Table of Contents

[Current Business Context 2](#_Toc485377269)

[Expectations from IT: Fast but stable and Lean Software Delivery Process 2](#_Toc485377270)

[Outcomes from Agile – 2](#_Toc485377271)

[Expected Outcomes from DevOps – 2](#_Toc485377272)

[Key Focus Areas for DevOps adoption 3](#_Toc485377273)

[DevOps – How to decide on the first step? 3](#_Toc485377274)

[DevOps – How to progress with DevOps implementation? 4](#_Toc485377275)

[Challenges 4](#_Toc485377276)

[Nokia Global Services – As Is Analysis 5](#_Toc485377277)

DevOps – Improving Software Delivery

## Current Business Context

* IT no more a business support function, but a key part of offered product or service
* IT can make or break the customer interest in a service/product offering
* Whether IT provides customer an edge over its competitors
* Fast Changing Customer Preferences & High availability of advanced technology
* Need to reduce the time interval between creation of a service and its delivery to business
* Need to enable businesses adapt as per changing Market requirements
* Increased customer focus on delivery of service
* Increased business focus on reducing the cost of business operations
* Increased customer focus on response time when requirement changes at short notice
* Increased customer focus on the ability of the IT to meet business objective

## Expectations from IT: Fast but stable and Lean Software Delivery Process

* Ability to adapt as per fast changing business requirements
* Fast creation and delivery of service
* Better visibility to executing business process steps
* Better control on execution of business process steps
* Repeatability of outcome irrespective of the conditions – through automation
* Better ability to measure the quality of outcome of IT investment
* Reducing risk by streamlined business processes
* Real time collaboration between various stakeholders
* Ability to scale up or scale down the service at short notice
* No unexpected outcomes in the production stage
* Leaner software delivery process

Operations Team

Development Team

Business

**Agile**

**DevOps**

### Outcomes from Agile –

* Improved collaboration between Business and Development Team
* Faster conversion of business requirements to code( Development Stage)
* Better control on each of the stages of software development process
* Increase in output of development team
* Fast & Transparent software delivery process
* Improved return from IT Investment in software development efforts
* Business enabled to start and stop the IT investment at short notice

### Expected Outcomes from DevOps –

* Improved collaboration between Business, Development, and Operations Team
* Fast Software Delivery to Business users
* Better control on every stage of software delivery lifecycle
* Removal of unnecessary processes ; Fast but stable Delivery process
* Reduced Manual Intervention
* Increase in output of Development and Operation Teams
* Improved return from IT Investment
* Business enabled to start, stop, and increase/decrease the IT investment at short notice

## Key Focus Areas for DevOps adoption

#### At a Macro Level

* Continuous Integration
* Continuous Delivery
* Cloud Infrastructure -> Compatibility & Scalability of IT Infrastructure
* Test Automation
* Configuration Management
* Integrated Dashboards for providing better visibility to stakeholders
* Risk Management - Increasing uniformity and scalability in various processes

#### At a Micro level

* Development Methodology & Processes
* Source Code Management
* Code review & Code coverage
* Build(creation and validation, accessibility of build location)
* Unit testing
* Deployment(environment readiness, deployment and its validation)
* Test Environment orchestration and management
* Integration Testing
* UI Testing (ex- UI Test automation using Selenium)
* API testing (functionality, reliability, performance, and security)
* Release Management/Environment Promotion Processes
* Production Environment orchestration and management
* Information flow mechanism between all stakeholders
* Mechanism to regularly notify stakeholders during various stages of software delivery
* Resolution Mechanism in case of issues in any of the environments
* Security & User Access

# DevOps – How to decide on the first step?

* Customer priority and business objective
* Customer pain points, Priority of the Delivery Team
* Initiative with low risk and high demonstrative value(high visibility)
* To begin with start from Development Environment and then move to higher environments
* Step that support immediate benefits from DevOps
* Can be accommodated as one of the Digital Transformation Initiatives
* …………………………………………………………………………… Any other as per Business Objective

**DevOps Adoption Paths:**

* Streamlining the Delivery process – any process that has limitation related to speed, scalability, unstable or security
* Starting from a limited functionality CICD Pipeline in Development Environment to a fully functional CICD pipeline working till Production Environment
* Streamlining source code management process to support continuous integration & Delivery
* Consolidating Testing process by creating an automated testing framework and showing the results on DevOps Dashboard
* Consolidating Deployment - making deployments follow common processes/tools and presenting the results to user on a dashboard
* Automating code review process by introducing review tools and sharing the results with user at regular intervals
* Creating an integrated dashboard giving holistic view of the delivery status of each of the applications at one location
* Automating the Environment orchestration and Management using orchestration tools
* Automating Release Management Process
* …………………………………………………………………………… Any other as per Business Objective

# DevOps – How to progress with DevOps implementation?

* DevOps initiative can be implemented in the form of Agile User Stories
* Based on customer Business Objective, can start with any of the DevOps forms and Progression Paths mentioned in this document

**DevOps implementations may take below common forms**

* Integrated Dashboard
* Continuous Integration(CI)
* Continuous Delivery(CD)
* Continuous Testing(CT)
* Automated infrastructure/environment Provisioning
* Release Management Automation
* Automated Feedback Mechanism
* …………………………………………………….

# Challenges

* Getting Buy-In from Customer
* Lack of awareness & skills required for adopting DevOps processes
* High level of comfort with existing delivery processes
* Bringing all stakeholders(Business, Dev, Test, Operations, Infra) on the same page
* Setting ownership for DevOps Adoption
* Setting ownership for DevOps Infrastructure
* High upfront investment – DevOps Infrastructure and Skills
* Creating a DevOps Team & selecting a DevOps Tool chain
* Effort required in developing a DevOps System & moving operations to DevOps Pipeline
* Require strong Push from customer at Leadership Level as various stake holders may not see immediate benefits of effort
* No fixed path for successful DevOps adoption

# Nokia Global Services – As Is Analysis