

Buyer's Guide

Cyber Risk Modeling

Cyber risk solutions deliver the insights your organization needs to help build a more diverse portfolio, improve risk differentiation, and gain a clearer understanding of cyber risk accumulations. When evaluating potential cyber solutions, it's important to ask questions about each solution's **modeling capabilities, risk fundamentals, and business integration tools.**

TOP QUESTIONS TO CONSIDER

WHAT TO ASK

COMMON PITFALLS

MODELING CAPABILITIES

MODEL COMPLETENESS



Does the model account for attrition and large losses that affect the day-to-day probable maximum loss?
Does the model account for potential aggregate losses?

Modeling both catastrophe and attritional losses is important for capital allocation and pricing to account for day-to-day PML, but also understand the risk of rare, severe events.



LOSS DRIVERS

Can I identify key loss drivers and which events or accounts drive the tail?

In a competitive market, insurers should prioritize a model that can provide clarity on key risk drivers and cyber perils for strategic growth and new segments.



MODEL TRANSPARENCY

Can I adjust the model to reflect my own view of risk?
Can I get full insight into the underlying assumptions?

Understanding the underlying model assumptions builds trust. "Black-box" models make it harder to align model outputs with business decisions and regulatory requirements.



SENSITIVITY

How can I test model sensitivity against various parameters?

The ability to adjust and test model parameters helps to better understand model uncertainties and assess the impact on losses, enhancing decision-making.



MODEL CONSISTENCY

Are model results consistent between analyses and across multiple users?

Reproducible and reliable results anchor business strategies and ensure decisions are based on trustworthy data, helping navigate the complexities of cyber risk.



INTERCONNECTED RISKS

Can the model capture cyber-triggered physical P&C losses?

Cyber incidents can cause physical damage that triggers P&C policies. A model that captures these interconnected risks offers deeper insight into your portfolio's exposure.

RISK FUNDAMENTALS

MODEL ADAPTABILITY



Can the model adapt to the shifting risk landscape – effectively accounting for the "unknown unknowns" – without significantly changing losses?

Due to the speed of change and unpredictability of cyber risk, a model reliant on precise scenarios may not completely capture the full risk spectrum.

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8



DATA-DRIVEN INSIGHTS

How does the model assess what data is the most predictive of loss?
How does the model differentiate between relevant data and background noise in its analysis?

Navigating the data deluge in cyber modeling is crucial. Understanding how the model selects and processes relevant data amid vast quantities helps ensure accurate risk assessment.

9



INDUSTRY EXPERTISE

What is the breadth of expertise that underpins the model's development?
Has the model been tailored to (re)insurance industry needs?

Vendor expertise matters. While cybersecurity experts know the threat landscape, catastrophe modelers understand how to translate threats into quantifiable risk.

10



STANDARDIZED COVERAGES

How does the model's financial engine capture different coverages and at what granularity?

The dynamic nature of cyber has resulted in a lack of standardization across coverages, making it difficult to accurately capture policy terms and conditions.

11



PORTFOLIO AGGREGATION

How can the model support my portfolio roll-up?

The ability to adjust and test model parameters helps you to better understand model vulnerabilities and assess the impact on losses, enhancing decision-making.

12



MODEL VALIDATION

Has the model been validated using real-world event losses?

A model informed by incident data confirms assumptions and enhances predictive accuracy. Real loss data refines a model's adaptability to changing risks.

BUSINESS INTEGRATION TOOLS

13



FLEXIBLE REPORTING

Can I interrogate output at different granularities and loss dimensions?

With multidimensional reporting capabilities, you can extract insights tailored to your specific needs, informing decision-making and ensuring effective communication with a range of stakeholders.

14



FINANCIAL MODELING

Can the model's financial engine capture reinsurance structures and ingest aggregate limit profiles?

A flexible financial engine can model various exposure formats, reinsurance structures, and policy conditions for accurate risk transfer and capital planning.

15



INDUSTRY LOSS METRICS

Does the model produce insurance-specific output such as exceedance probability curves and average annual loss?

The ability to produce insurance-specific output, such as exceedance probability curves, is important for a model to fit seamlessly into existing workflows.