Department of Sport and Recreation - Cloud Transition Case Study

Cloud services are rapidly maturing and providing a multitude of possibilities, some of which the Department of Sport and Recreation (DSR) have implemented. In 2013, DSR like many government organisations had many issues as a result of a patchwork approach to delivery ICT capability over the years. These included:

- Communications links to regional offices and recreation camps that were not fit for purpose when using corporate wide applications such as EDRMS and video conferencing.
- Legacy applications and server instances consuming ICT effort even though they were no longer in use.
- Limited capital replacement funds.
- Increased business demand.

DSR had to have a smarter way of ensuring service delivery and more flexibility to do so. The overriding principles that came to the fore were, "simple, connected and elegant" and with that in mind DSR determined that a cloud strategy was the most appropriate way forward. However, before they could get on with implementing cloud, ICT needed to free up some breathing space so people could have time to work on new capabilities. A Rationalisation and Remediation program was kicked off to clean up the ICT environment and make it fit for purpose. This included six projects that related to policy and procedure, information management, decommissioning over 50% of the centrally-run legacy servers and upgrading of all communications links to fibre throughout the State.

Completing these projects gave a lean, well understood foundation to build on and released ICT capacity to re-direct work effort on higher value activities. The upgrade to the communications network enabled full utilisation of corporate level applications for the first time and increased collaboration across the agency through both the video conferencing system and the existing collaboration platform.

With fit-for-purpose communication links, DSR then implemented a cloud-based VOIP solution throughout the State that provides a reliable, contemporary and scalable level of service when compared to the legacy PABX-based system which had been failing regularly. The VOIP system integrated fully with the collaboration platform in place and greatly improved communications across the agency.

The upgrade to communications also instigated a re-think about how services in regions and camps were delivered. Traditionally satellite offices required on-premises servers, storage and UPS devices, but in a world with high speed communications the questions that need to be asked are: "were these still required?", and "can we deliver the service differently?" By asking these questions, DSR designed, tested and implemented an authentication, file and print service in the cloud to replace on-premises installations. Testing showed no latency issues and no impact on user experience so the solution was rolled out to all regional offices and camps locations over a three month period.

This allowed the servers and UPS devices to be decommissioned from those locations. The estimated savings of doing this over a three year period were calculated at about 95% when considering the high overheads of maintaining equipment over a number of remote locations.

The migration of services to the cloud was not without issue. For example, the DSR public website infrastructure suffered a considerable performance hit when migrated. It was identified that the standard disk performance capabilities were not sufficient for the load on the website for the database server. With the fault identified, the server storage was migrated to the higher performance disk and reconfigured over the course of several weeks. This type of flexibility for fast performance upgrades were simply not be possible with our on-premises hardware-based environments.

DSR are steadily migrating services to the cloud and deploying a disaster recovery capability for critical DSR systems. This takes advantage of the regional diversity of cloud providers to replicate DSR systems to a secondary site at a greatly reduced cost than could be done without cloud services.

With new technology come new opportunities for rightsizing, automation and orchestration. DSR have automated the shutdown and start up of our development/test workloads which has minimised the monthly bill from the cloud providers. DSR also took the opportunity of upgrading to a cloud based backup solution. DSR decided on a software-based backup solution that integrates with cloud providers. This allowed DSR to do away with tape backups and the hassle of moving tapes offsite to a third party provider and related courier costs.

DSR also moved to a 90-day retention backup policy and let the records management system worry about records retention. This drastically reduced the complexity and cost of backups. This wouldn't have been possible without the article on the Management of Backups by the Tasmanian Archive and Heritage Office. Tasmania Records-Management-Principles.pdf.

DSR's approach to implementing cloud services was not pre-planned or pre-defined up front, instead, the architecture principles were referred to regularly ensuring aligned decision making. When dealing with cloud the final architectural state is an unknown because it's always subject to change. This required a leap into the unknown and agile thinking rather than adherence to traditional practices. Doing so has allowed DSR to adapt to changing circumstances and technology offerings as they became available and will allow them to continue to do so in the future.

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