

ECHO CANCELLATION

Smash leverages Artificial Intelligence to reduce review effort by 20% for global financial services customer



OVERVIEW

This solution brief explores the value of the newly released Echo Cancellation capability from Smarsh. It explains why this capability was developed, its relationship to Artificial Intelligence and the results of its pilot program with a key customer account. Echo Cancellation is an included capability of the Smarsh Enterprise Supervision application and is available now.

INTRODUCTION

One of the biggest challenges with today's supervision systems is separating the real risk from the 'noise'. Review teams are required to sift through a vast and often unmanageable number of false positives to get to relevant and targeted content. Many systems rely exclusively on a lexical approach to risk identification and this approach is suitable for a limited set of risk scenarios. However, in most cases, supervision systems lack the ability to consistently filter out less precise matches, creating a large volume of irrelevant alerts.

Enterprise Supervision from Smarsh currently offers a range of capabilities to help manage this noise, and build a precise and efficient supervision system. Adding to this inventory, Smarsh has worked closely with its financial services clients to develop Echo Cancellation. Echo Cancellation introduces Artificial Intelligence to the supervision system and enables smarter review of email content. It empowers compliance teams to filter out a specific source of noise (echoes) that have been estimated to account for 50% of the low-value alerts in supervision systems. As such, Echo Cancellation makes the review process significantly faster and more efficient. Its use has resulted in proven time and cost savings, with a 20% reduction in review effort and 100% precision.



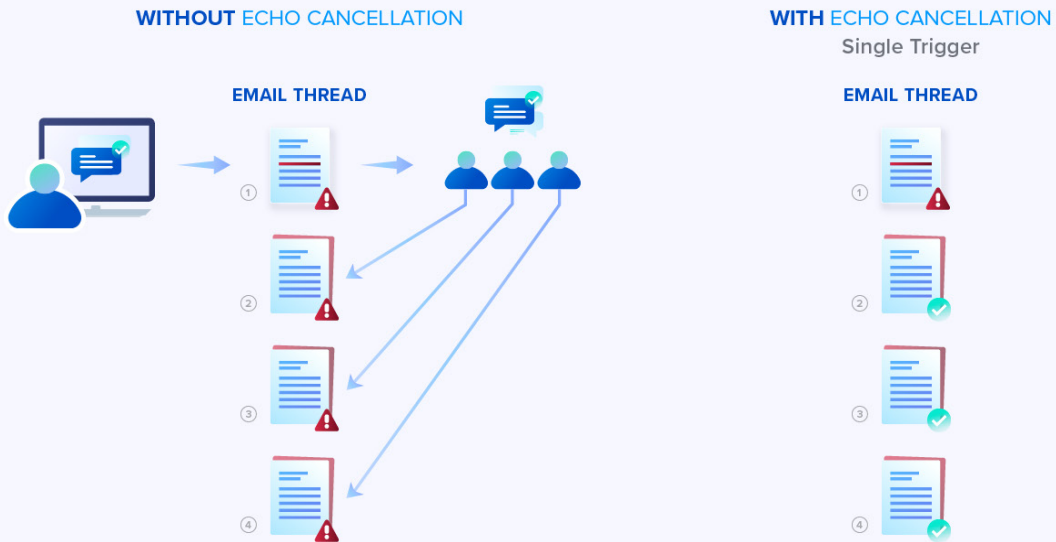
The Problem

Repeated false positives encumbering review cycles

'Echoes' are an email centric problem in supervision review. Email tools append the original message into the body of someone's email when they reply to or forward that original message. This causes a supervision hit from one message to get copied and repeated throughout many messages, each creating individual triggers in the supervision system.

Since most reviewers work periodically, these echoes can sometimes aggregate, and a reviewer closes them in bulk. However, these echoes can also proliferate across a period of many days. Even if a user groups and reviews a large number of related messages on one day, the trigger will re-emerge on subsequent days any time that someone picks back up on the thread. The process of reviewing these echoes is a completely redundant effort. The most challenging aspect of this issue is that no readily available methods exist for consistently isolating new content from old content in these threads.

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The Solution

More intelligent, efficient review

Enterprise Supervision from Smarsh is specifically designed to help review teams both focus on the real risk and eliminate the noise. Through its innovative Echo Cancellation capability, repeated policy hits are removed from review queues that would otherwise be created by redundant content copied by the email client. Echo Cancellation adds intelligence inside your review queues. Its algorithm automatically evaluates new messages on each review cycle to evaluate if any of these are echoes of previously reviewed content. Echo Cancellation provides your organization with a number of strategic advantages:

- **Full transparency:** Features or capabilities that reduce the sensitivity of your policies and block communications can create blind spots in your system. Conversely, Echo Cancellation maintains a record of all messages that were deemed echoes and suppressed from a duplicative review.
- **Creation of a consistent record:** Echo Cancellation is easily auditable, with no ambiguity. An alert of the individual communication can be found in the supervision queue, even though it was reviewed at another point in the chain.
- **Remediation:** Items closed by Echo Cancellation can be re-opened at any point in time. This is useful in the event that there is a reason to re-populate a communication in the supervision queue and complete the review workflow.

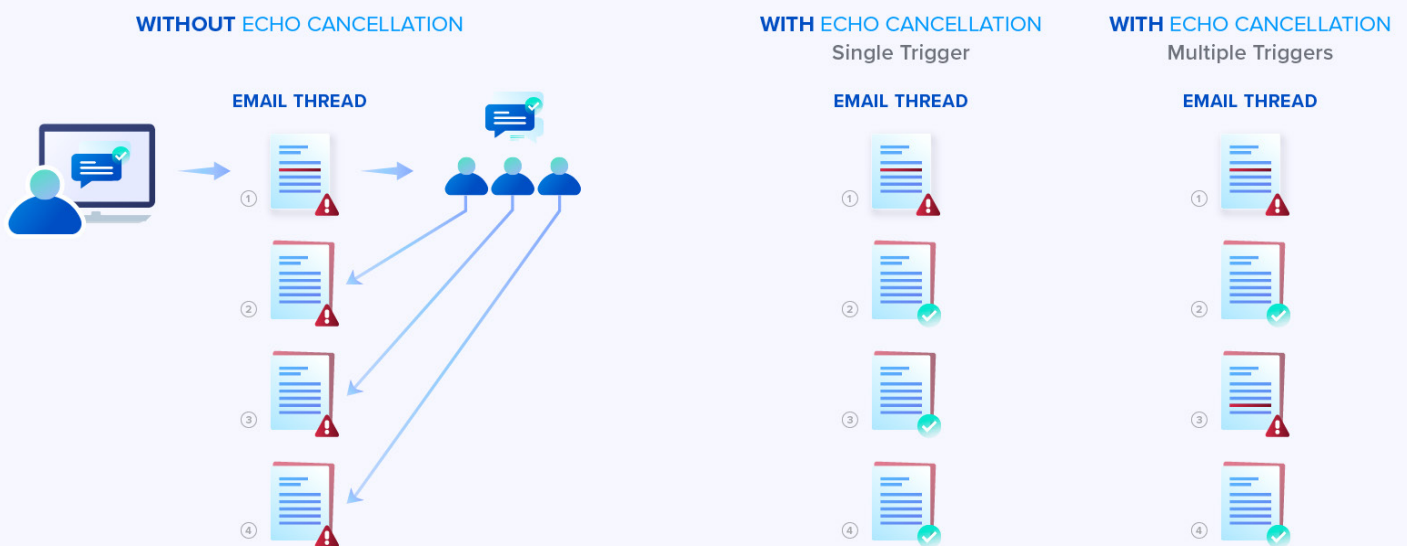


How it Works

Echo cancellation's algorithm looks at the conditions of an alert and makes intelligent decisions to identify email echoes. Enterprise Supervision can identify these echoes and subordinate their review within your queues.

For each new message that arrives in a review queue, Echo Cancellation checks the policy trigger for any novel violation information. If the trigger is an exact replica of the previous trigger in the reference message, it is deemed to be an echo. If anything is novel about the violation in the new message, it is not an echo and then gets surfaced for review.

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This functionality can be controlled at the policy level so supervision reviewers can review the echoed messages only if they choose to do so. This frees them up to focus instead on messages that pose real risk.

Enterprise Supervision administrators can enable Echo Cancellation very easily by checking a box in each policy's configuration. This allows control over which risk use cases are appropriate and eligible for Echo Cancellation.

Echo Cancellation eliminates redundant review, enabling effective supervision of the same volume of content with greater efficiency. Reviewers can conduct their work significantly faster than when Echo Cancellation is not enabled, resulting in valuable time and cost savings to your organization.

Validation and Results

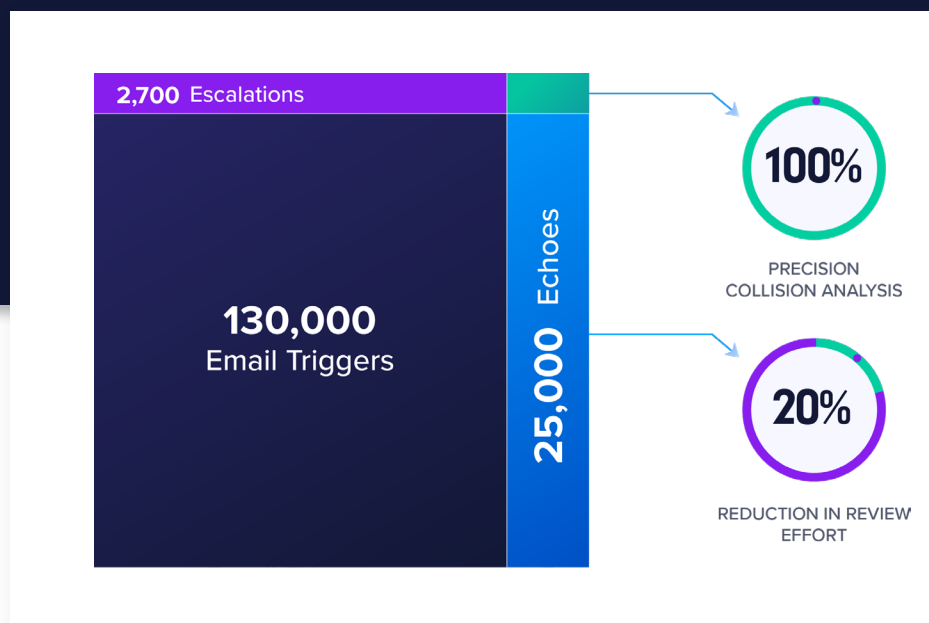
20% reduction in items requiring review, with 100% precision

Before releasing Echo Cancellation for general availability, Smarsh undertook a thorough pilot program of this capability to observe and validate that the software operated as intended. To accomplish this, Smarsh partnered with a key global financial services client to run a trial of Echo Cancellation in their production system. Over a six-week period, Echo Cancellation ran in their system identifying echoes, but not cancelling them. The communications were labeled but left open for human reviewers to adjudicate. The resulting data set allowed Smarsh to confirm and compare the reviewer outcomes with the decisions made by Echo Cancellation. Of primary interest were reviews that resulted in violations or escalations but were deemed to be echoes by Echo Cancellation. These conflicts were individually investigated to understand the reasoning and assess if any changes were required to the algorithm. Details of the trial are listed below.

- ◆ Total number of applicable policy triggers: **130,000**
- ◆ Total number of triggers marked as an 'Echo': **25,000**
- ◆ Review reduction¹: **20%**
- ◆ Reviewer escalations: **2700**
- ◆ Echo/escalation conflicts: **630**
- ◆ False Negatives: **0**
- ◆ Precision²: **100%**

1. Exact values have been rounded to the nearest 10, 100, 1000 and percentage point.

2. 'Precision' refers to the model's ability to identify true positives (identifying an echo as an echo) without creating false positives (identifying non-echoes as an echo). Precision is a good measure of whether the model will misclassify messages. 100% precision indicates there were no misclassifications.



Key Findings

- 1 Ultimately, Echo Cancellation was found to be very safe in terms of the creation of false negatives. Not a single identification was found that should have been reversed.
- 2 Echo Cancellation provides very significant reductions in reviewer effort. Over the period of the pilot, 20% of the total review effort was reduced. With ample opportunities to enhance thread recognition, the numbers for Echo Cancellation presented here are certainly on the low side of the total potential to reduce this category of noise.
- 3 The pilot went to great lengths to investigate any opportunities to detect additional signals that should have been surfaced in subsequent efforts. Patterns that included scenarios where there were changes in the number of attachments, side chains with limited participants, and modifications to the subject line were analyzed. For the data encompassed in this pilot not a single determination by Echo Cancellation was identified as needing reversal, resulting in a measure of 100% precision.



After reviewing the outcomes and behavior of Echo Cancellation, I have no hesitation to implement this capability in my Supervision system today.

— **Director of Compliance Technology at a Global, Tier 1 Asset Management Institution**



The reduction in volume provided by Echo Cancellation is a significant relief to our compliance resources. We're excited to enable this as soon as possible.

— **Managing Director of Risk, Surveillance & Technology at a Global, Tier 1 Asset Management Institution**

Conclusion

Echo Cancellation from Smarsh has already demonstrated remarkable improvements in supervision review efficiency for a key client account, saving them both time and money.

Continued investment in platform intelligence to empower your organization today, and tomorrow.

Smarsh is continuing to invest in augmenting Enterprise Supervision with Artificial Intelligence and Machine Learning to help supervision teams achieve their goals more efficiently and effectively. Echo Cancellation is a significant step in our journey to deliver a more intelligent communications data platform.

For more information about how Enterprise Supervision can help your organization, or to book a demo, please [contact our sales team](#).





Smarsh® is the recognized global leader in electronic communications archiving solutions for regulated organizations. The Smarsh Connected Suite provides innovative capture, archiving, e-discovery, and supervision solutions across the industry's widest breadth of communication channels.

Scalable for organizations of all sizes, the Smarsh platform provides customers with compliance built on confidence. It enables them to strategically future-proof as new communication channels are adopted, and to realize more insight and value from the data in their archive. Customers strengthen their compliance and e-discovery initiatives, and benefit from the productive use of email, social media, mobile/text messaging, instant messaging and collaboration, web, and voice channels.

Smarsh serves a global client base that spans the top banks in North America and Europe, along with leading brokerage firms, insurers, and registered investment advisors. Smarsh also enables federal and state government agencies to meet their public records and e-discovery requirements. For more information, visit www.smarsh.com.

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