

How to Connect Databases to Other Sources

When the Data Structures Dont Match

(Without changing your existing structures)

Abstract

Reporting today is a manual process for many organizations. For those with reporting tools, it still involves complex integrations and lots of lag-time. Accessing data should be simple. Viewing reports should be instantaneous. Data should be connected, regardless of source. An organization should never have to make a trade-off between secure, accurate reporting and timely data. Connecting data sources in real time across platforms should be a core component of any reporting tool. DART, a new product by Mythic Development, creates reports from any data, even across databases and files in real time, with active security that doesn't require the levels of manual configuration in existing reporting tools. This white paper will examine current solutions used in actual organizations and evaluate the strengths and weaknesses of each reporting solution

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I Introduction

Efficient data reporting is vital to timely responses to changing demands. Integrating multiple data sources consumes manpower and reduces profit. Many data integration tools are time consuming to set up and require manual configurations for each database and report. Data reporting tools on the market are largely incomplete and need to be built to specification for every organization and every database.

DART, Mythic Developments newest software, allows organizations to seamlessly access data from multiple sources including online tables and APIs, excel spreadsheets, and RDBMSs without extensive manual configuration allowing organizations to utilize their current tools without impacting their current processes. This white paper will explore the issues facing modern organizations regarding integrating data from multiple sources and seek to find solutions to alleviate common organizational pain points surrounding data and reporting.

II Background

The Market Today

Many organizations attempt to manually integrate different data sources, but often this process revolves around manually pulling and assembling the required data and compiling it by hand. Outside solutions have limited compatibility and support only a few data sources, typically revolving around a central company or product. Some integration providers attempt to coerce prospective customers into switching existing databases and services to a better supported alternative in an attempt to ensure compatibility.

Incomplete integration support proves frustrating as organizations search for a solution supporting the services and databases they use. The constant migrations needed to keep up with the newest and best reporting tools have steep costs in time and resources. Manually connecting a new database to an existing framework can be an exacting task that requires the formation of a new task group to create a domain specific solution. The choice to transition to a supported database or service can be just as daunting, and can result in high fees, lost production time, data corruption and risks incompatibilities with existing software and services.

The Largest Hurdle

Data disconnects cost money. The biggest issue that organizations are facing is accessing data, quickly and accurately, and having the ability to cross reference from a variety of different sources with the click of a button. This inability drastically complicates the process of data acquisition, compilation, and delivery. Proper reports are required to make informed decisions critical to mission success. Incomplete reports can cause potential problems to be overlooked, payments to be missed, unnecessary parts to be ordered, or a multitude of other issues.

Data is complex with few organizations utilizing only a single data source. As different companies produce new software and technologies to meet market demands the preferred data solutions change. This means that an organizations internal and external data sources can grow rapidly. What started as a simple spreadsheet can quickly grow to encompass multiple files spread across different hard drives and servers. Limited support between data sources causes growing pains. As organizations try to unify their data, complicated processes may need to be built such as copying data through intermediate databases and dumping it to a spreadsheet. This wastes key resources better spent elsewhere.

Manual Data Processing

Every time data changes hands it risks alterations. Manually pulling data from multiple sources and hand compiling is time consuming and risks unintentional and intentional data distortion which can change the outcome of decisions based on reports. Unpublished data, restricted data, and optimistic entries can influence report totals and lead to poor decisions by personnel throughout the organization. Building a report can lead to a long, drawn out process where a chain of meetings is needed just to prepare for meetings in which a single reports findings are discussed.

Reporting tools limit the number of times data change hands and theoretically streamline the process of acquiring, accessing and publishing reports. They reduce the number of personnel data travels through before a final report is created. This streamlined process reduces unintentional errors and puts critical data immediately into the appropriate hands.

Integration

Manual integration requires specialized knowledge. Building an integration system is time consuming and requires domain and integration specific knowledge in a single entity or group. Most manual integration solutions are imperfect and partial. This can be due to many factors including: lack of future proofing, false assumptions made early in the planning process, or divisions between multiple teams with communication breakdowns. Small integration flaws can result in

downtime, lost or wasted resources, or the corruption of core data. The resulting integration only fills the current needs of the organization and still necessitates the specialization of custom integration language.

All reporting tools on the market require complex manual integration or data migration to a preferred database or service. This wastes time and resources that could be crucial to the profitability of a product. A reporting tool should provide a streamlined process with no complex integrations or migrations.

Security

Organizations require expedience and security. Unfortunately, sometimes in the haste to get data processed, or delivered, security is compromised. Two solutions organizations use to share reports and data quickly are e-mail or shared drives. The reports then run the risk of accidental redelivery due to forwarding, copying, improper sharing or storage on an unsecured drive.

Current reporting tools create a single, generalized report. Sometimes because of this restricted data is shown alongside required data. Reporting tools should be both flexible enough to customize reports and secure enough to encrypt and confidentially store data while allowing instant access to authorized individuals or entities.

Potential Benefits

Reporting tools provide a host of potential benefits: immediate access to stock changes, revenue fluctuations, employee production, or costs and billing. This allows critical decisions to be made with current data instead of an old data snapshot. Up to date reports allow organizations to target any anomalies. It can streamline internal paperwork with all information just a click away, and reduce the resources needed to build reports and analyze current information. Reports using live data that are run in minutes instead of compiled over days are an invaluable resource to everyone within an organization.

A solid reporting tool or service drastically reduces the amount of resources consumed by building and maintaining vital reports. It also provides up to the minute snapshots of current events within an organization. Rerunning a report with the click of a button is an invaluable resource.

Real time data reporting is crucial. For example, in the case of stock management, knowing exactly what items are in stock can prevent over stocking, backorders, or help with product tracking. The ability to automatically cross reference orders to receiving could allow immediate action when errors occur. Centralized access streamlines management tasks and increases productivity by providing all data necessary in one view. For example: when organizations manage employee data, different programs are utilized to track hours, wages, expenses, benefits, and review scores. Ideally, this fragmented data could be turned into a single, comprehensive, one button click report.

Reporting tools solve myopic data views. When two or more departments are compared over time through reports discrepancies can arise. Detailed reporting allows discrepancies to be ferreted out quickly and efficiently. For example, in a dramatic shift in profit between two or more departments a more detailed report could explain if it was an oversight, miscalculation, data manipulation, product code change, or personnel change.

Incomplete Solutions

Partial solutions are frustrating and damaging to the market. The false promises of partial solutions lead to major organizational headaches and a reluctance to change for fear another major transition. Of the reporting solutions currently on the market, these partial solutions fall into one of three categories:

1. **Manually configured:** these integrate only the required databases and sources. Manual integration of individual data sources can cause the same problems as an internal integration. High costs, long waits, and a domain specific interface that lacks flexibility and customization are among the trials and tribulations of this category.
2. **Approved Vendor(s):** these require an organization to use only databases and services from a preapproved vendor list. This can cause the need for an intermediate service or program that converts unapproved data to an approved style. Incompatible data, data corruption, data loss and unexpected service fees are a risk in this category.
3. **Manual Reports:** the needed data is acquired and then manually crafted into a final product. This means the data passes through multiple hands before being produced. Manual reports are vulnerable to outside influence, security holes, omission, padding and timeliness.

DART uses none of these.

III Solution

DART

DART allows seamless integration between any data sources, whether they are databases, webpages, files or a combination thereof. DART handles all data sources as equals, which is unheard of and considered impossible by the market. This gives DART the unique edge to allow organizations to:

- build reports from a single table in a single database
- merge data from multiple files and databases regardless of the source
- use complex aggregate queries to access data
- convert any data to a simple, easy to read format

What can DART do?

DART can pull data from virtually any source to build a report. Whether the starting data is from a database, a file, or online, DART provides uniform data. This data can be seamlessly combined to form a single report *without complex or manual integrations*. Reports are as simple or complex as needed and can be accessed or changed with the click of a button. Reports can pull live data to keep them up to date with the newest information available or an archive can be pulled by specifying a timeframe.

DART allows users to combine the power of custom aggregate queries with hard to combine data sources. Instead of trying to compile all data manually into a spreadsheet with joins and pivot tables, DART pulls live data, standardizes it, then presents it as a straight forward report. Clicking a button allows users to switch styles on the fly, between custom tables, pie charts, bar and line graphs. DART's unique method of layering reports also allows for simple drilldowns.

When is Data Accessible?

Always. DART is accessible whenever the data sources are available. Consistent access to current data minimizes the time between fluctuations and responses. No longer is there a need to wait for business hours to build or run a report. An updated report may be accessed at any time. DART reports are quick to run and are only limited by the speed of the organizations data sources. This places organizations that utilize DART at a significant advantage over their competition.

Where Can DART Be Used?

Anywhere. From office to home using computer, cellphone, or tablet DART charts are always accessible. This means that a centralized report can be accessed anywhere, whether on the production floor, in the meeting room, or on the go. DART streamlines the reporting process making it easy to include the latest data snapshots in meetings. Reports can be built, saved, and shared simply and efficiently from the home or office. Access DART charts anywhere. DART charts are secure: data is encrypted at every step, whether creating or displaying a chart, and only authorized users are permitted.

Why Should DART Be Used?

DART saves time and money by streamlining the reporting process. It reduces resource costs, makes data accessible with the click of a mouse, and minimizes the pain of multiple meetings to discuss the report building process. Improved accessibility to any data source with an easy to read format saves time, minimizes loss, improves response quality, and allows problems to be flagged as soon as they arise.

With seamless integration into all databases and data sources, DART can combine data from any source an organization can access. DART displays only the data selected from the chosen report, whether the data sources are online vendor stock lists, internal spreadsheets and databases, or external data. Not only can DART utilize different data sources, DART can also use an existing report to build a new report. This makes it easy to custom build reports for specific audiences and ensures that reports can be individually tailored to personnel or entities.

DART could allow requested parties unrestricted access to reports, however DART's default settings restrict user access by data, not report. This creates reliable security that doesn't require updating with each new report. Since all reports are delivered via encrypted https, organizations can rest easy knowing that everything they view through DART is secure, and no entities are viewing information outside of their scope.

How Does DART Benefit Organizations?

DART has a multitude of different uses. From managing stock, tracing employee progress, viewing profits and costs, or reducing the burden on upper management, DART's versatility is its key benefit. Here are some examples:

Ex 1: No existing Reporting Tools: Manual integrations have been the way to build reports for this organization. They have spreadsheets on shared drives where people store their daily quotas. They have hundreds of interconnected databases with views that connect multiple pieces of data from each. This often creates loops where databases connect back and forth to each other while retrieving data for a single report.

Using DART means they can leverage their existing connections to provide constant reporting without developer intervention. Data from those shared spreadsheets and databases can be included in the reports, making their dataset more robust and up to date. Custom SQL views are no longer required to access data across multiple databases. Each database can be pulled separately into DART and connected. Reporting becomes faster as the databases no longer loop to grab data. With the extra processing power, data becomes easier to access for the entire organization. DART is easier than navigating SQL databases, therefore more useful reports can be created.

Ex 2: Approved Vendor Tools: This organization is having difficulty bringing on new software because of limited approved vendor and service options. To bring in new software, a complex intermediate program will need to be built to run between the approved and unapproved services. This causes delays in processing data, data loss, and a higher risk for data corruption, not to mention development time.

Using DART means that transitioning reports to a new data source is simply a matter of redirecting the report to use the new data source. DART saves time by removing the need to build intermediate programs. It removes the added headaches of potential corruption, reduces processing delays, and gives time back to development teams.

Ex 3: Manual Reporting Team: A team of highly specialized reporting managers develop all the reports in this organization. They have a diverse skillset, understanding each aspect of the business, and they gather the data manually. Reports are then built in spreadsheets to present to Tier 1. Because of all the manual processes involved, these reports are not always accurate. Sometimes the results are simple errors, however sometimes larger errors occur. For example, a minor typo could result in overstock, while a serious error could impact vendor payments. Complicated planned report meetings occur daily, and it takes upwards of eight hours just to compile the data for the following morning's meeting.

DART will make everyone's lives easier. The reporting team only needs to define the data source to access it. The organization can access the data as soon as it's available. The compilation of a report becomes standardized by the report teams design. Instant access to data means fewer morning meetings because DART displays live data. Updated reports can be viewed at any time by following a bookmark.

Ex 4: Reporting Tools & Approved Vendor Tools: The organization has made a huge effort to use only approved vendor tools. Their reporting tool works with approved tools flawlessly, but many departments share data and want to see it in a new comprehensive report. Their vendor approved reporting tool doesn't have a solution. With a substantial investment of time, money, testing and training, the vendor offers to develop the report.

With DART, there's never a scenario where two datasets can't share data. DART reports don't rely on vendor tools, or specific integrations that are limited by development time. Instead, a department could simply include another department's data. No surprises, no expensive vendors, no mess.

IV Conclusion

DART is a new reporting tool that provides the flexibility and capabilities to fill the gaps where other reporting tools fail. As technology grows so does the amount of data a business is required to sift through. Therefore, not having a reporting tool as flexible as DART is becoming a detriment to organizations. Existing reporting tools don't sufficiently fill organizational needs, necessitating a newcomer fill the market void.

Organizations are facing issues accessing data, quickly and accurately, with the ability to cross reference a variety of sources. DART provides a way to cross reference data quickly, without the manual reporting processes employed today, reducing errors and providing data faster and more accurately without the risk of core data corruption.

DART reduces the complexity of reporting by removing the manual process of building and rebuilding reports. By automating reporting, DART ensures that the same report is run every time with the impartiality that comes with automation. By tying security to data access instead of reports, DART provides consistent reliable security without requiring manual updates.

The flexibility of the DART platform means that it is the only tool needed to create accurate and up to date reports. While DART supports the vast majority of data sources, Mythic Development is continuously working to support obscure sources while adding more features to DART creating an endless stream of new capabilities.

Schedule a demonstration today.

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