



**THALES**  
Building a future we can all trust

# Managed Services from A24 Optimized for payShield Cloud HSM

EXPERT ASSISTANCE SAVING YOU TIME AND  
REDUCING YOUR RISK

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# Executive Summary

As an organization handling payment card data, you need to maintain compliance, mitigate risks, control costs and stay ahead of threats in a rapidly evolving landscape whilst delivering a great customer experience. Encryption is a key line of defence. With over 30 years of expertise, Thales is uniquely positioned to help you address these pressing demands.

## Why now?



New regulations and standards such as DORA and PCI DSS 4.x raise the bar in protecting the payments system as threats grow in sophistication and volume every day. Digital transformation and the shift to hybrid cloud heightens complexity with applications being deployed in a mix of on-prem, multiple public clouds and private cloud environments. HSMs provide a critical anchor of trust – but they can be hard to operate effectively in today's complex environments.

In collaboration with **A24**, we offer a complete solution of services, delivering hosting, networking, monitoring and encryption key management.



### Speed and Security:

Ensure ultra-fast payment processing without compromising on protection



### Regulatory Compliance:

Stay ahead of evolving standards to avoid costly data breaches, heavy fines, reputational harm and risk to the entire business



### Scalability:

Rapidly expand your services consistently and efficiently, whether you're a traditional bank or a FinTech innovator

## Proven Results



Supporting leading international organizations – [click here to see Success Stories](#)

With our payShield Cloud HSM solution as an Infrastructure as a Service (IaaS), enhanced by A24's expert services, you'll have a seamless, compliant, and future-ready deployment.



# What is Thales payShield Cloud HSM?

An Infrastructure as a Service (IaaS) solution for payment HSMs, providing your organization with a flexible and secure way to offload operational risks to Thales, while you retain full control of cryptographic keys and sensitive data.



## Superior Resilience



Offers better service availability and cost efficiency than typical in-house infrastructure solutions

## Future-proofing



Eliminates complex, costly physical HSM migrations, freeing your team for core business tasks

## Seamless Cloud Integration



Enables a low-risk hybrid on-prem/cloud environment without requiring changes to payment applications, ensuring smooth migration at your pace

With **global scale** and reach, Thales delivers a **flexible, scalable**, and **highly available** payment HSM solution, likely outperforming what you can achieve independently at a similar cost.



# Enhanced Support with A24

Investing in payShield Cloud HSMs means offloading many tasks from your on-prem HSM team. A24 complements Thales by offering tailored services to save time and reduce risks:

**Resources:** Specialist resource available to design, implement and manage resilient, compliant HSM infrastructure

**Migration:** Technical support transitioning from on-prem to full cloud or hybrid infrastructure

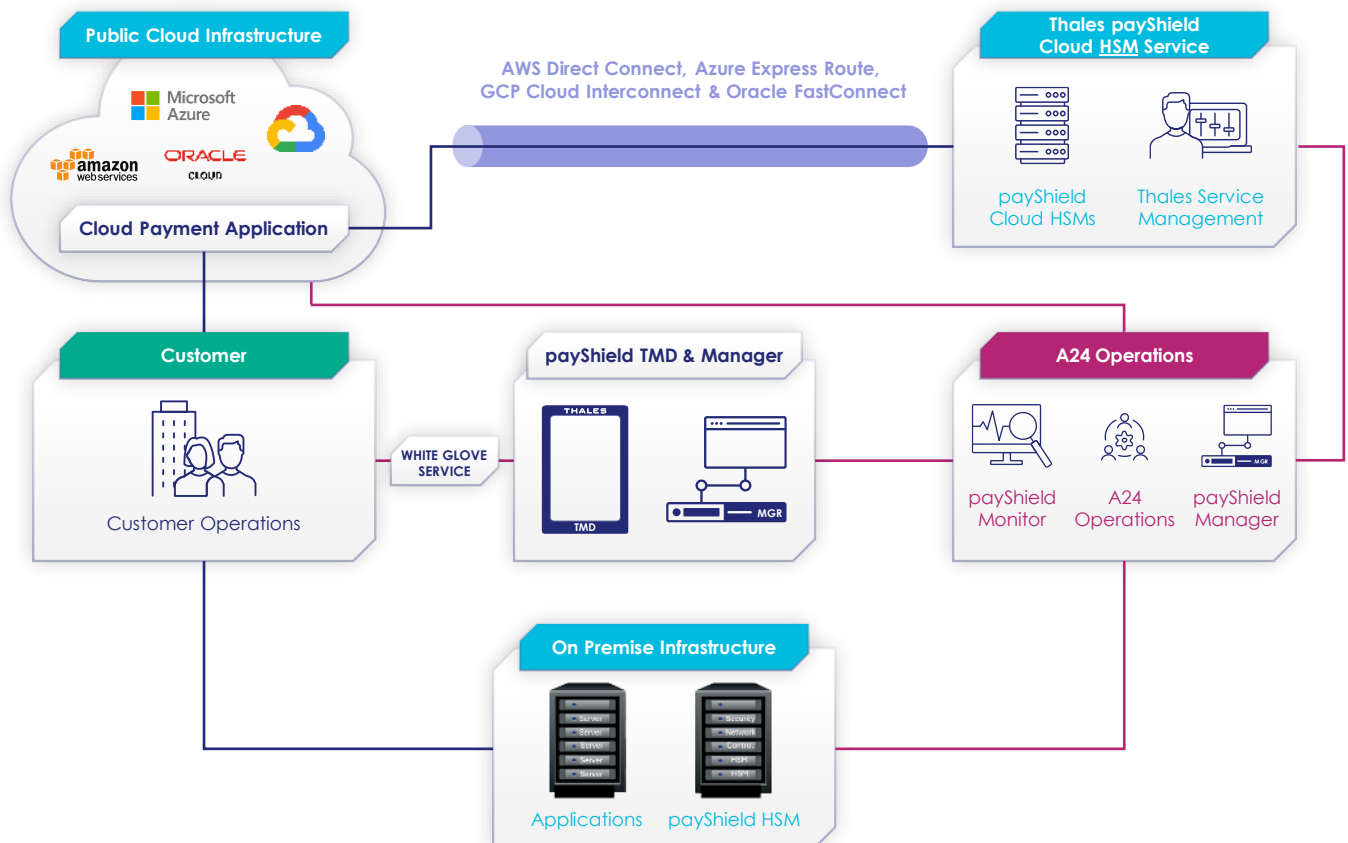
**Key Management:** Encryption specialists available to streamline secure key management processes for your HSMs

**Compliance:** Expert assistance to achieve and maintain alignment with payment card industry security standards

**Networking & Security:** Design, implementation & management of secure, compliant network infrastructure to connect your applications with payShield Cloud HSMs

## A typical payShield Cloud HSM deployment enhanced by A24's services:

Discover | Design | Implement | Manage | Comply





# Additional A24 Expertise you can Leverage

With its core mission to tackle complex and difficult-to-manage critical system challenges, the global A24 team is the expert extension to your team supporting on-prem, multi-cloud and hybrid implementations. A24 has built up specific Thales HSM knowledge and skills, **including**:

## Cloud HSM Implementation

Network and security infrastructure, connection to payShield Cloud HSM service & hybrid environments

## Audit & Compliance

Discovery, process documentation, training & alignment with security policies

## White Glove Support

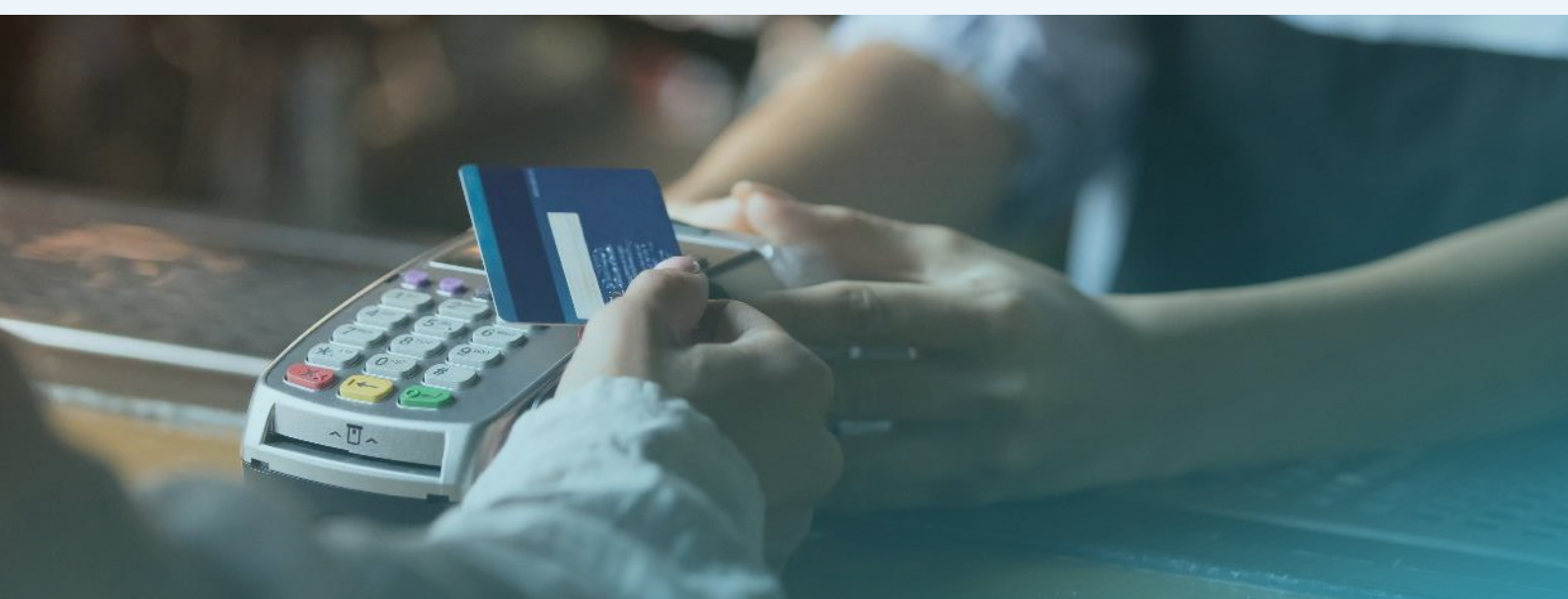
Smart card and certificate management, key ceremonies with third parties & key lifecycle management

## Engineering as a Service

Load balancing, redundancy and resilience, security, multi-cloud connectivity & data center migration

## HSM Management & Monitoring

Training on Thales tools, firmware updates, insights and reporting & health check







# Success Story



## Migrating a payShield HSM implementation from an on-prem to a multi-cloud environment

### Key Outcomes:



Released resources to focus on core business



Blueprint for deploying HSMs globally compliant with PCI DSS and customer security policies



Lowered risk of customer disruption through improved infrastructure resilience

### Overview & Challenge:



- FinTech providing card payment solutions in **32 countries**
- HSMs operated in their own data center in Australia and 3rd party data centers in the UK.
- Migrated applications to the cloud and saw **latency issues** between their AWS environment and their own data centers as well as **end-of-life challenges** of their existing HSM infrastructure
- Through acquisition also inherited applications running in Azure

### How did A24 help?



- **Discovery** to uncover and document different environments and solutions in use throughout the organization that relied on HSMs
- Designed a blueprint for **deploying compliant payShield 10K infrastructure** with low latency adjacent to the appropriate Cloud regions
- Built a **secure network infrastructure** and remote monitoring / management capability to comply with the then emerging PCI DSS v4.0 standard
- Continuing to **monitor the platform 24x7** and maintain all network and security equipment
- Providing **monthly reporting** to meet the customer needs



# Success Story



## Managing payment HSMs on behalf of a customer

### Key Outcomes:



Fully upgraded and migrated payment HSM platform using A24 resources



Designed & delivered with resilience, security and compliance built in



Reduced risk of operational issues due to lack of skilled internal HSM operational staff

### Overview & Challenge:



- International payments service provider moving over **\$100Bn** annually between **70 countries** for over **15 million customers**
- Existing HSMs needed to be replaced due to end of support
- Lack of experience and skills to design a new, secure and compliant solution
- Difficulty retaining talent for ongoing operations of HSMs

### How did A24 help?



- **Discovery** to uncover current state of the HSM, future state required, and standards required by 3rd parties and customers
- Designed and **managed migration plan**, avoiding payment disruptions
- Introduced 4 new payShield 10K appliances in 2 **separate data centers** adjacent to the Cloud
- **Proactive monitoring** of the platform and ongoing management of all network, security and HSM equipment
- A24 takes **responsibility for compliance** of the infrastructure and guides the customer's own key custodians through key management procedures





# Success Story



## Designing a highly available, resilient HSM environment to provide global support

### Key Outcomes:



Flexible, resilient and compliant HSM infrastructure to consume as a cloud service



HSMs located in close proximity to applications to achieve a great customer experience



Ready to serve additional customers in new markets as they emerge

### Overview & Challenge:



- Cloud native banking-as-a-service (BaaS) provider offering API-based banking services to Financial Services organizations around the world
- Already using payShield 10K HSMs in two UK-based data centers
- Recognized the need for local HSMs to be adjacent to their customer's chosen cloud in different parts of the world
- Lack of internal expertise to build a scalable, resilient global HSM infrastructure in distant locations

### How did A24 help?



- Discovery to establish the likely short and long term **HSM requirements**
- Designed and built a **mesh of HSM cells** around the world to achieve scalability
- Located the HSMs in data centers adjacent to strategic cloud regions to **minimize latency**
- Supported customer team in creating documentation to demonstrate compliance with PCI-DSS v4.0.1



# Key Takeaways

## Proven Expertise



Thales and A24 offer **extensive experience** in delivering a variety of products and **customizable services** for payment HSMs

## Complete Solution



A24 provides **end-to-end support**, including discovery, design, migration, key management, compliance and monitoring

## Built-in Excellence



Every solution **prioritizes reliability, resilience,** compliance with **standards**, and robust security

**With every A24 service, you own and retain sole control of your cryptographic keys at all times**



Learn more about A24 HSM services



Request a free trial of payShield Cloud HSM



Explore additional Thales cyber security solutions

# Glossary

Term	Description
<b>HSM</b>	Hardware Security Module – a dedicated, tamper proof appliance that stores encryption keys, protects sensitive data and processes cryptographic operations quickly and securely.
<b>On-Prem HSM</b>	Physical HSM devices that are installed in a private data center belonging to the business - normally a capital expenditure for a business involved in card payments.
<b>Public cloud HSM</b>	Offering the same functionality as on-prem but hosted in the cloud (e.g. AWS, Azure, GCP, IBM Cloud, Oracle Cloud) – normally consumed as an operational expense via subscription.
<b>Private cloud HSM</b>	Similar to a public cloud HSM but hosted in a cloud infrastructure that is used exclusively by a single organization.
<b>PCI DSS</b>	Payment Card Industry Data Security Standard – a baseline of security requirements for organizations handling payment card data.
<b>DORA</b>	Digital Operational Resilience Act, an EU regulation that aims to improve the IT security and resilience of financial institutions and their supply chains.
<b>Encryption Key Management</b>	The process of creating, organizing, protecting, storing, distributing and decommissioning cryptographic keys.
<b>Cryptographic keys</b>	A string of characters that are used to encrypt or decrypt data using a cryptographic algorithm - keys are a vital part of cryptographic systems that secure communication and protect sensitive information.
<b>Infrastructure as a Service (IaaS)</b>	A commercial model that provides on-demand access to computing resources like storage, networking, servers and virtualization.



# FAQs

## CEO/CFO questions

1

### **How can I grow my business globally without the inherent costs of employing staff and deploying infrastructure around the world?**

Thales payShield Cloud HSM takes care of the physical infrastructure and A24 removes the need to employ your own staff with HSM experience by providing a consistently high level of expertise around the world, including A24's renowned white glove service.

2

### **Surely this is expensive and more complicated than necessary?**

Customers have found our solutions to be simple, robust and cost-effective, when compared with DIY. A24 removes the significant burden of annual compliance and addressing risks in retaining talent.

3

### **How quickly can you deploy a solution and how long does it typically take?**

This varies as no two customer requirements are the same. Most projects take two to six months on average to complete, including hardware delivery lead times.

4

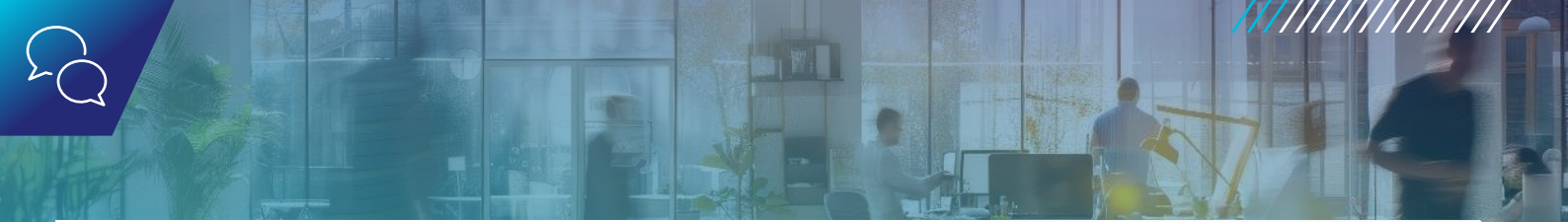
### **A24 is a small company (compared to Thales) - can you scale and service us globally?**

A24 has highly skilled staff with specialist knowledge based across Australasia, Asia, Europe and the USA. A24 can deliver services anywhere in the world except those countries in the export embargo list.

5

### **What about my existing payment HSMs - do I have to throw them away?**

A24 can also manage existing customer payment HSMs in their own data centers and/or move them to the alternative facilities in a secure manner.



# FAQs

## CISO/Risk/Compliance/Cyber Security questions

1

### How can you assist me with recent changes to the PCI DSS compliance program?

PCI DSS v4.0 was retired on December 31, 2024 with PCI DSS v4.0.1 becoming the active version of the standard supported by PCI SSC from January 01, 2025.

A24 is proud to be a PCI DSS 4.0.1 certified organization, that achieved re-certification to the new standard ahead of the December 31, 2024 deadline, demonstrating our commitment to data security and maintaining the highest standards of security and payment data protection

More information can be found [here](#).

2

### Is it too late for PCI DSS v4.0 compliance deadline?

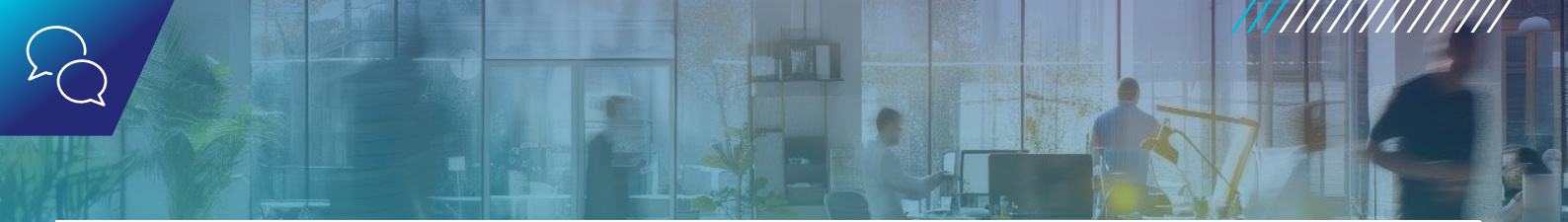
Contact A24 and Thales and we can discuss the best path to compliance for your situation and organization.

3

### How can you reduce the burden of PCI Compliance ?

Our blueprint approach to providing network and firewall infrastructure enables us to configure fully compliant designs to integrate with your application environment. A24 take responsibility for a QSA certified Attestation of Compliance (AOC) for the HSM and associated network infrastructure on your behalf.





# FAQs

## CTO/Engineering/DevOps/Cloud questions

### 1 How easy is it to implement the solution in a multi-cloud, hybrid on-prem environment?

The Thales payShield HSMs can be accessed very easily from an application running in any cloud environment.

A24 will use its extensive experience to carry out a discovery exercise, design the solution and work with your infrastructure, cloud, network, security, project and development teams to plan and implement it. A24 works as an extension of your team and aligns with your existing policies and procedures

### 2 How easy is it for developers to program to your solution?

Thales provides extensive documentation and training for programming and writing interfaces to the payShield HSMs.

### 3 How do I integrate my 'legacy' applications with the solution?

A24 has integrated many 'legacy' applications written in all sorts of legacy languages running on a variety of platforms including mainframes for its customers.

### 4 Why can't you own the master keys as well?

Thales and A24 consider that, in the context of providing an anchor of trust to protect an organization's critical data within its computing environment, the LMK is equivalent to the 'keys to the vault' and ideally should not be controlled by anyone outside of the organization.

### 5 Why don't you have a secure room?

Using Thales payShield products such as the Trusted Management Device (TMD) and payShield Manager supported by A24's 'white glove' service, the need to handle key components or other sensitive data in a clear text format is removed and therefore for most use cases, a secure room facility is no longer required to meet the PCI standards.

