



## Volcker Rule Compliance – Spam Filtering the Prohibited

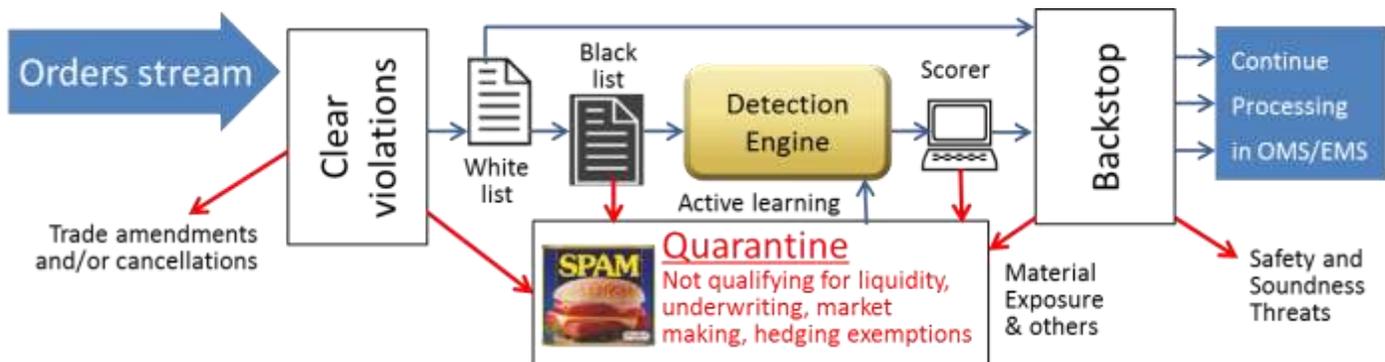
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Volcker rule compliance is the most puzzling challenge ever for the financial industry. Bernstein estimated that the Volcker rule could cost banks over ten billions a year<sup>1</sup>. Many banks have chosen to exit some of their business to seek possible way away from the regulators. However, the scrutiny continues because a covered entity is considered “guilty until proven innocent”. Three things make this rule harsh to follow for any bank holding companies:

1. What is a ‘reasonable’ inventory the bank should maintain without exceeding the near term demand from their clients, customers and counterparties?
2. How to detect and monitor traders’ intent of engage in permitted market making versus prohibited proprietary trades (hard to distinguish when both activities involve the taking of principal positions)?
3. Who will know if anything will violate the backstop provision by becoming a threat to the U.S. financial stability?

The market is filled with grief and confusion about how they will be measured and what they can do to ensure compliance. Regulators have responded with many inquiries and we are pleased that the Office of Comptroller of Currency has finally issued their interim examination procedures ([OCC BULLETIN 2014-27](#)) on June 12, 2014. The bulletin reiterates the need to have “a system of internal controls reasonably designed to monitor compliance with and to prevent the occurrence of activities or investments prohibited by the regulations”. The next question is how should this system be built?

Envision a pre-trade filtering mechanism similar to an email spam filter system (see below illustration).



All clear violations (e.g. short selling for liquidity management, use of OTC derivatives for underwriting, etc.) are immediately treated as spam to block from further processing. Then the orders stream goes through a comprehensive algorithm to distinguish the prohibited proprietary trades from the permitted hedging, market making, and underwriting activities. It automatically red-flags and quarantines transactions that are not in clear violation or legitimately clean. It preserves a full audit trail of all released approvals and incorporates a final QA check for backstop provision.

A ‘white list’ in the algorithms specifies particular trade types and instruments that are precluded from prohibited proprietary trading activities. Let say repos or reverse repos for commercial banking transactions, it will by-pass all other



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checking to go directly for a backstop final QA as a result. The backstop provision will examine repo transactions as if they may result in an effect of synthetic short sales for the appropriate quarantine, and prevention of other threats and/or material exposure.

As opposed to the 'white list', the 'black list' defines what isn't. Let's look at an example about market making. The algorithms should determine when and what inventory levels are 'inappropriate' for market makers. In other words, orders that are beyond the reasonable expected near term demand and passively provide liquidity under appendix B need to be quarantined. So to establish the proper basis with valid assumptions for what is considered 'reasonable', one would make predictions on different liquidity scenarios. You've got to study the buying behaviors of your clients, customers, and counterparties, different market scenarios, and which trade instruments to use. In short, advanced analytics help you develop and substantiate a 'reasonable' securities inventory plan.

Moving on to the filtering algorithm, it is basically a 'pattern recognition' tool used to quantify matters into a scoring model. Red-flagging and quarantining suspicious transactions will depend on the sufficiency of signals picked up by many connected computers. This low-latency system has the advantage over human for its objectivity and consistency. More importantly, it is superfast and cheap, so it will save you "a lawyer, a compliance officer and a doctor for each trader to detect traders' intents<sup>2</sup>".

If you are concerned about any consistent formula application potentially be reverse-engineered by rogue traders to bypass the system, you will appreciate the beauty of crowd computing for dynamic upgrades. The self-evolving system will benefit from the crowd collective intelligence in outsmarting the hackers. It's a machine that assimilates knowledge quickly from every move of its users. The more data is fed into it, the better it gets. This is better than someone who may turn evil holding a particular blueprint.

If you feel this utility model may expose your trading strategies to other participants in the network, there are obfuscation techniques for necessary protection. Introduce randomness to resist pattern recognition, making it incompatible, separating and scrambling and/or aggregating rollup are effective mitigation methods. However, the days of proprietary strategies are gone where regulators use an entity's best practices to challenge another entity that they should follow. After all, it's all about the 'design'.

The Volcker rule has specified that it is not how the revenue are actually generated, but how the activities are "designed to generate revenues primarily from fees ..." Therefore, a true Volcker rule compliance solution encompassing demand forecast and filtering algorithms cannot go without the advance analytics. Also, the system will need workflow processes to alert and escalate the suspicious transactions, document any released approvals and change of course actions to the securities inventory plan. The crowd is always going to be smarter than any individual effort to enforce the Volcker rule compliance.

**Data Boiler Technologies, LLC** is please to introduce its flagship product – **VR Machine**. It is a patent pending invention designed to do exactly what the industry needs for Volcker rule compliance. To learn more, please visit our webpage dedicated to Volcker rule compliance at [www.databoiler.com/volcker/](http://www.databoiler.com/volcker/). The deadline for conformance is approaching fast, so don't wait and let's make the best out of every situation. Together we will revitalize the business and foster a sustainable growth of the financial industry!