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Meshing the data in cloud - A modern distributed data model

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Tarun Agarwal

VP, Cloud Solutions Motifworks

Chartered Accountant converted to IT Technocrat
Applying common business to software solutions

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Padmavathii Vijay

Enterprise Data Architect Motifworks

Multi-Cloud, Enterprise Architect bridging Technology
to business needs

Summary

- Information accessibility across Organization
- Central governance and data exchange
- Cross application data pollination enabling faster and better decisions
- How are we doing this at Accion:
 - Data Federation (DC) - Data Domains integration
 - Big Data Analytics (DC and Sanket) - Legacy systems big data analytics
 - Workflows (Boomi)

The background of the slide is a vertical strip on the left side showing a cityscape with a prominent skyscraper (Burj Khalifa) and a large blue water feature. The rest of the slide is white.

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Experts at Accion

Evolution of Data Platform

Data platforms have evolved significantly over the years to meet the growing demands of businesses and organizations. Here are some of generations of data platforms:

- **The first generation:**

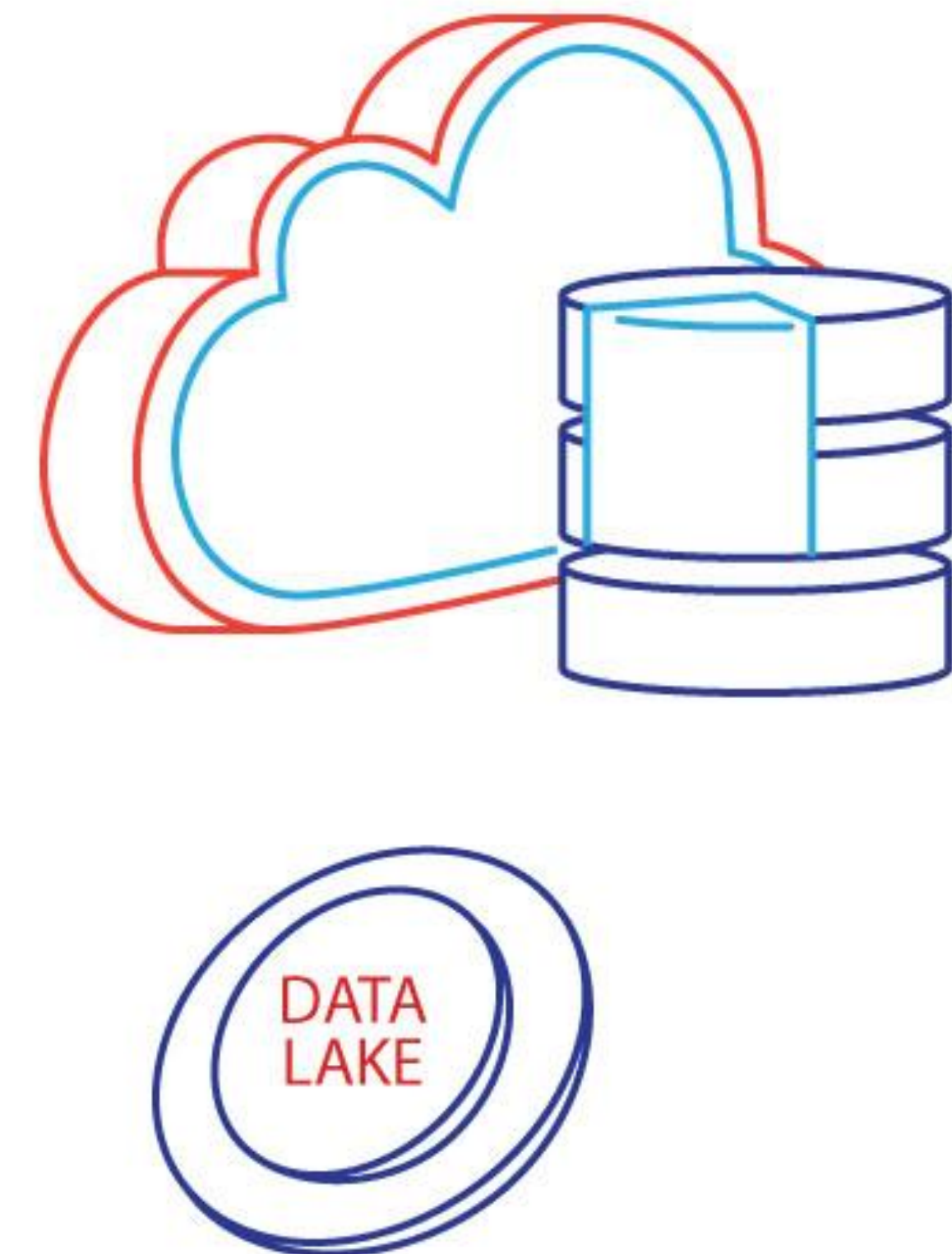
Proprietary enterprise and business intelligence platforms/solutions have left companies with large amounts of technical debt.

- **The second generation:**

Big data ecosystem have left companies with complex big data ecosystem and long running batch jobs operated by a central team hyper-specialized data engineers.

- **The third generation:**

Data platform is addressing the gaps in previous generation such as real-time data analytics, as well as reducing the cost of managing big data infrastructure. However, it continues with underlying characteristics that led to the failures of the previous generations.



The current enterprise data platform architecture is monolithic, centralized and domain agnostic

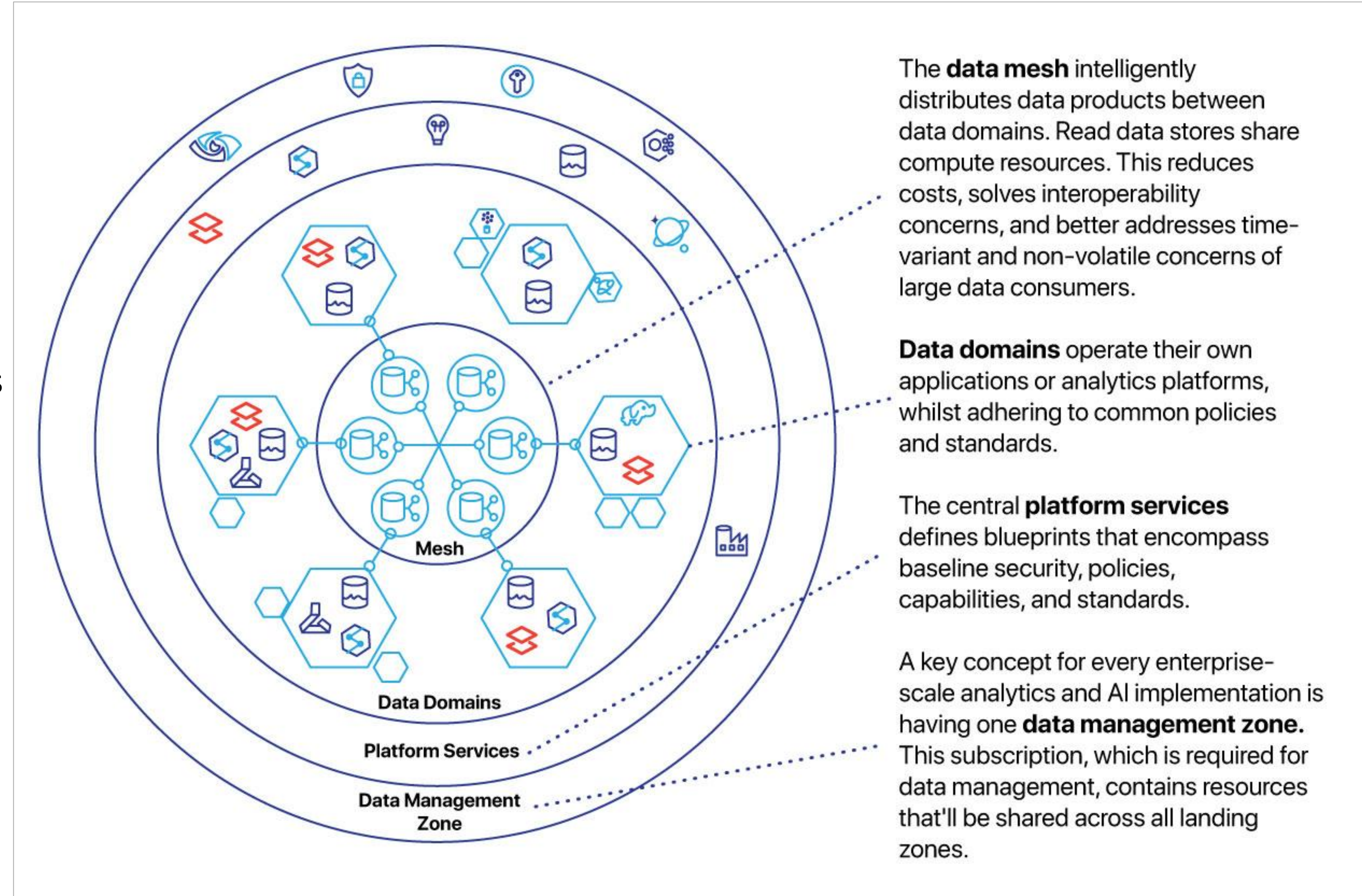
- The monolithic platform hosts and owns data that logically belongs to different domains
- *Ubiquitous data and source proliferation*: As more data becomes ubiquitously available, the ability to consume it all and harmonize it in one place under the control of one platform diminishes
- *Organizations' innovation agenda and consumer proliferation*: Organizations' need for rapid experimentation introduces a larger number of use cases for consumption of the data
- **Coupled pipeline decomposition**: Decomposes the data platform to a pipeline of data processing stages. It has high coupling between the stages of the pipeline to deliver an independent feature or value
- **Siloed and hyper-specialized ownership**: The centralized IT team are grouped based on technical expertise versus business and domain knowledge

4th Generation of Data Architecture - A Paradigm Shift

Enable organizations to better manage and scale data driven system

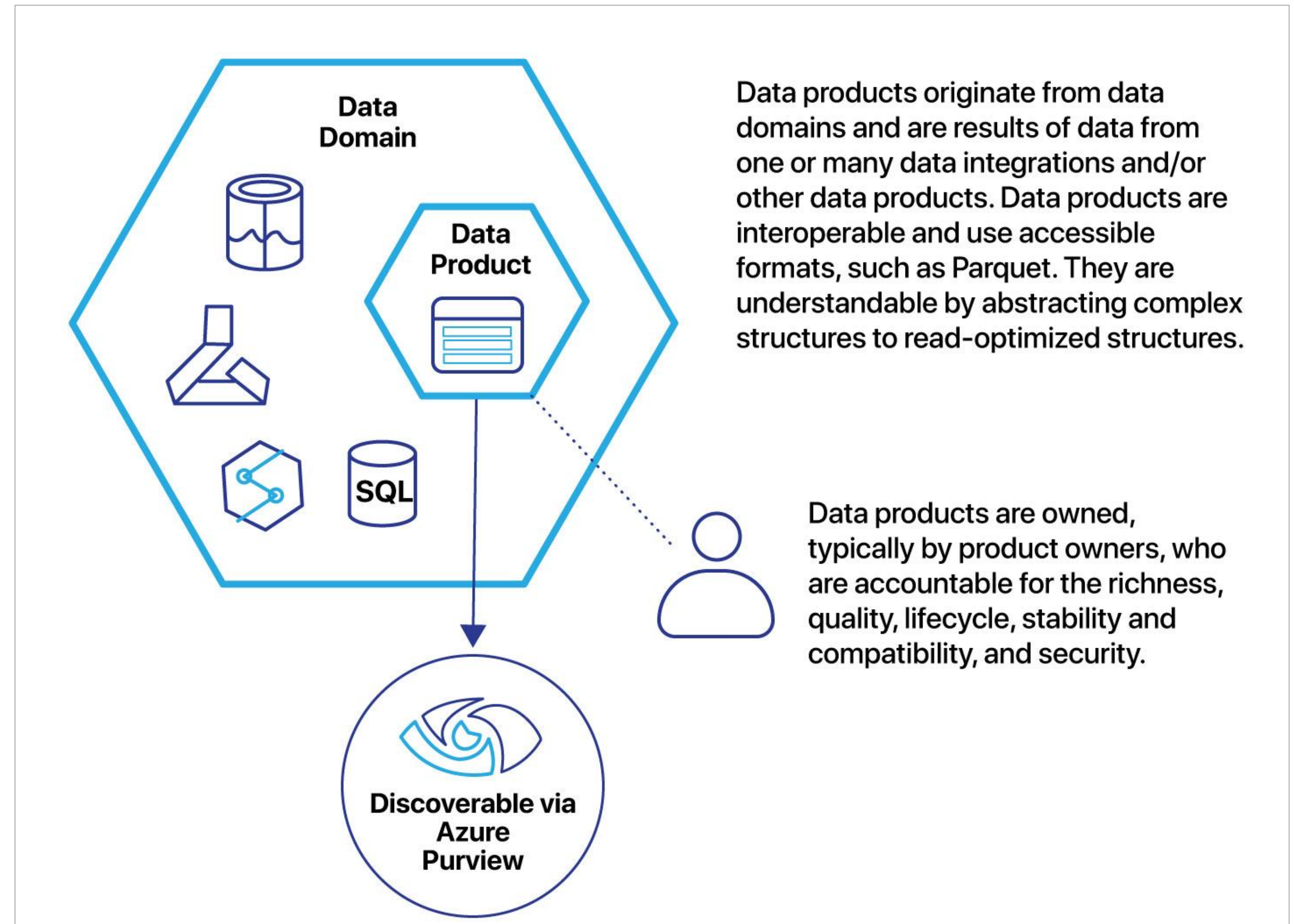
- **Ownership to producers of data**
 - Provide agility & independence to domain team to manage their own users, security, data, pipelines & scalability
 - Eliminate central IT team bottlenecks
- **Eliminate long time to market to deploy infrastructure**
 - Automate data infrastructure availability and standardize domain agnostic services
- **Eliminate data replication and movement**
 - Eliminate the need to create pipelines that require multiple sets of data replication & movement
 - Share data across domains to enable interoperability
- **Eliminate data silos with robust governance and security**

- **Distributed Domains Driven Architecture**
 - Representation of a sub-unit / division of broader business vertical
- **Data Product**
 - Core weaving component across data domains
 - Product Thinking
- **Self Serve Platform Design**
 - Domain agnostic data infrastructure platform
 - Lowering lead time to create a new data product
- **Data Management Zone**
 - Helper Services for security, compliance and governance



Data is treated as a product that is designed and built by cross-functional teams. These teams are responsible for ensuring that the domain data is:

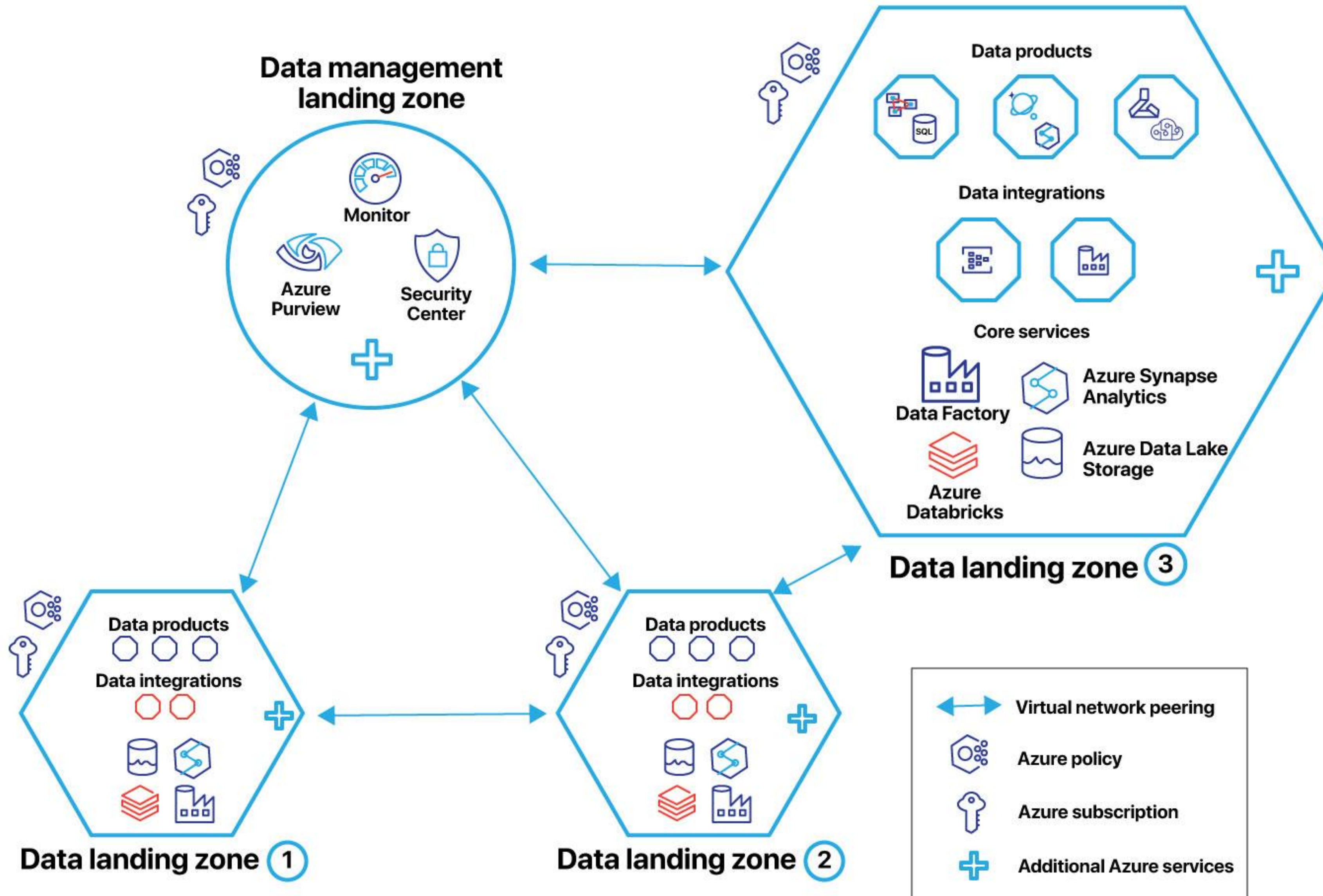
- Discoverable
- Addressable
- Trustworthy and truthful
- Self-describing in terms of semantics and syntax
- Interoperable and governed by global standards
- Secure and governed by a global access control



The key to building the data infrastructure as a platform is to provide the data infrastructure components in a self-service manner.

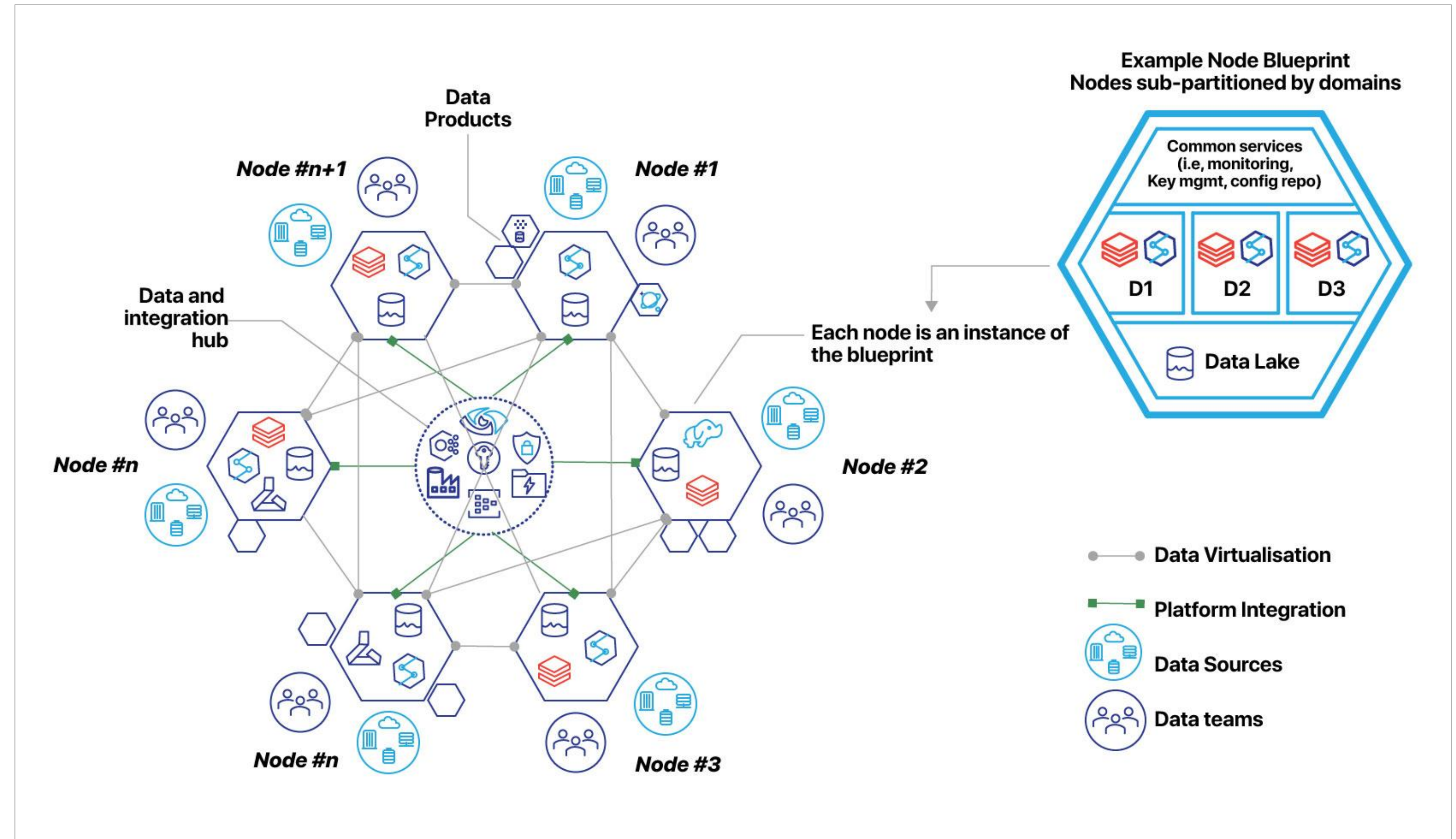
- Storage: Scalable polyglot big data storage
- Compute and data locality
- Federated identity management
- Unified data access control and logging
- Data product lineage
- Data governance and standardization
- Data product discovery, catalog registration and publishing

Building Data Mesh Architecture - Azure



Applying in Conservice

- Connecting to multiple source systems (Data as a Product)
- Running central billing calculation engine and enterprise engine – aggregated calculations on data obtained earlier
- Updating outstanding bills and internal business processes



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Thank you!

Contact:

Tarun Agarwal
VP, Cloud Solutions Motifworks

tarun@motifworks.com
padmavathii.Vijay@motifworks.com

+1-732-421-3111
+91 9480773602

Padmavathii Vijay
Enterprise Data Architect Motifworks

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