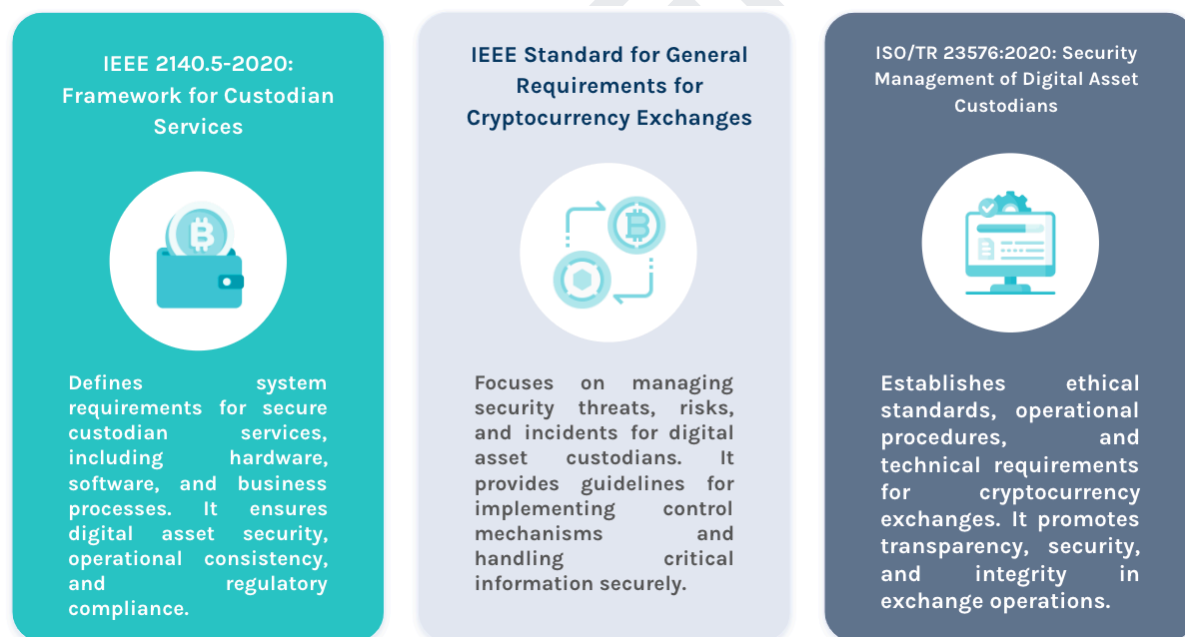# An overview on standards and internal policies of custodians

This blog post is part of the contributions of Validvent to the BlockStand project, which seeks to promote understanding and harmonisation of blockchain standards.

In the realm of cryptocurrency exchanges and custodians, numerous standards play crucial roles, such as ISO 22739:2020 for blockchain vocabulary and IEEE 2140.1-2020 for general exchange requirements. Among these, we prioritise IEEE 2140.5-2020, ISO/TR 23576:2020, and the IEEE Standard for General Requirements for Cryptocurrency Exchanges due to their significant impact on security, operational procedures, and regulatory compliance. These standards provide comprehensive frameworks essential for the secure and efficient management of digital assets, fostering trust and reliability in the cryptocurrency market.

Cryptocurrency exchanges and custodians play key roles in the digital asset ecosystem. Ensuring their efficient operation is critical for the growth and stability of the cryptocurrency market. To address this need, several standards have been developed to provide frameworks for secure and compliant operations.

IEEE 2140.5-2020: Framework for Custodian Services	IEEE Standard for General Requirements for Cryptocurrency Exchanges	ISO/TR 23576:2020: Security Management of Digital Asset Custodians
Defines system requirements for secure custodian services, including hardware, software, and business processes. It ensures digital asset security, operational consistency, and regulatory compliance.	Focuses on managing security threats, risks, and incidents for digital asset custodians. It provides guidelines for implementing control mechanisms and handling critical information securely.	Establishes ethical standards, operational procedures, and technical requirements for cryptocurrency exchanges. It promotes transparency, security, and integrity in exchange operations.

This blog post aims to briefly explain some of these standards and their technical aspects, and discuss their impact on the industry while also examining some internal policies implemented by custody providers. To achieve this, we collected insights from two industry experts: Miguel Vaz, Managing Director for a crypto custodian, regarding the standards, and Michal Truszczynski, Specialist, Public Affairs at Bitpanda, about the internal policies Bitpanda has implemented concerning ethics and employment culture.

Let's first review each of the standards:

1. **IEEE 2140.5-2020: Framework for Custodian Services**

The IEEE 2140.5-2020 standard outlines the system requirements for secure and efficient custodian services, including the necessary hardware and software infrastructure to manage digital assets securely. It describes the operational models and business processes necessary for consistent and reliable custodian operations. Various custodian service business models are presented, providing flexibility in service structure and delivery to meet different market needs. The standard also provides criteria for assessing digital assets, helping custodians evaluate and manage their holdings accurately. It includes detailed procedures for securely handling digital assets, covering both routine operations and emergency responses, and ensures that services meet regulatory requirements, promoting transparency and accountability.

IEEE 2140.5-2020: Framework for Custodian Services

Technical Architecture: Outlines secure hardware and software requirements.

Business Logic: Defines operational models and processes for reliable asset management.

Regulatory Compliance: Ensures alignment with legal standards for transparency and accountability.

For users, understanding the importance of the IEEE 2140.5-2020 standard means recognizing that their digital assets are managed in a secure and compliant manner. The standard ensures that custodians have robust security measures and operational protocols in place, which protects users' investments from potential threats and regulatory issues.

Miguel Vaz informed us that while their organization does not use the IEEE 2140.5-2020 standard, they do adhere to the ISO/IEC 27001/2 and ISO/TR 23576 standards. The ISO/IEC 27001/2 provides a comprehensive framework for managing information security, ensuring the confidentiality, integrity, and availability of information through a risk management approach. Meanwhile, ISO/TR 23576 offers guidelines for the security

management of digital asset custodians, addressing potential threats and risks and outlining control mechanisms and incident management procedures. These standards have been instrumental in refining their asset management practices, enhancing both security and operational efficiency.

2. IEEE Standard for General Requirements for Cryptocurrency Exchanges

The IEEE Standard for General Requirements for Cryptocurrency Exchanges addresses the ethics, operational procedures, user authentication, and technical requirements specific to cryptocurrency exchanges. Key components include establishing a framework for ethical behaviour in exchange operations to ensure integrity and accountability, defining best practices for day-to-day operations such as transaction processing and customer interactions, setting standards for user authentication to prevent fraud and ensure transaction integrity, as well as outlining the technical infrastructure needed to support secure and reliable exchange operations.

IEEE Standard for General Requirements for Cryptocurrency Exchanges

Threats and Risks:
Identifies and mitigates potential security threats.

Control Mechanisms:
Provides guidelines for implementing security controls.

Incident Management:
Details procedures for effective response to security breaches.

Users benefit from exchanges that adhere to these standards because it ensures their transactions are secure and their identities are protected. The ethical guidelines and operational best practices mean that users can trust these platforms to handle their assets responsibly and transparently.

Miguel noted that these standards helped exchanges uphold best practices, ensuring compliance and operational excellence. At his firm, adhering to these guidelines had improved their technical infrastructure and operational procedures, enhancing overall security and reliability. This alignment with industry standards fostered a trustworthy environment, encouraging more users to engage with their services. Miguel also pointed out that these standards provided a clear framework for operational consistency and security, which had been crucial for their firm's growth and reputation.

3. ISO/TR 23576:2020: Security Management of Digital Asset Custodians

ISO/TR 23576:2020 focuses on the security management of digital asset custodians, addressing several critical aspects. It identifies potential security threats and risks in digital asset custody, helping custodians anticipate and mitigate issues. The standard provides guidance on implementing control mechanisms to mitigate identified risks, ensuring assets are protected from various threats. It details procedures for managing security incidents, ensuring custodians can respond effectively to breaches or other security issues. Additionally, it covers the handling of critical information, including signature keys associated with digital asset accounts, ensuring they are managed securely.

ISO/TR 23576:2020: Security Management of Digital Asset Custodians

Ethical Standards: Establishes a framework for ethical operations.

Operational Procedures: Defines best practices for daily exchange activities.

User Authentication: Sets standards for verifying user identities to prevent fraud.

For users, the ISO/TR 23576:2020 standard means their assets are safeguarded through rigorous security measures. Knowing that custodians follow these protocols provides peace of mind that their digital assets are protected from theft and other security breaches.

Miguel Vaz emphasised the importance of ISO/TR 23576:2020 in managing security incidents and asset information handling. In his firm, this standard's focus on incident management ensured they could respond effectively to security threats. By implementing these guidelines, they had maintained robust security measures, protecting client assets and enhancing their overall service integrity. Miguel also highlighted that the standard provided a structured approach to identifying and mitigating risks.

Ethical Considerations inside Custodian Providers

Michal Truszczynski of Bitpanda provided insights into the company's ethical considerations, particularly concerning its employees (working culture). Integrity and ethical values are essential elements of the control environment at Bitpanda,

significantly impacting the design, administration, and monitoring of control components. Bitpanda prioritises maintaining integrity and ethical behaviour by establishing clear ethical and behavioural internal standards, ensuring their effective communication, and consistently reinforcing them through practices. Management takes proactive steps to eliminate or minimise incentives and temptations that could lead to dishonest, illegal, or unethical actions. Ethical values and behavioural standards are communicated through policy statements, codes of conduct, and by setting a positive example.

Specific control activities implemented include formal organisational policy statements and a code of conduct to communicate entity values and behavioural standards to personnel. Policies and procedures require employees to acknowledge their access to the employee handbook, code of conduct, and IT security code of conduct, understanding their responsibility for adhering to these policies. Background checks are conducted as part of the hiring process to ensure employee suitability and reliability.

To ensure compliance and reinforce ethical conduct, Bitpanda has implemented several control activities, including requiring new employees to sign a code of conduct and a confidentiality agreement during onboarding. Annual employee evaluations assess individual performance, provide feedback, and identify areas for growth. Established procedures guide, for instance, the termination process to ensure fairness and compliance with legal and organisational policies.

These control activities promote a culture of professionalism, accountability, and ethical conduct, creating an environment where employees are supported, developed, and recognized for their contributions. This drives operational excellence and fosters a workforce committed to shared success.

Conclusion

Understanding the standards and internal operations and policies for cryptocurrency exchanges and custodians is crucial for the growth and stability of the cryptocurrency industry. Both standards and internal policies provide technical guidance and help align industry practices with regulatory requirements, fostering a secure and trustworthy environment for digital asset transactions.

For users, these standards and policies ensure that their investments are protected by rigorous security measures and ethical practices. This not only safeguards their assets but also builds confidence in the platforms they use for trading and storing digital assets.

Education is key in enhancing the adoption and understanding of these standards and policies. By promoting awareness and understanding, we can help ensure a safer and more reliable cryptocurrency ecosystem.

The insights from industry experts Michal Truszczynski and Miguel Vaz highlight the real-world implications and benefits of ethical standards and internal policies

emphasising the importance of regulatory compliance, operational transparency, and robust security practices in building trust and reliability in the cryptocurrency market.

Through this blog post series, we aim to contribute to the education and harmonisation efforts within the industry, promoting a cohesive approach to digital asset custody. The next two blog posts will delve into the specific requirements of security and the requirements for DeFi exchanges. These posts will continue to break down complex custody concepts into digestible pieces, educating a wide audience and aligning industry perceptions and practices with regulatory definitions and best practices.

Stay tuned for the next posts in this series, where we will further discuss the implications and benefits of these standards for the industry.