TigerGraph

Making Operational Excellence Achievable with TigerGraph Data 360

Business Infrastructure is Complex

Enterprises have made huge investments in building big data infrastructure in order to stay competitive in rapidly changing business environments. Consequently, business leaders are better able to make informed and impactful data-driven decisions.

Research shows decision-makers only have 70% confidence in the data while making the decisions. TigerGraph Data 360 empowers confident decision making in any organization, by providing businesses with a 360° view of their data.

A typical enterprise is, for example, running 464 applications in 2021, according to a recent report. The largest companies may have almost 800 custom systems, and even small companies can have over 20 of them. Additionally, mission-critical systems are often composed of hundreds of complicated data pipelines to move data from various online operational databases and offline data lakes to the final target systems that generate business intelligence reports and dashboards.

These data pipelines usually include many processing systems in the middle, with each system taking data from one or more data sources, transforming and processing the data, before outputting to downstream systems. Unfortunately, due to the number and complexity of the end-to-end data pipelines, it is challenging for enterprises to get up-to-date information on the healthiness of these data pipelines. Any changes to the systems, ranging from software update, system upgrade, data schema changes, to data API changes, could bring instability or delay to the target reports / dashboards. If undetected, they could bring serious consequences in making the wrong or sub-optimal decisions in the dark, which would lead to big revenue loss or missing out opportunities to overtake competitors.

The chain of dependencies is complex and a single fault can ripple through multiple applications. Even if some of the issues get detected manually, it would still cause a lot of time and effort to trace the errors and identify root causes before they can be fixed, which adds further negative impacts to the business.

360° Data Views Improve Operations

Consider the scenario of an operations manager at a supermarket discovering at 5am that none of the produce inventory reports have been being produced. How should she respond? Some of the questions that need an immediate response include:

- What is the impact of the problem?

- Why is the report delayed?

- Is a report able to empower confident decision making?

- Which stakeholders need to be informed?

- What is the root cause?

- What other processes may be affected?

- What is my next best action?

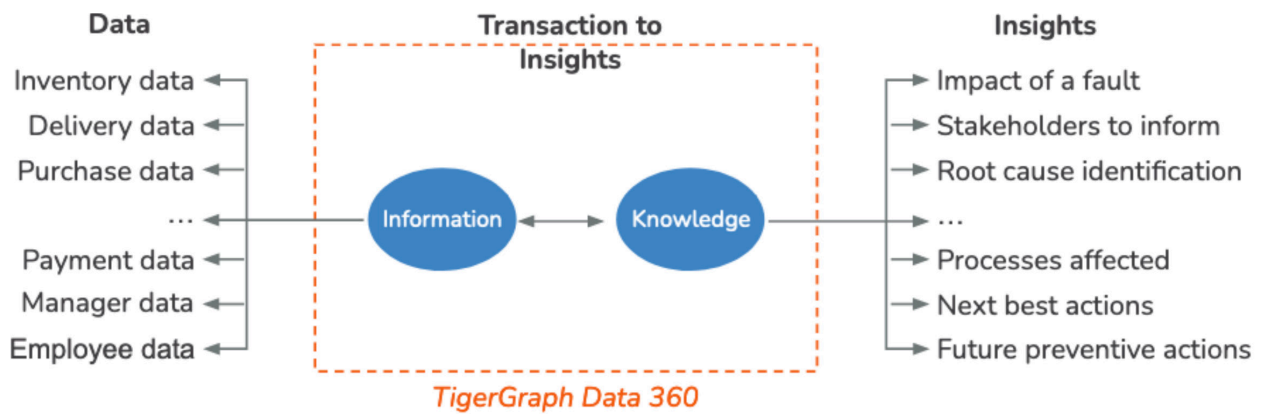TigerGraph Data 360 provides the answers to these questions.

Figure 1: TigerGraph Data 360 enables business leaders obtain insights from data

Data 360 builds a complete view of a company's operations by connecting datasets and pipelines, removing ambiguities, identifying commonalities and interdependencies, enabling an operations manager to:

- Track the source of a fault to its source.

- Identify the cascading effects of a failure.

- Alert teams and recommend corrective actions.

- Add risk scores to the reports, which enables users to choose the best data for their purpose.

- Show the time dimension and history of the reports for better analysis.

Unlike legacy systems, Data 360 provides this analysis in seconds, not hours, even across terabytes of data. TigerGraph's Data 360 is fully modular and can be customized according to business needs.

Driving Operational Excellence

TigerGraph Data 360 is a platform for operational excellence. It is used by a wide variety of businesses across a multitude of industries, including financial services, hospitality, manufacturing, retail, and supply chain.

At its core, Data 360 is an enterprise-scale graph database combined with visual monitoring and reporting. Data dependencies are tracked and monitored and displayed so that the stakeholders can have 360 views of the data and can make appropriate decisions based on data. Data 360 analyzes the full data in and data out system. It generates reports to show data flows, raises alarms for failures, and sends notifications to alert the stakeholders about failures.

- Comprehensive views of reports and their dependency on various systems construct a dependency graph of all the data pipelines involving data and systems, and their real-time impact to the accuracy or timeliness of the reports

- An ability to provide transparency of report delays or failures - and the immediate identification of hotspots for data pipeline failures - improves the resiliency of any complicated decision making systems.
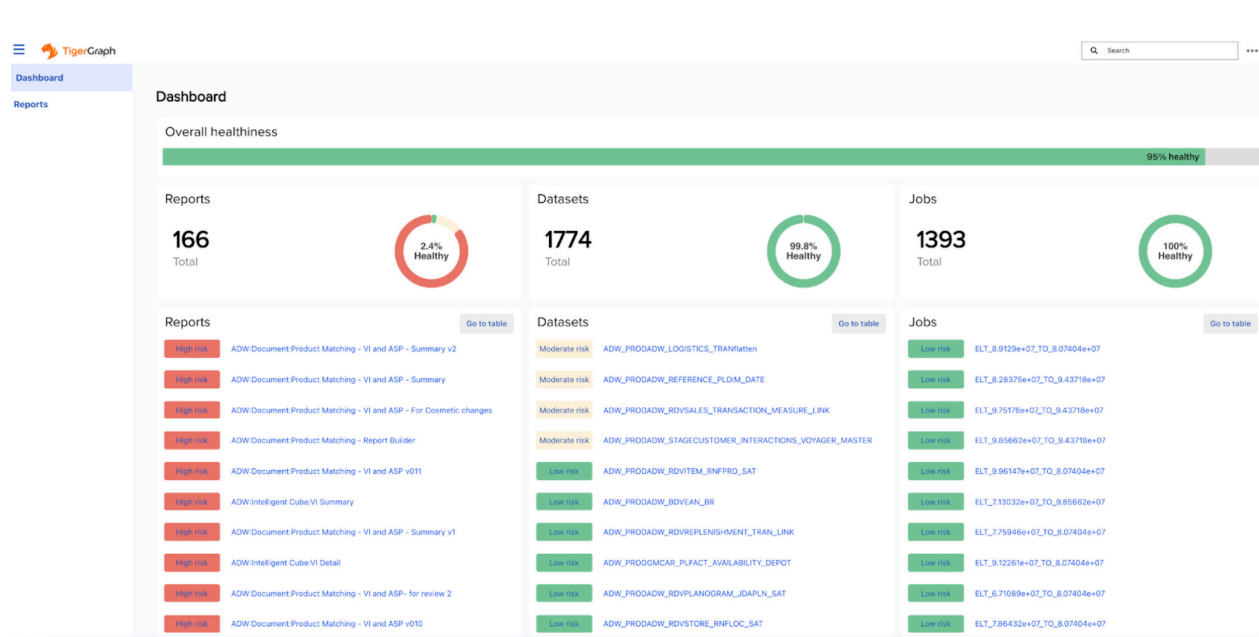

Figure 2: Sample TigerGraph Data 360 dashboard displaying the health of a variety of reports, datasets and jobs

Data 360's advanced analytics empowers operations managers to view a complete model of a business, trace and remediate faults, and test different business scenarios, in real time.

The dashboard provided for the visualization of the reports would be customizable based on user needs and requirements.
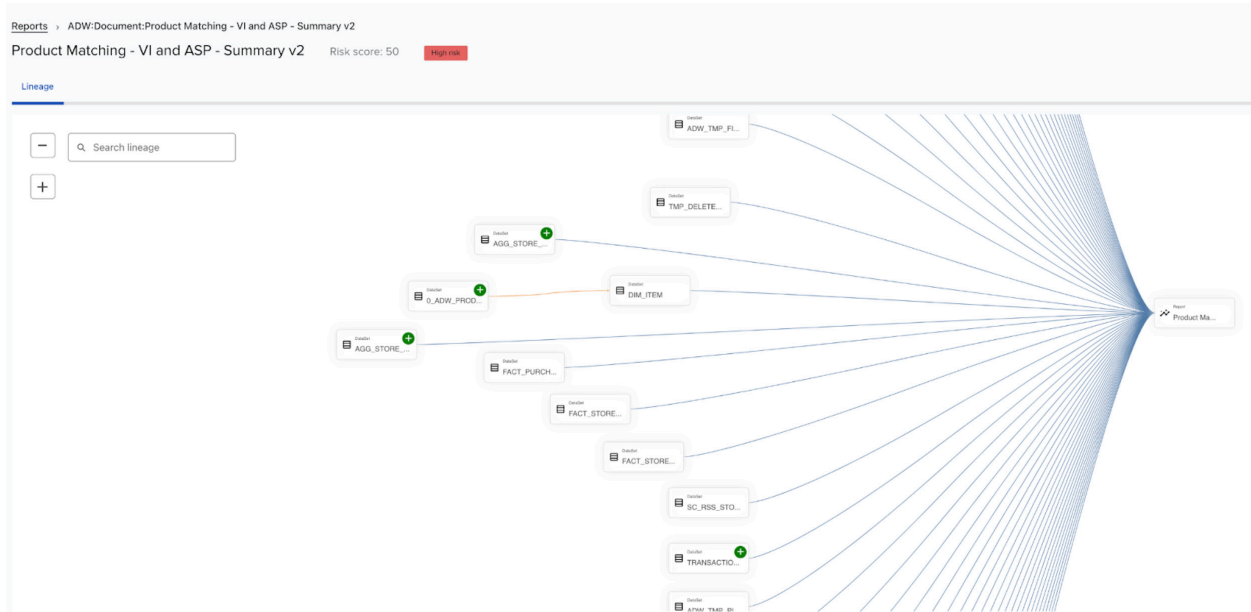

Figure 3: **Sample TigerGraph Data 360 dashboard showing data interdependencies**

Wide and Seamless Integration

TigerGraph Data 360 is configurable to connect with available data connectors. These include Kaffa connector and interoperability with AWS SQS, and GCP PubSub. Additionally, Data 360 can be configured to connect with any customizable data connector.

Data 360 can retrieve metadata from relational databases as well as NOSQL databases, and, last but not least, Data 360 can be configured to work with a wide variety of databases.
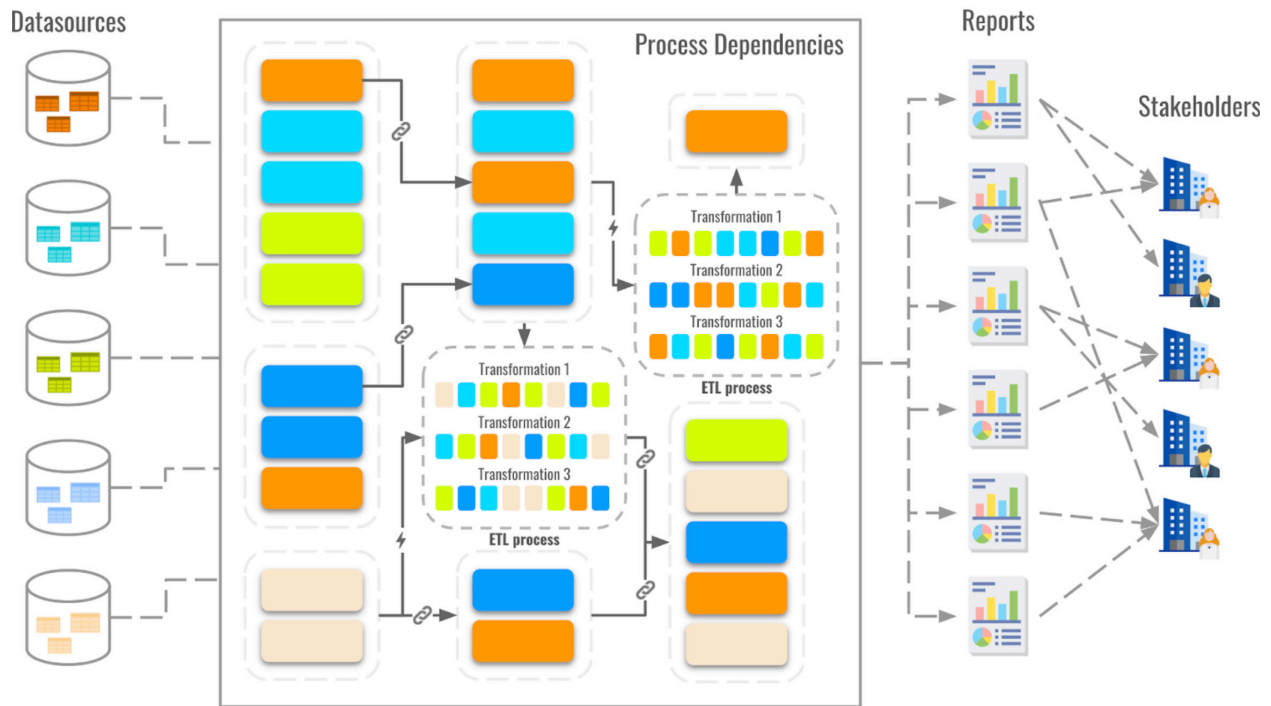
Figure 4: TigerGraph Data 360 integrates with a broad array of third party connectors such as Kafka, AWS SQS and Google PubSub

Personalized Solution:

TigerGraph Data 360 has a unique ability to engage with customers at all together different levels. Rather than taking a one size fits all approach, Data 360 would give each customer the right solution according to the needs of an organization.

Data 360 is available on premise and in the cloud as well as on-premise.

Data 360 leverages the power of graph analytics and uncovers relationships in connected data that would otherwise remain hidden. Unlike legacy systems, Data 360 provides this analysis in seconds, not hours, even across terabytes of data.

This is just the beginning: Data 360 is changing the future of making critical decisions and enabling you to make every decision with full confidence.

About TigerGraph

TigerGraph is the only scalable graph database for the enterprise. TigerGraph's proven technology connects data silos for deeper, wider and operational analytics at scale. Four out of the top five global banks use TigerGraph for real-time fraud detection. Over 50 million patients receive care path recommendations to assist them on their wellness journey. 300 million consumers receive personalized offers with recommendation engines powered by TigerGraph. The energy infrastructure for 1 billion people is optimized by TigerGraph for reducing power outages. TigerGraph's proven technology supports applications such as fraud detection, customer 360, MDM, IoT, AI, and machine learning. **For more information visit www.tigergraph.com and follow us at:** Facebook   Twitter   LinkedIn

Contact us at sales@tigergraph.com

TigerGraph | 3 Twin Dolphin Drive, Suite 225
Redwood City, California 94065
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