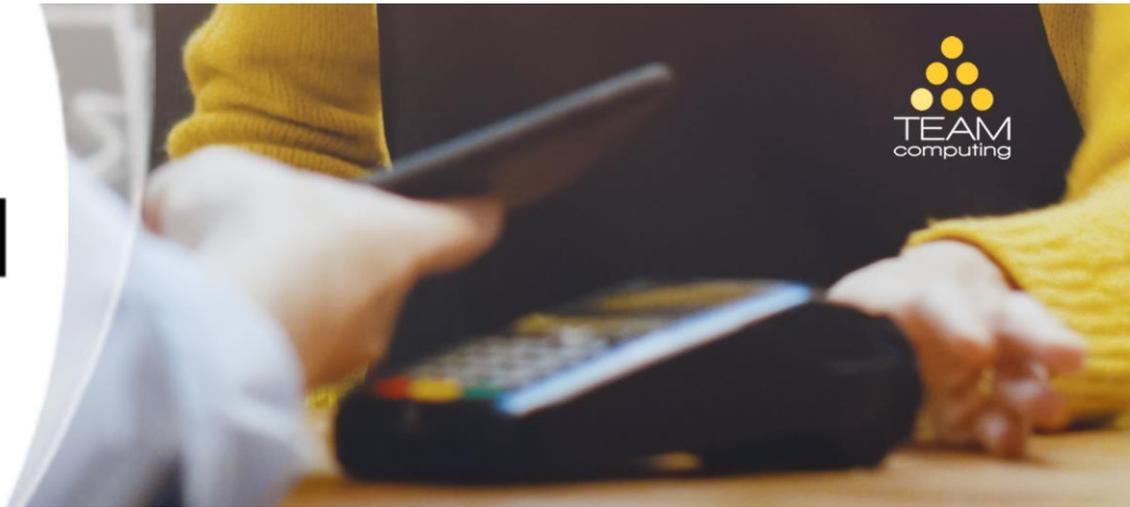


## TEAM update



### Business Risks of Public File Sharing

While there's no doubt that the so-called "public" cloud-based file sharing services like Dropbox, Onedrive and Google Docs offer excellent collaboration benefits for businesses across Australia, the use of these public file-sharing services can come with risk. The increased level of business user adoption - often without company permission or even knowledge - is creating a scenario where public file sharing is surpassing email as the primary way that employees are sharing company documents, particularly in the BYOD realm, creating significant vulnerabilities for a business:

**Security risks** - Even though the large public file-sharing services have sophisticated security protection, this is still no guarantee that the company documents your employees share are secure. More importantly, these services are tempting targets for sophisticated hacking attempts because of their massive levels of adoption.

**Risk of data integrity compromise** - Unlike dedicated enterprise-grade file sharing services, public cloud services usually don't come with SLAs or any guarantees of redundancy or disaster recovery. This means that valuable company information can be corrupted or lost, without any recourse or recovery procedures. And with no uptime guarantees, even if the data is recoverable, who knows how often you'll be able to access it?

**Governance and compliance** - Because of the often cross-border nature of public file sharing services, employees who use them may be unwittingly exposing the company to corporate governance and compliance violations including where data may be housed or sent. In addition, best-practice and information control require a comprehensive audit trail of document development and changes which public file sharing services typically don't offer.

**No centralised control or monitoring** - User access permissions and document change permissions are crucial to ensure information integrity. Public file sharing services offer no 'control and management layer', no monitoring capabilities and no reporting abilities.

**Granular Access Control and Visibility** - New regulations require business to ensure privacy. If IT can't have control or visibility over documents and file structures then there's no way to investigate if there's an incident.

**Mobile device risks** - The massive BYOD trend has created an increased demand for an easy-to-use way of accessing company documents and information on multiple devices. Public file sharing services provide this - and many of them come with downloadable apps that allow the mobile device storage to sync with the cloud storage facility. Unfortunately, this means that entire swathes of company data are being stored on any number of mobile devices without any supervision. This creates serious vulnerabilities should the devices be lost or stolen.

**Food for Thought** - While public file-sharing services have their place, in most cases they should not be considered a suitable business solution. At Team, because we have a need to share documents with customers, staff, contractors, and vendors we chose Centrestack. It's a great way of provisioning your own file sharing system. Fully secure, flexible and most importantly controlled file sharing is now a reality for us and some of our customers. Get in touch with us if you'd like to learn more.

In the lead up to Christmas I was giving the credit card a workout - trying to get a lot of the gift shopping done early, and it got me thinking about our personal data - how we protect it, how we preserve it, how we prevent unauthorised use of it, and remembering the two occasions my own card was hacked in the past. Once when a huge software giant suffered a data breach, and once when my new card from the bank was intercepted before it got to me.

As a result this issue of Team Update is "all about the data." How we share it, protect it, move it, regulate the use of it, present it and store it.

Also in this issue we also introduce you to Denis Vaughn and Lou DiGiandomenico, two of our technical experts, each with years of experience on integrating, moving and protecting data.

We hope this issue will give you some peace of mind as you begin your Christmas break, and that you come back refreshed. We're looking forward to helping you make the most of 2019.

# PRESENTING YOUR DATA



## How to Drive Business with Output Management

Many companies today struggle with new technological trends, industry standards, and ever-changing rules and regulations that impact how they manage their various forms of output. These can include diverse output formats, document design, distribution conditions, and marketing components. If you distribute goods, you'll know that there are a multitude of regulations governing how you ship your goods, imposed by your customers, transport providers, logistics companies, the government and industry bodies. It's hard to keep up and maintain the quality of your documentation.

For some companies, an output management system is the answer they've been looking for.

### What is Output Management?

Output management systems help companies manage the entire process of creating, designing, and delivering all of the information to be sent from ERPs or other IT systems, generally with much greater efficiency than alternate methods. An output management system enables companies to send the right information, in the right format and design, to the right recipient at the right time.

It could be a label, sticker, tag, report, document or electronic communication. Whatever the form or format required, it's important to have total control over the design, production, quality and distribution of that output as well as the flexibility to draw the information from whatever back-end ERP or database you are using.

Many companies choose just to use their default ERP output solution. However, these default tools are often very inflexible and can be difficult to maintain in a competitive and international market. Some ERPs offer fragmented solutions for each type of output format which is often costly and time-consuming to support.

### Benefits of Using an Output Management System

By using an advanced output management system (we use and love InterForm), a company can centralize its output from a diverse collection of devices and platforms, eliminate duplicated workflows, and accommodate both customer demands and industry regulations.

#### With InterForm you can:

- Create customer facing documents with unique designs (even different ones for different customers if you like)
- Generate informative, structured, and branded documents and reports drawing data from multiple sources
- Form customer specific messaging and product information
- Eliminate printing and shipping costs by delivering and

- distributing data electronically in a secure way
- Raise your level of service and support with a wide range of smart document features, like embedded images, PDFs or even video

Output management combines distribution features with a wide variety of output channels allowing you to manage everything from PDF, label and laser printing to sending faxes and emails. It's fully customizable, so you set the standards, choose the rules, and set the conditions for your specific workflow.

### Is Output Management Right for Me?

Whether you want to send personalized PDFs to your customers, create bar codes, structure your internal printer flow, construct marketing materials, or integrate external links into all your customer-facing documents, an output management system can help you do it.

Using an output management system can also reduce costs and add value by making your workflows more efficient and strengthening your brand identity across channels.

A hidden benefit is the cost saving if you choose to change one of your ERP systems or databases. You don't have to change all your reports and documents! Simply point InterForm to the new system, tell it where to get the required information and you're ready to go.

So, if you're frustrated by your inflexible ERP system and a reliance on expensive programmers, a professional output management system may be right for you.

### About InterForm A/S

InterForm A/S has more than 30 years of experience developing solutions that improve the look and utility of business documents while reducing transaction costs.

We have been distributing the Interform solutions for more than a decade, and we're extremely proud of the association with them. Interform offers excellent customer support, and are incredibly customer focussed, with around 80% of the new features they add (they release a new version EVERY year) coming from their annual customer surveys.

#### Free Trial

Contact us for a free trial of Interform where we can show you the full range of features that can really drive your business performance. You won't be disappointed.



# STORING YOUR DATA

## Demand Still Strong for Data Centre Space

**A common circumstance** for many organisations is that they have high performance mission critical systems running locally AND also operate multiple cloud based systems.

Many prefer to have their data centralised locally and not locked into a public cloud provider. They need elasticity, on-demand services, and the flexibility to pick-and-choose the best technologies available from any cloud provider.

**Solving this problem** is where Team Computing, with our partner, SAS<sup>IT</sup>, is investing - by installing traditional IT infrastructure into Equinix data centres in Melbourne and Sydney.

It involves implementing large IBM Power Systems, Storage, Intel compute, and Cisco Nexus connectivity, along with high bandwidth, low latency direct connectivity to most of the Public Cloud environments via Cloud Exchange and integrating this infrastructure with the major public cloud providers (including Microsoft Azure, Amazon Web Services, and IBM Cloud) via low latency WAN connections.

Each datacentre implementation has included best of breed technologies including Cisco Firepower Next Generation Firewalls, Cisco Nexus 1/10Gb Ethernet switches, Cisco UCS VMware vSphere host servers, IBM Power systems, and NetApp Flash storage.

The transition platform provides customers with choice to store their data and run their applications within the location of their choosing, and to utilise Industry leading technologies available from any cloud provider or Software-as-a-Service provider.

Customers can choose to run their applications and databases on dedicated or multi-tenanted compute within SAS<sup>IT</sup>'s private cloud environment housed within the Equinix datacentre, or on public cloud Infrastructure-as-a-Service. SAS<sup>IT</sup>'s private cloud includes IBM Power System compute options such as IBM i (DB2), AIX, and Linux on Power.

Providing a flexible, high performance hybrid environment enables customers to preserve the stability of existing systems, and facilitate the adoption and integration of new cloud services.

**Why Invest in Australian Data Centres** when there is so much compute available through the Public Cloud providers?

High end compute as offered on the IBM Power Systems, is still not "cheap" in the Public Cloud.

Most applications residing on IBM Power Systems require high speed low latency connectivity to applications running on Intel based machines.

None of the Public Cloud companies are providing IBM Power Systems compute across all operating environments with high speed connectivity to multiple Public Cloud services.

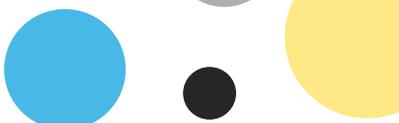
Managing infrastructure across Public and Private compute environments can be challenging - and is often a distraction to IT Departments

**Our data centres deliver quite a few key benefits, including:**

- Significantly more compute available on larger IBM Power Systems running a mix of IBM i, AIX and Linux
- Tier zero storage – the fastest level of storage available for fast moving data, enabling customers to leave their data on storage outside the Public Cloud providers, and yet still allowing for Public Cloud compute - whichever Public Cloud provider has the best solution and price at any given time. This outcome delivers flexibility and choice based on the unique requirements of any individual customers
- Cisco UCS Intel compute within the SAS<sup>IT</sup> Private Cloud - for when either virtual or dedicated compute is required outside that available through the Public Cloud providers - offering choice in not only where the data resides - but also where the compute is consumed
- Cisco Nexus switches and direct, high speed, low latency access to Public Cloud providers through the Equinix Cloud Exchange fabric - delivering the data transfer speeds required by many of the applications we currently host
- RightScale management offering a single management view whether within the Public or Private Clouds of a customer's compute resources
- SAS<sup>IT</sup>'s Customer Portal - will provide access, visibility and transparency across all platforms and services delivered
- SAS<sup>IT</sup> provides 24x7x365 end-to-end management and support of this hybrid cloud environment.

### Why it works

Customers are provided with significant choice and flexibility in the design, operation and future direction of their IT environments. Additionally, 24x7 Managed Services means that customers can focus on their business direction with the confidence that their IT environment is fully managed and has the flexibility to grow and change with their business.



# PROTECTING YOUR DATA

## IT'S ALL ABOUT THE DATA: Compliance Challenges and Benefits

In September 2017 Equifax, a consumer credit reporting agency, revealed that its credit-report databases had been hacked for over 76 days without detection, and led to the breach of personally identifiable information of over 148 million people. A single Internet-facing web server with out-of-date software led to the breach – an unpatched vulnerability in 'Apache Struts', an open-source web application framework for building web applications in Java.

This year in Australia we have been deluged with advertisements about the Government's health initiative, the 'My Health Record' – an online summary of our health information, available to registered healthcare providers unless you opt out.

The current platform was built from the ground up by a consortium of companies headed by technology provider Accenture. Accenture itself had a major security fail in 2017 with four cloud-based servers left exposed and their contents unsecured and downloadable. According to UpGuard, the cyber security company which detected the breach, exposure of these silos of data could have been prevented with something as simple as a password requirement. Luckily, Caltex Australia, who was caught up in the breach, responded that only two and a half year old "dummy" data was on the servers.

Breaches like these emphasize that security has taken back seat in the past, and have led to a host of new and expanding compliance regulations forcing companies to increase their security measures to protect sensitive data. In fact, the latest 'State of IT Security' found that 75% of respondents chose "compliance needs" as the number one resource used to define their security programmes, and 80% to 90% performed security audits on their systems at least annually.

Meeting compliance regulations may seem overwhelming, with the threat of punishment ever present, however by meeting compliance challenges in four key areas you can drive business benefits.

### Data Management

#### Compliance Challenges

Over the years, as technology and storage improves, companies have been able to gather more and more data as it was gathered for use by different departments, for different applications and purposes. Prior to being forced to comply with data regulations, it meant there were stockpiles of data in different silos and companies didn't know what data they had, where it was stored, or what it was used for.

#### Compliance Benefits

Complying with regulations such as GDPR provides companies

with visibility across all their data. Not only do companies get clean, complete, and organised data, they can also see the history of that data which they can then use for analytics.

### Data Quality

#### Compliance Challenges

Compliance with data regulations demands strong data quality. The data must be accurate. Inaccuracies can be relatively harmless such as the incorrect spelling of a name through to serious errors such as health information or past criminal activities. The data must be complete – no missing fields such as the city missing from an address and data must be up-to-date. How often is your data verified?

Being up-to-date is critical for compliance.

#### Compliance Benefits

The impact of clean, complete and up-to-date data echoes across every department - from marketing, logistics through to accounts. Imagine sending a critical licence key to the wrong department or even wrong organisation!

Likewise with accounts. If you send invoices to the wrong accounts people, you can be left chasing payment for months, affecting your cash flow. Quality data empowers a company across the board.

### Data Protection

#### Compliance Challenges

Compliance challenges around data security fall into four areas:

**Hardening Systems and Restricting Access** – This boils down to strong password criteria, restricting access, limiting user account permissions and controlling access points to the system.

**Protecting Sensitive Data** means that data isn't stolen, seen by unauthorised people or used for purposes outside its intended scope. Some of the best ways to secure data include:

- **Encryption** combines one or more publicly available algorithms with a secret piece of data called an encryption key which turns plain text into an unreadable format. It is popular as it can protect data at rest or in motion. Algorithms must meet standards as old algorithms may be open to hacker attacks, and proper management of encryption keys (store them on a different server than the encrypted data) is critical.
- **Tokenisation** replaces data with 'dummy' values called tokens and is often used to replace credit card numbers. It uses a database (vault) to store information about the relationship between the data and its replacement token. For maximum security the token vault should be kept on a separate server with tightly controlled access. Because a token has no algorithmic relationship to the data, if stolen the token can never be 'cracked' to obtain an original value.

- **Anonymisation** turns data into a form that does not identify individuals where a company may want to permanently replace sensitive data with a substitute such as for development or test purposes. In the Accenture breach, fortunately Caltex Australia had 'dummy' data on one of the servers when Caltex was trialling an Accenture product.
- **Data Masking** is another way of hiding original data with random characters. Unlike tokenisation, not all fields may be masked but rather enough so that the data is not identifiable. For example the final few characters of a credit card number are masked.

**Preventing Fraud** requires monitoring all changes to the data on your system to alert you to suspicious activity. For example failed login attempts, or changes made after business hours.

**Assessing Security Risks** regularly are a staple of many regulations. There are tools for self-evaluation however stringent security standards require evaluation by a third person to avoid the same person auditing the system.

### Compliance Benefits

Vigorous data security not only saves business massive fines in the case of mismanaged consumer data such as hacked credit card information, it also pays dividends in consumer and investor confidence, brand reputation and opens the door to partnering with other businesses who also invest time and resources in best practice security.

## Business Continuity – Keeping Things Running

### Compliance Challenges

Multiple regulations specify that systems keep running. The financial and telecommunications industries must meet stringent business continuity guidelines, whilst for other industries, there are set standards around turnaround time for information requests and not losing data.

Disaster Recovery software helps you maintain an up-to-date copy of your data. Should your system go down, you will have some downtime, but you won't lose data.

High Availability solutions on the other hand, maintain a replica of your production server in realtime. If the production server goes down, your HA server takes over, and HA solutions set themselves apart by how close to real time the HA server can take over – from seconds to minutes.

### Compliance Benefits

The benefits of business continuity are straightforward - saving money and clients. In extreme cases, the loss of data and monetary losses from unplanned outages can even cause a company to go out of business! According to Gartner, the average cost of IT downtime is \$5,600 per minute, however by taking the time to implement a HA/DR plan, your organisation stands to realize thousands — or even millions — of dollars in quantifiable cost savings, as well as ensure the health of your brand's reputation, and customer loyalty.

## Conclusion

Regulatory compliance can be a burden on companies, requiring significant investment in time and resources however the benefits far outweigh any burdens. The impact to the company of having up-to-date, accurate and well protected data is invaluable when it comes to brand reputation, customer retention, investor confidence, analytics and strategic marketing and sales initiatives.

**Enforce Enterprise Security Suite from Syncsort**, has over 20 GUI-controlled security, auditing, and compliance modules, enabling system administrators, security officers and auditors to easily manage security and compliance tasks efficiently and effectively.

*Team is proud to be a Syncsort partner, whose software is used by more than 7,000 customers, including 84 of the Fortune 100 to optimise their data infrastructure, and ensure its integrity and availability. Talk to us today.*

Equifax Data Breach, One Year Later: Obvious Errors and No Real Changes, New Report Says. <http://fortune.com/2018/09/07/equifax-data-breach-one-year-anniversary/>

Lessons Organizations Should Learn from the Equifax Data Breach. <https://www.sagedatasecurity.com/blog/lessons-organizations-should-learn-from-the-equifax-breach>

My Health Record: Your questions answered on cybersecurity, police and privacy <https://www.abc.net.au/news/science/2018-07-15/my-health-record-questions-answers-security-privacy-police/9959622>

My Health Record Replatforming Talks Begin, <https://www.itnews.com.au/news/my-health-record-replatforming-talks-begin-494467>

Significant cyber security failures by government contractors, but MHR data remains safe, Healthcare IT News, <https://www.healthcareit.com.au/article/significant-cyber-security-failures-government-contractors-mhr-data-remains-safe>

Real Anonymization vs Data Masking, Privacy Analytics, August 29, 2016, <https://privacy-analytics.com/de-id-university/blog/real-anonymization-vs-data-masking/>

**The Cost of Downtime**, Gartner Blog Network, by Andrew Lerner <https://blogs.gartner.com/andrew-lerner/2014/07/16/the-cost-of-downtime/>

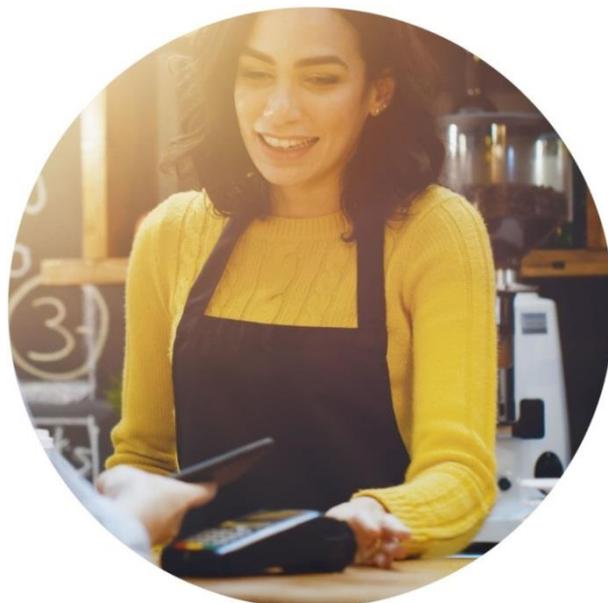
The Cost of IT Downtime. Michael Copeland, <https://www.the20.com/blog/the-cost-of-it-downtime/>

Syncsort eBooks:

Encryption, Tokenization, and Anonymization for IBM i. A Quick Guide to Protecting Sensitive Data,

The State of IT Security: A Report from the Front Lines

Beyond the Stick: The Business Benefits of a Strategic Approach to IT Compliance.



# MIGRATING YOUR DATA

## HA Saves the Aussie Weekend

*Using the right HA tool, migrations can be completed during business hours, whilst users continue to work with little or no downtime*

I'm a bit of a DIY buff. Most weekends you'll find me in the tools section at Bunnings – my home away from home, and my favourite saying is, "You've got to have the right tool for the job." It's the same with upgrades and migrations.

Recently Edge Research<sup>1</sup> found that companies were increasing their investment around data centre migration and infrastructure as customers replace old systems and match the right workload with the right infrastructure environment, *but*, migrations are failing and many are delayed.<sup>2</sup>

The main reasons for delaying migrations were due to concerns about downtime and a lack of resources, with the majority of companies (72%), using internal staff to do the migration on the weekend and 53% of reported migrations taking 25 hours or more! There goes your weekend!<sup>3</sup> However the right tools can reduce complexity, time, and errors, and build greater resiliency during the migration to allay any potential business impacts.

In fact we recently had a client who had to move their workload from their Australian-based production and DR servers to a USA based shared server. They had two options: 1) End processing, take a full system save, courier the tapes to the USA and restore. Downtime estimate: 5 days. 2) Implement a migrate-while-active environment to replicate the Australian environment to the USA server's logical partition in real time; with the Australian business continuing processing throughout this time. Downtime estimate: 2 hours.

Using trusted, high availability (HA) solutions you can migrate just about anything to anywhere with virtually no downtime!

### So How Do You Use HA Software for Migrations?

There are three techniques for using HA in a migration situation:

- Switch Method
- Cascade Method
- Parallel Method

**With the Switch Method**, halt replication from the current production server to the backup server. Users continue to do their work on the old production server whilst the HA software continues to collect and store all of the transactions. You can then synchronise the backup server with the new production server you're migrating to - this can be done anytime as it doesn't affect users. It's updating historical transactions.



Finally turn on replication between the old production server and the new production server. The HA software will synchronise the two systems by sending all of the captured changes from your old server to the new server, and you can then perform a controlled switch of users to the new server.

**The Cascade Method** is used where two or more new servers are replacing one or more old servers. With the Cascade Method replication is not halted. Rather, data and objects are replicated from the old production server to the backup server, which then synchronises with the first new production server, which in turn synchronises with the second new server.

Using this method, any updates made on the old production system will be cascaded down the entire chain. When ready to 'go live' simply switch users to the new primary server.

**With the Parallel Method**, again replication is not halted. The current production server replicates to a new production server and the current backup server replicates to a new backup server (so production server to production server, and backup server to backup server). During this process, the old production server also continues to replicate to the old backup server so that you always have a 'hot' backup system available to take over operations during the migration process should the need arise.<sup>4</sup>

With the right HA software you can rapidly complete migrations or upgrades during business hours, very rapidly, with very little risk, whilst your users carry on working on the current production server.

Feel free to read the white paper: "How to Migrate Without Downtime – Executive Overview" at: <https://www.teamcomputing.com.au/migration>

- Edge Research, *ARN Sept 2018*, "Market Heating Up as Infrastructure Investments Increase"
- Vision Solutions, "The 2017 & 2018 State of Resilience Reports"
- Syncsort, 2018, "Put the Migration Nightmare to Bed"
- Syncsort, January 2018, "How to Migrate Without Downtime – Executive Overview"

# Meet the Team



**Denis Vaughan**

**AVAILABILITY SOLUTIONS BUSINESS MANAGER**

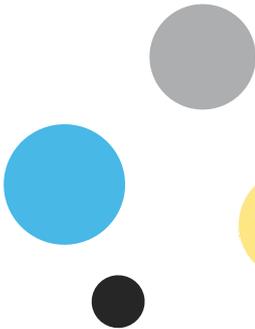
We've said it before, and we'll say it again, what Denis doesn't know about High Availability hasn't been invented yet!

It is his experience - 40 years in the data availability industry, and his proven track record, which has seen him engaged by a number of top tier companies in some of Australia's most regulated industries to design and implement cutting-edge data availability systems. These clients include Coca Cola, NAB, Commonwealth Bank and IAG.

Prior to joining forces with Team Computing, Denis founded Availability Solutions, which saw him helping customers in Australia and around the Pacific with High Availability, Data Sharing, Disaster Recovery, infrastructure migrations and migrations to the cloud.

Considered an authority in the IT data availability industry, Denis now heads up our 'protection' suite of solutions and leads some of Australia's most experienced IBM i and AIX professionals – many of whom he hand-picked.

For over 27 years, Denis was actively involved with the Australian chapter of IBM user groups, which became 'Common' and then 'Interaction', organising seminars for thousands of IT professionals to network. He also worked for many years as an SES volunteer. As such it is no surprise that Denis is extremely community and client focused and aims to give the best result in every situation.



**Lou DiGiandomenico**

**SENIOR TECHNICAL SPECIALIST**



With the growth in migrations to the cloud, and the deluge of regulations calling for greater compliance in the way data is stored and protected, we are pleased to announce the addition to our team of Lou DiGiandomenico.

Lou is an IBMi, and availability and data migration specialist which has seen him, among other things, having been contracted to IBM Germany as part of the Allianz Data Centre Consolidation project which saw the migration all of Allianz's iSeries servers into 'private cloud' data centres in Europe. It included working with MIMIX, a pre-eminent high availability solution for used by thousands of companies worldwide, to backup and migrate their data without downtime.

Most recently Lou has been working with Fuji Xerox on custom integrations and supporting Fuji Xerox business units across the APAC region.

An avid cook, perhaps you can get Lou to share some of his favourite recipes.

# IMPORTANT DATES

## IBM Power – End of Service

The high levels of reliability that IBM Power systems are renowned for often lead to extreme longevity of the platform. However all platforms have a limited life, and IBM highlight that point by setting End of Life (EOL) dates

If you are running a POWER 5, 6, or 7 please ensure that you are familiar with the following important dates:

### End of Hardware Maintenance:

Typically IBM i systems are running mission critical applications that need support services immediately available in the event there is a problem. Additionally organisations are extending the systems availability time, in many cases to 24 x 7 x 365.

POWER 5	31 <sup>st</sup> December 2018
POWER 6	31 <sup>st</sup> March 2019
POWER 7	30 <sup>th</sup> September 2019
POWER 8	Good for a while yet

Also important is support for the platforms Operating System (OS). Please be aware of the following dates:

### End of Operating System Support:

Version 6.1	30 <sup>th</sup> September 2018
Version 7.1	Extended support available until 30 <sup>th</sup> April 2021

Team Computing is able to assist if you require help with upgrading hardware and/or OS. Additionally an alternative is to move your applications onto our Australasian private cloud and avoid the need to worry about hardware or OS support.

## Team's Christmas Closure Dates

Our offices will be closed from:  
12pm Friday December 21.  
Reopening Wednesday January 2, 2019

For our managed services clients, monitoring of systems will continue unless you advise us otherwise.  
In case of emergency please phone:  
1300 832 628

*Thank you for your business and support, and best wishes for the New Year!*



# IMPORTANT DATES

## Windows 10 – End of Service

For more than a decade, the support lifecycle for each new version of Windows or Office was 10 years, with mainstream support for five years and extended support for another five year.

That 10 year support lifecycle is rapidly racing away, as Microsoft moves to its “Windows as a Service” and Office 365 subscription models.

Contact Team Computing if you require help. We’re happy to discuss your specific circumstances and support options.

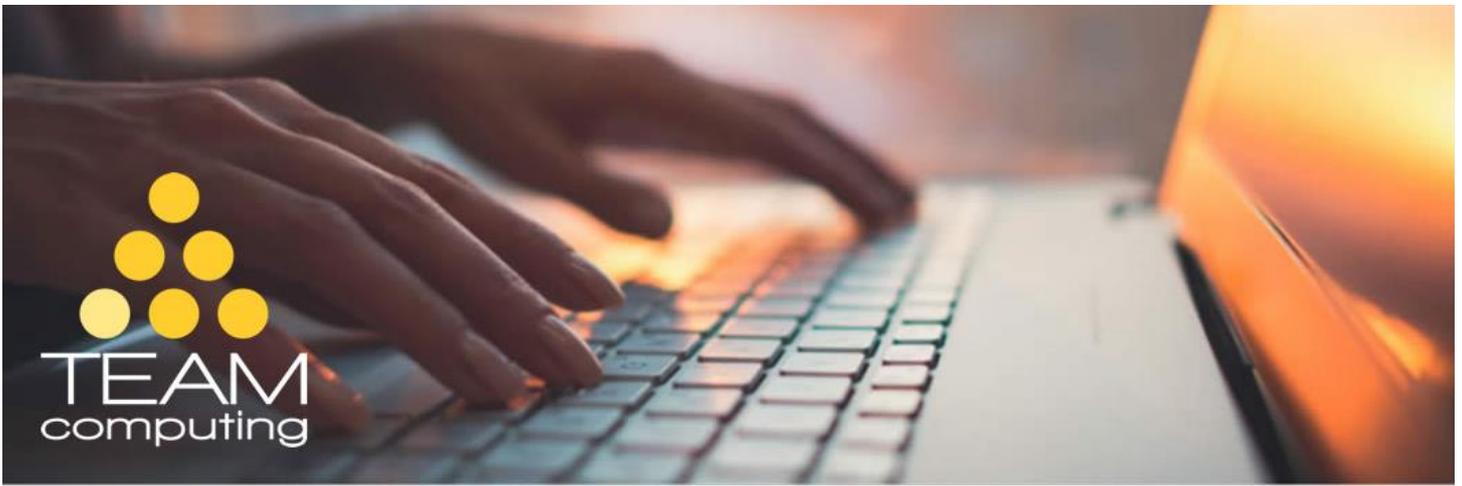
Windows 10, version history	Date of availability	End of service for Home, Pro, and Pro for Workstation editions	End of service for Enterprise and Education editions
Windows 10, version 1809	November 13, 2018	May 12, 2020	May 11, 2021
Windows 10, version 1803	April 30, 2018	November 12, 2019	November 10, 2020
Windows 10, version 1709	October 17, 2017	April 9, 2019	April 14, 2020
Windows 10, version 1703	April 5, 2017	October 9, 2018	October 8, 2019
Windows 10, version 1607	August 2, 2016	April 10, 2018	April 9, 2019
Windows 10, version 1511	November 10, 2015	October 10, 2017	October 10, 2017
Windows 10, released July 2015 (version 1507)	July 29, 2015	May 9, 2017	May 9, 2017

Note: Not all features in an update will work on all devices. A device may not be able to receive updates if the device hardware is incompatible, lacks current drivers, or is otherwise outside the original equipment manufacturer's (OEM) support period.

### Enterprise LTSC/LTSB Editions

Windows 10 LTSC/LTSB editions will continue to follow the Fixed Lifecycle policy.

Windows 10, version history	Date of availability	Mainstream support end date	Extended support end date
Windows 10 Enterprise LTSC 2019 Windows 10 IoT Enterprise LTSC 2019	November 13, 2018	January 9, 2024	January 9, 2029
Windows 10 Enterprise 2016 LTSB Windows 10 IoT Enterprise 2016 LTSB	August 2, 2016	October 12, 2021	October 13, 2026
Windows 10 Enterprise 2015 LTSB Windows 10 IoT Enterprise 2015 LTSB	July 29, 2015	October 13, 2020	October 14, 2025



## Key Competencies

1. Product/application/bespoke software development
2. Application hosting and consulting
3. Systems hosting
4. Outsourcing and managed services
5. IBM Power, IBMi, AIX, Linux
6. Mobile integration and development
7. Web development, integration and hosting
8. Architecture and product sales
9. Network consultancy and network outsourcing
10. High Availability and Disaster Recovery
11. B2B and EDI design, consulting, programming and implementation
12. Application modernisation

## Consulting

1. Telecommunications
2. Security
3. Lotus Notes
4. System Design
5. DBA
6. Architecture
7. Business Continuity
8. Operating Systems Management
9. High Availability and Disaster Recovery
10. ERP – Whatever your ERP, whatever your platform, we can
11. analyse, protect and integrate your data.



## Our Offices

### Sydney Office:

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### Brisbane Office:

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P: 1300 088 400

### Melbourne Office:

Level 21, 567 Little Collins Street, Melbourne VIC 3000  
P: 1300 832 628

## Hosting or In-House

In-house, cloud-based, managed or hosted. It's your choice. With our partners SAS IT, we have over 110 systems under management, most of which are mission critical.

## Cloud/Infrastructure as a Service

Our IaaS option gives tremendous economies of scale without ever restricting your ability to grow.

## Managed Services

Team manages systems and assets located at our customers' own premises, or wherever your infrastructure resides.

## Applications Management & Development

With a strong programming team, we can maintain and develop modern and legacy code and we can host your applications on our equipment.

## Disaster Recovery & High Availability

To reduce risk and cost of downtime, Team offers a number of options including placing your backup systems in our data centre, sharing our systems and infrastructure environment, or employing a fully dedicated or shared alternative system.

## Procurement

Our Technical and Operations teams can design technical solutions that meet individual business needs and minimise risk.

## EDI / B2B / B2C / MDM

Whether you are trying to connect suppliers, customers, or even two different applications, our years of experience gives us the expertise you need to trade efficiently, reliably and securely.

## Software

For over 30 years Team have been delivering innovative, high quality, customised solutions including ERP, EDI, CRM, Document Management, High Availability & Disaster Recovery and IBM software.