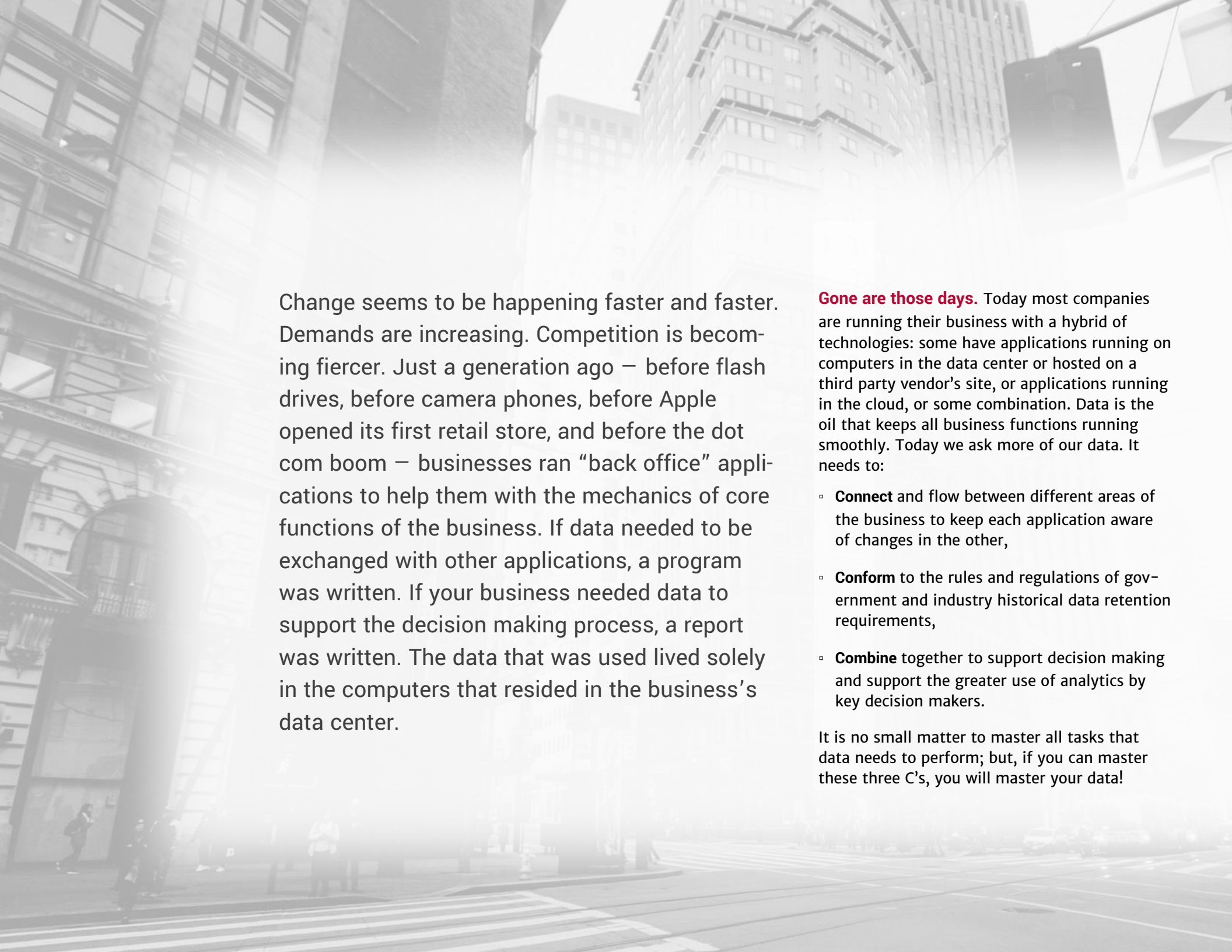




Taurus Software
Making Data Liquid

**Master Your Data,
Master Your
Business!**





Change seems to be happening faster and faster. Demands are increasing. Competition is becoming fiercer. Just a generation ago — before flash drives, before camera phones, before Apple opened its first retail store, and before the dot com boom — businesses ran “back office” applications to help them with the mechanics of core functions of the business. If data needed to be exchanged with other applications, a program was written. If your business needed data to support the decision making process, a report was written. The data that was used lived solely in the computers that resided in the business’s data center.

Gone are those days. Today most companies are running their business with a hybrid of technologies: some have applications running on computers in the data center or hosted on a third party vendor’s site, or applications running in the cloud, or some combination. Data is the oil that keeps all business functions running smoothly. Today we ask more of our data. It needs to:

- **Connect** and flow between different areas of the business to keep each application aware of changes in the other,
- **Conform** to the rules and regulations of government and industry historical data retention requirements,
- **Combine** together to support decision making and support the greater use of analytics by key decision makers.

It is no small matter to master all tasks that data needs to perform; but, if you can master these three C’s, you will master your data!

Connect

Data integration/exchange

Regardless of the mix of applications you have in your shop, there is a strong chance that you are going to need to connect the dots between them. This is best accomplished by those who understand the data that needs to be exchanged and the differences between the applications. The right person to do the job may not be a programmer, but may instead be the stake holder of the application integration. Good news: there are tools which build these integrations without requiring that any code be written.

Regardless of how you get the job done, think through the integration thoroughly.

Ask yourself:

What event is going to trigger the need to exchange information? Are there multiple events? For example, our customer membership program requires enrollment. Customers can enroll through email response, on the web site, or by calling our customer support center. Three different applications are in play, depending on which method they choose. An email response comes into our marketing database. If the customer enrolls on the web site, the e-commerce system needs to check to see if this customer is a first time customer or an existing customer, and then the application must enroll the customer. If the customer calls the customer support center, their enrollment will be recorded directly in the CRM or membership system. The result is that there are three places that enrollment information can be changed, and two places where the status needs to be known.

Each system tracks the membership information differently. Make sure you know both sides of the equation before attempting to move data. Each column of data from each system needs to be understood so that you can move data in the correct format with the correct values.

Plan a method to perform bulk validation to ensure that the data integration across systems is the same, and have a way to get back in sync, if necessary.

Create enough of a bread crumb trail to facilitate recovery when things fail.





Conform

Historical data management

If you are in an industry which requires that you keep records for extended periods, you are faced with providing some mechanism to respond to audit or access requests of historical information, while still maintaining reasonable response times and reasonable size test environments. You will want to work with your compliance officer in planning your archiving strategy. In fact, the project could be completed by a compliance officer if using software which can archive with a no-code process. When putting an archiving strategy in place, here are some things to consider:

Think about using a tiered approach to archiving. If you haven't started conversations with your business users, you haven't yet heard the appeals that no information at all should be archived, but that all information should be available and accessible. With the risk of data breaches, you may want to move data out of harm's way to a separate local environment where historical data can be reviewed easily. This will help to convince users to keep less information in the application data.

Consider using a hybrid approach when archiving data that is unlikely to be accessed except to comply with audit requests. You could move data into an encrypted data warehouse, or to encrypted cloud storage.

Bear in mind that there is the potential that you will need to restore the data back into the application, should some data need to be reactivated. To do this, you will need more than just transactional data in your historical data archives: you will need all data related to the specific transactions, as it was at the time of the transaction.

Archiving is complicated, as much of what qualifies that data to be archived is not in just one type of data. You will want to build the "un-archive" functionality at the same time, so that you can ensure that the data can be restored without issue, and that the restored data is usable.

Archiving can be broken into two tasks: Moving historical data into another environment, then deleting the archived data from the production environment. This approach minimizes risk. Your testing team can validate that all is well in the archive before permanently removing the production data.

Combine

Making data work for you

Combining data provides a more complete view of the business and its activities and can even include data to show how your business compares to others in the same industry. Your organization's data can come from sources in the cloud, application data, hosted data, and data stored at your business. Having a no-code tool which can read and combine data will be essential. Collecting useful internal and external data will provide a rich source for data analytics and help the business decision making process.

When combining data, here are some things to consider:

Privacy and governance issues. Many industries have requirements to keep data inside the firewall and to ensure that personally identifiable data elements are kept private, or that data be only accessible by certain users.

Create and keep "data connectors" when creating and/or moving data. For example, if you are capturing a Google conversion event recorded while taking an order, capture the order number and the unique Google id. This will allow connections to be made easily to both the order management application and to Google Analytics to get more data about the Google captured event as it relates to the order transaction.



Transform data into formats that are useful in building analytics. Numbers should be numbers; dates should be dates. Coded data should be minimized, and replaced with self-describing data values where possible. All data and transactional information should contain capture times, recording the date and time of the nature of the transaction.

Metadata should be built for all the data coming in and being created as part of the project. There are a number of metadata standards, mostly using XML, which can be used. Metadata will create a common definition of each data element which can be used by those that are creating or accessing the data.

Think in terms of data flows which require you to be able to answer the questions: Who, What, Where, When, and How. By definition, the "Who" tells you the owner of the data and can provide tracking of activity, giving visibility to differences between the data being combined from different source. "What" answers the questions about what data objects and relationships are being created when we combine data. Say, for example you are creating a total sales number. Simple, right? Make sure definitions are clear. Do intercompany or interdepartmental sales count? What about sales made to employees? What if product has been purchased, but has not yet shipped? What if a customer purchased an item, but canceled the purchase, or subsequently returned the product? "Where" are you going to get the information? It may be appropriate to collect the lowest level of detail possible. For example, collect sales information at the sales order line item level, rather than simply a summarized sales total. "When" are you going to collect the information? Once a day? Right away? Some other periodical cycle? "How" does this data relate to information in any of your other data flows? Do changes in this flow imply or result in changes in other data flows?

What are the benefits of mastering your three C's?

Mastering your data translates benefits straight to the bottom line of your business. Let's look at some of the most important benefits.

Increased Revenue

Combining data to provide a more complete view provides quicker and better decision making. A more comprehensive view of your business can uncover new opportunities that are not apparent within a single application's data. This applies to both the decision itself and the decision making process. Being able to be agile and sure in today's marketplace is essential to the success of all organizations.



Non-conformance is expensive

Not conforming to regulatory compliance or good practices puts the business at risk for fines, loss of revenue, and litigation. For example, the new GDPR, which rolled out in May 2018 in the EU, had fines attached to non-compliance with upper limits of twenty million Euro or 4% of total global revenue, whichever was greater! Fines aside, data is an asset. Protecting that asset and ensuring good historical data management is essential for any organization.



Automated Business Alignment

The average business uses up to 13 different applications. Not sharing data between the applications creates poor communication between departments, systems and processes, and results in an inability to meet both the client's needs and expectations. Writing custom programs, running multiple extracts and crating bulky spreadsheets wastes time and effort — data needs to be seamlessly integrated and available to the business. Interactions and decision making are hampered by a lack of information and untimely information.



How to Get Started

We are ready to help. Taurus Software has been in the business of mastering data for 30+ years. Our DataBridger product provides a no-code development tool to manage historical data, integrate applications, and build environments for data analytics, whether you have on-premise data, cloud data, or a hybrid of both. Taurus Software not only provides the data management tool — we also provide the expertise and experience to assure your project's success.

[Click here to see a slide demo.](#)

For a personal session with one of our experts, [contact us](#).

Contact Us

About Taurus Software

Taurus Software develops software to design data management solutions for application integration, historical data management solutions, and analytical support. Used in retail, healthcare, manufacturing, and education industries by small to medium sizes business. Taurus Software's customers appreciate our excellent customer services and partnership in getting their projects to a successful end.

