



The cloud management challenge

How your organisation can manage increasingly complex cloud deployments and deliver business outcomes

There's no doubt cloud has changed enterprise IT, but with that transformation has come significant new challenges.

Which cloud provider best matches your IT needs, or should you choose multiple providers? Will you be able to shift to other providers as the market evolves? What mix of public and private cloud best suits your organisation now and in the future? How do you migrate legacy applications, deliver forecast cost benefits and achieve greater agility? How do you manage increasingly complex cloud deployments?

iTnews, in conjunction with multi-cloud management services provider Offis, sought to understand how organisations are addressing some of these issues by undertaking a research program that included a survey of iTnews readers and a roundtable discussion of leading IT executives. The roundtable participants included CIOs and other IT leaders from organisations ranging from the Barangaroo Delivery Authority to Domain.

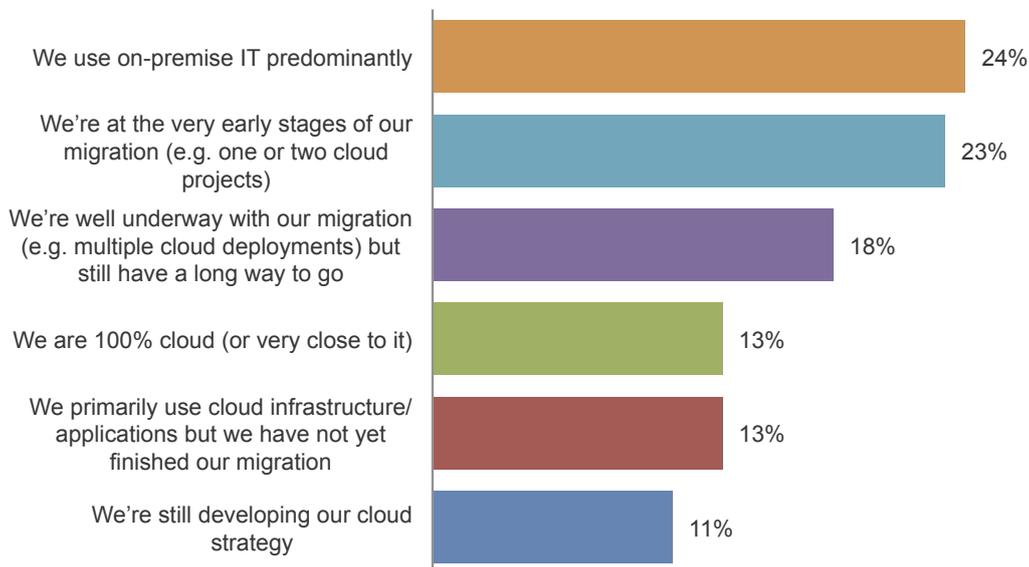
Our research uncovered a number of insightful findings, including:

- A fragmented market with wide-ranging cloud maturity
- Rapidly changing attitudes, with an increasing number of CIOs considering 100% cloud a realistic goal
- The ability to adopt DevOps outpointing cost reductions as the most important cloud benefit
- The complexity of today's deployments and market causing a dichotomy where costs and

security are both major cloud benefits and challenges

- That complexity resulting in significant cloud management challenges
- Two completely different solutions to those challenges: going all-in with one cloud provider or taking a multi-vendor approach using a cloud management platform
- How a multi-cloud management platform can address a number of cloud challenges, including cost control, availability and disaster recovery, legacy applications, data sovereignty and compliance.

What best describes the current status of your organisation's cloud journey?



IS ALL-IN CLOUD INEVITABLE?

Perhaps not surprisingly, our research found that Australian IT is a highly fragmented market in terms of cloud maturity. The majority of respondents to our survey were not mature cloud users, with around a quarter using on-premise IT predominantly, another quarter at early stages of cloud migration and 11% still developing a cloud strategy.

On the other hand, the survey revealed a surprisingly high number of mature cloud users, with 13% reporting their IT infrastructure was entirely in the cloud or close to it, and another 13% primarily using cloud for their IT.

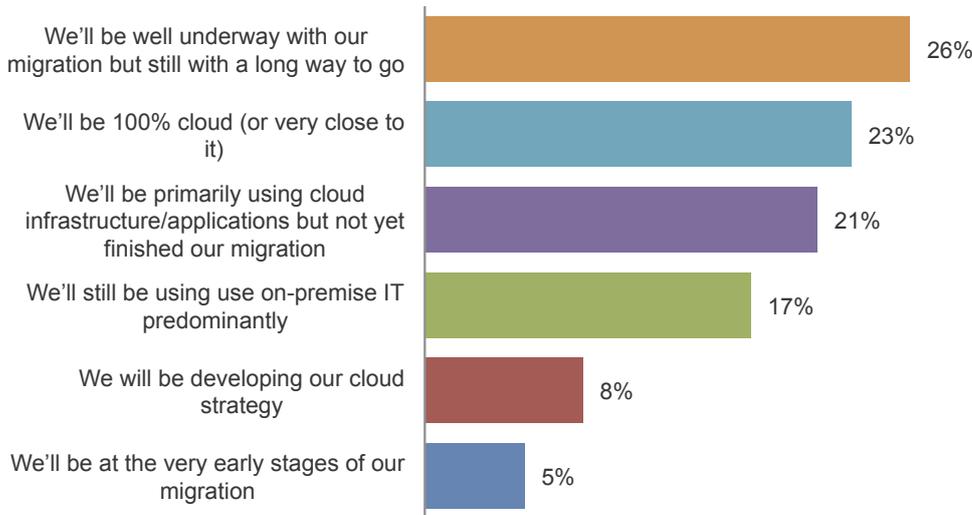
Australian IT appears to have reached an inflection point, with the survey revealing sharp increases in respondents forecasting they will be well underway with cloud migration or primarily using cloud for their IT over the next 1-2 years.

Not so long ago, few enterprise IT leaders would have predicted the complete demise of their on-premise IT infrastructure, but almost a quarter of survey respondents forecast their organisation's IT would be



iTnews' recent cloud management roundtable.

Where do you think your organisation will be in 1-2 years?



SO MANY BENEFITS

Surprisingly – and further evidence of the market's increasing maturity – survey respondents nominated the ability to adopt DevOps as the cloud's most important benefit, with improving agility and flexibility also figuring prominently.

Those benefits certainly rang true for McManus, who said: "For us, it's about getting features out the door as quickly as possible. We have a huge competitor who can move faster than us in any area they want to, given their

entirely in the cloud within two years.

Roundtable attendees agreed that attitudes were rapidly changing.

"People will come either kicking and screaming or they'll embrace it, but most of us will end up 100% in the public cloud," said Ian Gibson, CIO of superannuation clearing house SuperChoice.

"We're probably 80-85% of the way through migrating all our infrastructure to the cloud. Our objective is eventually to be 100% in the public cloud."

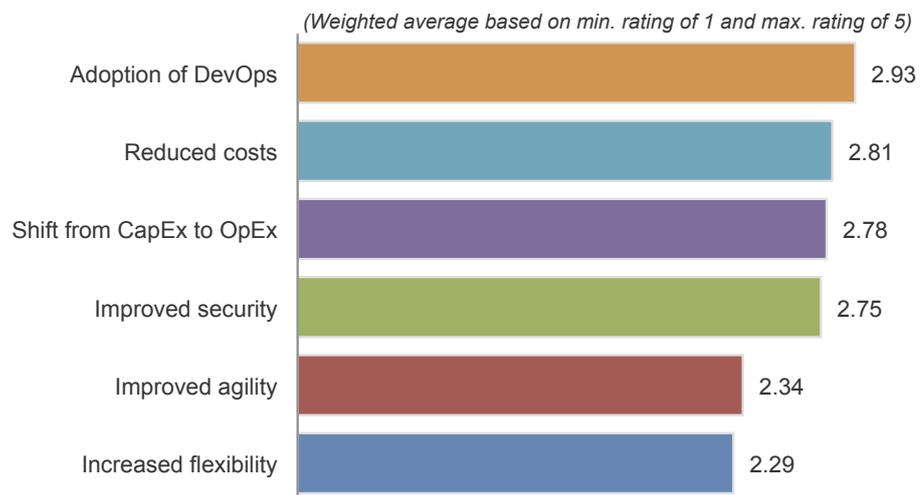
Residential property website Domain is now "100% hosted out of Amazon Web Services", having migrated from an on-premise data centre about two years ago, according to Technology Director Paul McManus.

Other attendees weren't as advanced in their migration but it was nevertheless a high priority. For example, Hani Arab, CIO of facilities services provider Assetlink, said: "We have started the journey and our focus is to be 100% in the cloud in two years."

larger team.

"So, for us it's all about coming up with an idea and getting it to market as soon as possible. We can sometimes do that in less than a day now. We have a great DevOps team who have now templated our whole production stack, so I can have an auto-scaling, auto-healing backend ready within an hour or so, add some data, then be ready to integrate it into our applications."

How do you rate the following benefits of cloud?



Respondents nominated other cloud benefits too, including:

- Easier maintenance and reduced support requirements
- Up-to-date capabilities, and additional features not available or affordable with on-premise IT

"People will come either kicking and screaming or they'll embrace it, but most of us will end up 100% in the public cloud."

– Ian Gibson, CIO of SuperChoice



Domain's Technology Director Paul McManus.

- Improved disaster recovery and higher availability
- Architectural benefits such as platform standardisation and the ability to move services to platform- or software-as-a-service.

SO MANY CHALLENGES

Still, while most survey respondents appear to be forging ahead with their cloud migrations, not everybody is convinced. Ten percent of survey respondents said they were not using any cloud service – a figure forecast to remain static over next 1-2 years.

“We still see a lot of enterprises and mid-sized businesses saying ‘we still think we need our own data centre for some workloads,’” said Franck Demoiseau, CEO of Offis.

Clearly, migrating to the cloud has its challenges, and many IT leaders appear to be feeling some pressure in meeting expectations. Delivering greater agility and forecast cost benefits were two of the main cloud-related challenges identified by survey respondents.

Gibson agreed that delivering greater agility was a big challenge “because when you migrate to the cloud you find all this stuff in your infrastructure you didn't know was there.

“In a traditional environment your operations team compensates for a whole bunch of deficiencies in the deployment process. They may know that certain code needs a manual workaround, but when you automate the process for the cloud, it fails. We call this ‘brittleness’ and we reckon around 40% of

our migration effort has been spent fixing up these deficiencies.

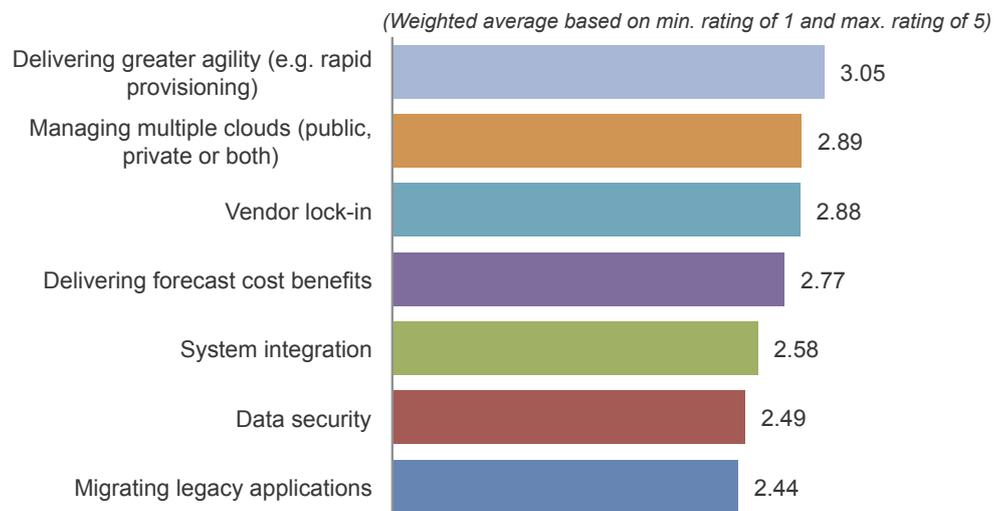
“It makes conversations with your CEO harder when they ask why are you're spending so much time on this cloud migration project, so you need to set expectations.”

What makes those conversations easier is when you have a big win. For Gibson, that came in the form of a legacy app, which contrary to the usual practice, was one of SuperChoice's early cloud migrations.

“We were lucky because we had a client who wanted us to build a dedicated test environment for the legacy app,” said Gibson.

“I remember the meeting when I told our CEO that we'd re-built our 17-year-old legacy app in AWS, tore it down and built it again in our private cloud environment – and he said ‘you're kidding, you didn't do that, did you?’ So we showed him – we pressed the button and by the end of the meeting it was completely built from nothing, created the servers, built the database, loaded the software and got it up and running in just under an hour.”

How do you rate the following cloud-related challenges in your organisation?



Cloud security was identified by survey respondents as both a benefit and a challenge, with the issue of identity and access management one specific area mentioned.

McManus contended that “in many ways, security gets easier the more you standardise in the cloud. You've got your configuration management scripted and you can see changes in source control, so you shouldn't end up with a virtual machine over here which has a port open, because everything is created and destroyed by the same script.”

However, he and others at the roundtable acknowledged the importance of securing that automation layer, because the consequences of it being breached could be huge.

“In many ways, security gets easier the more you standardise in the cloud.”

– Paul McManus

Other challenges nominated by survey respondents included:

- Migration issues such as “getting your requirements right”
- Poor internet connections and latency issues with certain services
- Educating management on cloud issues
- Cloud vendor support and keeping up with rapid changes in cloud services
- Compliance and data sovereignty.

Roundtable attendees nominated another major challenge: finding staff with the right skills.

“You don’t jump on to a server and fix things anymore – you go back to the source code, you change it and then redeploy it. That’s a different way of thinking that most infrastructure people aren’t used to,” Gibson said.

McManus agreed: “Infrastructure staff have to be software developers. But it’s a challenge finding the right people because not many developers move into infrastructure.”

CLOUD ECONOMICS

Costs were also considered both a cloud benefit and challenge by survey respondents, and the consensus among the roundtable attendees was that cost reduction was not a cut-and-try cloud benefit. They agreed that cost control of cloud services

was becoming increasingly complicated, due to rapidly changing prices, different pricing models of providers, and increasingly large and complex cloud deployments.

One survey respondent nominated “cloud creep” as a particular challenge. For Johan Sulaiman, Head of ICT at Sydney’s Barangaroo Delivery Authority, the cost of cloud storage was an issue.

“For compliance, much of our data has to be kept for seven years and, in some cases, 75 years, or State Archives,” he said. “In other agencies, to pay a cloud provider for 10, 50 or whatever petabytes of static data over a long timeframe is difficult to justify, when you compare it with the cost buying your own devices.”

“Our two design principles are: you must be able to automate it – if we can’t automate it we won’t do it – and the other is being cloud provider independent.”

– Ian Gibson

Peter Bourke, Director of IT at Event Hospitality & Entertainment, said his organisation’s issue was the “cost of telecommunications to get decent network bandwidth” to the company’s 140 hotels, cinemas and other properties.

Gibson agreed there were cost complexities, but argued: “It’s about total cost of ownership, because it’s not just buying the service and running it – it’s training the staff, keeping them up to speed with it, and I think most people would recognise now that cloud infrastructure is a scale industry and I think a part of that is security.

“To make the investment in putting in place your own infrastructure, training people and putting in place the security – you just can’t do it unless you can afford the investment that the big banks make.

“What I’ve found to be really effective when having cost conversations is not to talk so much about what we’ve deployed to the cloud, but what we’ve been able to turn off – decommissioning software and environments. When you turn stuff off that makes the CFO happy.”

MANAGING MULTIPLE CLOUDS

Our survey provides some clues about how cloud deployments are becoming more complex and evolving.

Most respondents used hybrid cloud, and while that overall number is not forecast to change significantly over the next 1-2 years, the makeup of their cloud services is – with those mostly using



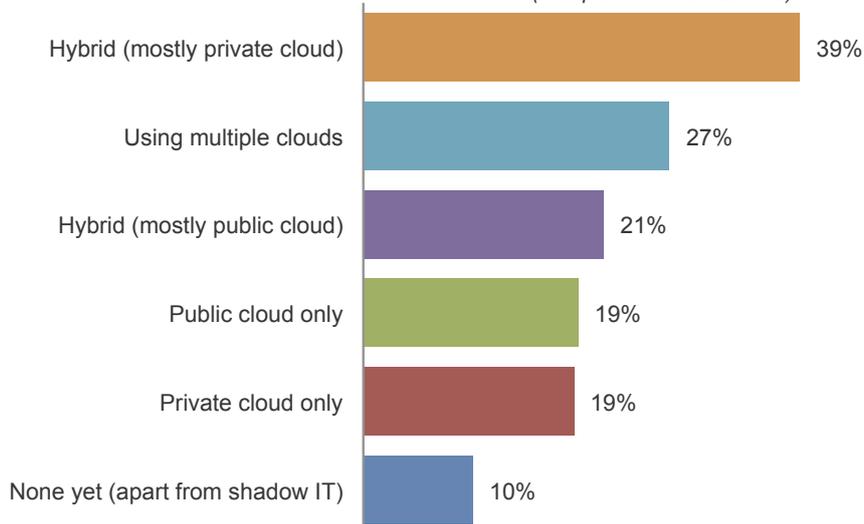
Ian Gibson, CIO of SuperChoice.

private cloud dropping 6 percentage points and those mostly using public cloud increasing by 5 percentage points. At the same time, organisations using multiple clouds will jump to 30%.

“Our two design principles are: you must be able to automate it – if we can’t automate it we won’t do it – and the other is being cloud provider independent,” explained Gibson. “We’re comfortable locking in with

What type of cloud services has your organisation adopted?

(Multiple selections allowed)



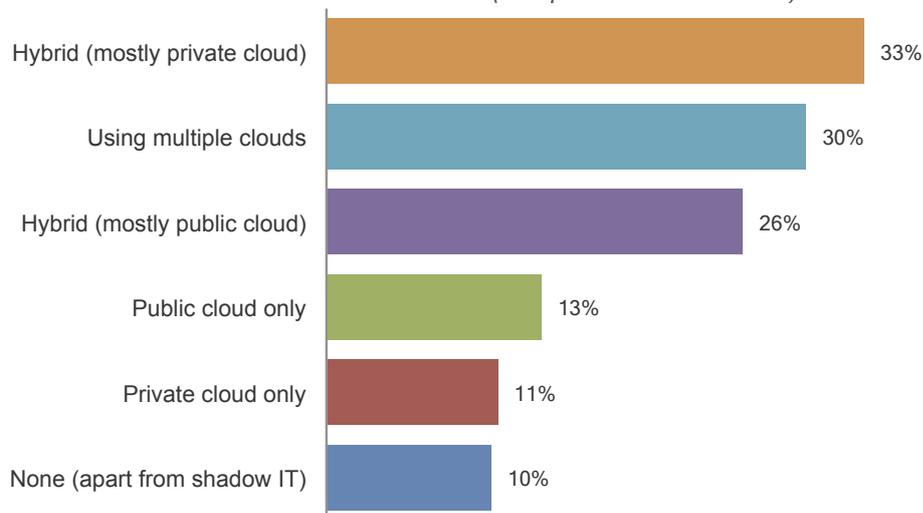
RightScale because we think there’s more value in being able to play off the cloud service providers.”

McManus, on the other hand, said: “We rejected the idea of multi-vendor cloud.”

The main reason, he said, was the need to get new features and applications to market as quickly as possible, and AWS’s rich toolset of services allowed him to do that. McManus also argued that if Domain “abstracted away” from those native tools, they would lose important functionality.

How do you see this changing over the next 1-2 years?

(Multiple selections allowed)



For example, AWS’s serverless compute service Lambda was becoming increasingly important to the Domain team, he said. “When we had to create a Facebook messenger bot, Lambda allowed us to build something in less than a day. I don’t like to think what would happen if we had to move off Lambda.”

The decision to go all-in AWS was tested earlier this year when Domain fell victim to

Not surprisingly then, many respondents identified multi-cloud management as a major challenge – and our roundtable discussions revealed two completely different approaches to the problem: Domain’s all-in Amazon Web Services setup and SuperChoice’s multi-vendor clouds glued together with the RightScale cloud management platform.

Both approaches offer sophisticated cloud management tools and the ability to automate the deployments of complex environments, but they differ in that Domain’s tools are native to AWS while SuperChoice’s toolset is abstracted above the cloud services layer in RightScale.

the cloud giant’s much publicised Sydney outage. “We thought we were covered because we had redundancy across multiple zones, but during the outage we couldn’t connect to their API, so we didn’t have as much control as anticipated. We learnt a lesson,” he said. “It made us re-evaluate our position and consider multi-cloud, but we decided to stay with AWS. Our current strategy is to have an active/active setup across two regions – in Australia and in the US.”

McManus also acknowledged this approach meant being locked into AWS: “If Amazon did increase prices by 30% all of a sudden, we might have to



Peter Bourke, Director of IT at Event Hospitality & Entertainment

look at moving to another platform. It's a trade-off and each company has to choose what's most important to them, and for us it's being able to get to market quickly."

ADDRESSING KEY CHALLENGES

Vendor lock-in was considered a major challenge by many survey respondents, but according to Demoiseau, it's a challenge that can be addressed by using a cloud management platform like RightScale that can readily shift workloads between cloud services. This not only allows organisations to minimise costs by following the best prices, but it can also address a number of cloud challenges: availability and disaster recovery, difficult-to-migrate applications, data sovereignty, compliance and balance-sheet issues, along with integration with the many existing governance, security and management systems.

Gibson acknowledged that timing can be an issue when it comes to planning a cloud migration, particularly if an organisation has a lot of hardware still on the balance sheet. But he recommended solutions such as VMware vSphere and a cloud management platform to repurpose existing hardware as a private cloud and have the capability shift the workloads to public cloud in the future.

Legacy software and data sovereignty concerns can be handled in a similar way, he said: by creating a hybrid multi-cloud environment and, with the likes of RightScale, having the flexibility to shift those resources later if desired.

Compliance is a major cloud challenge, according to our survey respondents, with some nominating the need to comply with the Australian Prudential Regulation Authority – including the APRA regulation (CPS 231) that forces financial institutions to demonstrate that they can easily and quickly switch providers or in-source.

However, Demoiseau – who has extensive experience

as a CIO in the financial industry – pointed out that this regulation can be satisfied by using RightScale, because of its ability to easily shift workloads to different cloud providers.

AGILITY FOR THE FUTURE

As CEO of Offis, an official RightScale provider in Australia, Demoiseau also pointed out that the cloud management platform can allow organisations to use functions specific to a particular provider through the use of plug-ins – although whether that can be ported to another provider depends on if the new provider has equivalent functionality (and a RightScale plug-in).

"No matter whether you're talking about data or workloads, no organisation can really think that those workloads are going to be in a particular place forever. I think everything has to be looked at as an agile, potentially movable and portable workload or piece of data," Demoiseau said.

McManus pointed out another reason to have the flexibility to adopt other providers in the future. "We're happy with the three basics – compute, storage and networking – but we would consider alternative clouds for new capabilities like Azure's machine learning and Google's predictive abilities," he said.



Johan Sulaiman, Head of ICT at Sydney's Barangaroo Delivery Authority.

And, increasingly, having the flexibility to take advantage of these new technologies is vital. Cloud deployments may be becoming more complex, throwing up new challenges and delivering a range of business outcomes, but our research confirms that for leading organisations, the cloud is about providing the agility to adapt and grow in the future. ■

September 2016



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SURVEY RESULTS

How are you managing your organisation's clouds?

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ABOUT THE SURVEY

The iTnews multi-cloud management survey was held in September 2016. It attracted 226 iTnews readers, with 9% being CIOs, CTOs or CDOs, 33% being IT executives, directors or managers, and 23% being IT professionals. The other respondents ranged from IT admin and support staff to CEOs. The largest proportion of respondents (41%) worked in large organisations with 1000 or more employees, while the others were fairly evenly spread among micro, small and medium-sized businesses.

ABOUT THE ROUNDTABLE

The iTnews multi-cloud management roundtable was held in Sydney in October 2016. Attendees included IT executives from Assetlink Group, Barangaroo Delivery Authority, Domain, Event Hospitality & Entertainment Ltd, O'Brien Glass Industries, SuperChoice and Offis.

About OFFIS

Since 1997, Offis has designed and deployed thousands of hosting services for some of the biggest brands in Australia and around the world. Today, Offis provides customised services and round-the-clock support across the entire cloud hosting strategy (private cloud, public cloud and hybrid cloud) – from planning to implementation, integration, management and beyond. Offis' expertise and technology manages the cloud infrastructure for high profile Australian and international businesses, allowing them to better service and understand their customers.

Being the first RightScale partner in Australia since 2014, Offis is cloud-vendor agnostic, and therefore ideally placed to give unbiased advice and to deliver the most appropriate options, maintaining full flexibility across multiple clouds and technologies, which allows Offis' clients to future-proof their investment.

About iTnews

This report was produced by the team at iTnews, Australia's most awarded technology publication for Australian business. In an age when the right information at the right time can make or break a deal, Australia's technology leaders rely on iTnews for their daily fix of accurate, up-to-the-minute news, analysis and research.

Information and communications technology is the engine room of the modern business. Business leaders tell us they rely on iTnews to inform their strategy, make business cases for technology investments, set policies and chart their careers. Collectively, the team at iTnews has won a swag of awards which include Technology Title of the Year, Best News Title, Best Editor, Best Business Journalist, Best News Journalist and Best Technical Journalist.

The iTnews team also curates technology conferences and judges the annual Benchmark Awards for excellence in ICT project delivery.



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