Nick's Corner

Questions the Board Should be Asking

Condensed from the Wall Street Journal. By David Breg, Deputy Director, WSJ Pro Research

For most board directors, the cybersecurity practices of the companies they serve have historically been low on their list of priorities. And while this may be starting to change with the attention given to high-profile extortion-related attacks that have disrupted businesses, many directors who have recently taken an interest have relatively little knowledge about cybersecurity functions.

The following are a set of questions or guidelines that members of a board can consider asking.

1. **Is our cybersecurity strategy based on a recognized risk management framework, adapted to our specific needs and aligned to our business strategy?**
This question addresses the need for strategic risk management. It is not essential for members of the board to be well-versed on the variety of existing frameworks or the details about the one adopted by the cyber officials with their organization. However, it is important to determine one is in use, why it was chosen and how it has been customized to meet the company's cybersecurity needs.

2. **Do we have appropriate internal and external expertise to lead and deliver the strategic and tactical duties of defending our organization's network and data?**
The board should have a firm understanding of who is in charge and the responsibilities for essential members of the cyber team. This extends to knowing the cyber chief's background and experience, as well as that person's reporting line to senior management. The board should also be aware of third-party experts who may have a role in developing and implementing security measures or assisting with recovery efforts following a breach.

3. **Do we have the capabilities to identify risks, detect threats, measure our program's effectiveness, respond to attacks and recover from disruption?**
This question gets to the heart of the matter when developing a security program by evaluating the current level of its implementation and determining the progress that has been made so far. A measurement program should have been established with key performance indicators on the way to a mature cybersecurity program. Most board directors will recognize the importance of assessing the risks, having a roadmap in place to protect the business's most critical assets and the ability to respond to attacks that will inevitably occur.

4. **Are we investing the right amount in cybersecurity skills, technologies and resources to ensure data security without diminishing returns?**
Board directors are focused on the company's bottom line and are concerned about how money is spent on internal resources. They should know the basic components in the cyber budget, such as staff, training, security software and third-party expertise but must also understand cybersecurity investment can significantly reduce the likelihood of an expensive and disruptive incident.

5. **What are the current and potential regulations, risks and threats that could affect our business or industry?**
Cybersecurity is ever evolving and the laws and rules that businesses and organizations must operate under are not static

either. The regulatory landscape offers both handrails and potential land mines for businesses that are caught unawares of new or existing regulations. Lack of compliance can lead to stiff penalties or fines, as well reputational damage. Partnering with an entity's legal office is an important first step for leaders of the security team. And if a business or organization is small and doesn't have an in-house legal officer, then having outside counsel is advised. Discussions should happen at a minimum of once per year to keep up with changes.

Client Services

We are concerned about the large number of zero balances that are being distributed daily in the CT files, which causes significant downstream validation processing, as well as having an impact on the amount of unusable data that is being unnecessarily uploaded, downloaded and stored.

The source of these are **Valid Linked and un-linked Accounts** with **zero balances**. We are reaching out to our clients with a list of "aged" zero balance accounts, so that these can be removed before the final go-live onto the chain.

While many of these accounts have been set up in anticipation of future flows, our analysis shows that the majority are older than 6 months. Clients need to remember that the new system will auto create the links removing the need to pre-link.

Blockchain Project Update:
Go-Live: We have added enhanced trade order functionality and the estimated Go-Live date is now scheduled for the end of Q1 2022.

Familiarisation: We urge clients to login and familiarise themselves with the new blockchain interface and the training material on hand.

Web Services: Web services will be available for 6 months after go live.

Release: We are implementing an update to the Chain on the 6th October. Highlights from this release are:

- Advanced search filters on the Trading screen, giving clients an enhanced, powerful and more refined search capabilities
- Life cycle of order routing will be found under one screen and updated in real time
- Holding balances can be viewed and extracted separately

Training: Another "Demo Interface'" training session will be arranged after the Release.

API: Cut off for the API go-live will be 6 months after the Blockchain platform goes live. Final updated documentation will be circulated within the first 2 weeks of October.

Exactpro: FinSwitch has engaged Exactpro, a leading provider of software testing and related software development services with a focus on test automation for financial market infrastructures and who employ 650 professionals world-wide. Exactpro are busy building a testing module for FinSwitch to test the API. Please see link to **Exactpro: https://exactpro.com/**

Best Wishes
Tasneem Gydien
Manager: Client Relations

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ABOUT EXACTPRO

Exactpro is a leading independent provider of software testing services for mission critical technology that underpins global financial markets. The firm is experienced with trading, clearing and settlement (post-trade) platforms, market surveillance systems, market data systems, collateral and risk management systems. Exactpro provides functional and non-functional testing services to exchanges, clearing houses, securities depositories, trade repositories, digital asset exchanges, central banks, brokers and investment banks worldwide. Headquartered in the UK, with operations in the US, Eastern Europe, Lithuania and Sri Lanka, Exactpro has over 700 staff members. Learn more at **exactpro.com** or follow us on **LinkedIn** and Twitter **@exactpro**.

WHAT MAKES US DIFFERENT

**The Value of Understanding
Your Technology Assets**

Technology is a key asset of every modern company. We help our clients build, operate and transform their technology to increase its value. Our Deliberate Practice of Software Testing approach is based on modelling the entire system under test (SUT), which allows us to create test libraries that serve as an executable specification for the highly complex platforms we test. This is a 'deliberate' practice, meaning that it is systematic and focused on achieving the specific goal of improving ourcapacity of extracting information about the SUT.

CORE COMPETENCIES

We support all aspects of the most challenging transformations and regulatory initiatives in the finance industry, from requirements review to post-go-live maintenance, for the entire range of project and programme types – from small projects and proofs of concept of new services and technologies to core system replacement (CSR) and post-M&A integration initiatives.

All Exactpro test tools are cloud-native. We have delivered a number of software testing projects as part of our clients' digitisation, platform refresh/migration and DLT initiatives.

Our clients get a competitive advantage and enhanced system resilience thanks to our expertise in:

- Functional Testing
- Non-functional Testing (focusing on performance efficiency and reliability)
- Testing at the Confluence of Functional and Non-functional Testing
- Test Library Design
- Test Automation & CI/CD support
- Passive Testing/Big Data Analysis
- Data Migration Testing
- Test Environment Maintenance & Deployment Support
- Regulatory Compliance
- Client Onboarding Automation/Support

PAST PERFORMANCE

DLT Testing

We are involved in delivering ambitious DLT-based initiatives in Australia, Switzerland, the UK, etc.

In the exchanges and clearing houses space, we have experience testing the migration from legacy to DLT-based technology and with integration testing. We are also currently engaged in functional and non-functional testing of an enterprise-grade DLT platform implementation.

Exactpro provides software testing for **R3 Corda** Enterprise and Open Source versions, Corda Enterprise Network Manager (CENM), as well as software testing and development services for the R3 Corda DLT platform.

Digital Exchange Projects

We have completed software testing projects with newly launched digital exchanges and are engaged in several initiatives in this space led by large established traditional exchanges. Read more about our work with **ZUBR** and **DEX**.

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Processes, Platforms, People

The Exactpro test approach relies on the 'Processes, Platforms, People' concept. Our Processes are tailored to collect information about software defects and deliver it to our clients in a clear and transparent manner. Our People work in close cooperation with the clients' teams to help them plan, build, deliver and release mission critical solutions for global financial markets into live service. The core Platform leveraged by the Exactpro team is th2 – our next-generation test automation framework.

th2 – Exactpro's Next-gen Test Automation Framework for Financial Markets

th2 offers a comprehensive end-to-end technology-agnostic AI-driven test automation solution. Its purpose is to help regulated capital markets participants stay compliant and resilient to disruption, while focusing on innovation and having the freedom to embrace emerging technologies most relevant to their clients' needs. Built with these goals in mind, th2 brings unprecedented flexibility, breadth and depth of software testing to the financial services industry.

th2 features

- Platform and technology agnostic
- Strategic data acquisition
- AI-driven
- Unified data warehouse
- Customised for financial systems
- Pervasive automation opportunities

About th2

The th2 toolkit is designed to enable automation in functional and non-functional testing for complex distributed transaction processing systems, such as securities trading systems and exchanges, banking, brokerage, post-trade (e.g. clearing, settlement, custody), and payments platforms. In order to increase the tool's accessibility across Exactpro's international client base, the th2 source code was released on **GitHub** in December 2020.

th2:

- facilitates end-to-end automated functional and non-functional testing of complex financial systems
- enables intelligent interaction with many widely adopted network protocols as well as API, UI, DLT and cloud endpoints
- executes sophisticated test algorithms
- collects and processes distributed test data (for machine learning and other purposes)
- performs model-based testing and analyses the behavior of systems under test
- integrates with a variety of widely adopted test tools and frameworks via its open interface

FEATURED CLIENTS

Our global client network includes half of the top 20 global systemically important exchanges and clearing houses.

Feedback on our work from the Exactpro–JSE collaboration Case Study

"I have been receiving very positive feedback from my JSE teams about their work with Exactpro. The automated testing solutions allow us to perform in-depth testing to ensure software quality before deploying into live service."

**Hendrik Kotze,
CIO, the Johannesburg Stock Exchange**

Amsterdam, Oslo, Stockholm, New York, London, Zurich, Greenwich, Paris, Vienna, Nur-Sultan, Tokyo, Toronto, Milan, Jersey City, Madrid, Athens, Abu Dhabi, Hong Kong, Osaka, Lagos, Colombo, Singapore, Johannesburg, Sydney, São Paulo, Cape Town