# 4.2 Cloud Service Evaluation

**Existing On-Premise Infrastructure Overview**

The current IT setup of the agency is completely on-premise, which supports the essential business operations, including Customer Relationship Management (CRM), Human Resources (HR), accounting and payroll, file storage, and a proprietary booking system. Although each location has its servers, the Melbourne headquarters runs most of the core services. The major components of hardware that are currently being used comprise Dell PowerEdge Tower servers that have gone past the three-year mark in many cases. This has resulted in the infrastructure already beginning to show the signs of strain and inefficiency, especially as the operation requirements grow.

Important shortcomings of the current setup are the inability to scale, unacceptable disaster recovery and unavailability of high availability. These are made worse by the escalating cost of maintaining the systems and also increased complexity of the systems management. The ageing infrastructure of the organization restrains agility as well as responsiveness towards the changing business requirements. The shift to cloud computing will provide a realistic opportunity to circumvent these constraints with increased scalability, greater resilience, and effective cost management.

## 4.2.1 Cloud server

Scalability, resilience, and efficiency are being constrained by the organization’s on-premise set-up. Cloud services have many benefits, like cost-efficient scalability, improved data accessibility, automated updates, and excellent disaster recovery. Flexible solutions that can accommodate dynamic business needs are presented by providers such as AWS and Microsoft Azure.[[1]](#footnote-1) With the adoption of services such as email, file storage, and CRM systems to the cloud, the organization can eliminate maintenance overhead and boost the availability of the services.

***Amazon Web Service (AWS)***

* Service: 2 vCPUs, 8 GB RAM
* OS: windows server 2022
* Storage: 100 GB EBS General Purpose SSD
* Region: Australia (Sydney)
* Use Pattern: 24\*7 operation
* Annual Estimate: AUD $ 912.36
* Cost (3 year reserved instance): AUD $2737.08
* Source: <https://aws.amazon.com/ec2/pricing/on-demand/>

***Microsoft Auze***

* Service: D2as v5
* OS: windows server 2022
* Storage: 100 GB Premium SSD
* Region: Australia (Sydney)
* Use Pattern: 24\*7 operation
* Annual Estimate: AUD $ 933.12
* Cost (3 year reserved instance): AUD $2799.36
* Source: <https://azure.microsoft.com/en-us/pricing/details/virtual-machines/windows/#pricing>

***Recommendation for organization***

After comparing AWS and Azure cloud services, it is important to suggest Amazon Web Services (AWS) for the organization. AWS provides slightly less costly rates than Azure for equal specifications on virtual machines, thereby appearing to be cost-effective in the long run. Furthermore, AWS offers, wide range of services; solid documentation; as well as good local presence with data centers in Sydney, which allows low-latency performance, and data laws and regulations compliance in Australia. AWS also offers hybrid solutions, which will come in handy if the agency decides to migrate to the cloud in small numbers rather than move everything at once.

In order to make a proper comparison, similar VM specifications were chosen among providers. The region was targeted in Sydney for closeness and adherence. A Windows Server 2022 operating system was used to complement the current On-premise environment. Each VM was assigned 2 vCPUs and 8 GiB of RAM, which is suitable for moderate workloads, such as CRM and booking systems. 100 GiB of the SSD storage were selected for the balance of the performance and capacity. Such uniform specifications made it possible to make an accurate performance and pricing comparison.

***Assumption configuration per VM (Total Cost)***

Number of VM 6

Total annual cost: AUD $ 7920/year

3-year reserved: AUD $ 23.760

Advantage of Cloud VMs

* Scalability: The resources can be scaled up or down on demand, eliminating oversupply or bottlenecks in the hardware.
* High Availability: Cloud providers provide failover infrastructure with guaranteed uptime SLAs.
* Disaster Recovery: Providing backups, snapshots, and geo-redundancy provides better protection of data.
* Reduced Upfront Cost: There is no need to make capital expenditures on physical servers, cooling, and networking.
* Maintenance-Free: Hardware maintenance, upgrades and replacement are catered by the one providing the cloud.
* Security: Among the features offered by cloud platforms are data encryption, identity management, and a security compliance framework.

Disadvantages of Cloud VMs

* Ongoing Operational Cost: Monthly payments are provided indefinitely, possibly becoming more expensive than a single purchase of hardware over time.
* Data Sovereignty & Compliance: Even though Australian regions are used, certain organizations are skeptical about the storing of sensitive data in third-party environments.
* Latency & Connectivity: Internet dependence carries a possibility of latency or disruption if connectivity is weak.
* Vendor Lock-In: Custom configurations might be quite difficult to move across providers later on.

1. <https://www.researchgate.net/publication/377774113_Amazon_AWS_vs_Microsoft_Azure_Two_Prominent_Cloud_Service_Platforms> [↑](#footnote-ref-1)