Capgemini

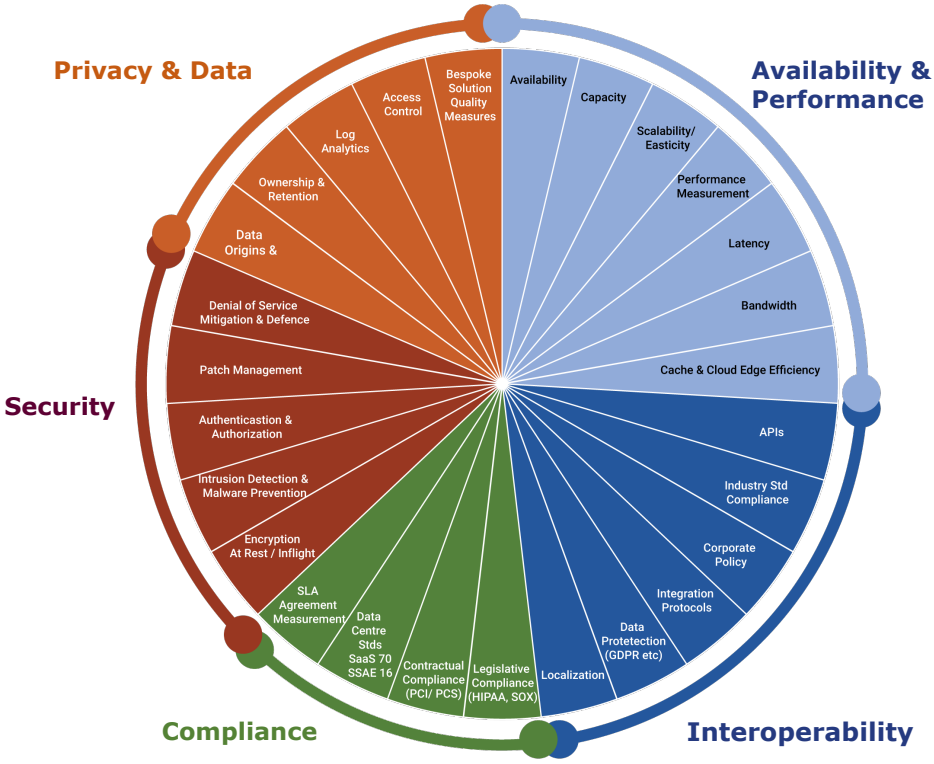
Hybrid Integration

Which Oracle PaaS is right for your Hybrid solutions?

What do we mean by Hybrid and why is it important?

When cloud solutions started to be linked to core on-premises solutions the term 'hybrid' was adopted. This typically came from the fact that at the time the majority of solutions in organisations where on-premises and enabling things like web front ends meant integrating a cloud solution to the on-premises systems. Example an online sales solution to product and customer master data along with manufacturing running in the existing data centres.
But things have moved on, and with the decentralisation of service acquisition that cloud has allowed to happen, many businesses now use many different cloud providers. This can range from specialist SaaS to generalist IaaS. But, as ever competitive advantage comes from streamlined integrated - end-to-end processes. The challenges of integrating between clouds have many commonalities to that of one cloud to on-premises, for example:

- Network security – you don't want one cloud solution punching holes into another to communicate – how will you know the other cloud is also yours?
- Reliable Performant connectivity – the internet that connects these services together is out of your control unless you have very expensive Multi-Protocol Label Switching (MPLS) network, in which case you only have some control.
- Monitoring and audit of what is happening so you can ensure your service quality, and hold providers to account.



Factors that can impact cloud & Hybrid Decisions

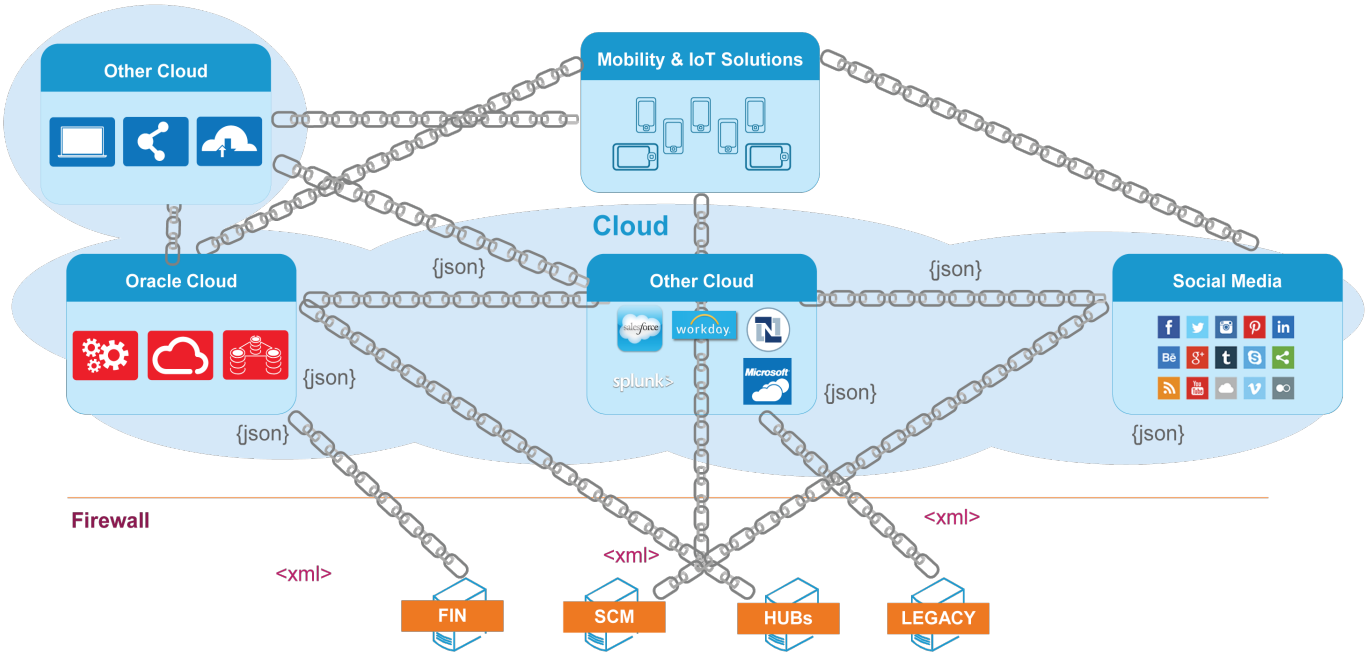
With these kinds of considerations, we can look at cloud to cloud as much the same as early hybrid needs. In many respects cloud to cloud can be tougher as you have relinquished a lot of the low-level control. Given all of this, hybrid is now considered to be equally cloud-to-cloud or cloud-to-on-premises.

Challenges of Hybrid Integration

Any organisation that designs a system (defined broadly) will produce a design whose structure is a copy of the organisation's communication structure. Fred Brooks cited the paper and the idea in his elegant classic **"The Mythical Man-Month," calling it "Conway's Law."**

As you can see the challenges of hybrid integration be it, cloud to cloud or to on-premises brings new challenges which when understood can be addressed with the right skills and knowledge. Further, cloud-to-cloud can compound the challenges with several additional issues, the most challenging being:

- Unlike older solutions such as EBusiness Suite open table integrations, things can't simply interact with systems at the database level now – this restriction exists for both product reasons (not exposing the schemes means it can be changed to meet evolving product needs) but also because it can represent a variety of risks, from security to creating unexpected load at the storage tier impacting user experience
- What facilities are available to interface, transform, simplify, and standardise data
- Where capacity and services exist, and their elasticity
- With integration, there has always been the risk of things turning to spaghetti and becoming unmanageable, but with multi-cloud it becomes even harder as you need to understand how Integrations traverse clouds to understand the impact of SLAs and maintenance windows that may impact. Some have coined this challenge as Frankencloud.

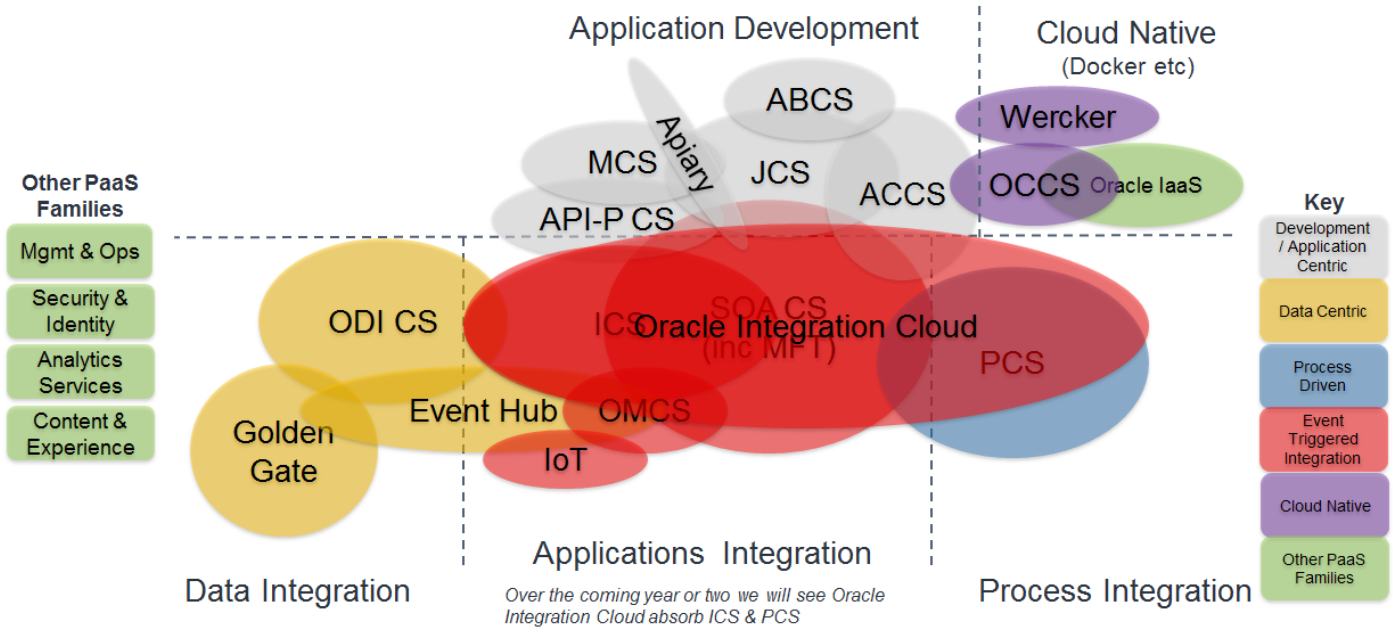


Growth of Frankencloud

It should be noted that new generations of solution and integration delivery through microservices have the same risks as old Enterprise Service Bus solutions, but can manifest themselves slightly differently. Regardless of approach with the right knowledge, tools, and techniques these risks can be managed. Remember the best tools, techniques and knowledge will not overcome organisational factors as best described by Conway's Law.

PaaS Landscape and Hybrid Options

Oracle's PaaS offerings have grown substantially in the last few years as they have worked to address the needs of cloud enabling existing and legacy landscapes, through to providing a platform that meets the needs of cloud born solutions. Many of these newer solutions can be applied in hybrid use cases as well.
When you add to this the move from SOA and batch data integration to technologies to microservices and event stream, from de-facto standards like Docker and API Blueprint to industry standards such as OAuth and JMS the landscape is both rich in capability and potentially challenging to choose the right capabilities.
This landscape is not likely to simplify in the near future as Oracle have recognized the significance of a range of open source offerings and created platform certified, security hardened implementations for example Kafka in the form of Event Hub and Docker containers as Container cloud (an approach not dissimilar to Red Hat with JBoss Fuse and aspects of IBM BlueMix).



Oracle PaaS Options

Identifying the best combination of PaaS offerings can as a result be something of a challenge. Organisations tend to opt for an IaaS model as it provides the ownership and reflects existing approaches to development, however this misses the value add that exploiting PaaS brings.
Benefits like SaaS of all the patching is performed for you, provisioning and deployment effort is reduced to selecting the right initial shape/capacity required.
Getting the platform selection optimized for both now and the future can require some consideration like any cloud vendor agreement the greater the commitment in terms of time, the better the platform service charge. Not to mention avoiding the have one hammer, and everything is a nail, we have seen in the past because licensing many components can be challenging.

How do you decide which products to use?

Selecting the right permutation of products, and nearly always is multiple products depends on many factors covering considerations such as a cloud strategy (which isn't always fully formulated when it comes to software platforms). The PaaS and hybrid model could be driven by one or more drivers, such as:

- The cloud software platform is there to enable just SaaS extensions
- Adoption of a cloud based solutions being taken as an opportunity to completely replace an aging on-premises integration layer, and maybe even bespoke applications so allowing the organisation to become more reactive, near real-time and event driven
- Solutions need to be migrated to the cloud (as hardware hits end of life), this is particularly common where cloud is approached as a 'not my computer' philosophy, this points to a lift and shift integration model I.e. move Integrations in line with where data is held (referred to as centre of mass),
- Use the cloud to 'keep the lights on' whilst legacy is mothballed along with data centres as they reach end of life,
- Business experiences short periods of very high demand, which historically drove hardware investment to meet peak load rather than on optimal investment, so cloud becomes a capacity burst and/or the failover data centre. This is sometimes known as the 'Black Friday' effect.

With the strategies teased out, and then combined with an understanding non-functional considerations, such as volumetrics, availability and resilience requirements (whilst it is easy to accept the idea of cloud is always on, there is still the need for maintenance windows, always the risk that data centre is subject to regional issues) All of which can influence product selection as different products have different strategies (and costs accordingly) – and necessarily so as different functional behaviour and customer needs dictate the mechanisms. This is all before factoring in legislative requirements that each individual customer is subject to, from GDPR through to very strict healthcare or government rules. Whilst the Oracle cloud includes strong security, the depth of security and how it is applied is gradated. Then there are considerations such as how the platform is going to be used – where are your skills coming from, who is providing application level support – you probably don't want to consider GoldenGate as part of a solution if as an organisation your IT resourcing approach means you can't justify the specialist skills for one small part of your solution space.

Then of course, there is understanding the products themselves, how they address and relate to the non-functional requirements and business aspirations and direction. Grasping these factors whilst given the portfolio richness is not a trivial challenge as with any product consideration you need to know what the product roadmaps look like, and how they will fit an organisation's needs for at least the next 3-5 years if not further.

Why Capgemini and what can we offer

All of these considerations for cloud and hybrid solutions can appear daunting. This is why vendors like Oracle will promote working with partners such as Capgemini. The obvious question therefore is, what makes Capgemini different from others? The compelling argument as we see it comes from the aggregation of many factors…

- Capgemini is not a single vendor partner, we work with many partners and open source. This means that in a world where customers will often draw from many vendors we will have colleagues who will understand a technology that needs to be implemented.
- Capgemini's team includes thought leaders, domain experts, and technology advocates. This is reflected through having in the Oracle space Aces and Ace Directors. Oracle accredits individuals through its Ace programme for their contributions to the community, innovation and development of best practises with its products. It is not unusual for Oracle to reach out to the Ace community for input into products, and their insights into the application and delivery of the products,
- The Capgemini is a global capability with people that can cover its entire catalogue, so we can get the right expertise to you
- In practical terms Capgemini has a portfolio of technical resources which help to accelerate the delivery:
  - Best practises catalogue covering which technologies to use when and why,
  - Design patterns ranging from solving specific problems (such as abstracting connectivity issues that we know Oracle will address in future product releases, so introducing the strategic answer is simple and transparent) to enterprise scale patterns (the right mix of products and integration tools for common application of Oracle solutions),
  - Templates and quick start resources such as the realisation of patterns that can be plugged directly into a delivery

Finally work should speak for itself. With a portfolio of happy customers, awards we have been shortlisted for and won.

Alliance and Strategic Partnership

- Cloud Premier Partner
- Oracle Diamond Partner
- Oracle Cloud Managed Service Provider (*New!) partner – only a handful of SI's
- Only Global SI to be accredited as Oracle Authorized Education Center

- Part of Beta programmes for:
  - Cotainer Native & Microservices
  - Inteligent Chatbot
  - API platform
  - Integration cloud
  - Process cloud
  - Oracle Self-Service Automation
  - Oracle IoT Cloud
  - Oracle Mobile Cloud

Awards and Recognitions

- 2017 – Gold & Silver UKOUG Partner of the Year Awards
- 2017 – Global Excellence Award for Extend and Connect
- 2017 – API PaaS Community Award
- 2017 – Chatbot PaaS Community Award
- 2016 – Oracle Specialized Partner of the Year: Industry
- 2016 – Oracle University Partner of the Year
- 2016 – BPM and Cloud community awards
- 2015 – Oracle Customer Support Services Partner of the Year
- 2011 – Global Partner of the Year Award for Oracle Applications
- 2012 – Fusion Middleware partner of the year
- 2010 – Partner of the year for Oracle Fusion Middleware
- 2010 – 2010 EMEA Industry Partner of the Year
- 2010 – Oracle Customer Services Partner of The Year
- 2009 – Oracle Customer Services Partner of The Year
- 2008 – Oracle Customer Services Partner of The Year

Thought Leadership

- Continuous investments in cloud accelerators
- 5 Oracle Aces: 2 Directors, 3 Aces
- Real experts and thought leaders including several books:
- 2013: Oracle SOA Governance Implementation
- 2015: Oracle API Management Implementation
- 2016: Oracle Case Management Solutions
- 2017: Implementing Cloud service **Soon in 2018:**
- Oracle API Platform CS Implementation
- Enterprise API Management
- Several publications in OTN, Oracle Magazine, Oracle Scene & Other

People matter, results count.

About Capgemini

With more than 190,000 people, Capgemini is present in over 40 countries and celebrates its 50th Anniversary year in 2017. A global leader in consulting, technology and outsourcing services, the Group reported 2016 global revenues of EUR 12.5 billion. Together with its clients, Capgemini creates and delivers business, technology and digital solutions that fit their needs, enabling them to achieve innovation and competitiveness. A deeply multicultural organisation, Capgemini has developed its own way of working, **the Collaborative Business Experience™**, and draws on **Rightshore®**, its worldwide delivery model.

Learn more about us at
www.capgemini.com

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