Solution Brief

THALES

CYBERSECURITY



The Next Generation Thales HSM is Here: Time to Migrate to Luna 8

The Foundation of Digital Trust

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As a valued Thales customer, you've already realized the benefits that Luna Hardware Security Modules (HSMs) bring to your business, securing devices, identities, transactions and data while helping you meet security and compliance requirements.

Luna 8 builds on the proven strengths of the Luna HSM product family, delivering a next-generation foundation of digital trust designed to meet evolving requirements for security, performance, post-quantum cryptography (PQC) and modern digital environments.

Starting your migration now gives you time to plan, test, and deploy Luna 8 on your terms, before the next stage of the Luna 7 product lifecycle.

Top 8 Reasons to Migrate to Luna 8

1. Prepare for the Post-Quantum Era with Crypto Agility

Luna 8 combines native PQC support, quantum-safe protection and a scalable, crypto agile architecture to provide a foundation for the transition to post-quantum cryptography.

- Native support for post-quantum cryptography, including ML-DSA and ML-KEM
- Quantum-safe updates, protocols and internal security mechanisms
- Crypto agile architecture designed to adopt new algorithms and standards as requirements evolve
- Support for both classical and post-quantum cryptography

Prepare your cryptographic infrastructure for the future while continuing to support today's applications and algorithms.

2. Get High Performance with Our Fastest HSM Ever

Luna 8 delivers exceptional performance for both traditional and post-quantum cryptography, powered by the custom-designed Thales cryptographic processor.

- Up to 15x faster traditional cryptographic operations
- Up to 100x faster PQC operations
- High throughput and low latency for demanding applications
- Optimized for ML-DSA and ML-KEM along with RSA and ECC
- Designed for high throughput use cases including SSL/TLS, code signing and digital identity

Accelerate traditional and post-quantum workloads without compromising security or operational efficiency.

3. Scale Securely Across Enterprise and Hyperscale Environments

Luna 8 introduces a multi-tenant architecture that enables multiple isolated HSM instances to run on a single appliance, with predictable performance and strong security isolation.

- Each Thales HSM can contain one or two independent crypto modules
- Each crypto module can host up to 15x Luna HSM instances, with up to 30x instances per appliance with two crypto modules
- Double the density for the same rack space
- Predictable performance and Quality of Service (QoS) across workloads
- Dynamic provisioning for high scalability

Increase workload density and capacity while maintaining isolation and predictable performance.



4. Modernize Without Starting Again

Luna 8 is designed to protect the HSM investment you've already made. Existing applications and use cases continue to work through the Luna Universal Client, helping simplify the transition and minimize disruption.

- Continue using established Luna interfaces and workflows
- Leverage existing application integrations
- Introduce Luna 8 alongside Luna 7
- Test and migrate applications in controlled stages
- Build on existing Luna expertise and operational processes
- Easily migrate keys from Luna 7 to Luna 8

Move to the next generation without having to redesign your cryptographic environment.

5. Improve Utilization and Reduce Operational Costs

Luna 8 provides new capabilities designed to simplify administration, automate operations and make better use of available HSM capacity.

- Real-time hardware utilization metrics
- APIs to support management and automation
- Multi-tenancy for optimal hardware utilization while maintaining quality of service (QoS)
- Up to 20x greater energy efficiency per transaction compared with the previous generation
- Automate HSM administration and operational processes through APIs and CLI tools
- Integrate with existing IT infrastructure tools for monitoring, logging and metrics
- Out of band diagnostics and hardware health monitoring

Use the migration as an opportunity to consolidate infrastructure, improve utilization and increase efficiency.

6. Flexible Deployment Models

Luna 8 provides a flexible cryptographic foundation for on-premises, cloud, hybrid and multi-cloud environments.

- It supports current and emerging use cases including PKI and certificate services, SSL/TLS, code signing and DevOps, digital identity and digital signatures, IoT and mobile networks, digital assets, AI, post-quantum cryptography and more.
- Luna 8 is initially available as a network HSM, with PCIe, USB and additional deployment options planned for future releases.

Maintain a consistent cryptographic strategy as your infrastructure and application environments evolve.

7. Maintain High-Assurance Security and Compliance

Luna 8 continues the trusted Luna HSM approach to protecting sensitive keys and critical applications using high-assurance hardware security.

- Tamper-resistant hardware protection for cryptographic keys
- Side-channel protection through the Thales custom-designed crypto processor
- Crypto agile architecture designed for evolving security requirements
- Designed to meet FIPS 140-3 and EU Common Criteria certification

Preserve a strong foundation for evolving security and compliance requirements.

8. Keep Up with New and Existing Integrations

Luna combines a modern hardware platform with the established Luna ecosystem, helping organizations support both existing applications and emerging technologies.

- Continue to leverage the Luna Universal Client
- Maintain existing interfaces and cryptographic workflows
- Integrate with a broad ecosystem of third-party applications
- Support new algorithms, standards and security requirements
- Prepare for emerging workloads and applications

Maintain flexibility as application, security and technology requirements change.

It's Time to Migrate to Thales Luna 8 HSM

Make the move from Luna 7 to Luna 8 with a controlled, phased migration. Use the Luna Universal Client to run Luna 8 alongside your existing environment, validate applications and integrations, and migrate workloads and keys at your own pace — minimizing disruption while unlocking enhanced Luna 8 capabilities.

Even though Luna 8 is backwards compatible with Luna 7, ensure you leave enough time for testing, procurement, and key migration.

Visit the Luna 8 HSM product page or consult with a Thales sales representative for more details on how to get started.

About Thales

Thales is a global leader in cybersecurity, helping the most trusted organizations protect critical applications, data, identities, and software anywhere, at scale. Through Thales' integrated platforms, customers achieve better visibility of risks, defend against cyber threats, close compliance gaps, and deliver trusted digital experiences for billions of consumers every day.

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