

## **Anticipated acquisition by Imprivata, Inc. of Isosec Limited**

### **Decision on relevant merger situation and substantial lessening of competition**

**ME/6912/20**

The CMA's decision on reference under section 33(1) of the Enterprise Act 2002 given on 29 April 2021. Full text of the decision published on 2 June 2021.

Please note that [X] indicates figures or text which have been deleted or replaced in ranges at the request of the parties or third parties for reasons of commercial confidentiality.

#### **SUMMARY**

1. Imprivata, Inc. (**Imprivata**) has agreed to acquire Isosec Limited (**Isosec**) (the **Merger**). Imprivata and Isosec are together referred to as the **Parties** and, for statements relating to the future, the **Merged Entity**.
2. The Competition and Markets Authority (**CMA**) believes that it is or may be the case that each of Imprivata and Isosec is an enterprise and that these enterprises will cease to be distinct as a result of the Merger. Further, the CMA believes that Isosec is a 'relevant enterprise' under section 23A of the Enterprise Act 2002 (**Act**) and that its UK revenues in its most recent financial year exceed the GBP 1 million threshold set out in section 23(1)(b)(ii) of the Act. The CMA thus believes that arrangements are in progress or in contemplation which, if carried into effect, will result in the creation of a relevant merger situation.

#### ***Identity and access management solutions for access to the NHS Spine system***

3. Identity and access management (**IAM**) solutions facilitate the secure management of digital identities to give authorised personnel timely access to the

correct information resources. IAM solutions use authenticators such as a physical smartcard (**PSC**) or a virtual smartcard (**VSC**), together with software on a local device (eg a PC) that handles requests between applications and the authenticator, to control users' access to resources.

4. The NHS, and other healthcare providers, use IAM solutions to help clinicians operate more efficiently: IAM solutions limit the need for clinicians to re-enter all their credentials each time they use a new workstation. In many healthcare settings, clinicians regularly need to use different workstations as they move between patients or wards, and as such IAM solutions can save considerable time over the course of a working day. Different IAM solutions are used in the NHS to access different parts of the NHS systems.
5. One important system within the NHS is the NHS Spine (**Spine**). Authorised users can access a variety of secure central NHS resources through the Spine. Spine access is granted via NHS-issued 'digital certificates', held on smartcards. NHS smartcards were initially issued only as PSCs, but COVID-19 has led to a surge in NHS demand for VSCs, largely due to a sudden switch to more staff working remotely.
6. Both Parties offer a range of IAM solutions that allow the staff of healthcare customers in England to access information resources more easily and/or quickly than would otherwise be the case. Currently, both Parties offer solutions that facilitate access to Spine-enabled applications. Imprivata offers an add-on to one of its other products that facilitates faster Spine access over the course of a shift for users with an NHS-issued PSC by maintaining a session after their first log in, so that they do not need to log in repeatedly when using different workstations. Isosec began offering a VSC solution that facilitates access to the Spine in 2017 and rapidly increased its customer base in 2020; this solution relies on a VSC to provide faster log in to the Spine at each workstation. Imprivata has plans to develop its business and offer additional solutions in future, including one for Spine access expected to compete more directly with an Isosec solution (namely, Imprivata's own VSC solution).

### ***CMA's approach to assessing the Merger***

7. The CMA's investigation focused primarily on whether the Merger would lead to a loss of competition in the supply of IAM solutions for access to the Spine in England, either today or in the future (ie horizontal unilateral effects).
8. The CMA notes that the Parties' offerings today are somewhat different as the Imprivata solution relies on the use of a PSC, while the Isosec solution relies on the use of a VSC. While PSC and VSC solutions differ somewhat, the CMA found that many customers consider both solution types when purchasing IAM systems and, therefore, these two types of solutions exert a competitive constraint on each other.

### ***Competitive assessment***

9. The only current suppliers of IAM solutions for access to Spine-enabled applications to healthcare customers in England are the Parties, NHS Digital (**NHS-D**), Entrust and, to a more limited extent, Microsoft.
10. While the Parties argued that they currently exert only a limited competitive constraint on each other, the CMA found that these submissions were inconsistent with the Parties' internal documents where Imprivata, in particular, repeatedly identified Isosec as an increasing competitive threat. The CMA also identified that documents relating to the Merger suggested that part of the rationale for the Merger was the removal of a competitive constraint.
11. Many of the Parties' NHS customers told the CMA that they had limited options available when purchasing IAM solutions to access the Spine. Some customers told the CMA that Isosec provided an important, or the only, alternative to Imprivata. Some customers specifically raised concerns about, for example, increased prices for, and less innovation within, IAM solutions to access the Spine following the Merger.
12. With respect to competition from other suppliers, while NHS-D is the largest supplier of IAM solutions to access the Spine to NHS customers, there was mixed evidence of the constraint it exerts on the Parties. NHS-D provides its PSC-based

solutions to NHS customers at no cost, and at least some customers indicated that Isesec's solution, in particular, provided better performance. Evidence from customers and from the Parties' own internal documents indicated that Entrust's VSC solution suffers from limitations that may reduce the constraint it exerts on the Parties. Finally, Microsoft's IAM solution has only been rolled out to a very limited extent and would not currently be suitable for most applications in the NHS.

13. In addition to considering competition in the supply of IAM solutions today, the CMA considered how competition was likely to develop in future. The CMA considered the Parties' internal documents setting out their plans for their businesses, and also spoke to customers and competitors about how they expect the market to develop. The CMA found that, given planned future developments in Imprivata's solutions for Spine access, the Parties were likely to compete even more closely in the future than they do today.
14. The Parties argued that they were likely to face additional constraints from new suppliers offering IAM solutions to the NHS in the next few years, and pointed in particular to plans from NHS-D to roll out a new NHS authentication service relying on open standards for technology. Although NHS-D has begun the roll-out of parts of this new approach, there is uncertainty about when it will be fully rolled out. Furthermore, the CMA did not receive any compelling evidence to suggest that competitor entry or expansion would offset competition concerns arising from the Merger either as a result of these new standards, or otherwise.

### ***Decision***

15. The CMA found that the Parties exert a competitive constraint on each other today and are likely to exert an even stronger competitive constraint in future. The CMA also found that the Parties' customers, ie the NHS and other healthcare providers, have limited other alternatives available. As a result, the CMA found that the Merger gives rise to a realistic prospect of a substantial lessening of competition (**SLC**) as a result of horizontal unilateral effects in relation to the supply of IAM solutions for access to Spine-enabled applications to healthcare customers in England. A loss of competition in this segment could lead to a worse deal for the

NHS and other healthcare providers, in the form of higher prices, lower quality, or less innovation.

16. The CMA has the discretion to decide not to refer a transaction for an in-depth Phase 2 investigation by applying the *de minimis* exception.<sup>1</sup> In considering whether to apply the *de minimis* exception, the CMA considers factors such as the size of the affected markets and the potential harm resulting from the competition concerns identified by the CMA.
17. While the CMA considers that the total revenues currently generated from the supply of IAM solutions for access to Spine may be sufficiently small that the *de minimis* exception could be applied, the CMA decided that it would not be appropriate to apply the exception in this case. In reaching this decision, the CMA considered that revenues currently generated from the supply of IAM solutions do not accurately reflect the importance of the market: first, the majority of supply is free of charge supply by NHS-D such that revenues do not reflect the total market size; second, even if the CMA were to focus on revenues generated in this segment, projections show that these revenues (and thus the size of the market) are likely to increase substantially in the next few years. The CMA also took into account the current and future closeness of competition between the Parties, the limited alternatives available to the NHS and other healthcare customers; and evidence indicating that at least part of the rationale for the Merger may be anti-competitive.
18. The CMA is therefore considering whether to accept undertakings under section 73 of the Act. The Parties have until 7 May 2021 to offer an undertaking to the CMA that might be accepted by the CMA. If no such undertaking is offered, then the CMA will refer the Merger pursuant to sections 33(1) and 34ZA(2) of the Act.

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<sup>1</sup> Section 33(2)(a) of the Act.

## ASSESSMENT

### Parties

19. Imprivata is a private company engaged in the supply of IAM solutions, focussing on the healthcare sector. Imprivata is headquartered in the USA and has a subsidiary, Imprivata UK Limited, and its European headquarters in the UK.<sup>2</sup> In its financial year ended 31 December 2019, Imprivata generated revenues of around USD [redacted] worldwide, including USD [redacted] (approximately GBP [redacted]) in the UK.<sup>3</sup>
20. Isosec is a private company engaged in the supply of IAM solutions in England, focussing on healthcare providers such as NHS organisations.<sup>4</sup> In its financial year ended 31 March 2020, Isosec generated revenues of [redacted], in the UK.<sup>5</sup>

### Transaction

21. On 18 November 2020 the Parties entered into an agreement by which Imprivata's UK subsidiary, Imprivata UK Limited, would buy the entire issued share capital of Isosec. This is referred to as the Merger at paragraph 1 above.
22. The Merger is not subject to review by any other competition authority.

### Procedure

23. The Merger was considered at a Case Review Meeting.<sup>6</sup>

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<sup>2</sup> Final merger notice dated 25 February 2021 (**Merger Notice**), paragraphs 4 and 32.

<sup>3</sup> Merger Notice, paragraph 56.

<sup>4</sup> Merger Notice, paragraph 36.

<sup>5</sup> Merger Notice, paragraph 50.

<sup>6</sup> See [Mergers: Guidance on the CMA's jurisdiction and procedure \(CMA2, January 2014\)](#), from paragraph 7.34.

## Jurisdiction

24. The CMA believes that the Merger is sufficient to constitute arrangements in progress or contemplation for the purposes of the Act.<sup>7</sup>
25. Each of Imprivata and Isosec is an 'enterprise'. As a result of the Merger, these two enterprises will cease to be distinct.
26. The Parties submitted that Isosec's IAM solutions use 'digital signatures' as a method of verification<sup>8</sup> and that, accordingly, Isosec is supplying services employing cryptographic authentication within the meaning of sections 23A(3)(e)(ii) and 23A(4) of the Act. The CMA therefore considers that Isosec is a 'relevant enterprise' under section 23A of the Act. Isosec's turnover in the UK exceeds the GBP 1 million threshold set out in section 23(1)(b)(ii) of the Act.
27. In light of the above, the CMA believes that it is or may be the case that arrangements are in progress or in contemplation which, if carried into effect, will result in the creation of a relevant merger situation.
28. The initial period for consideration of the Merger under section 34ZA(3) of the Act commenced on 3 March 2021 and the statutory 40-working day deadline for a decision is therefore 29 April 2021.

## Counterfactual

29. The CMA assesses a merger's impact relative to the situation that would prevail absent the merger (ie the counterfactual). For anticipated mergers, the CMA generally adopts the prevailing conditions of competition as the counterfactual against which to assess the impact of the merger. However, the CMA will assess the merger against an alternative counterfactual where, based on the evidence available to it, it believes that, in the absence of the merger, the prospect of

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<sup>7</sup> Section 33(1)(a) of the Act.

<sup>8</sup> The Parties submitted that digital signing uses a private key to encrypt a 'cryptographic hash' or digital fingerprint into data, so a relying party can use the public key to validate that the signer is in possession of the private key: Merger Notice, paragraph 53. No evidence received in the course of the CMA's market testing has contradicted this.

prevailing conditions continuing is not realistic, or where there is a realistic prospect of a counterfactual that is more competitive than prevailing conditions.<sup>9</sup>

30. The Parties submitted that the most appropriate counterfactual is the prevailing conditions of competition.
31. The Parties submitted that [redacted]. The CMA considers that Isosec would have continued to provide a similar constraint in the counterfactual whether it operated independently or was acquired by another party. The CMA has not seen any evidence that there is a reasonable prospect of the sale of Isosec to any alternative buyer would have created a more competitive counterfactual than the prevailing conditions of competition.
32. The CMA considers that the prevailing conditions of competition are not static. In particular, the Parties' submissions and internal documents indicated that Imprivata was developing its own VSC solution, which would be similar to the VSC solution supplied by Isosec. As such, the CMA considered whether, absent the Merger, Imprivata would have started supplying its own VSC solution to customers, such that this should form part of the counterfactual.

#### *Development and launch of Imprivata's own VSC solution*

33. Imprivata does not currently supply its own VSC solution. Imprivata's internal documents note that Imprivata has taken various steps to develop its own VSC solution. These indicate, for example, that Imprivata started work on its own VSC solution by [redacted],<sup>10</sup> but may have been considering developing its own VSC solution in [redacted].<sup>11</sup> [redacted].<sup>12</sup>
34. The Parties submitted that, absent the Merger, Imprivata would begin supplying its own VSC solution to customers in the [redacted].<sup>13</sup> Imprivata's plans and readiness to do

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<sup>9</sup> [Merger Assessment Guidelines \(OFT1254/CC2, September 2010\)](#), from paragraph 4.3.5.

<sup>10</sup> Imprivata internal document IMP\_000028, submitted with Imprivata's response to the first section 109 notice (**Imprivata First s109 Response**), page 2.

<sup>11</sup> See eg reference to [redacted] on page 1 of Imprivata internal document IMP\_000004, submitted with Imprivata First s109 Response.

<sup>12</sup> Merger Notice Annex MN6 [Annex DMN004.2], page 9.

<sup>13</sup> Merger Notice, paragraph 324.



so were confirmed by Imprivata’s internal documents noting, for example, that Imprivata expects to have its VSC solution ready [REDACTED].<sup>14</sup> [REDACTED].<sup>15</sup> The Parties later submitted that, depending on when the Merger completed, Imprivata may have [REDACTED].<sup>16</sup>

35. In light of the above, the CMA considers that there is a realistic prospect (indeed, it appears likely) that Imprivata would have supplied its own VSC solution to access Spine-enabled applications in the absence of the Merger. The CMA considers the possibility of Imprivata supplying its own VSC solution in further detail in the Competitive assessment section below.

#### *Conclusion on counterfactual*

36. In light of the evidence set out above, the CMA has considered the impact of the Merger relative to the prevailing conditions of competition. The CMA considers that the prevailing conditions of competition include Isosec remaining independent of Imprivata, and Imprivata continuing to develop, and then to supply, its own VSC solution in competition with Isosec.

## **Background**

37. The NHS, and other healthcare providers, use IAM solutions to help clinicians operate more efficiently: IAM solutions limit the need for clinicians to re-enter all their credentials each time they use a new workstation. In many healthcare settings, clinicians regularly need to use different workstations as they move between patients or wards, and as such IAM solutions can save considerable time over the course of a working day. Different IAM solutions are used in the NHS to access different parts of the NHS systems

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<sup>14</sup> See eg the following, submitted with Imprivata First s109 Response: first half of 2021 (Imprivata document IMP\_000218, page 2); the first quarter of 2021 (Imprivata document IMP\_000165, page 5); the second quarter of 2021 (Imprivata document IMP\_000219, page 1). See also Merger Notice, paragraph 324 and footnote 128.

<sup>15</sup> [REDACTED].

<sup>16</sup> Merger Notice, paragraph 326.

### ***IAM solutions and components***

38. As noted in eg paragraphs 19 and 20 above, the Parties supply healthcare sector-focused IAM solutions. More generally, IAM solutions are processes, policies and technologies that facilitate the secure management of digital identities, with the aim of enabling authorised personnel to access the correct information resources at the right time. IAM solutions facilitate the following:
- (a) **Access management.** This refers to controlling a user's access to a computer, application or database by identifying a user (eg through use of a PSC or VSC, biometric identifier, password or Personal Identification Number (**PIN**)), authenticating the user's credentials, authorising access and providing a technical means of allowing or denying access.<sup>17</sup>
  - (b) **Identity management.** This includes the governance of identity records (eg recording who accessed which resources and when), the proofing, provisioning and withdrawal of identity credentials (eg when a user joins or leaves the organisation), self-service password reset, allocation of access levels to users (eg granting a user access to some of an organisation's systems but not others), implementing security policies, and managing reporting functions (eg generating audit reports).
39. An IAM solution typically incorporates different software and hardware components, depending on a user's system and requirements. Depending on the provider, IAM solutions with similar functionalities can be delivered using different technology and sets of components – which typically include the following:
- (a) a **back-end appliance**: a software component that provides the directory and details of identities and policies. It can be installed on the customer's local servers ('on-premises' installation) or in the cloud;

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<sup>17</sup> The authentication process requires the use of authentication factors, based on something the user knows (eg password/PIN), something the user has (eg a smartcard/mobile phone), something inherent to the user (eg fingerprints or iris scan), or something the user does (eg typing rhythm). Depending on the level of security required, an access management solution may apply single factor authentication (eg a password), two-factor authentication (eg combining a password with an identity card or a unique code sent to the user's mobile phone), or multifactor authentication (**MFA**) (eg combining a password, physical device and a fingerprint).

- (b) **agent software:** installed and run on the local client device (eg a PC or smartphone). It enforces policies maintained and distributed by the back-end appliance that define which applications the users can authenticate and how, and collates and passes information to the back-end appliance for the purpose of audit reporting and governance;
- (c) an **authenticator:** can be physical (eg a PSC, biometric reader, hard token) or virtual (eg a VSC, soft token or mobile device application);<sup>18</sup> and
- (d) **identity agent:** a software component installed and run on the local client device (eg a PC or smartphone), which handles requests between the applications to which access is being sought and the authenticator.<sup>19</sup>

### ***The Spine, PSCs and VSCs, and NHS Identity/CIS2***

- 40. As noted in paragraph 5 above, in England, secure central NHS resources are accessible via the Spine. Through the Spine, authorised users can access a variety of resources (eg Summary Care Records and the Electronic Prescription Service), typically through third-party applications.
- 41. The Parties submitted that access to the Spine is controlled by a centrally issued digital certificate, held on an NHS smartcard.<sup>20</sup> When a user attempts to access the Spine, it issues a challenge that must be digitally signed before access can be granted. The smartcard provides this digital signature, using the user's 'private key' (created and stored when the smartcard was originally issued to that user), which is then validated against the user's certificate (also created and stored when originally issued). Digital certificates and smartcards are issued by NHS-D, or by local NHS units (on behalf of and under delegated authority from NHS-D). NHS-D

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<sup>18</sup> The CMA considers PSCs to be an input into PSC solutions used to access to Spine-enabled applications, rather than part of PSC solutions themselves. For the same reasons, the CMA's frame of reference includes VSC solutions used to access to Spine-enabled applications (see eg paragraph 81 below) but does not include VSCs. For further details, see footnote 80 below.

<sup>19</sup> An identity agent is not an essential component of an IAM solution, and such components are, in any event, widely available from third parties. An IAM solution that facilitates access to the Spine does not need to include its own identity agent, since the NHS offers a Spine identity agent for zero additional cost for the end customer.

<sup>20</sup> Merger Notice, paragraphs 128-129; Parties' response to RFI 2 dated 8 January 2021, paragraph 10.1.

is a central NHS body that is responsible for the running and maintenance of the Spine and the IAM platform. Some of NHS-D's work is commissioned by NHSX.<sup>21</sup>

42. In addition to Spine resources, NHS staff need to access a wide range of other systems and applications. This includes legacy applications, which are older and based on proprietary, NHS-specific, access standards (rather than modern, open standards of authentication/communication). These standards differ from the proprietary NHS standards most commonly used to access the Spine. Some IAM solutions can interoperate with these legacy systems while others cannot.
43. PSCs are small plastic smartcards fitted with a chip (like a credit card), which are inserted into readers connected to computers or equipment.<sup>22</sup> VSCs are largely based on the same underlying technology, but the credentials used to authenticate the user are stored on the user's device or on the IAM solution provider's system (not on a PSC chip).<sup>23</sup> Instead of presenting a PSC, users can authenticate in a number of ways without a physical card, for example with a passcode and mobile phone app.
44. Initially, NHS smartcards were only available in physical form, ie as PSCs, but VSCs have since been introduced. While VSCs had been used in the NHS before 2020,<sup>24</sup> COVID-19 has led to a surge in demand for VSCs. This is largely due to the sudden switch to remote working without access to a PSC reader for a substantial number of staff, and an enhanced need for hygiene in clinical settings (including the wearing of personal protective equipment (**PPE**)).<sup>25</sup> The Parties submitted that PSC solutions will still be the default option for many users in the

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<sup>21</sup> NHSX is a joint unit of NHS England and the Department of Health and Social Care setting the overall strategy for digital transformation within the NHS: see <https://www.nhsx.nhs.uk/about-us/who-we-are/>.

<sup>22</sup> The NHS sources its PSCs from IDEMIA (previously known as Oberthur) and Gemalto. Cards are issued to users centrally by the Care Identity Service (**CIS**) of NHS-D, which relies on local registration authorities to check a user's identity, assign an access profile and print the cards. Merger Notice, paragraph 130.

<sup>23</sup> The CMA understands a VSC to refer to the set of cryptographic keys, stored on the cloud or on a user's mobile phone, issued by the user's registration authority and used to digitally sign the challenge issued when (in the context of access to the Spine) Spine access is attempted.

<sup>24</sup> The CMA understands that some individual NHS organisations had already piloted or adopted VSCs prior to the pandemic. For example, Isosec first supplied its VSC solution to its first NHS customer in 2017: Merger Notice, paragraph 193. By 2019, Isosec had sold its VSC solution to [X] NHS healthcare providers and [X] private healthcare providers: Parties' revenue data provided in Annex RF13.2 to Parties' response of 15 February 2021 to RF13.

<sup>25</sup> Merger Notice, paragraph 136.

short to medium term.<sup>26</sup> Some customers, however, said that they expect demand for VSC solutions to increase in future.<sup>27</sup>

45. Until recently, Spine access has been based on the NHS's proprietary Care Identity Service (**CIS**) standards. As such, most Spine-enabled applications can be accessed through IAM solutions designed to interoperate with NHS-D's proprietary standards, the CIS. However, NHS-D has stated publicly its plans to deprecate<sup>28</sup> support for IAM technology for CIS-based authentication by 30 September 2023. The plan is that suppliers, NHS organisations and the NHS-D development team must at that point to integrate with a new service (**NHS Identity/CIS2**), in order to be able to authenticate their solutions.<sup>29</sup> NHS-D has also published details of a roll-out of NHS Identity/CIS2, which relies on open standards such as FIDO2 and OpenID Connect.<sup>30</sup> NHS Identity/CIS2 is currently at an early stage in its published roadmap. It has been in use for around 12-18 months as a limited pilot for London Ambulance Service, community pharmacies and Defence Medical Services.<sup>31</sup> The Parties submitted that, while the roll-out of NHS Identity/CIS2 has focused so far on authentication on tablets running Windows 10 using Windows Hello for Business, NHS-D is working on other methods, eg using Windows desktops, USB keys and smartcards based on the FIDO2 standard.<sup>32</sup>

### ***Additional functionalities***

46. In addition to providing core access management functionality, an IAM solution may include other functionalities such as the following:

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<sup>26</sup> Parties' Issues Letter Response, paragraph 76.

<sup>27</sup> See eg Note of call with [§].

<sup>28</sup> 'Deprecate' is used within the industry to mean that a product will not be supported or updated in the future. In addition to a date for deprecation, this page notes the '[p]rovision also of a date by which NHS Digital will switch off the Care Identity Service for authentication only'.

<sup>29</sup> See [Supporting older version smartcards - NHS Digital](#).

<sup>30</sup> See eg [What NHS Identity is - NHS Digital](#) and [NHS Identity - NHS Digital](#).

<sup>31</sup> See eg [NHS Identity - NHS Digital](#); [New Identity Service for London Ambulance Service - GovTech Leaders](#) and [NHS Identity roadmap - NHS Digital](#) (last updated on 18 December 2020); [What's happening in Identity and Access Management - NHS Digital](#).

<sup>32</sup> Merger Notice, paragraphs 277, 295 and 157.

- (a) **Single sign-on (SSO):**<sup>33</sup> enables a single authentication of a user's identity to provide access to multiple applications or systems, for example by automatically filling out the user's identity details and passwords for each application or system whenever they are needed.
- (b) **Authentication management (AM):** enables a user to log into a single system or environment by automating entry of their credentials, ie by tapping their card on a reader and entering a PIN, rather than having to enter their full username and password each time. However, unlike with SSO, the user would still need separate authentication to access any additional application(s) or system(s).
- (c) **Self-service password reset (SSPR):** allows users to reset their own passwords should their passwords be forgotten or compromised, rather than reset through the user's IT helpdesk. SSPR enables this to be done securely, by using a combination of a staff ID card (which is not the same as an employee's NHS PSC) and a question/answer known only to the user.

### ***Imprivata's main products in the context of England's healthcare sector***

47. In the above context, Imprivata's main products include the following:<sup>34</sup>

- (a) **OneSign:** Imprivata's core product suite.
  - (i) OneSign provides SSO functionality<sup>35</sup> enabling authentication into a wide range of healthcare-related applications (including legacy applications).<sup>36</sup>

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<sup>33</sup> Here 'SSO' refers to the term's 'strict'/'true' sense – whereas, as set out at paragraph 46(b) above, 'AM' is denotes the more limited type of functionality sometimes referred to as SSO (eg in context of Isosec's 'SSO' solution).

<sup>34</sup> OneSign accounts for [X] of Imprivata's UK revenues in 2019: Merger Notice, Table 2. In addition, the CMA notes that [X] of Imprivata's appliance deployment is on-premises, in the form of physical appliances (which some customers still use) or virtualised appliance code on the customer's own servers, with the remainder of Imprivata's appliance deployment being in the cloud: Merger Notice, paragraph 175.

<sup>35</sup> OneSign also can also perform SSPR and AM functionalities: Merger Notice, paragraph 33.

<sup>36</sup> OneSign's SSO functionality can also be employed (in conjunction with a compatible identity agent) by users wishing to authenticate to Spine-enabled applications who use an NHS PSC and wish to automate entry of their PSC PIN. However, the Parties submitted that such use of OneSign is technically possible but not recommended and SCW is the only element of OneSign that plays any role in relation to access to Spine. The evidence available to the CMA also does not indicate such use of OneSign occurs to any material extent: see paragraphs 83 to 87 below.

(ii) Spine Combined Workflow (**SCW**) product is an ‘add-on’ to OneSign. SCW allows a user’s Spine session to be maintained as active, even across different workstations, for a defined period of time (eg a shift) after having logged-in initially by inserting their PSC in the smartcard reader and entering their PIN at the start of that period. After the initial log-in, SCW facilitates subsequent log-ins, by removing the need for users to re-insert their NHS PSC into a PSC reader.<sup>37</sup> Instead, SCW allows a user to regain access to the previously initiated Spine session later in the shift via only a radio-frequency identification (**RFID**)<sup>38</sup> tap (eg using the staff ID badge – which is not the same as the employee’s NHS PSC) and/or another single factor of authentication (eg a fingerprint scan).

(b) **ConfirmID**: this provides additional components that enhance the core OneSign product, including remote access using multifactor authentication, mobile access and medical device workflows. This product does not provide or facilitate access to the Spine.

### ***Isosec’s main products in the context of the healthcare sector in England***

48. Isosec currently supplies the following, fully cloud-based IAM products:

(a) **Identity agent**: this can be used for authentication into Spine-enabled applications as part of a PSC or a VSC solution. Isosec also provides a similar mobile identity agent (**MIA**), which fulfils the same function by creating a secure mobile browser for clinical systems that run in a mobile environment. Isosec’s MIA can only be used with Isosec’s VSC solution.

(b) **VSC solution**: this provides authentication to the Spine only.<sup>39</sup> It works by means of two factor-authentication (passcode and mobile phone

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<sup>37</sup> Parties’ responses dated 22 March 2021 to CMA questions of 17 March 2021, paragraphs 1.2, 1.4 and 1.5.

<sup>38</sup> RFID is used to identify objects in proximity of an RFID reader.

<sup>39</sup> The Parties submitted that, with some enhancements, Isosec’s VSC solution could provide authentication for other, [redacted], but that no such work has been undertaken, planned or contemplated by Isosec: Merger Notice, footnote 98.

authenticator app). Isosec’s VSC solution can only be used with Isosec’s identity agent.

- (c) **AM**:<sup>40</sup> this enables a user to log in to their Microsoft Windows desktop with an RFID tap (ie tapping their staff ID card on a RFID reader) and entering a four-digit PIN, rather than filling in their full user name and password on a device each time, while logging out is accomplished by a single badge tap.<sup>41</sup> Once the user has logged in to their Microsoft Windows environment, they still need to enter passwords and other information to access further systems and apps (including Spine-enabled applications), as they would if they had logged in manually.
- (d) **SSPR**: this enables users to reset their own passwords for Microsoft Windows accounts.

## **Procurement**

49. Within the NHS, larger healthcare providers, such as Foundation Trusts and Clinical Commissioning Groups (**CCGs**), usually have central IT and procurement teams. Smaller providers, such as GP surgeries, can draw on central resources at Trust- and CCG-level and engage with regional commissioning support units (**CSUs**). For purchases above certain value thresholds,<sup>42</sup> NHS organisations may be obliged to contract with ‘framework partners’ (otherwise known as ‘resellers’)<sup>43</sup> rather than with end suppliers directly. Procurement often takes place through tenders but can be through direct negotiations (between end customers and end suppliers) and/or based on framework partners’ recommendations. Contract lengths typically range from 1 to 5 years (and last up to 7 years).<sup>44</sup> Imprivata sells to the NHS through a number of different framework partners. Isosec achieves [REDACTED]

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<sup>40</sup> Isosec refers to this as SSO. However, Isosec’s ‘SSO’ solution only provides initial authentication to a user’s Windows desktop (ie AM), rather than true SSO. Merger Notice, paragraphs 102 and 106.

<sup>41</sup> This is achieved by associating the user’s Windows credentials with an RFID chip that is added to their existing staff ID card, which can be read by the customer’s existing hardware.

<sup>42</sup> One [REDACTED] told the CMA that it is obliged to run a formal procurement exercise or use a framework partner for any contract valued over [REDACTED]: Note of call with [REDACTED].

<sup>43</sup> These are businesses approved by the NHS onto one or more NHS procurement frameworks.

<sup>44</sup> Questionnaire responses by [REDACTED] such as [REDACTED]. Less frequently, contracts lengths may range from 7–10 years, depending on the nature of the goods and services: questionnaire response by [REDACTED].



of its sales from dealing directly with end customers (without involving a framework partner) but works with approved framework partners for fulfilment and financial processing.<sup>45</sup>

## Rationale

### *Parties' submissions*

50. Isosec's VSC solution has been approved for Spine access and can entirely replace, in most settings, a user's PSC solution. Imprivata currently does not supply a VSC solution to customers. The Parties submitted that Imprivata was developing its own VSC solution but acquiring Isosec's trusted solution would:

- (a) give Imprivata access to Isosec's [redacted],<sup>46</sup> contacts with key [redacted] and knowledge of the technical requirements for accessing [redacted]; and
- (b) help Imprivata transition to [redacted] (a current sector trend), given that Isosec's solutions are [redacted].

51. The Parties submitted that the sellers of Isosec were keen to ensure Isosec's future growth by selling to [redacted]. This would help Isosec take advantage of the recent significant increased demand for its VSC solution and enhance Isosec's [redacted]. The Parties submitted that the Merger would meet this strategic aim.<sup>47</sup>

### *Parties' internal documents*

52. Several Imprivata internal documents reflected the elements of the rationale set out above.<sup>48</sup> However, certain Imprivata internal documents – including ones

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<sup>45</sup> There are many different NHS procurement frameworks, including G-Cloud. G-Cloud is a catalogue listing procurement framework that allows a UK Government customer to browse, and order, available technology and services. In October 2020, Isosec became accredited to supply NHS customers direct through the Government's Digital Marketplace, for which it applies G-Cloud 12 direct pricing. Sales made under the G-Cloud 12 framework do not require the involvement of a framework partner: Isosec works under both models, depending on the customer's preference. Merger Notice, paragraphs 340 and 388, and Table 5.

<sup>46</sup> Primary care generally refers to General Practice (**GP**) surgeries and clinics.

<sup>47</sup> Merger Notice, paragraph 23.

<sup>48</sup> Merger Notice, Annex MN6 [Annex 004.1] pages 3 and 8; Merger Notice, Annex MN6 [Annex 004.2], pages 12 and 25; and Imprivata document titled IMP\_000007 - IMP\_000008, submitted with Imprivata First s109 Response.

prepared for Imprivata’s sales/commercial team, corporate development team or senior management<sup>49</sup> – indicate that part of the rationale for the Merger was the removal of a direct (and growing) competitor to Imprivata.

53. One Imprivata internal document dated [REDACTED] discusses how Imprivata perceives Isosec as a direct competitor, especially in light of Isosec’s April 2020 deal to provide its VSC solution to NHS-D. The document mentions that Isosec’s deal with NHS-D [REDACTED].<sup>50</sup>
54. An Imprivata document dated [REDACTED] notes that one of the main objectives of the merger was to [REDACTED]. The document also records the competitive interaction between Imprivata and Isosec, noting that [REDACTED]. Specifically, the document mentions that the Merger’s first [REDACTED] aim is [REDACTED]. This document also notes that Isosec was [REDACTED].<sup>51</sup> The CMA notes that such references did not appear in equivalent parts of a later internal document [REDACTED] otherwise detailing the Merger, and Isosec, in broadly similar ways.<sup>52</sup>
55. As noted above, Imprivata appears to have considered that [REDACTED] than buying Isosec’s VSC solution.<sup>53</sup>
56. In light of the above, the CMA considers that at least part of Imprivata’s valuation of Isosec may be attributable to the potential value, to Imprivata, of acquiring a direct (and growing) competitor.<sup>54</sup> In any event, the documents cited above indicate that Imprivata may have sought to eliminate an actual or potential competitor through the Merger.

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<sup>49</sup> Based on the annex index submitted with the Merger Notice (titled ‘Annex 2 Imprivata 27-11-2020.xlsx’). For example, Merger Notice Annex MN7 [Annex DMN005.4] was both prepared for the sales/commercial team and presented to the Board of Directors, including the Sales Director (to inform him of price negotiations).

<sup>50</sup> Merger Notice Annex MN7 [Annex DMN005.4], pages 4 and 5.

<sup>51</sup> Merger Notice Annex MN6 [Annex DMN004.2], pages 2, 4 and 8.

<sup>52</sup> References to possible competition between the Parties in Merger Notice Annex MN6 [Annex DMN004.2], at eg pages 2, 4, 6, 8 and 26, do not appear in Merger Notice Annex MN6 [Annex DMN004.1], at eg pages 2 and 3.

<sup>53</sup> Merger Notice Annex MN6 [Annex DMN004.2], page 9.

<sup>54</sup> Between FY21 and FY22, Isosec’s revenue and EBITDA are expected to grow, respectively, by around [REDACTED]% and around [REDACTED]%. CMA’s analysis of Parties’ response of 8 January 2021 to RFI2, paragraphs 21.1–23.2.

57. Isosec’s internal documents were limited in number, but generally reflected the elements of the rationale submitted by the Parties.<sup>55</sup> However, one Isosec-generated information memorandum, prepared in order to discuss with Imprivata a possible sale of Isosec, suggests that Isosec considered a combination with Imprivata would increase the Parties’ power in [REDACTED].<sup>56</sup>

*Parties’ submissions in relation to their internal documents*

58. The Parties made the following submissions on the above internal documents:

- (a) The Imprivata internal documents discussed above were produced at a time when Isosec had just announced a partnership agreement with NHS-D for the central funding of Isosec’s VSC solution and the outbreak of Coronavirus (Covid-19) led to a sudden increase in interest from NHS customers in VSC solutions, which Imprivata did not offer. These documents are now perceived as capturing a ‘hype cycle’ by Imprivata’s management, where a new development led to a ‘peak of inflated expectations’, in the context of [REDACTED].<sup>57</sup>
- (b) After the Imprivata internal documents discussed above were produced, Imprivata’s research into Isosec and due diligence for the Merger indicated to Imprivata’s senior management that any concerns about Isosec were overstated in these documents.<sup>58</sup> Imprivata’s views thus moved, during the due diligence process, towards the Parties’ IAM solutions being complementary, rather than competing.
- (c) Imprivata wanted to offer a Spine-compatible VSC solution, [REDACTED], to place itself in a better position to respond to emerging competition from broader IAM specialists including [REDACTED]. [REDACTED], Imprivata’s primary focus was on acquiring Isosec – but deal execution delays and uncertainty related to the CMA

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<sup>55</sup> Merger Notice, Annex MN6 [Annex 004.3] (Isosec document titled ‘Annex 004.3 - Isosec Information Memorandum - ISOSEC CONFIDENTIAL’), page 3 (electronically)/pages 4-5 (as printed).

<sup>56</sup> [REDACTED]. The Parties submitted that this may refer to the Merger [REDACTED]. The CMA did not accept this, given: (a) the context in which [REDACTED]; and (b) other indications, as set out in paragraphs 54 to 55 above, of an anti-competitive rationale for the Merger.

<sup>57</sup> Parties’ Issues Letter Response, paragraphs 7 and 8.

<sup>58</sup> Parties’ response of 8 January 2021 to RF12, paragraph 2.6; Parties’ Issues Letter Response, paragraph 9.

process led Imprivata to decide to also start developing its own VSC solution.<sup>59</sup>

- (d) Isosec's position as reflected in the information memorandum mentioned above was overstated – and that some products referred to [redacted].<sup>60</sup>

59. The Parties also submitted that Imprivata's internal documents did not expressly record the evolution of Imprivata's view as regards Isosec that were set out in the submissions summarised above because Imprivata would not generally produce documents explicitly noting these types of changes in its assessment.<sup>61</sup>

*CMA's assessment of the Parties' submissions as regards internal documents*

60. The CMA has carefully considered the Parties' submissions as regards their internal documents, but it does not consider them persuasive.

61. The CMA accepts that the Imprivata internal documents cited at paragraph 53 to 55 above generally date from the months immediately following public announcement of an arrangement between Isosec and NHS-D. However, the CMA notes the following:

- (a) The Parties provided no evidence that Imprivata's view that it competed with Isosec had changed over time, other than noting that the final business case approval documents for the Transaction did not focus on competition between the Parties.<sup>62</sup> The lack of any evidence of the evolution of Imprivata's views on competition between the Parties contrasts with the existence of numerous other additional Imprivata internal documents, not produced in relation to the Merger, which refer to competition between the Parties, eg the examples noted at paragraph 115 below;

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<sup>59</sup> Parties' Issues Letter Response, paragraph 11.

<sup>60</sup> Parties' Issues Letter Response, paragraph 9.

<sup>61</sup> The Parties submitted that internal discussions within Imprivata tend to reflect an area of focus at a given time, then move on to the next area of focus, without any documents expressly stating that a prior area of focus may have proved to have been misguided: see Parties' Issues Letter Response, paragraph 10.

<sup>62</sup> The CMA has inferred that the Parties were referring to eg Merger Notice, Annex MN6 [Annex 004.1], page 1 of which suggests it was dated 17 November 2020, ie before the Parties entered into an agreement in relation to the Merger, on 18 November 2020.

- (b) Imprivata has provided no evidence in internal documents, or otherwise, to support its submission that it wanted to offer a Spine-compatible VSC solution (through acquiring Isosec, or developing its own VSC solution) in response to the competitive threat from broader IAM players such as [REDACTED].<sup>63</sup> Imprivata's documents do, however, indicate that it [REDACTED] in developing Imprivata's own VSC solution (as noted at eg paragraph 115(f) below); and
- (c) the Parties provided no evidence supporting their submission that Isosec's position was overstated by its management in any Information Memorandum<sup>64</sup> (or indicating, for that matter, that Imprivata had concluded that its position was overstated).

62. The CMA placed less weight on the Parties' submissions regarding rationale to the extent that these submissions conflicted with, for example, contemporaneous evidence. For example, after the Issues Meeting, the Parties submitted that deal execution delays and uncertainty arising from the CMA process led Imprivata to decide to start work on developing its own VSC solution.<sup>65</sup> However, as noted at paragraph 33 above, Imprivata's internal documents indicate that Imprivata had decided to start (and in fact started) work on its own VSC solution by [REDACTED]. The CMA notes that this was a month or so before Isosec instructed a sell-side adviser,<sup>66</sup> several months before Imprivata expected to have to submit a bid,<sup>67</sup> and at least six months before the Parties approached the CMA in relation to the deal.

63. In light of the above, the CMA is of the view that the Parties' internal documents indicate that at least part of the rationale for the Merger was the elimination of a competitive threat in the market.

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<sup>63</sup> The CMA notes, however, that Merger Notice Annex MN6 [Annex DMN004.2], page 8, does refer more generally to the possibility of a competitor acquiring Isosec if Imprivata did not: [REDACTED].

<sup>64</sup> The CMA notes that commercial parties would generally expect any document prepared to attract buyers for a business (eg an Information Memorandum) to present that business in the strongest possible light.

<sup>65</sup> Parties' Issues Letter Response, paragraph 11.

<sup>66</sup> The Sellers instructed Convex Capital as its sell-side M&A adviser in [REDACTED]: Merger Notice, paragraph 25.

<sup>67</sup> Imprivata recorded in Merger Notice Annex MN6 [Annex DMN004.2], at page 7, that Isosec expected 'interested parties to submit bids by [REDACTED]'.

## Frame of reference

64. Market definition provides a framework for assessing the competitive effects of a merger and involves an element of judgement. The boundaries of the market do not determine the outcome of the analysis of the competitive effects of the merger, as it is recognised that there can be constraints on merging parties from outside the relevant market, segmentation within the relevant market, or other ways in which some constraints are more important than others. The CMA will take these factors into account in its competitive assessment.<sup>68</sup>
65. The Parties overlap in the supply of IAM solutions for access to Spine-enabled applications to healthcare customers in England.

## Product scope

### *Parties' submissions*

66. The Parties submitted that the appropriate product frame of reference is the supply of IAM solutions.<sup>69</sup> While noting some earlier decisions of other competition authorities in which 'identity and access management software' was treated as a distinct product market,<sup>70</sup> the Parties submitted that it was not meaningful to identify separate markets for IAM software and IAM hardware.<sup>71</sup>
67. The Parties submitted that it may be plausible to define the following alternative product markets:
- (a) **The supply of IAM solutions to healthcare customers.** Healthcare customers have specific needs, eg: (i) for ease of access; (ii) to manage a high prevalence of shared workstations; and (iii) to interoperate with a wide

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<sup>68</sup> [Merger Assessment Guidelines \(OFT1254/CC2, September 2010\)](#), paragraph 5.2.2.

<sup>69</sup> Merger Notice, paragraph 249.

<sup>70</sup> [Irish Competition Authority, Determination of Merger Notification M/12/013 \(Dell/Quest\)](#), 17 August 2012, paragraph 14; [Swiss Competition Authority, Denali Holding Inc./EMC Corporation](#), RPW 2016-3, pages 763-770.

<sup>71</sup> This was on the basis that downstream customers typically procure, and vendors typically supply, both types of component as part of an integrated system. In addition, some hardware components can be replaced by software components. Further, Isosec is not engaged in the supply of any hardware components: Merger Notice, paragraph 251.

range of legacy systems. The Parties also appeared to identify the supply of IAM solutions to NHS customers as a separate plausible alternative market.<sup>72</sup> Generally, healthcare-specific requirements are more relevant in acute care settings than in primary care.<sup>73</sup> Therefore the Parties submitted that, while some of these requirements are present in primary care settings, it is typically less challenging for general IAM providers to meet primary care customers' needs. While it may therefore be plausible to define separate candidate markets for primary and acute care (NHS) customers, the Parties market their products for use in, and procurement is managed similarly for, both acute and non-acute healthcare settings.<sup>74</sup>

- (b) **The supply of discrete IAM solutions functionalities.** Customers generally purchase IAM solutions as an integrated package. Customers may also choose to purchase additional functionalities (eg SSO and SSPR) on a standalone basis from different providers. These may comprise separate markets in certain circumstances.<sup>75</sup> Further, the Parties identified the supply of smartcard-based solutions (comprising PSC and VSC solutions) and the supply of VSC solutions as separate plausible alternative product markets.<sup>76</sup>

68. The Parties also submitted that on-premises IAM solutions and cloud-based IAM solutions should form part of the same relevant market, since both types of deployment address the same underlying customer needs.<sup>77</sup>

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<sup>72</sup> The Parties have not specifically identified, under 'product market' within the Merger Notice, reasons why the supply of IAM solutions to NHS customers may be a separate plausible alternative product market. However, the Parties submitted that the NHS provides access to certain central systems, including central records management, referral and prescription tools, via the secure Spine IT infrastructure. Spine authorisation may also be required to access secure local resources. The Parties also noted that users in both acute and primary settings require Spine access. The Parties also referred to the specific needs and submitted shares of supply based on several candidate markets including supply to all NHS England providers. Merger Notice, paragraphs 126, 255-256 and 263.

<sup>73</sup> Acute care hospitals include general and community care hospitals.

<sup>74</sup> Merger Notice, paragraph 255-257.

<sup>75</sup> Merger Notice, paragraphs 258, 260 and 262.

<sup>76</sup> The Parties did not specifically identify, under 'product market' within the Merger Notice, reasons why these may be separate alternative product markets.

<sup>77</sup> Merger Notice, paragraph 252.

*CMA's analysis*

69. As mentioned in paragraph 39 above, IAM solutions incorporate different software and hardware components, depending on a user's system and requirements. Depending on the solutions provider, IAM solutions performing similar functionalities can be delivered using different sets of components.
70. Therefore, from a demand-side perspective the CMA considers that it is more appropriate to consider different IAM solutions' functionalities (eg authentication to Spine-enabled applications and SSO) based on how these address different customer needs, rather than on the basis of different components (eg back-end appliances and agent software). This is consistent with internal documents indicating that the Parties distinguish their products based on functionalities.<sup>78</sup>
71. The Parties overlap in supplying England-based healthcare providers<sup>79</sup> with IAM solutions for access to Spine-enabled applications,<sup>80</sup> which includes at least the following products of the Parties: Imprivata's SCW add-on to OneSign; Isosec's identity agent (including Mobile Identity Agent); and Isosec's VSC solution.
72. The CMA considered whether the product frame of reference should:
- (a) include IAM solutions that do not allow access to Spine-enabled applications;

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<sup>78</sup> Merger Notice Annex MN7 [Annex DMN005.4], page 4, indicates that Imprivata considered a competitive constraint exerted by Isosec in relation to SSO and 'Password-Reset' separately; Merger Notice Annex MN7 [Annex DMN005.1], page 2, indicates that Isosec considered 'Cross-Over with Imprivata' based on 'Single Sign On', 'Password Reset', 'Virtual Smartcard' and 'Other Products' (the latter included eg identity agent functionality).

<sup>79</sup> These include private and non-private non-NHS healthcare providers. Non-NHS healthcare providers may also need to access Spine-enabled applications, but these account for very few (less than [%]) of the Parties' IAM solutions revenues generated from healthcare customers: Merger Notice, Table 1 and Table 4. The CMA also notes a limited overlap between the Parties in the supply of (i) AM solutions and (ii) SSPR solutions to England-based healthcare customers. However, the CMA decided not to investigate these segments in more detail, given Isosec's minimal revenues in these segments (and [%] in each segment) and that these solutions are not Spine-specific (see eg Merger Notice, Table 3, paragraphs 218 and 314).

<sup>80</sup> The CMA has excluded from the frame of reference the PSCs supplied by NHS-D or local NHS units (on behalf of and under delegated authority from NHS-D), as the CMA considers PSCs to be an input into PSC solutions used to access to Spine-enabled applications rather than part of PSC solutions themselves. Further, the CMA notes that neither Party supplies PSCs, so the Parties do not overlap in the supply of PSCs. For similar reasons, the CMA's frame of reference includes VSC solutions used to access to Spine-enabled applications but does not include VSCs.



- (b) be segmented depending on whether the solution uses a PSC or VSC as the (primary) means of authentication; and
- (c) also include Imprivata's OneSign product without the SCW add-on.

*Including IAM solutions that do not allow access to Spine-enabled applications*

73. From the perspective of healthcare providers in England, IAM solutions that do not allow access to Spine-enabled applications cannot substitute IAM solutions for access to Spine-enabled applications. This is because secure central NHS resources are accessible to authorised users only via the Spine.<sup>81</sup>
74. Given the distinct requirement for access to Spine-enabled applications, the CMA considers that it would not be appropriate to widen the product frame of reference to include IAM solutions that do not allow access to Spine-enabled applications. The Parties also broadly accepted the CMA's focus on the supply of IAM solutions for access to Spine-enabled applications, given Isosec's product focus and unique access requirements imposed for Spine resources.<sup>82</sup>

*PSC solutions and VSC solutions for access to Spine-enabled applications*

75. As mentioned in paragraphs 40 to 44 above, access to most Spine-enabled applications requires either a PSC or a VSC as a factor of authentication.
76. To assess whether the product frame of reference should be segmented into PSC-based and VSC-based IAM solutions for access to Spine-enabled applications, the CMA considered the demand side substitution.<sup>83</sup>

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<sup>81</sup> Note of call with [redacted]; Note of call with [redacted].

<sup>82</sup> Parties' Issues Letter Response, paragraph 15.

<sup>83</sup> Given the evidence of demand-side substitution, the CMA has not needed to consider supply-side substitution.

### *Demand-side substitution*

77. Both VSC solutions and PSC solutions allow users to access Spine-enabled applications. The evidence gathered by the CMA, while mixed, suggests that the solutions are close alternatives for some use cases.
78. The Parties did not contest the approach of including VSC and PSC solutions in the same frame of reference, but submitted that Imprivata's SCW product is an imperfect substitute to Isosec's VSC solution (eg SCW must be used in conjunction with a physical smartcard, so is unsuitable for usage where a physical reader cannot be used).<sup>84</sup>
79. The Parties' internal documents indicate that, although each of VSC solutions and PSC solutions has some advantages over the other, both types of solutions exert a competitive constraint on each other.<sup>85</sup>
80. Evidence from customers, framework partners and competitors also supported the conclusion that there is significant substitutability between PSC and VSC solutions. Several respondents specifically confirmed that PSC and VSC solutions are substitutable, either generally or for certain situations.<sup>86</sup> Further, while a number of third party respondents indicated that there are differences between PSC and VSC solutions,<sup>87</sup> most of these differences related to certain limited situations in which only one type of solution would be appropriate.<sup>88</sup>

### *Conclusion*

81. Given the evidence of demand-side substitution, the CMA believes it is appropriate to consider both PSC and VSC solutions under the same product frame of reference. As this is a differentiated product market, the CMA's assessment has in

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<sup>84</sup> Parties' Issues Letter Response, paragraph 28.

<sup>85</sup> See eg: Imprivata document IMP\_000018, submitted with Imprivata First s109 Response, page 2; and Merger Notice Annex MN7 [Annex DMN005.4], page 3.

<sup>86</sup> Questionnaire responses by eg [REDACTED].

<sup>87</sup> See eg Questionnaire responses by [REDACTED] and [REDACTED].

<sup>88</sup> For exceptions referring to a small number of situations in which both solutions may not be appropriate, see eg Questionnaire responses by [REDACTED]. In addition, [REDACTED] indicated that PSC and VSC solutions would not be substitutable from their perspective but provided no further context.

any event focused on closeness of competition between the products, as discussed further in the competitive assessment.

*Imprivata's OneSign product and the SCW add-on*

82. The CMA has considered whether Imprivata's OneSign application without the SCW add-on should be considered to fall within a frame of reference for the supply of IAM solutions for access to Spine-enabled applications.
83. The Parties submitted that Imprivata's sales of its OneSign product without SCW add-on fall outside the frame of reference since the SCW add-on is the only element of OneSign that plays any role in relation to access to Spine: SCW simply enables an existing Spine access session (commenced using a PSC/ VSC, with an identity agent) to be maintained when a user moves to a second workstation.<sup>89</sup>
84. While it is technically possible to use OneSign (without SCW) to store PSC PINs to provide session persistence, the evidence available to the CMA (set out below) does not indicate that OneSign is in fact used in this way to any material extent.
85. Certain Imprivata internal emails confirm the Parties' submissions that such use of OneSign is possible, but discouraged by Imprivata, and may be contrary to NHS-D's terms and conditions for smartcard use (**NHS-D Terms**).<sup>90</sup> The CMA notes that NHS-D submitted that it believed that any use of any smartcard-based IAM solution in violation of NHS-D Terms is likely to attract challenge and escalation. NHS-D also submitted that it believed that the NHS-D Terms are largely adhered to within NHS organisations.<sup>91</sup> This evidence was consistent with the Parties' submission in this regard.<sup>92</sup>
86. In addition, the CMA notes that at least some Imprivata internal documents discussing competitive constraints from Isosec's VSC solution on Imprivata refer

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<sup>89</sup> Parties' Issues Letter Response, paragraph 16.

<sup>90</sup> 'Email thread SSO profiling of GEM Authentication' and 'Email thread Demo OneSign at [X]', both provided by the Parties to the CMA by email on 13 April 2021. The Parties' submissions referred to the terms at <https://digital.nhs.uk/services/registration-authorities-and-smartcards/privacy-notice-to-smartcard-authorized-device-users-on-the-use-of-your-personal-data> (and, in particular, to Term 6 of those terms).

<sup>91</sup> Email from NHS-D on 14 April 2021.

<sup>92</sup> Parties' Issues Letter Response, paragraphs 19-20.

specifically to [REDACTED],<sup>93</sup> although some other internal documents are more general (ie do not refer specifically to [REDACTED]).<sup>94</sup>

### *Conclusion on product scope*

87. Based on the evidence, the CMA considers the supply of IAM solutions for access to Spine-enabled applications to be the appropriate product frame of reference. While there may be technical ways a customer could use OneSign without the SCW add-on to facilitate access to Spine-enabled applications, based on the evidence that this type of use is not promoted by Imprivata and may run counter to NHS-D Terms, the CMA considers that Imprivata's SCW add-on to OneSign is Imprivata's only current product within the product frame of reference.

### *Geographic scope*

88. The Parties submitted that the appropriate geographic frame of reference for IAM solutions for the healthcare sector is England-wide, as specific national procurement procedures and security standards can introduce additional regulatory or technical requirements in other nations.<sup>95</sup>

89. The CMA notes that Spine-enabled applications are only used by healthcare providers located in England.<sup>96</sup> Further, Isosec generates its revenues and sells to customers only in England.<sup>97</sup> This indicates that the appropriate geographic frame of reference is England, and not the UK.

### *Conclusion on geographic scope*

90. The CMA considers England to be the appropriate geographic frame of reference.

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<sup>93</sup> See eg: title 'Imprivata OneSign Spine Combined Workflow – Competition Overview' and reference to Isosec's pricing being [REDACTED] Merger Notice Annex MN7 [Annex DMN005.5], page 1; reference, under [REDACTED] in Merger Notice Annex MN7 [Annex DMN005.4], page 4; reference to Isosec being [REDACTED] in Merger Notice Annex MN6 [Annex DMN004.2], page 2. See also Merger Notice Annex MN7 [Annex DMN005.19], page 17.

<sup>94</sup> See eg references to both Imprivata's 'range of card readers that allow authentication using Imprivata OneSign' and SCW within Merger Notice Annex MN7 [Annex DMN005.2]. See also Imprivata document IMP\_000098, submitted with Imprivata First s109 Response, page 6.

<sup>95</sup> Merger Notice, paragraph 265.

<sup>96</sup> Note of call with [REDACTED].

<sup>97</sup> Merger Notice, paragraph 42.

### ***Conclusion on frame of reference***

91. For the reasons set out above, the CMA has considered the impact of the Merger in the supply of IAM solutions for access to Spine-enabled applications to healthcare providers in England.

### **Competitive assessment**

#### ***Horizontal unilateral effects***

92. Horizontal unilateral effects may arise when one firm merges with a competitor that previously provided a competitive constraint, allowing the merged firm profitably to raise prices or to degrade quality on its own and without needing to coordinate with its rivals.<sup>98</sup> Horizontal unilateral effects are more likely when the merging parties are close competitors.
93. The CMA assessed whether it is or may be the case that the Merger has resulted, or may be expected to result, in an SLC in relation to horizontal unilateral effects in the supply of IAM solutions for access to Spine-enabled applications to healthcare providers in England. As part of this assessment, the CMA has taken into account Imprivata's plans to start supplying its own VSC solution for access to Spine-enabled applications absent the Merger and the implications this may have on competition in the market.
94. In order to assess the likelihood of the Merger resulting in horizontal unilateral effects, the CMA considered:
- (a) market structure, including shares of supply;
  - (b) current closeness of competition between the Parties;
  - (c) future closeness of competition between the Parties;

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<sup>98</sup> [Merger Assessment Guidelines \(OFT1254/CC2, September 2010\)](#), from paragraph 5.4.1.

- (d) competitive constraints from current alternative suppliers of IAM solutions for access to Spine-enabled applications.

### *Market structure*

95. The evidence received by the CMA indicates that the only current suppliers of IAM solutions for access to Spine-enabled applications are:

- (a) Imprivata;
- (b) Isosec;
- (c) NHS-D (with its identity agent);
- (d) Entrust; and
- (e) to a more limited extent, Microsoft.<sup>99</sup>

96. The Parties submitted estimates of their own shares of supply in the supply of IAM solutions to NHS England-based healthcare providers, based on volumes and split by customer type.

97. The Parties submitted shares of supply estimates for NHS customers only. While some non-NHS healthcare providers need to access Spine-enabled applications, evidence from the Parties suggests that these represent only a small proportion of all the healthcare providers that need to access Spine-enabled applications.<sup>100</sup> The CMA therefore believes that estimates of shares of supply which include non-NHS customers requiring Spine access would not differ substantially from estimates for supply to NHS healthcare providers only.

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<sup>99</sup> For example, Note of call with [redacted], and Note of call with [redacted]. When discussing third party submissions, this Decision generally refers in two different ways to suppliers listed by the Parties as their competitors. As noted above, the evidence received by the CMA suggests that, other than the Parties, there are only three current suppliers of IAM solutions for access to Spine-enabled applications. When discussing third party submissions, this Decision refers to those three suppliers as 'competitors' – and refers to any other supplier listed by the Parties as a 'non-Spine IAM solutions supplier'.

<sup>100</sup> See footnote 79 above.

98. The CMA considers the Parties’ methodology for estimating their own shares of supply to be reasonably robust, for reasons discussed further below.

**Table 1: Parties’ estimates of shares of supply of IAM solutions for access to Spine-enabled applications to NHS England-based healthcare providers, based on volumes<sup>101</sup>**

Supplier	All NHS healthcare providers		Acute NHS healthcare providers		Non-acute NHS healthcare providers	
	No. licences	Share	No. licences	Share	No. licences	Share
Imprivata	[REDACTED]	[0-5]%	[REDACTED]	[0-5]%	[REDACTED]	[0-5]%
Isosec	[REDACTED]	[5-10]%	[REDACTED]	[5-10]%	[REDACTED]	[5-10]%
<b>Combined</b>	[REDACTED]	<b>[10-20]%</b>	[REDACTED]	<b>[10-20]%</b>	[REDACTED]	<b>[10-20]%</b>
Total market size	1,497,424		1,289,661		207,763	

Source: Parties’ estimates in the Parties’ Response to CMA Issues Letter of 6 April 2021.

99. The Parties were unable to provide detailed estimates of their competitors’ shares or to calculate shares in terms of revenues, and submitted that they do not have sufficient information on the value of other providers’ IAM solutions to meaningfully estimate total market size by value.<sup>102</sup> However, the Parties submitted that NHS-D

<sup>101</sup> To compute their own shares of supply, the Parties divided the number of active licences for IAM solutions for access to Spine-enabled applications each Party has issued by their estimate of the ‘total addressable user base’, ie an estimate of the number of potential users was used as proxy for the total market size. The Parties used SCW licence figures for Imprivata; for Isosec the Parties aggregated the maximum number of Identity Agent, MIA and VSC solution licences for each customer (to avoid double counting, as a single solution as employed by a single end user may encompass multiple product licences) across all Isosec’s NHS customers. For the ‘total addressable user base’, the Parties used their estimate of the total number of smartcards for access to Spine-enabled applications issued to NHS users. That estimate, in turn, was based on NHS-D’s publicly available staff headcount data in NHS staff categories the Parties deemed likely to employ IAM solutions as a proxy, and the Parties’ estimate of total number of Isosec and Entrust VSCs issued to NHS users. This was on the basis that almost all VSC users also hold a PSC (Parties’ Issues Letter Response; Merger Notice Annex MN13.3 Shares of supply methodology (smartcards)).

<sup>102</sup> Merger notice Annex MN13 (Shares of supply methodology, SSO SSPR), paragraph 1. The Parties’ estimates of Entrust’s volumes in the supply of VSC solutions for access to Spine-enabled applications includes only Entrust VSC solution licences procured centrally by NHS-D, so excludes any sales volumes generated from direct sales to healthcare providers outside of that procurement context.

would account for most of the rest of the market, with an estimated share of supply of more than 80%.<sup>103</sup>

100. The Parties submitted that their calculations are likely to overestimate the Parties' shares of supply, for several reasons.<sup>104</sup> However, evidence gathered by the CMA supported the conclusion that the data provided a reasonable estimate of market shares.<sup>105</sup>
101. The Parties' estimates of their own shares of supply indicate that the Merged Entity would have a relatively small combined share of supply. However, together with the Parties' submission that NHS-D has a share of supply of more than 80% (see paragraph 99 above), these also indicate that the market is highly concentrated. The large majority of customers (or potential customers) are using NHS-D's free PSC-based solution. The Parties' submissions and estimates indicate that, among commercial suppliers of IAM solutions for access to Spine-enabled applications (ie suppliers other than NHS-D), Isosec would have the largest share of supply and the Parties together represent over 50% of commercial supply to all NHS customer segments.
102. However, the CMA does not consider shares of supply to be a good indicator of the closest alternatives available to the Parties' customers in this case. Where products are differentiated or customers have diverse preferences, shares of supply may not be a good indicator of the closest alternatives available to merging firms' customers. Furthermore, share of supply estimates only provide a static view of the relative size of the suppliers active in the market at a given point in time. Given the level of differentiation between different providers' solutions (see eg paragraphs 146 and 158 below) and the CMA's forward-looking approach in its competitive assessment, the CMA has not placed substantial weight on historic shares of supply in its competitive assessment.

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<sup>103</sup> Parties' Issues Letter Response, paragraph 45.

<sup>104</sup> See eg Merger notice Annex MN13 (Shares of supply methodology, SSO SSPR), footnote 12.

<sup>105</sup> In particular, evidence received from NHS-D indicates that the Parties' 'total addressable user base' estimate for all NHS healthcare providers is generally in line with the number of registered identities authorised to access Spine-enabled applications.



*Current closeness of competition between the Parties*

*Parties' submissions*

103. The Parties submitted that Imprivata faces limited competitive constraint from Isosec, as Isosec's main products are a VSC solution and an identity agent, neither of which Imprivata currently supplies. Imprivata offers instead a 'full IAM solution' centred on its OneSign platform, a flexible SSO product with legacy healthcare system integration including facilitation of access to Spine-enabled application through the SCW add-on to OneSign, as well as wider identity management functionality.<sup>106</sup> As noted in paragraph 83 above, the Parties submitted that, within the product frame of reference defined by the CMA, the SCW add-on to OneSign is the only product of Imprivata's that currently overlaps with Isosec's solutions.
104. In addition, the Parties submitted that their offerings are highly complementary. Isosec's revenues are almost entirely driven by products that facilitating access to Spine-enabled applications. By contrast, Imprivata's only product facilitating access to Spine-enabled applications is SCW, which accounts only for a very small proportion of Imprivata's revenues.<sup>107</sup>
105. The Parties submitted that, while their respective solutions offer some advantages over NHS-D's 'standard' IAM solution, the Parties' respective solutions differ – both in the way in which they facilitate access to Spine-enabled applications and in the user experience they entail.
106. The Parties submitted that the VSC solution technology offered by Isosec does not address the re-authentication workflows that Imprivata's SCW provides.<sup>108</sup>

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<sup>106</sup> Merger Notice, paragraph 305.

<sup>107</sup> See eg Parties' Issues Letter Response, paragraphs 32-33.

<sup>108</sup> Imprivata's SCW add-on allows users to access again (and maintain active) previously initiated sessions, eg by tapping their staff ID badge on an RFID reader, even across different workstations: Parties' Issues Letter Response, paragraph 46; Merger Notice, paragraph 169.

Isosec's VSC solution currently provides no form of re-authentication, and always requires the use of a second factor of authentication (eg the user's passcode).<sup>109</sup>

107. The Parties also submitted that Imprivata's SCW product provides an experience that replicates some elements of a VSC solution (SCW enables clinicians to gain quick access to Spine-enabled applications by tapping their staff ID badge on an RFID reader and providing a second factor of authentication such as a PIN), but still requires a full log-in using a physical NHS smartcard at the beginning of each day (to generate credentials for reuse for the rest of the user's shift/day).<sup>110</sup>
108. The CMA has considered the differentiation between the Parties' current solutions and has further considered the extent of the competitive constraint between them in the following sections.

*Bidding data and prospective customers analysis*

109. The Parties submitted analysis of their past bidding data. The Parties' data contains information on the customer name, close date, product offered, and (incomplete) records of competitors which the Parties believe they may have been bidding against for each bidding opportunity recorded:
- (a) First, the Parties provided analysis of the competitor records in their respective datasets. The Parties' analysis shows that Isosec's data [X] Imprivata as a rival to Isosec's VSC solution, naming instead only [X], while Imprivata's data rarely cites Isosec as a competitor.
  - (b) Second, the Parties matched past bidding opportunities in their respective datasets to estimate the degree of overlap. The Parties used a partially automated procedure to match opportunities in their datasets based on customer names and closing dates (sometimes recorded differently in the Parties' data). The Parties' analysis results in a maximum of [X]% of Imprivata's SCW bids matched against Isosec's VSC solution and Isosec's identity agent (including MIA) bids, depending on the time period and

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<sup>109</sup> Parties' response of 8 January 2021 to RFI2, paragraph 16.4; Parties' Issues Letter Response, paragraph 46.

<sup>110</sup> Merger Notice, paragraphs 17 and 172.

products matched. It finds a maximum of [X]% of Isosec's VSC solution and identity agent bids matched against Imprivata's SCW bids in 2018-19. The Parties submitted that the extent of these overlaps may overstate the actual degree of competition between the Parties, particularly in light of the analysis of competitor records discussed above.<sup>111</sup>

110. The CMA identified the following limitations in the Parties' bidding data analysis:

- (a) The CMA does not consider the Parties' 'competitors field' analysis sufficiently robust to place substantial weight on it. For the vast majority of Imprivata's opportunities, the 'competitors' field does not identify any competitor, suggesting that there is potentially significant missing or incomplete data. Moreover, Isosec does not capture this information routinely at the time of the bid so populated this after the fact, specifically for the submission of the data to the CMA,<sup>112</sup> casting doubt on the accuracy of the information.
- (b) While the CMA would consider an overlap of [X]% in the Parties' bids as indicative of at least a moderate extent of competition between the Parties, the CMA does not consider the Parties' analysis based on bidding opportunities matching as sufficiently robust to place substantial weight on it. For example, Isosec's data does not include renewal opportunities, meaning that examples where Imprivata competed for opportunities for existing Isosec customers will not have been identified (while the total number of Imprivata opportunities is not affected), likely resulting in an underestimate of the proportion of Imprivata opportunities which match with an Isosec opportunity. In addition, when the Parties applied the same matching methodology to identify matches in a different product set (SSPR and SSO/AM opportunities), it highlighted potential flaws in the methodology. In particular, the methodology failed to highlight a match for an opportunity where one of the Parties had identified the other Party as a competitor in the 'competitors'

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<sup>111</sup> Parties' Issues Letter Response, paragraphs 48, 56, 57, Annex 3 and Annex 5.

<sup>112</sup> Email from the Parties to the CMA dated 26 April 2021.

field. This suggests that the matching methodology may underestimate the number of matched opportunities.

111. Given these limitations the CMA has not placed substantial weight in its competitive assessment on the bidding analysis. The CMA notes that, despite these limitations, the Parties' bidding data analysis does show at least a moderate extent of competitive interaction between the Parties.
112. In addition, the Parties submitted an opportunity matching analysis of their respective 'prospective customer' lists (customers to which the Parties expected to possibly close opportunities in the course of 2021). The Parties' analysis shows only [redacted] overlap between their prospective customers [redacted] are considered for Imprivata and Isosec respectively.<sup>113</sup>
113. The Parties' prospective customers analysis has the following limitations:
- (a) The CMA notes that the Parties' prospective customers analysis is likely to rely on incomplete data: the Parties submitted that some of Imprivata's prospective customers may not have been recorded on Imprivata's internal systems and thus not included in the data on which this piece of analysis relies on.<sup>114</sup>
  - (b) Further, this piece of analysis employs a similar matching procedure to that employed by the Parties for their bid matching analysis discussed above, so may be subject to similar limitations.
114. Given the limitations discussed above, the CMA has not placed substantial weight in its competitive assessment on the Parties' prospective customers analysis (or, indeed, on any of the bidding data detailed above).

*Parties' internal documents*

115. Evidence from Imprivata's internal documents indicates that Imprivata perceives Isosec as a [redacted]. The following examples show that Imprivata identified Isosec as a

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<sup>113</sup> Parties' Issues Letter Response, paragraphs 50-55 and Annex 4.

<sup>114</sup> Methodology Annex to Parties' response of 15 February 2021 to RF13, paragraph 22.

[REDACTED], and that Isosec represents a risk for Imprivata's [REDACTED]. These documents also illustrate Imprivata's attempts to manage such risk [REDACTED]:

- (a) One Imprivata internal document dated [REDACTED] states that Isosec was [REDACTED]. Isosec was described as [REDACTED].<sup>115</sup>
- (b) One Imprivata internal document dated [REDACTED] notes that Isosec's April 2020 deal to provide NHS-D with a VSC solution had strengthened Isosec's competitive position [REDACTED]. The deal had [REDACTED].<sup>116</sup>
- (c) Two of the four Imprivata [REDACTED] submitted to the CMA, [REDACTED], identify competition from Isosec [REDACTED].
  - (i) One such document, referring to Imprivata's [REDACTED], stated that the [REDACTED].<sup>117</sup> The Parties submitted that this document was prepared by [REDACTED] as input into a [REDACTED].<sup>118</sup> The Parties submitted that this [REDACTED].<sup>119</sup>
  - (ii) The second such document, still referring to Imprivata's [REDACTED], referred to Isosec's deal to provide NHS-D with a VSC solution having strengthened Isosec's competitive position [REDACTED]: it stated [REDACTED].<sup>120</sup>
- (d) In a document dated [REDACTED], Imprivata set out a strategy for [REDACTED]. This indicates that Imprivata believed its customers were selecting between [REDACTED]. This document included points on [REDACTED].<sup>121</sup> [REDACTED].
- (e) Several Imprivata documents referring to virtual smartcards (including one with a title dating it to [REDACTED]) set out a detailed marketing response to

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<sup>115</sup> Merger Notice Annex MN6 [Annex DMN004.2], pages 2 and 4.

<sup>116</sup> Merger Notice Annex MN7 [Annex DMN005.4], page 4.

<sup>117</sup> Merger Notice Annex MN7 [Annex DMN005.19], page 17.

<sup>118</sup> Parties' response of 8 January 2021 to RF12, paragraph 7.1. The CMA has inferred that the [REDACTED] referred to is Merger Notice Annex MN7 [Annex DMN005.5], given its filename [REDACTED], descriptions of Isosec and similar date [REDACTED].

<sup>119</sup> Parties' response of 8 January 2021 to RF12, paragraph 6.1.

<sup>120</sup> Merger Notice Annex MN7 [Annex DMN005.17], page 4.

<sup>121</sup> These included comments such as: '[REDACTED]'. See Merger Notice Annex MN7 [Annex DMN005.2].

Isosec.<sup>122</sup> This included items such as a [REDACTED]. The Parties submitted that this was [REDACTED].<sup>123</sup>

- (f) In a [REDACTED] document, Imprivata described Isosec [REDACTED] (prompting Imprivata to discuss internally the scope for it to [REDACTED]).<sup>124</sup> Other documents, dated [REDACTED] and [REDACTED], noted that one aim of Imprivata's own VSC solution was [REDACTED].<sup>125</sup> Another document, dated [REDACTED], stated [REDACTED].<sup>126</sup> Part of Imprivata's response also included [REDACTED].<sup>127</sup>

116. The CMA notes that the evidence set out above that Imprivata perceives Isosec as a competitive threat post-dates Isosec having begun to supply VSC solutions in 2019/2020. The CMA notes this is consistent with an increased demand for VSC solutions for access to Spine-enabled applications discussed above (see, for example, paragraph 51 above).

117. Further, the CMA notes that while Imprivata's internal documents discuss competitive constraints exerted by alternative suppliers of general IAM solutions, reference to alternative suppliers of IAM solutions for access to Spine-enabled applications largely related to Isosec only, with few mentions of constraints from other suppliers. These mentions of other suppliers have been discussed in further detail below, eg in paragraphs 141 and 149 below.

118. The CMA notes that, while Isosec has produced a limited number of internal documents, at least some of those identified Imprivata as a rival. In several documents prepared to present Isosec for sale, Isosec identified its two main competitors as [REDACTED]. These labelled Imprivata as a main competitor in certain areas

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<sup>122</sup> Merger Notice Annex MN20 [Annex DMN015.1], page 11. The same also appears in eg a document with a title dating it to September 2020: Merger Notice Annex MN20 [Annex DMN015.3], page 12.

<sup>123</sup> Parties' response of 14 December 2020 to RF11, paragraph 34.5.

<sup>124</sup> Imprivata document IMP\_000098, submitted with Imprivata First s109 Response, page 6.

<sup>125</sup> See eg the following, submitted with Imprivata First s109 Response: Imprivata document IMP\_000038, pages 4 and 6 ([REDACTED]); Imprivata document IMP\_000051, page 9.

<sup>126</sup> Imprivata document IMP\_000089, submitted with Isosec First s109 Response, page 9.

<sup>127</sup> Merger Notice Annex MN7 [Annex DMN005.5], page 1.

[redacted], but no similar qualifier against Imprivata.<sup>128</sup> One of these documents, however, indicates that [redacted].<sup>129</sup>

119. Given the above, the CMA has placed substantial weight in its competitive assessment on evidence from the Parties' internal documents (in particular, from Imprivata's documents) indicating that the Parties exercise a material constraint on one another.

### *Third party views*

120. Overall, the third party evidence received suggests that the Parties are not only competing but may be each other's most significant rivals and that there are very limited choices in terms of alternative suppliers in this space.<sup>130</sup> For example, one customer stated that '[t]here don't seem to be many IAM/SSO providers targeting NHS Organisations, I suspect Imprivata/ISOSEC probably have most of the market share'.<sup>131</sup> As an additional example, one framework partner stated: 'The only competition in this [v]ery specific market is between Imprivata and ISOSEC. The only other recent competitor to Imprivata was Caradigm which Imprivata acquired a few years ago'.<sup>132</sup>
121. Some other third parties expressed concerns about the number of alternative providers post-Merger leading to, for example, increased prices, and less innovation:
- (a) One customer mentioned that a reduction in choice and alternative technologies could lead to concerns that larger players such as Imprivata

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<sup>128</sup> Isosec internal documents, submitted with Isosec's response to the first section 109 notice (**Isosec First s109 Response**): ISO\_000003, page 5; ISO\_00004, page 5; ISO\_000017, page 12; ISO\_000080, page 15; ISO\_000082, page 10.

<sup>129</sup> Isosec document ISO\_000017, submitted with Isosec First s109 Response, page 12.

<sup>130</sup> Questionnaire responses by [redacted].

<sup>131</sup> Questionnaire response by [redacted]. See also eg the following similar comments from customers: 'Unsure [of the impact of the Merger] as there are very few significant competitors we are aware of in the Acute Healthcare sphere' (Questionnaire response by [redacted]); 'Not aware of other providers available. [...] There's very limited actual competition in this space already' (Questionnaire response by [redacted]); 'We do not believe that there is any competition in the healthcare market place other than the two vendors [Imprivata and Isosec]' (Questionnaire response by [redacted]).

<sup>132</sup> Questionnaire response by [redacted].

maintain their premium prices and become more dominant force in this niche segment.<sup>133</sup>

- (b) An Imprivata customer stated that the Merger could impact on the competitiveness of IAM offerings, as it had been exploring Isosec as an alternative, particularly for a VSC solution. In relation to any possible impact on its business specifically, this customer mentioned that the Merger '[c]ould impact our need for more cost effective solutions in the IAM place'.<sup>134</sup>
- (c) Another customer suggested that post-Merger there may be a loss of competitive dynamic in relation to development of new products, as Imprivata would feel less competitive pressure to keep innovating.<sup>135</sup>

122. The CMA asked third parties (including the Parties' customers and framework partners) to identify and rate alternative providers.<sup>136</sup> Response rates (and the number of responses in absolute terms) for these questions were relatively low. Those third parties that did respond to this question often identified a limited number of alternatives – responses that in themselves suggest the Parties are two of only a limited number of alternatives available to customers.<sup>137</sup> Overall these responses suggest that the Parties are competitors, although Isosec may represent a stronger competitive constraint on Imprivata than Imprivata does on Isosec.

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<sup>133</sup> Questionnaire response by [redacted]. Similarly, a [redacted] stated: '[the Merger] simplifies a solution stack for consumers, but will narrow the market of solutions': Questionnaire response by [redacted].

<sup>134</sup> Questionnaire response by [redacted].

<sup>135</sup> Note of call with [redacted].

<sup>136</sup> The CMA notes that it asked customers and other third parties to identify alternative suppliers of IAM solutions in general, and not for access to Spine-enabled applications specifically, in its questionnaires. The CMA also notes that the views of some of these third parties are reported in paragraphs 122 and 123 above as well.

<sup>137</sup> The CMA notes that this may be due to customers not being sufficiently informed about alternative options to their current suppliers. For example, one customer stated that it did not have a detailed knowledge of providers of VSC solutions, but the IT space was dynamic so there may now be suppliers of a VSC solution other than Isosec: Note of call with [redacted]. Another customer noted that it did not have a comprehensive knowledge of providers of IAM solutions enabling access to the Spine other than the Parties – as that is not a sector which it surveys: Note of call with [redacted]. In any event, references in paragraphs 139 and 151(a) below to the number of customers identifying alternatives to the Parties should be read in this context.



- (a) Half of the customer responses that cited alternative suppliers to Imprivata mentioned Isesec, and all of these gave it a relatively high score as a substitute (either 4 or 3).<sup>138</sup>
- (b) Of the customer responses citing alternative suppliers to Isesec, Imprivata was the alternative mentioned the least frequently.<sup>139</sup> By contrast, half of these customers mentioned Entrust<sup>140</sup> and some (a little less than half) mentioned NHS-D (see also discussion in the ‘Competitive Constraints from Alternative Suppliers’ section below).<sup>141</sup> No other alternatives were identified by these respondents.

123. Given the above, the CMA has placed substantial weight in its competitive assessment on evidence from third parties indicating that the Parties not only compete but may be each other’s most significant rivals.

*Conclusion on current closeness of competition*

124. The CMA considers that the evidence discussed above indicates that, notwithstanding the degree of differentiation between the Parties’ products for access to Spine-enabled applications, the Parties exercise a material constraint on one another in a market with few alternatives. More specifically, Isesec currently exerts a relatively strong competitive constraint on Imprivata, although Imprivata currently exerts a weaker competitive constraint on Isesec.

*Future closeness of competition between the Parties*

125. As noted in paragraph 34 above, the Parties submitted that, absent the Merger, Imprivata would begin supplying its own VSC solution to customers in the [REDACTED]. Imprivata’s internal documents show that Imprivata has put in place detailed [REDACTED] in

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<sup>138</sup> Questionnaire responses by eg [REDACTED]. The customers mentioned Microsoft, RSA, Citrix, FastPass, OneIdentity, My1Login and Symantec. However, the CMA notes that it asked customers to identify alternative suppliers for IAM solutions in general and not for access to Spine-enabled applications specifically. As noted at paragraph 97 above, the evidence received by the CMA suggests that only one of the suppliers cited in these customer responses – ie Microsoft – currently offers IAM solutions for access to Spine-enabled applications.

<sup>139</sup> Questionnaire response by [REDACTED].

<sup>140</sup> Questionnaire responses by eg [REDACTED].

<sup>141</sup> Questionnaire responses by eg [REDACTED].

the development of its own VSC solution for access to Spine-enabled applications. In light of this, as discussed in paragraph 34 above, the CMA considers that, absent the Merger, Imprivata would expand its product offering via the imminent launch of its own VSC solution for access to Spine-enabled applications. The CMA has considered how this development is likely to impact on closeness of competition between the Parties.

126. The Parties submitted that, while they market their products for use in (and procurement is managed similarly for) both acute and non-acute healthcare settings, Imprivata's own VSC solution may not prove to be a [redacted]. This was on the basis that Imprivata's VSC solution is envisaged to operate as an [redacted]. [redacted], Isosec's VSC solution is entirely cloud-based, offered on a standalone basis (apart from the need for dedicated identity agent software) and suitable for both larger and smaller healthcare providers (including primary healthcare providers that lack dedicated IT support or infrastructure).<sup>142</sup>
127. The CMA notes that, even if Imprivata's own VSC solution requires some IT expertise to install and maintain, this does not preclude it from competing with Isosec's VSC solution for a large proportion of customers. The CMA's analysis indicates that, as of December 2020, [redacted] of NHS customers for Isosec's VSC solution were acute healthcare providers<sup>143</sup> for which on-premises installation is more common.<sup>144</sup>
128. Moreover, the CMA considers that the evidence suggests that Imprivata will be able to use its strong existing position in IAM solutions (including solutions not for access to Spine-enabled applications) [redacted].<sup>145</sup> [redacted].<sup>146</sup> Similarly, some third parties

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<sup>142</sup> Merger Notice, paragraphs 256 and 327.

<sup>143</sup> Based on CMA analysis of Isosec's VSC solution sales volume data, as of December 2020. This data indicates that [redacted] of NHS customers for Isosec's VSC solutions were non-acute healthcare providers (for which on-premises installation is less common).

<sup>144</sup> Merger Notice, paragraph 22.

<sup>145</sup> The Parties estimate Imprivata's share of supply in the supply of IAM solutions (including solutions not for access to Spine-enabled applications) at around [40-50]% for all NHS customers ([50-60]% for acute care NHS customers; [0-10]% for non-acute care NHS customers). The CMA notes that the Parties' methodology to estimate these shares of supply is similar to that presented in relation to IAM solutions for access to Spine-enabled applications discussed in the [Market structure](#) section above and is thus subject to similar limitations (Annex 3.3 to Parties' response of 15 February 2021 to RF13).

<sup>146</sup> Imprivata document IMP\_000225, submitted with Imprivata First s109 Response.

(at least one customer and at least one competitor) indicated a preference to purchase IAM solutions from one supplier, and/or a trend of customers towards doing so.<sup>147</sup> This suggests that Imprivata may be able to cross-sell a VSC solution to some of its existing OneSign customers.

129. Imprivata's internal documents suggest that [redacted] was a key consideration in developing Imprivata's own VSC solution. These documents note that Imprivata wanted to ensure [redacted].<sup>148</sup> In addition, its internal documents indicate that Imprivata:

(a) sees the launch of a VSC solution that is [redacted] as a way to [redacted] from Isosec;<sup>149</sup>

(b) has been developing its own VSC solution as [redacted];<sup>150</sup>

(c) has been monitoring the [redacted] when developing Imprivata's own VSC solution;<sup>151</sup>

(d) [redacted].<sup>152</sup>

130. The CMA also notes that the documents mentioned above did not [redacted].

131. One Imprivata internal email provided a staff update on [redacted]. This email noted that [redacted]. The email said that Imprivata perceives [redacted].<sup>153</sup>

132. In addition, as discussed at paragraph 44 above, the Parties submitted that the Covid-19 pandemic has led to a substantial increase in demand for VSC solutions for access to Spine-enabled applications. Some third parties confirmed this trend, and that they expected the use of VSC solutions to keep increasing, with national licensing (not demand) being the limiting factor on growth of uptake.<sup>154</sup> Similarly, Isosec's customer and revenue data suggest rapid growth during 2020 in the

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<sup>147</sup> Note of call with [redacted]; Note of call with [redacted].

<sup>148</sup> Imprivata document IMP\_000405, submitted with Imprivata First s109 Response, page 16.

<sup>149</sup> Imprivata document IMP\_000012, submitted with Imprivata First s109 Response, pages 1 and 2.

<sup>150</sup> Imprivata documents IMP\_000038, pages 2–6, and IMP\_000068, submitted with Imprivata First s109 Response.

<sup>151</sup> Imprivata documents IMP\_000029 and IMP\_000030, submitted with Imprivata First s109 Response.

<sup>152</sup> Merger Notice Annex MN20 [Annex DMN015.1], page 6. As noted at paragraphs 149 and 150 below, while Entrust offers the only alternative VSC solution that is currently available, the CMA has not identified any evidence indicating that Imprivata has ever engaged in the same extent of benchmarking with respect to Entrust's solution.

<sup>153</sup> Imprivata document IMP\_000015, submitted with Imprivata First s109 Response.

<sup>154</sup> See eg Note of call with [redacted].

adoption of VSCs.<sup>155</sup> As demand for VSC solutions grows, the CMA considers that there will be increased competition between IAM suppliers directly in relation to VSC solutions. This increased competition will include increased competition between Iosec and Imprivata: Iosec already supplies a VSC solution and, as set out above, in line with Imprivata's own plans, the CMA has concluded that Imprivata would be expected to begin supplying a VSC solution in the near future. This is in line with the evidence in the Parties' internal documents.

133. Further, the Parties submitted that they expect Iosec's revenues to [redacted] between its 2019 and 2020 financial years due to the increase in the demand for VSC solutions.<sup>156</sup> The CMA considers that this suggests that, absent the Merger, Iosec would exert an even stronger competitive constraint on Imprivata in future.

#### *Conclusion on future closeness of competition*

134. The CMA considers that the evidence discussed above suggests that in the future, absent the Merger, the Parties would compete even more closely against each other in the supply of IAM solutions for access to Spine-enabled applications than they currently do. In particular, the CMA considers that Imprivata would exert a substantially stronger competitive constraint on Iosec in future than it currently does by developing and launching a new product expected to compete more directly with Iosec's VSC solution.

#### *Competitive constraints from current alternative suppliers*

135. As noted at paragraphs 95 and 101 above, the evidence indicates that the supply of IAM solutions for access to Spine-enabled applications is highly concentrated and the only current suppliers besides the Parties are NHS-D (with its identity agent), Entrust and – to a more limited extent – Microsoft.

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<sup>155</sup> Iosec's VSC solution revenues [redacted]. Of the [redacted] new customers Iosec gained in 2020 (equal to [redacted]% of its total number of customers in 2020), [redacted] purchased Iosec's VSC solution. Annex RF13.2 to Parties' response of 15 February 2021 to RF13.

<sup>156</sup> Merger Notice, paragraphs 40 and 50.

### *NHS-D*

136. The Parties submitted that access to Spine-enabled applications does not require the use of an IAM solution other than a PSC and an identity agent (both of which are provided centrally free of charge by NHS-D) and that the vast majority of Spine access is currently undertaken with no form of additional IAM solution.<sup>157</sup> This is consistent with the Parties' submission that NHS-D accounts for more than 80% of total user licences for IAM solutions for access to Spine-enabled applications (see paragraph 99 above).
137. The Parties also submitted that 'Isosec is mainly competing against the (free of charge) NHS PSC or NHS Identity Agent', and that '[f]or the last 17 years, most of what Isosec has done has been aimed at providing an alternative to the NHS Digital supplied IA [ie identity agent] and/or PSC'.<sup>158</sup>
138. The CMA notes that customers are willing to purchase Isosec's VSC solution at a cost when they could rely on NHS-D's PSC solution for free. Some customers also purchase Isosec's PSC solution (ie its identity agent) when, equally, they could rely on the free NHS-D PSC solution which suggests that the preference for Isosec's solutions is not only explained by a preference for VSC over PSC solutions. The Parties submitted that Isosec's identity agent, which may be used on its own or in conjunction with Isosec's VSC solution, provides both higher performance and reliability than NHS-D's identity agent,<sup>159</sup> and one customer made similar comments.<sup>160</sup>
139. Evidence of the constraint that NHS-D exerts on Isosec is somewhat mixed. On the one hand, around half of the customer responses to CMA questionnaires which cited alternative suppliers to Isosec mentioned NHS-D as the most attractive – if not also the only – alternative to Isosec.<sup>161</sup> On the other hand, Isosec internal documents identify Imprivata and [redacted] as Isosec's main competitors, and only one

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<sup>157</sup> Parties' Issues Letter Response, paragraphs 39, 40, 59 and 76.

<sup>158</sup> Merger Notice, paragraph 281. The Parties described these NHS-D products as 'the incumbent used by every potential customer': Parties' Issues Letter Response, paragraph 39.

<sup>159</sup> Merger Notice, paragraph 19.

<sup>160</sup> Note of call with [redacted].

<sup>161</sup> Questionnaire responses by [redacted]. All except the first of these identified NHS-D as the only alternative to Isosec.

Isosec document submitted to the CMA suggests that [redacted] is a competitor.<sup>162</sup> Isosec explained the lack of references to NHS-D as a competitive constraint by arguing that because NHS-D's products are supplied free at the point of supply and have existed as long as Isosec has, historically Isosec has not treated NHS-D in its internal documents in the same way as it would a commercial competitor – and that, while Isosec employees' internal discussions of NHS-D are very frequent, they tend not to be recorded.<sup>163</sup> The CMA notes that the lack of references to NHS-D as a competitive constraint in Isosec's internal documents contrasts with the Parties' submissions about Isosec competing against and focusing its efforts on providing alternatives to NHS-D products.

140. Evidence of the constraint NHS-D exerts on Imprivata generally suggests that any constraint is limited.
141. Evidence from the Parties' customers suggests that NHS-D is not a close competitor to Imprivata: no customers responding to the CMA's questionnaire identified NHS-D as an alternative to Imprivata. Some Imprivata internal documents suggest that Imprivata sees NHS-D's PSC solution as [redacted], however these documents also identify [redacted]. The Imprivata [redacted] referred to at paragraph 115(c)(i) above noted that that NHS-D's solution had some relative [redacted].<sup>164</sup>
142. In light of the discussion above, the CMA considers that NHS-D currently exerts a moderate competitive constraint on Isosec and a weaker competitive constraint on Imprivata.
143. While (as noted in paragraph 129 above) Imprivata's internal documents suggest that competing with Isosec was a key consideration in developing Imprivata's own VSC solution, the CMA has not identified any Imprivata internal documents suggesting that competing with NHS-D's solution played any role in Imprivata's development of a VSC solution.

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<sup>162</sup> Merger Notice Annex MN7 [Annex DMN005.1], page 2, lists [redacted].

<sup>163</sup> Parties' Issues Letter Response, paragraphs 40-41.

<sup>164</sup> Merger Notice Annex MN7 [Annex DMN005.5].

144. The CMA considers that in future the Parties will become closer competitors (as Imprivata develops a VSC solution) and expects demand for VSC solutions to increase (see paragraph 44 above). Therefore, the CMA expects that, since NHS-D does not offer a VSC solution, the constraint NHS-D exerts on both Parties is likely to remain moderate at best.
145. Finally, the Parties stressed the role of NHS-D as the ‘the gatekeeper’ for Spine access, setting the terms on which third parties are able to compete in any segment characterised by the facilitation of that access, regardless of the specific access technology used for access.<sup>165</sup> This is discussed in more detail in the [Barriers to entry and expansion](#) section below.

#### *Entrust*

146. The Parties submitted that Entrust’s VSC solution is broadly similar to that of Isosec: it replaces the need for an NHS PSC by storing a user’s credentials in a secure remote location. However, in contrast to Isosec’s VSC solution (which requires users to scan a QR code that appears on their desktop using a smartphone, and to enter a password), authentication via Entrust’s VSC solution is automatic and hands-free, using the clinician’s smartphone and a Bluetooth connection.<sup>166</sup>
147. The Parties also submitted that Entrust’s VSC solution has been integrated with NHS-D’s identity agent, rapidly becoming the NHS’s preferred VSC solution.<sup>167</sup> The Parties noted that Entrust VSC solution is presented on NHS-D’s website as having been ‘built by NHS Digital in partnership with Entrust’,<sup>168</sup> and NHS-D has funded it centrally until March 2023 [✂].<sup>169</sup> Further, the Parties submitted that they are aware of [✂].
148. NHS-D has confirmed publicly that it has currently funded the VSC solutions of both Entrust and Isosec, for a limited number of users, to help respond to the

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<sup>165</sup> Parties’ Issues Letter Response, paragraph 77.

<sup>166</sup> Merger Notice, paragraph 145.

<sup>167</sup> Merger Notice, paragraphs 145 and 147.

<sup>168</sup> Parties’ Issues Letter Response, paragraph 66. Also see [NHS-D’s website](#) (accessed 12 April 2021).

<sup>169</sup> Merger Notice, paragraph 147.

Covid-19 pandemic. NHS organisations approved to use Iosec's VSC solution under an NHS-D contract can also ask for the licence to be extended to the end of March 2022.<sup>170</sup>

149. While Entrust offers the only alternative VSC solution that is currently available, and there is evidence that NHS-D has helped to promote Entrust's VSC solution to customers, the CMA also considers that Entrust's solution suffers from limitations which may limit the extent to which it provides a constraint to the Parties. Evidence from the Parties' internal documents indicates that Entrust's VSC solution is not viewed by the Parties as a strong alternative to that of Iosec. One issue that is frequently mentioned with respect to Entrust's VSC solution is that customers find the need for Bluetooth dongles unappealing:

(a) An Imprivata internal email recorded NHS-D having said, [REDACTED].<sup>171</sup>

(b) An Iosec internal document described Entrust's VSC solution as [REDACTED]. This document described, in contrast, Iosec's VSC solution as [REDACTED].<sup>172</sup>

150. The CMA notes also that, while several Imprivata internal documents show that [REDACTED], the CMA has not identified any evidence indicating that Imprivata has ever engaged in the same extent of [REDACTED].

151. Evidence from the Parties' customers is consistent with evidence from the Parties' internal documents described above:

(a) While half of the customer responses to CMA questionnaires citing alternative suppliers to Iosec mentioned Entrust as an alternative to Iosec, all but one of the relevant customers provided a very low rating for Entrust's relative competitive strength. These low ratings were due to Entrust's VSC solution needing a mobile device with a Bluetooth connection, being incompatible with

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<sup>170</sup> See [Entrust virtual smartcard - NHS Digital and Virtual Smartcard Service provided by Iosec - NHS Digital](#).

<sup>171</sup> Imprivata document IMP\_000225, submitted with Imprivata First s109 Response.

<sup>172</sup> Iosec document ISO\_000017, submitted with Iosec First s109 Response, page 12.



iOS devices and being unable to support automated authentication procedures.<sup>173</sup>

(b) No customer identified Entrust as an alternative to Imprivata's current solution.

152. Certain NHS webpages state that Entrust's VSC solution is not approved by NHS-D to enable use of an electronic prescription service currently (although NHS-D has been 'working with Entrust' on this, at least as at December 2020). By contrast, Isosec's VSC solution is approved to enable this.

153. Taking all available evidence in the round, the CMA considers that Entrust currently exerts, at most, a moderate competitive constraint on the Parties.

154. In addition, the CMA has received no evidence indicating that Entrust would, in future, place any greater competitive constraint on the Merged Entity than it does currently on Isosec.

155. In light of the discussion above, the CMA considers that Entrust's VSC solution would not exert a strong competitive constraint on the Merged Entity's IAM solutions.

### *Microsoft*

156. The Parties submitted that Imprivata is often faced with sales situations where its main competitive constraint is the customer's option of relying on Microsoft products, for which a simple purchasing framework is already available, and which are generally available at lower or no incremental cost. The Parties also submitted that Microsoft is building on its incorporation of open-standard authentication into hardware running Windows 10 via its Windows Hello for Business product, to increase adoption for healthcare applications.<sup>174</sup>

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<sup>173</sup> Questionnaire responses by eg [REDACTED] and Note of call with [REDACTED]. In addition, another customer told the CMA that Entrust's VSC solution did not work for its purposes, but without explaining why: Note of call with [REDACTED].

<sup>174</sup> Merger Notice, paragraphs 293 and 295. For example, the Parties submitted that users will often rely on features included in the standard Windows environment, eg a built-in password reset functionality or Microsoft Authenticator.

157. The Parties submitted that the NHS Identity/CIS2 roll-out is initially focusing on authentication via tablets running Windows 10 using Windows Hello for Business, and that NHS-D is working on other methods, including using Windows desktops based on the FIDO2 standard.<sup>175</sup>
158. NHS-D has published the list of authentication methods currently offered by NHS Identity/CIS2. That list includes Microsoft's Windows Hello for Business.<sup>176</sup> Its current usage is limited, however, in the following respects:
- (a) NHS Identity/CIS2 currently only provides access to Summary Care Records applications, with a particular focus on meeting the needs of mobile users such as paramedics.<sup>177</sup> Thus it does not facilitate other important Spine-enabled applications.
  - (b) Another factor currently limiting the wider adoption of Microsoft's IAM solution to authenticate into Spine-enabled applications leveraging on NHS Identity/CIS2 is that this solution is restricted to certain devices 'under the sole control of a single End-User'.<sup>178</sup> A third party told the CMA that the requirement for Windows Hello For Business that each user has their own device limits the economic viability of that solution.<sup>179</sup>
159. Given the limitations noted above, the CMA considers that Microsoft currently exerts only a limited competitive constraint on the Parties' IAM solutions for access to Spine-enabled applications. This is also consistent with the CMA having received no evidence that Microsoft's IAM solutions can be used (or, in the short-term, are likely to be used) to authenticate into Spine-enabled applications by leveraging on the current CIS standards-based system, as opposed to NHS Identity/CIS2. On the contrary, third parties specifically told the CMA that

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<sup>175</sup> Merger Notice, paragraphs 295 and 157.

<sup>176</sup> [5. ACR and AMR Values - NHS Digital](#) (accessed by the CMA on 30 March 2021). The CMA understands that Microsoft's authentication method is neither PSC-based nor VSC-based.

<sup>177</sup> Merger Notice, paragraph 155.

<sup>178</sup> [5. ACR and AMR Values - NHS Digital](#) (accessed by the CMA on 30 March 2021).

<sup>179</sup> Note of call with [REDACTED].

Microsoft's IAM solutions cannot be used in this way, based on the current CIS standards:

(a) Microsoft told the CMA that none of Microsoft's products can be used to authenticate to Spine-enabled applications, as it does not have necessary accreditation by NHS-D.<sup>180</sup> [REDACTED].<sup>181</sup>

(b) A third party ([REDACTED]) confirmed to the CMA that [REDACTED].<sup>182</sup>

160. While the CMA has seen documentary evidence that generally identifies Microsoft [REDACTED],<sup>183</sup> it has found no evidence of Imprivata discussing Microsoft as a [REDACTED]. Similarly, with one exception [REDACTED],<sup>184</sup> Isosec's internal documents do not identify Microsoft [REDACTED].

161. On the basis of the evidence set out above, the CMA considers it unlikely that Microsoft would exert a strong competitive constraint on the Merged Entity in the near future.

#### *Conclusion on competitive constraints from current alternative suppliers*

162. In light of the discussion above, the CMA considers that:

(a) NHS-D currently exerts a moderate competitive constraint on Isosec and a weaker competitive constraint on Imprivata, and in the future the constraint NHS-D exerts on both Parties is likely to be moderate at best;

(b) Entrust currently exerts at most a moderate competitive constraint on the Parties and would not exert a strong competitive constraint on the Merged Entity's IAM solutions for access to Spine-enabled applications; and

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<sup>180</sup> Note of call with Microsoft, paragraphs 3.

<sup>181</sup> Note of call with [REDACTED].

<sup>182</sup> Note of call with [REDACTED].

<sup>183</sup> For example, see Imprivata document IMP\_000136, page 8, submitted with Imprivata First s109 Response.

<sup>184</sup> Merger Notice Annex MN7 [Annex DMN005.1], page 2.

- (c) Microsoft exerts, and is likely to exert in the future, only a limited competitive constraint on the Parties.

163. Taking the available evidence in the round, the CMA considers that the limited number of alternative suppliers of IAM solutions for access to Spine-enabled applications currently exert differing competitive constraints on the Parties ranging from weak to moderate. Further, the CMA considers that these alternative suppliers are not likely to exert a stronger competitive constraint on the Merged Entity in future.

#### *Conclusion on horizontal unilateral effects*

164. For the reasons set out above, the CMA believes that the Parties currently exert a material constraint on each other in a highly concentrated market with few alternatives. However, the CMA considers that looking only at the current market structure, and current closeness of competition between the Parties, does not fully capture the nature of the constraint the Parties exert on each other. As noted at paragraph 93 above, as part of its competitive assessment the CMA has taken into account Imprivata's plans to start supplying its own VSC solution for access to Spine-enabled applications absent the Merger and the implications this may have on competition in the market. The CMA believes that the Parties would be likely to compete more closely in the future. In particular, the CMA considers that Imprivata would exert a substantially stronger competitive constraint on Isosec in future than it does currently, following the launch of Imprivata's own VSC solution.<sup>185</sup>

165. The CMA's competitive assessment is that current alternative suppliers of IAM solutions for access to Spine-enabled applications exert differing competitive constraints on the Parties, ranging from weak to moderate. In particular, NHS-D provides its PSC-based solutions to NHS customers at no cost, and at least some customers indicated that Isosec's solution, in particular, provides better performance. Entrust likewise has only one product in the market, a VSC solution

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<sup>185</sup> The CMA considered whether to assess current and future competition between the Parties separately but found it appropriate to consider these two aspects together. This was based on the importance of current competition as the context for assessing the anticipated increase in that competition in the future, for example with internal documents suggesting that the development and imminent launch of Imprivata's new product is in response to current competition from Isosec.

suffering from limitations which may reduce the constraint it exerts on the Parties. Microsoft's IAM solution for access to Spine-enabled applications currently has limited usage. The CMA considers there would be insufficient competition from alternative suppliers to constrain the Merged Entity in the future.

166. On that basis, the CMA has found that the Merger raises significant competition concerns as a result of horizontal unilateral effects in relation to the supply of IAM solutions for access to Spine-enabled applications to England-based healthcare providers.

### ***Barriers to entry and expansion***

167. Entry, or expansion of existing firms, can mitigate the initial effect of a merger on competition, and in some cases may mean that there is no SLC. In assessing whether entry or expansion might prevent an SLC, the CMA considers whether such entry or expansion would be timely, likely and sufficient.<sup>186</sup>

#### *Parties' submissions*

168. The Parties submitted that, while many IAM solution providers have the technology, technical expertise and capacity to provide solutions with general IAM functionality, access to and interoperation with NHS infrastructure raises additional technical challenges. However, these challenges are manageable, as is suggested by a small company like Iosec being able to develop a well-received identity agent and a VSC solution, with relatively limited investment.<sup>187</sup>
169. The Parties submitted that companies could use a presence established in one healthcare IAM product area to expand into another, to reduce potential technical or reputational barriers to entry/expansion associated with supplying the NHS.<sup>188</sup>
170. The Parties also noted that sponsorship from NHS bodies such as NHS-D and NHSX enables this process to be accelerated, for example by funding initial orders

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<sup>186</sup> [Merger Assessment Guidelines \(OFT1254/CC2, September 2010\)](#), from paragraph 5.8.1.

<sup>187</sup> Merger Notice, paragraphs 405 and 407.

<sup>188</sup> The Parties submitted this was the case with Entrust's VSC solution: Merger Notice, paragraph 411.

or providing application programming interface (**API**) access, and helping new entrants to overcome potential challenges regarding the need for customer visibility and acceptance of its products.<sup>189</sup> The Parties also described NHS-D as the ‘gatekeeper’ for Spine access, and setting the terms on which providers are able to compete in this space.<sup>190</sup>

171. In terms of VSC solutions specifically, the Parties submitted that the technology required for IAM components such as VSC solutions and identity agents is well recognised and established, which would facilitate entry.<sup>191</sup> To the extent that the Spine’s unique technical requirements and related smartcard public key infrastructure (**PKI**) requirements create challenges, these are being reduced or removed in various ways, for example via NHS-D’s new ‘Requirements framework for Virtual Smartcard solutions to be assessed’ (**Assurance Framework for VSC Solutions**)<sup>192</sup> that creates a transparent pathway for new providers of VSC solutions to enter.<sup>193</sup> The Parties submitted that Isosec understands that [X] are each working to develop a VSC solution, or intend to do so.<sup>194</sup>
172. As noted in paragraph 45 above, a new authentication service called NHS Identity/CIS2, which relies on open standards, is currently at an early stage in its published roadmap, and has limited current usage. The Parties submitted that barriers to entry in the supply of healthcare-focused solutions will reduce as the adoption of open standards increases, making it less challenging for general technology companies and IAM solution providers to expand into healthcare, including by supplying NHS England customers.<sup>195</sup> The Parties submitted that

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<sup>189</sup> Merger Notice, paragraph 413.

<sup>190</sup> See eg Parties’ Issues Letter Response, paragraphs 77, 85 and 100.

<sup>191</sup> Merger Notice, paragraph 412.

<sup>192</sup> The NHS-D’s Assurance Framework for VSC Solutions currently encompasses about 70 defined requirements or ‘attributes’ that any virtual smartcard solution must meet. These requirements cover the technical, operational and security aspects of the solution and provider organisation. Each requirement has assessment criteria, which include documentation and video artefacts, online demonstrations, certifications (e.g. Cyber Essentials Plus) and external penetration testing reports. Merger Notice, paragraph 148. NB Isosec’s VSC solution complies with this framework: see ‘[Virtual Smartcard Service provided by Isosec - NHS Digital](#)’.

<sup>193</sup> Merger Notice, paragraph 414. With regard to the role of NHS-D’s new Assurance Framework for VSC Solutions in facilitating further entry, see also Parties’ Issues Letter Response, paragraphs 61 and 78.

<sup>194</sup> Merger Notice, paragraph 280.

<sup>195</sup> The Parties noted, in particular, NHS-D’s move to expand NHS Identity/CIS2 using open standards, including an OpenID Connect based solution and using FIDO standards for device-based biometric authentication without smartcards. See eg Merger Notice, paragraphs 277-278, and Parties’ Issues Letter Response, paragraphs 61 and 79.

NHS-D having stated publicly its plans to deprecate support for IAM technology relating to CIS-based authentication would further incentivise third party application providers to adapt their products to CIS2, regardless of any action by the Merged Entity.<sup>196</sup>

*Parties' internal documents*

173. While the Parties' internal documents generally do not contain much discussion on the barriers to entry/expansion, the CMA notes the following:

- (a) The Parties' internal documents indicate that Isosec has a strong reputation within the NHS and with its customers.<sup>197</sup>
- (b) One Isosec document states [REDACTED].<sup>198</sup>
- (c) Imprivata's internal documents indicate that support from NHS-D plays an important part in the VSC solution development process.<sup>199</sup> They also show that, in developing its own VSC solution, Imprivata wanted to ensure that its solution was in line with security guidelines laid out by NHS-D.<sup>200</sup>
- (d) Some of Imprivata's internal documents suggest that access to Isosec's contacts with key [REDACTED] and knowledge of the technical requirements for accessing [REDACTED].<sup>201</sup> The CMA considers that the fact that Imprivata saw value in acquiring these by way of a merger suggests that such relationships and knowledge are important for succeeding in the market, and are not easy to develop organically, even for a established supplier of IAM solutions to healthcare customers.

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<sup>196</sup> Parties' Issues Letter Response, paragraph 83.

<sup>197</sup> For example, Isosec noted in an internal document that [REDACTED].

<sup>198</sup> Isosec document ISO\_000017, page 13, submitted with Isosec First s109 Response.

<sup>199</sup> See documents submitted with Imprivata First s109 Response such as Imprivata document IMP\_000076. This notes that [REDACTED].

<sup>200</sup> Imprivata document IMP\_000004, submitted with Imprivata First s109 Response.

<sup>201</sup> See eg the Imprivata internal document noting, on the Merger's aim: [REDACTED]. See Merger Notice, Annex MN6 [Annex 004.1] page 3.

174. In terms of VSC solutions specifically, the Parties' internal documents and submissions indicate that Imprivata will have taken at least [redacted], and Isosec took just over [redacted], to develop and launch a VSC solution for access to Spine enabled applications.<sup>202</sup> Further, one Isosec internal document states that '[redacted]'.<sup>203</sup>
175. Specifically with regard to the shift to NHS Identity/CIS2 standards (and away from the existing CIS standards), one Imprivata internal document suggests uncertainty around when NHS Identity/CIS2 will have been fully rolled out. This document states that [redacted].<sup>204</sup>

*Third party views*

176. The CMA considered evidence provided by third parties on barriers to entry and expansion in relation to IAM solutions, VSC solutions specifically, and NHS Identity/CIS2 specifically. The CMA has not identified any third party evidence to suggest that there will be timely or likely entry in relation to the supply of IAM solutions for access to Spine-enabled applications, including VSC solutions, to mitigate the risk of any SLC arising from the Merger. Nor has the CMA received any third party evidence indicating that any NHS Identity/CIS2-facilitated entry and/or expansion would be timely, likely and sufficient.

*Third party views in relation to IAM solutions*

177. Responses from third parties identified a number of barriers to entry in IAM solutions.
178. First, third party responses to CMA questionnaires indicate that reputation and track record are important to customers when choosing a supplier of IAM solutions for access to Spine-enabled applications. The majority of third party respondents noted that a supplier's reputation and track record is an important or very important factor in choosing a supplier. This is likely to be a significant barrier to entry for new entrants when competing with established market players. Third party

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<sup>202</sup> Merger Notice, paragraph 193.

<sup>203</sup> Merger Notice Annex MN6 [Annex DMN004.4], page 13.

<sup>204</sup> Merger Notice Annex MN6 [Annex DMN004.1], pages 15 and 20.



comments (such as the following) suggest that customers generally tend to prefer known suppliers that have already demonstrated credibility. The CMA considers that this is likely to be a significant, albeit not insurmountable, barrier to entry:

- (a) One competitor noted product quality/reliability was very important, as ‘in the healthcare space, patients’ health and sensitive personal data is at stake’.<sup>205</sup>
- (b) A community hospital customer explained that an organisation which can demonstrate a proven track record in the healthcare industry is helpful in demonstrating they have an understanding of the operational environment in which their products can be used.<sup>206</sup>
- (c) While customers generally tended to prefer known suppliers with a proven credibility, another customer confirmed that it purchased an Isosec product at a time when Isosec ‘had no previous sales, but had a good technical knowledge’.<sup>207</sup>

179. The CMA notes that the main solutions introduced in the last five or so years (eg Isosec’s VSC solution, Imprivata’s SCW and Entrust’s VSC solution) are from suppliers already providing other IAM solutions (if not other Spine-related solutions) to the NHS. While Microsoft has also started some limited provision of a solution, as explained above, its solution currently only provides access to a small sub-set of applications (ie Summary Care Records applications).

180. Second, most third party respondents considered the NHS endorsement/approval to be an important or very important factor. Customers mentioned that they ‘need to use approved, warranted systems for national applications’<sup>208</sup> and that ‘the overall solution must conform’ to NHS-D’s ‘warranted environment specification in order to maintain support and the right-to-use the business critical applications’.<sup>209</sup>

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<sup>205</sup> Questionnaire response by [redacted].

<sup>206</sup> Questionnaire response by [redacted]. Similarly, a [redacted] ([redacted]) stated that ‘aside from cost, this [reputation and track record] tends to be the biggest factor when NHS buy technology – needs to be proven in the NHS’. See questionnaire response by [redacted]. Another [redacted] ([redacted]) also marked reputation/track record as a very important factor and noted that this is difficult for suppliers to ‘overcome in the NHS’. See questionnaire response by [redacted].

<sup>207</sup> Questionnaire response by [redacted].

<sup>208</sup> Questionnaire response by [redacted].

<sup>209</sup> Questionnaire response by [redacted]. Questionnaire response by [redacted].

Some third party comments indicate that this may be a barrier to entry in the supply of IAM solutions for access to Spine-enabled applications.<sup>210</sup> On the other hand, two other customers mentioned that endorsement by NHS was useful, but not essential.<sup>211</sup>

181. Finally, third parties indicated that customers face switching costs when changing their IAM solutions provider and may be reluctant to do so:<sup>212</sup>

- (a) Customers indicated that switching to a different IAM solutions provider would involve costs and a variable amount of time, up to one year.<sup>213</sup> One customer said that it hoped to avoid the need to change its technology while it is still addressing the impact of the Covid-19 pandemic.<sup>214</sup>
- (b) One non-Spine IAM solutions supplier stated that switching enterprise software can be an ‘expensive and time-consuming process’ due to ‘existing integrations’.<sup>215</sup> On the other hand, this supplier noted that ‘ultimately, switching is possible and occurs where you have a motivated customer’.

*Third party views in relation to VSC solutions*

182. Evidence from third parties on the time required to introduce a VSC solution corresponded with information the CMA had received from the Parties. As noted at paragraph 174 above, Imprivata will have taken at least [REDACTED], and Isosec took just over [REDACTED], to develop and launch a VSC solution for access to Spine-enabled applications. Third parties provided similar input on likely timelines:

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<sup>210</sup> For example, one customer told the CMA that the need for IAM solutions to be approved by NHS-D before being used for authentication to Spine-enabled applications significantly limits the number of providers of such solutions. See note of call with [REDACTED]. Additionally, ([REDACTED]) stated that it does not provide IAM-related services for NHS [REDACTED] work as that would require a specific authorisation by NHS-D. See questionnaire response by [REDACTED].

<sup>211</sup> Questionnaire responses by [REDACTED] and [REDACTED].

<sup>212</sup> The CMA notes that customers’ responses likely relate to current competition, i.e. in IAM solutions operating with the current CIS infrastructure. At least some customers were not aware of NHS Identity/CIS2 but considered that even if open standards were introduced solutions for access to the Spine may remain a small market: Note of call with [REDACTED]. One customer was aware of NHS Identity/CIS2, but thought that it would not be fully rolled out for a long time: Note of call with [REDACTED].

<sup>213</sup> Questionnaire responses by [REDACTED] and [REDACTED].

<sup>214</sup> Note of call with [REDACTED].

<sup>215</sup> Questionnaire response by [REDACTED] (see also similar questionnaire response by [REDACTED]).

- (a) One customer told the CMA that it is not easy to replicate a VSC solution, as it relies on a very specific technology.<sup>216</sup>
- (b) A competitor told the CMA that the cost and time involved in developing a VSC solution would depend on a number of factors including the number of staff working on the project and the level of their expertise. With the correct level of expertise on PKI standards and how smart technology operates, a supplier could potentially develop a VSC solution in one to three years.<sup>217</sup>

183. Consistent with the Parties' submissions, a third party ([REDACTED]) has told the CMA that the new Assurance Framework for VSC Solutions is designed to facilitate the assessment of suitability of potential VSC solutions, to enable an easier roll-out of VSC solutions for access to the Spine.<sup>218</sup> The CMA also heard from one third party ([REDACTED]) that the Assurance Framework for VSC Solutions is likely to benefit potential providers of VSC solutions: if a new provider's product meets the framework's requirements, this is likely to strengthen the provider's brand and market profile.<sup>219</sup> NHS-D told a CSU (in an email seen by Imprivata) that the new Assurance Framework for VSC Solutions could help to assess other providers of VSCs, but further work needed to be done to 'support expanding this marketplace'.<sup>220</sup>

*Third party views in relation to NHS Identity/CIS2*

184. It appears clear that part of the intention behind the roll-out of NHS Identity/CIS2 is to reduce the barriers to entry in the supply of IAM solutions for Spine-enabled applications, and specifically reduce the level of investment and time required to develop a new solution and to obtain accreditation from NHS-D.<sup>221</sup> One non-Spine IAM solutions provider told the CMA that, should authentication to Spine-enabled applications become open standard-based, its existing solution (which is

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<sup>216</sup> Note of call with [REDACTED].

<sup>217</sup> Note of call with [REDACTED].

<sup>218</sup> Specifically, [REDACTED] confirmed that if a product meets the framework's requirements, it will be considered in compliance with NHS-D security requirements. Note of call with [REDACTED].

<sup>219</sup> Note of call with [REDACTED].

<sup>220</sup> Imprivata documents IMP\_000224 and IMP\_000225, submitted with Imprivata First s109 Response.

<sup>221</sup> Note of call with [REDACTED].

based on proprietary standards) could be technically compatible with open standard-based authentication to the Spine.<sup>222</sup>

185. As noted at paragraph 158 above, third party evidence received by the CMA indicates that the current usage of NHS Identity/CIS2 is limited.
186. Furthermore, some third parties had general reservations about the credibility of timelines for rolling out NHS Identity/CIS2,<sup>223</sup> and projects like it (as similar technology migrations within the NHS took longer than expected).<sup>224</sup>

*CMA's analysis*

187. As noted above, in assessing whether entry or expansion might prevent an SLC from arising, the CMA considers whether such entry or expansion would be timely, likely and sufficient.<sup>225</sup>
188. The CMA has not received any evidence to suggest that there will be timely or likely entry in relation to the supply of IAM solutions for access to Spine-enabled applications, including VSC solutions, to mitigate the risk of any SLC arising from the Merger.
189. Specifically in relation to VSC solutions, the CMA notes the following:
  - (a) While NHS-D's new Assurance Framework for VSC Solutions may potentially facilitate further entry, the CMA understands that, as at late January 2021, no potential entrant had [REDACTED].<sup>226</sup>
  - (b) The CMA has received no evidence from the Parties, or any other source, that could substantiate the Parties' arguments that suppliers not currently active in supplying IAM solutions to the NHS are likely to enter this segment in the near future. The CMA has tried to gather evidence allowing it to verify

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<sup>222</sup> Note of call with [REDACTED]. A third party ([REDACTED]) told the CMA that the non-Spine IAM solutions provider provides [REDACTED] – but did not describe this as an IAM solution for access to Spine-enabled applications: Note of call with [REDACTED].

<sup>223</sup> Note of call with [REDACTED].

<sup>224</sup> Note of call with [REDACTED]. This third party [REDACTED].

<sup>225</sup> [Merger Assessment Guidelines \(OFT1254/CC2, September 2010\)](#), from paragraph 5.8.1.

<sup>226</sup> Note of call with [REDACTED].

Isosec's understanding (including in respect of two specific suppliers) but has not received or identified any such evidence.

190. The CMA notes on the other hand, as discussed in detail above, that it has specific and detailed evidence of Imprivata's plans to introduce a VSC solution imminently.
191. In relation to NHS Identity/CIS2-based IAM solutions, barriers to entry and expansion could be lower, in particular once NHS Identity/CIS2 is fully rolled out. However, the CMA has not received evidence indicating that any NHS Identity/CIS2-facilitated entry and/or expansion would be timely, likely and sufficient.
192. NHS Identity/CIS2 is also currently at an early stage in its published roadmap,<sup>227</sup> and has limited current usage. Certain evidence (noted in paragraphs 175 and 186 above) indicates that there is uncertainty around exactly when NHS Identity/CIS2 will be fully rolled out, making any impact of the shift to NHS Identity/CIS2-based system insufficiently timely. Healthcare providers will face switching costs in moving to NHS Identity/CIS2-compatible IAM solutions and may not perceive immediate value from switching. These factors could slow any switching to the new standards.
193. For the reasons set out above, in particular as summarised at paragraphs 188 to 192, the CMA believes that entry and expansion would not be timely or likely to prevent a realistic prospect of an SLC as a result of the Merger. In the light of the CMA's conclusions on likelihood and timeliness, it is not necessary to further consider whether entry or expansion would be sufficient to constrain the Merged Entity.
194. In addition to barriers to entry which are not specific to the Merger, the CMA also considered concerns raised by two third parties that, if the Merger increases the Parties' market power, the Merged Entity would be able to persuade its customers to remain faithful to legacy technology rather than embracing the changes brought about by NHS Identity/CIS2. This, in turn, may make it more challenging for the

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<sup>227</sup> [NHS Identity roadmap - NHS Digital](#) (last updated on 18 December 2020).

existing CIS standards to be deprecated in 2023, and may maintain (or even raise) the barriers to entry and expansion in the longer term.<sup>228</sup>

195. The CMA considered these concerns around the Merged Entity’s ability and incentive to frustrate the roll-out of NHS Identity/CIS2 and subsequent deprecation of the existing CIS standards. The CMA concluded that there is not a realistic prospect of these concerns materialising as a result of the Merger. This is in particular because the CMA has found that the Parties do not have the incentive to prevent the deprecation of the current CIS standards pre-Merger, nor is the Merged Entity likely to have any more incentive to do so post-Merger, relative to either Party pre-Merger – for the following reasons:

- (a) NHS-D has a role as ‘gatekeeper’ for Spine access (see paragraph 170 above), and a strategy that conflicted with NHS-D’s plan to roll out NHS Identity/CIS2 could affect a supplier’s relations with NHS-D. The CMA would not expect the Parties’ incentives, in this regard, to differ as a result of combining to become the Merged Entity.
- (b) If the Merged Entity fails to support NHS Identity/CIS2 standards, the Parties submitted that it would risk having NHS-D [REDACTED].<sup>229</sup> Moreover, one third party indicated that, if the Merged Entity failed to adapt their IAM solutions to NHS Identity/CIS2 standards, it may be ‘isolated’ and its standing in the market could be affected.<sup>230</sup>

### ***Countervailing buyer power***

196. In some circumstances, an individual customer may be able to use its negotiating strength to limit the ability of a merged firm to raise prices. The existence of countervailing buyer power will be a factor in making an SLC finding less likely.<sup>231</sup>

197. As explained in paragraph 119 above, the CMA also considers that the Merger is likely to remove a material constraint exerted on each Party by the other Party,

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<sup>228</sup> Note of call with [REDACTED]; Note of call with [REDACTED].

<sup>229</sup> Parties’ Issues Letter Response, paragraph 93.

<sup>230</sup> Note of call with [REDACTED].

<sup>231</sup> [Merger Assessment Guidelines \(OFT1254/CC2, September 2010\)](#), from paragraph 5.9.1.

and is therefore likely to leave at least some customers with even fewer alternatives in relation to the (already highly concentrated) supply of IAM solutions for access to Spine-enabled applications. As such, the CMA considers that there is insufficient countervailing buyer power as the question of countervailing buyer power will depend on the number of options a customer can choose from.

### **Third party views**

198. The CMA contacted many third parties, including those listed by the Parties as their customers, competitors, and framework partners. Many third parties responding to the CMA (including the Parties' customers and framework partners) indicated that they have very limited choices in terms of alternative suppliers in the market, and some indicated that the Parties are each other's most significant rivals. Many third parties raised concerns that the Merger could further reduce competition in an already concentrated market, and possibly result in eg increased prices for, and less innovation within, IAM solutions. At least some third parties noted that the Merger may reduce competition in a concentrated market, but may nonetheless have some benefits (eg better integration between the Parties' IAM solutions).<sup>232</sup> The CMA considers that any such potential benefits do not alter the assessment of the anticipated effect of the Merger on competition.

199. The CMA has taken these third party comments into account where appropriate in the competitive assessment above.

### **Conclusion on substantial lessening of competition**

200. Based on the evidence set out above, the CMA believes that it is or may be the case that the Merger may be expected to result in an SLC as a result of horizontal unilateral effects in relation to the supply of IAM solutions for access to Spine-enabled applications to healthcare providers in England.

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<sup>232</sup> See eg the comment 'It simplifies a solution stack for consumers, but will narrow the market of solutions' in questionnaire response by [redacted]. See also eg: questionnaire response from [redacted]; Note of call with [redacted]; and Note of call with [redacted].

## Exceptions to the duty to refer

201. Where the CMA's duty to refer is engaged, the CMA may, pursuant to section 33(2)(a) of the Act, decide not to refer the merger under investigation for a Phase 2 investigation on the basis that the market(s) concerned is/are not of sufficient importance to justify the making of a reference (the ***de minimis*** exception).<sup>233</sup> The CMA has considered below whether it is appropriate to apply the *de minimis* exception to the present case.

### ***Markets of insufficient importance***

202. In considering whether to apply the *de minimis* exception, the CMA will consider, in broad terms, whether the costs involved in a reference would be disproportionate to the size of the market(s) concerned, taking into account also the likelihood that harm will arise, the magnitude of competition potentially lost and the duration of such effects.<sup>234</sup>

### *'In principle' availability of undertakings in lieu*

203. The CMA's general policy, regardless of the size of the affected market, is not to apply the *de minimis* exception where clear-cut undertakings in lieu (**UILs**) of a reference could, in principle, be offered by the parties to resolve the concerns identified.<sup>235</sup>

204. In most cases, a clear-cut undertaking in lieu will involve a structural divestment. A divestment will not in principle be available if the competition concerns arising from the merger relate to such an integral part of the transaction that to remedy them via structural divestment would be tantamount to prohibition of the merger.<sup>236</sup> The CMA takes a conservative approach to assessing whether UILs are in principle available. To the extent that there is any doubt as to whether UILs would

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<sup>233</sup> The Act does not specify what criteria the CMA should consider in exercising this discretion, but leaves the matter to the CMA's judgment and expertise: [Mergers: Exceptions to the duty to refer \(CMA64\)](#), paragraph 14.

<sup>234</sup> [Mergers: Exceptions to the duty to refer \(CMA64, December 2018\)](#).

<sup>235</sup> [Mergers: Exceptions to the duty to refer \(CMA64, December 2018\)](#), paragraph 28.

<sup>236</sup> [Mergers: Exceptions to the duty to refer \(CMA64, December 2018\)](#), paragraph 32.



meet the ‘clear-cut’ standard, they will not be included in the ‘in principle’ assessment.<sup>237</sup>

205. In the present case, the CMA’s competition concerns relate to the supply of IAM solutions for access to Spine-enabled applications to healthcare providers in England. The Parties submitted that clear-cut UILs are not available in principle.<sup>238</sup> The CMA’s own understanding of the Parties’ businesses similarly suggests that clear-cut UILs are unlikely to be available.<sup>239</sup>

206. Accordingly, the CMA does not consider any ‘in principle’ clear-cut UIL to be available in this case.

### *Relevant factors*

207. In all cases where the value of the market(s) concerned is below GBP 15 million, the CMA will consider whether a reference, overall, would be proportionate on the basis of a broad cost/benefit analysis. The CMA will typically consider the likely level of consumer harm by reference to a number of factors when deciding whether or not to apply the *de minimis* exception.<sup>240</sup> The CMA will also consider the wider implications of a *de minimis* decision.<sup>241</sup> Each of these factors is considered in turn below.

### *Market size*

208. The Parties submitted that the Merger would be a candidate for the application of the CMA’s *de minimis* exception, as total annual revenues for third party sales in the market concerned would be well below GBP 5 million in each of the past two years, based on sales by the Parties and Entrust. The Parties submitted that, even

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<sup>237</sup> [Mergers: Exceptions to the duty to refer \(CMA64, December 2018\)](#), paragraph 34.

<sup>238</sup> Parties’ presentation in response to the Issues Letter, slide 14.

<sup>239</sup> The CMA will not consider for these purposes that UILs are in principle available where the minimum structural divestment that would be required to ensure the remedy was effective would be wholly disproportionate in relation to the concerns identified - [Mergers: Exceptions to the duty to refer \(CMA64, December 2018\)](#), paragraph 33.

<sup>240</sup> The CMA considers these factors in the round as part of its overall assessment of whether the expected impact of the merger in terms of customer harm is likely to materially exceed the public costs of a reference. See [Mergers: Exceptions to the duty to refer \(CMA64, December 2018\)](#), paragraphs 22, 35 and 36.

<sup>241</sup> [Mergers: Exceptions to the duty to refer \(CMA64, December 2018\)](#), paragraphs 47-51. The Parties submitted that each of the CMA’s requirements for exercising its discretion is met in this case.

including some small amount of revenue for Microsoft's existing sales of IAM solutions for Spine access, total annual revenues would still be well below GBP 5 million. The Parties attributed no revenues to NHS-D, on the basis it offers 'default', non-commercial products free of charge.<sup>242</sup>

209. The CMA considers that the Parties' estimates undervalue the total market size, for the reasons set out below.
210. First, the CMA believes that estimates of total market size based on total annual revenues may not fully capture the value or importance of the market concerned in this case. Even if offered free of charge, NHS-D's identity agent has a value for its customers, as indicated, for example, by the Parties' estimate of NHS-D's share of supply (more than 80%, as discussed in paragraph 99 above). The CMA considers that the open market value of NHS-D's identity agent is not reflected in its lack of turnover. On this basis, the CMA believes that estimates excluding NHS-D would underestimate the market value quite considerably.<sup>243</sup>
211. Even if just considering market size on the basis of suppliers' annual revenues, the CMA should not view markets statically, but should take into account any factors which indicate that the market size may be significantly expanding or contracting in the foreseeable future.<sup>244</sup>
212. The Parties submitted that, while assessing future revenue-based total market size with certainty was difficult, they did not expect this to exceed GBP 15 million in the foreseeable future – despite eg Imprivata's imminent launch of its own VSC solution, or the expected growth in demand for VSC solutions.<sup>245</sup>

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<sup>242</sup> The Parties submitted that total annual revenues attributable to the supply of IAM solutions for access to Spine-enabled enabled applications to healthcare providers in England were around GBP 3.2 million in 2020 (GBP 1.2 million in 2019). As regards NHS-D's products, the Parties submitted that, to the extent that there is a market for IAM solutions for access to Spine-enabled applications, these solutions are offered by commercial third parties as add-ons to the default NHS smartcard and IA proposition: Parties' Issues Letter Response, paragraphs 101-109.

<sup>243</sup> The Parties submitted that the sum of their own and Entrust's revenues in the relevant market is around GBP 3.2 million. The CMA notes this implies that, on average, the value to healthcare providers of a single NHS-D identity agent licence would need to be less than 15% of the average price of the Parties' and Entrust's solution (weighted by volumes) for total market value (defined as the sum of the Parties' and Entrust's annual revenues and the total annual value to healthcare suppliers of NHS-D's solution) to be below GBP 5 million.

<sup>244</sup> [Mergers: Exceptions to the duty to refer \(CMA64, December 2018\)](#), paragraph 37.

<sup>245</sup> Parties' Issues Letter Response, paragraphs 110-111.

213. The CMA notes the recent increased use of paid-for IAM solutions for Spine access (eg VSC solutions), a clear market trend which may also explain at least some of Isosec's recent substantial revenue growth. Having considered both this trend and Isosec's recent growth, the CMA considers that the annual revenue-based total market size concerned is likely to grow quite considerably in the near future. While it is difficult to establish a robust estimate of the likely extent of such growth, the CMA has made some calculations based on both the recent trend of increased VSC solution usage, and Isosec's revenue growth in recent years, taking into account various information provided by the Parties.<sup>246</sup> Both of these elements appear to arise from at least some customers switching from 'free' NHS-D products to a 'paid-for' IAM solution for access to Spine-enabled applications,<sup>247</sup> hence the revenue-based total market size increasing. Based on those calculations, even if attributing no revenues to NHS-D, the CMA considers that the total market size will be at least within the GBP 5 million to GBP 15 million range in two to three years.

#### *Strength of the CMA's concerns*

214. The CMA may attach weight to the strength of its belief that the merger will have an anti-competitive effect (ie whether its level of belief is on or nearer to the 'is the case' (more likely than not) standard than the 'may be the case' standard).<sup>248</sup>
215. Given the closeness of competition between the Parties (which, as noted above, is reflected in many of the Parties' internal documents), that the Parties are likely to

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<sup>246</sup> These calculations factored in, for example, the Parties' estimate of 'total addressable user base' (see footnote 101 above), and revenues generated from, and the number of, VSC solutions supplied by Isosec in 2020 and 2019 (from Merger Notice Annex MN13.1 Share of supply and Annex RF13.2 to Parties' response of 15 February 2021 to RF13, Isosec revenues (Q5 & Q6a-b)). For example, the Parties' estimates of Isosec's and Entrust's VSC solutions volumes (from Merger Notice Annex MN13.1 Share of supply) indicate that around [X]% of the 'total addressable user base' used an Isosec or Entrust VSC solution in 2020. The CMA considers it likely that the proportion of the 'total addressable user base' using a VSC solution will increase to at least [X]%, which, based on the CMA's calculation of Isosec's average prices for its VSC solution in 2020, would make the total market size at least GBP 5 million, in the next two to three years.

<sup>247</sup> For example, the Parties submitted that almost all VSC users also hold a PSC: Merger Notice Annex MN13.3 Shares of supply methodology (smartcards), paragraph 9.c. Therefore, almost all VSC users may also use a PSC-based solution, including eg ones supplied by NHS-D. However, the Parties also submitted that the main selling point for Isosec's identity agent and VSC solution has been the ability to replace the NHS'D's identity agent and NHS-issued PSCs: Parties' Issues Letter Response, paragraph 45.

<sup>248</sup> [Mergers: Exceptions to the duty to refer \(CMA64, December 2018\)](#), paragraphs 39-40.

compete more closely in future, and the limited alternative suppliers available, the CMA believes that in the present case its concerns are closer to the ‘is the case’ (more likely than not) standard than the ‘may be the case’ standard. The CMA considers that its level of belief is therefore higher than the minimum required to make a reference.

*Magnitude of competition lost*

216. The Parties’ internal documents and third party evidence indicate the closeness of competition between the Parties (currently and, in particular, in the future) and the limited alternative suppliers available. The CMA considers that the Merger would remove a strong constraint on Imprivata and that, absent the Merger, the Parties are likely to compete more closely in future. Considering some third parties’ comments about a very limited choice of alternative suppliers and the Parties being each other’s most significant rivals, the Merger may leave at least some customers with no credible alternatives to the Merged Entity, in relation to the supply of IAM solutions for access to Spine-enabled applications.
217. The CMA has also had regard to whether a substantial proportion of the likely detriment would be suffered by vulnerable customers.<sup>249</sup> The Parties’ direct customers are healthcare providers (eg NHS organisations). Any post-Merger price increase may therefore, for example, increase expenditure on IAM solutions coming out of NHS organisations’ limited budgets. While the Parties’ direct customers would typically not be considered to be vulnerable customers, the CMA has also considered the potential impact on the end-users of the relevant healthcare providers’ services (who may be vulnerable). Any post-Merger price increase and/or loss of innovation in IAM solutions for Spine access may therefore have a material impact on vulnerable customers.

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<sup>249</sup> [Mergers: Exceptions to the duty to refer \(CMA64, December 2018\)](#), paragraph 44.

### *Durability*

218. The Parties submitted that even if an SLC were to arise, it would be short-lived due to NHS-D's new Assurance Framework for VSC Solutions and moves to wider adoption of NHS Identity/CIS2.<sup>250</sup>
219. The CMA considered the factors affecting the likely durability of the Merger in its consideration of Barriers to entry and expansion above. As set out in that analysis, the CMA believes that entry or expansion would be neither timely, likely nor sufficient to prevent a realistic prospect of an SLC as a result of the Merger. In addition, the CMA considers there is uncertainty around exactly when NHS Identity/CIS2 will be fully rolled out, albeit the CMA notes that barriers to entry could be lower once this has occurred (see paragraph 190 above). As such, the CMA does not believe that the durability of the Merger's impact will be limited by technological or market transformation rendering any Merger effects short-lived.

### *Wider implications of a 'de minimis' decision*

#### *Replicability*

220. The CMA is less likely to apply the *de minimis* exception where it believes that the merger in question is one of a potentially large number of similar mergers that could be replicated across the sector.<sup>251</sup>
221. The Parties submitted that the Merger was a 'one off'. However, one third party told the CMA that, other than Isosec, Imprivata's only recent competitor was Caradigm – which Imprivata acquired a few years ago.<sup>252</sup> One Imprivata internal document notes, as a possible response to Isosec's growth: [REDACTED].<sup>253</sup>
222. However, as there are only two other commercial suppliers of IAM solutions for access to Spine-enabled applications, other than the Parties (as noted at eg

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<sup>250</sup> Parties' Issues Letter Response, paragraph 113.

<sup>251</sup> [Mergers: Exceptions to the duty to refer \(CMA64, December 2018\)](#), paragraph 48.

<sup>252</sup> Questionnaire response by [REDACTED]. This appears to refer to an acquisition announced in 2017: see <https://www.imprivata.com/company/press/imprivata-acquires-identity-and-access-management-business-caradigm>

<sup>253</sup> Merger Notice Annex MN7 [Annex DMN005.4], pages 4 and 5.

paragraph 95 above), there currently appears to be limited scope for replicability within the frame of reference applied in this case.

### *Economic rationale*

223. The CMA will be less likely to apply the *de minimis* exception where there is evidence that the merger in question is solely or primarily motivated by the acquisition of market power.<sup>254</sup> As mentioned in paragraphs 52 to 63 above, the CMA believes that the Parties' internal documents indicate that at least part of the rationale for the Merger may be anti-competitive. The CMA notes in particular references to [X] and [X] (in certain Imprivata internal documents), and a suggestion that the Merger would increase the Parties' power in dealings with the NHS.

### *Conclusion on the application of the de minimis exception*

224. Taking all the above factors into consideration, the CMA believes that the market concerned in this case is of sufficient importance to justify the making of a reference. As such, the CMA believes that it is not appropriate for it to exercise its discretion to apply the *de minimis* exception.

## **Decision**

225. Consequently, the CMA believes that it is or may be the case that (i) arrangements are in progress or in contemplation which, if carried into effect, will result in the creation of a relevant merger situation; and (ii) the creation of that situation may be expected to result in an SLC within a market or markets in the UK.

226. The CMA therefore believes that it is under a duty to refer under section 33(1) of the Act. However, the duty to refer is not exercised whilst the CMA is considering whether to accept undertakings under section 73 of the Act instead of making such a reference.<sup>255</sup> The Parties have until 7 May 2021<sup>256</sup> to offer an undertaking to the

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<sup>254</sup> [Mergers: Exceptions to the duty to refer \(CMA64, December 2018\)](#), paragraph 51.

<sup>255</sup> Section 33(3)(b) of the Act.

<sup>256</sup> Section 73A(1) of the Act.

CMA.<sup>257</sup> The CMA will refer the Merger for a phase 2 investigation<sup>258</sup> if the Parties do not offer an undertaking by this date; if the Parties indicate before this date that they do not wish to offer an undertaking; or if the CMA decides<sup>259</sup> by 14 May 2021 that there are no reasonable grounds for believing that it might accept the undertaking offered by the Parties, or a modified version of it.

**Joel Bamford**  
**Senior Director, Mergers**  
**Competition and Markets Authority**  
**29 April 2021**

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<sup>257</sup> Section 73(2) of the Act.

<sup>258</sup> Sections 33(1) and 34ZA(2) of the Act.

<sup>259</sup> Section 73A(2) of the Act.