IT-Conductor™
> Cloud-based Application Management

Definitive Guide
to Cloud Migration

itconductor.com

Introduction
Migrate to the Cloud Simpler and Faster

Cloud transformation unfolds several opportunities to level-up operations, making it a necessity in today's workplace environment. However, moving to the cloud as we know it is an uphill task for both large and small-to-medium enterprises (SMEs). How can you make the move the simplest and fastest way possible?

Adopt an Agile Mindset

Migration projects usually takes several months to years from planning to execution. In IT-Conductor, we recommend looking at cloud transformation with an agile mindset and start delivering value to your business right away.

An agile approach to cloud migration allows you to break down efforts and provide results in a progressive manner.

This means migrating systems and applications one at a time, rather than planning for several months then moving everything in one go, only to find out that not everything is working as expected. When you implement cloud migration on iterations, you'll be able to optimize the efficiency of your migration efforts as you go.

Now the challenge comes when you realize that the overhead is accumulating as you manage a complex hybrid environment resulting from moving systems one at a time. This is where orchestration comes into play.

Orchestration through Intelligent Automation

Through orchestration, the management and integration of multiple systems in different environments—may it be on-premises or in the cloud—will be a lot easier to handle.
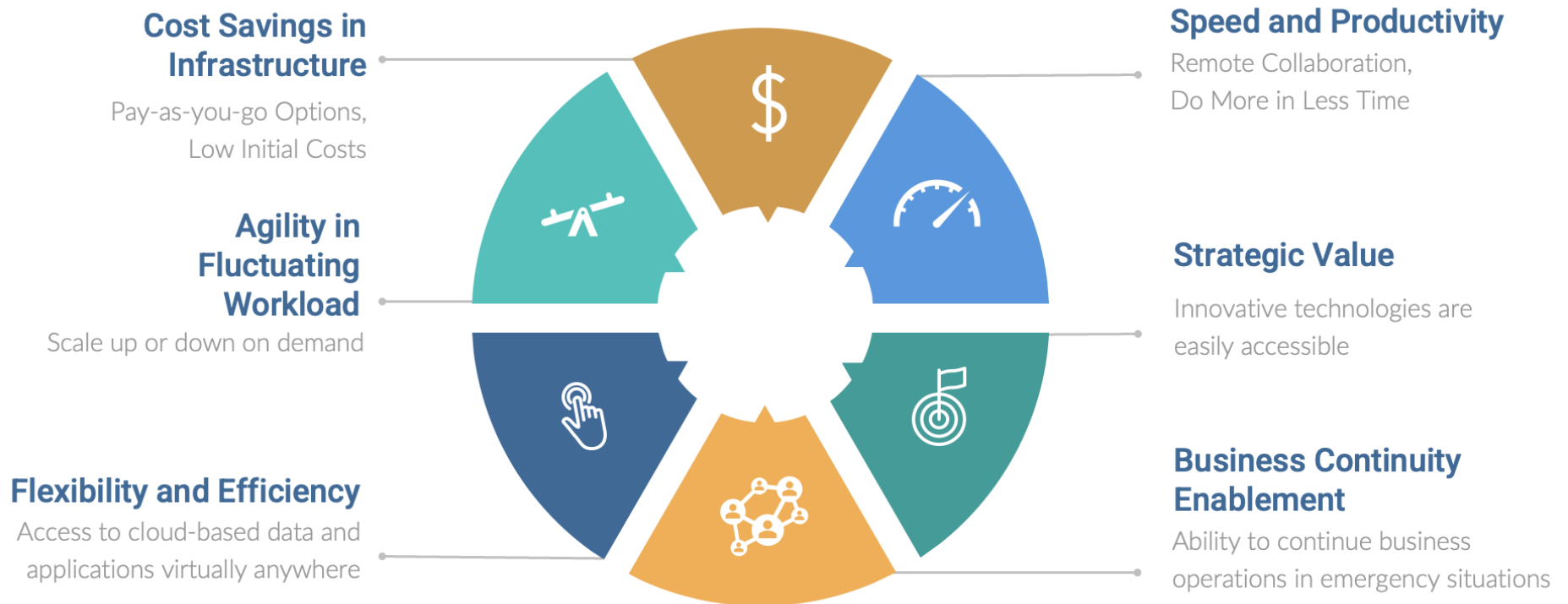
Accelerate your cloud transformation efforts at scale with an agile mindset and leveraging an orchestration solution.

"As part of Under Armour's SAP migration to AWS, automation was identified as a top priority to ensure we leverage best practices in standardized deployment and use industry-leading tools to automate SAP IT Operation processes. IT-Conductor fits nicely into the solution mix being an AWS SaaS Marketplace platform and a deep automation specialist."

— **Eric Peterson, Under Armour Director (Enterprise Applications - SAP Technology IT)**

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What Drives an Organization to Move to the Cloud?

Organizations move to the cloud due to several reasons which are all related to ensuring market viability and competitiveness. Here are some of the top drivers behind cloud transformation initiatives:

Cost Savings in Infrastructure
Pay-as-you-go Options, Low Initial Costs

Agility in Fluctuating Workload
Scale up or down on demand

Flexibility and Efficiency
Access to cloud-based data and applications virtually anywhere

Speed and Productivity
Remote Collaboration, Do More in Less Time

Strategic Value
Innovative technologies are easily accessible

Business Continuity Enablement
Ability to continue business operations in emergency situations

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Setting Business Objectives

Organizations may or may not have the same objectives when migrating to the cloud. Most are very particular to the total cost of ownership (TCO) savings which they can benefit from the pay-as-you-go options when implementing cloud solutions. Others are contemplating making the move because of the agility and scalability of cloud environments.

Questions to Ask:

- What problems do you want to solve by moving your resources to a cloud environment?
- What benefits do you expect to reap from the migration?
- What cloud benefits spark interest among end-users in your organization?
- What cloud computing model would most likely satisfy your business needs?
- What specific application(s) will you migrate and how will you move that(those) application(s)?
- What business and operational processes would be affected?
- How will you prioritize the workloads as you move to the cloud?
- How will you address unexpected issues that may arise during the migration activity?
- How will the network support the migration
- How will you describe the digital experience after migrating to the cloud?
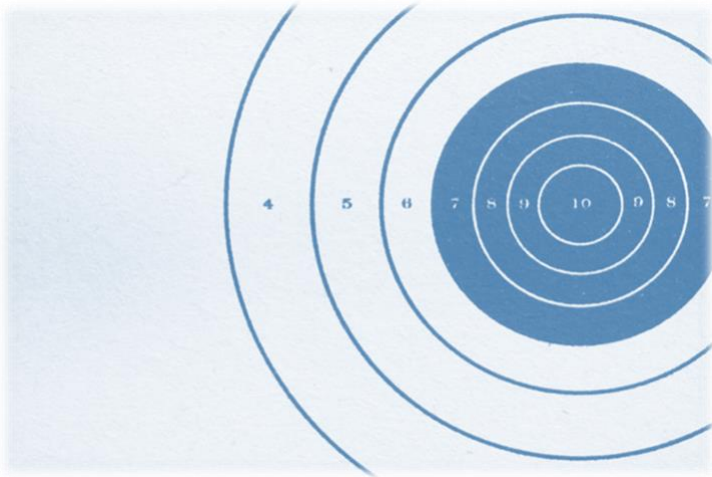
Project Initiation
Establishing Cloud Migration KPIs

Cloud migration is a complex and time-consuming process that can have a significant impact on your business. To ensure a successful migration, you need to measure the progress of your project regularly.

Establishing KPIs lays the groundwork for measuring the success of your cloud migration journey.

Application Performance

- Application Availability
- Response Time
- Error Rate
- Time outs, Retries and Backoffs, Jitters

Infrastructure Performance

- Network Performance Metrics
- Server Performance Metrics
- User Experience Metrics

Learn more about [how to measure cloud migration success](#).

For several years now, IT-Conductor has been a proven solution for systems monitoring, reporting, and automation of SAP IT Operations at IDEXX. The team and platform have been a valuable part of our SAP journey to the cloud.

— **Prabhat Sharma, IDEXX Laboratories, Associate Director (SAP Application)**
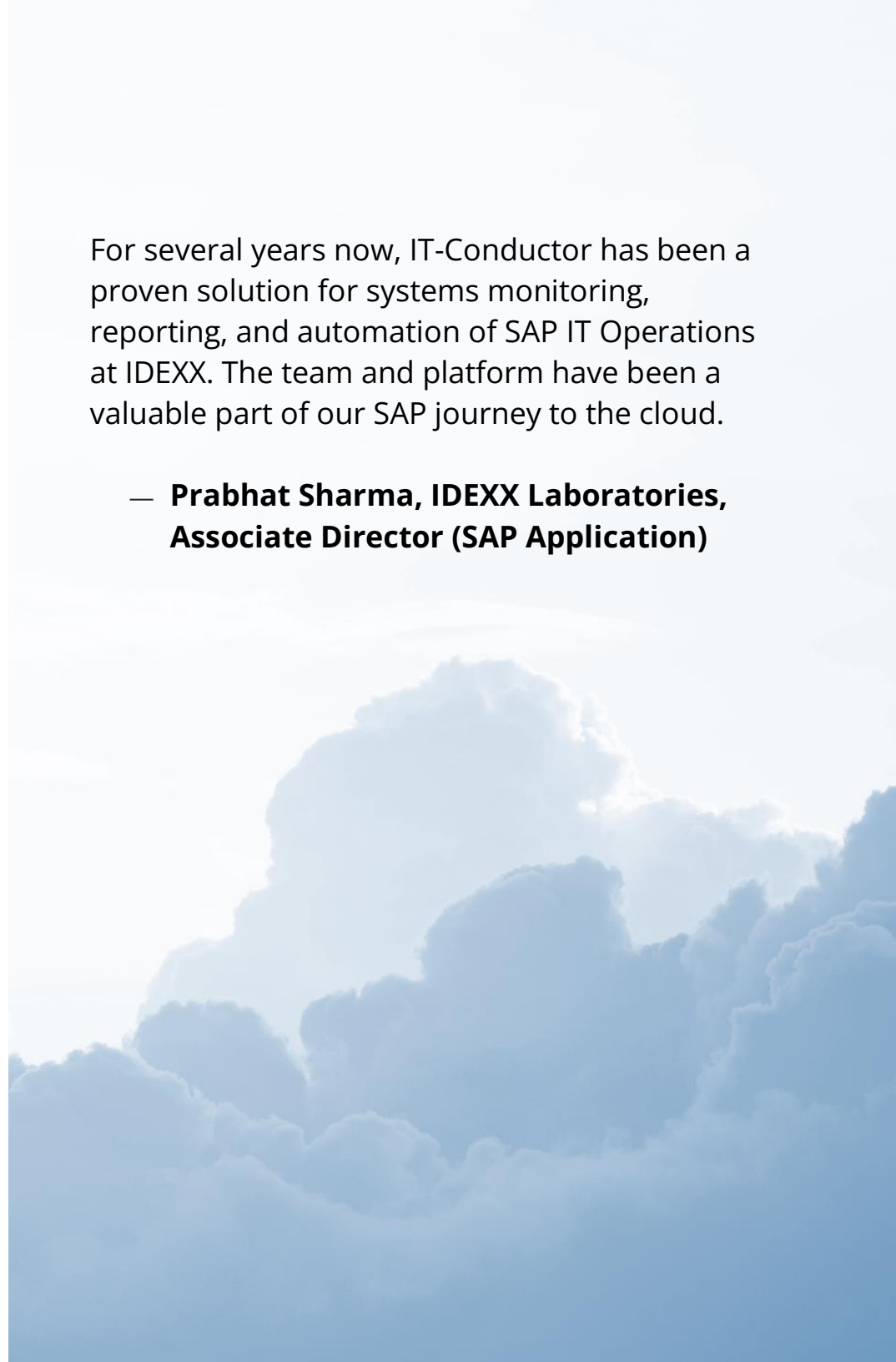
5Ds of IT-Conductor's Cloud Migration Strategy

Migrating applications and databases to the cloud require understanding the source environment, generating a baseline for its configuration and performance, designing and developing the target infrastructure in the cloud, deploying application components in that target environment, and finally validating the cloud migration success.
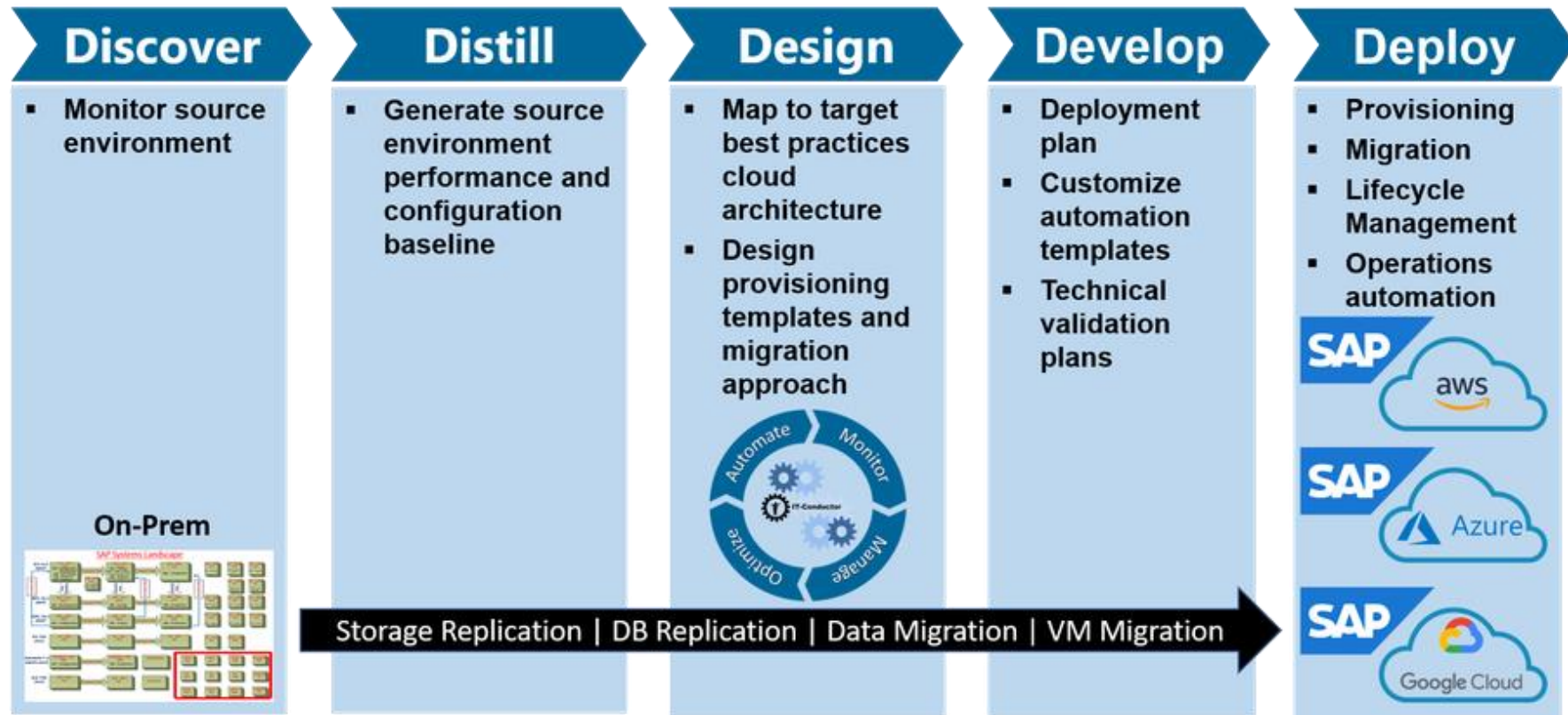
Discover Source Application Environment

Understanding the source application environment precedes all other activities required in your cloud migration journey as it feeds your complete understanding of all your IT assets, applications, services, and their interdependencies.

Application Discovery in IT-Conductor

Application discovery in IT-Conductor leverages a multi-layer approach to automatically discover deep dependency chains among components in an application environment.

When you first configure a system or an application for monitoring, all of its related components are automatically discovered in IT-Conductor. We call it the APM-based discovery.

APM-based Discovery

APM-based Discovery lets you discover the true state of a system based on monitoring instrumentation. This discovery path provides you with the baselining capability where you can see the performance of your systems before migration.

LMDB Discovery

Discovery using the Landscape Management Database (LMDB) heavily relies on the application domain configuration repository. In IT-Conductor, LMDB discovery is performed using a 1-click configuration and integration tool to discover all customer SAP system landscape components.

Figure 1: SAP Landscape Discovery

Learn more about the Role of Application Discovery in Cloud Migration.

5Ds of IT-Conductor's Cloud Migration Strategy
Distill Cloud Baselines

The Distill stage follows the Discover stage. Also known as benchmarking, it is where the performance and configuration baselines are generated. Benchmarking is performed to measure and document the current state of an entire system landscape to support your full understanding of how your environment should be in the cloud.

Benchmarking in IT-Conductor

Benchmarking in IT-Conductor leverages the platform's built-in service grid where you can easily drill up/down components to capture the different metrics you need in generating performance baselines for your source environment.

You can also capture snapshots of the last working configuration state of your source application system and make use of the platform's extensive report customization features to generate the baselines you need.
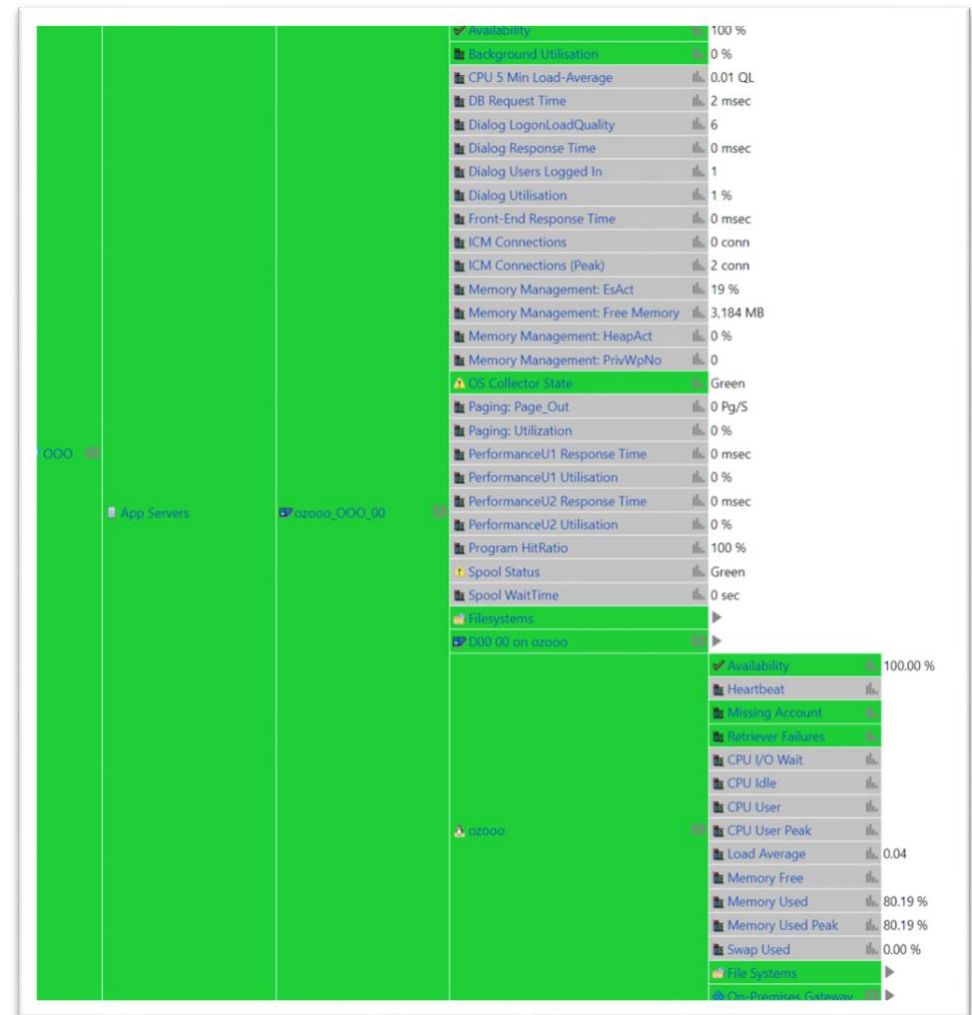
Learn more about Benchmarking in the Cloud.

Figure 2: Service Grid in IT-Conductor

5Ds of IT-Conductor's Cloud Migration
Design Your Target Cloud Infrastructure

There are several scenarios when migrating resources to the cloud. Cloud providers, particularly AWS and Azure, introduced the well-architected framework to help cloud architects build a secure, high-performing, resilient, and efficient infrastructure for a variety of applications.
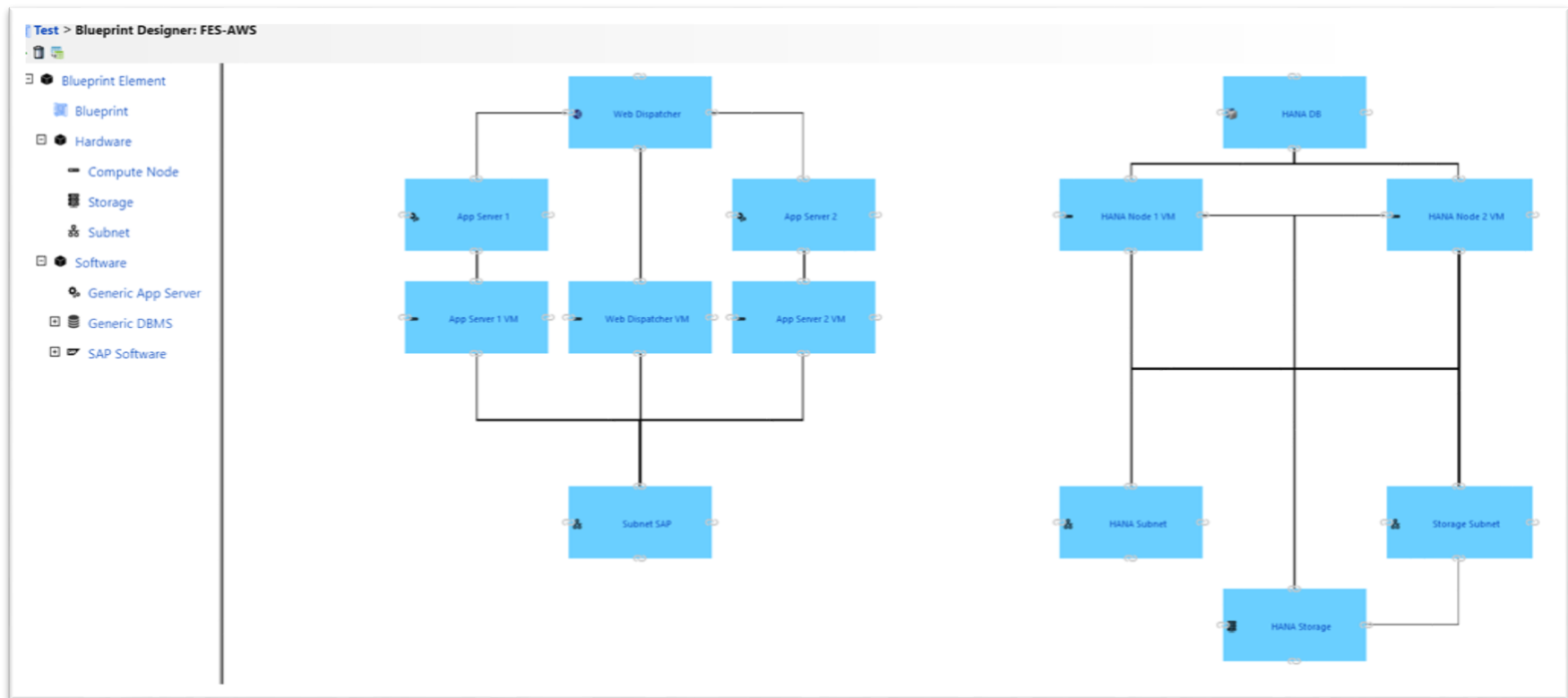

Figure 3: Blueprint in IT-Conductor

Well-Architected Framework

In IT-Conductor, we follow the concepts behind a well-architected framework to design architecture based on the 6 pillars of a good design:

- Operational Excellence
- Performance Efficiency
- Cost Optimization
- Security
- Reliability
- Sustainability

Designing the Migration Plan

Build the migration plan with major efforts under these Migration Phases:

Pre-migration Phase (Source System)

- Basis Config extracts at ABAP, OS & DB Layers
- Pre-Migration Checks & selective execution steps

Infrastructure, Application & Database Build
Leverage DevOps tools such as Ansible and Terraform for

Automated Infra & vanilla SAP Installations (based on applicable migration approach)

Data Migration

Based on the targeted strategy for each system, plan and test the data movement for databases and non-database files using:
- Backup / Restore
- Export / Import / Copy
- Replication

Post-migration Phase (Target System)

- Post-Migration Basis Config Export
- Post-Migration Basis Config Validation & Update
- Post-Migration Checks between Source & Target
- Performance checklist for key baseline workload
- Compliance-related tasks to ensure security and corporate standard compliance are applied.

Learn more about Designing Your Target Cloud Infrastructure.

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5Ds of IT-Conductor's Cloud Migration Strategy
Develop Your Target Cloud Infrastructure

The Develop stage bridges the design and the deployment of application components in your target infrastructure. At this stage, we create automation playbooks, go through one scenario at a time and try to automate it unattended if possible. Once all units work, we develop an end-to-end orchestration using the built-in process designer in IT-Conductor.

Preparing the Infrastructure

The initial setup entails the provisioning of virtual machines (VMs) along with the disk attachment and OS preparations.

Developing the Migration Workflow

A few organizations are already using Ansible and Terraform in performing the migration of resources, but they are typically executed as singular units which still takes them hours to execute jobs even with some automation already in place.

IT-Conductor has taken these pain points into consideration and leveraged the built-in Process Designer in the platform to develop an end-to-end workflow where all the required steps defined in your migration plan are integrated to automatically trigger as you start running the process definition.
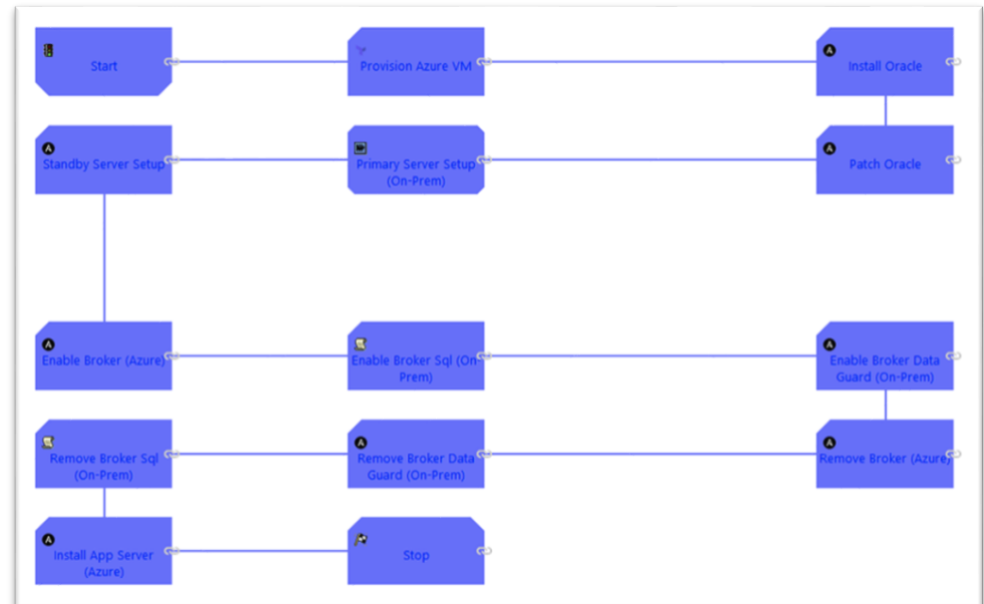

Figure 4: Process Definition in IT-Conductor

Learn more about Building a Cloud Infrastructure – Automated Migration.

5Ds of IT-Conductor's Cloud Migration Strategy
Deploy Applications to the Cloud

The deploy stage is where the application components will be deployed in the target environment. Depending on the level of automation maturity, the following scenarios are entertained:

Assisted

Pre-defined workflows defined at the prior stages are executed by an administrator.

Managed

The customized installation templates are executed by the orchestration tool with monitoring and management of the execution process.

Automated

The components are deployed based on the design blueprint generated at the prior stages, replicating the source application landscape. The components are also automatically incorporated into the target APM configuration.

Figure 4: Successfully Executed Process Definition

Cloud Migration in Action

To give you a glimpse of what we have worked on so far, you may check the following:

- Automated Migration of SAP HANA to Azure Cloud
- Automated Migration of Oracle to Azure Cloud

Learn more about Deploying Applications to the Cloud.

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Post Migration

Validating Cloud Deployments

Immediately after migrating your systems and applications to the cloud, it's important to validate verifying if applications are functional, checking for any compatibility issues, and ensuring the reliability of data.

Following a QA migration checklist can help you make certain that your deployment went smoothly and that business operations can safely go back to normal.

QA Migration Checklist

- Pre and Post Baseline Comparison
- Functional Validation
- Performance Testing
- Integration Testing
- Data Migration Validation
- Analyze SLOs
- Security Testing

See complete [QA Migration Checklist for Validating Cloud Deployments](#).

With the help of the migration procedure, OZSOFT expertise and IT-Conductor automation approach provide accurate sizing and migration assessment for an efficient target environment and reduce the cost of the IT infrastructure, application management systems, upgrades, and migration for our customers.

When deployed together, SAP operations may be managed efficiently with a single tool and without the need for additional resources. We have helped several customers such as Medtronics, Chevron, T-Systems, Zuellig Pharma, and IDEXX Laboratories to achieve high-performance operations.

> — **Linh Nguyen, Vice President & Co-founder, OZSOFT Consulting**

Summary

Accelerate Cloud Transformation with IT-Conductor

Businesses of all sizes are moving their operations to the cloud, and there's no turning back now. The benefits of using the cloud are clear: scalability, flexibility, and cost-effective infrastructure. But this isn't a decision that should be made lightly — it's an important transformation that requires careful planning and execution.

That's where IT-Conductor comes in. We understand how crucial it is to keep your applications and data intact during this process, so we use intelligent automation to make it simpler and faster for you.

If ever you have any questions or concerns about where to start your migration journey, our team is available 24/7 to help you out. Stop waiting and get started with IT-Conductor today!

Contact Us
The Cloud is here to stay. Get ready for the transition.

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