

How is Northcraft Analytics SO FAST?

So Fast



Now that all of the competitive products in the ITSM reporting landscape have taken their public positions about underlying Business Intelligence (BI) architecture, we thought it was a good time to offer a handy comparison guide uncovering different BI platform architecture choices of the various reporting/dashboarding products in the landscape. Enjoy!

- BMC Decision Insights (Business Objects) - MOLAP
- ServiceNow Performance Analytics (Proprietary BI platform) - Proprietary Batch
- YurBI (Proprietary BI Platform) - ROLAP
- Pureshare (Proprietary BI Platform) - ROLAP
- HP Executive Scorecard (Business Objects) - ROLAP
- BMC Dashboards and Analytics (Business Objects) - ROLAP
- Westbury SMI Suite (Business Objects) - ROLAP
- Northcraft Analytics (Microsoft BI Stack) - HOLAP

ROLAP - Relational on-line analytical processing. This is the most common architecture because of the widespread knowledge of SQL in information technology.

Pros: real-time, analyst familiarity with SQL, drill-through capability, simplicity. **Cons:** Slow on large data sets and with too many joins.

MOLAP - Multidimensional on-line analytical processing. MOLAP is certainly not as well-known, but is typically leveraged in large-scale BI initiatives when BI resource cost is not a concern. Common MOLAP query languages include MDX and CQL.

Pros: Performance, Instantaneous aggregate queries, unlimited joins, time-series analysis and flexibility. **Cons:** Not real-time, complex BI development required and expensive licensing.

HOLAP - Hybrid on-line analytical processing.

Pros: Real-time *and* batch, robust drilling and unlimited joins. **Cons:** Most complex BI development of all approaches.

Bottom line: HOLAP is great if you can handle the BI development. Of course, Northcraft Analytics provides BI applications with a maintenance plan that means you'll never have to do the BI heavy lifting... simply log a support request for a new KPI.

	Data Storage	Aggregations Storage	Query Performance	Data Storage
MOLAP	Cube	Cube	High	High
HOLAP	Relational Database	Cube	Medium/Depends	High
ROLAP	Relational Database	Relational Database	Low	Lowest

MOLAP: The MOLAP storage mode causes the aggregations of the partition and a copy of its source data to be stored in a multidimensional structure in Analysis Services when the partition is processed. This MOLAP structure is highly optimized to maximize query performance. The storage location can be on the computer where the partition is defined or on another computer running Analysis Services. Because a copy of the source data resides in the multi-dimensional structure, queries can be resolved without accessing the partition's source data. Query response times can be decreased substantially by using aggregations. The data in the partition's MOLAP structure is only as current as the most recent processing of the partition.

ROLAP: The ROLAP storage mode causes the aggregations of the partition to be stored in indexed views in the relational database that was specified in the partition's data source. Unlike the MOLAP storage mode, ROLAP does not cause a copy of the source data to be stored in the Analysis Services data folders. Instead, when results cannot be derived from the query cache, the indexed views in the data source is accessed to answer queries.

Query response is generally slower with ROLAP storage than with the MOLAP or HOLAP storage modes. Processing time is also typically slower with ROLAP. However, ROLAP enables users to view data in real time and can save storage space when you are working with large data sets that are infrequently queried, such as purely historical data.

HOLAP: The HOLAP storage mode combines attributes of both MOLAP and ROLAP. Like MOLAP, HOLAP causes the aggregations of the partition to be stored in a multidimensional structure in an SQL Server Analysis Services instance. HOLAP does not cause a copy of the source data to be stored. For queries that access only summary data in the aggregations of a partition, HOLAP is the equivalent of MOLAP. Queries that access source data—for example, if you want to drill down to an atomic cube cell for which there is no aggregation data—must retrieve data from the relational database and will not be as fast as they would be if the source data were stored in the MOLAP structure. With HOLAP storage mode, users will typically experience differences (see Northcraft YouTube Channel for more information on this topic.) in query times depending upon whether the query can be resolved from cache or aggregations versus from the source data itself.