleases/2016/150615_IMSI.pdf;jsessionid=E5F0B1C360DA35FF0DF081B2EEC75059?__blob=publicationFile&v=2 ("15 June 2016 Press Release")

through permanent roaming (i.e., roaming used for M2M services), will facilitate the deployment of M2M services not only in Germany but globally.

More recently, in December 2016, the Italian regulator Autorità per le Garanzie nelle Comunicazioni (AGCOM) likewise published a resolution that amends the Italian numbering plan to expressly allow the extra-territorial use of IMSI codes in the provision of M2M services. Again, as with Germany's amended regulations, Italy's new rules, intended to accommodate market needs, allow for the supranational use of Italian IMSI codes or of IMSI numbering resources with a non-Italian MCC.[9]   These affirmative decisions establish strong, uniform European precedent for the extra-territorial use of national numbering resources.[10]

ITU 90x MNCs Not Always the More Appropriate Alternative
Although ITU-assigned numbering resources (i.e., ITU 90x MNCs) provide a potential numbering solution for services that are to be deployed in multiple countries, this option is not always the more appropriate alternative. In fact, as some carriers assigned such resources have noted,[11] adopting ITU numbering resources can present a variety of challenges. For example, implementing an ITU 90x MNC could require considerable time and expense because it would necessitate amending existing roaming agreements (potentially, in more than 200 countries and territories with approximately 700 operators) and testing new SIMs on each roaming partner's network.

Apart from concerns with cost and delay, relative to the provision of global M2M services, relying solely on the use of ITU 90x MNCs increases the risk of exhausting that numbering resource and could reduce the number of mobile service providers eligible to offer such services by establishing higher barriers to entry. First, there are higher burdens to obtain an ITU 90x MNC. To illustrate, there are costs to obtain and maintain ITU sector membership (up to approximately €29,730 annually),[12] which, with limited

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[9] *See* https://www.agcom.it/documentazione/documento?p_p_auth=fLw7zRht&p_p_id=101_INSTANCE_kidx9GUnIodu&p_p_lifecycle=0&p_p_col_id=column-1&p_p_col_count=1&_101_INSTANCE_kidx9GUnIodu_struts_action=%2Fasset_publisher%2Fview_content&_101_INSTANCE_kidx9GUnIodu_assetEntryId=6609734&_101_INSTANCE_kidx9GUnIodu_type=document (Italian).

[10] In addition to Germany and Italy, last year Belgium's regulator, BIPT, identifying the need to update numbering policy to reflect changing technologies, called for the Royal Numbering Decree to be amended to explicitly authorise the permanent use of Belgian numbers abroad and of foreign numbering capacity in Belgium. *See* http://www.bipt.be/en/operators/telecommunication/Numbering/regulation/summary-and-further-analysis-answers-to-the-consultation-at-the-request-of-the-bipt-council-of-25-november-2014-on-reviewing-the-policy-regarding-the-numbering-plan-management-of-28-july-2015 (French and Dutch).

[11] Orange presentation to CEPT/ECC Public Workshop on Extra-territorial Use of E.164 Numbers, Brussels, 27 January 2015 at slide 13 (available at: http://www.cept.org/Documents/wg-nan/22666/Presentation-3_Philippe-Fouquart-Orange); and Vodafone Contribution 141 to ITU-T Study Group 2 on Vodafone Group's M2M Strategy on E.212 & E.164 Shared Resources (Mar 2012) (available at https://www.itu.int/md/T09-SG02-C-0141/en)

[12] For single ITU-T sector membership. *See* http://www.itu.int/en/ITU-T/membership/Pages/Categories-and-Fees.aspx.

exceptions, is a requirement for access to an ITU 90x MNC, and which may discourage small operators from participating. Moreover, an applicant for an ITU 90x MNC must demonstrate that its international network infrastructure will contain connecting physical nodes in two or more countries. Smaller operators, therefore, might not be able to satisfy the stringent criteria required for the assignment of the ITU 90x MNC.

Second, the issue of numbering resource exhaustion, although potentially mitigated with the use of ITU 90x MNCs, remains a concern. Presently the ITU uses 2-digit MNCs with 901, meaning that, in principle, the total number of ITU 901 MNCs available for assignment is 100.[13] By comparison, there exist around 700 mobile operators globally, as well as a large number of commercial enterprises that could be interested in the codes necessary to support global M2M services. While some of these constraints could be rectified by adding new shared ITU 90x MCCs beyond the current 901 range, implementing the new codes will take time.

Notwithstanding the greater complexity of using ITU 90x MNCs, the solution has its merit and should be seen as a *complementary* option. Thus, while qualifying mobile service providers operationalise the use of ITU 90x MNCs over time as a parallel method, AT&T believes a more comprehensive and immediate solution for global M2M service deployment is through the continued use of global SIMs that rely on the extra-territorial use of national numbers.

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For the reasons outlined above, AT&T asserts that it would be harmful to insist that for the provision of M2M services to multiple countries, geographic MNC applicants be "encouraged" to apply for an ITU 90x MNC as "a more appropriate alternative." ITU 90x MNCs should not be promoted as the exclusive, or even preferred, numbering option for deploying services in more than one country, especially relative to the provision of global M2M services. Rather, mobile service providers should have the flexibility to select the numbering model that best suits their needs and those of their customers. As a matter of consistency, AT&T notes that the recent ECC Recommendation 16(02) on assignment principles for extra-territorial use of E.164 numbers did not propose +881/+882/+883 supranational, non-geographic country codes as *more appropriate* for services provided in multiple countries, but simply as an alternative.[14] AT&T, therefore, urges the WG NaN to amend the *Draft Recommendation* to either delete in its entirety Recommendation No. 3, or, in the least, modify the text of said recommendation to acknowledge the assignment of an ITU

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[13] However, with 55 codes already issued (ITU E.212 Database, 7 February 2017), only 45 codes remain available for assignment, and even with adding 10 reclaimed codes that will be available for reassignment after an embargo period, a scant 55 codes will be available. *See* http://www.itu.int/net/itu-t/inrdb/e212_901.aspx.

[14] *ECC Recommendation 16(02) Extra-Territorial Use of E.164 Numbers - High level principles of assignment and use* (*See* http://www.erodocdb.dk/Docs/doc98/official/pdf/REC1602.PDF) at (d) on page 3.

90x MNC as "an alternative" to be "considered" either when services in general are to be provided in multiple countries or specifically for the provision of global M2M services.[15]

AT&T would be pleased to discuss this recommendation and its underlying rationale in further detail.

Respectfully submitted,

Mike Corkerry

Mike Corkerry
Executive Director, EMEA Government Affairs
AT&T

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[15] AT&T believes that the WG NaN should delete the referenced recommendation entirely.   However, should the WG NaN decide to keep the recommendation, AT&T suggests a modified statement to better accommodate the needs and realities of the global M2M services market. "For services to be provided in more than one country, excluding mobile roaming services, an applicant for a geographic MNC *may consider*, as *an alternative option*, applying to the ITU-T TSB for the assignment of an MNC under a shared MCC in the 90x services to avoid the need for multiple assignments of MNCs under different geographic MCCs."