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SAS^{IT}'s Transition Platform



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Problem

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

To optimise efficiency and deliver great user experiences these organisations require a seamless hybrid architecture. Whilst this might sound straight forward, in reality for most, it is not.

Organisations running IBM systems often need guaranteed DB2 database and storage performance to a level that is not yet competitively available from cloud providers. Many prefer to have their data centralised locally and not locked into a public cloud provider, they desire elasticity, on-demand services, and the flexibility to pick-and-choose the best technologies available from any cloud provider.

An increasingly common challenge is not simply hybrid connectivity but transitioning traditional IT infrastructure (servers and virtual machines) to server-less applications and containers. Companies want to deliver new innovations, release apps faster and take advantage of new opportunities, but integrating those new innovations with legacy applications and infrastructure can hold them back. Now it is easier to transition to a modern integrated architecture by decomposing monolithic applications into agile microservices and providing API's to manage the solution at scale.

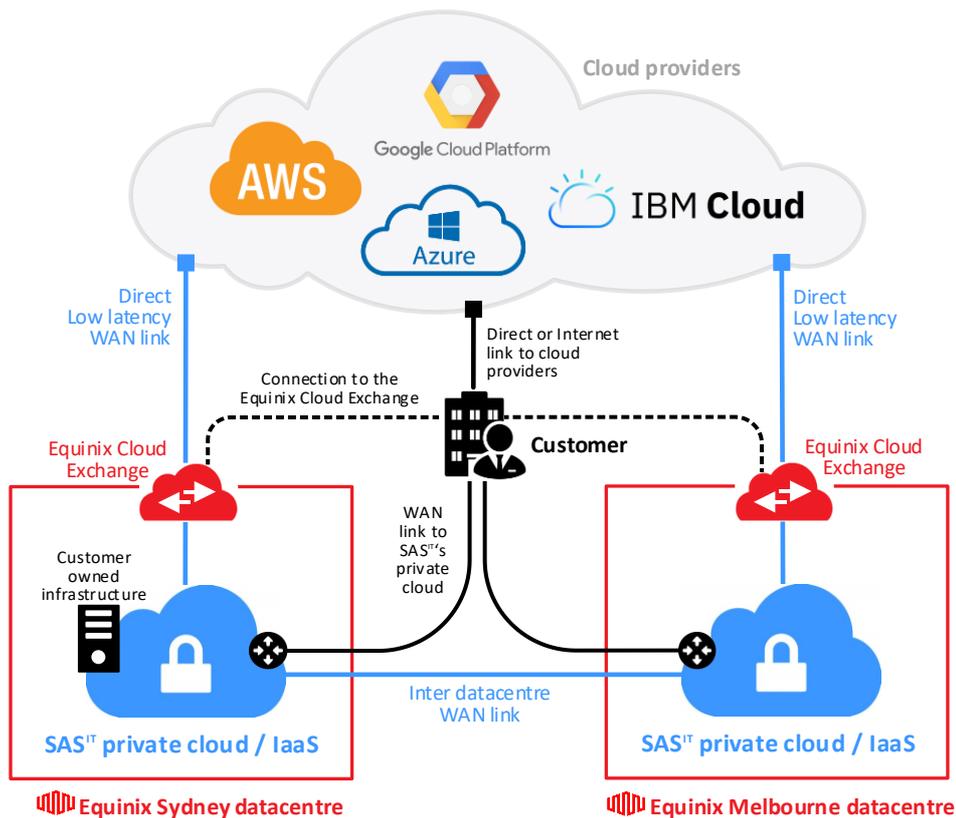
Solution

SAS^{IT} has created a hybrid cloud service offering by installing traditional IT infrastructure into Equinix data centres in Melbourne and Sydney and integrating this infrastructure with the major public cloud providers (including Microsoft Azure, Amazon Web Services, and IBM Cloud) via low-latency WAN connections.

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. The Equinix datacentres provide network inter-connectivity between the customers established systems and multiple cloud providers (including SAS^{IT}'s private cloud) via the Equinix Cloud Exchange.

Customers can choose to run their applications and databases on dedicated or multi-tenanted compute within SAS^{IT}'s private cloud environment housed within the Equinix datacentre, or on public cloud Infrastructure-as-a-Service. SAS^{IT}'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 undertake technology transition whilst preserving stability of existing systems, and facilitating the adoption and integration of new cloud services.

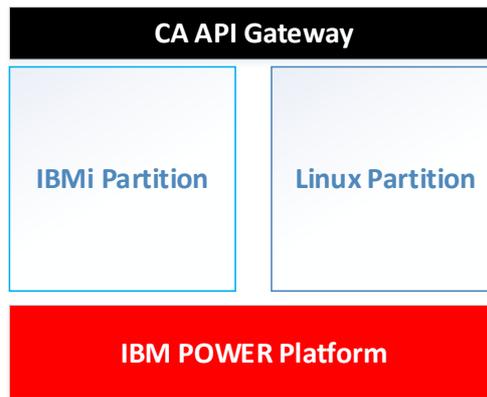


Each datacentre implementation has included best of breed technologies including Cisco Firepower Next Generation Firewalls, Cisco Nexus 1/10Gb Ethernet switches, Cisco UCS VMware vSphere host servers, IBM Power systems, and NetApp Flash storage. SAS^{IT} has deep expertise and experience with the selected technologies and with the technologies provided by the major public cloud providers. SAS^{IT} provides 24x7x365 end-to-end management and support of this hybrid cloud environment.

Using Micro Services

A key use case for the transition platform is the use of a microservices architecture in modernisation of monolith applications. Using a microservices approach coupled with an API gateway provides the ideal architectural pattern to transform a monolith application to a modern n-tier architecture. There are two further key requirements to enable this capability:

1. The microservices environment and the connections with the legacy application need to be high performance and low latency.
2. Agile operations using microservices necessitates a dev-ops delivery approach.



The SAS^{IT} solution uses a preconfigured Linux machine partition alongside a monolith application partition. This ensures that a high performance IBM POWER platform is available as well as very low latency application interconnections between the monolith application and the microservices under development. This configuration ensures that the system operates using high performance computing during testing.

The Benefits

Agility and productivity: The team that is developing the microservice can completely understand the codebase. They can build, deploy, and test it independently of other components in much faster iteration cycles. Because the microservice component is simply another component on the network, it can be written in the language best suited to the functionality required. This approach can significantly reduce the amount of code to write and make it dramatically simpler to maintain.

Scalability: The microservices development team can scale the component at run time independently of other microservice components, enabling efficient use of resources and rapid reaction to changes in workload. In theory, the workload of a component can be moved to the most appropriate infrastructure for the task. It can also be relocated independently of the rest of the components to take advantage of network positioning. Well-written microservices offer extraordinary on-demand scalability, which was demonstrated by early innovators and adopters in this space. Microservices are also best placed to take advantage of the elastic capabilities of cloud-native environments that have cost-effective access to enormous resources.

Resilience: The separate run time immediately provides resilience that is independent of failures in other components. With a carefully decoupled design, such as avoiding synchronous dependencies and using circuit breaker patterns, each microservice component can be written to satisfy its own availability requirements without imposing those requirements across the application domain.

Technologies, such as containers, and lightweight run times have enabled microservice components to fail quickly and independently, instead of taking down whole areas of unrelated functionality. Equally they are written in a highly stateless fashion so that they can immediately redistribute workloads and almost instantaneously bring up new run times.

Why it works

SAS^{IT}'s transition platform provides customers with significant choice and flexibility in the design, operation and future direction of their IT environments.

Additionally SAS^{IT}'s 24x7 Managed Services means that customers don't need to worry about their day to day IT operations and can instead 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.

The transition platform provides customers with; technical, commercial, and business value. The technical value arises from being able to smoothly transition by selecting the most appropriate technology architecture and components, commercial value through being able to select the most cost effective options, and business value by being able to vary and tailor systems in alignment with changing business requirements, including the capability to rapidly bring new offerings to market.

For more information

Contact SAS^{IT} to discuss your circumstances and determine if we can provide an integrated high performance hybrid environment that would fuel your adoption of new systems whilst preserving the integrity and reliability of existing systems.

Please email tony.wilson@sasit.co.nz for further information.



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