TalkTalk
For Everyone

Calling Line Identification (CLI) authentication: a potential approach to detecting and blocking spoofed numbers

TalkTalk submission

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NON-CONFIDENTIAL

This is TalkTalk's response to Ofcom's consultation Calling Line Identification (CLI) authentication: a potential approach to detecting and blocking spoofed numbers, published on 28 April 2023.[1]

Introduction

TalkTalk is firmly committed to tackling the issue of scams. We consider ourselves to be industry leaders in this area as indicated by our history of introducing blocking measures to prevent consumer harm from scam calls from abroad. These blocking measures have since been formalised through an industry standard (NICC ND1447) and mandated by Ofcom.

We include specific responses to Ofcom's consultation questions below. In summary, although we principally agree that more needs to be done to tackle scam calls, we disagree that the method to achieve this is CLI authentication (CLIA). TalkTalk instead suggests that Ofcom considers how the extension of ND1447, the introduction of a roaming mobile look-up solution, and the implementation of a call traceback solution for tracing the origins of scam calls which originate within the UK could work in conjunction to provide a better solution to scam calls than CLIA.

Analysis

Q1: Do you agree with our analysis of the ways in which number spoofing is used, and the extent and types of harm associated with its use? If you have any further evidence which demonstrates the extent and types of harm involved, please provide this.

We agree with Ofcom's assessment of how number spoofing can be used, and the extent and types of harms caused by it. However, we think that Ofcom should also consider the source of this harm.

We have evidence that the majority of these harmful calls originate overseas:

- When investigating known scam calls, including those captured by our Security team, we discovered that the vast majority entered our network from international carriers. Our Security team engaged with Computer Software Service Fraud scam callers on several occasions, allowing us to geolocate the scammer through their computer IP address. All of these IP addresses were geolocated to [✂].
- When TalkTalk first started blocking international calls using UK network numbers (apart from +44 mobile calls), we saw around a 60% reduction in calls to our contact centres about

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[1] *Calling Line Identification (CLI) authentication: a potential approach to detecting and blocking spoofed numbers, Published on 28 April 2023* https://www.ofcom.org.uk/__data/assets/pdf_file/0025/260656/CLI-Authentication-potential-approach-to-detect-and-block-spoof-numbers.pdf

- scam calls and have not seen the volumes increase back to previous levels other than in temporary spikes.
- Since then, we have improved our blocking configurations and now consistently receive only around [✂] calls per week to our contact centre about scam calls, down from an average of around [✂] calls per week in 2018.
- Furthermore, we have seen that these international call blocking measures have resulted in a significant number of blocked calls, that exceed those blocked using other domestic measures. For example, during a 7-day period in June 2023, we blocked [✂] calls using these measures, compared with [✂] calls blocked using CLI validity checks.

We suggest that Ofcom should take account of the international nature of scam calls when considering possible policy interventions. As we explain below, CLIA and specifically STIR/SHAKEN would not prevent scam calls from abroad and as such would not resolve the issue for UK consumers.

The Case for CLI Authentication

Q2: Do you agree with our assessment that while Ofcom rules and industry measures are likely to help to reduce scam calls, more needs to be done to tackle number spoofing? Provide reasons for your answer and include any suggested measures that could have a material impact on reducing the incidence of scam calls involving number spoofing.

We agree that more can and needs to be done to tackle number spoofing. However, we do not consider that CLIA is the most appropriate solution to this problem. CLIA is an extremely limited and expensive solution to the problem of scam calls.

CLIA is flawed in the following ways:

- It cannot adequately address scam calls that originate outside of the UK, as discussed further in response to Q3 and Q4. This is a huge limitation as functionally it means this solution can never eliminate scam calls in the UK due to the international nature of the problem, as demonstrated in response to Q1.
- Success of CLIA depends on global adoption, which is not realistic or feasible.
- In the US and Canada, CLIA has failed to achieve its objective as reported verbally by Neustar in recent NICC meetings.
- It would be prohibitively expensive. Some estimates suggest that the cost to industry could be in the region of £100 million[2].

We believe other measures would have a greater material impact on reducing the incidence of scam calls and represent a more effective, viable and proportionate response than CLIA.

Firstly, we think it should be acknowledged that the implementation of ND1447 to tackle the problem of international scam calls using UK network numbers has had an impact on both terminating and transit traffic. ND1447 could be extended to further help tackle scam calls:

- **Address the issue of international scam calls made using UK presentation numbers**. In its current state ND1447 does not allow for the blocking of numbers originating from international locations that use UK presentation numbers. We believe that if we started blocking such calls where these calls have not been routed to a UK number owning network,

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[2] *Commsriks: UK STIR/SHAKEN Consultation Begins* https://commsrisk.com/uk-stir-shaken-consultation-begins/

or a network permitted to handle calls from UK numbers, we would see a reduction in the number of scam calls that reach consumers. Therefore, we believe that Ofcom should consider the benefits of recommending that the NICC extends ND1447 to block such calls. Extension of ND1447 in this way should then be followed by updates to Ofcom's CLI Guidelines requiring CPs to adhere to the updated standard.

- **Address the issue of international scam calls made using UK mobile numbers.** Importantly a significant loophole remains in scam calls that originate internationally but use UK Mobile CLIs. MNOs should be tasked with finding a solution for identifying valid roaming users' calls and blocking all other calls with UK mobile CLIs received from abroad.

Secondly, we could also achieve a reduction in scam calls by focusing on call traceback solutions. We can see from the US and Canada models that there is a working traceback taskforce. Such a solution should be explored in the UK. Ofcom should consider what could be achieved using call traceback solutions without the introduction of CLIA. We anticipate that call traceback combined with effective enforcement and the other measures highlighted may be a more effective and cost-efficient option than CLIA.

Finally, we believe that more could be done to educate and coordinate learning for consumers. Helping to warn consumers what to look out for is clearly an effective preventative method for alleviating harms from scam calls.

Implementation

Q3: Is the approach to CLI authentication we have outlined feasible and workable?

The approach that Ofcom has outlined is feasible, but realistically this is the wrong question to be asking. Although we could implement CLIA it should be considered how effective this solution would be. We have already outlined our criticisms of CLIA in our response to Q2 and this leads us to conclude that CLIA is not the most effective or appropriate solution to scam calls. There are also implementation challenges associated with CLIA, as demonstrated by the US and Canadian implementations, that call into question how workable it is as a solution. Furthermore, for Ofcom to proceed with CLIA it would need to demonstrate that the significant costs associated with its implementation would be justified by the benefits. We do not believe this could be demonstrated.

Q4: To what extent could adopting this approach to CLI authentication have a material impact on reducing scams and other unwanted calls? If you consider an alternative approach would be better, please outline this and your reasons why.

The evidence from the US and Canadian implementations shows that CLI authentication has had very little impact on reducing scams, and that numbers are still being spoofed in those countries. Some spoofed numbers are even being signed with the highest attestation level (A). Most national originating calls are signed as Attestation Level A (CLI valid and trustworthy) when they are not necessarily valid and trustworthy, because there is no proper governance to oversee the parties who are able to sign a call with Attestation Level A. Therefore, bad actors use this Attestation Level too.

Other challenges that would limit the material impact of CLIA on reducing scams relate to international gateway switches. International gateway switches would sign a call with Attestation Level C (gateway attestation) which only tells the terminating network which Communications

Provider was used to admit the call into the UK network. This gives no indication of whether the CLI used is valid or not, and therefore would not prevent an international scam call from reaching a UK consumer.

We would prefer to see a combination of other methods being deployed, which will together give a more effective impact on solving this issue. We outlined these measures in response to Q2, but in short these are:

- Extending NICC ND1447 to include blocking calls with UK presentation number CLIs coming from non-domestic routes.
- The introduction of a roaming mobile look-up solution, to enable the blocking of calls from non-roaming mobile CLIs on international routes.
- A call traceback solution for tracing the origins of scam calls which originate within the UK.

When used in conjunction these three measures have the potential to achieve more than CLIA but with significantly lower implementation costs. As such we feel these measures and their potential impacts should be fully considered first by Ofcom.

Q5: Are there additional measures that could be adopted to further strengthen the suggested approach and/or minimise the identified exemptions?

As previously stated, we do not believe that the suggested approach should be adopted at all. However, as noted in our response to Q2 and Q4, there is a package of more viable alternative solutions that requires full consideration by Ofcom.

Monitoring and enforcement

Q6: Do you agree with the approach outlined for the monitoring and enforcement of the rules with regard to CLI authentication? Are there any alternative approaches that we should consider?

The outlined approach states that all unattested calls would be blocked, but in practice, the suspect calls will all be attested. Even the international calls (which may have spoofed numbers) would have gateway attestation (level C), and would therefore pass the blocking controls.

The requirement for originating providers to satisfy themselves that the customer originating the call can legitimately associate a specific Presentation Number with that call, challenges the currently deployed methods of trusting business customers to populate Presentation Numbers in accordance with Letters of Authority. Therefore, we agree that this would require a Central Numbering Database to be in use to enforce complete adherence to the requirement. This would impact the timescales for deployment as considered in response to Q8.

Q7: Do you agree that CLI authentication could make call tracing easier and yield benefits in terms of detecting scammers and nuisance callers?

We agree that CLIA could make call tracing easier, but it is a very expensive and time-consuming method of achieving this outcome and it has potential limitations. Separate call traceback solutions should be considered alongside other measures, rather than implementation of CLIA.

Timescales and administration

Q8: What are your views on the timescales for the potential implementation of CLI authentication, including the interdependencies with legacy network retirement?

We would expect a timescale of at least 2-3 years including budgetary cycle planning times, and potentially 3-4 years if a populated Common Numbering Database is required as part of the solution. It is important to note that this consultation comes at time of significant change in the industry and as such any timescale for implementation needs to take account of other ongoing change projects (for example, One-Touch Switch implementation, the Telecoms Security Act, and the migration to FTTP, SOGEA and digital voice products). The industry only has finite capacity, including budget, resources and space in roadmaps to support technical and systems change. As such, simpler and more effective solutions require due consideration as it is likely they could be implemented over shorter timescales than CLIA and deliver benefits to consumers more swiftly.

Q9: Do you agree with our assessment of the administrative steps required to implement CLI authentication and how these should be achieved?

Yes, we agree with the fundamental steps described, but would caution that the 'policy definition' would need considerable effort, particularly to define which networks are allowed/not allowed to attest/sign calls. This is important, given that some UK numbers have been allocated to 'offshore' companies, and that Ofcom may not have defined criteria for which networks are 'trusted' and which are not.

We welcome the government's recent Fraud Strategy, in particular that it specifically mentions reducing scam calls across the telecoms sector as an important action point. Central leadership and cross-industry collaboration will be fundamental in tackling the broader issue of scams affecting the public. We need to avoid the situation we have had in the past where individual companies were working in isolation to reduce scams.

Common Numbering Database

Q10: Should a common numbering database be implemented to support the CLI authentication approach? Please provide any comments on the steps needed to implement a common numbering database, including on the feasibility of the industry leading on (a) the specification; and (b) the implementation?

Yes, if a real-time check on Presentation Number validity is required, we believe that a common numbering database would be required. We would question, however, the feasibility of the industry leading on the specification and implementation of a common numbering database. Given the number of stakeholders involved (essentially any UK communications provider), it would be a huge challenge to map out a suitable governance framework, agree the required funding and funding model, and then make sure that implementation is achieved within a reasonable timescale. We would argue that the only way to achieve such an aim would be for Ofcom to manage and monitor

the whole project from start to finish, underpinned by a clear, regulatory obligation (which in itself would have to be justified by solid cost-benefit analysis).

Impact Assessment Framework

Q11: Do you agree with the proposed framework for impact assessment and the potential categories of costs and benefits? Please identify any other factors that we should take into account in our assessment.

The impact assessment should include a range of options, not simply a counterfactual that only considers inaction. Specifically, we recommend that Ofcom should explore how the extension of ND1447, the introduction of a roaming mobile look-up solution, and the implementation of a call traceback solution for tracing the origins of scam calls which originate within the UK could work in conjunction to provide a better solution to scam calls than CLIA.

The proposed framework for impact assessment also needs to consider:

- **The impact on other workstreams and change programmes**. A project of this nature will consume a large number of resources in each Communications Provider, which would require trade-offs to be made with other ongoing change projects (as discussed in response to Q8) and place additional demand on limited skilled resources across the UK telecommunications industry.
- **The scale of the implementation costs.** As described above, the scale of CLIA costs are anticipated to be significant, therefore other more cost-effective measures require full consideration before pursuing CLIA.

As such, an impact assessment should take account of the implications for industry budgets, resources, and capacity to implement change. Alongside the scale of implementation costs, Ofcom should consider the appropriate funding model for any solutions. It should be noted that the beneficiaries of any additional measure to tackle number spoofing are mostly consumers, financial institutions, and other stakeholders outside the telecoms sector. As a result of this, we think Ofcom should consider the ways in which the costs of implementation of any package of measures should be split, including active exploration of the potential for contributions from other industry sectors who will see the benefits of implementation.

The areas of benefit described assume that the objective of reducing scam calls is met. However, CLIA has not been shown to reduce scam calls in practice, so it is debatable as to whether any of the benefits would be realised.