How to Switch On DevOps in Enterprise
Speaker’s Introduction

Mike Owen is currently the Domain Chapter Lead of Future Practice & Technology at Spark NZ. He has more than 17 years working across Software Delivery and Operations based roles within Spark. He has been a core member in the execution of their recent IT transformation programmes. His current role is focused on enabling DevOps practices and tooling across the organisation.

Ankit Gupta Chapter Lead and Product Owner of DevOps Tooling Team at Spark NZ. His focus has always been to achieve software correctness by coaching development teams on coding practices and developer-driven testing, pushing security practices farther left in the development lifecycle, and automating infrastructure. You can read Ankit’s articles on LinkedIn or @www.guide2devops.com
Spark’s purpose is to help all of New Zealand win big in a digital world. We are New Zealand’s largest telecommunications and IT services provider, offering a full suite of telecommunications services including broadband, mobile, and cloud services, and catering for consumers right through to large enterprises.

We are also building businesses in three emerging growth areas: we offer big data/analytics and data-powered marketing services through our Qrious brand; we’re rolling out nationwide Internet of Things networks; and we have the biggest team of cyber security professionals in New Zealand.

We know our customers’ worlds, both at home and at work, are getting faster, more mobile, and more complex. Our job is to make the complex simple and to help our customers make the most of possibilities offered by new technologies.
Issues we Started with

- Legacy Applications
- Mixed SDLC Maturity
- Complex E2E Waterfall Delivery
  12-18 month Cycles
- Decades of Technical Debt
- Point in time Documents
- Performance as an after thought
- Slow speed to Market
- Heavy Governance Processes
- Manual deployment
- Manual testing
- No standardised tooling
- Date Driven Delivery
- Inconsistent Environments
- Agile confined to developers
- Manual Configuration Management
- Performance as an after thought
- Infrastructure centric view of Operations
- No production-like environments
- Manual Test Data Management
- Dependence on Heroic Efforts

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Org Structure - Technology Based Teams

Intent:
• Easy to assign work
• Better utilisation for same set of Skill set
• Cost Reduction
• Easier for Cross-skilling opportunities

Reality:
• No Cost Reduction
• Limited transfer of Practices and Standards
• Limited cross skilling opportunities
• Decrease in Specialisation
Intent:
- Operational Cost reduction
- Improvement in performance through defined and specific focus like operations team
- Inter-App Skill Matrix development in Operations Team

Reality:
- No Cost reduction
- Bottle Neck on Operational Team
- No communication between teams for Dependencies
Embedding of Operations into Dev teams

Intent:
- Joint accountability of Developers and Operations
- Reduction on Operational cost
- Utilisation of Developers in Operational Support
- Reduced Defect turnaround time

Reality:
- Reduced Operations headcount
- Step towards the Shared accountability
- Improved awareness of the dependencies
- 8 Weeks Release cycle/Monthly Releases
- Each team had their own standards defined, No standards across organisation
- NO E2E Ownership
Trying to walk before we could crawl

We moved to monthly releases but pressure was to move to weekly

We had minimal automation in place as a result weekly release resulted in:

- *Error Prone Processes*
- *Code regression issues*
- *Increase in Production Incidents*
- *Burn Out of People through repeated late night work*
- *Frustrated Customers due to frequent system outages for Deployment*
- *High defect rate making its way to Production*

Goes on ……
Need for Automation

- Need for Automation across Testing, Infrastructure, Software Delivery and Operations
- Need for standardise approach
- Need for E2E traceability

Core people didn’t have time to implement

Thought Leadership
Established Product in place
DevOps Platform in Place

- We had a centralised platform, single source of truth for code versions deployed in any env at any point of time
- Capabilities Like auto build and auto deploy till Integrated env were implemented for core systems
- Executive and Developer Dashboards were in place.

- Adoption of platform approach met resistance from some teams
- Lack of ownership from teams
- Tightly coupled CICD software prevented ability to leverage latest features
- Decision to swap out the CICD Platform as a result
- Still Didn’t achieved sustainable weekly releases
Spark is going to be Agile

Spark is a fan of Agile, which is all about making workers and managers more nimble and responsive.
Spark’s Agile Transformation

Source: McKinsey

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Current State

Segment Tribe

Product Tribe

Application Tribe

INTEGRATED

ENV

ST Env

NFT Env

STG and PRD
Initiatives and Track for this Journey

- Build and Deploy Automation through PRD
- Automation of Unit, Functional Regression and Performance Test
- Setup Central CICD tooling compliance
- Drive toward Zero Down time Deployment for apps
- Enhanced Performance Testing Pipelines
- Non-Prod Environment uplift
- Integration of work management tool with ITSM application
Enhanced Performance Testing Pipelines

Manual or Scheduled Trigger

Tester writing JMeter Scripts

Check In JMX file

Application Stack

Before Running Scripts

Pre-Check

After Running Scripts

Post-Check

Archive Reports in Nexus

Reporting

Load Generators

Application Stack

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Integration of work management tool with ITSM application

Integration of Azure DevOps and ServiceNow is aimed at enhancing collaboration between the Customer service and Development teams. This provides visibility to both teams into customer priorities and helps resolve issues faster.

Overview of this Integration

Benefits of this Integration

- **Real-time updates on customer issues and priorities for Developers**
- **No manual efforts needed to keep backend teams updated on customer issues and priorities**
- **Visibility into customer issues and priorities**
Test Environment as a Service

IaaS

- Servers and storage
- Networking firewalls and security
- Data center, Physical plant or building

Service Virtualisation

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Reporting and Analytics

- Work Management Tool
- Source Code Management
- Build and Release pipelines
- Test Management Tool
- ITSM Tools
Growing Pains

Tool Maintenance
- Growing # of Build and Deploy Servers/Agents
- Upgrades required to benefit from new features

Operation Cost Consideration
- Ongoing Cost to operate of all CICD tools
- Ongoing Training, education and support

People Scaling
- Demand goes in waves
- Rapid expansion of required Skill sets
Thanks

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