



Case T1655G

Proposals to Ban the Leasing of Global Titles from +44 numbers in Guernsey

Consultation

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Consultation Document: Proposals to Ban the Leasing of Global Titles from +44 numbers in Guernsey.

1. Purpose of this Consultation

Global Titles are essential components of mobile telecommunications networks, used to route international signalling traffic. However, the Guernsey Competition and Regulatory Authority (GCRA) has been provided with evidence which suggests that malicious use of Global Titles leased in Guernsey may pose significant security risks to telecommunication customers and networks in Guernsey, as well as the UK and globally.

Therefore, the GCRA is issuing this consultation document to invite representations from stakeholders on whether it should ban the leasing of Global Titles for +44 numbers in Guernsey. The GCRA is not taking a unilateral approach to these matters, and importantly, Ofcom is currently consulting on banning the leasing of Global Titles created from its +44 number ranges in the UK.¹ The Jersey Competition Regulatory Authority has also notified stakeholders that it proposes to follow Ofcom in this matter, specifically in its letter to mobile operators of 9 September 2024.

As outlined, the primary concern driving the GCRA's proposal is the risk of malicious use of Global Titles created using Guernsey's +44 numbers, which could lead to severe consequences, including:

- **Unauthorized Network Access:** malicious actors can use Global Titles to infiltrate global telecommunications systems, global telecommunications networks and can be used to intercept sensitive data on individuals, all of which create substantial risks for Guernsey, should its +44 numbers be used in such malicious acts.
- **International Fraud:** leased Global Titles have been implicated in fraudulent activities that could potentially harm the reputation of Guernsey and the reputation of the +44 number range, should Guernsey +44 numbers be used in such fraudulent activities.

This consultation seeks stakeholders' views on these proposals, and whether the proposed ban will enhance telecommunications network security and protect the reputation of Guernsey, its residents and its telecommunications services.

Background - Evidence of Harm and Risks to Guernsey's Jurisdictional Reputation

In April 2023, the GCRA wrote to those licensed operators who had assigned +44 number ranges from Ofcom. The letter indicated that Ofcom had raised concerns about the scale, control, and purpose to which numbers assigned to Guernsey's licensed operators were used to lease as Global Titles. Accordingly, the GCRA sought information from licensees regarding their use of Global Titles.

[REDACTED] and [REDACTED] confirmed that they did not use their allocated Guernsey number ranges to lease Global Titles. [REDACTED] confirmed that it had customers leasing Global Titles from its number range.

Consultation Question 1: Respondents are required to confirm whether they lease Global Titles, and if so, confirm the details of those lessees and the Global Titles numbers that they lease. Such information will be treated as confidential.

¹ <https://www.ofcom.org.uk/siteassets/resources/documents/consultations/category-1-10-weeks/185679-consultation-global-titles-and-mobile-network-security/associated-documents/consultation-global-titles-and-mobile-network-security2.pdf?v=371115>

In June 2023, [redacted] provided a presentation to the GCRA to explain how it leases Global Titles and the due diligence process it undertakes to assess risks for its current and prospective customers.

In early 2024, Ofcom confirmed to the GCRA that the National Crime Agency (NCA) continued to be concerned about Global Title leasing given that it was an area of the telecommunications network that supports and/or facilitates illegal activity. Ofcom confirmed it was consulting on the issue and confirmed that the National Cyber Security Centre (NCSC) had previously briefed the Guernsey and Jersey governments on the UK Government's concerns relating to the leasing of Global Titles by Channel Islands based telecommunications operators. The contents of those briefings were confidential.

Ofcom has also confirmed that the availability and access to UK number ranges by Channel Islands' telecommunications operators was a significant contributing factor to the increased threat from misuse of Global Titles to the UK's national security.

In mid-2024, the GCRA obtained a briefing from GSMA on its code of conduct for parties leasing Global Titles, intended to reduce the harms and threats posed by bad actors misusing the SS7 messaging system². GSMA recommended its 'Mobile Telecommunications Security Landscape Report'³, which highlighted independent research undertaken by investigative journalists at [Citizen Lab](#) and [Lighthouse Reports](#). These investigations reported on how bad actors misusing the SS7 messaging system had enabled spy attacks worldwide and offered cybercriminals, and surveillance companies the opportunity to secretly locate people, some of which were subjected to targeted assassinations.⁴

Please refer to page 25 of Ofcom's consultation document which summaries similar media reports into the malicious use of Global Titles.⁵

Ofcom cited an Economist article "*It is dangerously easy to hack the world's phones - A system at the heart of global telecommunications is woefully insecure*", which outlined security vulnerabilities in Global Titles which can be exploited to monitor a user's location or to monitor voice and text messages and it cited claims that Global Titles from a mobile operator in the Channel Islands had been used to gain access to SS7 for malicious signalling attacks.⁶

On 22 July 2024, Ofcom issued its formal consultation on the leasing of Global Titles, identifying the following risks associated with the leasing of Global Titles:

Security concerns about Global Title leasing

2.18 The consensus among cyber security professionals is that GT leasing is a major security

² Signalling System No. 7 (SS7) is a set of telephony signalling protocols developed in the 1970s that is used to set up and tear down telephone calls on most parts of the global public switched telephone network (PSTN). The protocol also performs number translation, local number portability, prepaid billing, Short Message Service (SMS), and other services.

³ <https://www.gsma.com/solutions-and-impact/technologies/security/wp-content/uploads/2024/02/Security-Landscape-2024-Issue-1.0.pdf>

⁴ See the following articles which are also highlighted in Ofcom's consultation document <https://citizenlab.ca/2023/10/finding-you-teleco-vulnerabilities-for-location-disclosure/> and <https://www.lighthousereports.com/investigation/ghost-in-the-network/>

⁵ Media reports of malicious signalling - <https://www.ofcom.org.uk/siteassets/resources/documents/consultations/category-1-10-weeks/185679-consultation-global-titles-and-mobile-network-security/associated-documents/consultation-global-titles-and-mobile-network-security2.pdf?v=371115>

⁶ <https://www.economist.com/science-and-technology/2024/05/17/it-is-dangerously-easy-to-hack-the-worlds-phones>

threat to mobile networks because it has greatly increased the number of providers with access to GTs. This has enabled bad actors to gain access to the global SS7 signalling network and has led to a greatly increased incidence of harmful signalling activities. The concerns are particularly acute where signalling traffic is not routed via the lessor's network (a practice known as lessee-only routing) because the lessor is unable to monitor the lessee's signalling traffic directly for malicious activity.

2.19 GT leasing also reduces the transparency of mobile network signalling, since the signalling traffic appears to a receiving network to have originated from the lessor (typically an established mobile operator), masking its true source. This has made GTs formed from +44 mobile numbers attractive to bad actors who exploit their status as presumptively safe sources of signalling traffic.

As a result of these concerns, Ofcom made the following proposal ⁷:

"We are therefore proposing to strengthen our existing rules and introduce new rules to tackle misuse of Global Titles, in particular by:

- banning leasing of Global Titles to third parties by operators that hold UK mobile numbers;*
- banning the creation of Global Titles from sub-allocated numbers by third parties;*
- strengthening our rules to prohibit the misuse of Global Titles by operators that hold UK mobile numbers; and*
- strengthening our rules to prohibit the creation of Global Titles from numbers not allocated for use.*

Taken together, these proposals should significantly reduce malicious signalling from UK Global Titles, thereby providing material benefits to UK and international citizens. They should also enhance the transparency and accountability of operators that use Global Titles."

The consultation proposes that a ban on leasing of Global Titles would come into force from 1 January 2026, for all operators with +44 number ranges, and this is obviously relevant to Guernsey.

Alternative Options for Operators and Customers

GSMA, also confirmed, that from a technical perspective, there were alternative options for companies who previously leased Global Titles for their legitimate services or products, such as GSMA Open Gateway API approaches. And this means, that the leasing of Global Titles could be reduced and network operators, could offer alternative solutions to existing or perspective customers.

Ofcom's consultation also provides guidance and recommendation on alternative technological solutions and options for operators and their customers to replace Global Title Leasing.

Those options were outlined as⁸:

⁷ <https://www.ofcom.org.uk/siteassets/resources/documents/consultations/category-1-10-weeks/185679-consultation-global-titles-and-mobile-network-security/associated-documents/consultation-global-titles-and-mobile-network-security2.pdf?v=371115>

⁸ See pages 47-48, *ibid*.

Use case	Description of alternative
Authentication Services	Application programming interface (API) provided by a host MNO that provides the lessee with functionality to support the stated use case ¹⁰²
Least-cost Routing/Number Authentication	API provided by a host MNO or Short Message Peer to Peer (SMPP) ¹⁰³ connection to a host MNO
Application to Person SMS (A2P SMS)	API provided by a host MNO or Short Message Peer to Peer (SMPP) protocol
Mobile virtual network operator (MVNO)	A hosted service provided by the host MNO (often referred to as a thin MVNO service)
Outbound Roaming Solution	GT Modification (changing the source or destination GT in the signalling connection control part (SCCP) layer of the SS7 message)

Use case	Description of alternative
Penetration Testing	Remote access for the penetration tester to the target operator's test network
Communications Platform as a Service (CPaaS)	API or SMPP for A2P SMS functionality as above. Session Initiation Protocol (SIP) ¹⁰⁴ based telephony interface provided by host MNO.

Source: Ofcom

Consultation Question 2: Do respondents consider that Ofcom's alternative technological solutions would be applicable alternatives for Guernsey based operators?

Evidence to support the proposal to ban leasing of Global Titles by Guernsey Operators

In October 2024, the GCRA held discussions with ENEA, a global leader in mobile network security, which has provided information on how Global Titles leasing from Guernsey number ranges have been identified as the source of malicious signalling in the global telecommunications network.

To inform this consultation process, the GCRA engaged ENEA to provide analysis and its specialist reports to assess the current and potential future threat posed by the leasing of Global Titles by Guernsey based operators⁹.

ENEA confirmed that a Global Title leased by [X] is used by GWSIM, which is a company that in its view, constitutes an actor or attack group in its own right, and likely pursues signalling attack campaigns on a larger scale than previously suspected. ENEA reports that GWSIM has the capability to execute attacks over DIAMETER¹⁰ as well as SS7 which position the company as a peer (or near-

⁹ Ofcom have instructed ENEA to inform its consultation and have obtained ENEA's Signalling Intelligence Layer reports to evidence the risks and harms associated with leasing Global Titles from +44 number ranges.

¹⁰ Diameter signalling is used by a wide range of network elements to exchange information related to device tracking, session tracking, session management, data usage, and other information.

peer) to Rayzone Group.¹¹ While GWSIM should be considered to operate independently of Rayzone Group, this does not preclude the possibility for cooperation between the two actors, akin to the relationship between Rayzone and Fink Telecoms Services.¹²

ENEAs report confirms that a [§<] leased Global Title that is associated with these companies and could potentially be available for use in attacks on telecommunications networks. This situation poses risks to the reputation of the Bailiwick of Guernsey, as a well-regulated and safe jurisdiction for its residents, its business community as well as its international reputation as a responsible financial services centre and UK neighbour.

Therefore, and in addition to the other concerns raised in this document, the GCRA considers that it should take steps to reduce those risks by consulting on its provisional assessment that suggests it should ban the leasing of Global Titles by Guernsey's licenced telecommunications operators. The proposed ban aims to mitigate the growing risks to critical national infrastructure and enhance network security. Its aim is also to maintain public and external trust in the Bailiwick of Guernsey's telecommunications infrastructure.

2. Legal Duties and Functions of the GCRA

The GCRA operates under several key legal frameworks, including:

The Regulation of Utilities (Bailiwick of Guernsey) Law, 2001:

- Section 2 outlines the general duties of the GCRA to protect consumers' interests, ensure the availability of utility services, promote competition, and improve service quality within the Bailiwick.
- Section 4 empowers the GCRA to license telecommunications operators and oversee their compliance with regulatory requirements.

The Telecommunications (Bailiwick of Guernsey) Law, 2001:

- Section 11 grants the GCRA authority to manage and regulate the numbering resources, including the +44 numbering scheme, in consultation with relevant UK authorities.
- Section 5 empowers the GCRA to include conditions in telecommunications licences, including conditions that address network security and prevent misuse.

These laws provide the GCRA with the authority to issue this consultation and to implement the proposed ban on the leasing of Global Titles in the Bailiwick of Guernsey, if that is the conclusion at the end of the consultation process.

¹¹ Rayzone Group is an Israeli surveillance company, which is listed in the Senator's Ron Wyden's letter, dated February 29, 2024, to President Joe Biden, as an organisation that the US should impose sanctions on. <https://www.wyden.senate.gov/imo/media/doc/wyden-phone-hacking-letter-to-president-biden.pdf>

¹² "Our investigation shows how [Andreas] Fink [Fink Telecoms Services] has built a surveillance apparatus that he has put at the disposal of governments and companies around the world – including Israel's Rayzone Group, a top-tier cyber intelligence company. Fink's set-up is capable of exploiting loopholes in mobile phone connection protocols to track the location of phone users and even redirect their SMS messages to crack internet accounts. Experts in the telecom security field agree: these activities are "a clear and present danger to anyone with a phone" <https://www.lighthousereports.com/investigation/ghost-in-the-network/>

3. Key Recommendations Under Consideration

Ban on Leasing of Global Titles

The GCRA proposes to prohibit all telecommunications operators holding +44 numbers in the Bailiwick of Guernsey from leasing Global Titles to third parties.

Restriction on the Creation of Global Titles

Telecommunications operators will be restricted from creating Global Titles from sub-allocated or unallocated numbers, ensuring that only authorised entities can create and use Global Titles.

Strengthened Compliance and Monitoring

The GCRA will introduce stricter rules for compliance monitoring, with regular audits to ensure operators are not engaging in practices that could result in the misuse of Global Titles.

Implementation Timeline

The proposed ban will be implemented from 1 January 2026, without any post decision transition period. Operators will be required to adjust their practices prior to that date.

Impact on Operators

If this proposal is implemented, then licensed telecommunications operators in Guernsey currently leasing Global Titles would need to cease this practice and ensure compliance with the new regulatory framework. While this may require operational adjustments, it is the GCRA's provisional view that the long-term benefits of enhanced security and Guernsey's reputation would outweigh the associated costs of implementation.

Given the complexity of the technology involved the GCRA would propose to rely on Ofcom's guidance in the event of disputes, including over technical definitions, alternatives, and related matters around such a proposed ban.

4. Responding to this Consultation and Next Steps

Consultation Questions

Question 3 : Respondents are asked to indicate in the first instance whether they agree with a proposal to ban the leasing of Global Titles for +44 numbers? Please explain reasoning.

Question 4 : Respondents are asked to set out in sufficient detail for the GCRA to understand the impacts they foresee this ban may have on your business operations?

Question 5 : Respondents are invited to suggest alternative suggestions for improving the security of Global Titles should they continue to be leased by Guernsey providers?

How to Respond

We welcome comments and feedback from stakeholders. Responses should be submitted by 27 February 2025 to info@gcra.gg or by post to Guernsey Competition & Regulatory Authority Suite 4, 1st Floor, La Plaiderie Chambers, La Plaiderie, St Peter Port, Guernsey, GY1 1WG.

Following the consultation, the GCRA will review all feedback and decision on whether to publish a statutory proposed decision.

Yours sincerely

Guernsey Competition and Regulatory Authority