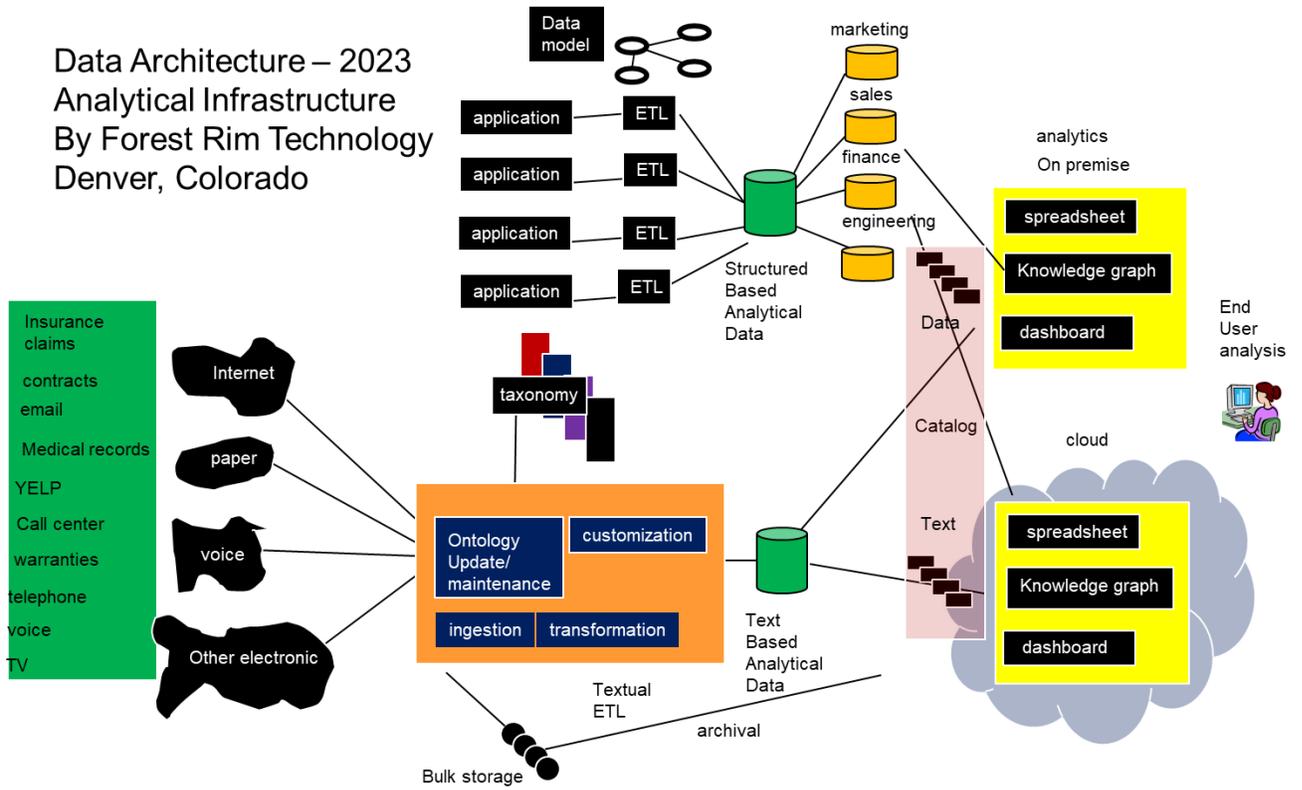
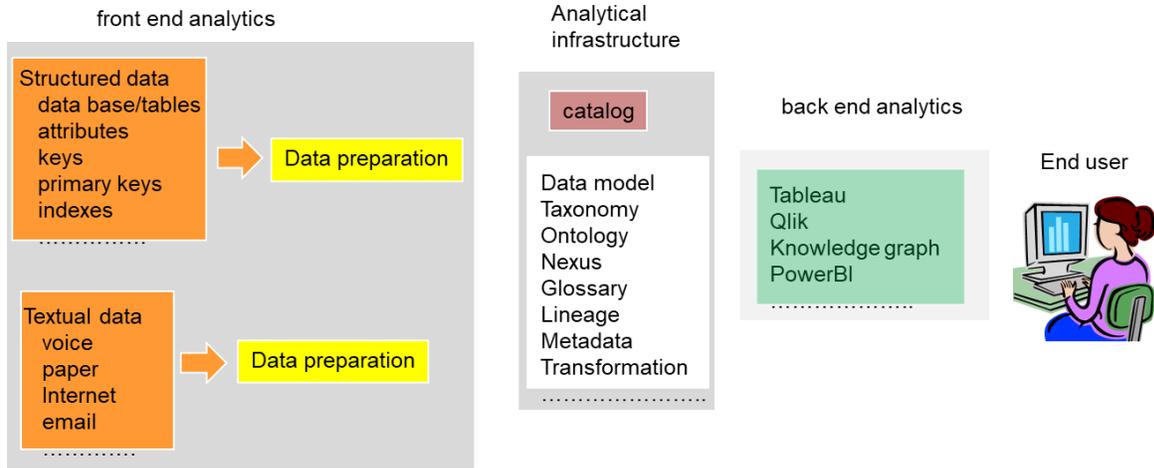


# Data Architecture – 2023 Analytical Infrastructure By Forest Rim Technology Denver, Colorado



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HIGH LEVEL DATA ARCHITECTURE  
ANALYTICAL INFRASTRUCTURE  
By Forest Rim Technology  
DENVER, COLORADO



1. There is a front end, back end, and analytical infrastructure
2. The front end is where data is ingested, transformed and prepared for analysis
3. The analytical infrastructure is the place where the end user goes to find out what data is available
4. The back end processes the data that has been prepared



## Some notes on data architecture – 2023 – analytical infrastructure

1. The foundation for analytical processing is a combination of structured and textual data
2. The textual data requires a contextualized data base in order for meaningful analysis to occur.
3. The foundation can appear on premise, on the cloud, or both
4. Metadata exists in the form of structured descriptives and taxonomies. While related, metadata and taxonomies are not the same thing
5. Taxonomies are contained inside of ontologies
6. Ontologies are constantly changing and are never static. They must be constantly updated and maintained
7. Textual data placed on the cloud or on a data lake need a card catalog to help find the raw document
8. Bulk storage is needed for raw text that does not have an immediate use
9. Archival storage is needed for archival processing from the cloud
10. ETL is needed for the transformation of application data to a data warehouse
11. It is never a good policy to put application data into a data lake
12. It is never a good policy to put raw text onto a data lake
13. It is never good policy to put raw text onto the cloud
14. It is never good policy to directly create data marts from applications
15. The data model governs the shaping of ETL and the design of the data warehouse
16. The ontology governs the design of the textual analytical store and the transformation rules needed to create the text analytical data store
17. Data from both the text data store and the structured data store can be mixed
18. The key and attribute structure found in the structured data store is rarely found in the text data store
19. Analysis of text and structured data can be combined or can be done separately. Either is acceptable
20. Analytical processing can be done by many different tools, such as knowledge graphs, dashboards, and spreadsheets
21. In order to do analytics, the end user analyst needs access to the full analytical infrastructure, including metadata, ontologies, data bases, etc.. It is a mistake to prevent the end user from accessing any part of the analytical infrastructure
22. The cloud and the data lake require a card catalog in order to be able to locate data
23. Textual data bases must have both text and context inside the data base
24. The ingestion of text has its own set of technical challenges which must be overcome in order to do text analytics
25. The sources of text are very divergent and require individual attention
26. The end user needs to have access to all transformation and lineage information
27. Transformation of both text and application data is essential to the data model
28. After the taxonomy has been selected, it needs to be customized to the customers specifics
29. The catalog has a data component and a text component

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