

LINK's Response to the CMA's call for views on Access to Near Field Communication functionality on Apple's mobile platform

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Introduction

1. LINK is a not-for-profit company governed by an independent Board. It has a public interest objective to protect access to cash across the UK.
2. LINK sustains access to cash through maintaining the coverage of free-to-use ATMs in remote and rural locations as well as improving free access in deprived areas of the UK through the operation of its well-established financial inclusion programme.
3. As part of its work, LINK manages the UK's main cash machine (ATM) network. LINK's network connects the vast majority of ATMs (both free and charging) in the country and allows customers of banks and building societies (card issuers) that are LINK Members to make cash withdrawals and balance enquiries with their payment cards at almost all ATMs. All of the UK's major card issuers and ATM operators currently choose to become Members of LINK. LINK processes around 1.3 billion transactions and dispenses £75 billion in cash each year through a network of around 42,000 ATMs.
4. LINK's access to cash role also includes acting as a coordination body. In this part of its role, LINK is notified by those firms that choose to participate in LINK's coordination arrangements of their intention to close facilities such as branches. LINK then assesses the impact of the closure on the local area. LINK will then recommend shared facilities such as banking hubs where required to maintain access to cash.
5. LINK's core infrastructure is a highly resilient 24/7 real time network provided by Vocalink, a Mastercard company.
6. LINK is regulated by the Payment Systems Regulator (PSR), and by the Bank of England (the Bank) as a systemically important payment system and is designated as such by the Treasury. LINK is also designated by the Treasury and supervised by the Financial Conduct Authority in its role as an industry coordination body.
7. LINK is exploring the introduction of contactless at ATMs in the UK to support access to cash as physical card numbers continue to decline. LINK's approach to contactless and how it aligns to the broader work of the National Payments Vision in areas such as account to account is a factor in LINK's thinking.
8. LINK has responded to the consultation questions below and is happy to provide more details as helpful.

9. LINK has a strong innovation roadmap, in which mobile devices play a central and integral role. In this regard, LINK is responding to this call for evidence, not as a developer per se, but as a major UK payment scheme and one which through operating rules, regulations and specifications introduces new payment products into the UK market.
10. LINK is currently engaged in three major UK payment initiatives which are all based on mobile device access and have a strong dependency therefore on Apple's operating system, iOS:
 - Contactless Cash Withdrawal at ATMs and POS:** This project will enable UK debit cardholders at LINK Member issuers to withdraw cash at ATM using their contactless-enabled mobile or physical payment card. LINK is currently engaging with Members with a goal of reaching a 'go-no go' decision in Q4 2026.
 - Bank of England Digital Pound Lab:** Within the Digital Pound Lab, LINK has demonstrated the feasibility of converting digital pounds to physical pounds at ATM and Point of Sale.
 - National Payments Vision:** LINK is engaged with the National Payments Vision work to assess key infrastructure options, support and insights into approaches to align existing UK payment assets, such as EMV deployed terminals, Open Banking, Faster Payments and the LINK Scheme into a competitive and sovereign UK payment infrastructure arrangements to provide resilience to the UK.
11. **Review of CMA NFC iOS call for evidence in relation to LINK's current projects – Contactless Cash Withdrawal at ATM:** LINK has engaged extensively in the design and approach for mobile-based contactless cash withdrawals at ATMs. A design goal is to achieve the maximum reach of issuer Member cardholders, which dictates the need for a solution on iOS and Android.
12. Whilst the design supports Apple Pay and Google Pay Digital Wallets, it also supports the integration into other applications, such as banking applications, through the use of a dedicated LINK Token Service Provider, which will connect to the Digital Wallets to provide LINK functionality on mobile for the first time to the UK's consumers. Some banks have been interested in this approach and LINK has consulted on it.
13. The challenge from a design perspective for third-party applications (e.g banking applications) on iOS is that Apple does not allow payment application commands (including those required for cash withdrawals) to be sent across the NFC iOS interface. The only mechanism for banks to utilize their cardholders' Apple devices is to deploy through Apple Pay.
14. LINK has engaged and researched with Members to find alternative solutions to using Apple Pay, for example by deploying a QR-code solution either as a merchant-initiated or consumer-initiated flow. LINK found that all paths investigated led to a poorer consumer experience, and the overall security architecture would require extensive investment.
15. This led LINK to conclude that, for mobile-initiated transactions at ATM, using a mobile device's NFC interface, and by using EMV Contactless, the underlying standard for contactless payments, remains the most convenient, most-secure and least expensive way to reach mass adoption for face-to-face consumer payments.
16. **Review of CMA NFC iOS call for evidence in relation to LINK's future projects – Digital Money and National Payments Vision:** As part of the Digital Pound Lab – the innovative project by the Bank of England – LINK has developed a mobile application which invokes a standard EMV Contactless transaction through the NFC interface to invoke a change to the digital pound ledger.
17. Due to the known restrictions around iOS NFC access for payments, the development was completed on a standard Android 15 mobile.
18. Subsequent development and deployment of this use-case within the digital pound vision would significantly depend on the access provided by Apple to the NFC interface, and as the Digital Pound Lab engagement demonstrates, is already affecting the design

choices and the capabilities of products being developed.

19. An extension of the Digital Pound Lab architecture is not to use an EMV contactless transaction to invoke a change to the digital pound ledger but rather use it to invoke an A2A payment. LINK have demonstrated within the Digital Pound Lab that a payment using an 'authenticated Request to Pay' – standard EMV PIN authentication transmitted as part of a Request to Pay message – is entirely feasible.
20. This would enable a vision for UK sovereignty in payments entirely independent of International Payment Schemes; but is highly dependent again on access to the NFC interface on iOS.

Direct answers to CMA questions for stakeholders

21. CMA Paragraph 12 - 'The benefits could be realized by a potential intervention to ensure that developers can access NFC on fair and reasonable terms, giving them opportunities to develop innovative products and services for the ultimate benefit of UK consumers, who will have a wider choice of high-quality products and services.

Questions for stakeholders

(a) What are the innovations or potential use cases that could utilize NFC access on iOS that you consider most important for UK economic growth? In answering this question, please provide evidence supporting your views'

Supporting LINK's role in maintaining access to cash as long as it is required, Mobile cash withdrawals and deposits facilitating a broader access to cash and national payment resilience through third party applications and LINK infrastructure.

As a possible extension to this, F2F POS payments using LINK (or other interbank) infrastructure, LINK applications on mobile devices and physical cards, and utilizing the LINK Token Service Provider. Such an implementation is globally proven to reduce costs of International Payment Schemes by improving competition and establishing new cost benchmarks. Information on this can be provided on request.

22. Questions for stakeholders

CMA Paragraph 43 - 'In answering the following questions, please provide evidence supporting your views to help us consider any proposed intervention on the above technology options:

(a) If NFC access were provided via a single technology approach, subject to appropriate terms and conditions (including pricing):

(i) For HCE-only and SE-only respectively, would this allow you to invest and innovate, and what barriers might remain (e.g. technical, commercial or otherwise)?'

In our view the security requirements of the payment use-case will dictate the choice of technology. Secure element on iOS has strong advantages in applications requiring very strong, hardware-backed security. This is possible on Android but the mechanism to deploy a Secure Element in volume must be carefully considered in any design approach (Secure Element is limited on Android as it requires Mobile Network Operator (MNO) agreement or independent physical SE). A potential application requiring such security levels is offline digital money.

(ii) To the best of your knowledge, how long would it take you to launch a new product

or service using HCE in the UK and separately using SE in the UK?

Depending on the application, Apple restrictions and overall product commercial viability may mean the development of a solution based on SE is not practical.

HCE payment development clearly is dependent on the application - but one would expect a development time of 6-9 months for a standard application with non-stringent security requirements, or security requirements which can be achieved through a hybrid approach to security architecture i.e. using keystores, Trusted Execution Environments (TEE) or similar.

23. (iii) To the best of your knowledge, and to the extent not already provided, what estimated costs would you incur to launch a new product or service in the UK:
- Using HCE?
 - Using SE?

Current LINK developments are based on Apple Pay and Google Pay, and do not require dedicated HCE or SE access deployment from a third-party application. We anticipate there would be some incremental costs to implement either environment if this was required.

(b) If NFC access were provided via a dual technology approach, subject to appropriate terms and conditions (including pricing) on each:

No view.

24. (i) What incremental benefits and/or costs would there be to you over a single-technology option?

There are few incremental benefits of using both SE and HCE. Secure element remains the choice for applications requiring high levels of security, but these remain limited for payment applications and most day-to-day tasks can be completed with HCE.

25. (ii) On what basis would you choose whether to invest in solutions for SE, HCE or both in this scenario?

The decision to launch on SE rather than HCE or use both will be based on any security requirement for hardware-backed security. In payments, with access to the NFC interface on both Android and iOS, it is likely that the HCE route will be adopted for maximum flexibility and ease of implementation - with security provided by a TEE or combination of approaches.

26. Questions for stakeholders

65. In answering the following questions, please provide evidence supporting your views to help us justify any proposed intervention on the above pricing approaches:

(a) What are your views on the effectiveness of the potential pricing approaches set out above in achieving our objective to unlock innovation in contactless transactions?

Generally, LINK would like to ensure that consumers are not priced unfairly for

access to new payment services.

A narrow cost-based approach would appear to be the most equitable.

From a technology perspective there is little (no) incremental hardware deployed on the NFC interface for payment above that of the NFC interface for all other use cases, and therefore it would seem difficult to claim that specific costs have been incurred.

SE access, on the other hand, for high security applications, may be justified in levying some costs, as this requires services from Apple.

27. (b) In your view, are there alternative methods to determine appropriate fees that we should consider and if so, what are they and why?

No view.

28. (c) What cost measure do you consider to be appropriate for setting fees, eg long-run incremental cost (LRIC) plus an appropriate share of common costs or any other?

No view.

29. (d) What rate of return do you consider to be appropriate for setting fees and on which basis should it be determined?

(e) Should the pricing approach incorporate value-based considerations? If yes:

(i) How should value be defined in the context of NFC access?

(ii) What reliable methodologies can be used to quantify value?

(f) Should the pricing approach be linked to downstream prices? If yes:

(i) What discount should be applied to the relevant downstream price?

(ii) How would this approach or fee level apply to different use cases and business models, including where no downstream Apple product exists?

(g) What are your views on the other principles listed at paragraph 64 above?

(i) Are there any other principles we should consider?

(h) For any of the pricing approaches and/or other principles, should they be applied in the same way regardless of the technical solution used to grant NFC access?

No view.

Ends