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GETTING THE MOST OUT OF DEVOPS AND CLOUD NATIVE ENVIRONMENTS

This article was written by Roger Camrass, director of CIONET UK and a visiting professor of the University of Surrey, and is based on the conversations during an event on how to get to grips with DevOps and Cloud Native environments, sponsored by Gitlab in October 2020.

Most organisations today are engaged in digital transformation programmes. Many of these involve the widespread use of DevOps and cloud native environments. But both techniques are still at an early stage of development. In this respect, delegates to this event represented a broad maturity spectrum with some just embarking on the journey, and others well advanced. This led to a productive discussion on issues such as business alignment, agile team development and supporting infrastructures. One important take-away was the central impact of such techniques on corporate culture, encouraging speed and experimentation. This calls for a new style of IT and business leadership.

Do we really know what digital transformation is about?

Professor Alan Brown of Exeter University and author of the book 'Delivering Digital Transformation: A manager's guide to the digital revolution' described the drivers associated with digital transformation and the way it is being implemented. The drivers are becoming acutely obvious in the COVID-19 context such as greater speed and agility; exclusive focus on the customer; reduced bureaucracy. The response by many organisations has been to:

- Modernise the existing 'factory' by repairing broken activities and automating as far as possible within the current busines model
- Upgrading 'offers' by focusing on 'value in service' rather than 'value in exchange'. The iPhone is a great example here – so much more than a hardware product
- Reshaping the leadership amongst incumbent organisations to be able to compete effectively against digital natives. This requires different leadership styles

Devops cna provide a bridge between old and new

John Jeremiah, senior product manager at Gitlab, evangelist and TEDx speaker, stressed that DevOps is responding to all the critical business transformation drivers such as efficiency, speed, agility and customer focus.

In his view, DevOps combined with a cloud native environment can deliver the necessary change velocity to stay ahead of laggard companies by:

- Eliminating the traditional silo mentality, bringing all parties together in integrated technical and business teams
- Embracing automation by eliminating manual tasks and focusing on end-to-end process design
- Adopting an iterative approach based on smaller incremental steps rather than a 'big bang' approach, as well as Kaizen principles
- Exploiting an appropriate cloud infrastructure with associated set of DevOps tools that now exists within AWS, AZURE and other leaders

John emphasised that DevOps is a journey not a destination, and that many associated techniques are emerging such as value stream mapping that will extend its capability and reach.

Focus today is on business agility

Delegates were unanimous in their view that IT must be more closely aligned with the needs of their business partners, especially in a COVID-19 environment where speed and agility is paramount. This implies greater freedom to experiment within ever more fluid organisations. One manufacturing company delegate commented that such freedom was most apparent out in the territories, and away from the 'mothership'.

However, those from the financial services sector noted that compliance and regulation has restricted such freedoms, especially within monolithic legacy applications that dominate banking and insurance. The most expedient approach has been to develop new applications in the cloud using DevOps techniques rather than trying to upgrade the legacy, on-prem applications. This comment brought into sharp focus the bi-modal situation today amongst large IT organisations, favouring waterfall at one end of the spectrum and DevOps at the other – what John described as the 'bridge'.

Mobilising devops resources to support the business

Many different opinions were expressed about where to place the DevOps resource. Various alternatives were described based on current experience:

- Centres of Excellence that can support a distributed team approach, especially in global operations, by laying down group standards
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- Common infrastructures that enable either philosophy to mature, including selected cloud vendors and associated tool sets (e.g. AWS and AZURE)

John volunteered the Gitlab view that consolidation of infrastructure is critical to ensure that DevOps teams can be effective anywhere within an organisation. This was supported by a software vendor who has recently completed several acquisitions and has imposed strong standards to reduce duplication of effort. Most delegates were facing a myriad of cloud platforms creeping into their organisation due to the ability of business managers to shop around. This needs careful control with respect to mainstream application development.

What about legacy debt?

One of the enduring debates is what to do about legacy debt which can constitute up to 60% of all IT applications, especially in financial services and government. Few organisations have the capacity or finance to modernise core legacy applications. This implies a co-existence with modern techniques such as DevOps and Cloud. Some have adopted a 'lift and shift' approach to moving legacy into cloud but did not feel that this achieved much in operational flexibility or efficiency.

The consensus is that a bi-modal approach will exist for many years to come, with an emphasis on stabilising and containing core applications. API interfaces have helped open new avenues for legacy such as mobile banking and tax. Further automation will be possible, helping to integrate different legacy applications such as SAP with SaaS services such as Workday and Salesforce.

Embarking on the devops journey

Discussions during the event suggested an urgent need to embrace DevOps and to integrate it into both the IT and business culture. This implies some critical actions as DevOps and Cloud begin to mature as key development techniques:
- Create and sustain a centre of excellence for DevOps that will serve distributed teams and ensure consistency
- Consolidate the supporting infrastructures by employing an integrated platform such as that provided by Gitlab
- Educate business partners about the technique and adopt new performance metrics that favour speed and agility (all about the business outcome)

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