

The imperative to develop digitization patterns for enterprises

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Abstract: The imperative to develop digitization patterns for enterprises, organizations, institutions, hospitals etc. highlights that all branches have a similar tasks and according to these tasks similar questions and challenges. The never ending transition process to digitalize enterprises which at the end means “to automate tasks more and more based on stochastic decisions”, raises up always similar questions: What should we do first? What are the quick wins? How to get emerging technology under cost and lifecycle control? How to establish which clouds (hybrid, enabled or native?) to provide the technological basics to enable business cases like Industry 4.0, Big Data, IoT, smart home etc. consuming technological features like scaling and methods/technics like continuous delivery?

Keywords: Cloud native, cloud enabled, enterprise cloud strategy, pattern, digitization process, cloud evaluation criteria, hybrid cloud, data security, devOps, business value, Enterprise Architecture Management

1 Introduction: Cloudification, Digitization needs EAM/EA

In the last years a lot of enterprises invested in emerging technologies, the so called systems of engagement. In times where TimeToMarket, speed of innovation and technological evolution speeds up more and more the management of enterprises has to find strategies to follow these challenges without losing control about the existing assets, the so called systems of record.

Additionally, changes of skills in the organization, exploding costs, increasing complexity of challenges occurring and depending on and in different dimensions like technology stack, data security, localization, performance, faster delivery processes etc. have to be considered. One dimensional solutions, often executed by the management, like replacement of closed source software with open source software do not bring a solution. The solution is a complex combination of considering n-dimensional aspects and transform iteratively defining a never ending increasing process of digital transformation.

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2 Successful factors for transforming enterprises in the digital age using emerging technologies

In the following, we will outline key success factors that have been proven in practice within companies and enterprises worldwide in branches like public services, automotive and others.

One of the most important key factors is to establish an efficient and lightweight Enterprise Architecture Management [Ahl+12], [Cop96], [Ses07] as a basis for transformations decisions and the possibility to start an iterative transition process using ongoing gap analysis techniques.

2.1 Collecting Best Practices and develop single patterns according to specific dimensions

Die Schriftart des Titels ist Times New Roman, die Schriftgröße ist 14pt und fett. Die Ausrichtung ist linksbündig. Vor dem Titel sind 0pt Abstand, nach dem Titel 23pt einzustellen. Von der Länge her sollte der Titel 4 Zeilen nicht überschreiten.

Untertitel können, falls gewünscht auch eingefügt werden. In dem Fall verringert sich der Abstand nach dem Titel auf 16pt. Der Untertitel hat die Schriftgröße 10pt fett, davor ist ein Abstand von 0pt und danach von 23pt.

2.2 Combining single patterns to more dimensional ones

Our challenge these days is to bring together these single patterns with its meta information and define blueprints for special situations. According to each blueprint business and strategic patterns will be developed supporting the decisions for the management [STA16] depending on prioritisation, according to information about cost, lifecycle, vendor-lock, performance, independence, interoperability, innovation and others.

2.3 Innovative methods & tools

We rely on proven and modern methods and tools. Institutes like HHZ Böblingen or IPVS and IAAS at University Stuttgart as well as organizations like OASIS with TOSCA [BIN+13], [MEA16], [OASIS13], [OASIS15], [IBM16] specification support us to develop enterprise transformation patterns.

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