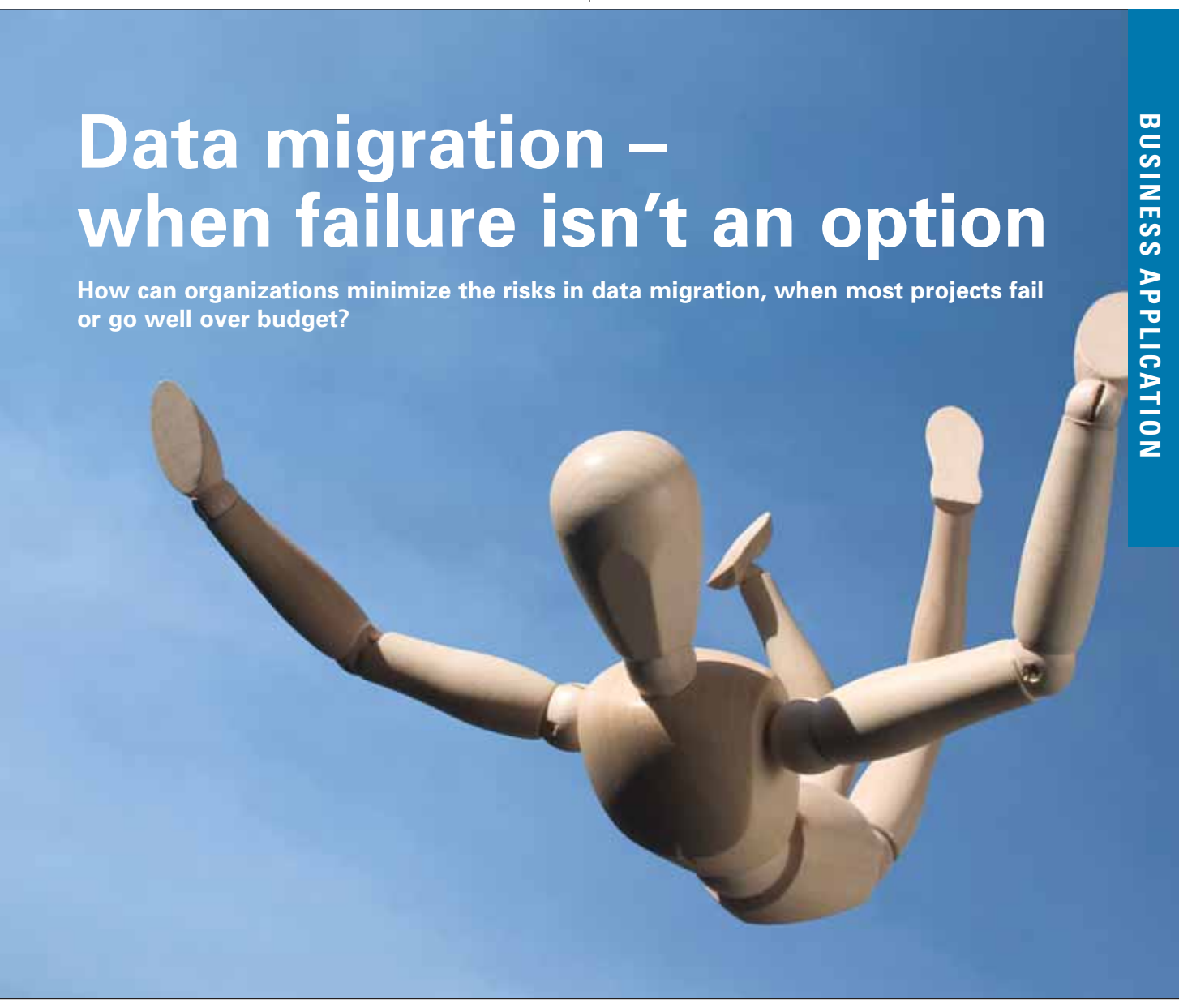
Data migration – when failure isn't an option

How can organizations minimize the risks in data migration, when most projects fail or go well over budget?



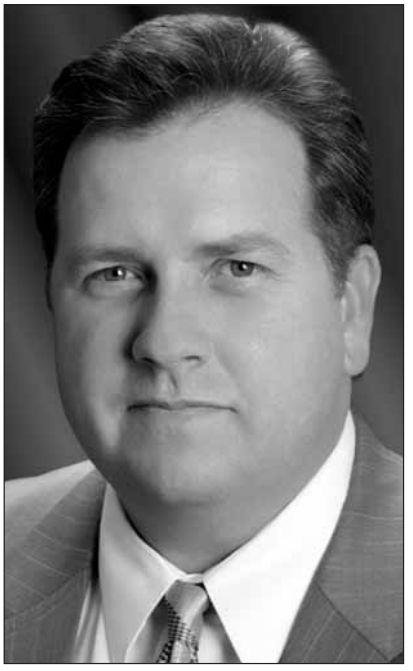
According to Gartner, 83 percent of data migrations either fail outright or exceed their allotted budgets and implementation schedules. *CXO* speaks with **James R Spencer**, Chairman and CEO of Aradyme to find out how organizations can minimize the risks in data migration.

CXO. Historically, data migration projects are notorious for budget and schedule overruns. Why do you believe this is the case?

JS. The answer is very simple – a total lack of flexibility to respond to the unexpected in a timely manner. One of the most important facts to remember in any data migration project is that there will be unforeseen issues arise, even with the most thorough planning. The difference between success and failure is how effectively your chosen approach can respond to these unknown issues.

Traditional data conversion approaches are also flawed from the start. Because migration is often viewed as 'throwaway' work, all effort is kept to a bare minimum. Instead, the focus of the project is on the features and functions of the new system, and the data conversion is relegated to a task that cannot start until the new system is in final testing. This is because the traditional approach is usually a hardwired integration between the source and target, requiring both systems to run simultaneously. Any little change or problem that appears during this hardwired integration often requires starting the entire process over.

This represents one of the big challenges of data migration, what I call the "black box" problem. It occurs when companies run their data through a traditional conversion process, and have no idea of the status or outcome until the very end. At that point everyone just hopes that it's clean and usable. When the unexpected issues are discovered and any last-minute changes are made to the target system, it is too late. The choices are costly-sometimes deadly – to the budget, schedule or the entire project.



"Aradyme has a next-generation database technology that allows us to handle and manipulate data dynamically versus the static traditional solutions"

– James Spencer

CXO. Am I correct in assuming you've developed a way to prevent or dramatically reduce the failure rate?

JS. Yes, our technology allows the data extraction, cleansing and validation processes to begin much earlier in the project-even becoming the first task of the project. And the data owners are "hands on" at the earliest possible point so they know the status of their data at any time, long before it goes into the new system.

We provide near real-time reporting and exception handling through a secure web-based portal, so that data owners are able to review and make any data corrections along the way. And by providing a full view of the source system's information at any time during the process, unexpected issues are identified earlier and can be resolved quickly.

Our technology also provides flexibility that is unheard of in traditional methodologies. The Aradyme database is a dynamic-schema platform, as opposed to traditional static-schema technology. This means we can extract data from any database source with virtually no dependence on the source system, then verify, clean, enhance, repurpose and prepare it for loading before the target system is fully locked down.

This allows last-minute changes to the target system without impacting the data extraction and cleansing, and gives companies much more leeway to refine and modify the target system throughout the project.

The entire data migration process is automated with our Data Migration Navigator that performs the data profiling, standardization and cleansing to the data owner's specifications. By automating these processes, we can provide previews of the actual data for the data owner to verify. The data owner can also use real data in the testing and training of the target system.

Our process can handle many-to-many, many-to-one or one-to-one database migrations with far greater ease than traditional methods. We can also move all historical data from the source system into the migration process so that nothing is left behind.

CXO. Can you give us a real-world example of your migration services at work?

JS. Yes. We have a customer of our migration services that needed to bring 29 different database systems into one consolidated Oracle system (the target). The source systems included Oracle, SQL Server, FoxPro, legacy COBOL flat files and independent custom-built systems. No two systems were identical. There were approximately two million accounts with multiple millions of transaction history records. The source database schemas included hundreds of tables and thousands of columns per source system.

The data needed to be extracted from each source, then analyzed, profiled, standardized and put into a common format. The project then required that the data be validated against the US Postal Service DPV+4 database and the Census Bureau's TIGER LINE databases for physical address accuracy. Exception data (errors) were to be identified and given to the data owners to approve the automated correction or to be manually corrected in the source system. Then the data needed to be re-purposed as necessary for normalization and optimization of the target system's schema, and finally output in a format to load into the target system.

They needed to roll out the project in phases to allow for testing, training and refinement of the target system. Aradyme was brought in to assist in the pilot phase and was able to extract, cleanse, transform and load data into the target system 10 days ahead of schedule. With over 80 percent of the source systems now migrated, there have been many changes to the target system and many unexpected issues identified in the data. We have stayed ahead of schedule on all our deliverables and have kept within the fixed-price bid.

To readers, 29 source systems may seem like a lot or a little. We have done projects ranging from one or two source systems to projects with more than 500 sources, and even one with 1850 source systems. Again, having the right technology and methodologies enables you to plan for expected and unexpected issues, and deal with them early enough to have little or no effect on the budget or schedule.

CXO. How can you fixed-price bid a complex data migration project?

JS. We have created a data migration infrastructure around our Dynamic-Schema Engine (DSE) that includes: extraction, cleansing and re-purposing and loading components; a suite of services including web interfaces for data entry and correction; and a web portal to communicate both the status and exceptions to the data owner throughout the process.

We are able to start the data migration and cleansing process earlier, independent of the source or target systems. And the data owner has access and involvement throughout the entire process. It's this process and supporting technology providing early identification and rapid response to the unexpected issues that lets us fixed-price bid.

Aradyme Corporation is a next-generation database company that helps organizations gain unprecedented access and control of their data, reduce risk and better manage and grow their businesses.

Aradyme customers have access to the most advanced and innovative data management services available in the marketplace today. These services and solutions are made possible by a suite of exclusive data migration tools and a database platform, which:

- Provides unprecedented flexibility and adaptability to the data migration process.
- Greatly reduces the risks inherent in complex data migration projects.
- Allows rapid response to the unexpected issues that have traditionally caused complex data migrations to exceed their budget and implementation schedules.

The company's technology enables organizations to overcome the constraints and limitations that have plagued the database industry for years. This unique database management system (DBMS) is the result of several breakthroughs the company has made in its underlying technology.

Aradyme currently works with clients in all industries, as well as government entities. The company also partners with leading consultants and integrators to provide world-class solutions for large IT projects. For more information, visit the company's website at **www.aradyme.com** or call 801-705-5000.

"We couldn't be happier. Aradyme has done an excellent job of taking care of the work and not burdening us with the details of it. I don't doubt that it would've cost us, in our time, probably double if we'd have done it with our internal resources"

Ray Palmer, Director of Information Technology for the state of Utah.

CXO. You provide data migration as a service, rather than selling the technology. Why is that?

JS. Good question. We believe there are a number of benefits for companies to outsource their data migration work. First and foremost, the majority of the risks are taken out of the process by outsourcing to a company that is an expert in data migration. We have the necessary tools to rapidly respond to the known and unknown issues, and we provide fixed bids and reliable timetables.

We know our technology better than anyone and can maximize its application to a specific project. With this experience we've also perfected the delivery process so that there's complete visibility for the data owners throughout the process-no "black box".

Every data migration is a complex project, so we also provide professional project management that is vital to success. Our experience helps us identify, track and manage all the dependencies to minimize or eliminate the big surprises.

And since every migration is unique, there is usually a need for customized tools and processes specific to the project. In most cases we've already dealt with these issues in other projects, which saves considerable time and expense.

The bottom line is that outsourcing data migration allows our technology to minimize the risks inherent to the process. The potential return on investment (ROI) can save an organization millions in budget overruns and lost productivity.

CXO. What kinds of questions should companies ask as they evaluate options for a data migration project?

JS. The best advice I can offer a company is to take a hard look at the technology they will be using, and ask:

- Do I want to be involved and 'see' the data all the way through the process, or do I have to wait until the end and hope that it is going to work?
- Will I be able to monitor the process in real time and have reports on exceptions with the data during the process, to deal with them and ensure data accuracy and integrity?
- Do I want to start the data migration before the target system is completed, to allow me to identify the unknown issues and deal with them while there is time?
- Is the process independent of the target system, allowing successful completion of the data extraction and cleansing even before the final application has been selected?
- Is the process cost-effective enough to allow all legacy data to be migrated to the new system? Does any valuable data have to be left behind?

These are important questions to ask because they will have a profound impact on whether or not your projects will be part of the 83 percent that fail in some way or the 17 percent that are ultimately successful. ■

This interview contains forward-looking statements. Forward-looking statements are not guarantees of future agreements, events or results. Forward looking statements are subject to risks and uncertainties outside Aradyme's control. Actual events or results may differ materially from the forward-looking statements. For a discussion of additional contingencies and uncertainties to which information respecting future events is subject, see Aradyme's SEC reports.