

10 September 2018

Simpson Grierson  
Lumley Centre  
88 Shortland Street  
Auckland 1010  
[via email](#)

Attn: James Craig, Partner

Dear Partners

**Letter of issues – Thales’ proposed acquisition of Gemalto**

1. We refer to the application from Thales S.A. (Thales) seeking clearance to acquire all of the issued and outstanding ordinary shares of Gemalto N.V (Gemalto) (the proposed acquisition).
2. At this stage, we are not satisfied that the proposed acquisition would not give the merged entity the ability to profitably raise prices and/or reduce quality to customers in New Zealand by removing the existing competition between Thales and Gemalto in the supply of certain enterprise key management products, notably the supply of hardware security modules (HSMs).
3. In reaching the preliminary views set out in this letter, we have considered information provided by Thales, Gemalto and a number of other industry parties. We have not yet made any decisions on the issues outlined below (or any other issue) and our views may change, and new competition issues may arise, as our investigation continues.
4. We will advise you if we identify any further issues during our investigation of the proposed acquisition that are not discussed in this letter.
5. We are available to meet with Thales to discuss this letter.

**Timeline**

6. The Commission would like to receive submissions and supporting evidence from Thales on the issues raised in this letter. We request that Thales provides this information by **19 September 2018**, including a public version of any submission.
7. We will be requesting that other parties intending to make a submission on the issues in this letter provide their submission by **19 September 2018**, and that they also provide a public version of their submission.

8. All submissions received will be published on our website with appropriate redactions relating to any commercially sensitive information.

### **Market definition**

9. Both Thales and Gemalto manufacture and supply key management products and encryption software to enterprises in New Zealand, such as businesses and government agencies. Thales submits that the relevant markets potentially affected by the proposed acquisition are:
  - 9.1 the supply of enterprise key management products (and associated maintenance services); and
  - 9.2 the supply of enterprise encryption software for data at rest and in use.
10. Thales and Gemalto manufacture their products overseas and sell them into New Zealand primarily through third party distributors. As such, the relevant geographic and functional dimensions appear to be the national market for the supply of the relevant products and services.

### *Relevant product dimension – HSMs*

11. At this stage, the focus of our analysis has been on the supply of enterprise key management products. To date, no party has indicated to us that competition in the supply of enterprise encryption software by itself would be impacted by the proposed acquisition, given the number of alternative suppliers available to customers.
12. However, we consider that the relevant market may be narrower than the market for enterprise key management products.
13. Both Thales and Gemalto supply HSMs, which are dedicated hardware appliances which generate, protect, and manage encryption keys used to protect data in a secure tamper-resistant module.<sup>1</sup> Our preliminary view is that it is appropriate to assess HSMs separately from the other types of enterprise key management products.<sup>2</sup>
14. While there are a number of products and services that can perform certain key management functions, our enquiries to date indicate that the use of HSMs is discrete from the other products and services that Thales submitted form part of the enterprise key management product market (such as dedicated key management software; encryption software/hardware containing key management capabilities; cloud-based encryption solutions; and trusted platform modules).

---

<sup>1</sup> For the purpose of our analysis, supply includes both the supply of the equipment as well as the related maintenance services. This is because we understand that manufacturers of HSMs are responsible for any maintenance services associated with their products.

<sup>2</sup> This is similar to preliminary approaches in other jurisdictions. For example, see European Commission - Press release 23 July 2018 Mergers: Commission opens in-depth investigation into proposed acquisition of Gemalto by Thales.

15. Feedback from our initial enquiries indicates that when businesses and government agencies assess their IT network and security architecture, and decide that they require a high level of data security (or require high volumes of data to be encrypted and decrypted), then there are limited, or no, alternatives to using and/or installing an HSM. At this stage, we understand that:
- 15.1 HSMs are used when customers desire an additional layer of security for their cryptographic functions. An HSM is able to isolate the cryptographic processes in a separate module, which limits the access to the keys more effectively than other key management products. HSMs also appear to provide extra security through tamper resistance and tamper detection characteristics. To this extent, it appears that HSMs provide, and are perceived to provide, customers with a higher level of security than other key management products; and
- 15.2 it is widely recognised that the use of an HSM in high security environments is considered to be industry best practice,<sup>3</sup> which is also consistent with many of the internal documents and third party reports that Thales has provided to the Commission to date.
16. While we are currently of the view that it is appropriate to assess HSMs separately from other products and services, as part of our competition assessment we will assess the extent to which other products (such as software with key management capabilities) would be likely to constrain the merged entity from exercising market power in relation to the supply of HSMs.
17. Further, we understand that many customers prefer to purchase and store an HSM in their own premise. However, we also understand that some customers can and do access cloud-based HSMs and more customers might be encouraged to use a cloud-based 'as a service' HSM in the near future. At this stage, we are of the view that it is more appropriate to assess the constraint from such a service in the competition assessment, given this service appears to be reliant on an HSM and therefore these suppliers can also be customers of HSM providers.
18. We are also assessing whether it is appropriate to assess the two main types of HSMs – general purpose HSMs and payment HSMs – separately. In this regard, we note that Thales has previously considered that general purpose HSMs and payment HSMs can fall into separate product markets.<sup>4</sup> At this stage, we understand that:
- 18.1 the speed and functionality of general purpose HSMs and payment HSMs vary. It appears that customers use payment HSMs, which can perform a high volume of payment-related operations quickly, for different purposes than general purpose HSMs, which are used for more general key management across a number of different industries;

---

<sup>3</sup> For example, see the Government Communication Security Bureau, The New Zealand Information Security Manual, Rationale & Controls 17.10.12. Hardware Security Modules.

<sup>4</sup> Office of Fair Trading, Anticipated acquisition by Thales UK Limited of nCipher plc, decision published 6 October 2008.

- 18.2 we understand that the extent to which customers can switch to different HSM products may vary between payment and general purpose HSMs, with payment HSM customers being particularly unlikely to switch supplier once they have selected that particular provider; and
- 18.3 as outlined in Thales' application, while some manufacturers supply both payment and general purpose HSMs, other suppliers appear to manufacture only one type of HSM. We are considering whether there could be constraints on manufacturers' ability to expand the types of HSMs they supply.
19. We also understand that both parties manufacture encryption software that can be used alongside an HSM. For example, Thales' Vormetric Data Security Manager and Gemalto's KeySecure provide a centralised platform to manage encryption keys, although with other security software applications. As these services can include an HSM, we are still assessing whether any existing or potential overlap in New Zealand between Thales' Vormetric Data Security Manager and Gemalto's KeySecure should be included as part of any assessment in the supply of HSMs or whether it is appropriate to assess them separately.

#### **Competition assessment – supply of HSMs**

20. As per the application, we are assessing the status quo as the appropriate without scenario. When compared to this status quo scenario, our preliminary view is that the proposed acquisition would likely give rise to competition concerns in the market for the supply of the different types of HSMs because:
- 20.1 Thales and Gemalto both have an established presence and reputation in New Zealand and appear to be each other's closest competitors for both payment and general purpose HSMs;
- 20.2 the other overseas-based HSM manufacturers suggested by Thales in the Application appear to have little, if any, existing presence in New Zealand;
- 20.3 given the importance of security to businesses and the need for on-going maintenance services, customers may be reluctant to switch to an alternative HSM manufacturer who does not have a reputation and/or presence (either directly or via an authorised distributor/reseller) in New Zealand; and
- 20.4 given the limited number of sales of HSMs in New Zealand, competing manufacturers might have limited opportunities and incentive to enter, and expand, into New Zealand.
21. While we are still investigating the extent to which the supply of payment HSMs and general purpose HSMs might fall into separate markets, at this stage the competitive conditions in the supply of each of these products in New Zealand appear to be relatively similar. For the purposes of this letter, we have outlined our preliminary issues below in relation to both payment HSMs and general purpose HSMs.

22. As noted above, we are still assessing the existing and potential overlap relating to encryption management platforms which can include an HSM, namely the overlap between Thales' Vormetric Data Security Manager and Gemalto's KeySecure platform.

*Competition for the supply of HSMs without the proposed acquisition*

23. All of the industry feedback we have received to date indicates that Thales and Gemalto are the two main suppliers of HSMs and each other's closest competitor in New Zealand.
24. We recognise that once an HSM is installed within a customer's IT security infrastructure many customers may be reluctant, due to risks to interoperability and security concerns, to switch out that supplier's HSM for a different manufacturer's HSM. This suggests that there is a degree of incumbency advantage when an HSM reaches the end of its life cycle and needs replacing. Further, HSMs, particularly payment HSMs, can have a relatively long shelf life which means that sales of HSMs in New Zealand can be relatively infrequent.
25. Further, our enquiries indicate that, in the past, when New Zealand-based customers have sought to purchase an HSM, Thales and Gemalto have been each other's closest competitor and customers have benefited from this competition. The proposed acquisition would remove this competition.
- 25.1 Thales and Gemalto appear to be the only two HSM manufacturers who have consistently participated in tenders (or similar) issued by New Zealand customers.
- 25.2 Even when customers have not issued formal tenders, due to the established presence and reputation of both Thales and Gemalto in New Zealand, HSM customers appear to view either Thales or Gemalto as their next best alternative.
- 25.3 We also note that for distributors of HSM products, Thales and Gemalto are (due to their established presences in New Zealand) likely to be the two main potential options for an HSM supplier if the distributor wanted to consider switching their preferred supply partner.

*Entry and expansion with the proposed acquisition*

26. We are continuing to explore the presence of other suppliers of HSMs in New Zealand. However, our preliminary view is that existing competition would likely provide limited competitive constraint on the merged entity, relative to the constraint the parties place on each other.
27. To date, we have received limited evidence and examples to indicate that:
- 27.1 manufacturers other than Thales and Gemalto have HSMs installed in businesses or government agencies in New Zealand;

- 27.2 manufacturers other than Thales and Gemalto have, in one form or another, a service and/or maintenance presence for HSMs in New Zealand; and
- 27.3 manufacturers other than Thales and Gemalto have participated consistently in tenders (or similar) conducted by New Zealand customers to install HSMs in businesses and government agencies in New Zealand.
28. We recognise that, as outlined in the application, there are a number of alternative manufacturers of HSMs at a global level that could potentially enter and/or expand in New Zealand.<sup>5</sup> However, it appears to us that the scale and scope of the alternative HSM manufacturers listed in the application do not appear to match the range of HSMs that both Thales and Gemalto currently supply. We welcome any further evidence you can provide that indicates the extent to which other HSM manufacturers compete closely with the merging parties, both globally and in New Zealand.
29. Further, to the extent that other HSM manufacturers compete with Thales and Gemalto on a global level, it appears that conditions for entry and expansion in New Zealand could inhibit their ability to compete strongly with the merged entity in New Zealand.
- 29.1 At this stage, there appear to be potential reputational barriers to customers switching and/or sponsoring an HSM supplier with no existing presence in New Zealand. Given the importance of HSMs in providing security to customers, there appears to be a strong preference for manufacturers with a known and established brand.
- 29.2 Further, there may be barriers to New Zealand distributors starting to stock a different manufacturer's products due to the need to familiarise themselves with the new product and be in a position to provide sufficient technical support in the event of any issues with the HSM. Our initial evidence suggests that if a customer were to be the only user of a particular supplier's HSM in New Zealand, this could represent a risk if there were not enough technical support or they were reliant on a single "point of failure" for this support, which might create a security risk for that customer.
- 29.3 Combined with these factors, the limited number of yearly sales for HSMs in New Zealand may mean that there is insufficient demand to incentivise a potential entrant (or their New Zealand distributor) to undertake the necessary investment to promote, market and service their HSMs to New Zealand customers.
30. To this extent, while entry and expansion in the supply of HSMs into New Zealand may be possible in theory, our preliminary view is that entry and expansion would not be sufficiently likely in extent and/or timeliness to constrain the merged entity.

---

<sup>5</sup> Thales submitted there are global markets for its products. However, given the New Zealand based nature of distributors, we are assessing the extent to which global providers of HSMs could easily enter, and expand, into any New Zealand market to constrain the merged entity.

*Other competitive constraints*

31. As above, we understand that there are number of software and hardware solutions that have, in one form or another, some functions that are similar to HSMs. Our enquiries to date indicate that, for existing customers of HSMs, suppliers of these alternative products and services would likely provide limited constraint on the merged entity. All parties we have contacted to date have advised that customers with high security requirements would not use a solution that does not include an HSM, in one form or another.
32. The application notes that there is a move to more cloud-based solutions for enterprise key management and customers now have an option of purchasing 'as a service' HSMs. In essence, this means that customers are able to rent an HSM, via the cloud, rather than buy their own module.
33. At this stage, it appears to us that it is likely that cloud-based 'as a service' HSM providers allow customers to access some level of services similar to that provided by manufacturers of HSMs, such as Thales and Gemalto. However, it is unclear at this stage the extent to which customers would be willing to substitute purchasing their own HSM with an 'as a service' HSM. Our evidence to date suggests that even if 'as a service' HSMs do provide an alternative option for some customers, it is unlikely to be viewed as a credible alternative for a number of customers who prefer to have their own HSM on their premises.
34. In addition, we understand that many of the existing 'as a service' HSM providers are reliant on the likes of Thales and Gemalto to provide them with the necessary HSMs. If this is the case, this would likely dampen any constraint that any 'as a service' HSM provider would impose on the merged entity.
35. Further, New Zealand customers may have limited countervailing power because their purchases tend to be infrequent and/or ad hoc, such that any one particular customer may not be of sufficient scale to sponsor a new entrant, given that any supplier would also need to provide that customer with on-going maintenance in New Zealand.

**Next steps**

36. We are continuing to undertake industry enquiries about the impact of the proposed acquisition in New Zealand. However, we welcome any further evidence, examples and other relevant information and documents that Thales is able to provide regarding the issues identified in this letter.
37. Please contact me if you have any questions about this letter.

Yours sincerely



Anthony Stewart  
Senior Investigator