SW
Accountants & Advisors

Take the lead

SW office refresh technology uplift

September 2022

Our technology uplift

SW is a mid-tier national accounting firm with over 300 staff and offices in Brisbane, Sydney, Melbourne and Perth.

Prior to the pandemic a physical office refit had been in planning, however, the resulting disruption clarified our technology objectives and provided an opportunity to purpose build our office spaces to support hybrid working.

Our offices now both look and feel great, but have also had a full technology uplift to support new ways of working. The technology uplift has included the following major elements:

- Wi-Fi only office
- Activity Based Working workstation design
- Advanced AV capabilities to support location equity
- A digital signage solution integrated with Teams rooms

This report details the technology objectives and design decisions that went into the project, as well as reflections on the lessons learnt months after the project completed.

If you are considering a similar initiative, please feel free to reach out with questions – we are only too happy to help and share our learnings.

Barney Ling
Head of Information Technology

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Project context

Background

The driving forces for an office refresh project were:

- An ongoing global pandemic with remote working and hybrid working now normal
- Building on plans prior to the pandemic, a May 2021 brand refresh from ShineWing Australia to SW Accountants & Advisors created a desire to refresh our physical offices with new branding in a nationally consistent style
- A decrease in our Melbourne floor space from two floors to one
- A national firmwide move to activity-based working where desks and offices are bookable and not permanently allocated to a single employee.

Timeline

The project to refresh our offices officially started in August 2021 and completed in March 2022. It entailed the relocation of our Brisbane and Sydney offices into new purpose-built spaces, as well as the temporary relocation of our existing Melbourne office whilst it was refurbished.

The timelines for each office were:

- Melbourne August 2021 -> 28/03/2022 (8 months)
- Sydney August 2021 -> 02/02/2022 (7 months)
- Brisbane August 2021 -> 25/02/2020 (7 months).

Major technology pre-requisites

To complete this project the following technology implementations were prerequisites:

- Office 365
- Azure AD
- Exchange online
- Teams / direct routing PSTN calling i.e. no handsets
- Laptops for all staff.

Technology design objectives

The physical space of our offices was designed to support activity-based working. This meant we were provided with the following physical spaces to support different modes of working:

- open plan workstations with many sit to stand desks
- offices for focused quiet work and easy hybrid collaboration
- breakout areas for small group collaboration
- AV meeting rooms for small to large groups
- AV spaces for townhalls and events.

Our goal was to optimise these physical office spaces whilst considering our remote workers - to this end the following technology specific objectives were front of mind during the solution design.

Agile working practices throughout our offices

The technology must enable staff to best use the space - we want people to be able to move around, work where they are comfortable, where they can best utilise office technology and where they can get their best work done.

Designed for hybrid working

We recognise that remote working is part of our environment going forward. This project embraced remote working and our offices are now purpose built and designed to ensure hybrid working “works” for those in the office as well as for those away from the office. Primarily our goal is to provide a seamless AV collaboration experience for those in the office and those working remotely.

In-office experience is as good or better than the at home experience

We want an office environment that is not a technological trip back in time. The objective is to create a technologically desirable place to work providing tools and equipment that are not readily available at home and future proof the space for as long as possible.

Technology design decisions

The following technology design decisions were made to best utilise our offices and achieve our objectives.

Wi-Fi only network for workstations

The driving factors behind this decision were:

- support agile working from anywhere within the new office space
- reduce issues that can occur switching between wired and wireless networks i.e. packet/call drops
- ensure employees can freely move around the office to find the workspace that best suits what they're doing - whether that's creating, concentrating, or collaborating. In the middle of a call, you can simply stand up and walk into a quiet room / or available office with your laptop, call uninterrupted
- provide an experience similar to what people have at home
- provide another layer of security for our network – i.e. unknown devices cannot simply plug into an ethernet cable and only Intune managed devices can connect to our network
- whilst not a driving factor it's worth noting that this approach also saved costs by reducing cabling needs, parts and labour, and reduced the port requirement for our new network switches.

Technical details

We partnered with BlueConnections to design the wireless office network and decided on the Aruba 510 series access points utilising IEEE 802.11ax, Wi-Fi 6, within the 5GHz frequency range.

Based on floor plans, an initial predicative wireless design was completed for each office to determine optimal access point locations and this was later followed up with an onsite survey to refine power levels and signal strength during implementation.

For extra security and to ensure a seamless experience for our staff we implemented a certificate-based Wi-Fi authentication method levering Azure AD, Intune and SCEPman. This ensured that managed devices received the certificate away from the office and could simply walk in and work, whilst also ensuring that no one could discover the network and connect to it using username/password combinations i.e. only intune managed devices can connect.

NOTE: Printers and fixed AV equipment such as TVs and booking panels use wired network points which is completely segmented and firewalled from other traffic.

The Aruba IAP-515:

Challenges and lessons learnt

- Wi-Fi 6 is still considered a new technology having only been standardised in 2019 to provide the best experience for all users a laptop provisioned after 2019 works best i.e. we did have some instances of BSOD with older drivers however working with vendors these issues are easily addressed
- For guest Wi-Fi we provide a separate completely isolated network SSID and require either helpdesk or reception to approve temporary access – whilst this is secure and works, we know this does create a little friction so are looking for ways to make it more seamless. In an emergency we recommend guests use their own mobile phone as a hotspot if required.

Technology design decisions

Workstation technology

The following decisions have been made to provide a fantastic workstation experience.

- Standardised workstation technology. Prior to the fit out we had a mix of different vendor laptops, monitors and docks of varying age and quality. As part of the refit, we have focused on standardising our workstation technology to ensure a consistently good experience for all staff, across all our offices
- Lenovo X1 carbon i7 ThinkPad laptops for all users. We have found these devices are reliable, durable, and extremely light weight which our staff love and they consistently win awards as the best business laptops. We refresh after 24 months of use on a rolling cycle, i.e. some of the fleet are refreshed each month between 24 and 36 months of age

NOTE: By refreshing regularly we are ensuring all new laptops have a touch screen and an LTE (4G sim card) for internet access from anywhere.

- Lenovo USB-C docks at all workstations - this means all users can easily move from desk to desk and only unplug / plug in a USB-C cable

NOTE: USB-C Logidocks are used within flex office collaboration spaces.

NOTE: A longer-term I.T. strategy to support a BYOD / CYOD model within SW will be done leveraging a USB-C standard on which any device can dock at a workstation or collaboration space

- Dual Lenovo ThinkVision 23” monitors were chosen over a single large monitor for maximum productivity. The main factors driving this were graphics limitations of laptops and docks as well as the native windows shortcuts for multiple monitors – e.g. a single large monitor’s resolution can require additional graphics capability and managing multiple open windows can be tricky to setup without using the entire screen
- Monitor arms which enable height and full rotation (profile and landscape orientation) are provided on all desks to support our staff configurating the desk to best suit their requirements. The arms also enable better side by side collaboration with each monitor individually movable
- A Lenovo wireless keyboard and mouse were chosen to enable free movement on any workstation whilst also looking tidy. The Lenovo business keyboard and mouse provide a great tactile feel and easily resyncs to wireless dongles if they get misplaced
- Each workstation has a Bonelk laptop stand which allows for the inbuilt laptop webcam to be at eye level, enables the laptop to used as a third screen, allows the laptop to keep cool and protects it from food and drink spills

NOTE: We have found that using the inbuilt laptop camera it is easy for people to move from desk to office without losing video and staff are using Windows Hello from their laptop so it will remain open. For specific use cases, webinars etc. we provide offices with higher quality webcams.

- All staff are provided with their own Jabra Evolve Wired headset (mono or dual ear). A quality wired headset was chosen to provide a reliable experience when on a call and avoid battery failure or sync problems which are common amongst wireless headsets

NOTE: We encourage people in open plan areas to use a mono headset.

NOTE: We recognize that a wired headset feels old-fashioned and this may be revisited once we find an appropriate headset which has significant battery longevity and performance.

Figure 1 – Example desk set up showing flexible monitor configuration

- Sit to stand desks are provided to enable staff to tailor the workstation to their needs and comfort
- Bookable workstations - using an inhouse developed Power App, all workstations and flex offices are bookable for staff within their neighborhood
- Secure lockers using a resettable pin code are provided for all staff so any in-office equipment or personal items can be stored securely between visits.

Technology design decisions

Figure 2 – A flex office which provides both a small group collaboration as well as a workstation with an enhanced webcam

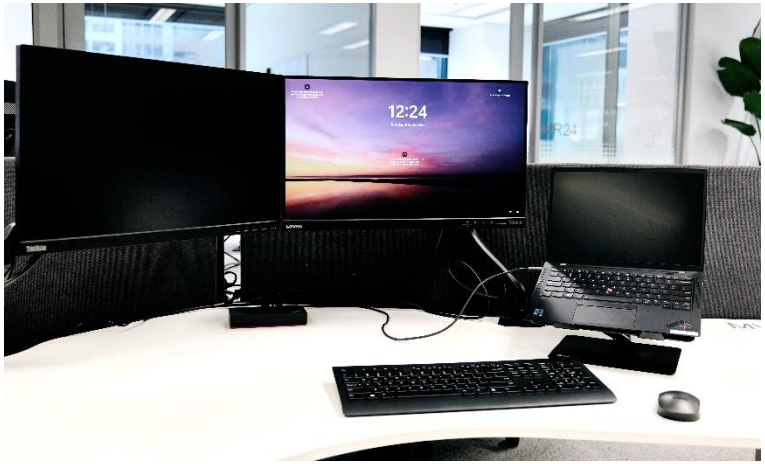

Figure 3 – An example desk setup with the laptop to the right

Challenges and lessons learnt

- Names of staff at a desk. Providing activity-based workstation means we miss name tags for staff at the desk. We would love to provide individual workstation booking panels which show staff AD profiles (photo and name), desk availability and O365 presence status. As yet we have not found a technology provider which has all these features and is in an aesthetically pleasing package
- We have found staff sometimes remove wireless keyboard and mice dongles from the dock – perhaps whilst they go to a meeting room they need a mouse etc. – so we have seen quite a few wireless dongles go missing, perhaps still plugged into peoples laptops. No easy fix yet, short of people using their own keyboard and mouse that they carry / store within the locker
- More an open question about docks, why are USB-C docking cables at the back i.e. you will always need that to connect to the laptop so why isn't the cable you dock to at the front? And why are the cables so short?

Technology design decisions

Digital signage

To modernise our offices and enhance our communications we implemented a digital signage solution, “MagicInfo” provided by Samsung, so that all TVs within the office can be used as a content platform - this has enabled the following:

- consistent digital messaging throughout our offices nationally
- impressive office reception areas - the solution allows for content spanning multiple displays and grouping of devices for separate content playlists so each office can have a unique welcome and highlight reel for our visitors. Melbourne has three TVs side by side, Sydney two TVs, and a single TV in both Brisbane and Perth
- meeting room TVs – using the TV auto source switching means meeting room TVs revert to digital signage, like a screen saver, when not in use for a Teams meeting. The teams room panels have proximity sensors so when someone walks into the room the meeting content will replace the digital signage and when the room is empty the TVs will revert to the digital signage source
- flex offices – a large number of flex offices were provisioned including a workstation setup plus a breakout meeting space with its own table, TV, webcam and Logidock. This enables digital signage content in the back of house in highly visible areas
- collaboration spaces - this allows for coordinated messaging to be displayed across our offices increasing communication, engagement and nationalisation. Public dashboards are displayed at I.T. concierge, kitchens and breakout areas etc
- automatic power management - MagicInfo enables the creation of Power on and Power off schedules, so all TVs automatically turn off outside office hours and turn back on at the beginning of the work day
- full online remote control of all TVs within the office – this enables remote I.T. support from anywhere without a physical remote control.

Technical details

All TVs used within the fitout are commercial grade Samsung TVs a mix of 32”, 55”, 65”, 75”, 98” sizes were used with a total of 55 TVs installed

We have used premium MagicInfo licenses for all TVs which enables the use of Power BI as well as news and weather widgets and full remote control of each device including power on and off schedules.

We deployed the MagicInfo server on our own infrastructure, within our network, rather than Samsung’s cloud solution.

Challenges and lessons learnt

- Controlling access to TV remotes so no one changes the default source for TVs
- Having an amazing marketing team to frequently create content for the platform is important to ensure the messages don’t become stale.

Figure 4 – Digital signage within common areas enhance internal communications and double as large collaboration spaces

Technology design decisions

Figure 5 – Melbourne reception digital signage

Figure 6 – Sydney reception signage

Figure 7 – Power BI dashboards can be delivered via Magic Info playlists – this is a TV outside our IT concierge desk which regularly shows service desk dashboard, desk booking status and client on boarding numbers

Technology design decisions

Great audio visual

Knowing that hybrid working, involving people within the office collaborating with remote participants, will be a big part of the working day going forward – providing a great AV experience was a core objective. The following decisions and objectives were delivered:

Zoom rooms were upgraded to Microsoft Teams rooms

This was a big decision worthy of its own article, however in summary, the main reason behind this was that we are accountants who use Excel as our main tool and by extension this leads to Office 365 and then Teams.

By standardising on the Teams platform as our default VC platform for all staff it made sense to also upgrade our physical meeting rooms to Teams rooms providing user familiarity and ease of integration.

This has meant that all AV equipped rooms are Microsoft Teams enabled allowing staff either physically present or working remotely to have the same experience as they do using the teams collaboration platform.

NOTE: Teams rooms also enable Zoom and Webex meetings.

NOTE: Zoom, it's a great product, however for our environment being Microsoft focused Teams provides a more integrated Office 365 user experience.

Seamless one touch join

Once a meeting room is booked, either via calendar invite, email forwarded to room or reserved from outside scheduling panel, the staff member simply needs to hit the "Join" meeting button on the MTR panel within the room for the room to come to life.

Easy content sharing

Whilst participants within a Teams meeting can easily share content, for those within the room we also provide a HDMI / USB-C cable which enables any laptop to share content without actually joining the meeting.

NOTE: Teams rooms also allow any Teams client, desktop or mobile, to cast their content, via Bluetooth, to the room without the use of cables/wires.

No remotes for TVs or cameras

To make the meeting experience as easy as possible the goal is that no one ever needs a remote. All the cameras used within our Teams rooms are smart so they will track the active speaker and all TVs will be powered on and show the teams room meeting content.

NOTE: Like all technology we have had some instances where a remote helps for support however these are kept with I.T. only. With our equipment if a camera remote is used the camera will stop automatic smart behaviour and require manual adjustment until the meeting is ended – so it is a better experience for all if remotes are not used.

NOTE: Some issues such as automatic people framing finding reflections has required some turning and we've been in close contact with Logitech and Poly to address any teething issues.

Eye level camera

Straight out the hybrid work playbook from Microsoft Worklabs we have designed each space for location equity and ensured that where possible the camera is at eye level for people in the room, providing a more natural experience for those on the remote side of any meeting.

Largest viewable space for remote participants

To ensure that remote participants faces are not lost to those in the room when content is shared, we have designed our rooms to use dual displays were possible. In meetings with no content sharing, Teams will use both screens for remote participants. If content is shared, Teams will keep one for remote participants and one for content, thus providing as much space as possible for remote participants video to ensure they are not lost/forgotten by those in the room.

In some rooms we were not able to fit dual TV screens and in those we have instead gone for the largest TV we could practically fit into the space. In practice this has worked out very well especially for some larger boardroom spaces where a single large 98" TV means that content in the room is visible from much further back than a smaller dual screen would provide.

NOTE: Teams layouts such as front row allow for customisation on specific rooms and displays which can be used to help remote participants remain visible and not forgotten.

Technology design decisions

Physical room design and furniture

All AV rooms are physically designed so remote participants are included - there are no chairs in front of the camera and the furniture is designed to minimize exclusion of remote participants. This has meant some rooms use a semi-circle UN style table facing the camera and many rooms and flex offices use a D shaped table facing the camera.

Technical details

Our AV rooms are Microsoft Teams on Windows rooms.

For all but the most complicated spaces we standardised on Logitech equipment:

- We used Logitech Scheduling panels for outside the room
- We used Logitech MTR panels for room control
- For cameras and microphones, we used a combination of Logitech Rally PTZ and Rally-bar's of varying sizes
- For feature rooms we used Poly E70 cameras with Shure audio.

Innovation spaces

One of the primary purposes of the modern office is for people to physically meet and ideate - we have provided several technology enhancements to compliment this:

- Purpose built innovation spaces that allow AV and real time ideation using electronic or physical whiteboards with electronic capture
- Mobile Microsoft Surface hubs are available in Melbourne and Sydney for AV conferencing and touch ideation
- ClickShare enabled TVs in common areas enable easy group collaboration on a large screen.

Challenges and lessons learnt

- Hybrid working requires a continuous effort to refine the approach.
- Like all technology there will be issues either with software or hardware failures, MS Teams rooms are no different. To mitigate this, we apply updates and reboot the rooms each night to ensure any updates are not applied when the room is needed, we also have staff physically check each room first thing each day to ensure all is working as it should. To support the I.T. team we have a support agreement with our partner Rapid Circle to ensure any new updates or equipment failures are easily fixed.
- Acoustic treatment within meeting rooms is more important and more impactful that you'd think
- Our Logitech MTR panels are fixed to the table as they require POE so for rooms with flexible/movable tables this must be considered.
- Glass reflections and auto focusing cameras can be a challenge requiring refinements.
- Booking panels
  - An MS license is required regardless of whether there is a Teams room or not i.e. we have some rooms with panels outside which are not AV spaces
  - Limited feature set i.e. no custom backgrounds yet
  - As a general rule we prefer people to not reserve rooms from the panels as coordination with meeting invitations can be problematic i.e. people can book a room from the outside panel and then it is trickier to join an existing meeting from an invite vs simply forwarding an invite to room without the booking panel being used just works.

Technology design decisions

Figure 8 – Purpose built AV spaces to ensure location equity where all participants feel included

Figure 9 – Mobile Microsoft Surface Hubs provide AV and digital capture from a physical whiteboard using Logitech scribe

Figure 10 – Typical AV meeting room with dual TV screens for remote participants

Figure 10 – Breakout areas with Clickshare enabled TVs for group collaboration

Technology design decisions

Next generation scanners and printers

We have significantly reduced the number of devices in use across all our offices however we have also ensured that those we do provide are able to provide:

- Fast, high quality, multi document scanning
- Mobile integration enabling touchless print direct from mobile app
- Ability to seamlessly print in any of our offices
- Secure release using mobile phones and building security access cards
- The ability to scan and print directly from Microsoft OneDrive, SharePoint and email.

Technical details

After stress testing a few providers, we went with the Toshiba e-Studio6516ac as our main device. We provide three in Melbourne, two in Sydney and one in Brisbane.

We use PaperCut Hive as our secure print release technology, which requires no additional infrastructure.

Major project challenges

Supply chains during a pandemic

Everything takes longer than expected, when combined with a semiconductor / chip shortage and logistic challenges like the Suez Canal obstruction this meant that in some instances temporary equipment was sourced whilst longer term ideal kit was waited on – e.g. one example was that LogiDocks were significantly delayed, but to Logitech's credit, they helped source Jabra Speak units which we could use with existing Lenovo docks to achieve a similar result in each flex office.

New technology

Many brand new technologies have been utilised with this fitout, some of which have struggled for performance and reliability. Whilst I'd not change the approach, as we are designing for the next five-seven years, it's worth noting that many vendors are not across all issues until customers start reporting them. There is also the challenge of finding experts in new hardware and software.

So, patience and understanding is required by all involved.

Implementation partners

To deliver this project we partnered with the following key technology partners – I'm calling out some individuals who I personally worked closely with however the entire team at each of these companies has my thanks:

- Rapid Circle to design, supply and implement the Digital Signage and AV spaces. Specific thank you to Nick Showler, Damien Margaritis and Mat Unwin
- BlueConnections to design, supply and implement our network upgrade providing Wi-Fi 6 within our offices. Specific thank you to Sam Steedman and Tim Welsby.
- JBHiFi to source and provide our workstation equipment during a pandemic with significant logistical challenges. Specific thank you to Davison Nguyen and Zach Del Grosso.

Hardware suppliers

The significant hardware suppliers to equip our offices were:

- Aruba – for our Wireless access points, ClearPass management software and network switches.
- Jabra – for our headsets and speak units
- Lenovo – for our laptops, docks, monitors, Keyboards and mice.
- Logitech – for our MS Team Room (MTR) panels, scheduling panels, Rally Bars and Logidocks
- Microsoft – for Surface Hubs and most of the software such as Teams, M365 which we use to make this all work
- Poly – for the E70 cameras
- Samsung – for our TVs and the Magic Info solution
- Toshiba – for our next gen scanners and printers.

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