

Trade Surveillance and Monitoring Technology: An Expanding Landscape

FEBRUARY 2015

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Prepared For: **NICE** ACTIMIZE

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IMPACT POINTS

- The trade compliance ecosystem encompasses a variety of players, ranging from full-service trade surveillance platforms to specialized enhanced analytics providers. While all components work together at times, there is no single comprehensive offer currently leveraging all the technological capabilities available to the market.
- Many of the leading vendors have expanded asset-class and geographic coverage in recent years, but areas for improvement still remain.
- Usage of trade surveillance technology understandably continues to grow in the major market centers, but certain vendors have also recently gained a foothold in many emerging markets.
- All the vendors profiled in this report have reported steady to strong growth with positive prospects. Additionally, some notable new vendors have entered the space and grown their clienteles during the last one to three years.
- Further specialization can be found with enhanced analytics providers individually focusing on enhanced storage and search capabilities, trading turret monitoring, natural language search, and recording infrastructure.
- This report profiles 12 leading full-service platforms and seven providers of various components and analytics.

INTRODUCTION

In December 2014, Aite Group published part one of this trade surveillance and compliance research series, which discusses high-level trends occurring globally in the space. Of particular note are the demand for enhanced analytics functionality and expansion of coverage across all manner of asset classes and geographies. Part one also focuses on the currently unfinished state of the trade compliance ecosystem, noting that no single player in the trade compliance space is currently able to provide every part of the desired coverage (although some do come close).

While there are many expansive full-service offerings, even the established full-service platforms must turn to partnerships (or simply co-existence within firms) for clients to leverage the full range of capabilities. In this follow-up to part one, Aite Group dives deeply into discussion and analysis of the capabilities of 12 leading trade compliance platform vendors as well as seven additional players offering various supporting components of the trade compliance landscape. Aite Group will provide detailed analysis of coverage and functionality as well as competitive strengths and weaknesses.

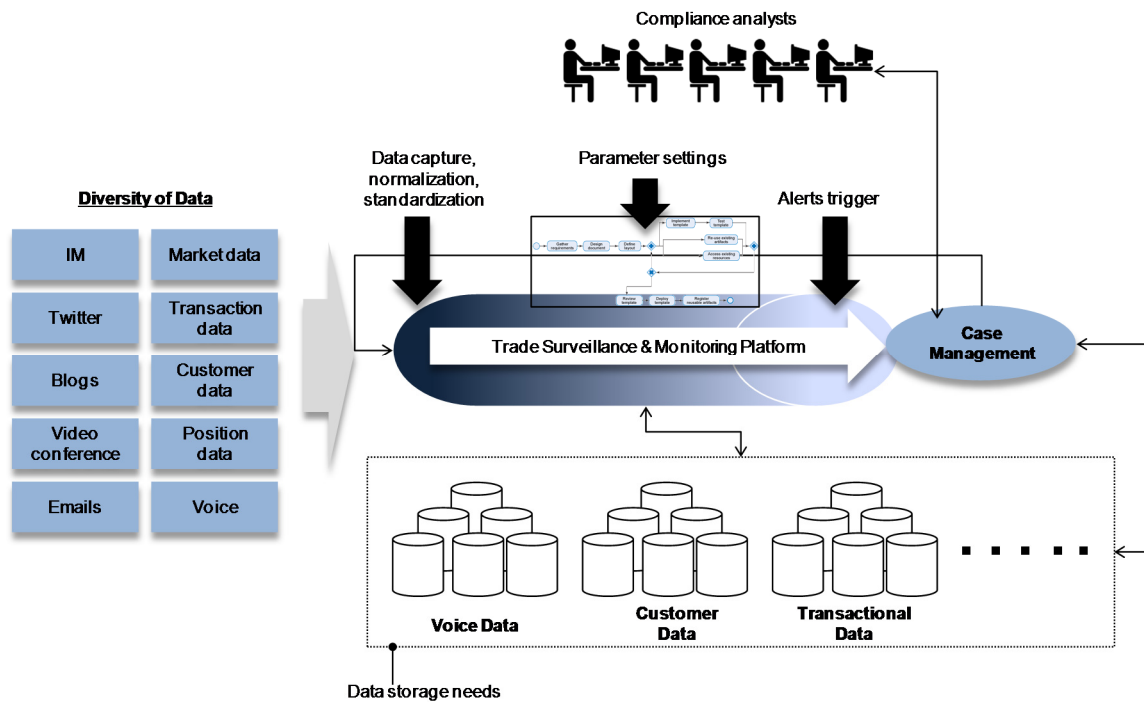
METHODOLOGY

This Impact Report is based on data derived from comprehensive survey responses submitted by leading trade compliance vendors and analysis stemming from extensive interviews with leading vendors, customers, users of trade compliance platforms.

THE COMPETITIVE LANDSCAPE

The trade compliance landscape includes full-service platforms as well as many supporting players providing enhanced analytics, recording, and storage capabilities. In the first part of this report series, Aite Group provided a visualization of the trade compliance ecosystem, which may be helpful to repeat here in the context of this report (Figure 1). It should be noted that many players tend to partner or employ underlying technological components, such as the complex event processing (CEP) engine from Streambase.

Figure 1: High-Level View of the Trade Compliance Ecosystem



Source: Aite Group

Table A summarizes all of the participants in this study, including both full-service vendors and supporting component providers. The information gleaned from this consortium of leading vendors provides a reliable representative picture of the marketplace.

Table A: Leading Trade Compliance Technology Vendors

Vendor and product	Type	Product name(s)	Broker compliance	Firm-level compliance	Market surveillance	Regulatory reporting	Other
Ancoa Software	Platform	Ancoa	■	■	■	■	Financial message monitoring
Bloomberg	Component/ Analytics	Vault, Professional		■			Analytics, search, storage
B-next	Platform	Capital Markets Compliance (CMC suite)	■	■	■	■	
BT	Component	NA					Trading turret
Cinnober	Platform	Scila	■	■	■	■	
ConvergEx	Platform	CRSS	■	■	■	■	
Corvil	Analytics	NA					Enhanced data analytics
Digital Reasoning	Analytics						Natural language analytics and search
ETrali	Component	NA					Trading turret
Fonetic	Analytics						Natural language detection
Millennium IT	Platform	Millennium Surveillance			■	■	
Nasdaq OMX	Platform	Smarts Broker	■		■	■	
Nasdaq OMX	Platform	Smarts Integrity			■	■	
Nice Actimize	Platform	Trade Surveillance	■	■	■	■	Sales practices (suitability), commodities/ energy

Vendor and product	Type	Product name(s)	Broker compliance	Firm-level compliance	Market surveillance	Regulatory reporting	Other
SIA S.p.A	Platform	SIA-Eagle	■	■	■	■	
Software AG	Platform	Apama			■		Pre-trade risk, rogue trader detection
SunGard	Platform	Protegent	■	■	■	■	Employee monitoring, suitability and investor protection
Tango Networks	Component						Mobile recording access
Trillium	Platform	Surveyor	■		■		

Source: Vendors, Aite Group

ASSET-CLASS AND GEOGRAPHIC COVERAGE

Most of the leading vendors provide or plan to provide coverage across the asset classes (Table B). Foreign exchange (FX) and over-the-counter (OTC) derivatives are the assets for which coverage is most spotty—the higher degree of complexity and frequent lack of transparency tends to render full coverage more challenging than coverage for more traditional products.

Table B: Asset-Class Coverage

Asset class	Domestic equities	Inter-national equities	Exchange-traded equity options	Exchange-traded futures	Financial institutions, public sector	Financial institutions, private sector	FX	OTC derivatives
Ancoa	■	■	■	▾	▾	▾	■	□
B-next	■	■	■	■	■	■	■	■
Cinnober	■	■	■	■	■	■	■	■
ConvergEx	■	■	□	□	□	□	□	□
Millennium IT	■	■	■	■	■	■	▾	▾
Nasdaq Smarts Integrity	■	■	■	■	■	■	■	■
Nasdaq Smarts Broker	■	■	■	■	■	■	■	■
Nice Actimize	■	■	■	■	■	■	■	■
SIA S.p.A	■	■	■	■	■	■	□	▾
Software AG Apama	■	■	■	■	■	■	■	■
SunGard Protegent	■	■	▾	▾	■	■	▾	▾
Trillium	■	▾	◆	◆	□	□	□	□

Source: Vendors, Aite Group

Key: ■ = Yes, ▾ = Light, ◆ = Future, □ = No

Geographic coverage among the vendors is consistent across the United States, Canada, Western Europe, and the developed Asia-Pacific. Coverage of the emerging markets is slightly lighter, but still better than might be expected (Table C).

Table C: Geographic Coverage Comparison

Geographies	United States	Canada	Western Europe	Eastern Europe, the Middle East, Africa (EEMEA)	Asia-Pacific	Latin America
Ancoa	◆	◆	■	■	■	□
B-next	▣	▣	■	■	■	■
Cinnober	■	■	■	■	■	■
ConvergEx	■	■	■	□	□	□
Millennium IT	◆	◆	■	■	■	◆
Nasdaq Smarts Integrity	■	■	■	■	■	■
Nasdaq Smarts Broker	■	■	■	▣	▣	▣
Nice Actimize	■	■	■	■	▣	■
SIA S.p.A	■	■	■	■	■	■
Software AG Apama	■	■	■	■	■	■
SunGard Protegent	▣	▣	■	■	▣	▣
Trillium	■	■	◆	□	◆	□

Source: Vendors, Aite Group

Key: ■ = Yes, ▣ = Light, ◆ = Future, □ = No

KEY FEATURES AND FUNCTIONALITY

Table D and Table E present key functionality currently offered by the leading trade compliance vendor solutions. Clearly, most vendors have done a great job of continually adding new functionality to stay ahead of the regulatory compliance curve. One area of recent development has been the integrated analysis of social media and unstructured data. Only Nice Actimize and SunGard currently provide this.

Table D: Key Functionality Comparison, Part One

Functionality	Ancoa	B-next	Cinnober	ConvergEx CRSS	Millennium IT	Nasdaq OMX Smarts (Broker)
Compliance dashboard	■	■	■	■	■	■
Parameter-setting capabilities	■	■	■	■	■	
Configurable alerts	■	■	■	■	■	■
Configurable workflow	□	■	■	■	■	■
Case management functionality	■	■	■	■	■	■
Audit trail support	■	■	■	■	■	■
Integrated data from multiple sources	■	■	■	■	■	■
Integrated analysis of news feeds	■	■	■	□	■	■
Integrated analysis of social media/ unstructured data	■	□	▴	□	◆	■
Market replay	■	■	■	□	■	■
Visualizations/heat map	■	■	■	■	■	■
Cross-asset correlated alerts	■	■	■	□	■	■
Repeat pattern detection	■	■	■	□	■	■
Standard reports	■	■	■	■	■	■
Ad hoc reports	■	■	■	■	■	□

Source: Vendors, Aite Group

Key: ■ = Yes, ▴ = Light, ◆ = Future, □ = No

Table E: Key Functionality Comparison, Part Two

Functionality	Nasdaq OMX Smarts (Integrity)	Nice Actimize	SIA	Software AG Apama	SunGard	Trillium
Compliance dashboard	■	■	■	■	■	■
Parameter-setting capabilities	■	■	■	■	■	■
Configurable alerts	■	■	■	■	■	■
Configurable workflow	■	■	■	■	■	■
Case management functionality	■	■	■	■	■	□
Audit trail support	■	■	■	■	■	■
Integrated data from multiple sources	■	■	■	■	■	■
Integrated analysis of news feeds	■	■	■	■	■	■
Integrated analysis of social media/ unstructured data	□	■	□	■	■	□
Market replay	■	■	■	■	■	■
Visualizations/heat map	■	■	□	■	■	■
Cross-asset correlated alerts	■	■	■	■	■	◆
Repeat pattern detection	■	■	■	■	■	■
Standard reports	■	■	■	■	■	■
Ad hoc reports	■	■	■	■	■	■

Source: Vendors, Aite Group

Key: ■ = Yes, ▽ = Light, ◆ = Future, □ = No

PROFILES OF LEADING VENDORS

The following section provides an overview of selected leading vendors in the market surveillance and compliance space. For each vendor profiled, Aite Group has identified the key aspects of each product, including solution capabilities, characteristics of the client base, competitive differentiators, growth trends, demonstration highlights, and strategic roadmaps.

NICE ACTIMIZE

Trade Surveillance, the offering from Nice Actimize, is a full-service compliance offering for brokers, asset managers, and clearing firms for firm-level monitoring and market surveillance. Nice Actimize describes Trade Surveillance as the solution for the life cycle of prohibited trading and related communications given its ability to find relevant news events, use machine-readable data to get a sense of news, and then sweep trading activity to determine suspicious trading behavior.

Nice Actimize also offers Communications Surveillance, which is available as an additional stand-alone product or via full integration with Trade Surveillance. Communications Surveillance, which includes voice, email, instant messaging, and social media monitoring, provides a holistic view of all trade-related activities.

Additional stand-alone solutions offered by Nice include:

- **Employee Conflicts of Interest (ECOI)** to prevent and monitor conflicts of interest relating to employee personal accounts
- **Control Room** to help maintain an investment bank's "Chinese Wall" by identifying information breaches between an organization's investment banking and research divisions
- **Sales Practices and Suitability** to ensure sales compliance
- **Anti-Money Laundering (AML)**, which includes a full suite of offerings

BASIC FIRM AND PRODUCT INFORMATION

- **Target customer base:** Already the market leader with respect to Tier-1 investment banks, Nice Actimize is targeting additional growth across segments and geographies, specifically institutional brokers, retail brokers, regulators, clearinghouses/depositories, and buy-side firms. While Nice Actimize has traditionally catered to top-tier firms, its new cloud offerings will enable the vendor to expand its target market; the solutions are marketed in the United States, Canada, EMEA, the developed Asia-Pacific, and Latin America.
- **Implementation options:** The majority of deployments are on-premises installations; hosted solutions are used by a growing number of accounts (additional information on this is included in the following subsection).

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- **Pricing structure:** License fees are tiered based on geographical coverage, detection coverage, and data volume; cloud offerings are also tiered and based on a subscription model.
 - **Support for type of compliance checks:** Intraday, real-time, and post-trade
 - **Source of data for analysis:** Nice Actimize offers a variety of data-sourcing options; data can be drawn directly from client trading systems, proprietary systems, market data vendors, or via data warehouses deployed by the client, and there are no direct exchange feeds.
 - **Compliance support for asset classes:** Full coverage for all asset classes
 - **Compliance support for market centers:** North America, Latin America, Western Europe, EEMEA, and the developed Asia-Pacific
 - **User interface:** Web-based and desktop thin client

TOP COMPETITIVE DIFFERENTIATORS

Nice Actimize offers broad coverage, from trade surveillance to suitability to AML and everything in between. Deployment options for Trade Surveillance are unique: Through the October 2012 acquisition of Redkite, Nice Actimize provides the option of a hybrid deployment model, wherein clients can choose between an on-premises installation, a hosted solution through cloud technology, or a combination of the two. This hybrid option supports enhanced flexibility, and the vendor reports that clients are indeed deploying a mix of solutions that feed into the enterprise-wide Risk Case Manager.

The solution begins with message data and flows through full investigation and case management functionality. It also includes communication-monitoring capabilities as a key strength in this important growth area. The combination of trade and communication surveillance provides a holistic view of the full trade life cycle. In addition to the solution's out-of-the-box analytics, the Actimize Trade Surveillance platform supports custom analytics authoring and the ability to leverage in-house and/or third-party surveillance models.

The marriage of comprehensive algorithms with high-quality data is a special focus for Nice Actimize in designing and evolving its compliance solutions. The vendor emphasizes algorithmic programming and guarding against bad data to avoid false positives. To accomplish its low incidence of false positives, the solution uses both batch and real-time data integration as well as streaming data feeds. Some detection logic also uses a news sentiment-analysis feed.

Nice Actimize cites the other differentiator for any solution as proper case management and workflow. Trade Surveillance's front end was designed by compliance officers themselves and employs a unique understanding of customers' needs. The vendor believes that each implementation should be tailored to the type of client, as workflow needs will differ based on organizational structure, and the case management functionality for each client must be rich and efficient enough to launch an investigation while avoiding false positives.

The company reports having recently won deals on the strength of the following:

- Breadth of coverage
- Quality of analytics
- Case management and workflow functionality
- Comprehensiveness of offering

KEY FUNCTIONALITY BASED ON PRODUCT DEMO AND INTERVIEW

Aite Group observed the following key functionalities during the demonstration of the Trade Surveillance product:

-
- Visualization through compliance dashboard, which includes an out-of-the-box operations dashboard with various statistics displayed graphically, such as alerts by issue types, regions, desks, etc.
 - Configurable alerts and workflow (which include many configuration points for the display), system parameters, filtering of transactions/entities/instruments, optional tests, and calculations and logic conditions
 - Strong case management feature, including efficient attachment capabilities
 - Market visualization investigative tools
 - Visualizations/heat map
 - Cross-asset correlated alerts
 - Ability to consolidate repeat pattern detection with alert history
 - Standard and ad hoc reports

FOCUS OVER THE NEXT 12 TO 24 MONTHS

- Continue a focus on building out the portfolio of market data, order management system, and news connectors to accelerate delivery, reduce total cost of ownership, and further enhance hosted services
- Further simplify installation by offering clients more preconfigured/out-of-the-box functionality
- Invest in "plug and play" to reduce testing costs when deploying model upgrades
- Provide "self-development" capabilities to provide clients improved options for custom model deployment
- Improve analytics by combining next-generation communications surveillance with trade surveillance
- Continuing to focus on enhancing coverage of new and emerging areas of regulation such as HFT and real-time monitoring
- Full compliance support for all asset classes, including swaps, OTC derivatives, and FX

CONCLUSION

- The vendors that partner together stay together: Opportunities exist for vendors to meet growing demands in the areas of mobile functionality, holistic solutions, and communication channel coverage by working to combine currently available functionality in one place.
- Current specialties in analytics focus on mobile recording infrastructure and capabilities, enhanced search and language analytics, specialized and expansive storage, and specialized detection algorithms.
- Next-generation developments and enhancements continue to focus on new and better OTC and FX coverage, especially in relation to benchmark manipulation monitoring.
- The increasingly preferred solution deployment option is hosted. As this is a new trend representing a reversal of previous preferences, however, many of the more established vendors still service the majority of their client base via on-site installations.
- Vendors agree that cost is a key driver of decisions, followed by deployment method and functionality. Seamless and effective workflow is a key component of quality functionality.
- Spending in Europe and Asia is growing at a faster rate than in the United States due to a more proactive regulatory culture (and more proactive regulators).
- Vendor pricing is usually based on a fixed-term subscription or license structure, often with a maintenance or upgrade fee, which can vary by the following factors (or a combination thereof):
 - Number of markets/venues
 - Number of users
 - Number of use cases/modules
 - Number of rules/parameters
 - Messaging volume
 - Enterprise-level assets under management
 - Geographies and/or asset classes

RELATED AITE GROUP RESEARCH

Trade Surveillance and Monitoring Technology: Defining the Ecosystem, December 2014.

The Trade Surveillance Compliance Market and the Battle for Automation, July 2013.

Global Anti-Money Laundering Vendor Evaluation: A Reinvigorated Market, May 2011.

Market Surveillance Technology: Too Little, Definitely Too Late, December 2010.

Chasing Compliance: Things That Go Bump in the Night, November 2009.

Compliance in 2006: Blazing Flashes in an Obvious Market, February 2006.

ABOUT AITE GROUP

Aite Group is an independent research and advisory firm focused on business, technology, and regulatory issues and their impact on the financial services industry. With expertise in banking, payments, securities & investments, and insurance, Aite Group's analysts deliver comprehensive, actionable advice to key market participants in financial services. Headquartered in Boston with a presence in Chicago, New York, San Francisco, London, and Milan, Aite Group works with its clients as a partner, advisor, and catalyst, challenging their basic assumptions and ensuring they remain at the forefront of industry trends.

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