Bull Hardware Security Module

Brochure

Data Security Choosing the right path through compliance

Trusted partner for your **Digital Journey**

Atos

Adapt to changing regulations & threats

As cyber threats are constantly evolving, securing data became a major stake for companies and critical infrastructures.

The threat landscape is continuously changing:

- **Attack surface** is expanding with the rise of cloud, mobile and IoT
- **Attack actors** are motivated as they are after the company's money, sensitive information, key data and reputation
- **Attack vectors** are more targeted & complex and take advantage of all types of system vulnerabilities

Facing such challenges require organizations to adapt their security policy, including data protection measures. The objective of the **GDPR** (General Data Protection Regulation), which will come into force from May 2018, is to strengthen and unify data protection for European citizen in every country. It will have a structural impact on the security of IT systems.

Organizations must comply with these new regulations that protect data privacy and include them in their security policy. They must therefore resort to high security solutions tailored to their situation.

Beyond mere compliance, companies can build a relationship of trust with their customers and partners through cyber security.

Personal data

Data breaches have a huge impact on an organization and its activities. Data protection must be one of the main concerns of the company, as data is one of the most valuable and strategic asset to all businesses.

From affected brand trust to cybercrime costs, cyber-attacks disrupt every business, even legally. For example, fines up to 20 million€ or 4 % of the total worldwide annual turnover apply pursuant to non-compliance to the GDPR (Article 83).

Ensure privacy and data security by choosing a solution compliant with the standards and regulations related to your business (GDPR compliance, HIPAA, PCI DSS...).

Cloud security

Cloud is rapidly and exponentially increasing every year and has revolutionized the working life. Many businesses are drawn by the accessibility of the data, the infrastructure cost reductions and the appeal of services that are adaptable and highly flexible.

More and more SaaS applications are hosted outside the company's walls. This migration to Cloud raises the question of where data is really stored and who can access it. Companies need to be sure that data privacy is ensured.

Identity and access management and especially encryption are the best ways to protect data.

Payment protection

Data protection is paramount in the financial sector. In a growing environment characterized by close links between market players, handling of ever larger amounts of capital, and increasingly sophisticated financial products, operational risks have arisen significantly.

Securing transactions demands efficient, reliable and flexible security solutions, fully integrated into information systems and payment systems, in compliance with industry standards such as PCI DSS (Payment Card Industry Data Security Standard).

IoT Security

In the context of IoT, large quantities of data are generated and have to be transmitted between various entities in this ecosystem.

Cyberattacks targeting connected devices can be harmful and disrupt critical services.

It is therefore vital to deploy an overall device and data security solution adapted to the IoT environments, communication networks and protocols (Low-power long-range such asLoRa or Sigfox, and Short-range such as Wi-Fi, ZigBee, or Bluetooth Low Power).

Protect your data with compliant devices

Data protection became a strategic step in your digital transformation journey but most of all a priority in company security policy.

Compliant, flexible and innovative, our Hardware Security Module range brings to companies and critical infrastructures the reliability of an innovative and robust architecture in compliance with strict security demands. Designed to ensure integrity and security of customers' cryptographic operations, our HSMs guarantee high availability and safe restore, an easy installation and an ergonomic management application.

Virtual HSM: Mutualize your HSM

With its virtual HSMs, Bull Trustway Proteccio allows your customer to mutualize their HSM for different use cases.

The Hardware Security Module Trustway Proteccio gives simultaneously access to eight virtual HSMs. Each virtual HSM is a cryptographic partition strongly separated from the others by dedicated encryption keys, users, administrators and auditors.

This strong partitioning permits a physical HSM to be shared among various applications, while still benefitting from a level of security identical to the deployment of several pieces of equipment.

Security pioneer in IoT

Atos supports its customers through their digital transformation and offers them innovative ways to secure their data. Our IoT Security Suite is an end-to-end solution which includes Bull Trustway Crypt2pay HSM extensions for smart meters (DLMS/COSEM) and connected objects (LoRa) security.

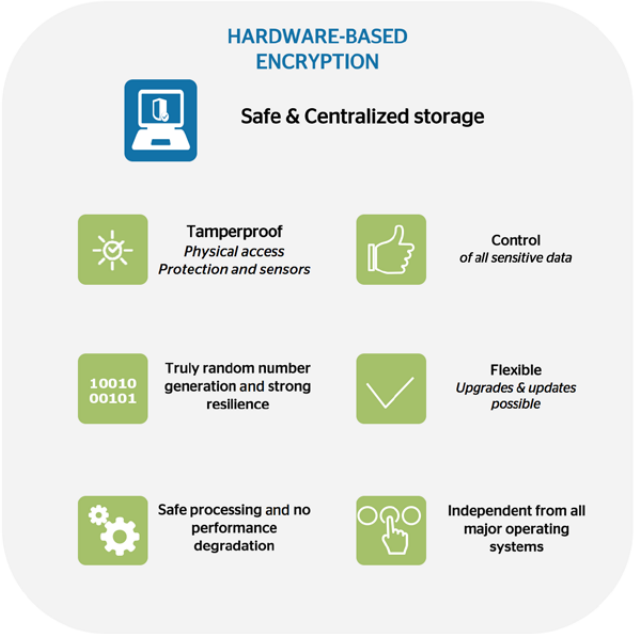
Atos is a member of the LoRa Alliance, an open global standard for secure, carrier-grade IoT LPWAN connectivity, and provides trust security services to deliver keys and certificate for IoT. We contributed to build the first highly secure LoRa network of Bouygues Telecom – Objenious project, managing more than 19 million devices and 4000 LoRa antennas and gateways.

100% European solutions

Developed in Europe and complying with the upmost demanding norms and regulations, our HSMs are designed to integrate seamlessly with your overall information systems protection policies.

Hardware and software are especially designed, implemented and completely manufactured in our offices in France. Our 100% European solutions insure a total capacity to deploy our HSMs and to offer you an end-to-end solution including sales, post-sale support, maintenance and training.

Why you need a Hardware Security Module



With a Hardware Security Module, you keep the control of all your sensitive data and the security level is not dependent on any external factor, to the contrary of software-based encryption.

End-to-end security

As a trusted partner, Atos designs, develops, operates and maintains cutting-edge digital solutions that combine power, security and systems integration. With its wide-ranging technology expertise, Atos combines its expertise with important market actors, in the cloud sector, in Internet of Things (IoT)...to propose to its customers an end-to-end cybersecurity offer.

Data protection

Data protection solutions allow you to encrypt and control the access to your data whatever its place is (On-premise, Virtual and Cloud).

The Hardware Security Modules bring a complete security and protect all your transactions, identities and applications in a box.

The HSM allows you to manage encryption keys that guarantee data security at every level: virtual machine, database, applications, files...

Authentication

Hardware Security Module enhances security of your application dedicated to access management, authentication....

HSM is the root of trust for all your application. It brings you the required insurance for authentication regardless whether it is PKI, signature solution, IAM nor privileged account management.

HSM offers a safe environment to manage key pair of certification Authority and signature solution and master key of IAM and PAM solution.

The HSM guarantee a high security thanks to access control of your data and securing of keys generators.

Cloud

The combination of its physical security devices and its cryptographic core responding to strict security requirements brings to information systems and cloud services one of the most certified cryptographic modules in the world.

To secure cloud environment, the HSM provides:

- Secure exchange between Private Cloud and local site;
- Data encryption: On-premise solution;
- Data encryption: in the cloud solution;
- On demand crypto services.

References

oodrive
Trusted Cloud Solutions

Cloud solutions associated with data encryption boxes
Based on our Bull Trustway Proteccio HSM

Bring the highest level of security to protect your data in the Cloud:

- Data protection: Associated to Oodrive Saas application, HSM guarantee security of all the data hosted in Oodrive cloud
- Standard compliancy: HSM certified Common Criteria EAL4+ and respond to the EU regulations
- Virtual vault: strong authentication and management key encryption
- Flexibility in the cloud: Clusterized and managed on remote, the HSM provides cryptographic services in the Cloud to enhance security of the data and application

IoT security

The Internet of Things is a key area of the digital transformation. As the number of digital connected devices is skyrocketing, taking part of our everyday life, securing the IoT is becoming critical. Every connected object can be turned into an attack vector and every security breach can induct a way for hackers to corrupt or steal data.

Bull IoT Security Suite consists of 4 pillars:

- **Security Analytics** to detect frauds and prevent attacks with SOCs for IoT;
- **Identity Lifecycle Management** to provision and manage devices and digital identities securely;
- **Secure Communication** to secure networks and data privacy and be compliant with regulations;
- **Embedded Security** to protect embedded devices without compromising performances.

Secure payment transactions

The Bull Trustway Crypt2payHSM is in the heart of the whole banking transactions lifecycle, from the general payment card (PIN generation & mailing, data preparation…), to newer mobile and online payment markets (NFC, Host Card Emulation, 3DSecure™, dynamic CVV…).

All financial services and merchants need to rely on a trustworthy payment solution – which is vital for financial activities, and to ensure an adaptable solution in terms of performance scalability.

Crypt2pay is certified by third parties (incl. FIPS 140-2), trusted by all players in the payment industry to ensure compliancy with the PCI PTS/HSM requirements. . Moreover, the available performances licenses ensure the flexibility needed in term of scalability. No need to buy new hardware to upgrade your performance: we've got everything covered with our adaptive technology.

Crypt2pay comes along with a Centralized Key Management Solution to manage and exchange secrets between personalization chains and transaction authorization chains, through key ceremonies in a highly secure and cost effective way.

Data Protection suite

The management of encryption keys becomes a real headache, it is expensive and the keys often scattered in each entity. Moreover, if a malicious person steals a secret key, it could decrypt the data, falsify identities, and generate certificates. Thus, being able to secure key management is essential!

Atos offers a complete ecosystem to address the challenges of protecting your data, especially in the cloud.

The solution is composed by key management server, 5 connectors to cover Virtual machine, database, file and application encryption and tokenisation application. With its wide integration ecosystem, we offer an arsenal to cover all the data encryption needs.

Our solution brings you compliant with all the standard and regulation (HIPAA, PCI DSS, GDPR …).

References

Objenious by Bouygues Telecom

National deployment of the LoRa network in France
Based on our Security Server, KMC, Crypt2pay HSM and metapki solutions

- Scalability: management of 19 Million devices in 2019
- Standard compliancy: secure communication and compliance with 3G, IP, LoRa and EU regulations
- Data protection: high security platform for IoT
- Flexibility in the cloud: Clusterized and managed on remote, the HSM provides cryptographic services in the Cloud to enhance security of the data and application

Our range of products

Combining technological and business expertise, Atos designs, develops custom-made solutions which helps companies and administrations to secure their information system. As a European leader specialized in cryptography, Atos guarantees the confidentiality of sensitive data.

Our cryptographic modules benefit from high level security functionalities, are simple to implement and administrate and allow to streamline costs. Our range of Hardware Security Modules, including the general purpose Trustway Proteccio and the payment HSM Crypt2pay, comply with numerous international standards and certifications: **Common Criteria, NATO SECRET, Reinforced Qualification, PCI HSM, FIPS, MEPS...**

HSM Trustway Proteccio NetHSM

Innovation in security technology is the master word with **Trustway Proteccio NetHSM**. Eight independently managed cryptographic virtual HSMs sheltered in one physical HSM are made available for a high-secured operational flexibility.

HSM Trustway Proteccio OEM

Trustway Proteccio OEM offers the possibility to deploy custom applications that are integrated then securely executed within the appliance and benefit from an easy programmability environment.

HSM Trustway Proteccio USB

Trustway Proteccio USB offers control and security. The USB connectivity allows maintaining the sensitive environment offline in order to avoid any loss of data, a direct connectivity between the customer's machine and the HSM. One of the benefits is also the rackable platform of a 1U to be easily integrated into your infrastructure.

HSM + applications = security in one box!

Certified high security

- CC EAL4+
- Reinforced Qualification (ANSSI QR)
- NATO SECRET Agreement

Easy to build

- Cost reduce
- Manageability of deployment and integration
- Avoid deployment on premise of VM server HSM application

Secure platform

- Real server environment
- To install OS + application with its own RAM, Mas storage and microchip
- Signed environment guaranteeing the authenticity and the integrity of the application package
- Which facilitate remote update of the platform

Trustway Crypt2pay Payment HSM

Crypt2pay is specially designed to secure transactions using credit, debit or loyalty cards. It secures the whole issuing process (PIN Management, Personalization Data Preparation) as well as face-to-face transactions of all types, from Point of Sale (POS) to Automated Teller Machine (ATM), including contactless payments. Security of digital payments (Host Card Emulation, Cloud Based Payment and Internet Card Not Present) is also supported.

Crypt2pay is PCI PTS/HSM certified, meeting the most stringent security requirements of the major card schemes such as American Express, MasterCard, UnionPay and VISA.

Trustway Crypt2pay IoT HSM

Leveraging our expertise in securing payment transactions, Atos extended the functions of crypt2pay HSM to the use cases of smart meters (DLMS/COSEM) and connected objects (LoRa) which have very similar constraints (large number of devices, personalized with secret keys to secure end-to-end exchanges across wide networks ...).

Insight & Innovation

LoRa Alliance™ Wide Area Networks for IoT

Atos is members of the LoRa Alliance and provides trust security services to deliver keys and certificate for IoT.

Millions of objects are already secured by Atos solutions (smart metering...) and secure the first LoRaWan network in France.

Quantum safe

Atos is a European leader in both computing & cybersecurity to offer its customer the best in these two domains.

To face tomorrow challenges regarding post quantum environment, Atos is designing architectures able to resist to the growth of computation capabilities. Atos wants to provide to its customers the guaranty to use quantum safe algorithms.

Traceability of blockchain

Atos is working on improving **trust and transparency** in your company with **blockchain cryptography**

- Records of identities, timestamps, provenance...
- Improved **transparency** and **audit**
- Secure **by design**

Homomorphic cryptography

In a world where treatment and analysis of Big Data is a key part of the business, exploiting **encrypted Big Data while guaranteeing its security is a challenge.**

Atos launched several R&D projects as members of workgroup and alliances to offer a homomorphic compliant HSM answering these key issues.

About Atos

Atos is a global leader in digital transformation with approximately 100,000 employees in 72 countries and annual revenue of around € 12 billion. The European number one in Big Data, Cybersecurity, High Performance Computing and Digital Workplace, The Group provides Cloud services, Infrastructure & Data Management, Business & Platform solutions, as well as transactional services through Worldline, the European leader in the payment industry. With its cutting-edge technologies, digital expertise and industry knowledge, Atos supports the digital transformation of its clients across various business sectors: Defense, Financial Services, Health, Manufacturing, Media, Energy & Utilities, Public sector, Retail, Telecommunications and Transportation. The Group is the Worldwide Information Technology Partner for the Olympic & Paralympic Games and operates under the brands Atos, Atos Consulting, Atos Worldgrid, Bull, Canopy, Unify and Worldline. Atos SE (Societas Europaea) is listed on the CAC40 Paris stock index.

Bull is the Atos brand for its technology products and software, which are today distributed in over 50 countries worldwide

Find out more about us
atos.net
ascent.atos.net

Let's start a discussion together

Contact: **marketing@atos.net**

CT_170628_LPM_B-Bull_HSM_en2