

Cyber-Catastrophe Insurance-Linked Securities On Smart Ledgers

As networked systems get bigger, they become more susceptible to cyber-catastrophe. It is only a matter of time before a massive failure strikes. And the insurance industry is not ready.

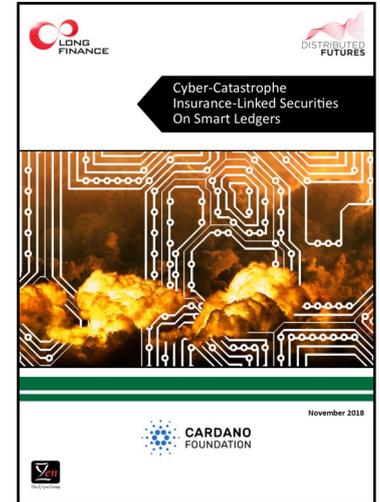
Overview

In life, as in commerce, when faced with risks, we have four possible courses of action available to us: Avoid, Reduce, Transfer, Retain/Accept. If at all feasible, we would like to “Avoid” or “Reduce” the risks. There are times, however, when this is either too expensive, impractical, or simply impossible. At such times, the insurance industry can be called upon to help us with a “Transfer” strategy.

One such strategy, which the insurance industry has used to deal with the risk of natural catastrophes, has been to offload some catastrophe risk on to the financial markets. But what about other types of catastrophes? With the omnipresence of networked computer systems and the linking together of machines around the world, the possibility of a single disastrous event with expansive consequences, a cyber-catastrophe, cannot be ignored. For that reason, it is imperative that the insurance industry adapts the ways it manages cyber risk.

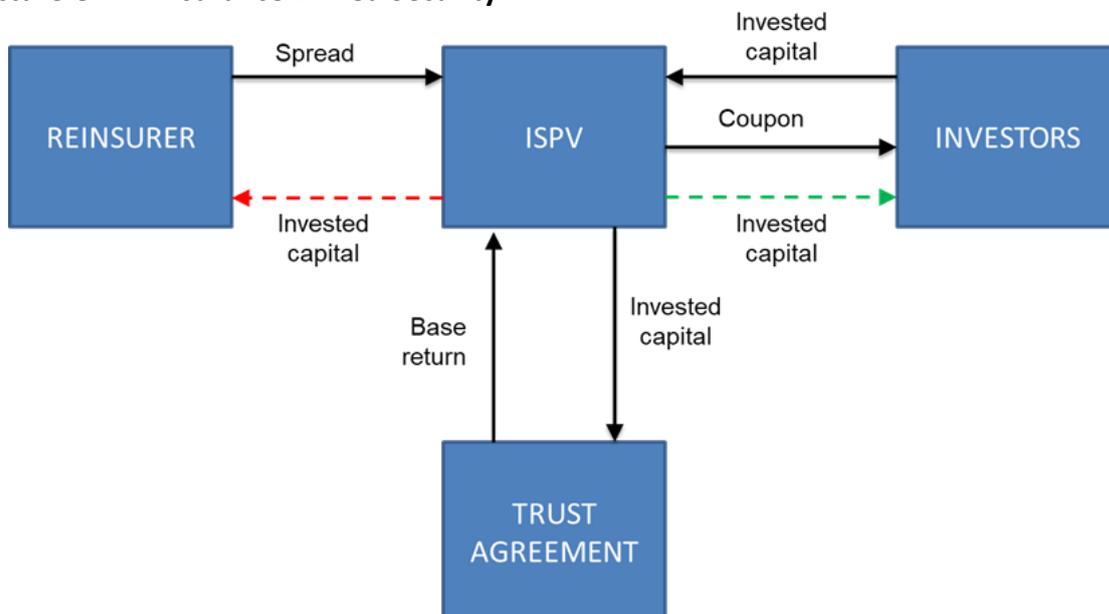
The report argues that the outsourcing of cyber-catastrophe risk to the financial markets, through the use of Insurance-Linked Securities (ILSs), is a welcome addition to the insurer’s arsenal of risk reduction measures, and that it is a natural extension of historical trends in the insurance industry. To this end, it examines what the current ILS market is like and what the structure of such securities might be.

With this in mind, it goes on to explore a possible technical solution and proposes a novel dynamic index which will allow participants to measure the current levels of network risk and potentially trigger insurance payments. Smart Ledgers (distributed databases with a super audit trail) are examined in this respect. This new technology makes it possible to implement intelligent, resilient, automatic processes, ideally suited to the ILS setup.



Report Extracts

The Structure Of An Insurance-Linked Security



Report Extracts

Current Insurance Offerings

Cyber Coverage	% of Products Offering this Cover
Breach of privacy event	92%
Data and software loss	81%
Incident response costs	81%
Cyber extortion	73%
Business interruption	69%
Multi-media liabilities (defamation and disparagement)	65%
Regulatory and defence coverage	62%
Reputational damage	46%
Network service failure liabilities	42%
Contingent Business Interruption	33%
Liability – Technology Errors & Omissions	27%
Liability – Professional Services Errors & Omissions	23%
Financial theft & fraud	23%
Intellectual property (IP) theft	23%

Business interruption is an existing class of insurance exacerbated by cyber attacks or outages. Business interruption could be extended more easily to cyber interruptions if there was an ability to reinsure such risk.

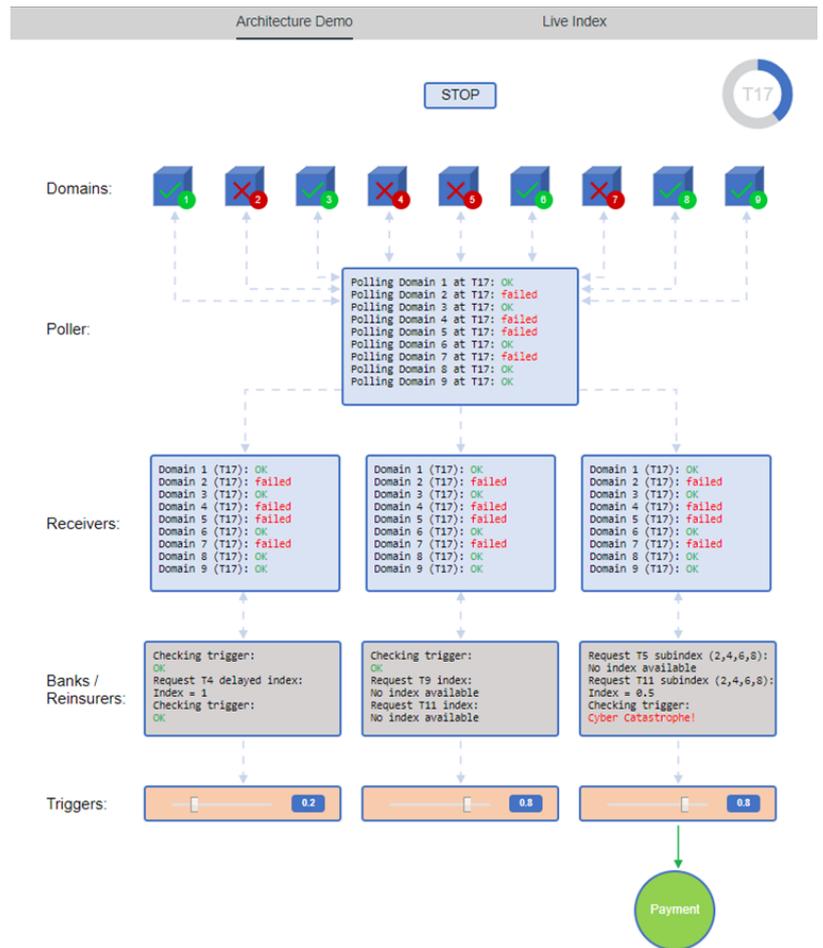
Conclusions

Unlike everyday insurance claims, claims that are the result of a natural catastrophe have already established causes. So, through the use of independently verified data, the re-insurer can be quick to pay their customers. A similar, quick-resolution process may have to be brought to bear on cyber-catastrophe risk, despite the fact that causes of a massive cyber failure might not be immediately identified. The insurance industry needs to unpick the notion of “cyber” risk, clarifying which risks are covered and which aren’t, and then it will be in a position to evaluate and offload its risk of cyber-catastrophe, in the form of Insurance-Linked Securities, to the capital markets.

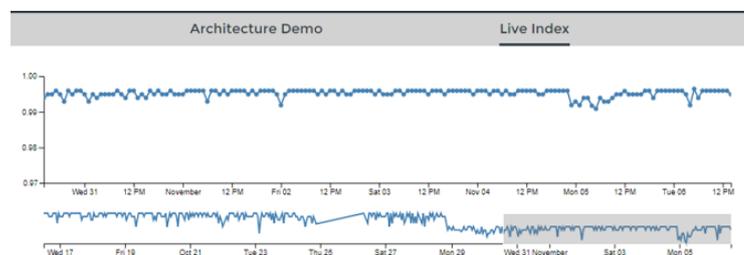
The combination of adopting a quick, programmatic attitude to payment, accurately parametrising the risk, and using capital markets makes the setup ideally suited to Smart Ledger technology. The Smart Ledger approach allows participants to measure the current levels of network risk and potentially trigger insurance payments.

Architecture Demonstration

Go To: <http://cyber-cat-ils.longfinance.net/>



The Index



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