

Decoding Middleware DNA for Successful Migration

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DNA – The Blueprint of Life

Have you ever wondered how a human life is programmed for existence? What makes one human different from others in a pool of billions? In recent years, scientists across the globe have unearthed the answers by successfully decoding DNA, the fundamental building block of life. It is all about understanding the program that controls you, me and the rest of the world.

Further, malformations in DNA can cause diseases and suffering to humans and deciphering this genetic fingerprint will help humans to not only understand the cause of these deformities, but also enable them to fix the defect. Just like humans, I believe software, specifically middleware platforms, too have DNA.

Middleware Migration

Applying the same decoding principle of DNA will help us resolve many challenges posed by our treasured middleware. For instance, middleware decoding will solve issues related to migration of services from one middleware platform to another, a key challenge, considering the amount of work involved in it.

Various reasons like end of life, strategic decisions and consolidation drive enterprises to migrate to a different middleware platform. Accomplishing a successful migration involves humongous efforts and technical architects often find the process tricky. While automation is a great way to handle large

middleware migrations, the large set of patterns in migration demand makes automation building a daunting task.

Enterprises often migrate to a new strategic middleware platform, and as per my assessment, hundreds of migration patterns exist. But how do we leverage automation to handle so many variations in middleware migration? Is there a magical tool for the same? To answer this, we need to first understand the DNA of middleware platforms.

Middleware DNA

What is the DNA of middleware platforms? Middleware platforms predominantly perform the function of integrating multiple applications in an enterprise, thereby enabling a seamless data exchange. They also hold mediation flows, routing and other rules, adapters, enrichment components et al. Most middleware platforms represent these features in one form or the other. The term 'represent' is the DNA of middleware. Sounds perplexing? Well, at the time of design, developers and designers create integration flows in an integrated development environment (IDE) that will be deployed later in the production environment. I am sure many of us would have done it during the development phase of a middleware program. These flows comprise mediation, routing information etc. Internal representation of these flows by a middleware platform is termed as DNA of middleware.

The format of representation of this DNA inside the middleware can vary from one platform to other. Each middleware platform has a unique DNA, just like in humans. This is because it follows certain guiding principles that are inherited from the middleware product organization. For automation in migration from one middleware platform to other, the primary requirement is to understand the DNA of middleware, an activity that I refer to as Decoding

DNA of middleware platforms. This is a complex task (though not as complex as decoding human DNA) and understanding of the same needs a lot of dedication and technology expertise.

This is the first step in building automation in middleware migration. As stated earlier, hundreds of different demand patterns exist in middleware migration and mere understanding of middleware DNA is insufficient for addressing those demands. The DNA of one middleware has to be transformed into another, where by services hosted in one middleware are made available in the new one. It is also not practical to build automation tools that can transform all middleware DNA from one to another as we may end up building hundreds of tools for the same. This is both an interesting and intricate problem and the solution calls for an innovative migration approach. Because of the complexity involved, many migration programs are executed using a manual approach. However, this is prone to errors and takes a longer time to market.

Developing universal middleware DNA

Definition of a universal DNA is an important milestone and involves defining a common DNA for all middleware platforms. This common or universal DNA is a super set representation of all proprietary DNAs of multiple middlewares. It helps to solve issues in middleware migration automation by transforming the source middleware platform to a universal DNA which is then morphed to proprietary DNA. Due to introduction of a universal DNA as an interim state in migration, we eliminate the need for building hundreds of tools for middleware migration. We firmly isolate the source and target platforms, a process that enables faster migration and provides the ability to handle large patterns of migration.

Once the DNA is finalized, all we need to do is to build transforming logic using universal DNA. Defining a DNA that caters to all middleware platforms is a complex task as it needs a clear understanding of all middleware DNAs. Every middleware platform is unique in at least one way: the manner in which they represent flows or the way they handle compliance like Service Component Architecture (SCA) or in the way they handle deployment

profiles information. Certain middlewares have flows in a linear way while others have flows in a tree structure. The universal DNA should be in a position to represent both these structures. Hence it is important to clearly decode DNAs of multiple middleware platforms.

This can be understood better by visualizing a similar approach for humans. It means you and I can be transformed into any other person we want to be. All we need is a universal DNA for humans. Thankfully, middleware migration is easier as the number of middleware platforms is very small compared to the variations in human DNA.

The way ahead

I know of organizations that have defined a universal DNA and are in the process of enhancing the same. This is indeed a great leap forward. To answer an earlier question on the existence of a magical tool for migration: it does exist provided we correctly interpret the DNA and create a universe alone. Automation, enabled by universal DNA, is surely the way forward for successful middleware migration. Universal DNA also simplifies and expedites middleware assessment which entails understanding the existing landscape and preparing a report. In Wipro, the middleware migration team has successfully decoded DNA of multiple middlewares and defined a universal DNA for the same. This makes it a pioneer in the area of middleware migration and allows it to offer a seamless experience to customers.

About The Author

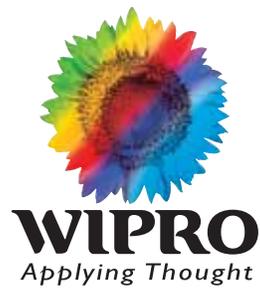


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