RACKSPACE STUDY

THE ANATOMY OF A CLOUD MIGRATION

Technology-driven business disruption is a very real phenomenon.
FOREWORD – ANGUS DORNEY

Businesses globally and in Australia are jumping onto cloud at a rapid pace. The Telsyte Australian Infrastructure & Cloud Computing Market Study 2015 forecasts the total market value for public cloud infrastructure services to reach $775 million by 2019, up from $366 million in 2015.

Australia is regarded as a ‘cloud mature’ country and many CIOs know the cloud is a more agile, faster and cheaper place to be. But while the above argument is generally accepted, there are still challenges and concerns to overcome before workloads are shifted from ageing legacy systems into this new environment. Often the sticking point is not so much the technology and the understanding of the benefits, but more so the cultural change that has to take place and perhaps a mentality of ‘not on my watch’.

In a bid to better understand the mindset of those who have and who also plan to move workloads into the cloud, Rackspace conducted 100 in-depth telephone interviews with senior IT leaders about migrations into cloud across a variety of industries. The same study was also conducted in the UK and while the studies were not done with the explicit reason of comparing markets, the results between the two countries do make for interesting reading and comparison.

The Australian study looked at the motivations, concerns, business objectives and practicalities of moving into the cloud, such as use of third party experts and the type of cloud.

Cloud motivations across both those who have completed a migration and those planning to, centre very much on cost savings and risk mitigation, more so than it being driven by business or customer need. While cloud might be viewed in some respects as a commodity, there are aspects that can truly provide competitive advantage too.

Cloud can deliver more than just cost savings and the very best in the business can track and align their cloud migrations with revenue, delivering more than just ‘value’ to a project, by changing the dynamics of their business and how they deal with their customers.

When concerns of moving into the cloud are considered, such as performance, availability and security, it’s perhaps no surprise that even in a ‘cloud mature’ market such as Australia, many IT leaders view certain workloads as too critical to push into the cloud just yet.

Of course, the rationale and process for migrating into the cloud will differ and for the most part, is unique to each business involved, but what our study does is shed some light on the Australian trends. It also provides good comparisons with our UK counterparts, allowing us to understand and adapt to the varying international nuances that exist. It may also highlight trends forthcoming into the respective markets too.

The good news is that of those who have completed a cloud migration in Australia, an overwhelming majority agreed that it hit all of the business objectives it set out to achieve. What’s more, it was done quickly with well over a third of migrations completed within three months of the project start date. In Australia, we’re efficient, we get the job done and we hit our targets. That’s a strong message and proof point to take to those still considering their cloud migrations.
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SECTION ONE:

MIGRATION MOTIVATIONS

Businesses of all shapes and sizes have different rationale for having moved or considering to move workloads into the cloud. Some are or will be bolder with those moves, but for the most part motivations for cloud migration exist mainly at a technology capability currently, rather than driven by business or customer need.

Among both those who had already migrated workloads into the cloud and those planning to, was to increase resiliency or disaster recovery - 87 and 85 per cent respectively.

For migrators, the next leading motivation was around increasing agility (80 per cent). Yet for those planning, increasing agility ranked seventh on the list of motivations with just 48 per cent.

For ‘planners’, reducing IT costs (63 per cent) and accessing scalable resources to deal with spikes in demand (61 per cent) ranked as more important motivations.
Overwhelmingly, customer demand and business requirements were not motivations to move into the cloud across both migrators (94 per cent) and planners (93 per cent).

Another major point of difference between the two groups lay in the motivations to mitigate ‘shadow IT’; that is to gain control over IT projects that might not start in or originate from the IT department. For those who had already migrated services across, 41 per cent agreed this was a motivation, compared to just 26 per cent among planners.

For those who had already migrated workloads in the UK, reducing IT costs was the leading motivation for doing so, with 61 per cent agreeing. Among those who planned to migrate, this was again the leading motivation (56 per cent).

Mitigating shadow IT is almost a non-existent problem among both migrators and planners in the UK, with an average of just 7 per cent agreeing this was a motivation.
SECTION TWO:

TECHNICAL AND BUSINESS READINESS

An organisation’s readiness for cloud migration is an extremely important part of its overall success. As we’ll discover further on, Australian organisations believe their cloud migration projects perform well in line with business objectives. Certainly, their success rate is higher than that of organisations in the UK.

As if to hammer the ‘readiness’ point home, managing cultural change around migration was highlighted as an area that many would look to do differently or change next time around.

So how ready are Australian organisations and how do they stack up compared to the UK?

I. UNDERSTANDING THE BUSINESS OBJECTIVES FOR CLOUD MIGRATION

The objectives for wanting to migrate workloads into the cloud will of course vary from organisation to organisation, but in Australia there are some trends apparent as to what businesses wish to achieve.

Between both migrators and planners, the business objectives remained consistent in response. Addressing ageing infrastructure and delivering cost savings across current IT environments ranked as the two leading objectives (both 78 per cent), but more so in migrators (78 per cent) as opposed to planners (70 per cent).

MIGRATORS

Fig 3. - Migrators - Common Business Objectives for Cloud Migrations (Respondents who had completed a cloud migration project)
A slight variation of opinion was evident when it came to viewing migration as the first step to cloud transformation. Planners were far more likely to offer that as a business objective (59 per cent), compared to those who had completed a migration project (39 per cent).

**PLANNERS**

Among both migrators and planners the same top three concerns existed, namely:

1. **Application performance and availability** (70 per cent and 78 per cent)
2. **Business risk** i.e. concern about outage or loss of revenue (65 per cent and 80 per cent)
3. **Security and privacy requirements** (69 per cent and 65 per cent)

Similarly, the least worrying concerns for both groups centred upon loss of control to a third party provider and regulatory requirements. In Australia at least, it appears that most businesses are very trusting of using experts to help with their migrations and in using them, meeting regulatory requirements are not a cause for worry either.

However, despite reassurances around guaranteed uptime and disaster recovery capabilities, many organisations still occupy their time with these concerns.

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However, despite reassurances around guaranteed uptime and disaster recovery capabilities, many organisations still occupy their time with these concerns.
One noticeable difference between the two groups where the concern was more evident among planners, was in the cost of the migration. For that group, 57 per cent agreed it was a concern, compared to 44 per cent of migrators.

Perhaps with the benefit of hindsight and a project under their belts already, those who have migrated workloads previously have come to realise that cost and budget management is not a significant issue and well controlled in comparison to other factors.

Looking at the concerns of UK businesses, there are some interesting contrasts. Generally speaking, all of the percentages for concerns were lower than those of their Australian counterparts, perhaps suggesting that Australian businesses are more likely to have increased worries across more factors about their migration. Are we a nation of ‘worriers’? We need not to be however when you look at the end result and hitting the business objectives.

Similar to the Australian study, security and privacy ranked highly; indeed it’s the biggest concern with 49 per cent agreeing across both migrators and planners.

However loss of control to a third party provider, while not ranking as a priority for Australian businesses compared to other concerns, ranks as the second biggest concern for UK organisations, with 43 per cent in agreement across both groups.

### III. EXECUTIVE SPONSORSHIP

Across those who have migrated and those who plan to migrate workloads into the cloud, the lead or sponsor for the project is where differences are apparent. In this instance, planners align slightly more to organisations in the UK where more senior business leadership takes control of projects.

In Australia among those who have already migrated services into the cloud, the IT operations department is the overwhelming lead sponsor of these projects, with 35 per
cent indicating this to be the case. For those planning migrations, IT operations represent 22 per cent of the sample.

In the UK among both those who have migrated and are planning too, it is the CEO, regardless of their knowledge of the cloud that takes the charge for migration projects with an average of 43 per cent across both groups.

Yet it is the planning group in Australia that takes a slightly different journey to those who have already migrated. Among planners, 17 per cent indicated that it was a board-lead project, compared to just 4 per cent among migrators.

Clearly in Australia, cloud projects are led by the IT operations team, and although not explicitly asked as part of the survey, could this ownership be in some way connected to the motivations to curb shadow IT? After all, it was considered to be a far bigger motivation for cloud migration in Australia than in the UK.

Is the IT Ops department in Australia taking back control of their technology?
SECTION THREE: TAKING ACTION TOWARDS MIGRATION

Understanding the concerns and motivations around cloud migration also provide some good insights into what kind of responses organisations provide as to the types of workloads going into the cloud. Their concerns centre on uptime and availability, as such any customer-facing workloads appear to be too risky for many organisations to push into the cloud right now.

I. WHAT IS GOING INTO THE CLOUD?

Across both groups, the top three most popular workloads to move into the cloud were the same, bar slight variations in order of importance, namely; Mission and non-mission critical back office applications and business workflow systems.

Both migrators and planners were more reluctant to place workloads such as ‘systems of record’ e.g. banking or employment data as well as ‘systems of engagement’ such as social media or customer data. Australian organisations still move down a conservative pathway when it comes to placing different types of workloads into the cloud, particularly those that are customer facing or viewed as more critical.

UK organisations followed a similar route, but where a major difference was apparent between the two countries was in placing analytics and business intelligence into the cloud. Overall, across both groups, 46 per cent of business agreed they would have had done so, compared to just 29 per cent of UK organisations.
II. WHAT TYPE OF CLOUD?

While private cloud was the overwhelming choice among migrators (57 per cent), hybrid cloud (a combination of private and public cloud) is favoured among those planning to migrate workloads into the cloud (41 per cent).

In ‘migrator’ businesses, just 11 per cent used hybrid cloud as an option, with public cloud considered more among than group (33 per cent), compared to those planning (13 per cent).

In the UK, private cloud was the dominant option among both migrators (60 per cent) and planners (50 per cent).
III. USING EXPERTS

Across the board, there's agreement that using third party experts is a favourable and trusted. Sixty-one per cent of respondents across both groups agreed they had used or would use them. In the UK, the figure was slightly less at an average of 55 per cent across both groups.
SECTION FOUR:
MIGRATIONS DELIVERING OUTCOMES

I. HOW LONG DID IT TAKE?

There are some noticeable differences between the UK and Australia in terms of time taken for migration projects to be completed. While the numbers were similar in terms of projects being completed within a six-month window, 65 per cent in Australia compared to 62 per cent in the UK, the big difference was in the ability to complete projects within three months.

Of those 65 per cent of project completions within six months in Australia, 37 per cent were completed within just three months. In the UK, the number completed within three months was a mere five per cent. Are Australian organisations more efficient at getting the job? Or on the flipside, are they perhaps a little too hasty?

It would appear that both questions could be answered in the positive. Ironically, when asked what they would do differently, the number one reason for Australian organisations from 50 per cent of respondents was to ‘allow more time’ for their migration projects.

CEOs, business leaders and Boards of Directors drive 6 in 10 (61%) cloud migrations

Fig 13. - Timing of Cloud Migration (Respondents who had completed a cloud migration project)
II. HITTING THE BUSINESS GOALS
Despite the rapid push to complete and the desire to allow more time, Australian organisations are delivering on their business goals more so than UK organisations. Eighty per cent agreed that the cloud migration project had completely hit their business goals, compared to just 58 per cent of those in the UK.

III. THINGS TO DO DIFFERENTLY NEXT TIME ROUND
Of those who had completed a migration project, a quarter (26 per cent) said they would do some things differently. After allowing more time as the number one reason, ‘changing partner to facilitate the migration’ and ‘undertake more business change management with users and stakeholders’ were the second most popular choices (36 per cent each).

In the UK, it appears costs blowing out were the primary lesson learned. Nearly 50 per cent of those who said they would do things differently would ‘budget for more costs’. This was followed by ‘change the prioritisation used to decide which application to migrate first’ (37 per cent).

While there are always some lessons to learn from our projects, it’s highly encouraging to see that in Australia when we set goals and objectives, they are for the most part, hit.

Taking a steer on some of the differences between the two countries, could some of the rationale behind this be that ownership of Australian projects tends to stay more within the realms of IT operations, who for the majority appear to work with third party experts?

Cloud migration is always going to be a nervous change and challenge for businesses; despite the apparent quick turnaround Australian businesses appear to deliver.
At Rackspace we’re naturally always going to suggest that the use of third party experts will go a long way towards alleviating some of the concerns business may have, and perhaps help those who have already migrated workloads into the cloud see that cloud can be a competitive advantage, not just an avenue to migrate back office systems.

However we also appreciate and understand that working in partnership with someone is not for everyone. We’ve helped to prepare six simple tips below for anyone looking to migrate workloads into the cloud:

1. REMEMBER THE BASICS
Moving to the cloud is a migration, so you don’t want to forget the basic steps of any migration. While you will have downtime, try to do as much heavy lifting and testing while your original server is live. Remember that you will have to change the DNS for your domain, and generally speaking you want to set the TTL as low as possible. A good rule of thumb is that you should always plan for three to four times longer for the new DNS to propagate than you would expect.

2. KNOW YOUR APP
You need to understand how your application is architected and the bottlenecks that it experiences. Knowing which parts experience the heaviest load will allow you to focus on scaling out those sections. To take full advantage of the cloud, ensure that your app can assume multiple end points on each different layer (e.g. web, application and database).

3. INTEGRATE THE API
We have publicly exposed our Cloud API and encourage your app to take advantage of it. By integrating your application with our API, you can call on it to do a variety of tasks automatically, such as scaling out a layer of your configuration horizontally as it receives a higher load. Be sure to check out our Dev Ops Blog where our Rackers post innovative ways to use the Rackspace API.

4. MONITOR YOUR PERFORMANCE
Not only will you want to monitor the performance of your app after you complete the migration, but it is important to understand how your app is performing before the move. When you begin deploying your app in the public cloud, you will most likely have multiple endpoints. It is imperative that, at a glance, you can understand how all your hosts are performing. Our Cloud Monitoring service can help you do this (even if your app is hosted in-house), as well as other open source monitoring solutions such as Nagios.

5. UNDERSTAND INDUSTRY / REGIONAL COMPLIANCE REQUIREMENTS
Depending on your industry and location, there could be different compliance requirements to which you must adhere. Ecommerce applications are subject to PCI compliance, medical applications can be subject to HIPAA requirements and there are other industry and regional rules. You should, however, consider that these requirements might only apply to certain layers of your configuration. For example, if you’re an ecommerce business, you could host the PCI compliant layer on our dedicated servers and connect to a web layer hosted in the open cloud via our RackConnect product. For example reference architectures, be sure to check out this blog post.

6. HAVE A ROLL BACK PLAN
Before you start your migration, you must know how to undo it in the event that something goes awry. I know that people get nervous when you discuss the possibility of failure and having to roll back; however, if you don’t plan for a failure, it becomes all the more painful if one occurs.
SURVEY METHODOLOGY

Telephone interviews were conducted with 100 senior IT Decision Makers from business that have either undertaken, or are considering undertaking, a cloud migration. These included businesses in a range of industries including: Manufacturing, Retail and Wholesale Trade, Financial and Insurance, Construction, Property and Business Services, Education and Health and Community Services.

All respondents needed to be able to speak with authority on their business’s IT and cloud migration strategies and experiences. Interviews were conducted in June 2016, and targeted a broad representation of industries and business sizes from 20 to over 200 employees.

NB: Answers will not always add up to 100% because respondents could choose more than one answer.