Keep sensitive data safe, don't let your data mask slip

by Duncan Alexander, Product Director, Core Banking, Fintego

In brief:

Using advanced masking capabilities, Delphix replaces confidential, personally identifiable information like names, addresses, credit card information and so on with fictitious yet realistic data

Delphix clients mask data across platforms using a single solution. No need to program your own masking algorithms or rely on administrator involvement. A web-based UI enables masking with minimal training

Over

30% of the Global 500* use Delphix software

to deliver data across development, testing and reporting environments, improving developer productivity and data security on-premise or in the cloud

*including eight of the top 20 financial firms

It seems like every time you access the tech and international media, there's news of yet another costly data breach.

Unsurprisingly, this is increasing the public and regulatory pressure on organizations — especially financial services firms — to focus on protecting sensitive data. But coping with internal and external security threats while working flat out to become more agile and remain compliant with PCI, GDPR, etc., at the same time, is no walk in the park.

The first step toward resolving the problem of protecting sensitive information is to take a long, hard look at the tools and tactics currently in use. For instance, instead of relying on reactive perimeter defenses, why not guard the system interiors proactively? In other words, zero in on the data. And while we're at it, encryption might secure data in motion or at rest in hard drives, but what about non-production environments for development, testing and reporting?

Mask up and guarantee anonymity

The Delphix Dynamic Data Platform takes an automated approach to protecting non-production environments. Using advanced masking capabilities, Delphix replaces confidential, personally identifiable information like names, addresses, credit card information and so on with fictitious yet realistic data.

Whereas encryption can be bypassed to obtain user credentials, masking irreversibly protects data in downstream environments. While maintaining referential integrity across heterogeneous data sources, Delphix's consistent data masking provides optimal coverage without the need for programming skills. The Dynamic Data Platform also integrates masking and data delivery, securing sensitive data before it's made available for development and testing or sent offsite to a data center or public cloud.

The Delphix data masking approach

Profile

- **Identify** sensitive data across sources
- **Assign** masking algorithms to match data
- **Report** risk profile across the enterprise

Secure

- **Mask** data without any programming
- **Maintain** usability with fictitious, yet realistic data
- **Apply** masking with consistency and repeatability

Automate

- **Build** API, automatically run continuous discovery
- **Run** API, mask programmatically
- **Provision** masked data automatically

Characteristically reassuring

The Delphix multiuser, browser-based data-masking application provides secure, scalable and comprehensive software for sensitive data discovery. It masks and tokenizes requirements and meets enterprise-class infrastructure criteria. Delphix's Dynamic Data Platform has many prime attributes that enable clients to establish enterprise-wide protection for sensitive information:

• End-to-end masking
The platform automatically detects confidential information, irreversibly masks data values and then generates reports and email notifications to confirm that all sensitive data has been masked

• Realistic data
The masked data is production-like in quality. Masked application data in non-production environments remain fully functional and realistic, enabling the development of higher-quality code

• Masking integrated with virtualization
Most other masking solutions fail due to repeated, lengthy batch jobs for extracting and masking the data, together with a lack of delivery capabilities for downstream environments. The Delphix Dynamic Data Platform seamlessly integrates data masking with virtualization, allowing teams to quickly deliver masked, virtual data copies on-premise or in private, public and hybrid cloud environments

• Referential integrity
Delphix masks consistently across heterogeneous data sources. Data and metadata are scanned to identify and preserve the primary/foreign core relationships between elements so data can be masked the same way across different tables and databases

• Algorithms and frameworks
Seven frameworks allow users to create/configure algorithms to match specific security policies. More than 25 preconfigured, out-of-the-box algorithms help businesses mask everything from names and addresses to credit card numbers and text fields. Also, the platform includes prepackaged profiling sets for financial information and the ability to tokenize (camouflage data sent for processing, then reverse it when the processed dataset is returned)

• Ease of use
Clients mask data across a range of platforms using a single solution. There's no need to program your own masking algorithms or rely on extensive administrator involvement. Our web-based UI enables masking with a few clicks and minimal training

• Automated discovery of sensitive data
The Delphix profiler automatically identifies sensitive data across databases and files, minimizing the time lag generally associated with a data-masking project

The Delphix path to virtual data
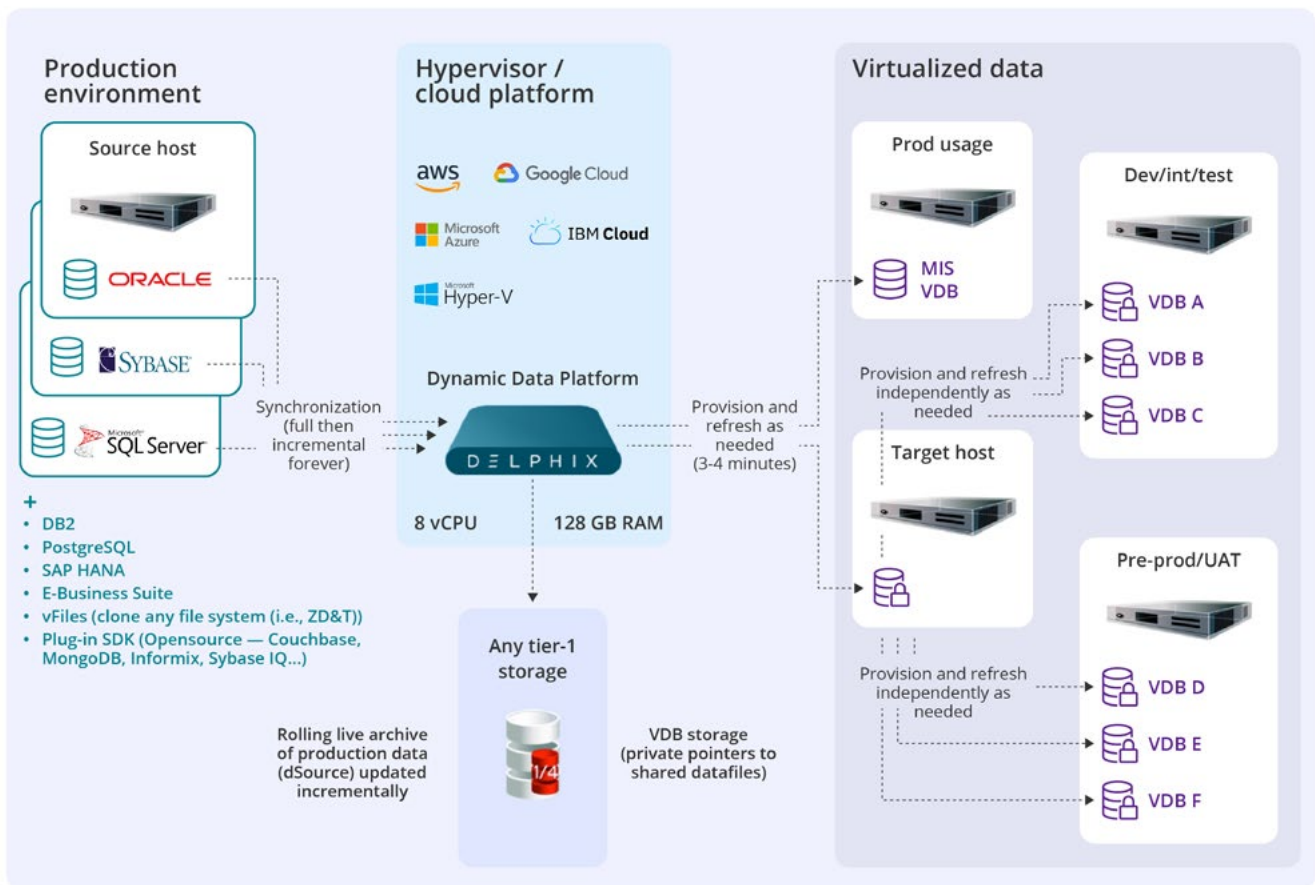
Delphix defines each of the source and target machines as environments. The machines need a Delphix and database user as well as an accessible directory in which to place the Delphix toolkit scripts. Delphix is agentless.

The databases are ingested into the Dynamic Data Platform using native backup technologies. For Oracle, an initial full RMAN backup is used to ingest the entire database, and from then on, incremental backups are taken. The data is deduplicated and compressed to a third of its original size (sometimes even a quarter), creating a rolling live archive of data from where virtual databases (VDB) are provisioned to the target servers.

These VDBs are delivered as network file system (NFS) mount points (for Oracle) or ISCSI mount points for other databases like MS SQL Server. VDBs are complete read/write copies of the database delivered in a few minutes, regardless of the database's size. They occupy a tiny storage footprint because only a set of pointers is created to point at shared blocks of data.

## Accelerating masking projects with self-control

Usually, a 4TB database takes 4 hours to restore/refresh and requires DBA time.

With Delphix self-service control:

• Bookmark in 19 seconds
• Rewind/refresh in 2 minutes
• Branch copy in 2 minutes
• Share a data subset version in 2 minutes
• Replicate in 2 minutes
• Miniscule storage usage
• Iterate through sub setting and performance issues very quickly and autonomously
• Do in 1 day what would typically take more than a week
• Automate regression test iterations
• Massively improved quality and productivity

## Delphix — ingest and deliver a virtual mainframe
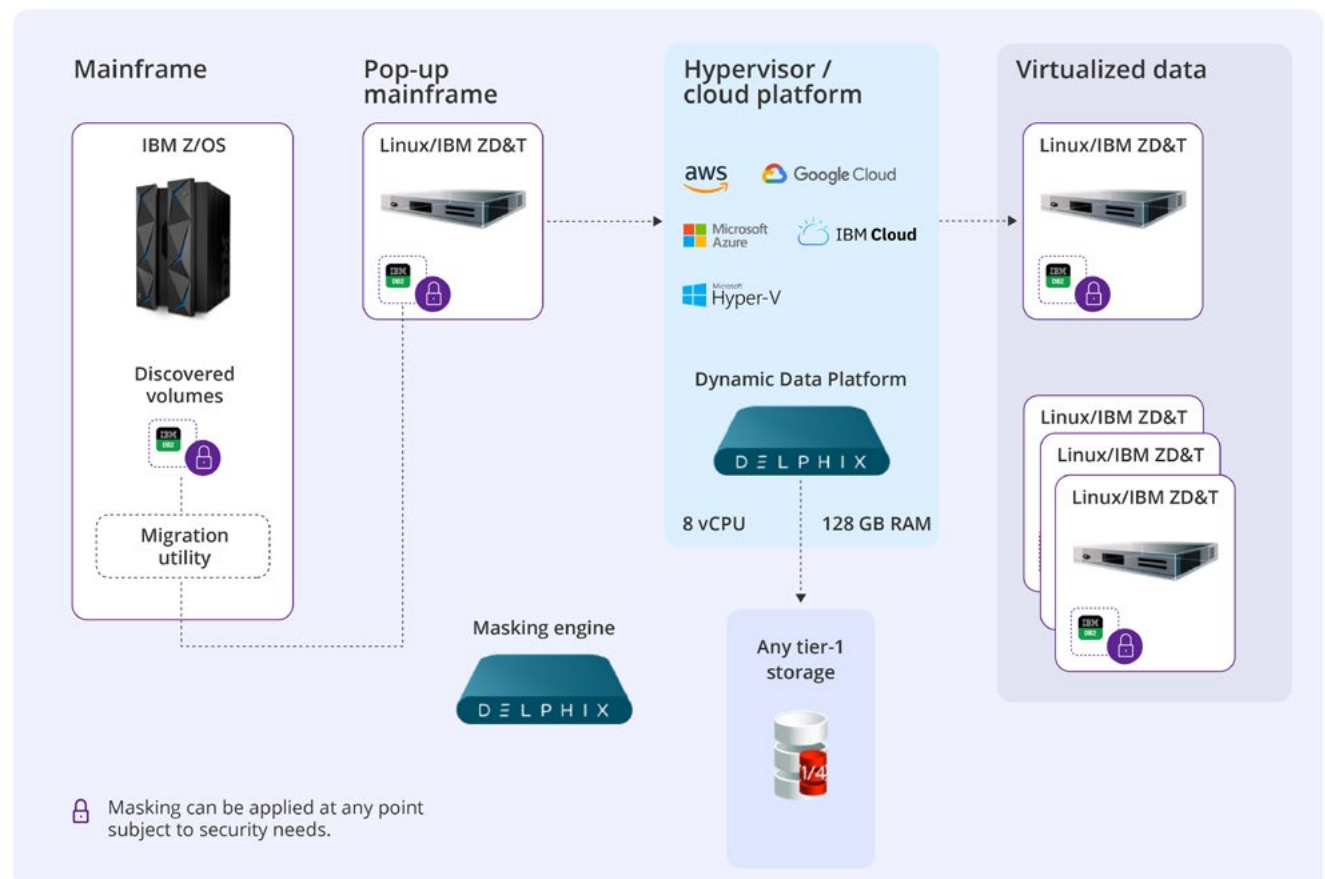
The masking engine connects and masks at mainframe, ZD&T and virtualized ZD&T levels. The virtual ZD&T environment can provide the quickest and most agile masking development. However, masking can be performed on the mainframe or the ZD&T staging environment for security purposes, keeping data in the production zone.

Hyperscale data masking: Traditional versus hyperscale

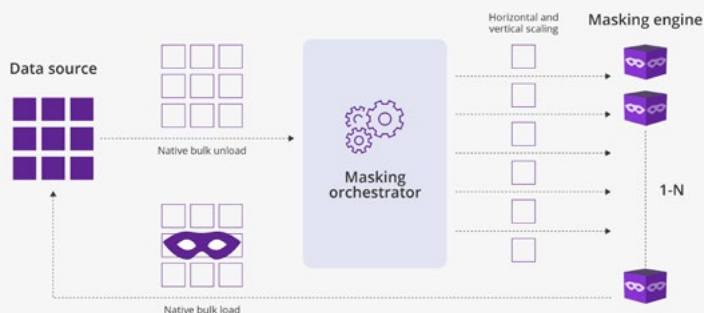
Transaction read/write methods (e.g.,JDBC)
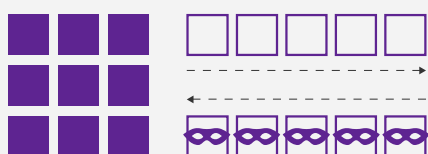
Data source — Masking engine

Traditional masking

- Perfect for datasets <10TB/<1B rows to mask
- Less than perfect for BI and analytics sources
- Transactional read/write operations
- It's time-consuming to orchestrate large-scale masking jobs manually

Data source — Native bulk unload — Masking orchestrator — Horizontal and vertical scaling — Masking engine — 1-N — Native bulk load

Hyperscale masking

- 10x masking speed of >10TB/>1B rows datasets
- Well-suited for BI, analytics, PaaS, NoSQL
- Can leverage public cloud object stores
- Native bulk unload/load and horizontal/ vertical scaling across elastic compute
- Auto-scale in the cloud to address massive workloads

Forging a strong strategic alliance

Fintego and Delphix have a significant presence in the banking and capital markets industry, working alongside some of the most influential names in the industry. Our organizations are collaborating to accelerate a global go-to-market strategy and add significant value to client DevOps initiatives. Here's a quick overview of what each partner brings to the table:

Fintego in 30 seconds

- Fintego, a DXC Technology Company, provides bespoke, end-to-end technology solutions for mission-critical systems
- Over 7,300 domain specialists draw on an impressive armory of banking and capital markets knowledge, solutions and technologies
- We partner with leading technology firms to offer an ecosystem of innovative products
- Fintego is fluent in financial services with decades

of experience empowering clients to move forward confidently in challenging environments
- Our experts support 17 of the world's top 20 banks, and Fintego has over 350 banking and capital markets clients

Delphix

Delphix, an industry leader in the DevOps Test Data Management space (TDM), focuses on data management. DevOps teams rely on test data management to evaluate application performance, security and functionality. TDM uses production-like secure data for quality testing and the masking/ anonymization and virtualization of data for compliance and risk management. Delphix helps clients accelerate application development and testing cycles by rapidly delivering data-ready environments. The Dynamic Data platform helps keep them compliant by identifying and masking sensitive information in line with regulatory standards.

JP Morgan Chase inducts Delphix into their "Hall of Innovation"

JPMorgan Chase honored Delphix, the leader in data virtualization, for its revolutionary approach to data management by inducting the company into the JPMorgan Chase Hall of Innovation.

"The Delphix platform allows us to virtualize and mask data, enabling our development teams to securely provision, refresh or rewind their data to any point-in-time more efficiently through automation and developer self-service," said Michael Urciuoli, Chief Information Officer. "This is helping with our organization's transition to a more agile and DevOps development methodology."

JPMorgan Chase technology leaders award Hall of Innovation laurels to celebrate innovative products that have had a robust and positive effect on the business. Delphix's award was presented at J.P. Morgan's Eighth Annual Technology Innovation Symposium, Menlo Park, California.

"Data virtualization has fundamentally changed the way businesses are able to provision and store data, and we are honored that Delphix has been selected to receive this prestigious award," said Delphix CEO, Chris Cook. "This award highlights the value of our approach for the financial industry and speaks to the seamless partnership we've built together. We look forward to supporting the JPMorgan Chase team in their data management goals."

So, what does this forward-looking alliance mean for clients?

- Clients can take advantage of the strong Hogan/Delphix technical relationship for configuration support, training, best practice processes and testing support
- Having an existing partnership means Fintego and Delphix can hit the ground running to deliver early wins for clients

To sum up

Data management requirements
The fundamental data management requirements fall into three main categories, covering production and non-production situations:

Governance

- Data catalog
- Business lineage
- Data classification
- Regulatory compliance

Test data management

- Data refresh
- Data masking
- Data generation

Access control

- Role-based access
- Data-loss prevention
- PII, PCI and DSS compliance

Why use Delphix for data masking?

Over 30% of the Global 500 (including eight of the top 20 financial firms) use Delphix software to deliver data across development, testing and reporting environments, improving developer productivity and data security on-premise or in the cloud. Other reasons include:

- Simplicity. Delphix sets a benchmark for the entire masking industry

- Full-function, referential integrity

- Refresh any time and copy often

- Data timeline allows for rapid recovery from data corruption and failed changes

- Mask for purpose

Luxoft's approach

- Both Fintego and Delphix have a significant presence in the banking and capital markets sector and work with some of the most prestigious names in the industry. Now, we've combined our talents to accelerate a global go-to-market strategy that adds considerable value to DevOps initiatives

- Fintego is always looking to expand its partner ecosystem, and Delphix was a compelling proposition to offer existing core systems clients. All core systems clients run massive databases accessed by many different team members. Using Delphix brings tremendous efficiency gains and cost savings

Fintego differentiators and value proposition

- A solution approach that delivers against business and IT requirements, leveraging Luxoft's and Delphix's extraordinarily high levels of experience

- Immediate access for the team

- As owners of the Hogan IP, no other organization better understands the Hogan platform and its evolutionary trajectory

- Strategically important client relationships will be strengthened by significant Fintego executive-level attention and focus

- Strong existing partnership in place with Delphix

- Ability to leverage any existing agreements to provide services and assign resources within a short space of time

DXC and Luxoft's banking and capital markets focus

45+
years serving
the banking industry

350+
active banking and
capital markets clients

7,300
banking and capital
markets professionals

17
of the world's
top 20 banks

70+
countries in which
we operate

>70%
of engineers have
advanced degrees

About **the author**

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Duncan leads several existing and new core banking products and services within Luxoft's Global Banking Division. He has over 3 decades of experience applying business technology to achieve strategic goals across multiple industries, including banking, insurance, retail, travel and logistics. Duncan has provided strategic advisory services and delivered mission-critical systems as a strategic partner to clients, holding senior positions in several large enterprises. His primary focus is realizing the business benefits of digital transformation.

To learn more about the Delphix Dynamic Data Platform, **visit our website**. Or, if you'd like to talk in more depth about how Fintego and Delphix data masking could help your organization safeguard sensitive information, **contact us**.