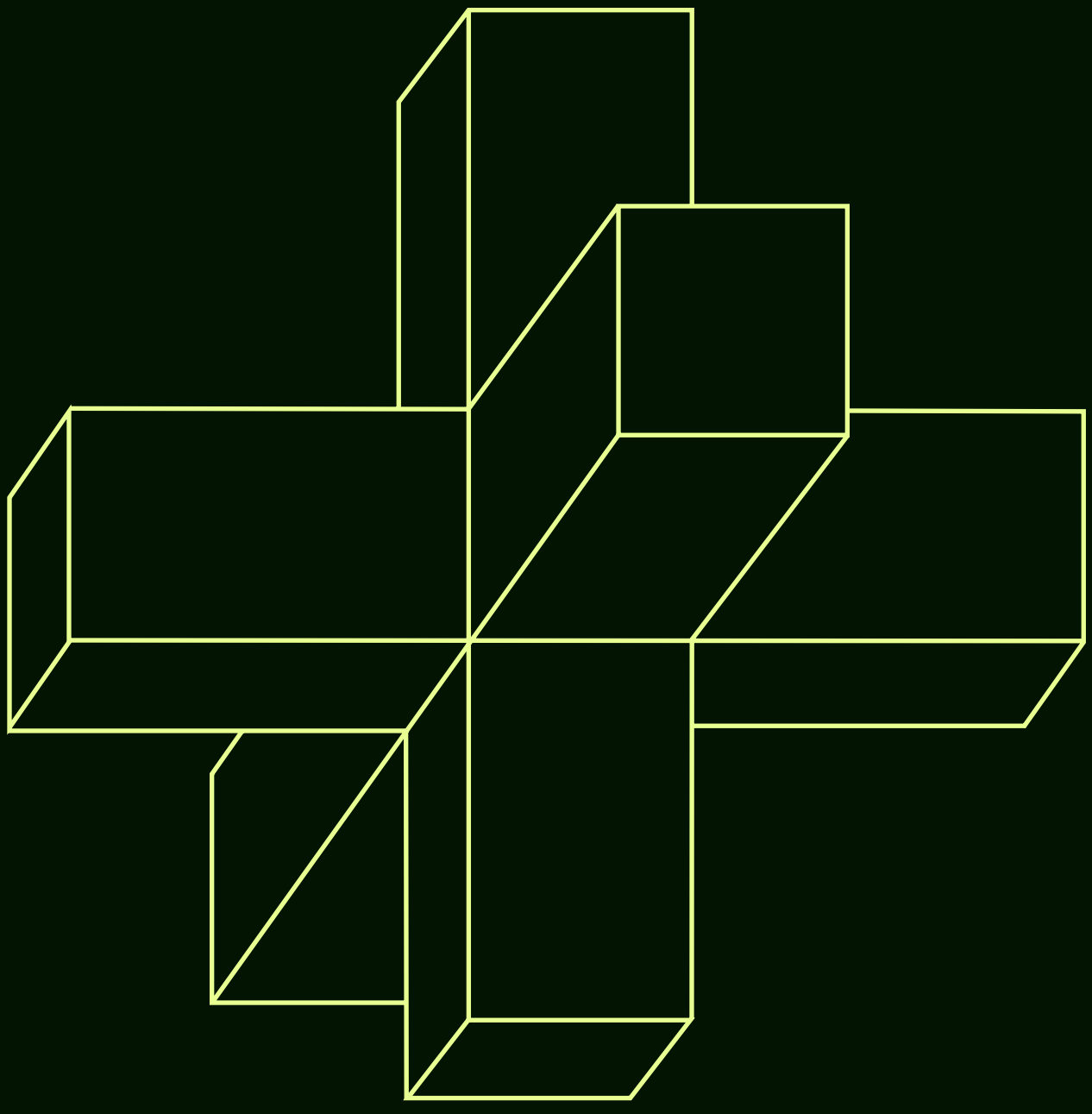
MAXIMIZING YOUR OBSERVABILITY CAPABILITIES: THE BUILD VS. BUY DEBATE



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WHITE PAPER

INTRODUCTION

Observability pipelines play a crucial role in maintaining the performance and reliability of modern software applications. They gather, process, and analyze real-time data on software system behavior, helping organizations detect and solve issues before they become significant problems. The core benefits of well-designed observability pipelines include data enrichment, correlation, transformation, and analysis. Organizations with the ability to make data-driven decisions quickly have a competitive edge in today's market.

Building an observability pipeline from scratch can be a challenging but rewarding experience. It allows organizations to control the technology and its underlying architecture, ensuring it aligns with their specific technical requirements. However, this approach can also be time consuming and costly, requiring specialized knowledge and expertise to maintain it.

On the other hand, a pre-built observability pipeline solution can offer faster time to value, improved scalability, and lower costs. With a pre-built solution,

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organizations can save time and resources on development and maintenance, freeing up those resources to focus on other business areas. Additionally, pre-built solutions are typically backed by a vendor's support, ensuring the pipeline is kept up to date and running optimally.

This white paper will guide you through four key considerations: hosting costs, customization costs, operational requirements, and support requirements. It also presents a total cost of ownership (TCO) analysis and explains how to calculate your model for an observability pipeline over an extended period. This information lets you choose the best approach for your business's needs.

While building an observability pipeline from scratch can offer technical control and customization, a pre-built solution may offer a better overall value in meeting business goals and objectives and reducing costs. Considering the four critical considerations outlined in this white paper, you can choose the approach that provides the best value to your organization technically, operationally, and financially.

WHAT MAKES A GOOD OBSERVABILITY PIPELINE?

Understanding the core purpose of an observability pipeline and the features that pipelines need to deliver to bring value to businesses is essential to deciding whether to build or buy your pipeline solution.

An observability pipeline is a platform that centralizes data from multiple sources, processes it based on various business requirements, then routes the processed data to disparate destinations. Observability pipelines typically consist of three main components: data collection, processing, and visualization. The data collection component gathers telemetry data from various sources, such as logs, metrics, and traces. The data processing component is responsible for filtering, transforming, and aggregating the data into a form that can be analyzed and acted on if needed. Finally, the data visualization component of observability pipelines provides organizations with a way to view and understand the data generated by the pipeline.

The best observability pipelines make it possible to enrich, correlate, transform, and analyze data while leveraging benefits that include but aren't limited to:

REDUCED COSTS

Observability pipelines minimize the amount of data that needs to be ingested by databases, SIEMs, and other tools while optimizing data only to contain the most relevant insights before routing it to an end destination.

INCREASED VISIBILITY & ACCESS

Observability pipelines enable you to see and manage data from disparate sources using a central set of policies and tools.

FASTER DECISION-MAKING & INSIGHTS

Observability pipelines bring you faster insights and, by extension, reduce the time it takes to act on them, as the analytics process can begin within the pipeline rather than after the data arrives at its destination.

GREATER FLEXIBILITY & CONTROL

Observability pipelines give you granular control over how data is processed, which data you route, and where you route it to, ensuring that different stakeholders within the business can leverage data in whichever way makes the most sense for them.

For more on how observability pipelines work and how they can ensure quality telemetry data management without breaking your budget, refer to this blog post.

WHAT TO CONSIDER IN AN OBSERVABILITY PIPELINE SOLUTION

As more businesses recognize the importance of processing data quickly and centrally via observability pipelines, more pipeline solutions appear on the market, including various open source and commercial solutions. Some organizations opt to build their pipeline, each focusing on different components of managing observability data at scale.

However, one area where they differ is in how much they cost in the long run, how hard the pipelines are to operate and support, and how much work they require to extend or customize. For these reasons, production engineers within IT operations, development, and security teams evaluating observability pipeline offerings should carefully assess how well their options correspond to their requirements within the following four key areas

HOSTING

Observability pipelines require hosting infrastructure. The hosting infrastructure provides a place to run the software that ingests, processes, and routes data within the pipeline. It also provides the computing, memory, and storage resources necessary to perform pipeline operations.

Some observability pipelines are available as managed solutions, which means that the hosting infrastructure is integrated into the offering and managed by the vendor. Other pipelines are self managed. Under this model, users either have to provide and manage their hosting infrastructure or obtain cloud-based infrastructure that they provision and manage themselves.

A self-managed approach might make sense if you have the in-house expertise to set up and manage an observability pipeline. However, self-managed pipelines tend to have a lot of hidden costs, and they require much more effort to maintain.

In most cases, a hosted observability pipeline solution delivers more value for several reasons:

1. **Straightforward setup:** With a hosted solution, getting started with your observability pipeline is easier because you don't have to acquire or set up your servers to host the pipeline.

2. **Lower costs:** Hosted solutions offer lower total infrastructure costs as providers can often obtain infrastructure at a lower price. The automatic scaling allows for payment only for what the pipeline workloads consume, avoiding excess spending on servers you aren't using.

3. **Faster scaling:** Hosted pipelines let you scale infrastructure up and down quickly to accommodate changes in pipeline demand or requirements. Infrastructure availability never becomes a bottleneck to pipeline growth.

Unless you are confident that you can provide and manage your observability pipeline hosting, it's typically beneficial from both an operational perspective and a cost perspective to select a fully hosted pipeline.

DEVELOPMENT

Regarding observability pipelines, the development and customization features are crucial for unlocking maximum value. Engineers must tailor the pipelines to the unique characteristics of their data sources and the needs of their data consumers and keep updating these configurations as requirements change. To make this process easier and faster, choosing observability pipelines with the right customization features is essential.

Here are some features to look for:

1. **Pre-built rules:** These serve as a starting point and can be easily adjusted to meet specific needs, saving engineers time and effort.

2. **Template-based configuration:** Templates allow for quick and efficient deployment of custom configurations while minimizing the variables and syntax that engineers need to learn.

3. **Natural language queries:** The ability to search data using natural language input simplifies running analytics and eliminates the need for complex queries.

Pipelines that require a lot of work to set up and customize can be more expensive, even if the pipeline itself is free. Engineers will spend more time developing the pipeline and less time achieving business goals. Self-managed pipelines can also be challenging to customize, as you'll have to manage all configurations through code files. In contrast, managed pipeline solutions provide management UIs and offer additional support and bug fixes, making them a better choice for meeting business objectives and keeping costs low.

OPERATIONS

The same is true of pipelines that are difficult for operations teams to maintain and scale. Suppose your IT engineers have to regularly monitor, patch and upgrade your observability pipeline. In that case, the total cost of ownership will be high, regardless of the direct cost of the observability pipeline itself.

To simplify the operational burden of your observability pipeline, choose a solution that offers the following:

1. **Out-of-the-box integrations:** Easy-to-access integrations allow teams to quickly modify or update their pipeline to support new data sources or destinations.

2. **Enhanced processors:** Pipelines that provide built-in data processors to perform tasks like data deduplication and parsing reduce operational burden by eliminating engineers' need to configure these processors manually.

When your pipeline is easy to operate, it reduces your total cost of ownership by decreasing time to value and minimizing the staffing costs required to support and maintain pipeline software and infrastructure. It also enables faster time to value and minimizes the distractions imposed on your operations team.

SUPPORT

You lose money due to business disruption when something goes wrong with your observability pipeline (e.g., the host infrastructure fails or an improperly configured routing rule sends data to the wrong destination). That's why the ability to ensure pipeline availability and train stakeholders to use the pipeline effectively is critical for maximizing its value.

Toward this end, look for an observability pipeline solution that provides the following:

1. **Professional support:** Choose a solution that offers a professional support team to ensure quick resolution of any availability issues.

2. **User-friendly access:** Opt for a solution that is easy for all stakeholders, including business users who may not have technical expertise. Having user-friendly access will reduce the support burden on your engineers and maximize the value delivered by the pipeline.

Here again, pipeline solutions with a "free" price tag may not deliver the most significant total value due in part to the difficulty of supporting them.

THE TOTAL COST OF PIPELINE OWNERSHIP: BUILD VS. BUY

To put the four factors into perspective, let's compare the total cost of ownership for a business that builds its pipeline from scratch using free software versus an observability pipeline solution that offers integrated hosting and simplified customization, operations, and support.

Consider the following calculation and comparison based on the assumption that the FTE loaded salary is $175,000/year, and all numbers are amortized over a three-year period:

	BUILD (+ REQUIREMENTS)	BUY (+ REQUIREMENTS)
SOFTWARE COSTS	$0 Open source software that is free of cost Doesn't include the potential costs of licensing (if not free) or training	$11,880 Observability pipeline platform to support monthly ingestion of 1TB
HOSTING	$27,584 Three servers with an on-demand price of $0.35 per hour	$0 None (Built into platform pricing)
DEVELOPMENT	$525,000 1 full-time engineer (FTE) needed in year one for setup and rule configuration 2 FTE in year two, and three in year three to build, maintain, and scale as requirements evolve	$175,000 0.5 FTE needed in year one for setup and rule configuration 0.25 FTE in year two and three for updates as business requirements evolve
OPERATIONS	$393,750 0.5 FTE in year one for monitoring and management 0.75 FTE in year two, and one in year three (inclusive of pipeline along with data sources and destinations)	$43,750 0.25 FTE across three years for monitoring and management (inclusive of pipeline along with data sources and destinations
SUPPORT	$393,750 0.5 FTE in year one for technical end-user support and platform education 0.75 FTE in year two, and one in year three	$0 Cloud-based SaaS solution. The support cost is built into the solution.
TOTAL COST OF OWNERSHIP	$1,340,084	$230,630

THE TOTAL COST OF PIPELINE OWNERSHIP CONT.

From a total cost of ownership perspective, the choice is clear: the integrated hosting and simplified development and customization, operations, and support offered by the hosted observability pipeline solution significantly lowers costs compared to building a pipeline from scratch using open source software. This frees up resources that you can allocate towards other important initiatives that support your business goals and objectives, allowing the business to better achieve its objectives and reach its goals.

Examples of this can include but aren't limited to:

- Research and development to drive innovation
- Expansion of market reach through marketing efforts
- Infrastructure upgrades to improve overall business efficiency
- Acquisitions of complementary companies or technologies to drive growth

In other words, having a more cost-effective observability pipeline solution frees up resources that can be used to drive the business forward and achieve its goals.

Disclaimer: We've compiled the budgetary expenses in this document based on input from several real-world practitioners. The cost figures may vary depending on the size and complexity of your pipeline.

OPTIMIZE YOUR OBSERVABILITY JOURNEY

Observability pipelines play a critical role in the modern business landscape by enabling organizations to access their applications and infrastructure and identify issues quickly. The right observability pipeline solution can help organizations save money, increase efficiency, and ultimately meet their business objectives. When choosing whether to build or buy an observability pipeline solution, it's essential to consider the total cost of ownership and the features offered, such as pre-built rules, template-based configuration, natural-language queries, integrated hosting, simplified customization, operations, and support.

Organizations can significantly reduce the resources required to host, operate, and support the pipeline by choosing a solution that offers these features, freeing up more money to enhance their business objectives. The integrated hosting and simplified operations and support provided by some observability pipeline solutions also eliminate many of the challenges associated with self-managed solutions, making them a more cost-effective option.

Choosing the right observability pipeline solution can profoundly impact an organization's ability to meet its business objectives. It's essential to research and select a solution and approach that fits your unique needs to make the most of your investment.

MEZMO: THE ANSWER TO YOUR OBSERVABILITY NEEDS

Mezmo is a fully hosted and managed observability pipeline solution designed to make customization, operations, and support as simple and cost effective as possible. With features like pre-built data processors, extensive out-of-the-box integrations, and professional support services, Mezmo customers can minimize the time, effort, and money required to run their observability pipelines without compromising quality.

Take your observability to the next level while staying within your budget. Experience the benefits of Mezmo for yourself by requesting a demo today.

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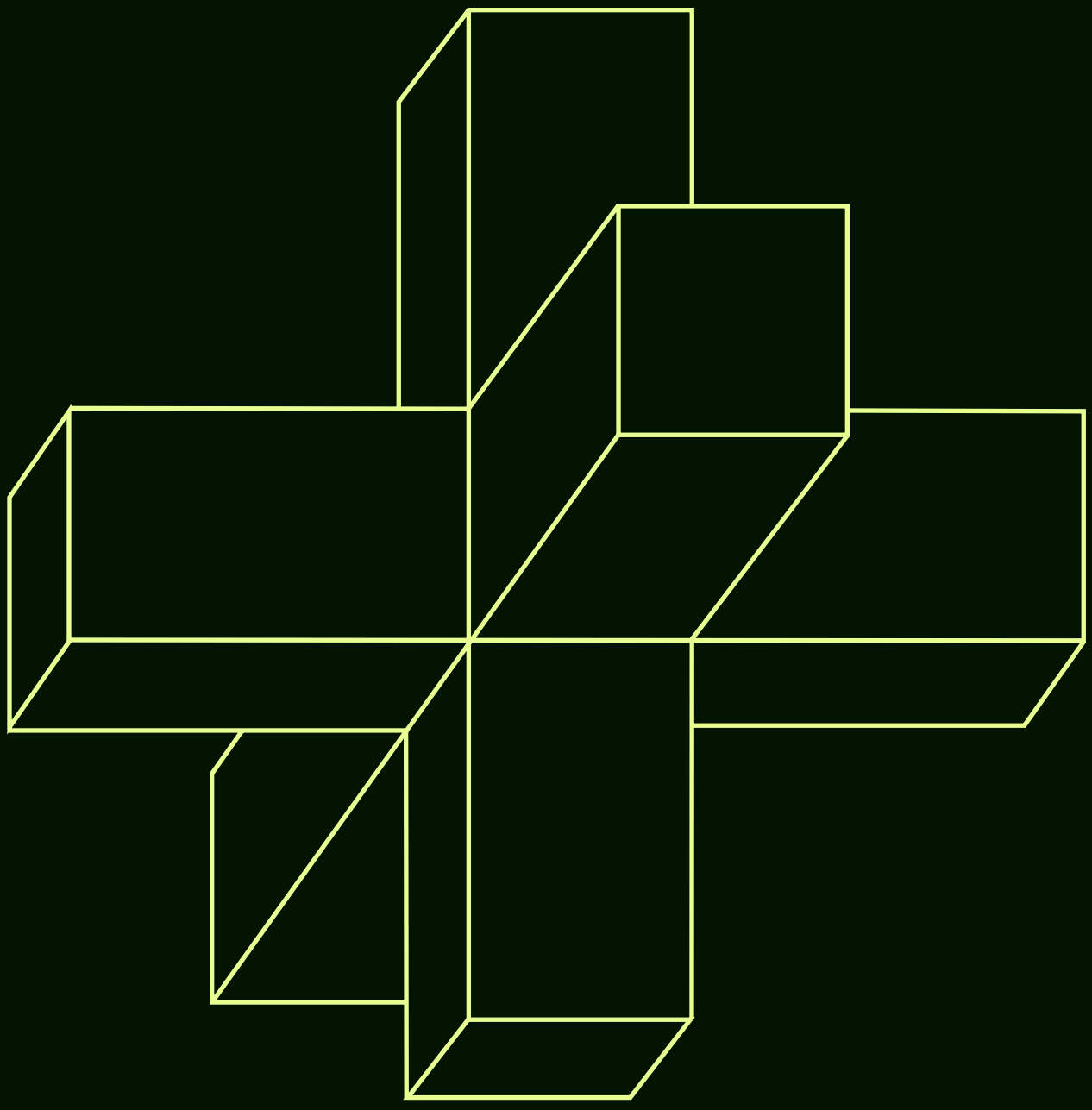
SUPPORT CONTACT: SUPPORT@MEZMO.COM
MEDIA INQUIRIES: PRESS@MEZMO.COM



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