DevOps – Test Automation

Presented by Verity Consulting
in collaboration with
Ministry Of Education
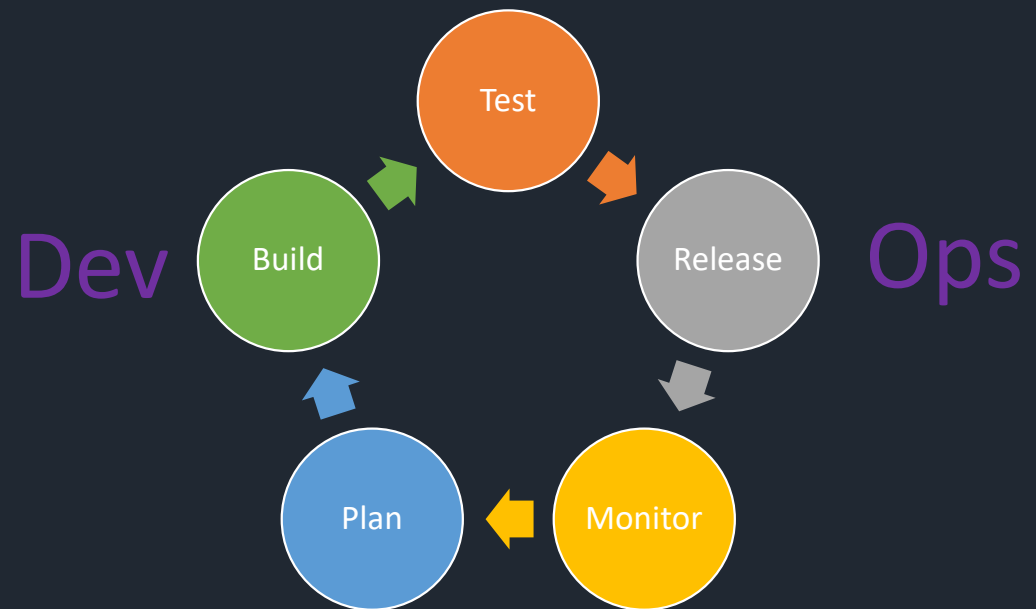
What is DevOps?

- A set of practices that combines software development (Dev) and IT operations (Ops)

- Aims to deliver applications and services at high velocity

- Frequent collaboration to improve productivity of developers and the reliability of operations

Dev Ops

Test

Release

Monitor

Plan

Build

DevOps – Well Known Practices

Continuous Integration – a practice where developers regularly merge their code changes into a central repository, after which automated builds and tests are run
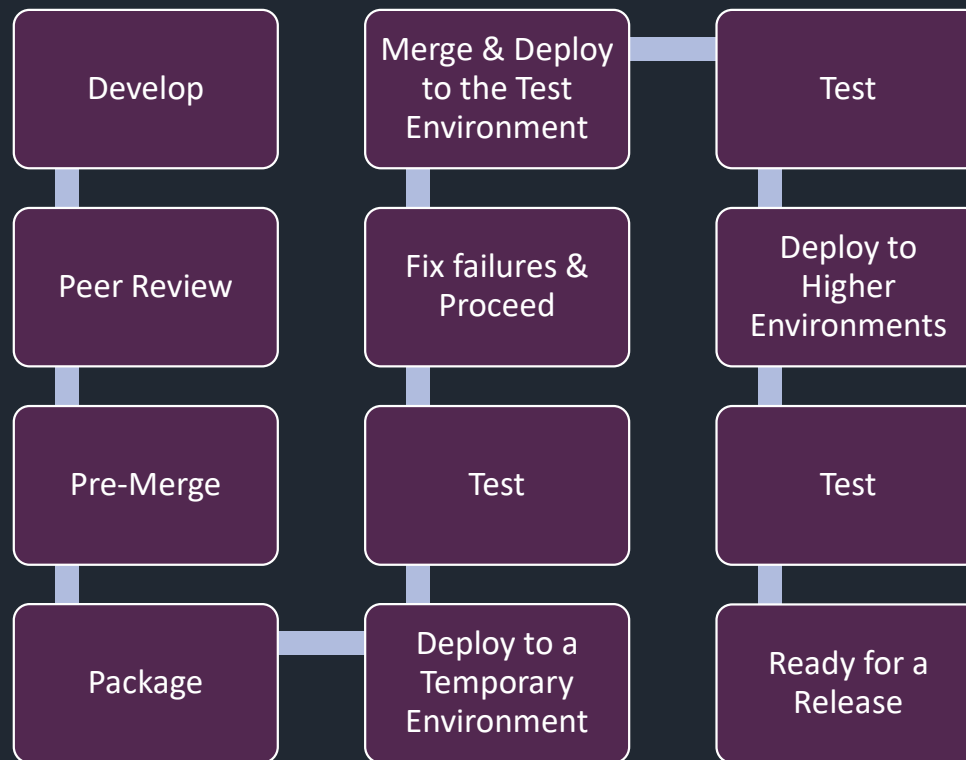
Continuous Delivery – a practice where code changes are automatically built, tested, and prepared for a release to production

Continuous Deployment – a practice where code changes are automatically built, tested and deployed

Infrastructure as Code - a practice in which infrastructure is provisioned and managed using code and software development techniques

Continuous Testing - Continuous Testing is the process of executing automated tests as part of the software delivery pipeline in order to obtain feedback on the business risks. Testing the software at every stage of the software development life cycle

High Level Flow

DevOps – Test Tools in use

Tosca

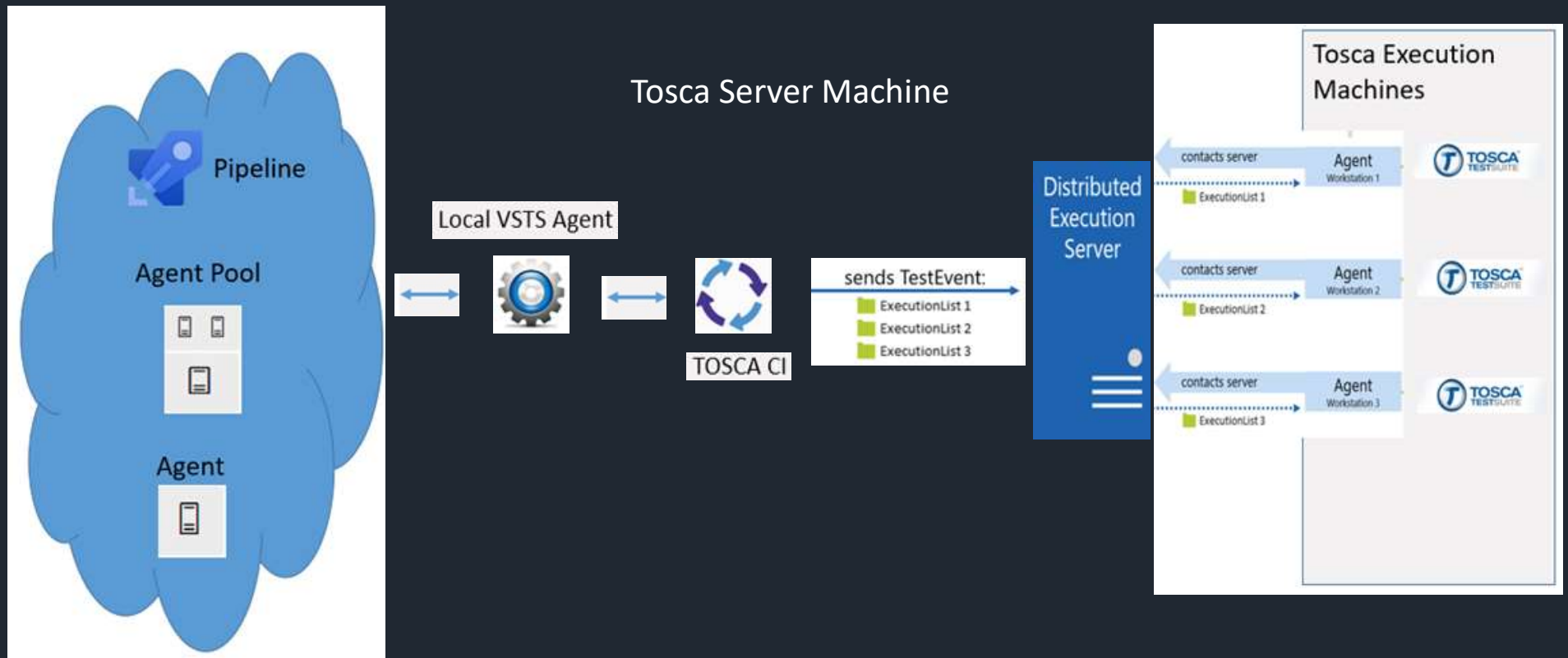**xUnit**
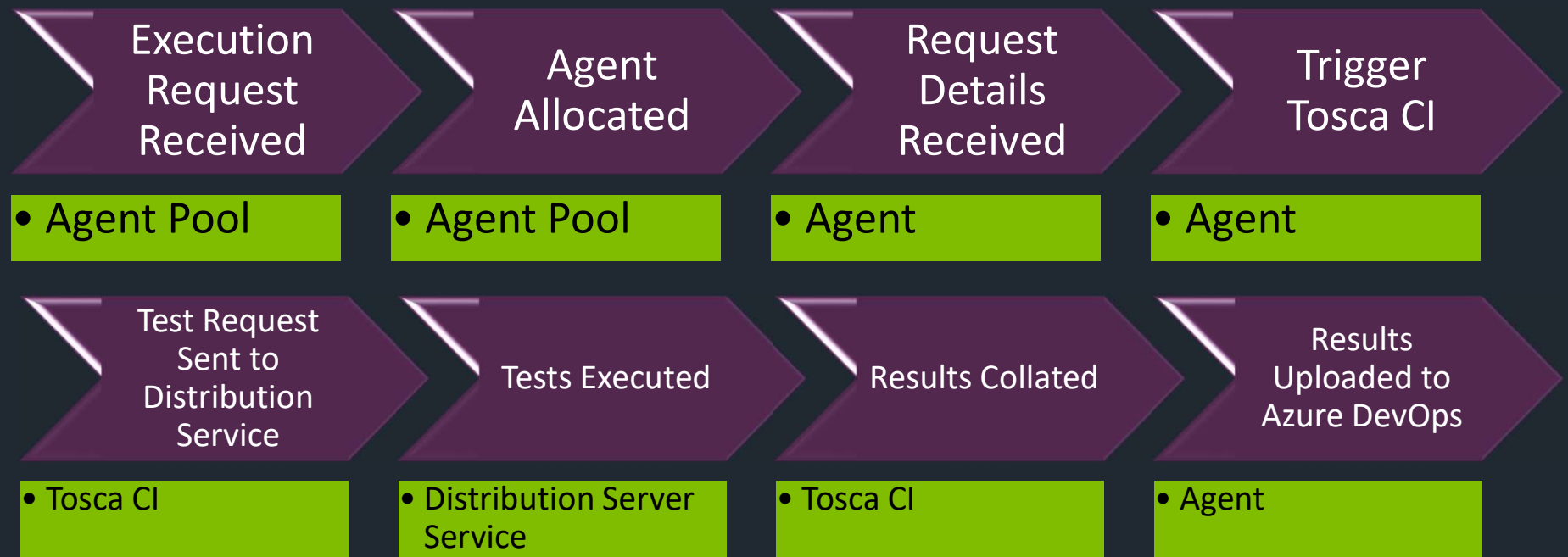
Postman

Cypress

Jasmine

Karma

TOSCA – Execution Modes

- Execution via Tosca Commander

- On-demand execution using Azure DevOps

- Execution via Scheduled Triggers

- Execution during Auto Deploy

Azure DevOps-Tosca Integration

Tosca Server Machine

Event Sequence

Execution Request Received	Agent Allocated	Request Details Received	Trigger Tosca CI
• Agent Pool	• Agent Pool	• Agent	• Agent

Test Request Sent to Distribution Service	Tests Executed	Results Collated	Results Uploaded to Azure DevOps
• Tosca CI	• Distribution Server Service	• Tosca CI	• Agent

What are the Benefits?

- Faster feedback loop

- Effort savings due to reduced human errors

- Efficiency gain due to sharing of artefacts

- Improved availability of the Test Environment

- Unattended Test execution outside Business Hours

Ministry of Education
Te Tāhuhu o te Mātauranga

Thank you

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