Why rearchitecting applications for the cloud should be on your to-do list

Choosing the right modernization strategy

Academic institutions need to adapt to a new breed of students, researchers, and faculty that demands fast, efficient access to data. Application modernization is a vital ingredient in delivering this. It encompasses several strategies.

- Simple lift and shift where you take your existing on-premises application and move them to the cloud without any changes

- Refactoring where applications are modified to take advantage of cloud-based features and flexibility

- Rearchitecting involves reconstructing applications to utilize the full benefits of cloud

Taking a cloud native route

Cloud native refers to applications and services built specifically to run in the cloud. Cloud native applications tap into the power of the cloud to increase speed, agility, flexibility, scalability, and innovation in the development cycle.

Unlike large traditional applications, cloud-native applications are small, independently built, tested, and managed microservices. These small packages of code are much easier and more secure to work with.

A modular approach

Cloud native applications are modular, making it easy to make changes to deal with changing operational environments. Application deployment and management are automated, allowing systems to be looked after holistically.

Cloud native speeds up the development of new applications and optimizing existing ones utilizing DevOps or a combined team of developers and IT operators. By collaborating, they can release updates faster and spot issues quicker along a continuous delivery/continuous integration (CI/CD) pipe that builds code, runs tests, and deploys secure versions of the applications.

Enhanced resilience

Continuity is a significant reason that academic and research institutions are moving to the cloud. Large, unwieldy traditional applications are notoriously difficult to deal with when issues arise. Cloud native applications can be architected for resilience, lowering failure rates and the time it takes to fix any problems.

Rearchitecting is the ultimate app modernization option

You only reap what you invest. While lift and shift and refactoring have their places, unlocking the full benefits of cloud rearchitecting is the obvious way forward.

It involves rebuilding applications in a service-orientated, scalable way to make them truly cloud native and achieve the significant benefits from the cloud in terms of capacity, management, and agile development.

Five reasons to rearchitect your applications

- Greater agility and adaptability in the cloud

- Allow you to benefit from the cloud's elastic infrastructure, including scaling and long term cost saving

- Enhanced resilience

- Positions applications for future agile development using DevOps approach

- Application release cycles can be streamlined

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Creating a truly connected world

Students, researchers, and faculties today demand anytime, anywhere access. Research teams are dealing with massive datasets, collaborating across the world. Rearchitected applications enable you to service these demands with the speed, security, and flexibility users have come to expect, no matter what device they are using.

Five essential points to take into account when rearchitecting applications:

1 Rearchitecting requires careful forethought and a deep understanding of the applications and the cloud, including performance requirements and usage behaviors.

2 Rearchitecting is much more resource-hungry and complex than refactoring. But, it is worth the effort as it will support your institution's future growth.

3 Rearchitecting will require you to change parts of the application. Without rigorous planning, you can end up with issues and unplanned downtime.

4 Transformational costs will probably be higher, but don't be tempted to skip steps. Without total modernization, you can be left with performance issues, for example.

5 Don't think of rearchitecting in terms of cost. It may be a more expensive route, but it will provide you with the best long-term outcome.

How to approach rearchitecting

Before you embark on a rearchitecting strategy, it is essential to assess your current applications and assess the complexity and risk of doing so. So applications may not be suitable for the change, such as those near their end-of-life date.

Once you've decided which applications to rearchitect, you don't have to rush to do it overnight. You can take an evolutionary approach, enabling IT teams to learn how to work with cloud native while delivering new functionality.

Don't feel pressured to rearchitect just because you are moving to the cloud. Applications can be rearchitected later once they have been running in the cloud for a period of time. This gives IT teams an idea of which of the application's features provide the most benefits in the cloud.

Rearchitecting once applications have been in the cloud for a while also gives IT teams some breathing space to deal with complex cloud migrations.

Getting started

Most academic institutions lack the in-house experience to take up ambitious rearchitecting projects for the cloud. This is why it is crucial to have a trusted partner like Orange Business Services to provide the expertise necessary to get the most from your cloud investment.

Digitalization is transforming the academic landscape. Whether you need to modernize your existing applications or create new applications for a cloud native environment, our dedicated cloud team can help you.

Learn more about the Orange Flexible Engine offer for GÉANT members here
https://ocre-orangecloud.com

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ocre.orange@orange.com

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