How We Support 360° Views of Anything

Nearly every vendor in the data management space bandies about the term "360° views." The concept is straightforward: a holistic, or comprehensive, view of the subject of interest. The challenge, however, is that not every vendor uses 360° in the same way.[1] Some focus on the relationships in the master data, while others focus on transactional detail. Luckily, TIBCO handles both use cases.

In the TIBCO EBX solution, data consistency[2] requirements are met by enforcing consistency in the relationships, or connections, that customers create in and across domains. What this means is that 360° views are readily available by simply traversing all relationships. In fact, that is what powers EBX graph visualizations, as seen below.
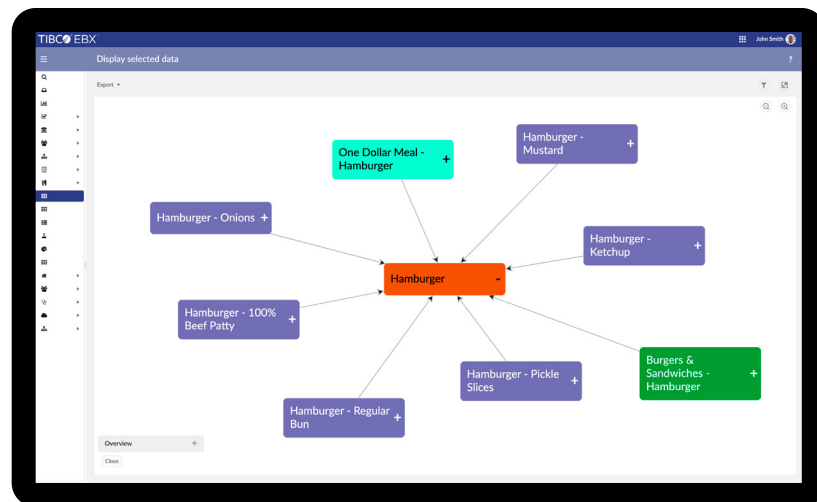

Figure 1: Example 360° view for a Hamburger using only master and reference data.

The challenge is that, in master data management (MDM), views are limited to master and reference data relationships. Many customers, when describing their ideal 360° views, wish to have not just the contextual cross-domain relationships, but also detail from transactional systems. And, we know why. As a dataset, a *blended* 360° view is useful for analyses that need to take into account the aligned dimensions and transactions over time.

Every TIBCO product can integrate with any other capability found in the TIBCO portfolio. What this means is that EBX software integrates with a wide range of market-leading capabilities for data infrastructure, including TIBCO Data Virtualization software. Combining data virtualization capabilities with MDM facilitates the creation of those *blended* 360° views some of our customers desire.

In addition, by using data virtualization[3] to build these blended 360° views, the federated queries gather the most up-to-date information on the fly. This means that the most accurate and up-to-date master data records (from EBX software) are combined with the most accurate and up-to-date transactional records (from TIBCO Data Virtualization software). This is different from the traditional approach of most 360° solutions, which rely on much more stodgy data stores and warehouses. In those situations, the freshness of the view is tied to the update cadence of the ETL/ELT operations.
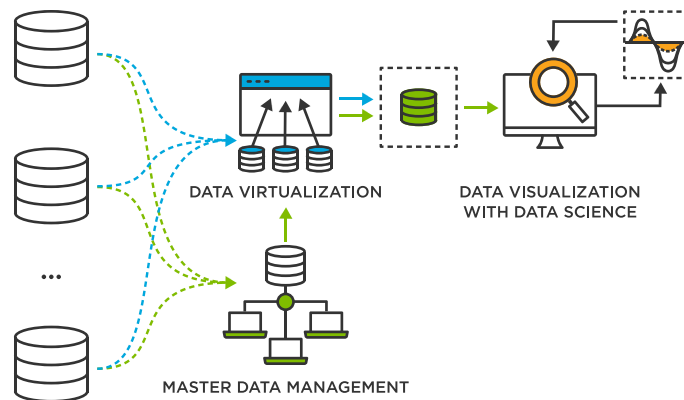

DATA VIRTUALIZATION

DATA VISUALIZATION WITH DATA SCIENCE

MASTER DATA MANAGEMENT

Figure 2: How data virtualization and MDM create blended 360° views.

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3   It's worth pointing out that TIBCO is not limited to virtualization. Customers working with big data sources, such as Avro/Parquet on Amazon S3, are also accommodated by using analytical engines/caches. The pattern is similar, the analytical engine/cache consumes the conformed dimensions and hierarchies and uses them to process the ingested big data sources.

For these blended 360° views, EBX software plays the role it's always played. Golden records for the domain are mastered in the MDM, and these records contain not just the globally unique identifier for the master data entity, but also source system identifiers. We see an example in the screenshot below, using records from the counterparty domain.
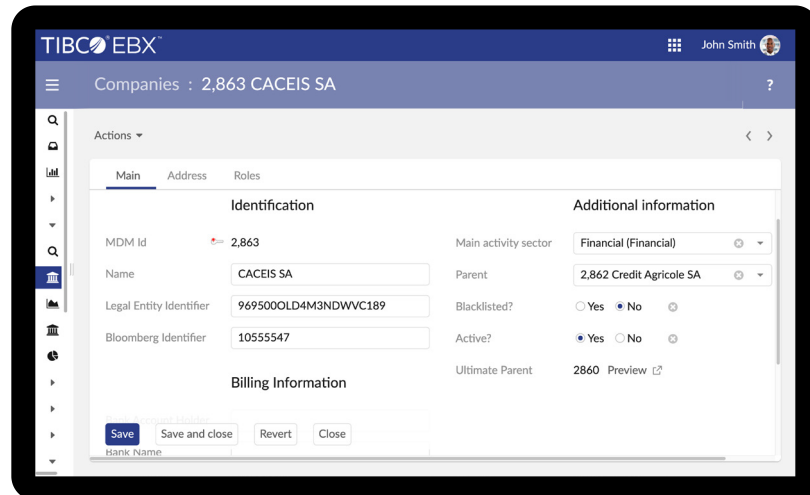

Figure 3: The counterparty record for CACEIS SA in EBX software aligns the GUID (MDM ID) with source system IDs (legal entity identifier and Bloomberg identifier).

TIBCO Data Virtualization software, through the use of federated queries, retrieves transactional details from the source systems. As is, the result sets from each source system cannot be combined because each source system uses different identifiers. However, by adding in the golden records from EBX software (which has those aligned IDs), the source system queries can be combined into a single view that is centered around the golden record. Below is an example of this view from a data visualization tool.

Figure 4: A basic data grid showing master data records (left) and transactional details (right). In this image we've highlighted the transactional detail for the CACIES SA counterparty in yellow.

While this counterparty specific view is very useful, especially if the focus is on a specific entity, it's not the only advantage of combining the golden records with transactional detail. Remember that in EBX software, our customers routinely manage attributes and relationships for the golden records. In our counterparty example, these relationships can be used to create hierarchies by parent, by geography, or by sector, as seen below.
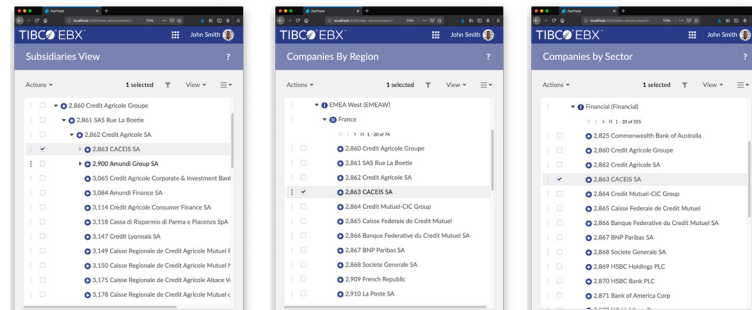

Figure 5: Example hierarchies for counterparties using the parent, country, and sector attributes.

All these relationships and attributes are available in the 360° view and can be used to create additional aggregation points or rollups. And that's what we see in the dashboards below. We're reusing the 360° view of counterparty to build 360° views for the entire legal entity hierarchy, country, and sector.

Figure 6: Applying the parent relationships from EBX software to see/aggregate exposures across the legal entity hierarchy.
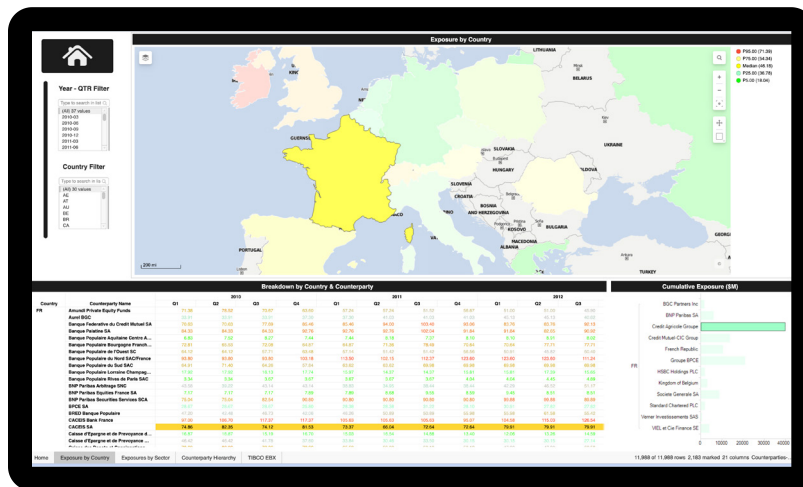

Figure 7: Applying the country attributes from EBX software to see/aggregate exposures by country and counterparty constituents.

Figure 8: Applying the sector attributes from EBX software to see/aggregate exposures by sector and counterparty constituents.

Finally, it is worth pointing out that both EBX and TIBCO Data Virtualization software are model-driven systems. Or, both systems are configuration oriented as opposed to coding intensive. A configuration approach translates into less time and effort to establish 360° views of anything—any master data you may have access to in the EBX system, or any data you may have access to via TIBCO Data Virtualization software. This model-driven approach is why TIBCO is able to offer 360° views of anything. This isn't always the case for other vendors. In fact, if you look carefully at many of the competing offerings, they're typically locked to a specific domain of data. So, if you're looking to gain a comprehensive view of your data, you'd best look to TIBCO for 360° views of anything.

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