Middleware Migration

Assessment is Core

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Middleware Migration

Middleware platforms are vital to an organization's IT landscape. Multiple product vendors, including IBM, Oracle, TIBCO, SAP, Software AG and Open Source communities, are offering middleware platforms to enterprises. These platforms exist in organizations for decades and enterprises are content with them. However, several changes in businesses push enterprises to migrate their middleware landscape from one platform to another. Drivers for migration include end of product lifecycle, strategic reasons like platform standardization, mergers & acquisitions, license issues, etc.

A matured migration solution can make this middleware transformation a pleasant journey. Industries such as Financial Services, Retail, Manufacturing, Healthcare and Energy have a need to migrate from one middleware platform to another. For a successful switchover, it is important to understand the first step that a matured migration solution should follow. The first step is about middleware assessment.

Understanding the Building Blocks

Middleware Assessment is all about understanding the various nuances and details of how the existing middleware platform is constructed. This includes an understanding of various constructs and building blocks in a middleware. The quality of this assessment is crucial for a successful migration. This paper will help you understand the right approach that needs to be followed in an assessment. It took several years to design middleware platforms for enterprises. And if such a long-evolved platform needs to be migrated, it should be assessed both from the kernel and the crust to ensure that nothing of importance is missed out during the switchover. It's about perceiving it both from inside as well as outside. Assessment of middleware is not about mere understanding of the number of interfaces or services deployed in a middleware. Since middleware is crucial in integrating mission critical enterprise applications, multiple features are built inside it. Middleware assessment should focus on all these features.

Assessment – Focus Areas

Middleware assessment should focus on three areas. First is the external constructs of middleware including number of interfaces and end point applications. Second is the internal constructs of middleware including configurations, rules, transformation logic, flows, pattern usage, custom code, etc. Third is on supporting information such as resource profiles in the current landscape, SLAs, quality management, governance, non- functional requirements, etc.

Missing any of these aspects while making an assessment may make the middleware migration difficult. Hence, we need to assess from the core or the kernel to get a holistic view. Mere outside assessment will help understand certain quantitative information on the number of interfaces and end applications integrated, but this is not sufficient. The most crucial information resides in the internal constructs of middleware.

In most of the cases, we may not have enough documentation to understand the internal details of the services/interfaces. Some migration programs make do with an external assessment and capture only little external construct information of middleware interfaces. This is a classic recipe for failure of migration programs. Without capturing the details of internal rules and configurations, the migration team will not be able to successfully move to a newer platform. At this point of time, industry does not have much by way of sophisticated assessment tools for all middleware platforms and this also poses a challenge to teams involved in the migration as well.

Timing of middleware assessment also varies with enterprises and their demands. In certain enterprises, middleware assessment is performed as part of a migration project and in others it is performed before the actual migration program as a dedicated exercise so that the IT team can receive the required budget for migration. In such situations, the quality of assessment has a direct linkage to the budget allotted and hence an assessment needs to be done with utmost care to avoid any overruns.

Assessment - Getting on the Platforms

It is important to look at the platforms that need to be assessed. If a migration is happening from platform X to platform Y, then both these platforms need to be assessed. Platform X needs to be assessed before migration and platform Y needs to be assessed post migration to ensure that artifacts are correctly and completely transferred. Comparison of assessment reports of both the platforms will help gauge the gaps. Key areas of comparison in these reports include end point configurations, external service invocations, etc. Large enterprises deal with hundreds of middleware interfaces and doing a detailed assessment of such a landscape by applying a manual approach is extremely time consuming, costly and error prone. Adding to the problem is the fact that the middleware was constructed several years ago and the core development team that was involved in the creation may not be available during the migration.

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From the above points, it is obvious that we need an assessment where the details of middleware need to be completely assessed to the granular level. The biggest challenge for the migration team in doing a detailed assessment is the lack of a mechanism or tools.

Assessment - Helping in Rationalization

Assessment of middleware helps in understanding the existing landscape and does away with redundancies. Enterprises that are undergoing middleware migration will use this opportunity to rationalize their interfaces to avoid redundancies. Rationalization is all about consolidation, retirement or retention of interfaces during migration. A detailed assessment can provide information on interface dependencies, service invocation patterns, etc. This information will be very helpful in a rationalization exercise. However, manual assessment will not be able to provide much information for this rationalization process as it is extremely time-consuming.
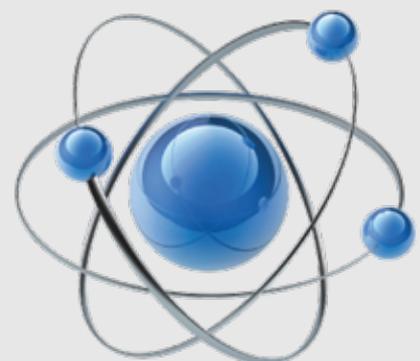
Automation - The Way Forward

Considering all the needs of assessment, automation should be the way going forward. Automation can help understand the granular details of middleware in a faster and error-free manner. Building automation for assessment is a challenging task because grammars or schemas are not available for the internals of all middleware platforms.

Hence, it is important to spend time and effort to understand the middleware platform in detail before automating the assessment process.

Automated assessment tools will scan the details of middleware, including the rules, configuration information, etc. Assessment of middleware can happen on a static platform or on a deployed version and the choice of this largely depends on the team developing the assessment tools and the results expected. These automated tools generate comprehensive reports about the inventory of middleware. Quantitative and qualitative information in these reports help the migration team. These reports are used not just for assessment but can also be used for an impact analysis and can also play the role of a rationalization assistant. This report can help understand the impact of retiring, consolidating or as-is migration of an interface from one middleware to another platform. Automation in middleware assessment is a crucial step in middleware migration and some migration solutions are designed around automation in middleware assessment.

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About the Author

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