

In our recent meeting with a senior IT executive, she shared that she accepted her current position a few years ago with the caveat,

“I’ll do anything except data migrations.”

Doing data migrations, or system consolidations, or any combination of the coming together or splitting apart of systems is viewed by many as a necessary evil, with little benefit, certainly little sizzle, and something they’d rather someone else handle. It’s hard work, seldom goes exactly as planned, and often doesn’t get the same credit as other “new” programs.

It Never Goes As Planned

Gartner reported in December, 2014, “Through 2019, more than 50% of data migration projects will exceed budget and/or result in some form of business disruption due to flawed execution.”¹ For regulatory content or data management system migrations, the key challenges include:

- Inadequate migration and project scoping
- Data quality is not evident until tested
- Flawed or lacking migration methodology
- Insufficient business and technical skills within the migration team
- Lack of adherence to testing strategy, and
- Ensuring the right migration toolset is used

Consider the following: during a typical migration the team analyses the current environment, defines how to transform the source data to fit to the destination system, configures or customizes the migration application, and then begins to execute tests. Now, approximately 50% of the migration budget is expended and the team is taking its first detailed look at the testing results. All too often, the migration team stumbles with inadequate testing and an iterative “hit or miss” testing process.

Experience has demonstrated that there is a better way, and when combined with Veeva Vault’s purpose-built migration pathway, predictable outcomes are now the norm. This paper provides insights and recommendations for successfully navigating the migration process

¹ Legacy Data Migration is a High-Risk Project – Be Prepared!, Mei Selvage, Gartner, Dec 2014

Migration Scoping: “Are you in?”

Migration scoping should begin with the end in mind. Understanding how the source data will be used in Veeva Vault is necessary to achieve an accurate scope of what to migrate, how it should map to Vault, what data quality issues exist, and what missing data needs to be defined — all things easier said than done. Here are some recommendations and considerations for your migration scoping process:

- A Vault implementation brings functional improvement, refined business processes, and robust data models, which are different than the source. These differences are substantial, not obvious, and should not be underestimated.
- Always include the business in decision-making. Speak their language when discussing the process or implications. And when discussing the mapping process, use the metaphor which best represents the business’s perspective, the front ends of the source and target applications.
- Clearly define the final disposition of the source data; GxP data is usually not deleted. Ensure that the source data is categorized in a precise manner for migration, archival, or to be expunged.
- Do not attempt to migrate anything into the destination system’s audit trail. The compliance organization understandably objects to modifying the destination system’s “immutable” audit trail. Instead, archive the audit tables locally, generate audit trail files (CSV or PDF), and upload or migrate the audit trail to a Vault object table.
- Assess the volume of content to migrate. Approaches that are viable for a 1000 document migration will not necessarily scale for a 1,000,000 document migration when specific complexities are considered such as versions, renditions, locked or encrypted files, links, relationships, or post-processing requirements. The size of the migration influences other migration considerations such as system cut-over timing, viable testing strategies, requirements to use the enhanced migration features of Vault, or even data quality approaches.

Data Quality: “Hey, it looked correct in the source system!”

Those with migration experience have their war stories about special characters, or inadvertent functionality with migrated data. If the pains associated with data quality are commonly understood, why does it continue to be so painful? Despite good intentions and planning, there are often still surprises when the data is finally analyzed. There is a better way.

- Define a process to measure data quality early in the project– If you are migrating names, phone numbers, addresses, or other standard data types, data profiling tools are a must.

If your data types fall outside of these standards, it's better to define a process that matches your specific requirements. For example, as a start, plan to look for the following: empty or NULL values mapped to mandatory fields, legacy dictionary items such as revised lists of product names that do not match their equivalents in Vault, and data type mismatches or differences in field lengths.

- Plan for data cleansing and enrichment – Issues will be identified. Be prepared to correct source data or “fill in the blanks” where the source data falls short. It's a good idea to identify those cleansing and enrichment requirements early, providing ample time for remediation.
- It's about the business – Perform functional testing of the source data in Veeva Vault. This is best accomplished informally at first, and then as part of a formal User Acceptance Test (UAT). It's key that everyone understands that the business must be involved.
- Understand that you cannot anticipate every potential problem – Even with a solid process to measure quality, unexpected errors will arise out of the UAT and any migration testing.

Skilled Team: “Experience matters, the lack of experience is expensive.”

If your timeframes or budgets are constrained, you do not have the luxury of a learning curve. Look for a team with experience in the following:

- **Veeva Vault migrations** – Every system is different and experience matters.
- **Relevant source system migrations** – Trying hard to get your legacy data out of Documentum, SharePoint, or Livelink? Realize that their architects did not prioritize export features. This is often evident in the tools they use to migrate between their own versions. Better to understand the nuances at the onset.
- **Migration methodology** – Understand how to identify barriers to success early in the process and respond efficiently when exceptions arise.
- **Migration leadership** – Look at the senior resources assigned to your specific project; do they possess the requisite management skills and have they done a migration of similar complexity? You should also plan on having employees, not contractors, in key positions that hold decision-making authority.
- **Migration Partnership with Veeva** – ability to work closely with the business and implementation teams and collaborate with Vault R&D for API and platform support, all to the benefit of the client.
- **Migration validation** – Gaining agreement on a testing approach and approved protocol is often difficult and time consuming. It's better to leverage prior works and adopt an approach and draft protocol that has been widely accepted.
- **A communications plan** – Understand your key constituents (IT, the business, the implementation work-stream, the migration work-stream, compliance, QA, and executive

management) and keep them well informed. Focus the message to your audience. Inform people early on if the plan seems to be changing or going astray.

Migration Testing Strategy: “One size does not fit all.”

However thorough your migration strategy, you should verify its progress at key milestones. It is also important to have the business engaged. After all, who has a better understanding of the migration results? It is all about verifying that the migration is on a path to success. When designing a migration testing strategy, think about the following:

- You can consider a sample-based approach if your volumes are modest, your data quality is excellent, or if the initial levels of error are acceptable. For example, if you have 1,000 documents, you'll have to compare 32 sample documents and their applicable metadata. If you have 100,000 documents, the number of samples increases to 200. If errors are identified, you will have to repeat the testing process multiple times, using new sample data, until the results are “clean”.
- If your volumes are greater than 20,000, you are likely paying for automated data migration testing (whether you use it or not). You might as well verify 100% of the migrated data and content and avoid all of the pitfalls of sample-based approaches. Be careful to avoid a single use migration tool that purports to verify its own results. As with any credible test, it must be independent of that which is being measured. For example, if the migration tool has a configuration error $1 + 1 = 3$, it will likely not identify its own processing error.
- It's about the business – Report all migration issues to the business and look for their guidance on the best means to remediate (change a mapping rule, data cleansing, or “we can live with that”). Communicate in the context and language of the business.

Migration Software Application; be afraid to reinvent the wheel

There are off-the-shelf migration applications with configurable mapping rules to migrate content or data from a variety of source systems. Key capabilities to look for include:

- Application-specific connectors, which enable the end-to-end configuration and migration from a source, e.g., Documentum, SharePoint, Parexel/Liquent, or file shares to Veeva Vault.
- Integration with Veeva's bulk APIs to ensure scalability and performance.
- A completely configurable solution that requires zero custom coding.

- The ability to execute a proof of concept efficiently – within one to two weeks. If you're concerned about the ability of a software application, consider doing a short POC with a subset of the data.
- A vendor with a Quality Management System in place and a strong track record hosting software vendor audits.

Veeva Vault: Easing the path to cloud-based content management

Repositories with millions of documents or terabytes of data have been successfully migrated to Vault. After properly planning and designing the migration, significant rates of documents per day are achieved. Veeva developed a number of capabilities within the Vault platform to make migrations easier and faster. During a large migration, Vault can perform the following:

- The ability to pre-load content files via FTP prior to the start of a migration run.
- The ability to validate the integrity of migrated content or data files through pre-generated MD5 checksums.
- Asynchronous processing of batch commands to create documents, version trees, renditions, and sharing settings.
- Suppressing the generation of viewable renditions when source document renditions can be migrated to Vault.
- If required, migrating original document numbers as they appeared in the legacy system.
- Verifying constraints on migrated data.

All of the above can be enabled via the Vault API. The impact is profound – large volumes of content or data are efficiently migrated to the cloud.

About Valiance Partners

Valiance Partners was founded to support organizations in regulated industries with the enormity of their data migration tasks. We perform migrations for FDA regulated companies with proven methods and tools to reduce risks and eliminate uncertainties. Valiance has completed numerous migrations to Veeva Vault ontime and within budget. The following are brief summaries of a few engagements.

Top 20 Pharma moves to Veeva Vault eTMF

- Over three million documents in Documentum with an aggressive and unchangeable timeline
- Complex mapping rules which varied by document classification
- Collaborated with Veeva to define and execute new Vault bulk API that allowed for larger volume migrations
- Timeline met despite high volume, unchangeable dates, and development required to meet initiative

CRO moves to Veeva Vault Platform

- Originally tried to manage migration with in-house team
- Over half-million documents in NextDocs with aggressive and unchangeable timeline
- A direct connection between the source repository and Vault resulted in significantly better performance than the client's original custom scripts

Animal Health venture consolidates on corporate-wide Vault deployment (Vault Platform, Vault QualityDocs, Vault PromoMats, and Vault Submissions)

- Consolidation scope includes ten source systems (file shares, SharePoint, Documentum, Documentum DCM, custom applications)
- Millions of documents with aggressive timeline driven by external constraints
- All migrations completed on schedule
- Automated data migration testing key to meeting timelines, budget, and Quality's objectives



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About Valiance Partners

Valiance Partners is a leading vendor for high-risk data and content migrations when compliance and business risk demand "getting it right."

For more information: www.valiancepartners.com, or call 800.880.4540

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