DIGITALCREEK
software services

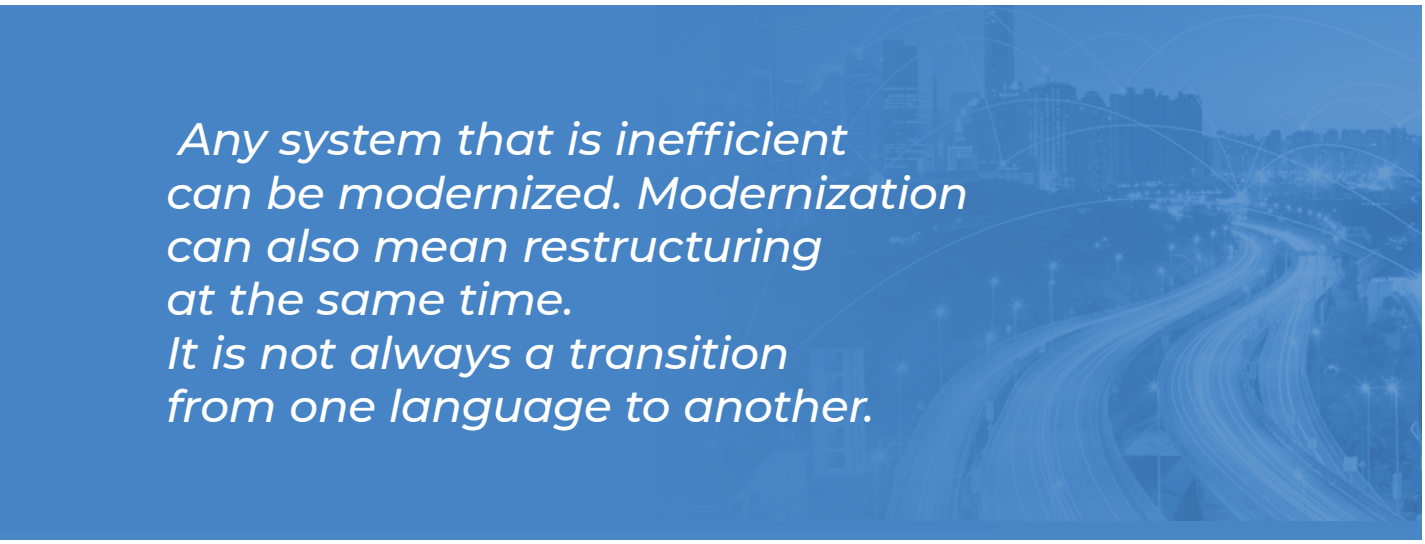
# INTELLIGENT SOFTWARE MODERNIZATION

## The Business Flow Suite and Application Understanding of Digital Creek Software Services

# OVERVIEW

We modernize your application environment with unique technology and decades of experience in modernization projects.

During this activity, we use our ***Business Flow Suite*** The Business Flow Suite is a collection of various tools developed in-house, such as parsers, analysers, converters, integrators, generators, reports, a test framework, and the repository. We use this tool-stack to modernize your applications.



*Any system that is inefficient can be modernized. Modernization can also mean restructuring at the same time. It is not always a transition from one language to another.*

The ***Application Understanding*** process helps you focus on the core features and business logic of your application. It identifies and filters out redundant elements that mean risks and additional expenses. Thus, the modernization is carried out in a way that is low risk, cost effective and accurate.

The Application Understanding process can be used independently of the Business Flow Suite. This procedure helps you identify the functions of your systems. As a general rule, the Application Understanding process should be carried out for the purpose of analysis before each modernization project. It is essential to carry out the process before using the Business Flow Suite.

***WHY DO WE MODERNIZE?***

*We modernize because systems work inefficiently. Inefficient systems mean high costs.*

# INTRODUCTION

Modernization always has the goal of reducing costs. One of the major diseases of today's legacy systems is complexity. Any attempt to reduce the complexity by using modern components, e.g. use of web interfaces, does more harm than good.

Modernization does not mean software development. Modernization is not a maintenance and development procedure of existing systems. Modernization needs a completely different approach and paradigm than traditional software development. It is a niche that cannot be done without highly specialized and well-trained professionals, otherwise the effort and risks are costly.

***WHAT IS MODERNIZATION?***

*Modernization is a technical process in which we translate the logic of an existing application into a modern, state-of-the-art environment.*

# POSSIBILITIES AND APPLICATION AREAS

Any application in any language can be modernized. Not only Legacy Systems in the “old languages” and old technologies. Even a newly developed chaotic, unconstrained, undocumented and unmaintainable code can be restructured using our modernization concept and it can become easily maintainable, well documented and well-organized code.

# MODERNIZATION CONCEPTS

What are the possible modernization methods?

1. **Rewrite an application**
2. **Transfer the functionalities to standard software**
3. **Technology based transformation**

The unique application understanding method of **DIGITAL CREEK SOFTWARE SERVICES** can be used for any of these three concepts. The results of the Application Understanding process can be applied to all three concepts.

With the help of the Business Flow Suite, however, only the technology-based transformation can be carried out. Based on our experience, we only support this procedure.

The transformation of a system and an application involves the following steps:

- **Database (file system) transformation**
- **Environment transformation including operation**
- **Data Transformation**
- **Code transformation**

We offer you a unique process. In doing this, our paradigm is simple: After abstracting the existing overall system, the new system with its consistent and coherent properties is created through a transformation process and enriched with the abstracted business logic.

The result of this process:

- **Maintainable code**
- **New and modern environmental standards**
- **Conforming structures that correspond to the structures of a modern architecture**
- **A smooth interaction between the legacy data and the application (keyword: character set, sort)**
- **An application and infrastructure that is modern and therefore maintainable**
- **A technological environment that has far fewer resource requirements than the legacy system**

In our view, transformation means the complete transfer of business logic to a predefined new environment, without considering how technical properties and structures were designed in the legacy system.

# THE ABSTRACTION

The starting point is always the concrete: the source code.
The following premise is valid: „The code is the truth".

It is important to know that the code alone is not sufficient to describe the whole system. For abstraction we need the technical information and the business logic from the code, as well as the meta information from the competent departments.

Business logic and technical information are stored in a central repository. This process is done by one or more parsers and by different engines. The repository is enriched with the metainformation.

***THE SOURCE CODE IS THE ONLY TRUTH!***

*All that matters is the business logic. Why should technical characteristics of an old system be transferred to a new one if they no longer apply there?*

# THE TRANSFORMATION

For each of the three areas of abstraction (technical information, business logic, meta information) there is a procedure for how to perform the transformation.

The architecture of the new system is prepared together with the customer.

It is essential that the new architecture consists of several layers that are independent from each other, but they are interacting with each other:

The business logic is broken down into elementary parts that communicate with each other through standardized APIs. As a result, the elementary parts remain fully functional and self-sufficient. As far as the business logic is concerned, a separate layer is planned.

The transformation of the technical information follows the rules of the new architecture. The data retention is transformed into a separate layer. The connection between business logic and data retention is made by access methods, which are derived from the technical information. A separate layer is also provided for the user interface. The existing external interfaces in the legacy system are completely served.

Restrictions in legacy systems usually do not allow free naming. For reasons of maintainability and documentation, it is necessary that both variables and functions can be identified by descriptive names. This metainformation can be taken into account by the specialist department during the transformation.

This will replace the old functions and variable names.

# THE RESULT

You get a system that is modern and easy to maintain, both from an architectural and technological point of view.
Your software will be faster due to the new structure.

The old infrastructure elements can be exchanged for new ones.
Resource requirements and maintenance costs will be lower. Both your computing resources and resource demands on your hardware will be reduced.
With a modern software, you do not need as much computing capacity as before.

You have a modern code without having to limit your applications in the business functions.

*Your system will be easy to maintain.*
*Resources requirements for*
*hardware will be lower.*
*Your software is getting faster.*
*Technical but also humane*
*capacities are freed up.*

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