

Original Article

Event Monitoring Framework for Regulatory Compliance

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Abstract - The event monitoring framework advocates the creation of a central high thru-put data pipeline, on which a rule-based monitor would scan for potential events needing a compliance response.

The rule-based monitor would be built on a constantly evolving repository of vocabulary. The vocabulary would be built for each industry self-tailored to the respective industries attributes and relationships. A rule-based monitor would channel these messages into subsequent child pipelines on which specific applications could be built to fulfil the regulatory need.

By constantly refining the vocabulary of entities in that industry with a staunch focus on compliance attributes, a powerful/flexible rule engine could be built to operate on the incoming events.

Keywords – Ontology driven, HIPAA, compliance framework, Application layer, High thru put data pipeline

I. INTRODUCTION

Compliance has been an expensive expenditure for various Business domains, and they continue to spend huge resources to keep their organizations compliant with the regulatory requirements of the countries they operate in. Financial organizations, in particular, face a slew of regulatory needs and being compliant is the foremost need of these organizations. And helps maintain public trust in their brands. Also, compliance has become tricky as Corporations have become global in their operations and have to be very mindful of the varying regulatory needs around the world.

Organizations traditionally tend to have disparate I.T. systems and applications to resolve each of the compliance needs in their industry. They have traditionally failed to derive a solution that would look at compliance from an integrated perspective. The solution charted below tries to have a holistic view of compliance and builds its case by building a high thru-put data pipeline accommodated by a flexible Rule engine.

II. HIGH THRU PUT DATA PIPELINE

A fault-tolerant high thru-put data pipeline is the infrastructure on top of which this whole concept is built. This technology has matured in the recent and very many

open source frameworks are available to achieve this high thru-put feature. Various sources pump in the data they encounter onto this data pipeline.

III. EVENT SCANNERS

All The Event Scanner works on top of a constantly evolving vocabulary and rules. The Scanner looks at the event and, based on awareness of the sequence of events, decides if the event needs a regulatory response and directs it to the child pipeline. The rules could be authored using the vocabulary built for the specific industry.

Ontology is a formal representation of knowledge within a domain. It comprises vocabulary that defines all entities within the domain. Finally, Taxonomy classifies and hierarchically orders the vocabulary. An Ontology-driven data platform will make the rule engine flexible adaptive and provide access to newer data points to author an effective scan.

Multiple applications can be built on top of these compliance messages. The Compliance applications will be customized based on the respective industry. For example, the customized regulatory needs of HIPAA (Health industry needs) can be authored in the application layer.

Generic reporting apps can be built in this layer covering operational reports needed for the organization to monitor and operate its own Compliance needs. This reporting application layer needs to have interfaces to digest the Compliance operations that are at times loaded to 3rd party as well. Suppose there are dedicated applications that achieve certain aspects of compliance like, for example, mail archive boxes that store email communications for a certain specific number of years need to be interfaced to this application to report the Ahealth of such 3rd party software. Also, reporting applications will include specific reports that each of the industries regulators need. Sox audit reports and other audit reports will be generated Monthly/Quarterly and Annual basis.

The Compliance platform also will provide interfaces to integrate and post messages to the internal applications hosted by the respective organization. Such a holistic compliance framework will address the evolving needs of Regulatory Compliance across various industries. Such a framework will provide an uninterrupted



operational view into the day to day status of an organizations Compliance status to its CXO's and management. It also makes it easier to facilitate the reports needed by the regulators.

A product built on such a framework along with an effective ontology for the respective industry will be an effective product/solution that will help organizations save huge resources in staying compliant.

An important aspect of modern compliance needs is privacy protections and the right to forgetting clauses.

The holistic framework comprises a Software inventory across the enterprise with their internal identification keys. The entire framework enables the generation of reporting and audits based on these internally stored assets.

Table 1. Components

S.N	Components		
1	High Thru put the pipeline	Physical	The high-speed data stream
2	Event scanner	Logical	Scan for specificity in events

3	Application Layer	Physical/ Logical	Feed reports to dashboard
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Important characteristics such as performance, efficient use of resources, fault tolerance, security are other essential components of this framework. Event-driven distributed architectures help in solving interoperability, fault tolerance, and scalability problems in these systems.

A large number of different event data are stored in high volume repositories can be used in automatic processes for predictive models. Such predictive models can offer great insights to ensure appropriate structures and resources are scaled.

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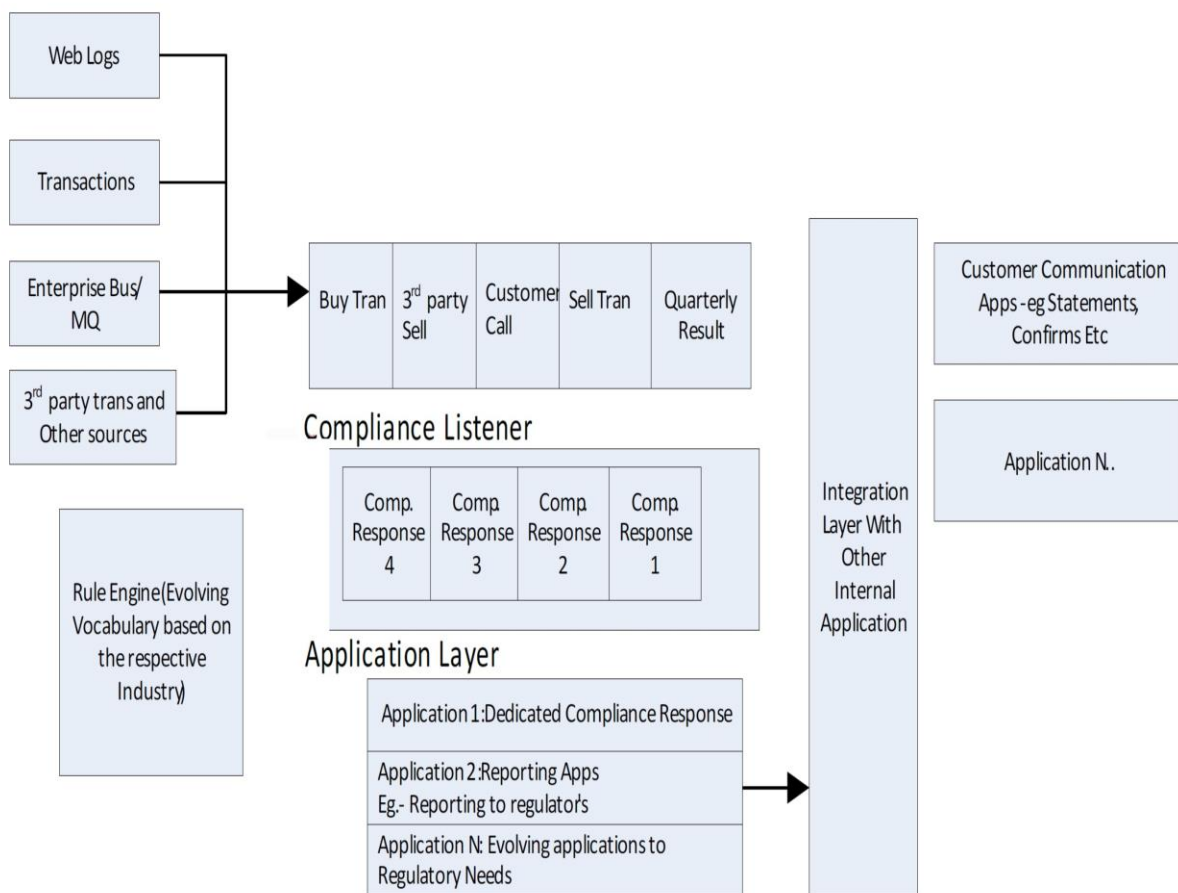


Fig. 1 Process Flow Diagram

IV. CONCLUSION

A holistic software as a service solution to scan the events/transactions for Regulatory needs, evaluate using a Rule engine that works on an evolving vocabulary and enables scan of potential events needing a regulatory response, thereby offering a holistic view of the Compliance status of an organization Causal Productions permits the distribution and revision of these templates on the condition that Causal Productions is credited in the revised template as follows: “the original version of this template was provided by courtesy of Causal Productions (www.causalproductions.com)”.

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