

MetricsMart

AGILE DATA INTEGRATION SOLUTION

MetricsMart brings data together from any data source, aggregates it, and delivers optimized metrics in an open format that can be used by any reporting or analysis tool. MetricsMart requires ZERO coding or scripting, so it enables organizations to add agility to their BI infrastructure while reducing cost and complexity associated with outdated ETL- and data mart-based approaches.

Integrating data from disparate systems and preparing that data for analysis is consistently the most challenging aspect of BI solution development, and the biggest barrier to achieving truly responsive BI. Altosoft's MetricsMart solution brings agility to data integration, eliminating ad hoc data mart proliferation (common to traditional tools) with a 100% codeless, intelligently orchestrated approach that features the performance benefits of advanced in-memory architecture.

Traditional data integration software (also known as extract, transform, and load software, or ETL) is notoriously expensive to implement and costly to maintain. Organizations budget millions of dollars every year just for ETL infrastructure, data mapping services, and warehouse management.

And ETL only solves a part of the problem. Typically, ETL is used to deliver data into a data warehouse. But once that warehouse is built, business requirements typically drive creation of marts and cubes to support tactical, line of business reporting and analysis requirements. Rapid proliferation of ad hoc data marts throughout the organization increases cost and creates maintenance challenges. Data mart proliferation also adds business risk because it leads to different groups relying on disparate marts for reporting and analysis, leaving no single enterprise version of the truth.

In marked contrast to costly, inflexible ETL- and mart-based approaches, MetricsMart's revolutionary new approach brings agility to business intelligence architecture. Fundamentally, Altosoft's MetricsMart solution is different.

- MetricsMart delivers **agile data integration** that makes accessing and analyzing data from multiple source systems easy and efficient. MetricsMart uses in-memory technology to dynamically aggregate and convert data from any source directly into optimized, pre-calculated metrics. These metrics are persisted using an open, fully dimensioned format into a standard SQL database for access by any reporting and analysis tools.
- MetricsMart brings agility and efficiency to data integration with an innovative architecture and completely code-free implementation. With MetricsMart, organizations can **radically shorten implementation timeframes**, reducing time-to-value from months to just days.
- MetricsMart is the first data integration solution to deliver **business process intelligence**. Together with ProcessMart, MetricsMart monitors and analyzes any business process, even if it spans multiple operational systems.

With MetricsMart, there is no need to build cubes or deploy marts in order to deliver extremely high analytical performance when analyzing data across multiple data sources. MetricsMart, deployed standalone or together with Altosoft's InsightBI business intelligence solutions, takes care of all the heavy lifting. The result is transformational -- existing business intelligence is enhanced to finally fulfill its promise as a powerful, flexible engine of competitive advantage.

MetricsMart adds agility to BI.

- *MetricsMart breaks down data silos by calculating and delivering optimized metrics from multiple data sources in a open format for easy analysis.*
- *MetricsMart's intelligently orchestrated, 100% codeless approach accelerates delivery of new reports or dashboards.*
- *MetricsMart ends runaway data mart proliferation, reducing development and maintenance costs associated with ad hoc marts and cubes.*
- *MetricsMart works with existing warehouses. It can also provide transitional support for organizations with enterprise data warehouse development in progress.*



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A NEW APPROACH: METRICSMART

Traditional ETL- and data mart based approaches are costly, complex, and time consuming. They are expensive to maintain and slow to change. AltoSoft does data integration differently.

AltoSoft's MetricsMart solution fundamentally changes the way any organization approaches the problem of data aggregation. Instead of writing volumes of ETL scripting and SQL to first centralize all data into a data warehouse or mart, and then following this up with more coding, scripting, and/or SQL to derive KPIs from this raw data, **MetricsMart delivers the final KPI metrics in a single step – with ZERO coding.**

The result is that MetricsMart processes and stores all metrics in an industry standard database (generally SQL Server or Oracle) as fully dimensioned tables that can be easily accessed by a web services interface or directly via any other off the shelf SQL reporting or analysis tools.

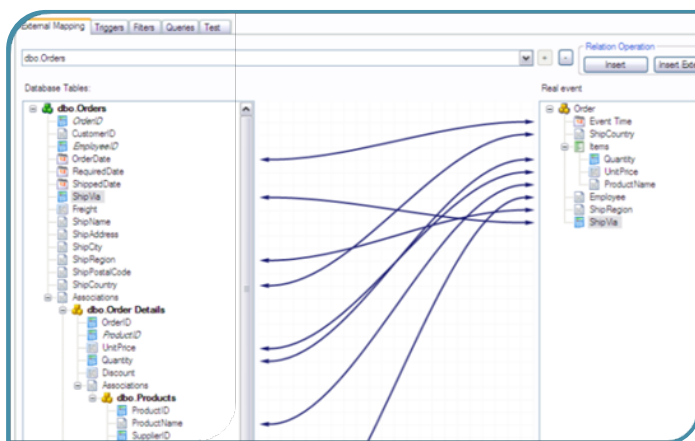
100% CODE-FREE, FULLY ORCHESTRATED IMPLEMENTATION

MetricsMart is easy to use. It's configured via an intelligent, orchestrated process using AltoSoft's 100% codeless Insight Studio tool. Insight Studio is used to integrate data from various enterprise systems, define KPIs, set user roles and permissions, and much more. Configuration of MetricsMart is orchestrated by a simple flow chart, the Studio Guide. The guide ensures repeatable, tested, easy implementation. The guide also enables rapid modification or extension of existing configurations.

The entire configuration process for MetricsMart requires ZERO code or scripting. All functions can be performed using drag and drop actions, wizards, and powerful, point-and-click expression editors. This enables significantly accelerated development and deployment. It makes adjustment, change, or modification easy. It also facilitates iterative or spiral approaches to BI development. Organizations can begin their projects by delivering the most critical metrics and indicators first, move this information quickly into production, and then easily extend the BI project by adding additional metrics over time.

FLEXIBLE, EFFICIENT ARCHITECTURE

MetricsMart's graphical, intuitive UI enables organizations to integrate data from multiple data sources and calculate and store multiple KPIs (key



100% code-free development takes risky, time consuming custom code out of data integration projects, and makes data mart maintenance headaches a thing of the past.

- 1 Connections**
Connections are the declarations of all data sources
[New connection](#) | [Manage Connections](#)
- 2 Database Adapter**
Adapter is a service which interrogates the data source
[Manage Adapter](#)
- 3 Real Events**
Real events represent the business-level changes in data
[Manage Events](#)
- 4 Event Mapping**
Event Mapping provides translation of one or more Real Events to a single KPI
[Manage Event Mapping](#)
- 5 KPI**
Key Performance Indicator (KPI) is a metrics which is calculated from data
[New KPI](#) | [Manage KPIs](#)
- 6 Access Rights**
Access Right determine user and/or role permission
[New User](#) | [New Role](#) | [Manage Access Rights](#)
- 7 Deploy**
Deploy center propagates the changes from Insight Studio to the target environment
[Manage Deploy](#)
- 8 Initial Data Load**
Initial data load processes the historic data to prepare the KPIs
[Manage data load](#)
- 9 Dashboard Designer**
Create and Modify dashboards
[Open Dashboard Designer](#) | [Change address](#)
- 10 Dashboard Viewer**
Open a dashboard
[Open Dashboard Viewer](#) | [Change address](#)

The ten-step Studio guide orchestrates the entire process of data integration and KPI development.

performance indicators) often in as little as a few hours. **This eliminates the need for manual mart and cube development and maintenance** to support BI applications, effectively ending the unchecked proliferation of non-standard marts. MetricsMart makes data integration flexible and responsive to the needs of business users. It enables configurable data refresh frequency, so that metrics are delivered to business users when they need them, rather than at the whim of an inconvenient batch refresh cycle. The measuring time frame for every metric (seconds, minutes, hours, days, weeks, etc.) can be custom specified, and flexible data adapters manage interactions with data sources according to organizational needs or policies. MetricsMart's architecture also supports real-time environments, with the ability to directly pass through and deliver event-based metrics.

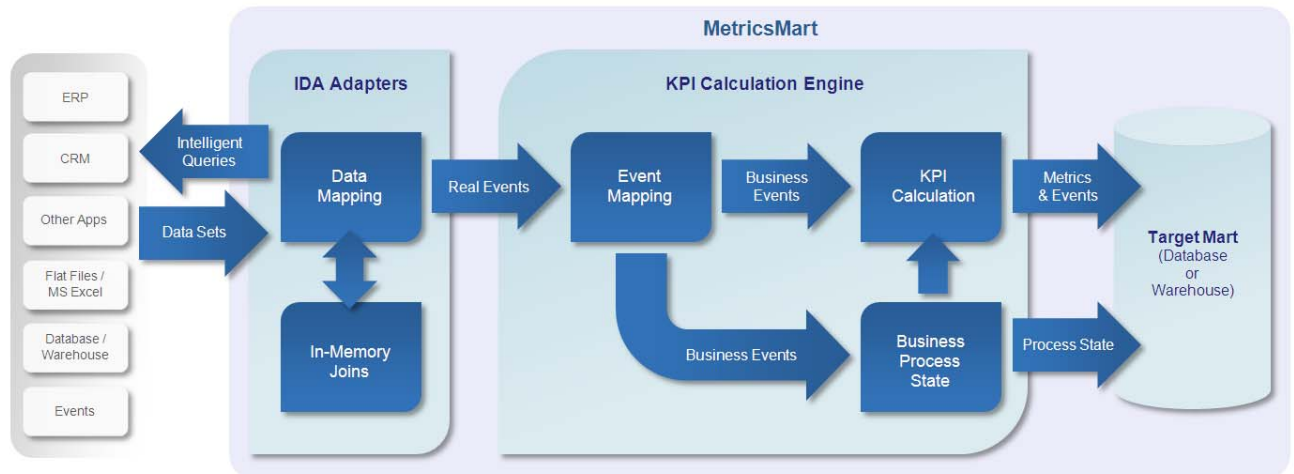
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HOW METRICSMART WORKS

MetricsMart brings a dynamic, flexible, and iterative approach to data integration.

Data Sources

It starts with data sources. AltoSoft's agile data integration capabilities integrate data from a variety of sources – including traditional sources like relational databases (Oracle, SQL Server, etc.), enterprise applications like ERP and CRM, flat files, and Excel. But AltoSoft also goes beyond this to integrate data from real-time, event-based data sources like Tibco, BizTalk, and more. Of course, MetricsMart also works with existing data warehouses. In these situations, AltoSoft can combine warehouse-based data and data from other systems, calculate KPIs, and deliver analysis – without requiring modification of the data warehouse environment.



MetricsMart derives business metrics from raw data and persists them in a fully dimensioned, openly accessible format that any standard BI query or reporting tool can utilize.

Intelligent Queries

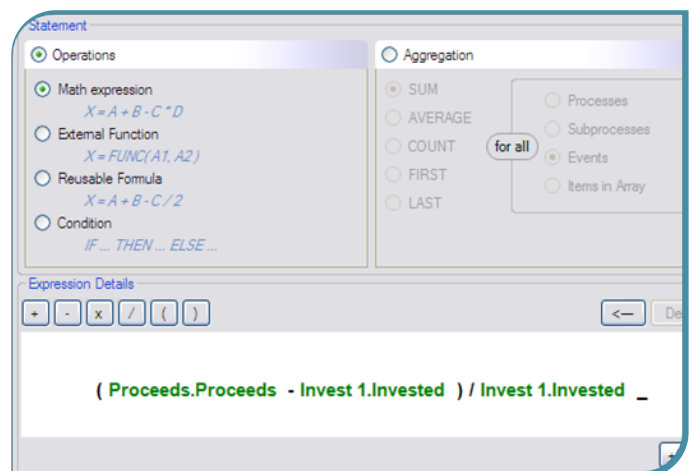
Rather than moving mass amounts of data in batch to a data warehouse, MetricsMart intelligently moves the data needed to deliver the KPIs business users need. This approach, called Intelligent Data Aggregation (IDA), makes MetricsMart extremely efficient. In fact, it enables a reduction in query load on operational systems or data stores versus traditional data warehouse or BI techniques. IDA is based on the fundamental principle that you only need to pull information from source systems if business users need it. It's an entirely different approach from traditional warehouse-based BI where you start by moving all the data. IDA makes sure that only important, relevant data is moved. IDA also manages interactions with data sources so they are only queried when business users need fresh data. MetricsMart uses only simple, highly optimized queries that only pull changes to the data since our last update.

Data Mapping

Data from source systems are mapped to events – archetypical representations of discrete business transactions, such as a “new order”, or a “customer service request”. Event mappings are designed to include information needed for calculation of metrics associated with that business activity, as well as dimensional information related to that analysis. If this information includes data from different sources, relations between that data are easily defined using a powerful expression editor.

Event Mapping

Once IDA Adapters have converted data to events and delivered those events to the KPI calculation engine, similar events (e.g. order events from multiple different ERP systems) are mapped to the same canonical business event. That enables organizations that may have multiple systems (existing in different divisions, or inherited from acquired companies) performing the same role to seamlessly aggregate analysis and reporting across those platforms.



MetricsMart's powerful expression editor enables code-free definition of metrics ranging from basic to complex.

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In-Memory Processing

MetricsMart uses high performance in-memory processing to perform the most complex, time-consuming calculations, such as outer joins. That means low latency data and minimal query load on source systems. As a result, operational database performance is optimized and requirements for expensive hardware investment are minimized. This in-memory approach means that queries against data sources contain no transformations, no calculations, and no “group by” statements. As a result, depending on the complexity of metrics calculation requirements, load on the source database can be reduced by two- to fifty times.

Business Process State

MetricsMart is business process aware. MetricsMart’s optional process intelligence engine, ProcessMart, tracks every business process and enables you to view process performance and process quality. For more information, please see the ProcessMart datasheet available at www.altosoft.com.

KPI Metrics Calculation

Metrics are defined and calculated. These metrics or KPIs are constructed using MetricsMart’s code-free, intuitive expression editor. The expression editor supports a variety of operations ranging from basic to complex, including math expressions, external functions, conditional formulas, and aggregations. At runtime, MetricsMart generates pre-calculated, on-demand KPIs. Automated delivery of these final metrics into a target database, mart, or warehouse is scheduled based on business requirements.

Delivery of Metrics to the Target Mart

Optimized, organized query-ready data is delivered in an open format that can be used by any BI or reporting tool. MetricsMart automatically determines data dimensions, eliminating the need to define and build data cubes up front for optimized query performance, and dramatically reducing the costs of change if analytical requirements need to be adjusted. Data structures are self-maintaining. MetricsMart is capable of delivering extremely low latency data for monitoring and analysis. With MetricsMart, there is no more need to wait 24 hours for a data warehouse to be updated in batch in order to get the latest business data and analytics.

POWERFUL GOVERNANCE FEATURES

MetricsMart supports a comprehensive, multi-layer framework for data governance. This framework ensures that organizations have the ability to manage information delivery to appropriately privileged employees:

- **Semantic governance.** Enterprise KPI definitions are standardized and semantic data equivalencies are centrally managed.
- **Informational governance.** Data and KPI visibility and privileges are restricted and controlled by user and role.
- **Dimensional governance.** Access to dimensional data is managed on a KPI-by-KPI basis via a rules-based approach.
- **Functional governance.** A robust control layer manages access to MetricsMart functions, including access to KPI data via MetricsMart’s web services interface.

About Altosoft

At Altosoft, we make BI work. Altosoft’s process-aware solutions eliminate the cost and complexity of conventional BI while delivering advanced functionality for operational performance improvement. Altosoft delivers the three critical enablers needed to transform existing business intelligence into a powerful, flexible engine of competitive advantage. First, Altosoft’s business process intelligence capability adds essential process monitoring and analysis capability. Second, Altosoft provides agile data integration that makes the hardest part of BI easy by gathering data from various sources and converting dynamically it to KPI metrics. Finally, Altosoft facilitates rapid, reliable BI solution development with guided, code-free configuration and data governance features.

MetricsMart integrates information from a variety of data sources including:

- Relational databases
- Data warehouses and warehouse appliances
- Event-based data sources such as messaging queues
- Flat files
- Microsoft Excel
- XML files
- FTP servers
- LDAP
- And more

