

Thrivaca Data-Driven Digital Risk Management

From Arx Nimbus™

You know digital risk is expanding aggressively, but how can you determine total digital risk in financial terms to attack it at its origins? Without a data-driven platform that focuses on digital risk analytics, most organizations are left without a business-aligned – and cost-effective – guidance process for their cybersecurity priorities. Introducing Thrivaca from Arx Nimbus – your ultimate risk-data analytics platform.

Overview

Utilize real-world insights into the impacts and dynamics driving digital risk. Know where, why, and how much digital risk is impacting the organization with Thrivaca. Efficiently direct cyber investment and effort to the largest sources of risk and address the areas of greatest impact. Demonstrate the relationship between cyber budget and mitigated risk through our T-Score and Cyber Efficiency Index.

“Risk Measurement Action Summary: Management should use measurement of risks to guide its recommendations. . . management should use a taxonomy for security-related events to help accomplish the following: Map threats and vulnerabilities; Incorporate legal and regulatory requirements; Improve consistency in risk measurement; Highlight potential areas for mitigation; Allow comparisons among different threats, events, and potential mitigating controls.”

- FFIEC IT Examination Handbook (2016) - Information Security - II.B: Risk Measurement

The Language of Cyber-Risk

How does management currently select the best risk-reducing options and capabilities for the organization? Often, these decisions were made based on legacy methods dependent on professional judgment or expert opinion. Experience and litigation have shown quantitative analysis as the proper basis for a strong cybersecurity program.

Using the detailed definitions of accepted audit standards, controls, and regulatory requirements, Thrivaca highlights the inter-relationships of the key factors of threats, risks, vulnerabilities and capabilities to properly measure the effects of each initiative under risk. Deploying the common language of finance, Thrivaca makes visible the effects of the vital decisions around investment, risk tolerance, insurance, and capability.

Expected ARCC by Vulnerability	Expected ARCC	Expected ARCC by Threat	Expected ARCC
PS - Personal Security	\$1,162,300.00	T26-Attackers are able to gain unauthorized access to systems due to gaps in security governance and/or enforcement of security policies	\$1,162,300.00
CM - Configuration Management	\$4,426,926.00	T15-Attackers exploit and infiltrate through network devices whose security configuration has been weakened over time by granting, for specific short-term business needs, supposedly temporary exceptions that are never removed.	\$5,489,370.00
PL - Planning	\$6,970,100.00	T25-Attackers access data and networks from inside the company enabled by insufficient physical security, controls and procedures	\$7,244,000.00
GA - Security Assessment and Authorization	\$6,888,640.00	T07-Attackers compromise target organizations that do not exercise their defenses to determine and continually improve their effectiveness.	\$4,562,400.00
PM - Program Management	\$4,660,400.00	T05-Attackers exploit weak default configurations of systems that are more geared to ease of use than security.	\$4,543,100.00
AU - Audit and Accountability	\$4,500,700.00	T19-Attackers compromise inactive user accounts left behind by temporary workers, contractors, and former employees, including accounts left behind by the attackers themselves or one former employee.	\$3,936,500.00
AC - Access Control	\$4,169,800.00	T4-Attackers trick a user with an administrator-level account into opening a phishing-style e-mail with an attachment or surfing to the attacker's control on an Internet website, allowing the attacker malicious code or exploit to run on the victim machine	\$3,908,700.00
MA - Maintenance	\$4,120,900.00	T12-Attackers exploit users and system administrators via social engineering scams that work because of a lack of security skills and awareness.	\$3,911,000.00
RA - Risk Assessment(s)	\$3,939,200.00	T01-Attackers continually scan for new, unprotected systems, including test or experimental systems, and exploit such systems to gain control of them.	\$3,941,700.00
SI - System and Information Integrity (Protection)	\$3,930,900.00	T20-Attackers escalate their privileges on victim machines by launching password guessing, password cracking, or privilege escalation exploits to gain administrator control of systems, then used to propagate to other victim machines across an enterprise.	\$2,982,000.00
IC - System and Communications (Protection)	\$2,810,200.00	T17-Attackers operate undetected for extended periods of time on compromised systems because of a lack of logging and log review.	\$2,837,500.00
AT - Awareness and Training	\$2,230,900.00	T18-Attackers exploit poorly designed network architectures by locating unneeded or unprovisioned connectors, weak links, or a lack of association of protocol systems and business functions.	\$2,819,500.00
IA - Identification and Authentication	\$1,932,300.00		
MP - Media Protection	\$1,584,900.00		
PE - Physical and Environmental Protection(s)	\$1,300,200.00		
SA - System and Service Acquisition(s)	\$1,278,700.00		
CP - Contingency Planning	\$480,000.00		
IR - Incident Response	\$32,600.00		
Total	\$78,816,600	Total	\$78,816,600

Technology

The Thrivaca platform provides the most comprehensive data and advanced quantitative processes available today:

- Threat trend-tracking on your industry derived from over 9 million attacks per day
- An advanced machine learning algorithm that simulates actual threat actor patterns
- Industry-specific risk-probability patterns derived from multi-year history
- Top Gartner-rated vulnerability scanning technology
- Delivered via a SOC 1 / SOC 2 cloud platform
- Insurance-grade quantitative models that utilize actuarially-based risk valuations
- Thrivaca M&A provides pre-and post-merger analyses, identifying specific mitigation strategies, solutions, and cost-of-risk effects
- Thrivaca CI provides the Cyber Insurance industry – underwriters and brokers – with the most rapid turnaround of any actuarially-driven risk valuation solution, with the least invasive data collection attainable
- Thrivaca Cloud brings a complete ongoing analyses of all cloud environments individually and collectively including cloud migration and integration risk exposure at its sources
- Fully auditable and traceable results, based on “Zero-Trust” principles throughout

Thrivaca measures controls across the entire enterprise in alignment with regulator-mandated standards including FFIEC, NIST 800-53, FERC, SANS, HIPAA and ISO. Knowing the financial trade-offs of options and strategies allows companies to prioritize and invest with confidence and precision for the first time. Our accelerated delivery cycle allows for rapid reprioritization of cyber solutions and actionable next steps.

“Cybersecurity risks pose grave threats to investors, our capital markets, and our country. Controls and procedures should enable companies to identify cybersecurity risks and incidents, assess and analyze their impact on a company’s business, evaluate the significance associated with such risks and incidents, provide for open communications between technical experts and disclosure advisors, and make timely disclosures regarding such risks and incidents.”

- February 2018 SEC Ruling



Thrivaca – Immediate and long-term benefits



“Conducting a risk analysis is the first step in identifying and implementing safeguards that comply with and carry out the standards and implementation specifications in the Security Rule. Risk analysis is one of four required implementation specifications that provide instructions to implement the Security Management Process standard.

RISK ANALYSIS Required:

Conduct an accurate and thorough assessment of the potential risks and vulnerabilities to the confidentiality, integrity, and availability of electronic protected health information held by the organization.”

- Health and Human Services Regulation Section 164.308(a)(1)(ii)(A)

Key Questions to Ask

How is Thrivaca different from other, older methods of modelling digital risk?

Thrivaca models cybersecurity risks in a mathematically-correct probability density function using current quantitative techniques used by top financial institutions to model other complex risk dynamics, properly showing the “fat-tail” effects of the low-probability / high-impact patterns of the most harmful cyber risks

What is a typical ROI for the first year of Thrivaca?

Based on customer input, we see a minimum 8% first-year increase over current risk-reduction, providing a typical ROI over 400%, without an increase in overall cyber budget

Can you translate to different cybersecurity frameworks, like ISO 27001?

Thrivaca provides for expression of risk results in all major cybersecurity frameworks, with complete auditability and traceability between threats, risks, vulnerabilities and capabilities, while preserving regulator-specific

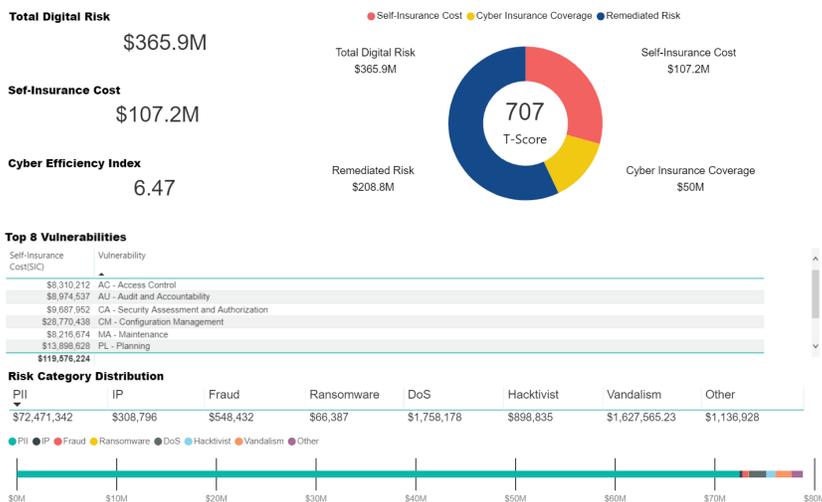
Can you integrate with other GRC solutions, such as RSA Archer?

Thrivaca currently utilizes Risk Register data from RSA Archer and ServiceNow via API

Are enterprise dimensions like share value and reputation loss accounted for?

Historically-validated impacts including Shareholder equity effects, incident response costs, GDPR sanctions, litigation exposure and other effects are captured in the Thrivaca economic model

Thrivaca Risk Profile



“... For operational plans development, the combination of threats, vulnerabilities, and impacts must be evaluated in order to identify important trends and decide where effort should be applied to eliminate or reduce threat capabilities; eliminate or reduce vulnerabilities; and assess, coordinate, and deconflict all cyberspace operations.

Leaders at all levels are accountable for ensuring readiness and security to the same degree as in any other domain...”

- NIST Guide for Conducting Risk Assessments (800-30)