Teradata Aster Analytics and Nuix: Successfully Addressing the Threats of Non-compliance, Security Risks, and Insider Threats

Organizations around the globe are under constant pressure to gain an understanding of the insights their information holds. Whether you are a regulatory or law enforcement entity trying to uncover the truth, or an organization interested in understanding where your critical value data lies—the key to gaining this knowledge is having access and being able to apply advanced analytics to turn data into information, and information into action. However, existing labor-intensive compliance processes and technology solutions cannot keep up with the increasing volume and variety of structured and unstructured data shared across channels and access points such as mobile and web. Furthermore, not all forms of communications can be easily tracked and analyzed in short order to ensure that possible risks inherent in these communications are virtually eliminated.

An example of applying multi-genre advanced analytics could be illustrated in the context of compliance investigation. First, we can apply path analysis to identify the key drivers of non-compliance (e.g., web page access, document download, or transaction attempt). Then we can determine the influence level of an individual by applying graph analysis on their internal and external communications activity. Finally, once we have determined the top 20th percentile of influential individuals who also have shown likelihood for fraudulent patterns of behavior, we can apply sentiment analysis on their communications and social media activity to determine the nature of their conversations.
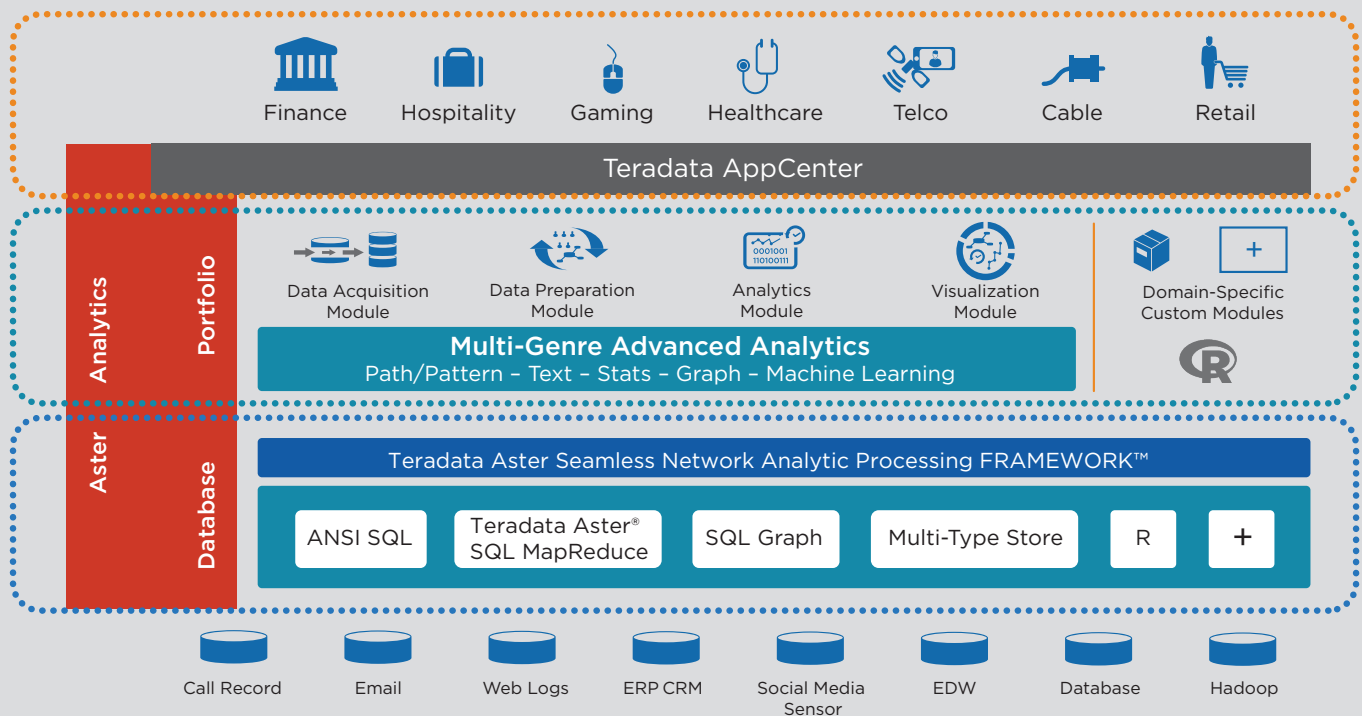
Teradata Aster Analytics Architecture

Figure 1. Teradata Aster Analytics.

The combination of the Teradata Aster Analytics solution and Nuix's state-of-the-art information agglomeration technology now provide executives and regulators the much needed ability to ensure companies are able to quickly respond to compliance monitoring, risk management, litigation threats, and insider activities without the headaches of figuring out how to ingest data types of multiple structures and determining the best analytic methodologies to derive crucial insights.

Teradata Aster Analytics

Teradata Aster Analytics is the industry's first multi-genre advanced analytics solution that provides powerful high-impact insights on all data types of any volume. Multi-genre capabilities refer to the seamless application of different analytics techniques to address any use case within one solution. Aster Analytics does precisely this by allowing users to execute a wide variety of advanced techniques (e.g., Path, Graph, Text, Sentiment Visualizations, R packages) to ingest, prep, and analyze data in addition to visualizing and operationalizing insights all within a single interface and at speed and scale. Aster Analytics enables organizations to attain unmatched competitive advantage and drive pervasive adoption of big data analytics by every user based on their skills and preferences.

Nuix

Nuix protects, informs, and empowers society in the knowledge age. Leading organizations around the world turn to Nuix when they need fast, accurate answers for investigation, Cybersecurity incident response, insider threats, litigation, regulation, privacy, risk management, and other essential challenges.

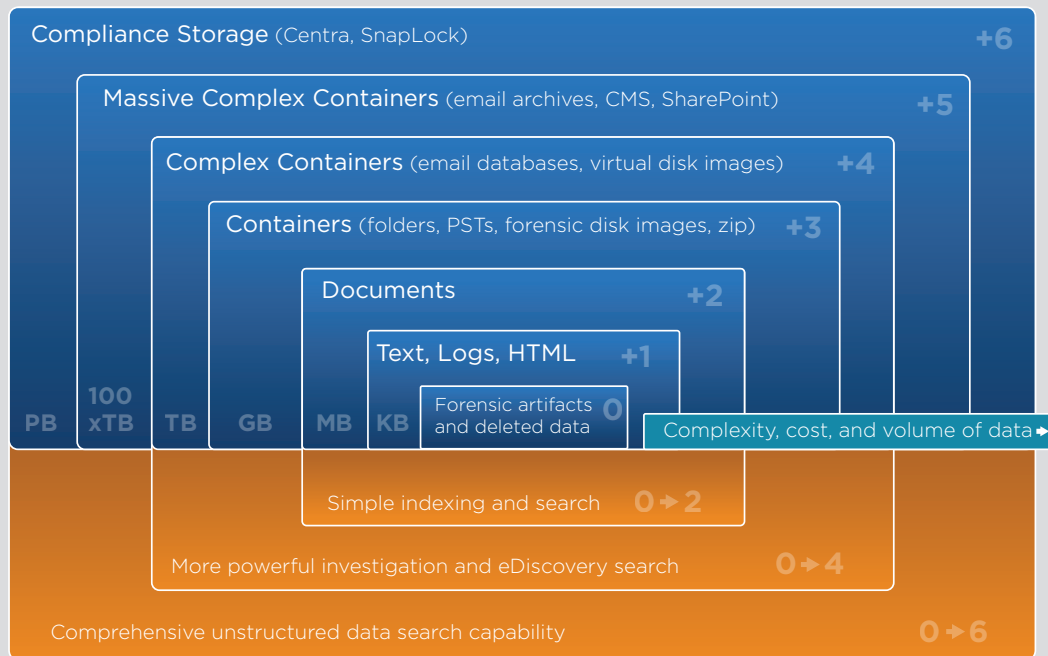### Nuix Technology Captures Text and Metadata from Complex Multi-layered Unstructured Data Formats

Compliance Storage (Centra, SnapLock) +6

Massive Complex Containers (email archives, CMS, SharePoint) +5

Complex Containers (email databases, virtual disk images) +4

Containers (folders, PSTs, forensic disk images, zip) +3

Documents +2

Text, Logs, HTML +1

Forensic artifacts and deleted data 0

PB | 100 xTB | TB | GB | MB | KB

Complexity, cost, and volume of data →

Simple indexing and search 0 → 2

More powerful investigation and eDiscovery search 0 → 4

Comprehensive unstructured data search capability 0 → 6

Figure 2. Comprehensive unstructured data search capability.

nuix
Simple. Powerful. Precise.

TERADATA

Nuix makes small work of big data volumes and complex file formats. Our solutions combine advanced technology with the extensive knowledge of our global team of industry experts. We bring data to life with clarity and intelligence to solve critical business problems, reduce crime, and secure and manage information. The Nuix unstructured data indexing engine has a unique, patented combination of load balancing, fault tolerance, and intelligent processing technologies. It enables our solutions to process virtually unlimited volumes of unstructured data at high speed and with forensic certainty.

Nuix customers include the world's leading advisory firms, legal service providers, enterprises, government departments, law enforcement agencies, and all of the world's major corporate regulatory bodies.

Teradata Aster and Nuix Together: A Compliance Monitoring and Investigation Use Case

At the heart of analytics and operationalization is the need for a comprehensive data collection, ingestion, and governance process. The Nuix Engine provides the key capability that makes it possible to index and search the
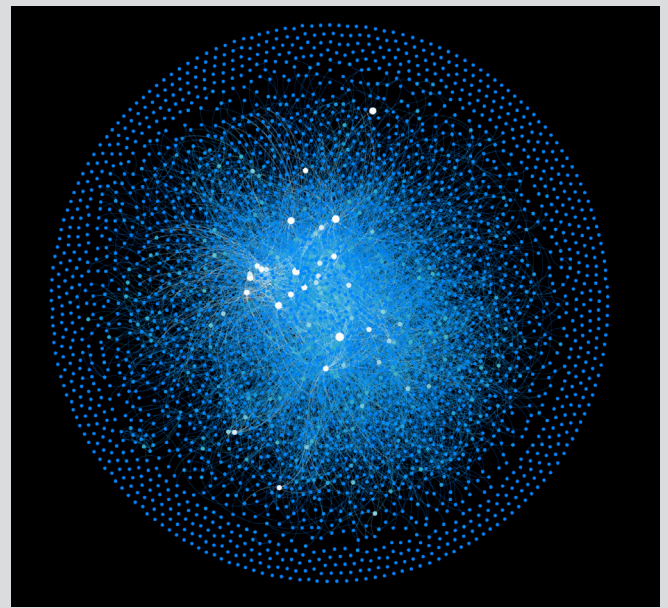

Figure 3. Teradata Aster visual analytics. Cyber fraud analysis through web page access tracking.

largest volumes of unstructured data with unmatched speed and forensic rigor. Nuix also has a deep built-in understanding of complex file and storage types that other solutions can't match. Nuix's technology enables the easy assembly of troves of data of varied volumes that get accumulated at different speeds and provides a comprehensive database of correspondence that can then be analyzed. Aster Analytics then ingests all the data that are situated in one location to then apply advanced analytics to determine root causes of non-compliance or policy violations. The resulting Compliance Analytic Solution is unlike any other compliance solution in that it applies multi-genre advanced analytics techniques including Machine Learning, Text Analytics, Pattern Recognition, Graph Analysis, and ad-hoc analysis, to create a sophisticated predictive model that automatically screens messages and attachments at scale across the enterprise. The solution can quickly estimate a range of expected improvement and provide a network graph to identify non-compliant communications activity besides enabling operationalization of these insights.

Teradata and Nuix Integration

Teradata and Nuix integration provides a smarter, more scalable approach to investigative workflows. The investigator will be empowered by access to Aster Analytics' multi-genre analytics capabilities and seamless access

Solution Benefits

- Organize, archive, and search vast collections of unstructured files.
- Implement Nuix's eDiscovery workflow that consistently extracts and parses data.
- Focus on understanding the roots of non-compliance rather than on data gathering and analysis.
- Provide investigators with more context to take nuanced actions based on insights delivered.
- Operationalize insights easily with the availability of near real-time information.
- Leverage Aster Analytics' 100+ pre-built advanced analytics techniques and Aster AppCenter's framework for delivering highly actionable, purpose-built solution apps to ensure that there is no need to acquire advanced programming language skills.

to the customer's operational data environments. The solution allows the customer to constantly improve models and accuracy to ensure that the latest techniques are being used to flag diverse types of compliance violations. This enables organizations of all sizes to proactively address possible non-compliant practices and save scarce resources from being squandered unnecessarily. They can also address litigation and penalties in the aftermath of the violations. The resulting resource savings coupled with avoiding brand image tarnishment is very good for business.

For More Information

To learn about Aster Analytics, visit **Teradata.com**, and join the Aster Community at **Aster-Community.Teradata.com** to learn about Aster Analytics.

Email and Loose Files	Incident Responses	Others
Microsoft • EDB, STM, EWS (Microsoft® Exchange) • PST, OST (Microsoft Outlook® single mail files) **IBM Lotus Notes** • NSF (Lotus Notes/Domino) **Others** • MBOX, DBX, MBX, (Microsoft Outlook Express) • EML, EMLX, BOX, SML **Documents** • HTML, Plain text, RTF, PDF • DOCX, DOC, DOT (Microsoft Word®) • XLSX, XLS, XLT (Microsoft Excel®) • PPTX, PPT, POT, PPS (Microsoft PowerPoint®) • WKS, XLR (Microsoft Works® spreadsheets) **Images** • PNG, JPEG, JP2, TIFF, GIF, BMP, PBM, PPM, PGM, RAW, WBMP, WMF, WMZ, EMF, EMZ	**Forensic Images** • Encase Images (E01, L01) • Access Data (AD1) • Linux DD files • Mobile Images (Cellebrite/XRY/Oxygen) **Log Files** • Windows Event Logs (EVT/EVTX) • Web Logs (IIS, Apache, FTP) • Logstash outputs **Network Captures** • PCAP files **System Files** • EXE/DLLs • LNK files • Windows Registry Hives • Recycle Bin INFO2/SI $R • Prefetch • Jump lists • Thumbs.db **File System Artifacts** • $LogFile, $UserJrml, Object ID • File slack space • Carved, unallocated blocks **Fuzzy Hashing (SSDeep)**	**Structured Data** • MS SQL (Live and MDF/LDF are text stripped • SQLLite **Browser and Cloud Artifacts** • IE, Safari, Chrome, Firefox • Dropbox, AWS **Container Files** • ZIP, RAR, LZH, LHA, ARC, TAR, GZ,BZ2, ISO **Virtual Machine Images** • VDK, VMDK, (virtual disk images) • Parallels **Active Systems** • EMC EmailExtender (EMX), Source One • Symantec Enterprise Vault 2007, 8, 9, 10 • HP Autonomy EAS **Document Management Systems** • Microsoft SharePoint • EMC Documentum **Unknown File Types** • Unknown file types are text-stripped

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