The logical data warehouse is the established best practice for the design of analytical systems. This infographic provides a quick guide for data and analytics leaders, showing typical paths for the introduction of a logical data warehouse and its subsequent development.
The logical data warehouse (LDW) is a best practice architecture to run all of your modern data and analytics workloads. It is built upon a series of key ideas that provide ease of access and flexibility. This infographic illustrates how an LDW can begin and some of the common ways it can evolve, picked from the many journeys that are possible.

The Gartner Data and Analytics Infrastructure Model (DAIM) helps to classify the known and unknown data and questions in an integrated way.

This model can be adapted into a usable architecture.
So, where can I begin? And where do I go from there? There is a lot of flexibility to initiate and then expand the system. Here is an example of a typical journey ...

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Ingest: ETL, ELT, Replication, Streaming, Data Hub, Data Fabric, Data Virtualization, Business Rules

Infrastructure Platforms — Cloud or On-Premises

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We started with a data lake but the warehouse made it easy to design for performance for some requirements — and freed the lake from that responsibility.

We started with a data warehouse and it worked just fine for years. But when we added IoT data it wouldn't fit and would not be economic to store there. So a data lake was added. Data exploration and some reports are done there as we added SQL-based analytic query accelerators.
Some sandboxes and data marts were added to support quick prototyping and agile working alongside the data warehouse and lake — these were physical or virtual as needed.

The shared data definitions in the data warehouse and lake made data easily consumable and movable — and easier to monitor.

Users then needed high interactivity and, just as important, high availability. We elected to add a real-time data warehouse (or operational data store) — though we could have used high availability and workload management options on our data warehouse too. Streaming was also added to cope with ingesting and monitoring large continuous streams of data.
About This Research

Gartner has received a very large volume of inquiries on the subject of the logical data warehouse (LDW), and has published many documents on this topic. A frequent line of discussion is how to start establishing the logical data warehouse and how it evolves. This infographic summarizes typical points on that journey.

Recommended by the Authors

The Practical Logical Data Warehouse

6 Things to Get Right for the Logical Data Warehouse

Solution Path for Planning and Implementing the Logical Data Warehouse

Data Hubs, Data Lakes and Data Warehouses: Choosing the Core of Your Digital Platform
The Structured Components of the Logical Data Warehouse: Enterprise Warehouse, Mart, Hub and ODS

Best Practices for Designing Your Data Lake

How to Avoid Data Lake Failures

Benefit From AI and Logical Data Warehouse Synergy

Use a Best Practice Data and Analytics Architecture for Agile Pandemic Response Analysis

Avoid a Big Data Warehouse Mistake by Evolving to the Logical Data Warehouse Now

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