Progress® DataDirect®

Then, Now and Beyond: The Future of Back Office Software

EBOOK

Executive Summary

Back office functions may receive little attention because they operate out of view of the customer, but out of sight can't mean out of mind. Processes traditionally conducted in the back of the house are critical to the success of the business. From problems executing on payroll and supply chain management to lack of visibility into financial systems, issues with these systems can quickly sink your momentum.

Business intelligence and analytics tools are supposed to create a holistic view of the business, but without access to every data silo, those views are incomplete and misleading. ETL and data warehousing procedures were developed to combat data silos but resulted in a new set of problems with reports being run against stale data repositories.

Why does the data of back office applications end up in individualized data silos? Why is it so hard to get a holistic view of internal business data? How can you automate tasks to reduce errors and improve productivity?

The inability to access data from back office software underlies all these issues. That means a robust, interoperable suite of data access tools provides the key to solving them, eliminating data silos and making real-time business data transparent across your full set of dashboards and reports, while still providing enterprise-level security.

Data connectivity enables BI and analytics tools to connect to data in real-time, directly at the source, without transfers or warehousing. Maintain robust security by leveraging existing procedures through data connectors, while opening data on demand to your self-service business dashboards and tools.

What Is Back Office Software?

The term “back office software” refers to applications that are used to manage business activities that are not visible to consumers. For example, a company will typically use internal software for managing human resources activities such as recruiting and hiring, and financial software for payroll processing. These systems are never visible to clients and customers, but they are necessary for the business to function.

Many large corporations use an ERP (enterprise resource planning) system to manage back office needs. ERP systems integrate common back-end functions into a single system, encompassing finance, human resources, supply chain, procurement and many other services. Because ERP systems tend to be a large investment to purchase, set up and maintain, they are typically only used in very large corporations.

Smaller businesses tend to use a patchwork of niche applications, each targeted to a particular function. While this approach is more cost-efficient and more manageable for smaller and midsize organizations, it can result in a breadth of disparate systems with no overarching visibility of the data between them. This creates its own set of challenges in reporting, analytics and IT operations management.

The History of Back Office Software

Until the mid-1950s, all business operations were paper-based. Whether they were internal operations like inventory control or customer-facing operations such as retail transactions, they were all recorded on paper.

With the advent of mainframe computing throughout the mid-century, large scale businesses moved tedious and time-consuming paper processing into computer operations. This was particularly true for functions that required zero-error computations to remove the element of human error, such as banking and corporate general ledger management.

While mainframes gradually decreased in popularity in favor of desktop computers and internal server farms, the next massive shakeup in back office processing wasn't until the growth of cloud computing and mobile interfaces that we see unfolding today. According to Gartner, by 2023, "at least 60% of new service-centric ERP deployments in large enterprises will be cloud SaaS." This latest evolution in cloud-based back office software has resulted in the prioritization of data security and the integration of disparate systems.

Current Landscape of Back Office

While legacy and mainframe systems seem like a thing of the past, they are still commonly used across the world in government systems, utilities, healthcare, financial processing and many large corporations. No one thinks of legacy applications and data storage as cutting edge, but the reality is that millions of mainframe data transactions are being processed every second by big businesses and their customers.

Cloud applications and data storage are still considered the upstart of the back office world, but their growth has been explosive in the last 10 years. New applications and data storage models built from the ground up have resulted in completely reimagined and innovative applications that are more user-friendly, and especially more mobile-friendly, than anything built in the mainframe tradition.

The problem for most companies is the need for connectivity between legacy data that isn't going away and cloud systems that are the present and future. How do your back office applications bridge that gap? How do you enable business users who don't know, and don't need to know, the many systems in use internally?

Challenges and Solutions

Let's look at how back office applications and data are used by businesses today. How is data stored within back-end systems? How is that data used across business functions? We can generally divide back office software usage into four common categories. Each has its own challenges, but there is a solution for each.

Business Intelligence and Analytics

BI tools are built for collecting and integrating data for analysis through reporting and visualization. While these tools are typically highly complex with rich feature sets, most business users interface with these applications via simplified dashboards and clickable reports suited to particular job roles. Behind the scenes, a technical team is usually responsible for creating, managing and troubleshooting these dashboards and reports, as well as the underlying data storage.

The most robust BI and analytics tools can connect to a wide variety of data stores to combine data from multiple systems into a single cohesive view for discovery and consistent reporting. However, data that isn't accessible to these tools becomes locked in a silo and is hidden from business decision makers.

Most companies have grown organically over years or decades, with applications and data storage needs changing through time. Gartner predicts that by 2029 "90% of legacy applications will still be in use," most likely alongside more modern systems. As businesses grow, some applications will become obsolete, potentially trapping valuable historical data in silos.

Innovative new applications (often cloud-based) have been adopted with an improvement in mobile-friendly interfaces, but adopting many new independent applications results in integration challenges. Mergers and acquisitions can further muddy the waters by requiring the full integration of distinct business operations systems.

To integrate analytics across disparate systems, BI and analytics applications need the capability to connect to different types of data in different locations throughout the business.

Data connectors provide the standard access layer necessary across business applications. Detailed business intelligence and analytics require connectors with both a depth and breadth of capabilities to simplify cross-system reporting. When choosing a data connectivity provider, look for a full suite of connectors built with standardized functions to open all your business data across both legacy and cloud systems.

ETL and Data Warehousing

Businesses use ETL (extract, transform, load) and DW (data warehousing) systems to move data from one repository to another for the purposes of blending that data into a new dataset. Typically, ETL is used to copy data from multiple applications into a single data warehouse.

Why spend time moving data from one place to another? ETL and DW allow data to be accessible to applications that may not be able to reach data silos in individual repositories. By using ETL and DW, duplicate and erroneous data can be detected and removed, and the blended data can be used by BI and analytics tools throughout the business.

The challenge implicit in reporting against ETL and DW is that your data is no longer real-time. ETL and DW may be a valuable strategy for auditing and other historical purposes, but for current sales records, customer satisfaction ratings and all the other data that's been moved and scrubbed, it is automatically outdated by the time you run reports against it.

While ETL and DW tools can provide powerful data scrubbing capabilities, they are inherently adding a time delay to the accessibility of that business information. Traditional

DW and ETL processes often survive from the era of desktop-based workstation computing, when all data resided in-house or in corporate data centers. These processes were optimized for periodic access and routine reporting. Now, with the popularity of cloud-based storage and continuous 24/7 availability for applications and data alike, the data warehousing model may no longer be effective.

For your tools to be effective, you need to run against accurate, complete data on-demand. Empower your applications with live, real-time data across all your corporate systems. When evaluating data connector solutions, consider eliminating transfer processes by connecting directly from applications to data stores with connectors that access business data where it resides, no transforming or warehousing required.

Tool Federation

While BI and analytics tools typically query data in place and data warehousing typically moves data to a new location, data federation can offer the best of both worlds. Federation combines multiple stores of data into a single virtual database. The virtual database doesn't contain the data itself; it contains metadata—data about the data, such as where it's stored, is it text or numerical data, how large or small is the data, etc.

Federation applications can be used to create and query this type of virtual database by joining heterogeneous data from multiple external sources. When an application queries the virtual database, the actual real-time data is retrieved from its original sources. To the end user, the joined data appears as a single, unified data collection. However, each individual store of data remains separate and in place. By linking the applications, metadata and databases to create a joined view, data connectors work in conjunction with federation applications to drive simplicity, productivity and consistency.

Federation may not be popular in some organizations because it's often linked to security challenges. Data must be secured in each individual data store as well as in transit to the virtual database.

A data breach is every business's worst nightmare. The fear of exposing customer and employee data makes security a top priority for IT, engineering, human resources and many others. That fear can also prevent the use of data that should be made accessible within the back office. Some may feel that it's easier to deny access to data than it is to secure that data in transit.

Unfortunately, locking users out of the data they need to do their jobs can result in blind spots, an incomplete picture of the business and mistakes in decision making. How can data be both accessible and secure?

To ensure that data is secure while still being accessible to users, leverage the security layer already in place within your databases while adding an extra layer of insurance with encryption in transit.

When evaluating software vendors, it's important to look for unmatched attention to security, demonstrated over time with a reliable update cadence, hotfix policies and support procedures. Don't wait on internal teams to get up to speed on each new risk before building the latest updates or patches.

Application Integration

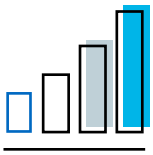
Many business users have experience with generating reports and dashboards via standard corporate business applications. It may not be visible to the end user, but these functions can require applications to connect to many other applications and data sources to query and compile the content requested by the reporting tool.

In addition to common business dashboards and tools like Tableau and MicroStrategy, many other applications also have the same capability to connect to external applications and data through standardized connectors. Using industry-standard programming interfaces like SQL, applications can share data back and forth to enable centralized configuration management, control security roles across multiple applications or share data between application storage repositories. By linking your query tools to additional applications, and linking applications to each other, you can improve automation, expand standard capabilities and derive more value from existing tools.

However, while business users are very familiar with their own reports and dashboards, extending application integration typically requires setup and administration by IT departments. When business users must rely on manual processes and IT intervention for routine needs, there is a negative impact on the speed and scalability of back office operations.

Rather than expect users to regularly queue up tasks via IT support request systems, the solution is to reduce the need for IT intervention in the first place. Back office software should accomplish its goals without manual intervention, reconfiguration or ongoing customization. Look for data access solutions that offer fast access and real-time reporting and integration across the multiple applications and sources users need. Expect your dashboards to work at a click for users across the breadth of your business data.

Back Office Use Case Examples



Finance

Corporate finance departments are tasked with managing a wide variety of functions, including invoicing, accounts payable and receivable, and revenue recognition. Each core financial management function may have a unique set of tools, dashboards, datasets and privacy concerns. In addition, mergers and acquisitions require the quick integration of disparate tools and historical data.

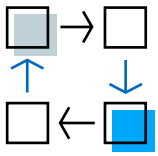
For example, many finance departments use Microsoft Dynamics 365 for Finance or FinancialForce to manage financial operations, but corporate reporting is often standardized on Tableau or another BI tool. Finance departments are tasked with either transferring data via manual entry or weekly processes or running the risk of current data being omitted from visibility in budgeting and planning across the business.

To solve this problem, application data can be integrated directly with existing reporting tools via the standard connectivity capabilities of Progress® DataDirect® connectors. Access your general ledgers and other data directly from Tableau dashboards—no manual transfers required.

Human Resources

Human resources systems store a wealth of data encompassing everything from recruiting statistics to total compensation packages across business roles. This data may be stored in a specialized tool like Microsoft Dynamics 365 for Human Resources, but the information needs to be accessible to a range of departments. Concerns about maintaining privacy and security can restrict data access from those who need it or put the responsibility for manual data entry and reporting onto human resources staffers. Even more latency can be added when intervention by HRIS departments is needed for complex solutions.

To free the bottleneck on HR data and end the reliance on home-built position management or employee action interfaces, safely open your data to standard BI and reporting tools like Tableau and ServiceNow. Maintain your existing Microsoft Dynamics 365 data while creating 360-degree views for executive meetings. Progress DataDirect connectors provide fast, secure accessibility without IT intervention.



Supply Chain

Supply chain management is responsible for vast amounts of data, overseeing the movement of supplies and finished goods, purchasing and the complete production flow. Keeping accurate counts down to the single item requires instant access to real-time data.

For example, SAP S/4HANA Cloud aligns supply chain management processes with the capability to handle large quantities of data processing. Supply chain managers experienced in SAP, however, will often still need to interface with external supply chain analytics and Big Data tools or even other corporate data stores like SQL Server. To power these integrations, choose proven, enterprise-grade connectors from Progress DataDirect to link disparate systems to your business data and reporting tools. A solution that works right out of the box without costly SAP customizations or enhancements, adds value to your business data right from day one.

Operations

Back office operations such as manufacturing quality control and employee productivity are prime candidates for data-driven improvements. Even full ERP systems may not have the manufacturing process management capabilities available in third-party tools. How can you integrate this type of operational data? Rather than waiting for customers to complain, or learning “defects per million” statistics long after shipping, rapid data access lets you proactively address problems.

For example, using performance management tools can help you measure employee productivity and SLA adherence. Operational data may be stored in a repository such as Microsoft SharePoint, where the service level dashboard displays information on your Service Level Agreements. But in order to get the most from your performance management and reporting tools, it’s necessary to integrate your SharePoint SLA data. Use robust data access connectivity from Progress DataDirect via standardized APIs with no coding necessary to integrate operations data with your management tools.

Let Your Back Office Shine with DataDirect

Businesses today are driven by data, but constant challenges exist because of the scope and type of data and applications in use across the business. Data access presents hurdles daily, causing error-prone manual work, time latency waiting for transfers or technical support and decision-making errors based on the lack of correct information.

Ripping out old systems or starting from scratch with new applications is not a realistic option. The right data connectivity choice is plug and play, enabling you to quickly and securely expand the scope of your tools to include data created and maintained across the business. Rethink manual processes, stop letting stale data hinder your efforts and open up your data silos.

As the industry leader in fast, reliable, enterprise connectivity, DataDirect connectivity solutions enable you to leverage all the data essential to your success across the breadth of your business.

Access Your Back Office Applications and Data with Ease
progress.com/data-connectivity/back-office

About Progress

Progress (NASDAQ: PRGS) offers the leading platform for developing and deploying strategic business applications. We enable customers and partners to deliver modern, high-impact digital experiences with a fraction of the effort, time and cost. Progress offers powerful tools for easily building adaptive user experiences across any type of device or touchpoint, the flexibility of a cloud-native app dev platform to deliver modern apps, leading data connectivity technology, web content management, business rules, secure file transfer, network monitoring, plus award-winning machine learning that enables cognitive capabilities to be a part of any application. Over 1,700 independent software vendors, 100,000 enterprise customers, and two million developers rely on Progress to power their applications. Learn about Progress at www.progress.com or +1-800-477-6473.

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