PRODUCT PAPER

HAMILTON
CORE

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INTRODUCTION

Alexander Hamilton, one of America's founding fathers', believed in a strong central government, a powerful executive branch, and a national bank to stabilize the nation's credit and support a vigorous economy. In much the same way, the Hamilton Core product provides a strong centralized core of powerful financial analytics, stabilizes an organization with a trusted source of truth, and supports stakeholders with information they need to make sound business decisions.

With the world and technology rapidly transforming around us, organizations need reliable information to stay competitive. Business processes must adapt to continuous change and information systems are no exception. If your software is not adapting and evolving to meet the changing needs of your business, stagnation and irrelevance are inevitable. Hamilton understands the importance of versatility and are committed to helping clients see an easier, more effective way to stay on top of their data.

Without innovative solutions we hope you too can bring your financial reporting under control and integrate, stabilize and centralize your data like never before.
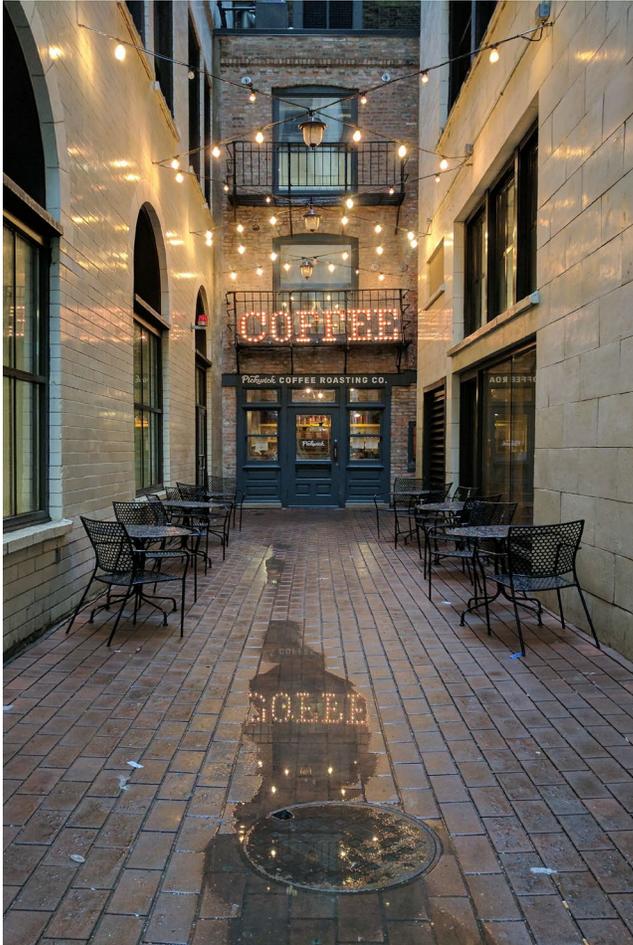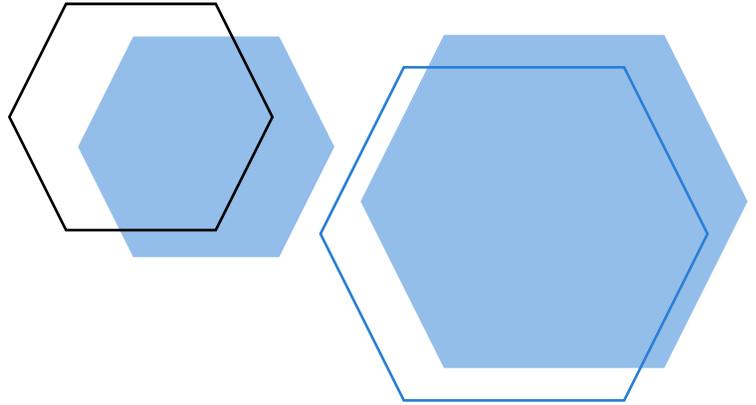
CUSTOMER PROBLEM

BUDGETING AND FINANCIAL REPORTING

There is an ongoing struggle for organizations to implement and maintain financial accounting processes that can provide valuable insight to decision makers. The difficulties lie in updating financial systems to track and record emerging environment, society, technology, and business changes as they impact organizations. Without continual investment in accounting maintenance, data standards quickly fall into disarray under ongoing waves of change. This leads to questions of where public funding is actually being spent. Even if you do police your data and invest in keeping up with continual change, fundamental changes in the data may prove too complex to understand. As a result of this constant battle, many Government organizations have given up on the idea of extracting useful information from their accounting data and have abandoned accounting to a purely legal reporting exercise.

Most agencies have the same underlying issues, but they vary in detail. The Central treasury and division of budget have a core chart of accounts (CoA). Each individual agency has their own CoA. Some may even have different ERPs, or even with the same ERP they sometimes categorize financials differently, such as different fund sources, projects, and allocations but they are all expected to match to the central CoA accounts.

This is accentuated if your agency, as it likely does, reports up to the Federal Government or accepts data from Local Government authorities, or any participates in any other multi-level financial accountability arrangement.
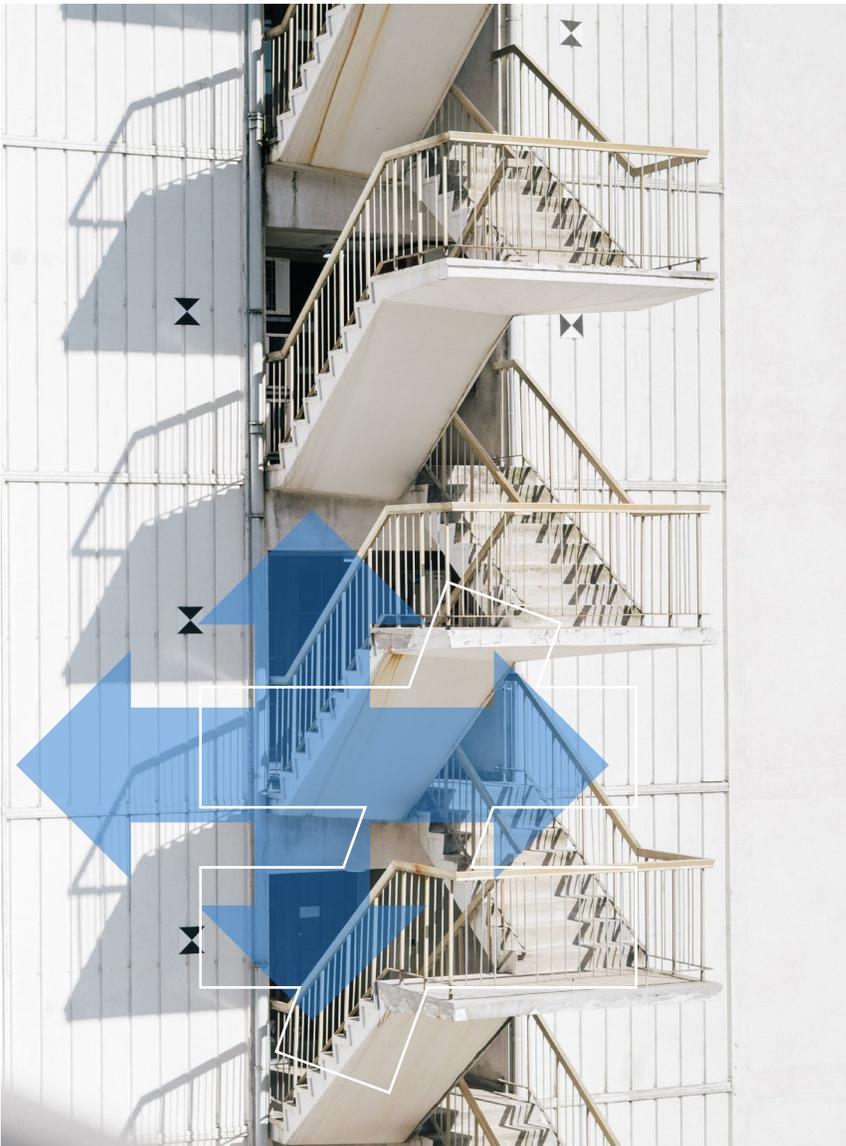
COMPETITORS SOLUTIONS

OUTDATED SOFTWARE

There are many companies which provide software that may tackle the immediate problems – such as simple consolidations, organization integration, and financial calculations. However, there will still need to be a huge investment of time, effort, and money to continually update your mappings. You may even find companies that will do an update for you each year, but that still becomes a significant cost to your bottom line. On top of that, you will still have no ability to see things in real time.

A static mapping technique works great for consulting agencies because they need an ongoing revenue source. For the government customers this technique is only a partial fix to a continual problem and an ongoing expense.

The result is that the Central Treasuries have out-of-date mappings and a lack updated actionable budget data. They are not able to have accurate monthly variance tracking. The work involved in matching the CoA to the central chart is so convoluted and difficult that it is typically only done once a year for compliance.

Currently, the US federal government and most US states do not have any form of consistent and accurate monthly actuals reporting against budget. Not for a lack of trying, getting these reports is a very tedious and technically difficult task. Most software companies create simple solutions that they can maintain later while setting up inevitable failures along the way.

HAMILTON SOLUTION

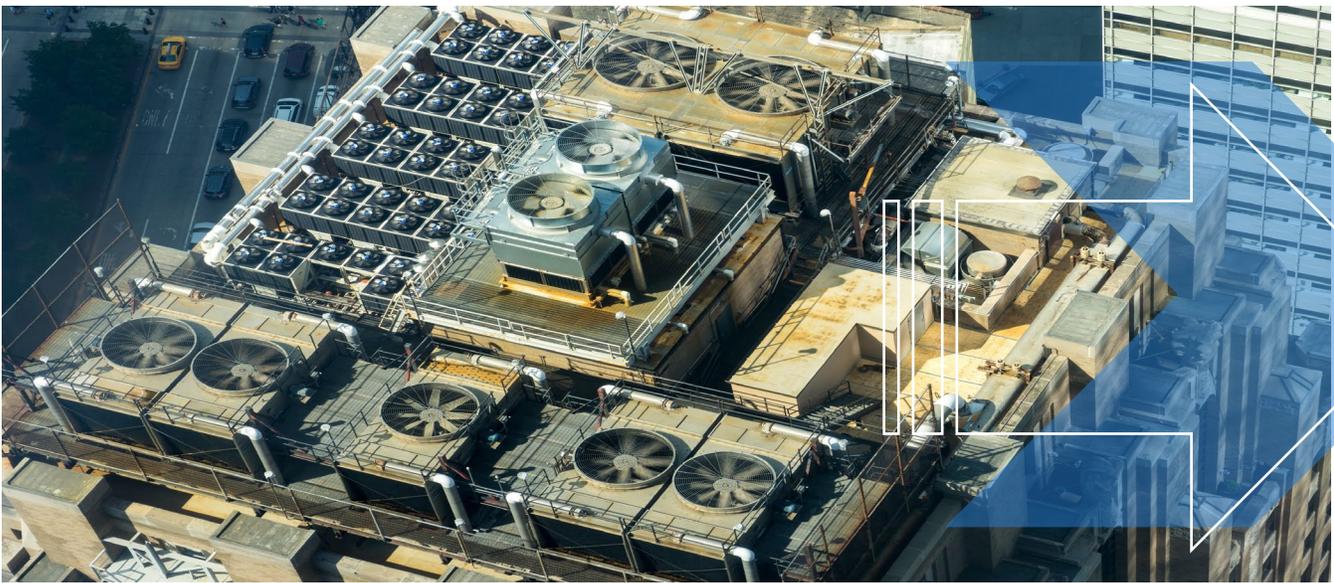## FINANCE AND REPORTING INTEGRATION WITH AN IN-MEMORY PROCESSING ENGINE

The Problems that exist in the budgeting world have become our focus while creating Hamilton. We wanted to create a product that addressed these issues at their core. Hamilton Core utilizes a high speed, in-memory, data engine combined with new machine learning algorithms to provide automated chart of accounts mapping for government customers - saving them millions of dollars annually and enabling real-time budget reconciliation for improved budget management and oversight.

The initial step in a Hamilton machine learning process begins with the application of semantic knowledge (accepted high level business rules) that map your data accurately and automatically. With the addition of each business rule, data mapping draws closer to being 100% accurate. However, the goal in applying machine learning is not to create a complex set of rules for mapping all possible scenarios, but rather to identify objective "hard truths" that always apply to data. This then opens the door for the second step in the Hamilton process - Guided Learning. As Hamilton processes data based on the semantic rules provided, it will encounter data scenarios that do not conform. When these scenarios are encountered it notifies the user and prompts for human guidance. The business user then makes judgement on what to do in that single scenario. Once submitted, Hamilton places the data where the user has instructed, but more importantly captures that guidance for future use. With a foundation of semantic knowledge and guided learning established, Hamilton then makes its own decisions based on probability analysis and tolerances. Stated another way, the user sets a "certainty tolerance" percentage that must be exceeded before Hamilton is permitted to automatically decide anything. If the certainty tolerance is achieved Hamilton places the data where is determines it fits best.

Essentially, Hamilton is policing data without any human analysis and bringing discrepancies to the attention of the organization. This alone is a considerable value-add function for organizations, as the cost of performing a one-time comprehensive human analysis on your dataset is exceedingly costly and needs to be repeated every time the underlying data changes. Hamilton does this for you in real-time on a continuous basis.

Hamilton can take the knowledge of one gifted business analyst and turn it into to the work of hundreds of staff.

CONCLUSION

WHY CHOOSE HAMILTON?

The world of software engineering is changing rapidly. Keeping up, requires hard work, finances, and initiative, but with proper planning, research, and analysis we can keep ahead of the game. The beauty of our product is that all of those are built into the software, making things easier, cheaper, and less time consuming.

At Hamilton, with our innovative and insightful technology, we strive to enhance our users' everyday experiences. We will continue to work relentlessly to become the technological standard, providing big picture insights and solutions for companies of all sizes.