



# Czy modele biznesowe zorientowane na dane i ich analizę są bezpieczne dla przedsiębiorstwa?

Zarządzanie i szyfrowanie danych w całym ich procesie przetwarzania

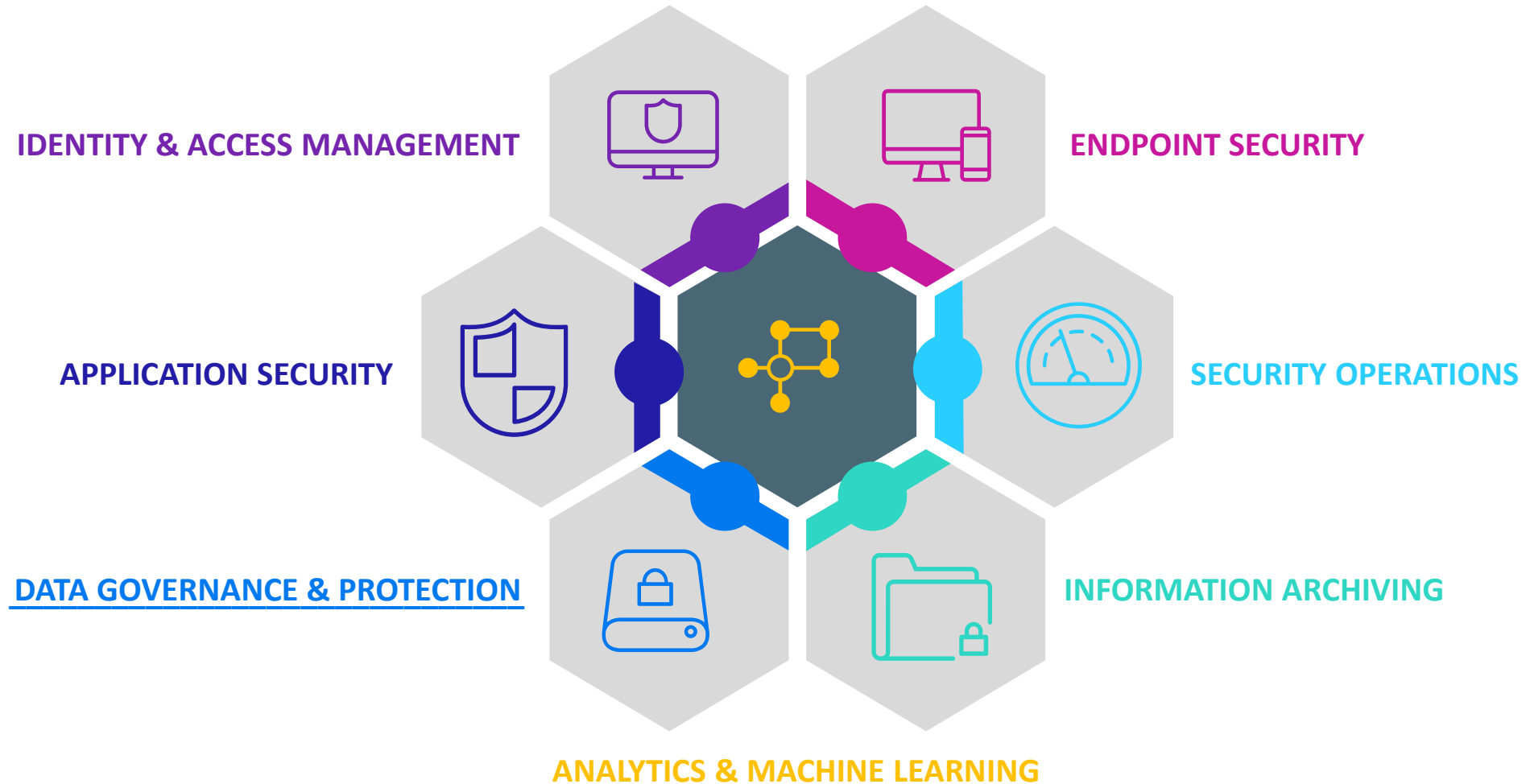
Voltage SecureData

Robert Lejnert

10/2019 :: Experience Tour Poland 2019

# Security, Risk, and Governance

Micro Focus portfolio





# Voltage

Cybersecurity

Risk management

Corporate governance

Industry regulations

Data privacy

Industry leadership

Drive industry standards

# Usable data security that meets multi-stakeholder goals



**GM / LOB / VP Big Data**

- **Creating** data-driven revenue with business transformation
- **Monetizing** assets for customer loyalty, new products/services
- **Capitalizing** on market trend opportunities to create value
- **Achieving** business continuity and operational efficiency
- **Increasing** revenue and drive down costs with P&L impact



**Chief Data Architect**

- **Integrating** with formal design & development of data assets
- **Optimizing** business operations & protecting brand value
- **Scaling** out appropriate solutions for data security efficiently
- **Enabling** safe data flow enterprise-wide, globally
- **Balancing** protection and privacy with LOB value creation needs



**CISO/ VP Security**

- **Protecting** business operations & brand, comprehensively
- **Enabling** new business initiatives & transformation
- **Making** security purchase decisions within budgets
- **Implementing** security policy requirements for compliance
- **Lowering** risk of breaches to say “yes” to new revenue initiatives



**Risk/Privacy Officer**

- **Ensuring** reliable governance policy (GDPR, PCI, privacy)
- **Unifying** a comprehensive, approach to protection
- **Passing** routine audits, efficiently and cost-effectively
- **Addressing** legacy, current, or new initiatives consistently
- **Reducing** risk without slowing down business innovation

# Customer success across different use cases

## Global Telco



- **Need:** Compliance with PCI, HIPAA, State Privacy Laws
- **For:** 550 Apps, 26 data elements, Mainframe, Teradata, Windows, Unix
- **Without Voltage SecureData:** Attempts to protect data in each app and db resulted in high costs
- **With Voltage SecureData:** Data-centric security using FPE applied to hundreds of apps & dbs

## The Home Depot



- **Need:** Address POS data breach and remain PCI compliant
- **For:** over 2,000 retail stores in North America; expand to corporate data protection needs
- **Without Voltage SecureData:** Compliant, but security gaps as encryption was not end-to-end
- **With Voltage SecureData:** End-to-end encryption; expedited deployment; corporate vision

## Wall Street Bank



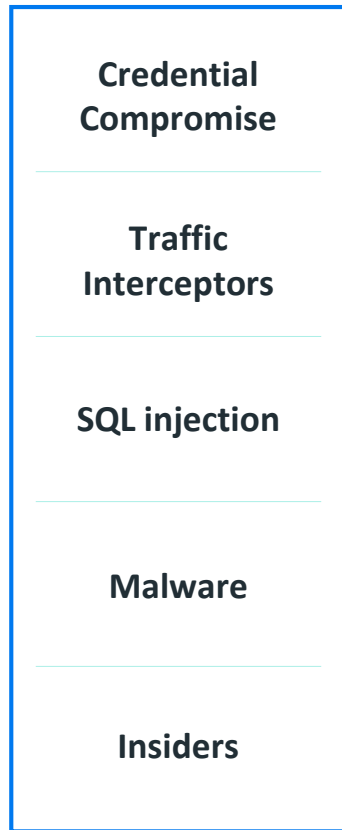
- **Need:** Protect customer financial data; PCI compliance
- **For:** corporate big data environment, 100's of Hadoop nodes
- **Without Voltage SecureData:** limited use of big data; speed of executive decision making
- **With Voltage SecureData:** FPE used to encrypt data during ingestion; analytics on encrypted data

# Top Use Cases for Voltage SecureData

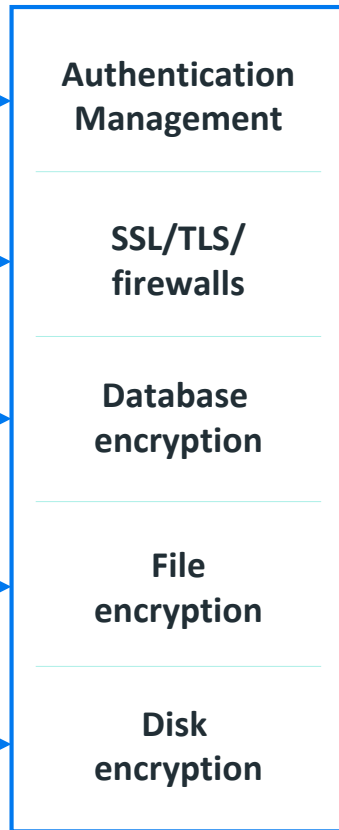
1. Reducing risk of breach for (sensitive) data in DB & applications
2. Enabling secure big data analytics
3. Enabling deployment to the cloud (IaaS and PaaS)
4. Regulatory Compliance: PCI, HIPAA, GDPR
5. PCI scope reduction and point-to-point encryption

# Voltage SecureData: field-level “data-centric”

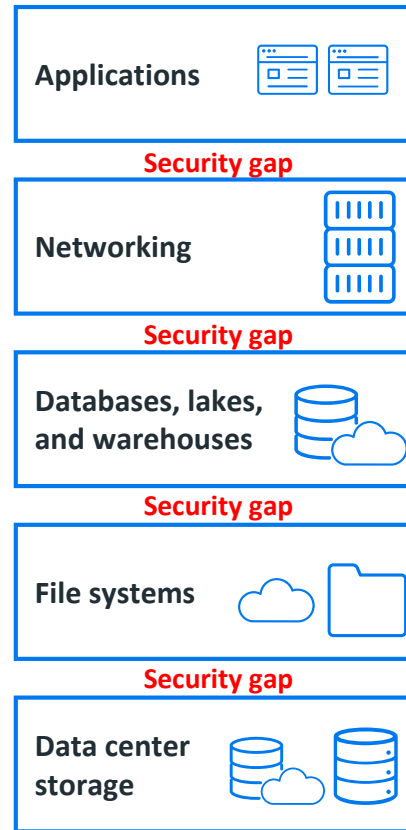
## Common Threats to Data Privacy



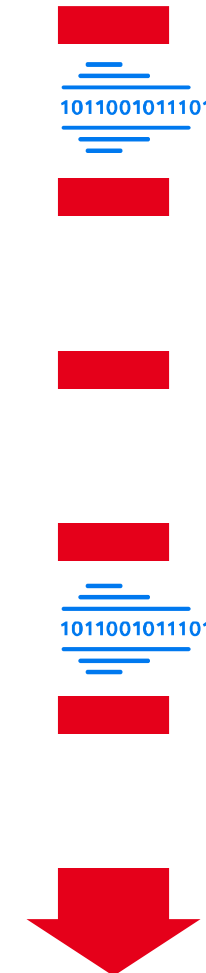
## Traditional IT Security Silo



## Infrastructure Ecosystem



## Security Gaps



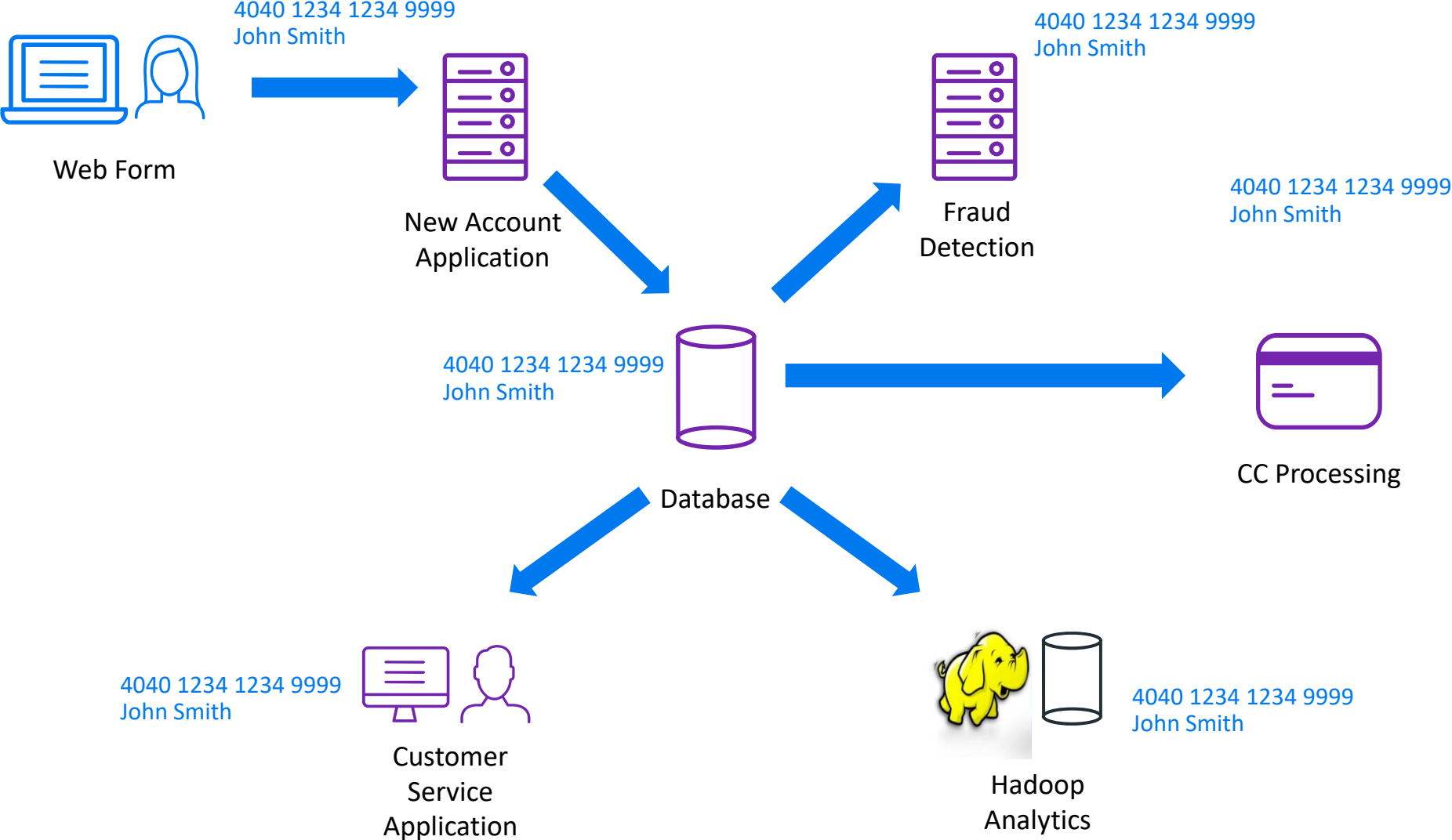
Required Coverage

## Voltage



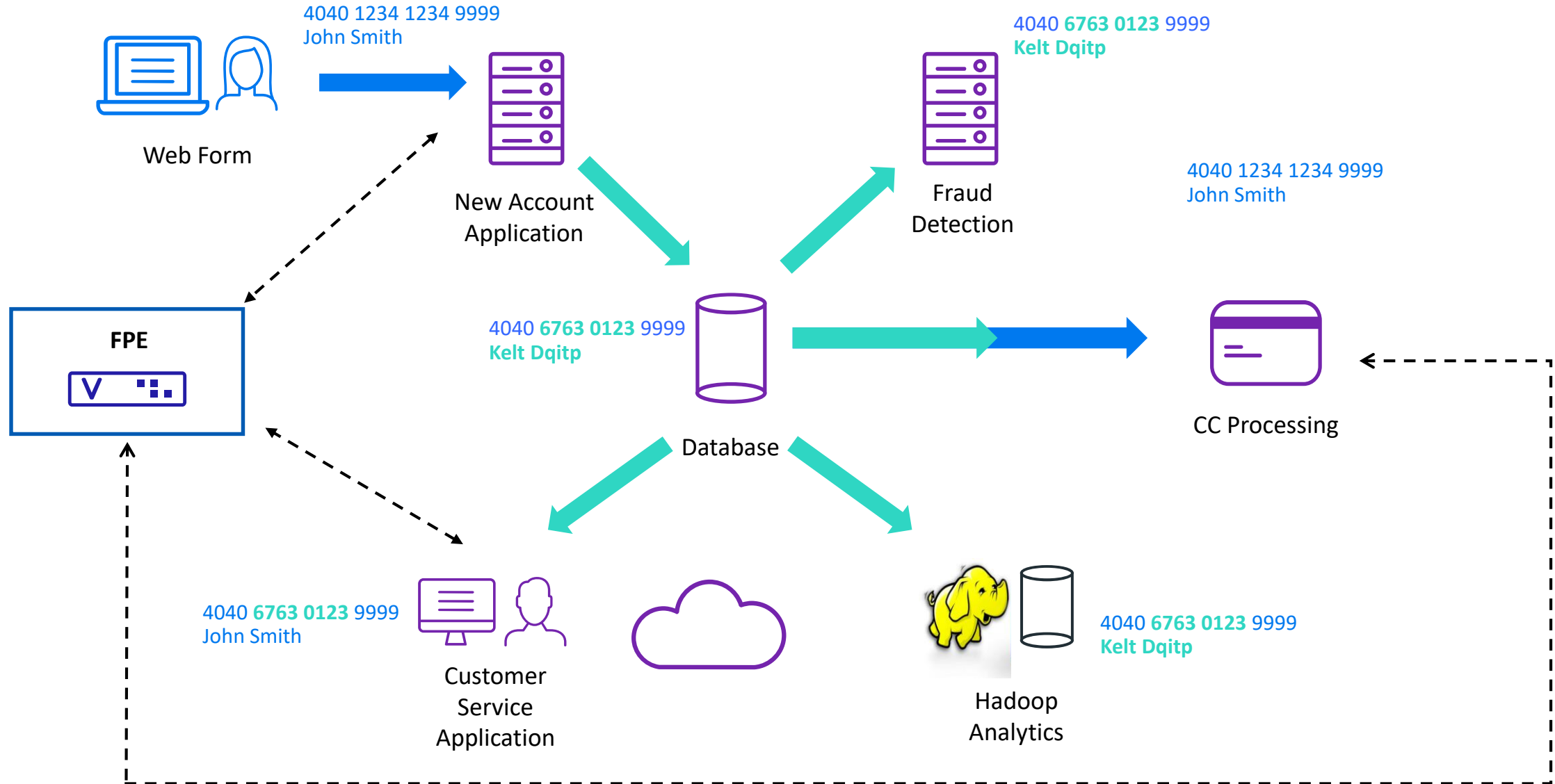
End-to-end Protection

# Mapping the Flow of Sensitive Data





# The Same Environment with FPE



# Voltage Portfolio

**Data Privacy:** Data Protection & Identity, Risk Awareness, GDPR, and Beyond

**Breach Defense:** Protect Analytics (Vertica, Hadoop, Teradata)

**DevOps:** Digital Transformation (Securing Workloads to the Cloud)

## Voltage SmartCipher

Centralized, policy-driven controls for data privacy enabled through transparent file encryption

## Voltage SecureMail

Easy, scalable email encryption

## Voltage SecureMail Cloud

Enterprise email encryption SaaS

## Voltage SecureData

Enterprise, Big Data/IoT Analytics, Cloud, eCommerce, Mobile and Payments Data Security Encryption, Tokenization, Hash, Masking and Stateless Key Management

## Partner HSMs (including Utimaco Atalla and nCipher HSMs)

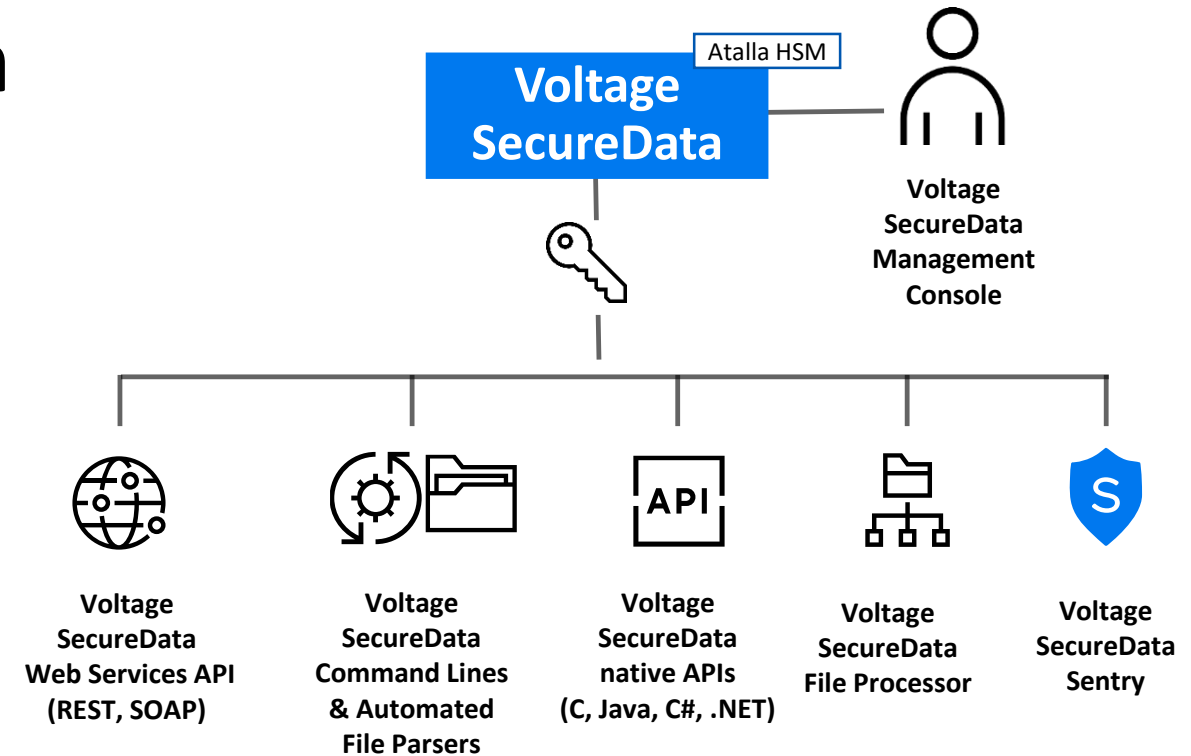
Secure root of trust for Voltage Stateless Key Management



**Voltage SecureData**

# Voltage SecureData Platform

- **Voltage Stateless Key Management**
  - No key database to store, manage or compromise
  - High performance and scalability for modern IT
- **Encryption and tokenization technologies**
  - Customize solutions to meet exact requirements and regulatory mandates (e.g., PCI, anonymization)
- **Broad platform support**
  - Consistency from on-premises to hybrid cloud
  - Structured and unstructured data coverage
  - Agnostic for Linux, Hadoop, Windows, AWS, IBM z/OS, HPE NonStop, Vertica, Teradata, etc. support
- **Quick time-to-value**
  - Complete end-to-end protection within a common approach to deploying Voltage data protection across endpoints
  - Format-preservation maintains transparency, usability
  - Sentry accelerates deployment with non-disruption



# Hyper Format-Preserving Encryption (FPE)

Voltage next generation FPE for new data driven economy



**First Name:** Gunther  
**Last Name:** Robertson  
**SSN:** 934-72-2356  
**DOB:** 08-07-1966



**First Name:** Jürgen  
**Last Name:** Klinsmann  
**Chequing Acct:** 122105278 674301068

<b>AES-FPE</b>	<b>First Name:</b> Uywjlqo <b>Last Name:</b> Muwruwbp <b>SSN:</b> 253- 67- 2356 <b>DOB:</b> 01-02-1972	<b>First Name:</b> KxýAçy <b>Last Name:</b> ĎwlämÜqßr <b>Chequing Acct #:</b> 122105278 827572346
<b>AES-CBC</b>	<b>First Name:</b> OGIJNzUJNTUJNGEJNDUJNWYJYmUJNjcJNDkJNjgJMjIYWIJN2MJMjEJN2UJMzMNCg== ...	<b>First Name:</b> NDggMzQgMTAgNWlGyZcgMTIgYTYgZjggMTcgM2UgZWQgOTEgMzlgNzcgNmQgNzI= ...

- Supports virtually any data types in any format: name, address, dates, numbers, etc.
- Provides Unicode Latin 1 for format and character set preserving encryption in languages such as German, Spanish, French and more
- Preserves referential integrity
- Only applications that need the original value need change
- Used for production protection and data masking
- NIST-standard using FFX - FF1 mode of AES (SP800-38G)
- the industry's first FIPS 140-2 validation of Format-Preserving Encryption (FPE)

# Voltage Format-Preserving Encryption vs Generic FPE

Name :	Kiwujx Yöecyqvhä
Tax ID :	992-751-7834
Drivers License :	D427364-BC-29
DOB :	16-Feb-1975
VIN :	7YINH88PYWP872411
Bank Account :	0001136 63834-772930

Generic FPE: No Unicode

Generic FPE: No Partial field, format independence

Generic FPE: No Partial Alphabets, format independence

Generic FPE: No Date checks, Date range preservation

Generic FPE: No partial data, sub field preservation.

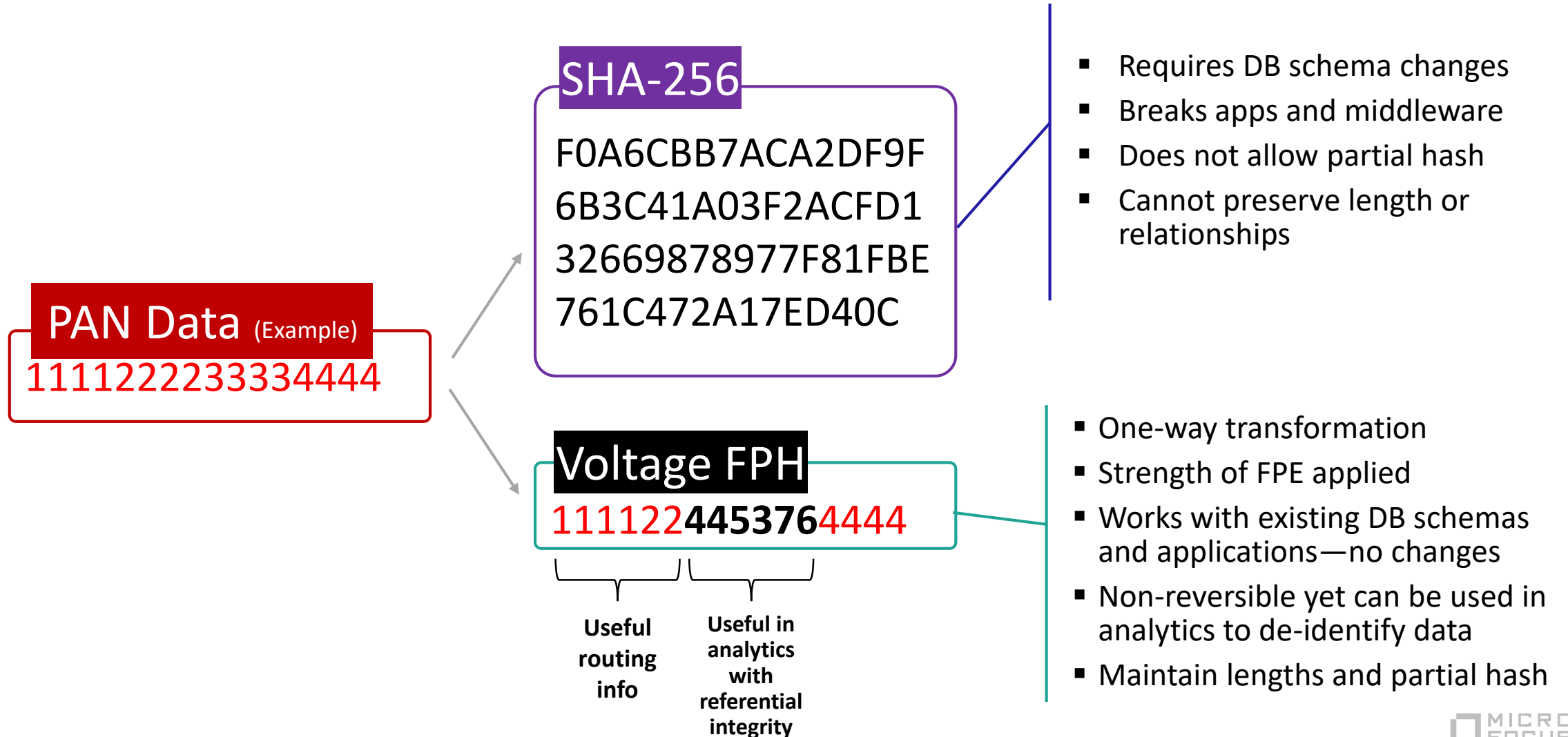
Generic FPE: No partial data, credit card checksums etc..

Micro Focus's FPE preserves data format – but also meaning, logic, context and relationships about the data.

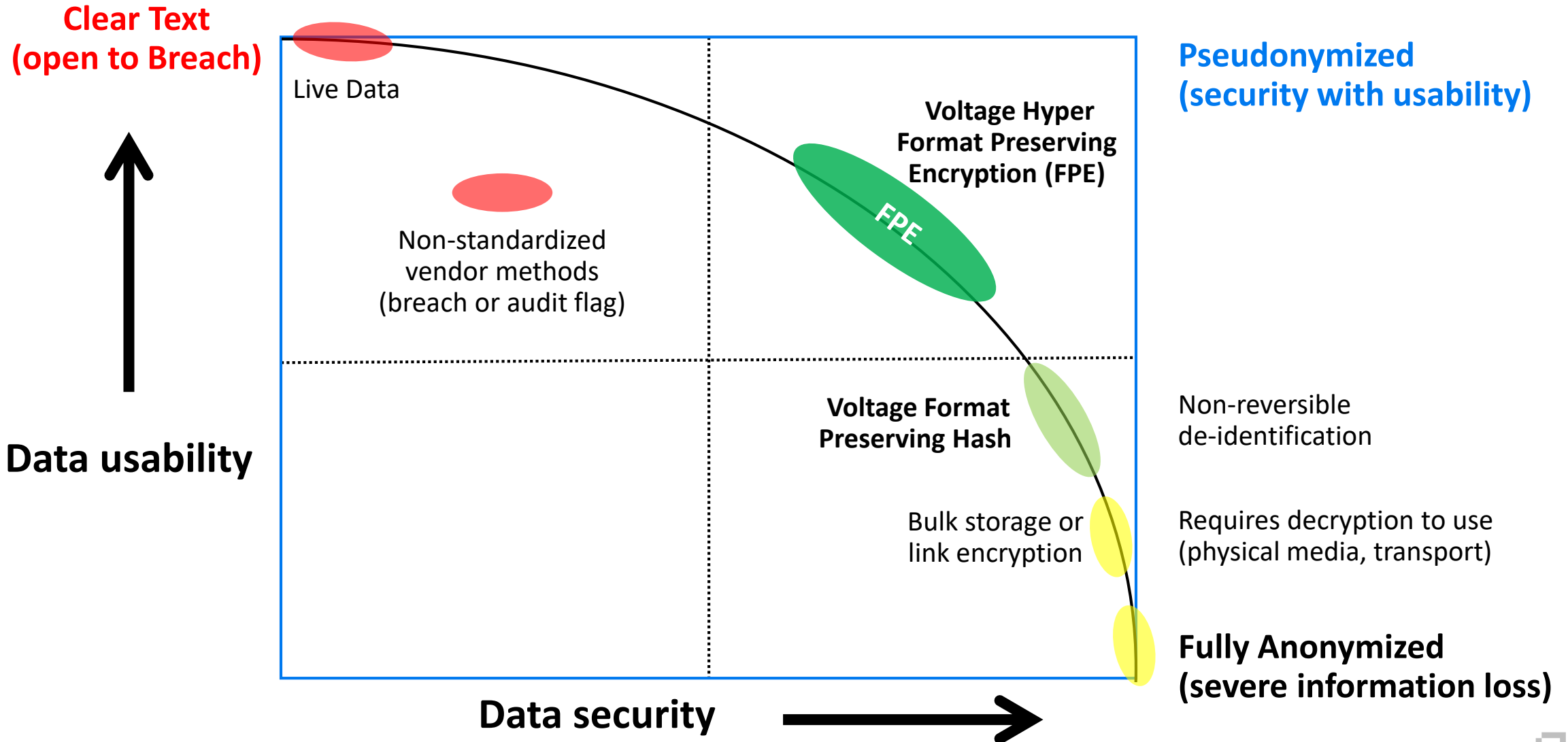
This is an important competitive distinction.

# Anonymization: Format-preserving hash

One-way transformation for privacy compliance and other use cases



# Anonymize or pseudonymize—or risk it all?





# Expanded language and solution enhancements

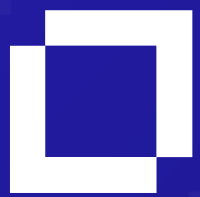
- Japanese character set – FPE support (Released 2017)
- Teradata 3.0.0 enhancements
  - Major I/O performance improvements by supporting “pass-through” mode
- Enhanced Unicode support for Eastern European languages

▪ Character set extensions (2018):

Along with today’s support...

- [Bosnian](#)
- [Croatian](#)
- [Czech](#)
- [Hungarian](#)
- [Polish](#)
- [Romanian](#)
- [Serbian Latin](#)
- [Slovak](#)
- [Slovene](#)
- [Upper Sorbian](#)
- [Lower Sorbian](#)
- [Turkmen](#)

<a href="#"><u>Afrikaans</u></a>	<a href="#"><u>Galician</u></a>	<a href="#"><u>Luxembourgish</u></a>	<a href="#"><u>Scots</u></a>
<a href="#"><u>Albanian</u></a>	<a href="#"><u>German</u></a>	<a href="#"><u>Malay</u></a>	<a href="#"><u>Spanish</u></a>
<a href="#"><u>Basque</u></a>	<a href="#"><u>Icelandic</u></a>	<a href="#"><u>Manx</u></a>	<a href="#"><u>Swahili</u></a>
<a href="#"><u>Breton</u></a>	<a href="#"><u>Irish</u></a>	<a href="#"><u>Norwegian</u></a>	<a href="#"><u>Swedish</u></a>
<a href="#"><u>Corsican</u></a>	<a href="#"><u>Indonesian</u></a>	<a href="#"><u>Occitan</u></a>	<a href="#"><u>Tagalog</u></a>
<a href="#"><u>Danish</u></a>	<a href="#"><u>Italian</u></a>	<a href="#"><u>Portuguese</u></a>	<a href="#"><u>Walloon</u></a>
<a href="#"><u>English</u></a>	<a href="#"><u>Kurdish</u></a>	<a href="#"><u>Rhaeto-Romanic</u></a>	
<a href="#"><u>Faroese</u></a>	<a href="#"><u>Leonese</u></a>	<a href="#"><u>Scottish Gaelic</u></a>	



**Voltage SecureData  
Sentry (Transparent Encryption)**

# Voltage SecureData Sentry

Addresses CISO Concerns



**Simplifies  
Deployment  
(Non-Disruptive)**



**Accelerates  
Time-to-Value  
(High ROI)**

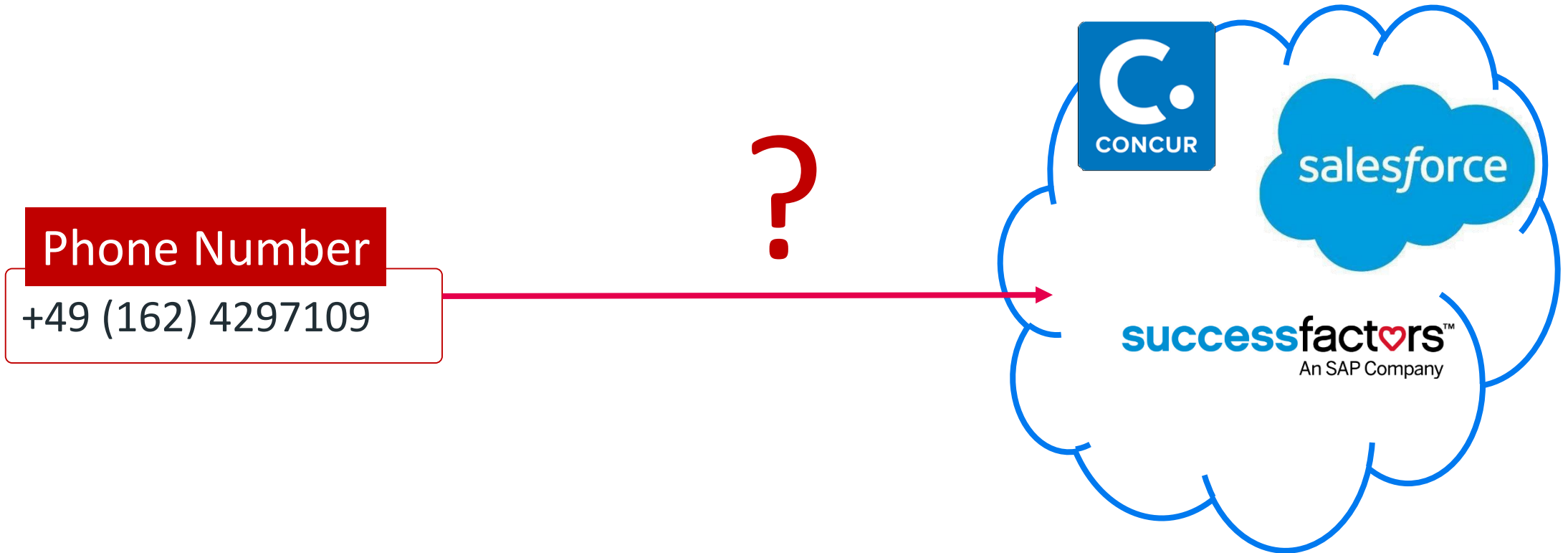


**Lowers Cost of  
Compliance  
(Transparent)**

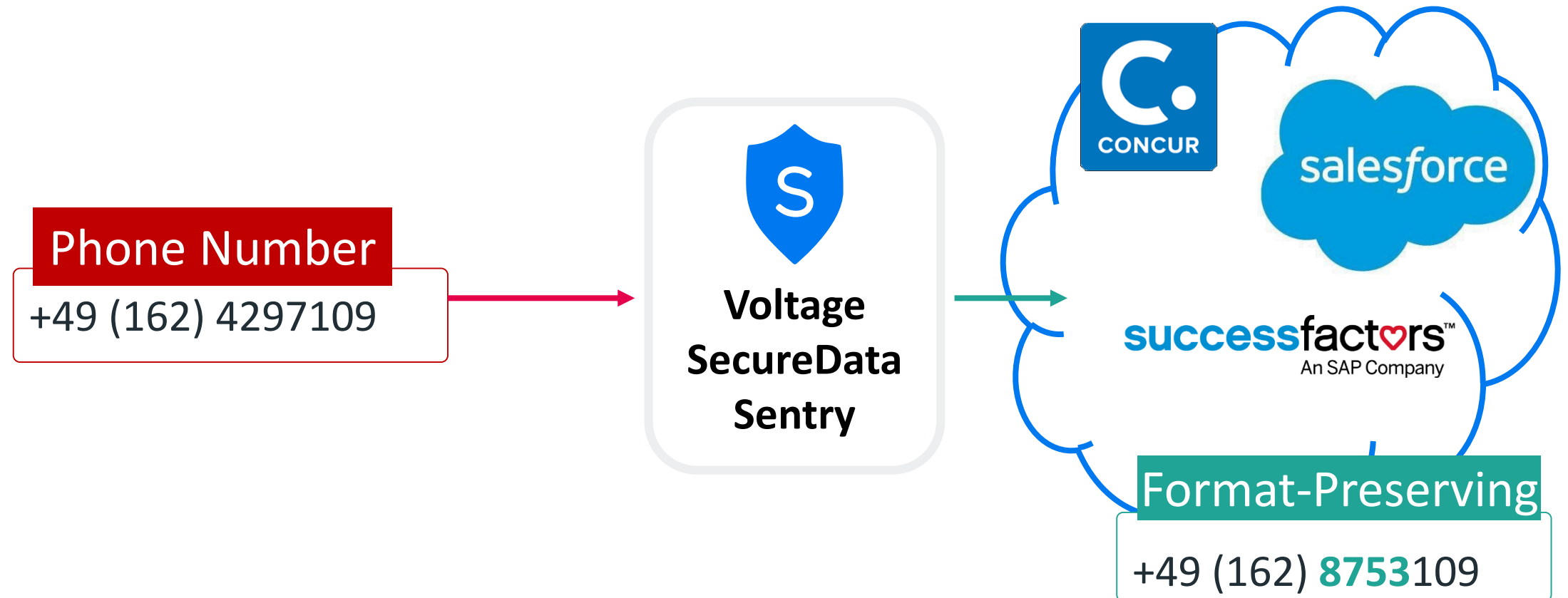


**Centralizes  
Control  
(Comprehensive)**

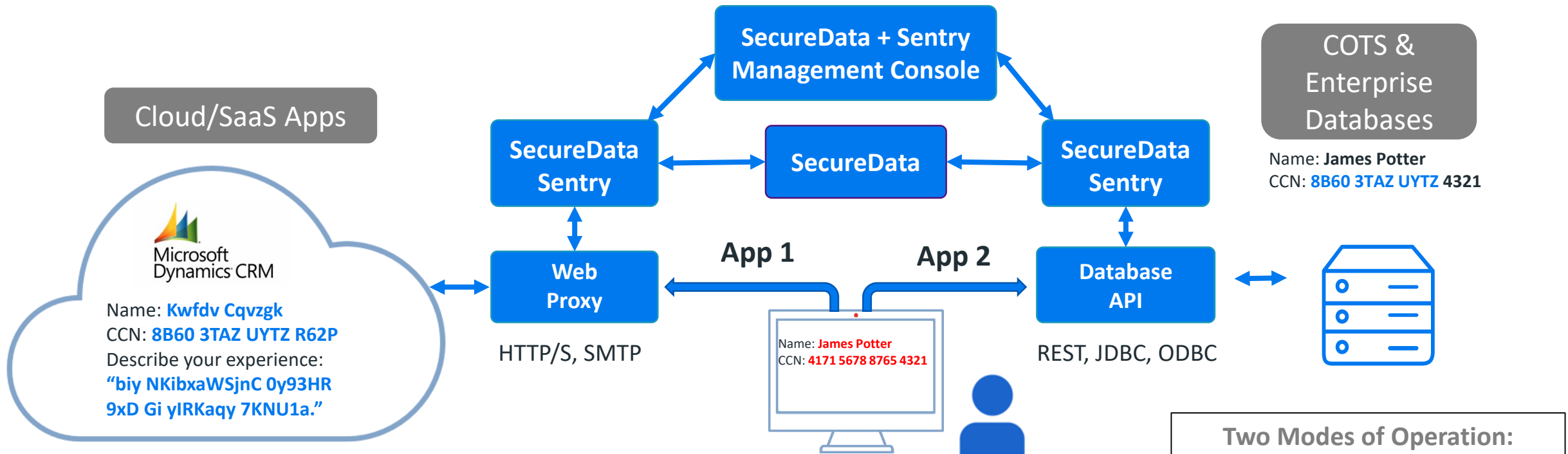
# SecureData Sentry – Data Security for the Cloud



# SecureData Sentry – Data Security for the Cloud



# SecureData Sentry high-level architecture



- Discoverable content: HTML, XML, JSON, PDF, CSV, DOCX, XLSX, GSIP
- Voltage cryptography: FPE, SST, FPH, AES (IBSE), stateless key management

**Two Modes of Operation:**

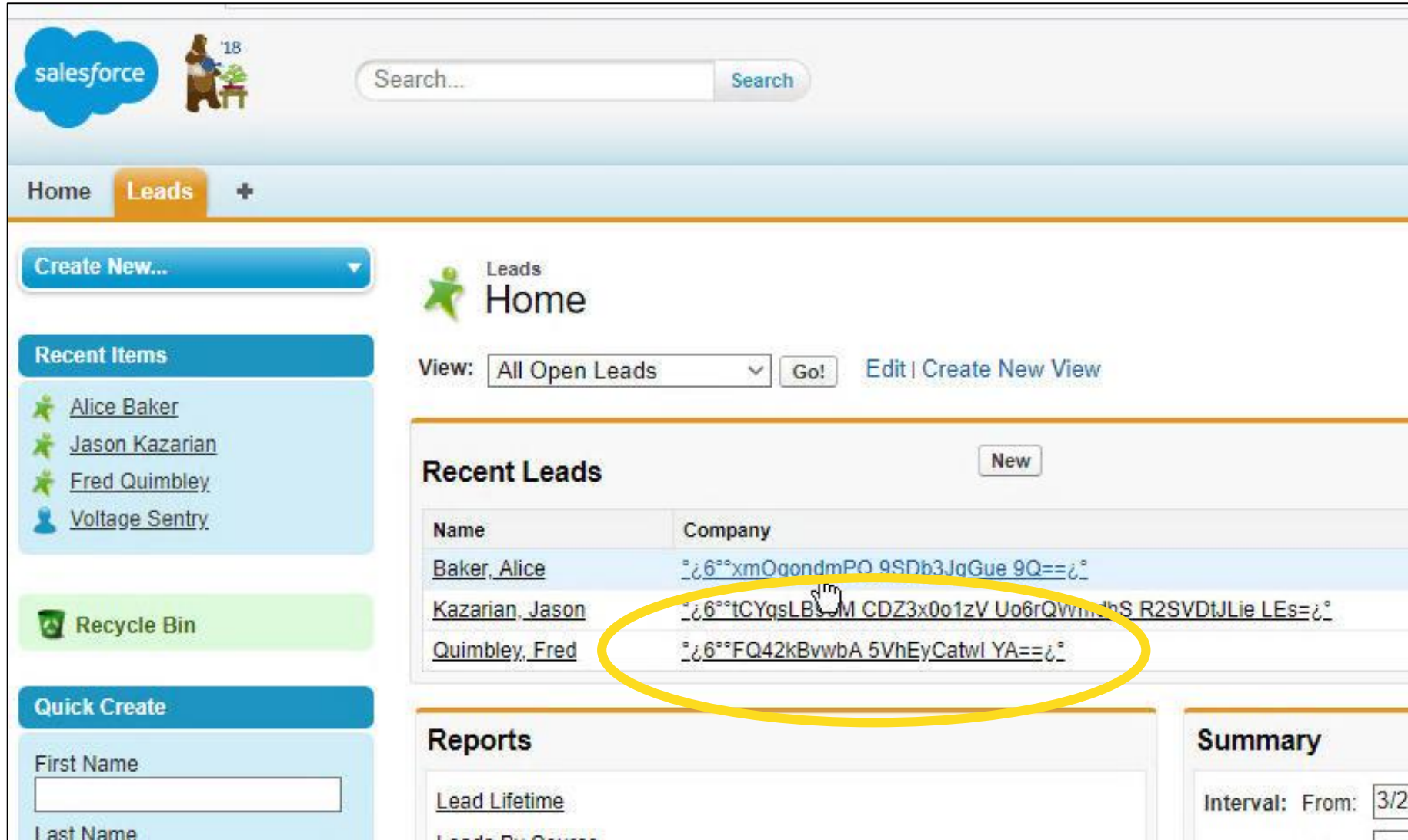
- **Discovery** (Learning Mode) – Create and deploy “Protection Modules” to the engines
- **Protection** – Applies rules to the live traffic for enforcement

# Supported applications

- ALM Octane
- Salesforce Classic
- Salesforce Lightning
- Salesforce Health Cloud
- Salesforce Financial Services Cloud
- SugarCRM
- Microsoft Dynamics 365
- SharePoint 2013 and later
- SAP Hybris Cloud4Customer
- ServiceNow
- Symantec Endpoint Protection Cloud
- BMC Remedyforce
- Nimonik
- Fortinet Analyzer



# Demo Example: Salesforce



salesforce

Search... Search

Home Leads +

Create New...

Recent Items

- Alice Baker
- Jason Kazarian
- Fred Quimbley
- Voltage Sentry

Recycle Bin

Quick Create

First Name

Last Name

Leads Home

View: All Open Leads Go! Edit | Create New View

Recent Leads New

Name	Company
<a href="#">Baker, Alice</a>	...
<a href="#">Kazarian, Jason</a>	...
<a href="#">Quimbley, Fred</a>	...

Reports

Lead Lifetime

Summary

Interval: From: 3/2/



# Demo Example: Salesforce

salesforce

Search...

Home Leads +

Create New...

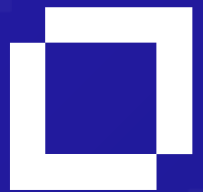
Leads Home

View: All Open Leads Go! Edit | Create New View

Recent Leads

Name	Company
<a href="#">Baker, Alice</a>	<a href="#">ABC Decorating</a>
<a href="#">Kazarian, Jason</a>	<a href="#">Voltage Security</a>
<a href="#">Quimbley, Fred</a>	<a href="#">Voltage</a>

Reports Summary



**Voltage SecureMail**

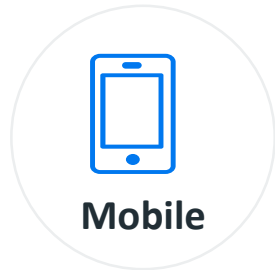
# Voltage SecureMail: Most widely-deployed e-mail encryption solution!

- 75M+ users worldwide
- Thousands of enterprise and mid-sized businesses
- Financial, health care, insurance and other verticals, including:
  - 2 of the top 3 US banks
  - 2 of the top 4 European banks
  - 2 of the top 4 health insurers
  - Top US telecoms, top global airlines, insurance companies, and more...



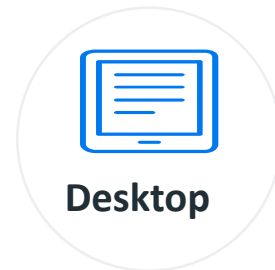
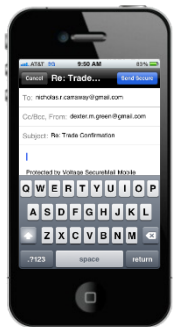
# SecureMail: Just click “Send Secure”

SecureMail client software provides easy-to-use experience across platforms and adds end-to-end email encryption directly at a user’s mobile device, desktop or web, with no air gaps



Mobile

Native user experience for smartphones and tablets



Desktop

Easy-to-use “Secure” buttons within apps



Voltage  
SecureMail



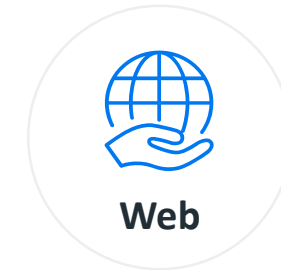
Voltage  
SecureFile



Windows

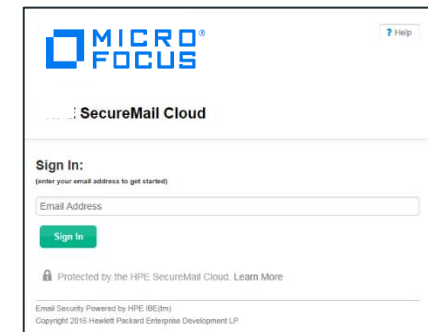
Office 365

Office

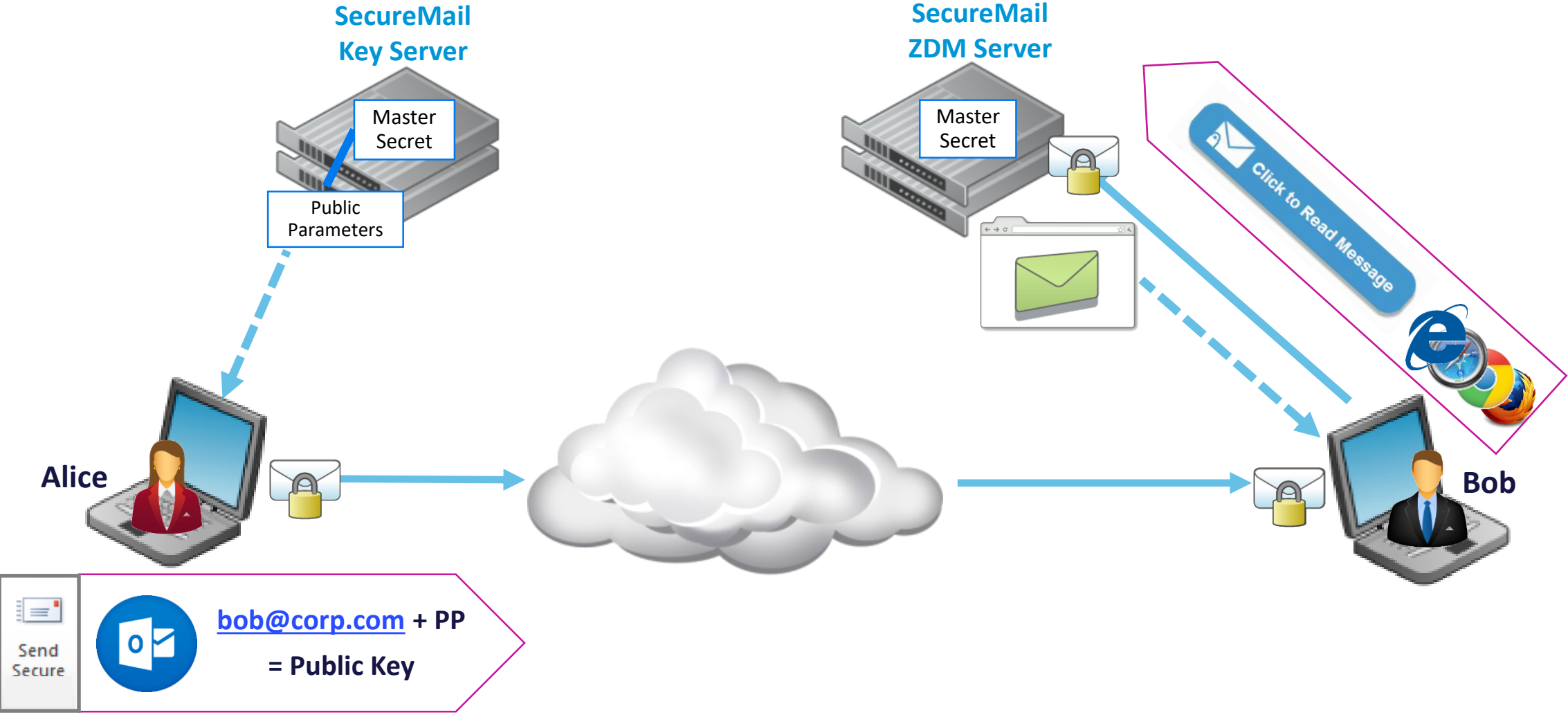


Web

Simple HTML message, no need for extensive registration



# Identity-based Encryption (IBE): How it Works



# Flexible deployment options

Multiple deployment models to enable and support your customers



SecureMail On-Premises



SecureMail Cloud



SecureMail Hybrid

# Peace of mind in the cloud

SecureMail enhances Office 365 security, privacy and usability



- **End-to-End Protection:** From originator to intended recipient; internal and external emails
- **Ease-of-Use:** Outlook plug-ins and native mobile apps
- **Data Privacy:** Encrypted before sent to the cloud; separation keys and message storage
- **Flexible deployment:** Cloud, on-premises or hybrid cloud
- **Customer control:** Key storage, deployment model to migrate to Office 365



**Voltage SmartCipher**



# Voltage SmartCipher

## Combines critical technology features into a single solution for privacy and security

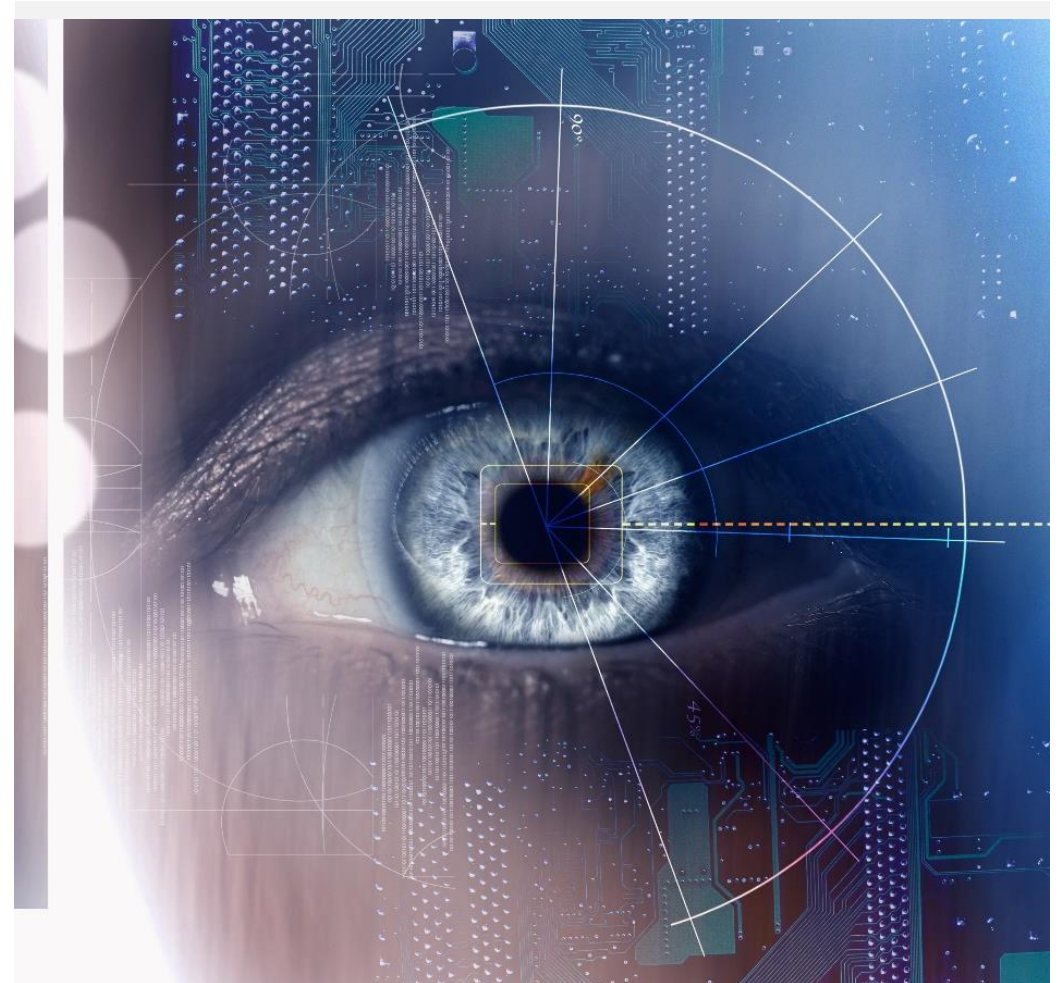
- Simplifies compliance and risk control with a single solution that transparently works with any datatype, on-premise or cloud solutions
- Includes DLP, IRM/DRM, File Encryption, Discovery, Classification, and Access Control features that are critical to privacy

## Simplifies achieving privacy requirements for unstructured data

- Delivers control over sensitive files for secure collaboration and improved privacy compliance through monitoring, reporting, and alerting

## Extends data protection capabilities to industry-leading Voltage portfolio

- Adds unstructured data protection and management
- Enhances Micro Focus's lifecycle security solution for data privacy



# Driver – Cybersecurity



## Business need

- Exponential unstructured data growth represents biggest information security challenge
- Cyber attacks and data breaches are on the rise
- Constant protection/encryption for any type of file is required

## Benefits

- Provides persistent file encryption and complete control and visibility over file usage and disposition across platforms
- Simplifies unstructured data management by embedding files access and usage controls that persist across the data lifecycle

# Driver – Privacy, Compliance, and Audit



## Business need

- Legislative requirements for data privacy and security are expanding
- Unstructured sensitive data needs to be discovered, classified, and encrypted

## Benefits

- Control and secure regulated information
- Provide internal control and information integrity
- Ensure files are protected even in the event of security breaches

# Driver – Secure Collaboration



## Business need

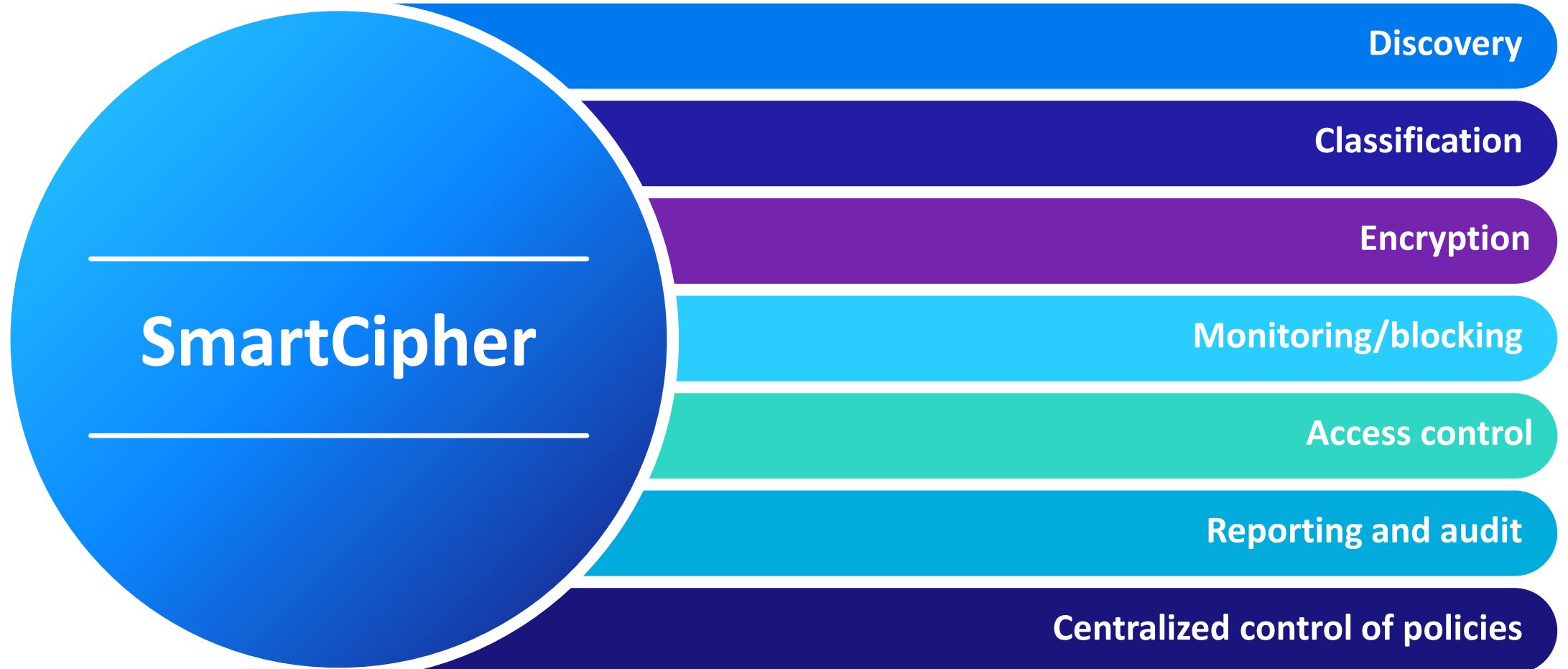
- Enterprises need to share information with business partners, suppliers, customers, and many other external team members
- Must be able to accommodate multiple platforms and environments

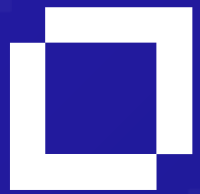
## Benefits

- Enables encrypted files to remain agnostic to the operating system, applications, and user
- Secures the files across collaboration platforms, including email and cloud-hosted environments.

# SmartCipher

Single, centrally managed policy-driven platform



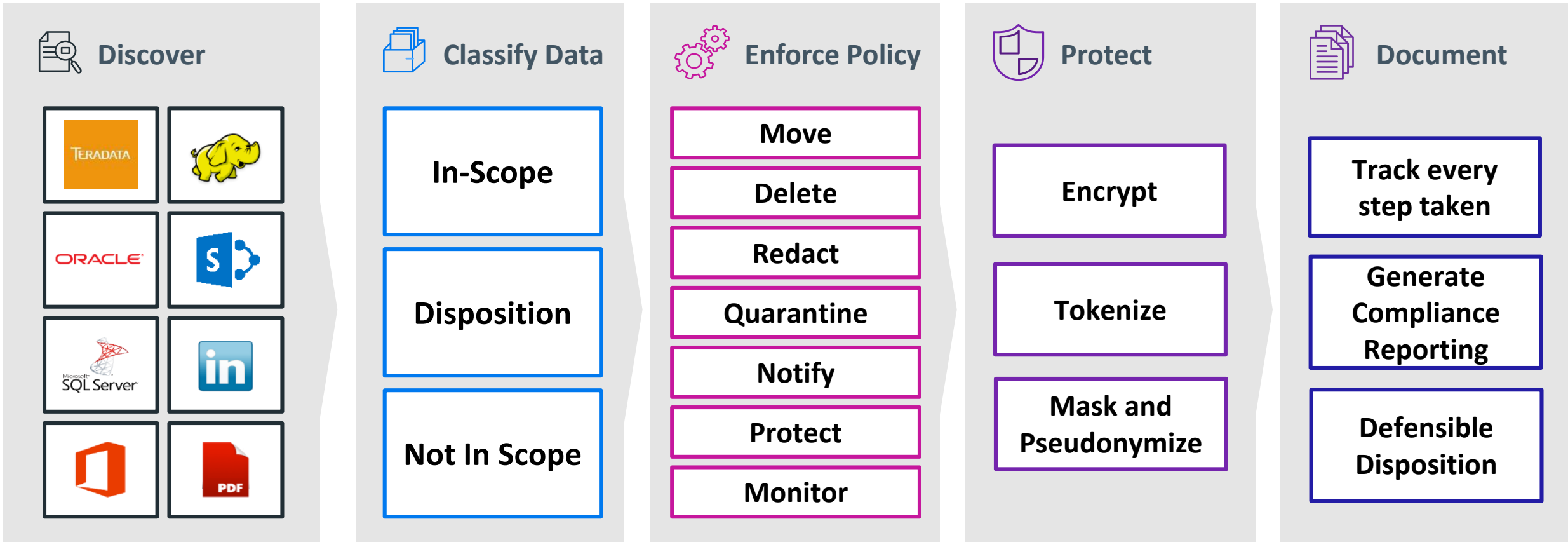


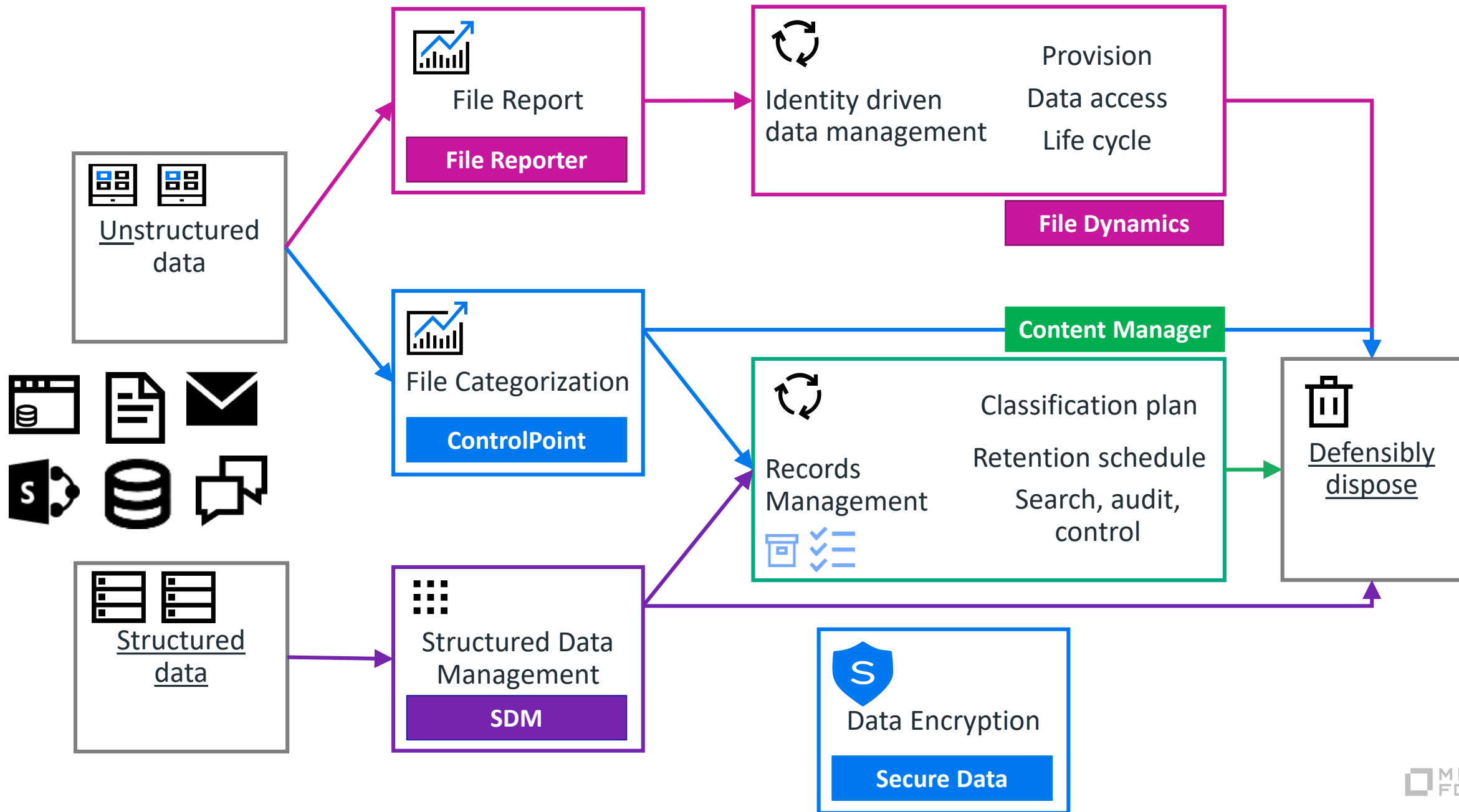
# **Joint Solution: Data Privacy Manager**

# Micro Focus Data Privacy Manager

Manage and protect privacy throughout the information lifecycle

Complete data privacy management throughout the enterprise from a single pane of glass

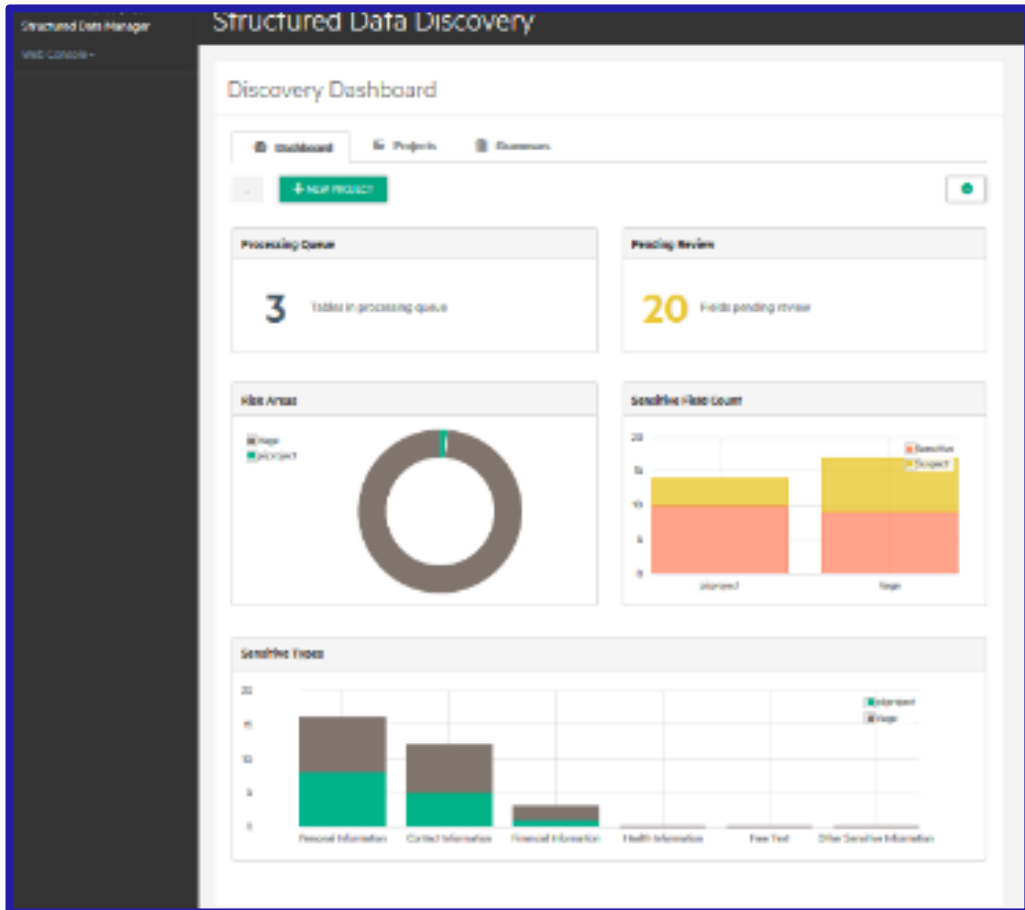




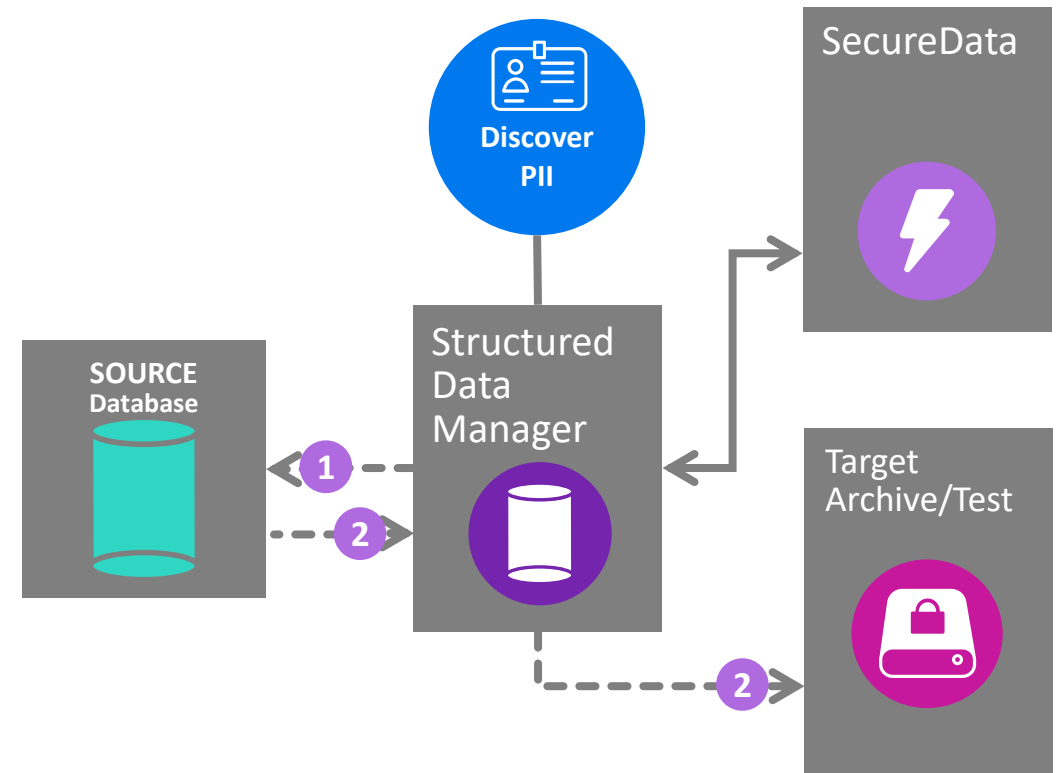


# Single pane of glass for data management and security

SDM dashboard presents data in graphical interfaces



User controls SecureData encryption of data from SDM control panel



1. Encrypt Source Database
2. Encrypt Target Archive/Test



# Arcsight Data de-identification

# Arcsight Data de-identification for GDPR privacy

Format Preserving Encryption by Voltage embedded (see previous session)

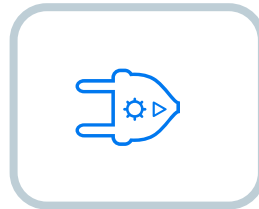
john.doe@arcsight.com

De-identify sensitive data

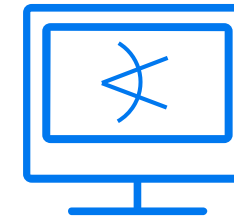
uwol.clu@qnmppsaa.kle



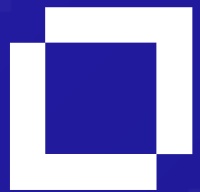
Source  
Event data



ArcSight  
Connector

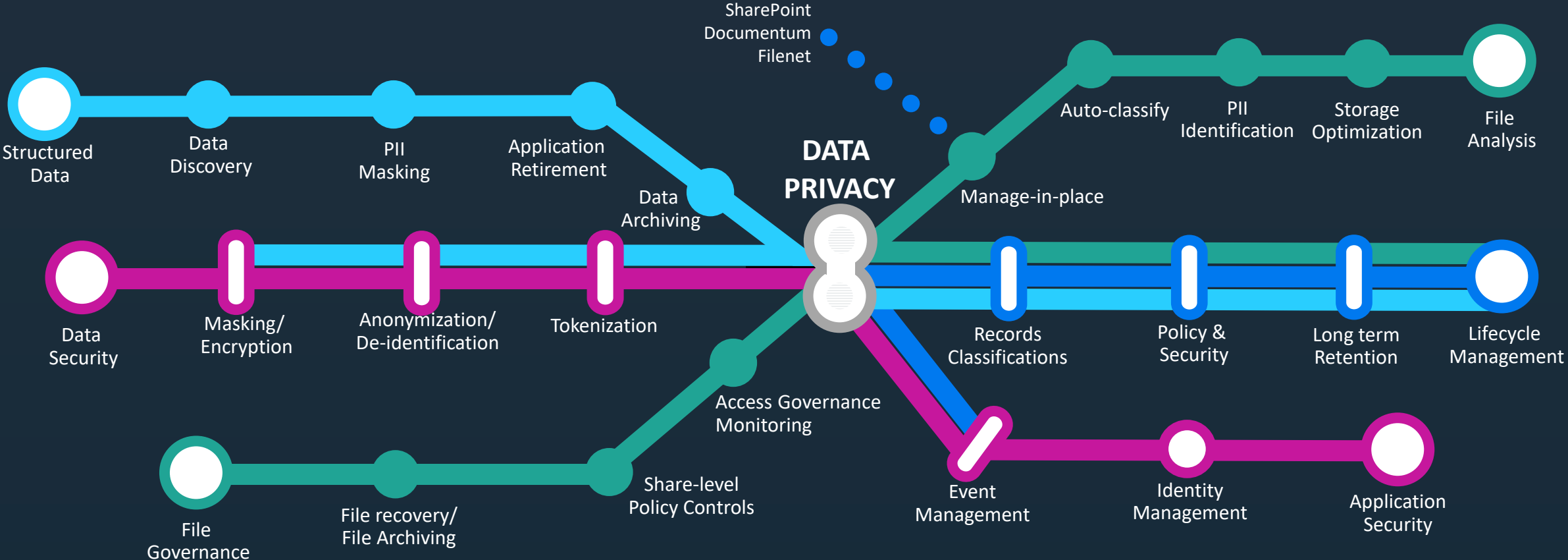


Logger  
ESM  
3rd party



**tube product map**

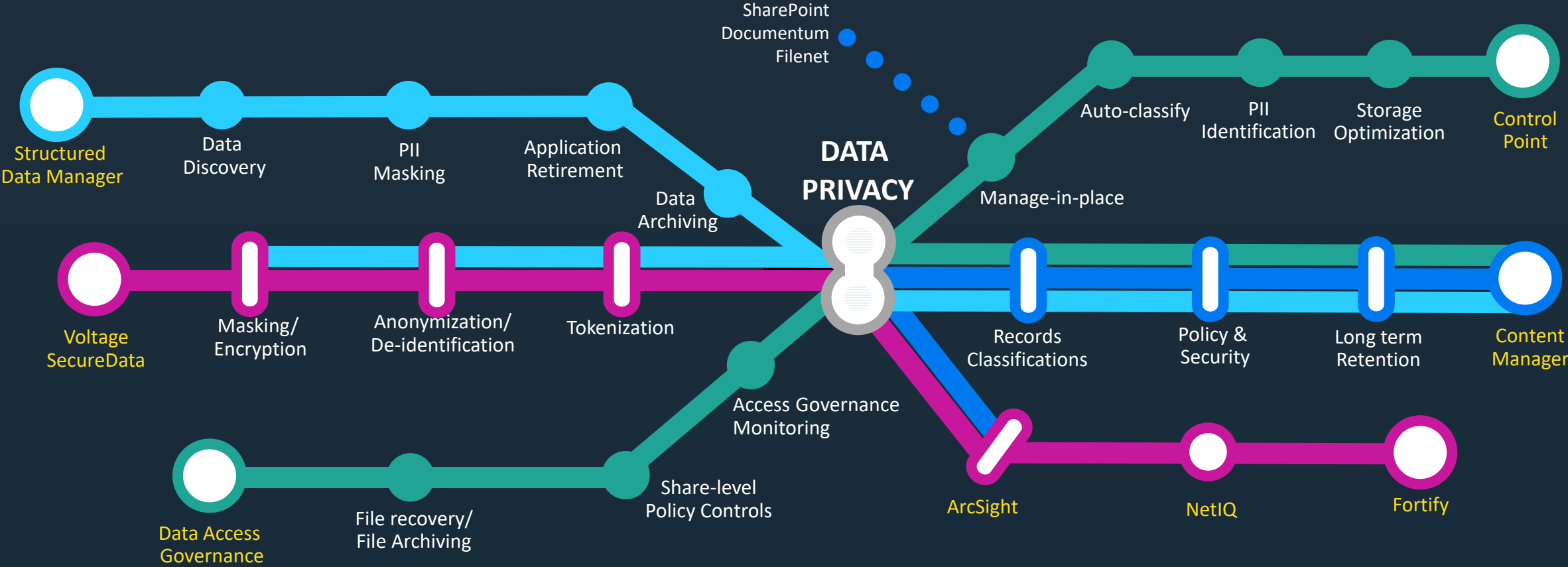
# Micro Focus Data Security and Privacy PATH



**Getting around Comprehensive Data Security**

- 1 STRUCTURED DATA LINE
- 2 UNSTRUCTURED DATA LINE
- S ENTERPRISE SECURITY LINE
- L LIFECYCLE MANAGEMENT LINE

# Micro Focus Data Security and Privacy PATH



**Getting around Comprehensive Data Security**

- 1** STRUCTURED DATA LINE
- 2** UNSTRUCTURED DATA LINE
- S** ENTERPRISE SECURITY LINE
- L** LIFECYCLE MANAGEMENT LINE



**Thank you**

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