



A Tech Research Asia Report

# Five Good Reasons for Considering a Regional Data Centre



Commissioned by Schneider Electric and Pulse DC





## Introduction and Executive Summary

THE time of “cloud first” is past. Australian organisations have now graduated. More mature and experienced we are now pursuing a workload-by-workload IT strategy. One that absolutely embraces cloud computing, but also encompasses traditional on-premises computing, colocation providers and edge computing. An Edge to Core Hybrid IT mindset, if you will, that says an application will be located in the most appropriate place for its purpose and desired performance.

To this end, there are ample choices today for an enterprise or government to locate their IT infrastructure and application workloads. While many will immediately think about cloud computing services or capital city-based colocation data centres, there are valid reasons for opting for, or at the very least evaluating a regional data centre facility as part of this evolution. Challenging the status quo, is after all in our best interest as we continue in the new digital era.

In this TRA report we first look at where data centres are typically located around the world to show that not everything is necessarily located in the big smoke; big data centre users are going regional. Then we offer five reasons for considering a regional facility, such as those popping up in Australia. We also offer a checklist of questions that all IT and data centre leaders should consider when evaluating their data centre and cloud computing options.

## Key Points



Many of the largest data centres and campuses around the world have been built and are being built in regional locations away from capital cities. Australia, however, is late to this trend and is only now starting to witness its first high quality regional colocation data centres.



Australian organisations continue to consolidate their own data centres (down 25% in two years) in favour of cloud computing and colocation with a private cloud. But rather than a move solely to cloud services, there is a hybrid IT approach taking over as the main trend. Overall IT infrastructure and rack numbers continue to grow.



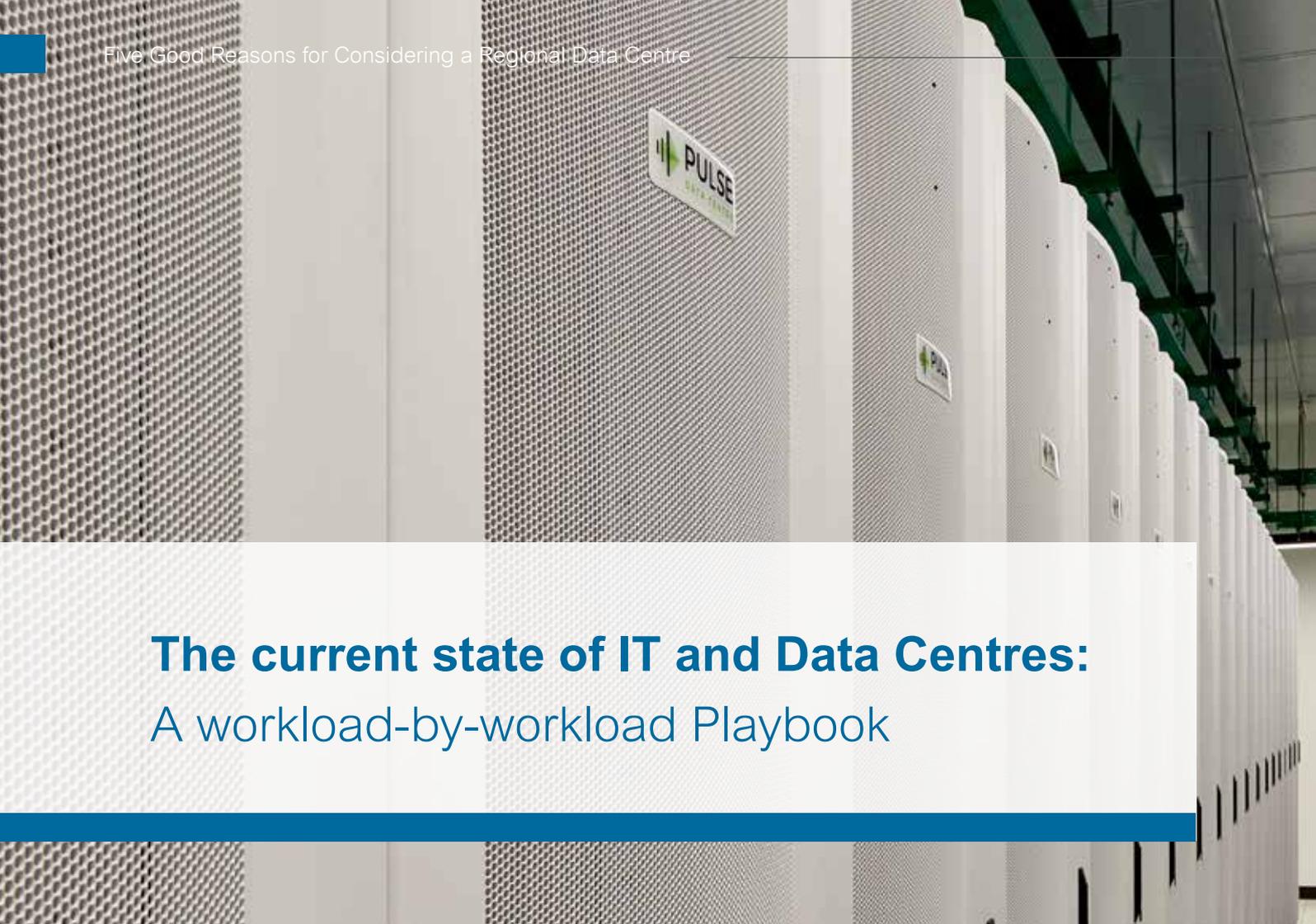
One in two Australian CIOs wants to have 50% of their budgets dedicated to new projects by 2020. Many of these digital opportunities are new workloads (under the banner of Industry 4.0) and will involve regional locations. This will involve an edge to core architecture.

## Recommendations



**Ensure you include an evaluation of regional data centres when you make a decision on where to locate your workloads. Don't assume a capital city will give you the best outcome.**

**Use the checklist in this report to give your current strategy a health check and help your organisation challenge status quo thinking to establish a focus on the core.**



## The current state of IT and Data Centres: A workload-by-workload Playbook

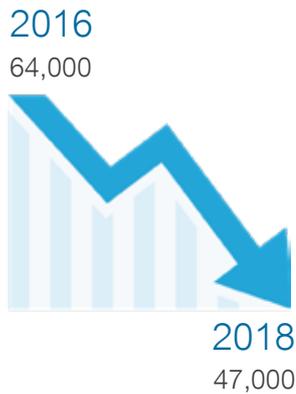
AUSTRALIAN organisations are moving from a “cloud first” mantra to a workload-by-workload playbook. Our approach to where we locate application workloads is maturing. Many strategies now embrace not just the major cloud computing providers but also colocation and edge computing. In effect, it is a hybrid IT world that includes an edge to core approach depending on what is the best fit for the workload and its intended outcomes.

Indeed, TRA research conducted in 2018 indicates the majority of Australian CIOs and IT leaders are following a fit for purpose workload-by-workload, data set-by-data set playbook. This incorporates some on-premises data centres (although they will continue to decline by about 25% over the next 2 years) and edge computing, colocation facilities and the ecosystems within them, all the way through to the major public clouds.

Many organisations have learnt the journey to cloud, while mostly beneficial, is not always that easy and not necessarily the best place to locate workloads. Refactoring or rehosting applications to migrate can also be time-consuming and costly – less than 40% of Australian organisations have any given app running in a public cloud. Changing culture to leverage cloud (e.g. DevOps, APIs and microservices) is also hard, as is managing commercials and the heterogeneous nature of service suppliers.

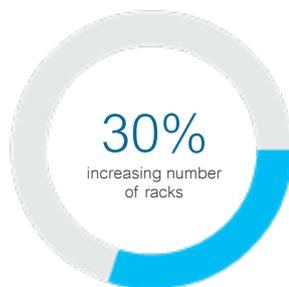
### Some other points that characterise the current Australian market include:

#### Australian Organisation Owned Datacentres



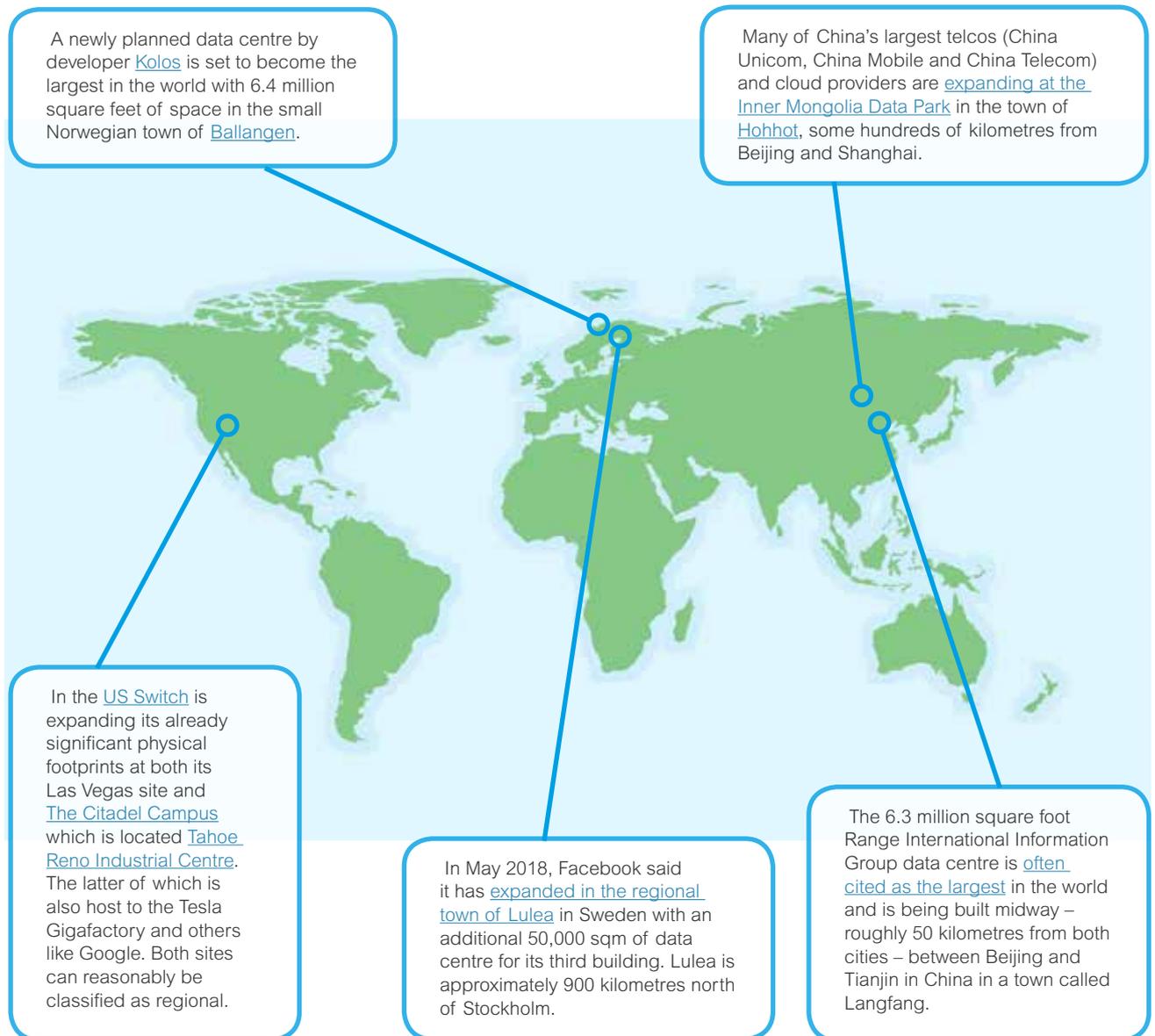
- There are roughly 47,000 organisation owned datacentres in Australia, down from 64,000 in 2016 as a result of consolidation. We expect another drop of around 25% in the next five years.
- Colocation as a collective market continues to grow its overall footprint with multiple new builds across the region at the same time as all major cloud providers are in the market and expanding. It is a hybrid IT market.
- Colocation is used by over a third of organisations and those that do use it are taking additional space and in additional locations.
- The main challenges with data centre and cloud computing strategies according to Australian CIOs are budgets, security, people, and power.

#### Australian IT Infrastructure Growth



- There is ongoing growth in the total number of racks of IT infrastructure in Australia with 30% of organisations saying they are increasing the number of racks they have and 25% say they are decreasing.
- The global trend of modularisation in data centres continues.
- There is a move to greener energy and this is often pursued in regional areas due to difficulties of achieving it in CBD facilities. But Australia is lagging other regions, especially the USA and EU.
- Agile development approaches combined with DevOps and microservices are being pursued aggressively.
- Australian organisations are striving to shift their spending and allocation of resources towards new projects and innovation; the goal for one in two CIOs is to spend 50% of their budget on new projects by 2020. A lot of this comes under the umbrella of Industry 4.0 and the Internet of Things (IoT) with applications that are often location dependent that require compute, networking, and storage at a site to overcome latency, lack of suppliers, or to provide better customer experience.

Other notable trends that need to be considered is that when you take a global view of where the newest and largest data centres are being located, you notice they aren't all going into major centres of commerce or population centres. Yes, there are certainly some greenfield facilities being built and many expansions of major metro data centres. But there is a parallel trend where facilities are being built in what might be termed regional locations (both with pros and cons for end users). Take the following short list of some of the largest facilities in the world:



This is just a small sample (see [here](#) for some more updates on new facilities). In Australia the vast majority of data centre colocation space and cloud computing services and the largest facilities are located in Sydney and Melbourne and to a lesser extent in Canberra and Brisbane. There are some facilities in Perth and Adelaide and a spattering of smaller facilities elsewhere (e.g. Bendigo, Wollongong, Hobart, and Darwin). But the bulk of the [225+ colocation data centres are in the major cities](#).



One of the most recent additions to the Australian landscape is [Pulse DC](#) – the co-sponsor of this report – which to some extent breaks the mould by being a Tier 3 (Uptime Institute) certified designed and built facility in [Toowoomba](#). This location somewhat mirrors the parallel trend happening globally to establish data centres outside of major metropolitan centres (aka capital cities).

Will we see more data centres in regional Australia? This is a question that has often been asked over many years. Considering the workload-by-workload playbook being driven by the growth of digital business and the latency and customer experience needs of many newer Industry 4.0 or edge computing applications, there is now reason to expect more of this kind of data centre colocation space.

Which, of course, opens up opportunities for end users and service providers to consider these facilities to house their infrastructure. We touch on some of the reasons you may decide to go regional, and not metro for your workloads next.



# The 5 Reasons to consider Regional Data Centres and Clouds

AS with all areas of IT adoption and consumption, TRA encourages Australian IT and business leaders to challenge the conventional thinking, which at present is typically to locate IT workloads in capital cities in Australia. This doesn't mean we think everything should go to a regional facility – it won't and shouldn't. But with a workload-by-workload playbook for Hybrid IT being the focus, there are strong reasons for considering a regional facility. Every organisation needs to make its own decisions based on its own unique circumstances, but we encourage consideration of the following. These include, but aren't limited to:

## 1

## The total cost of ownership and value for money.

Of course, this is something that every organisation looks for in all of its investments (and if you aren't, what are you doing?). Very few, however, have done a direct comparison to a regional facility against a metro one when making decisions or when deciding on short lists for colocation or data centre services (including the public clouds). This is understandable in Australia considering the true lack of high quality data centre space, the cost of bandwidth and questions around latency to date. But these questions have been largely addressed by regional facilities increasingly these should be part of the evaluation process.



The value for money to be derived from wherever you host your workloads, will be dependent on what you are trying to achieve. However, we would suggest it is reasonable to assume that with technology like Software Defined WAN and the supply of Tier 3 (Uptime Institute) data centre space in regional spaces starting to emerge, there will be an argument that the direct cost of services from a regional provider versus a capital city provider may be lower overall. A regional provider's own cost base should be lower (as regard real estate investment and the ability to generate cheaper or greener power onsite) so they should be able to offer customers better rates.

This would of course, extend into future cost forecasting and regional providers at present are more likely (although not exclusively) to be able to offer space and power for expansion in future. And finally, any evaluation of financials should include the associated costs of living and working for the IT and data centre staff themselves, but also for any other employees that move or already live in the regional area. There is no question these are lower in regional areas compared to the likes of Sydney, Melbourne and Brisbane.

Regional providers have met the challenge of remote support with concepts such real time remote hands video support that eliminates the need for travel, puts your people onsite instantly and records the entire process for audit or incident review purposes.

All in all, which comes out better in a TCO and value for money evaluation of a regional data centre versus a capital city one will be a case-by- case basis. But it should be an evaluation that is made.

# 2

## Disaster Recovery and Business Continuity.

In all TRA quantitative research with IT decision makers and line of business leaders in the past two years the number one issue that is nominated as most important is security. Not far behind is a renewed focus on disaster recovery and business continuity. Why? Aside from these being critical perennial factors for all organisations, there has been a spate of outages as a result of issues with IT in recent years, and with it customer dissatisfaction (read up on the #Vodafail issue if you have any doubts). And second is the increasing velocity of security incidents. Combined they have brought business continuity and disaster recover (BCDR) to the fore.

The Australian Cyber Security Centre (ACSC) Threat Report 2017 noted, for example, that cybercrime is a pervasive threat to economic and national security. It responded to 6456 serious incidents in the past 12 months, of which 58% were reported by industry. That is 17 major incidents reported per day.

When we add to this the rising number of natural disasters and throw in the threat of traditional or contemporary acts of war then it is clear why BCDR is so important and gives organisational leaders headaches.

We know that geographic diversity helps when it comes to architecting a more resilient data centre set up. Typically, Australian organisations have opted for site diversity between capital cities like Melbourne + Sydney or Brisbane + Sydney or Sydney + Canberra. Sometimes, it has been within the one metro city. This in itself isn't a bad thing. To be sure, many organisations have successfully used this set up with little to no trouble for a long time.

But is it enough? Without wanting to come across as fear mongering, it would only take one coordinated attack or an unlucky set of events that impacted two of Australia's East Coast capitals where a lot of IT infrastructure is concentrated to take out a

significant amount of the nation's economy and basic services (or that of a single organisation). It is one reason why many overseas data centre operators and builders have gone regional as we noted above.

To ensure real geographic diversity and lower risk profiles we would encourage organisational leaders to evaluate regional options for the BCDR needs.





### 3

## Building new digital business opportunities (e.g. Industry 4.0)

The digital era is about far more than just consumers. Yes, they are predominantly in capital cities and play a big role in shaping what happens in a connected world, but there are many opportunities that come under the Industry 4.0 (and Internet of Things or IoT) umbrella for organisations of all types to pursue that aren't in the metro locations. The cost of entry to building connected devices and related services has never been lower and this applies just as much to regional Australia.

Many of these digital opportunities are now outside of capital cities and in the industries that dominate regional areas. Importantly, connectivity in many regional places has improved considerably and will only get better.

Take smart agriculture as just one example of an opportunity. While typically making up less than 1% of ICT spending in Australia, the agriculture industry now has multiple hackathons, accelerators and highly progressive examples of the use of robotics, big data, drones, edge computing, sensors, machine learning and blockchain to boast of. SmartAg, as it is often called, is now sexy and considered a big ICT opportunity (to the point that some research suggests it will drive growth in the industry to make it a \$100 billion contributor to the economy).

The thing to note in TRA's view is that there is significant upside in digital opportunities in regional locations across Australia, across many industries for both those consuming IT and those selling it. Most of these opportunities will require localised data centre facilities to act as a digital hub. We expect to see more organisations consider regional digital opportunities in future and for this to be accompanied by evaluations of regional data centres (and more of them being built to support "edge computing" needs).

# 4

## Greater surety of expansion

In 2010 Australia went through a burst of data centre colocation building to the tune of over \$1 billion construction investment. This was kicked off in part because there simply wasn't enough supply of quality space and power – many existing facilities (located in capital cities) were ageing and not able to offer customers assistance with their expansion needs. Fast forward to 2018 and the growth in colocation data centre construction remains strong, albeit at a slower rate than in 2010. There is almost a “build it, and they do come” trend happening.

There is almost a “build it, and they do come” trend happening

Yes, there is new data centre space coming online in capital cities and available today and increasingly some in regional areas (like Pulse DC). Australia is unique in the fact that, as we mentioned earlier, most organisations, including the largest cloud computing and online providers compete for the same space and power in capital cities. Elsewhere in the world, big data centre users have already opted for regional locations to ensure they have enough space and power to expand as they need. The risk and cost of not being able to expand if or when a capital city becomes too expensive or simply runs out of power/space is too high.

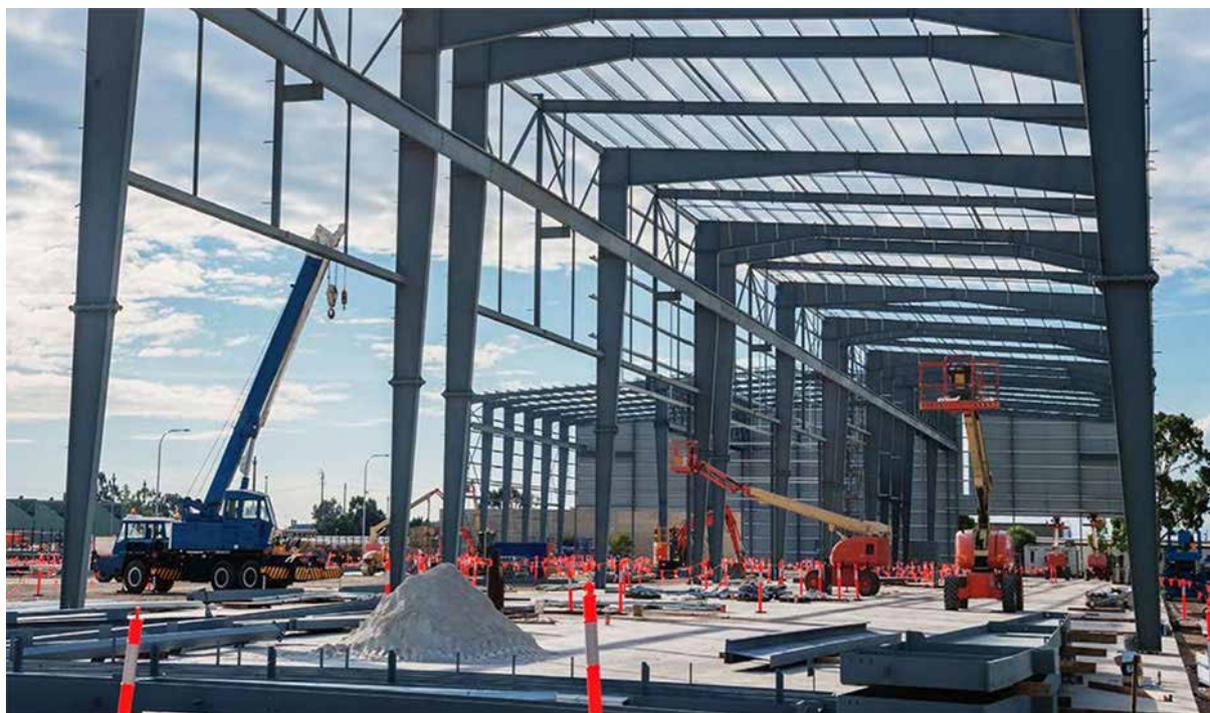
Therefore, the question we would ask all IT and business leaders to raise is whether capital city- based data centres will be able to support their data centre growth needs over the next 10 years as we continue to go digital? Or, would a regional facility offer greater surety of expansion? The answer will depend on your circumstances, but it is a question that you can legitimately and should ask today.



## 5

## Supporting localised projects and alignment with government objectives

The last reason we put forward for considering a regional data centre facility is to address the question of how to support projects that are already in a regional area or planned to be.



Assuming the presence of a regional colocation facility, there shouldn't be any need for an organisation to establish or operate their own data centre (even from a containerised facility). This would in many circumstances simply be detracting from the core of what an organisation does and investments could be better placed elsewhere.

But it is likely – considering the IT requirements of projects across all types of industries today – that you will need to use a localised data centre in a type of edge to core architecture (or for the physical diversity of data centre site requirements). Regional colocation facilities may offer an appropriate solution. Further, many state and federal governments have policies and incentives in place that can make this attractive, including weighting in capital city tenders for regional solutions or local solutions that support growing local economies which benefit end users.

# Steps to Take for a 20:20 Vision

The following is a list of key questions that TRA recommends all Australian organisations be able to answer about their Hybrid IT approach and the possible role of regional data centres in this. It is not meant as an exhaustive list of guidance questions but should be used to help start – or restart – internal discussions about optimising your infrastructure and workload strategy. It should also be used to challenge the conventional thinking and help you evaluate regional colocation facilities.



## The Hybrid IT Vision



### HAVE YOU

Have you evaluated in collaboration with all stakeholders (IT and non-IT) which application workloads in your organisation are core to helping it achieve its purpose and provide real differentiation? Do you need to develop any new ones?

- Which workloads might help your organisation benefit from the potential upside in digital business in regional Australia?

### HAVE YOU

Have you established or reviewed your IT strategy and set of guiding principles that will underpin all of your decisions when it comes to investment decisions?

This may include things like:

- Workloads placed in the most appropriate locations in a fit for purpose approach.
- Agility and flexibility with DevOps, Microservices and the API economy
- Ensuring access to opportunities (ecosystems or expansion)
- True location and provider diversity
- Being customer- and outcomes-first
- Starting as far up the stack as we can to quickly meet business requirements
- Sharing platforms where possible
- Standardising on a platform that lets you code once and deploy to the best location
- Build only when prudent
- Business Continuity and Disaster Recovery leader
- Security and privacy by design
- Leader in emerging technology and innovation
- Value before cost
- Builds local industry and social value
- Public cloud? Or does private cloud meet objectives better?

## DO YOU

Do you have a blueprint or roadmap for a workload-by-workload modernization program for your data centre and infrastructure environments and does this include a list of priority application projects?

- Have you done this with a “best case scenario” mindset? Meaning that it is formulated regardless of possible factors that could impinge on its success.
- Has this been clearly articulated to the organisation at large and do they support the approach?
- Is it rigid or able to adapt if things change?
- Does it take into account things like the National Data Breach notification scheme and the GDPR in the EU?
- Does it include a program of “doing useful things”, or in other words a series of quick wins that can help the organisation as defined by its business leaders and the users themselves?
- Does the priorities list take into account current investment lifecycle considerations such as hardware refresh requirements or data centre leases?
- Does it balance the benefits of having a platform in place for delivering applications as a service to users versus the performance or differentiation possible by taking an application- independent view?
- Does it consider commodity curves and how you can leverage them for better value?
- Does it include an evaluation of regional facilities versus those in capital cities as the host location?
- Does it encompass edge computing all the way through to cloud computing with a fit for purpose mindset when it comes to the location these workloads are placed?
- Does it consider the way the market is moving and the technology developments that are emerging?
- Have you considered whether you could turn existing facilities and infrastructure investments into a profit-centre by offering services?
- Have you evaluated it with the 6Rs of workload migration:
  - ▶ Remove/retire the application or service
  - ▶ Retain and refresh – keep the workload as is
  - ▶ Re-platform – move to virtual machines or containers
  - ▶ Rehost – lift and shift the application into an IaaS service
  - ▶ Repurchase – go with something new or change your licensing model
  - ▶ Refactor – redesign and rewrite the workload for new architectures such as PaaS
- For any non-core or commodity applications that you are addressing, have you considered locating them in a 3rd party service like SaaS offerings so you can focus on more important parts of the business, get to the outcomes desired with those applications quicker, and also automatically take advantage of feature releases?

## HAVE YOU

Have you subsequently categorized all of your organisations' applications and data into levels of importance, such as critical, core, non-core, commodity?

## DO YOU

Do you have a profile of the behaviour of each of the critical and core applications, including the performance in terms of user experience, the value of the data and/or IP, and the financial implications?

## DO YOU

Do you have the funding available to pursue your strategy and if not, how can you secure it or amend the strategy to achieve the same purpose?

## DO YOU

Do you have the skills available?

## HOW

How will you measure success?

## WHAT

What cultural change needs to take place and how will you address this?

## WHAT

What mechanisms are in place for reviewing the strategy and taking steps to enhance it?



This report was commissioned by Schneider Electric and Pulse DC. For more information please visit [www.schneider-electric.com](http://www.schneider-electric.com)

**About Schneider Electric:** Schneider Electric is leading the Digital Transformation of Energy Management and Automation in Homes, Buildings, Data Centres, Infrastructure and Industries. With global presence in over 100 countries, Schneider is the undisputable leader in Power Management – Medium Voltage, Low Voltage and Secure Power, and in Automation Systems. We provide integrated efficiency solutions, combining energy, automation and software. In our global Ecosystem, we collaborate with the largest Partner, Integrator and Developer Community on our Open Platform to deliver real-time control and operational efficiency. We believe that great people and partners make Schneider a great company and that our commitment to Innovation, Diversity and Sustainability ensures that Life Is On everywhere, for everyone and at every moment.

**About Pulse DC:** Established in 2018, Pulse Data Centre (Pulse DC) is the first of its kind offering highly resilient, Tier III Uptime designed large scale data centre capacity outside of major capital cities. Located in Toowoomba Queensland and designed to support corporate and enterprise customers; local, state and federal government and global technology giants. With high power capacity and a large available footprint, this facility is ideal for any size business. Pulse DC guarantees exceptional delivery of first class data centre services at a competitive price. Contact us on 1300 651 904 or [sales@pulsedc.com.au](mailto:sales@pulsedc.com.au)

**About Tech Research Asia:** TRA is a fast-growing IT analyst, research, and consulting firm with an experienced and diverse team in: Sydney | Melbourne | Singapore | Kuala Lumpur | Hong Kong | Tokyo. We advise executive technology buyers and suppliers across Asia Pacific. We are rigorous, fact-based, open, and transparent. And we offer research, consulting, engagement and advisory services. We also conduct our own independent research on the issues, trends, and strategies that are important to executives and other leaders that want to leverage the power of modern technology. TRA also publishes the open and online journal, TQ.



Copyright and Quotation Policy: The Tech Research Asia name and published materials are subject to trademark and copyright protection, regardless of source. Use of this research and content for an organisation's internal purposes is acceptable given appropriate attribution to Tech Research Asia. For further information on acquiring rights to use Tech Research Asia research and content please contact us via our website or directly.

Disclaimer: You accept all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using this research document and any information or material available from it. To the maximum permitted by law, Tech Research Asia excludes all liability to any person arising directly or indirectly from using this research and content and any information or material available from it. This report is provided for information purposes only. It is not a complete analysis of every material fact respecting any technology, company, industry, security or investment. Opinions expressed are subject to change without notice. Statements of fact have been obtained from sources considered reliable but no representation is made by Tech Research Asia or any of its affiliates as to their completeness or accuracy.

© 2018. All rights reserved