IBM Hyper Protect Services empowers RegTech Innovation: Know Your Network™

Schwarzthal Tech, a pioneering London-based RegTech and FinTech startup, is making significant strides in the fight against financial crime with its innovative AI-driven platform. Supported by IBM Hyper Protect Accelerator, our journey has been one of transformative growth and development.

Schwarzthal Tech aims to revolutionise compliance in the financial sector through our leading-edge concept: Know Your Network™ (KYN). Unlike traditional KYC (Know Your Customer) practices, KYN leverages graph-based databases to deliver comprehensive financial crime intelligence. This innovative approach enables us to assess and investigate complex cases and monitor transactions with unprecedented precision.

Schwarzthal Tech's platform, Wunderschild, embodies this cutting-edge technology. As an AI-driven solution, Wunderschild offers Intelligence as a Service (IaaS), gathering global multilingual data on company ownerships, adverse media, sanction lists and transactions. It visualises, assesses, and analyses the network and underlying risk of counterparties, providing users with crucial insights before onboarding or during ongoing customer monitoring.

Our platform's unique capabilities stem from rigorous scientific and technological research. By transforming unstructured data into standardised, graph-oriented models, Wunderschild continuously searches for connections across various data records, supporting multiple languages and alphabets. This comprehensive approach ensures that all underlying risks are aggregated into a KYN-based score, allowing for detailed risk assessments and enhanced economic intelligence.

Schwarzthal Tech is proud to be backed by the largest startup fund in the UK, the Mayor of London, and London & Partners, and accelerated by Startupbootcamp, the leading global accelerator in FinTech innovations. Our participation in the IBM Hyper Protect Accelerator has further empowered us to refine our technology and expand our impact in combating financial crime.

With Wunderschild and the KYN methodology, Schwarzthal Tech is at the forefront of redefining financial crime intelligence, helping organisations stay ahead of emerging threats and maintain robust compliance standards.

IBM Hyper Protect (powered by IBM Z)

IBM Hyper Protect is a suite of security solutions designed to safeguard sensitive data and workloads in cloud environments. It offers a high level of security and privacy protection, particularly suited for industries with strict compliance requirements such as finance, healthcare, and government.

As a leading RegTech company, Schwarzthal aims to carefully protect the data of our users, and IBM helps us by providing essential cloud services.

The components of IBM Hyper Protect that protect Schwarzthal's platform include:

1) IBM Hyper Crypto Services, which provides comprehensive key management capabilities and cryptographic operations such as encryption, decryption, and hashing in a highly secure environment. HPCS is backed by FIPS 140-2 Level 4 hardware, where not even IBM Cloud Admins have access to the underlying services. Most cloud services only offer the operational assurance that Admins won't access sensitive data, but by offering hardware assurance, HPCS is the highest level of data security available in the cloud. HPCS can be combined with quantum safe signing with Dillithium, ensuring security against quantum threats without sacrificing the agility needed for a crypto solution. Learn more about IBM Hyper Protect Crypto Services at https://ibm.biz/hpcs-overview.

2) IBM Hyper Protect Virtual Servers (HPVS). These are virtual server instances running on IBM Cloud infrastructure that provide isolated execution environments for sensitive workloads. HPVS is a digital implementation of SCIF (Secure Compartmented Information Facility) on LinuxONE, a strategy popular with national security agencies to handle their confidential and top-secret material. HPVS instances are tamper-proof, thanks to a secure contract specified at time of creation. HPVS operations, down to the logs, are encrypted, providing total security for the most critical workloads. Learn more about IBM Hyper Protect Virtual Servers at https://ibm.biz/hpvs-overview.

3) Compliance and Certification: IBM Hyper Protect Services were designed to meet various compliance standards and regulations, such as HIPAA, GDPR, DORA and others. This makes them suitable for industries where regulatory compliance is a priority.

Overall, IBM Hyper Protect provides organisations with a comprehensive set of security solutions to protect their sensitive data and workloads in cloud environments, helping them address security and compliance challenges effectively.

Confidential computing with LinuxONE

Confidential computing is enabled on LinuxONE (s390x architecture developed by IBM) by using the IBM Secure Execution for Linux technology.

Our approach involves encrypted Linux images that protect their in-use memory, closing an exploit where an intruder can dump the memory to fetch unencrypted sensitive data, such as but not limited to personal private information (PII) or passwords. This end-to-end approach ensures that the workload or data is protected from both external and insider threats.

IBM Hyper Protect takes this one step further, building an encrypted immutable `IBM Hyper Protect Container Runtime (HPCR)` that a workload runs within. This protective layer prevents direct access to the underlying workloads without sacrificing efficiency. Like with a Docker Compose file, the HPVS contract can specify volumes, ports, and environment variables. This combination of hardware security with cloud efficiency is the foundation for Confidential Computing. Learn more by visiting https://ibm.biz/hps-redbook.

About IBM Cloud

IBM Cloud is a comprehensive suite of cloud computing services offered by IBM, designed to support businesses in building, deploying, and managing applications and services in the cloud. This platform provides a broad array of infrastructure as a service (IaaS) and software as a service (SaaS) solutions, ensuring flexibility and scalability for various business needs.

Schwarzthal Tech leverages IBM Cloud solution to optimise our operations. The platform's compute resources, like virtual servers and the Kubernetes engine, enable us to efficiently run our workloads, ensuring reliability and performance. Additionally, IBM Cloud's versatile storage solutions provide us with the flexibility to choose the appropriate storage tier based on our needs, balancing performance and cost.

By utilising tools like Terraform, managing a large and complex infrastructure becomes seamless and straightforward. Terraform's ability to automate the provisioning and management of resources ensures that our infrastructure is always in sync with our application requirements, reducing the risk of manual errors and enhancing operational efficiency.

IBM Cloud's robust infrastructure, combined with its advanced tools, services and security with IBM Hyper Protect, supports our mission at Schwarzthal Tech to deliver cutting-edge financial crime intelligence solutions. This collaboration allows us to focus on innovation while ensuring our platform is scalable, secure, and efficient.

Data privacy solutions and Hybrid Clouds

One of the distinguishing features of IBM Cloud is its focus on hybrid cloud solutions, allowing businesses to seamlessly integrate on-premises infrastructure with cloud services.
General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA) are the leading laws related to handling personal data. When applied to the financial sector, both regulations are very strict when dealing with private information. Therefore, financial institutions are reluctant to harbour their clients' data in cloud-based solutions.

IBM address this concern by enabling its cloud services to integrate with existing on-prem infrastructure. This allows banks and financial services providers to leverage the scalability and flexibility of the cloud while maintaining some workloads on-premises for security or compliance reasons.

IBM Hyper Protect Crypto Services is one of many offerings with this capability. Encryption keys and cryptographic services apply seamlessly to any resources hosted on-prem or in other clouds, providing an 'umbrella' of security over an entire infrastructure. By leveraging IBM's LinuxONE based Hyper Protect solutions, Wunderschild can provide an on-premise service for our clients who want to keep and manage their own sensitive data. This level of hardware assurance is one of many reasons Schwarzthal Tech continues to lead the way in combatting financial crime.