Tēnā koutou, tēnā koutou, tēnā koutou katoa

Welcome to you, welcome to you, welcome to everyone
A year in the life of our Open Source Integration Journey
This is us.

Nilay Rathod

Domain Chapter Lead
2018 - Present

E2E Architect
2015 - 2018

CRM Developer/Architect
2008 - 2015

Mandi Buswell

Solutions Architect
This is NZ

- Aoteoroa
  Land of the Long White Cloud
- First Europeans landed 1769
- First people ~700 years ago
- First country to give women the vote
- We call ourselves Kiwi’s
  (like the fruit and after our National Bird)
- No snakes, bears, wolves, tigers ...
- Three national languages
- The size of Colorado but stretched from Florida to Pennsylvania
- Every scenery in the world
- ~4.8 million people
- ~27.6 million sheep
This is Spark

- Origins go back almost as long as NZs in 1840 as New Zealand Post.
- In 1987 as Telecom New Zealand the government owned telecommunications provider.
- In 2011 Telecom was separated into two Distinct companies.
- In 2014 Telecom was branding as Spark New Zealand a digital services provider.
- Today Spark is the largest digital services provider in the country with over 50% market share.

Spark has been at the forefront of each step of New Zealand’s communications evolution, helping our little country win big.
TO HELP ALL OF NEW ZEALAND WIN BIG IN A DIGITAL WORLD
Agenda

IT Implementation Journey

The transition motivation and direction

Strategy and how we did it

Retrospective

Next Steps
IT Implementation Journey at Spark

2012
Application consolidation started

2017
Migration Completed

Best of breed Applications for telecommunications
IBM WebSphere chosen as integration platform
Reengineering – 5 Major releases in 5 years

2018
Spark goes company wide Agile

Spark teams evaluates OpenShift Fuse as integration platform that enables Agile in IT systems

Number of Legacy applications platforms
More than 30 legacy applications for integration
...AND THEY ARE HELD ACROSS THE COUNTRY
- New Zealand population ~4.4 million
- Sheep population ~31.3 million
* 1982 Sheep population was at highest
Motivation for change

- Cost Reduction - Integration Product due for life cycle update
- Agile delivery model and more frequent releases
- Trend towards Open Source Frameworks and Technology
- Microservices and Container Architecture
Choosing the Technology
Strategy for Migration

SOAP APIs to be transformed to the new platform

230 Integration Services / More than 2000 use cases

Like for Like
Existing services are already modular and fit to migrate to microservice architecture

Channel Specific APIs
Reduce complexity in channel application

Redesign/Re-engineer
Heavy weigh to light weight APIs
SOAP to REST

50%
20%
30%
Plan on a Page and Ways of Working

Q1
- Define all integration pattern in new system
- Training team on new technology
- Setting up infrastructure

Q2
- Migrate
- Estimations...
  - 2 Services per developer per sprint
  - 90 services per quarter
  - 30 services per monthly release

Q3
- Migrate more
- Complexity Breakdown
  - High –
  - Medium –
  - Low -

Q4
- Even more

5-7 Developers
Architect
Product Owner
Agile Coach
3 Testers
Infra Team

Fuse Migration Squad (All onshore; Auckland)

Way of working - Scrum
Sprint 1
Sprint 2
Sprint 3
Sprint 4

Sprint Cycle – 2 Weeks
Sprint “n”

Path to Production
19.3
19.4
19.x
Plan on a Page and Ways of Working

**What we did**
- Discovering new integration patterns in Fuse
- Proof of concept with 5 different integration patterns
- Migration approach for 260 services
- Infrastructure Set up

**What we learnt**
- Classroom training before the Proof of concept
- Early and wider involvement of Developers in the Squad
Going Live first time

What we did

- Production Setup
- Going live with low volume 7 services
- Working in Squad and working in Agile
- Planning for bigger migration – more dev and testing

What we learnt

- Huge amount of time invested in set up of monitoring and logging
- Message broker for logs stream Splunk & DynaTrace AppMon for enterprise application monitoring
- Redesign vs Like for Like
- WebSphere and Fuse development
Key Concerns:
- Going against Spark's agile principle
- High level of coordination
- Onshore testing and support model from offshore

Assessment:
- Proof of Concept
- 5 Services – Like for Like implementation
- Develop offshore and Test onshore

Learnings
- Dependencies – Specification and mapping documents
- Implementation Patterns
- Acceptance Criteria
Offshore Squad model

Fuse Migration squad (all onshore; Auckland)

7 Developers

2 Testers

Product Owner

Offshore squad

Offshore delivery every sprint

4 Developers

Offshore Team Lead

Product Owner

Agile Coach

3 Testers

Infrastructure Team

Fuse Migration squad (all onshore; Auckland)

Monthly Release to Production

Path to Production
Scaling the development to meet timeline but work in an Agile way

Setting up the offshore squad

Migrate high volume services first

Like for like migration – boring development work

Revised Agile way of working

Balancing BAU vs Migration
Monthly Breakdown of services
Adopting new container native monitoring – Prometheus and Grafana

More complex services using Fuse

Reengineering service

Focus on practice, standards and process
**Do**

- Embrace Open Source, it works
- Train, Proof of Concept and Reference Architecture
- Prove it in Production
- Lift and Shift first – Reengineer later
- Workforce model that is scalable

**Don’t**

- Underestimate time migration takes
- Forget Auxiliary services/component
- Forget Auxiliary services/component
TO HELP ALL OF NEW ZEALAND WIN BIG IN A DIGITAL WORLD
Integration a year back

Common Integration Touch Points

Customer
Orders
Payments
Invoices
Notifications

IT Applications
Partners