

Cyber Risk Modeling Buyer's Guide

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	BUSINESS IMPACT
MODELING CAPABILITIES		
1		MODEL COMPLETENESS
	<p>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?</p>	<p>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.</p>
2		LOSS DRIVERS
	<p>Can I identify key loss drivers and which events or accounts drive the tail?</p>	<p>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.</p>
3		MODEL TRANSPARENCY
	<p>Can I adjust the model to reflect my own view of risk? Can I get full insight into the underlying assumptions?</p>	<p>Understanding the underlying model assumptions builds trust. "Black-box" models make it harder to align model outputs with business decisions and regulatory requirements.</p>
4		SENSITIVITY
	<p>How can I test model sensitivity against various parameters?</p>	<p>The ability to adjust and test model parameters helps to better understand model uncertainties and assess the impact on losses, enhancing decision-making.</p>
5		MODEL CONSISTENCY
	<p>Are model results consistent between analyses and across multiple users?</p>	<p>Reproducible and reliable results anchor business strategies and ensure decisions are based on trustworthy data, helping navigate the complexities of cyber risk.</p>
6		INTERCONNECTED RISKS
	<p>Can the model capture cyber-triggered physical P&C losses?</p>	<p>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.</p>
RISK FUNDAMENTALS		
7		MODEL ADAPTABILITY
	<p>Can the model adapt to the shifting risk landscape - effectively accounting for the "unknown unknowns" - without significantly changing losses?</p>	<p>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.</p>

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8 	<p>DATA-DRIVEN INSIGHTS</p> <p>How does the model assess what data is the most predictive of loss?</p> <p>How does the model differentiate between relevant data and background noise in its analysis?</p>	<p>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.</p>
9 	<p>INDUSTRY EXPERTISE</p> <p>What is the breadth of expertise that underpins the model's development?</p> <p>Has the model been tailored to (re)insurance industry needs?</p>	<p>Vendor expertise matters. While cybersecurity experts know the threat landscape, catastrophe modelers understand how to translate threats into quantifiable risk.</p>
10 	<p>STANDARDIZED COVERAGES</p> <p>How does the model's financial engine capture different coverages and at what granularity?</p>	<p>The dynamic nature of cyber has resulted in a lack of standardization across coverages, making it difficult to accurately capture policy terms and conditions.</p>
11 	<p>PORTFOLIO AGGREGATION</p> <p>How can the model support my portfolio roll-up?</p>	<p>The ability to adjust and test model parameters helps you to better understand model vulnerabilities and assess the impact on losses, enhancing decision-making.</p>
12 	<p>MODEL VALIDATION</p> <p>Has the model been validated using real-world event losses?</p>	<p>A model informed by incident data confirms assumptions and enhances predictive accuracy. Real loss data refines a model's adaptability to changing risks.</p>
13 	<p>BUSINESS INTEGRATION TOOLS</p> <p>FLEXIBLE REPORTING</p> <p>Can I interrogate output at different granularities and loss dimensions?</p>	<p>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.</p>
14 	<p>FINANCIAL MODELING</p> <p>Can the model's financial engine capture reinsurance structures and ingest aggregate limit profiles?</p>	<p>A flexible financial engine can model various exposure formats, reinsurance structures, and policy conditions for accurate risk transfer and capital planning.</p>
15 	<p>INDUSTRY LOSS METRICS</p> <p>Does the model produce insurance-specific output such as exceedance probability curves and average annual loss?</p>	<p>The ability to produce insurance-specific output, such as exceedance probability curves, is important for a model to fit seamlessly into existing workflows.</p>