On-Prem vs. Cloud DevOps

Here are a few of the key differences between on-prem and cloud DevOps solutions.

On-Prem		Cloud
On-premises infrastructure typically requires significant upfront investments to handle peak workloads. However, during periods of lower demand, the resources may remain underutilized, leading to wasted capacity.	**Scalability**	Cloud computing allows teams to scale their resources up or down on-demand, providing the flexibility to accommodate fluctuating workloads and ensuring optimal resource utilization.
Maintaining and managing on-premises infrastructure involves substantial costs, including hardware purchases, maintenance, power consumption, cooling, and physical space requirements.	**TCO (Total Cost of Ownership)**	The one-time, upfront cost of migrating your DevOps to the cloud is worth it when compared to the ongoing costs of managing and maintaining your platform on-prem.
Setting up and configuring new hardware in an on-premises environment can be time-consuming, requiring procurement, installation, and configuration processes.	**Time to deployment**	Cloud computing enables teams to provision resources quickly through self-service portals and APIs, accelerating the deployment of new applications or services.
Ensuring high availability and implementing robust disaster recovery mechanisms can be challenging and costly in an on-premises setup.	**High Availability & Disaster Recovery**	Cloud providers typically offer geographically distributed data centers, redundancy options, automated backups, and disaster recovery services, which can enhance the availability and resilience of teams' applications.
Maintaining high-quality security and compliance requires continuous hardware and software updating and patching, as well as a high degree of expertise, which many organizations don't have in house.	**Security and compliance**	Cloud providers invest heavily in security measures, including physical security, network security, data encryption, and compliance certifications. By migrating to the cloud, organizations can leverage the expertise and infrastructure of cloud providers, offloading some of the security responsibilities.
With the rise of remote work, on-premises infrastructure may not adequately support distributed teams.	**Collaboration & remote work**	Cloud computing enables seamless collaboration and remote access to development and production environments. It allows teams to work together on shared resources, access code repositories, and deploy applications from anywhere, fostering productivity and flexibility.
Modern software development practices emphasize continuous integration and deployment (CI/CD), which require agile infrastructure that can require scaling up fast to handle more builds, which can be problematic in on-premise environments.	**CI/CD**	Cloud platforms provide integrated tools, such as container services, automated deployment pipelines, and DevOps-friendly services, enabling teams to streamline their CI/CD processes.
On-prem solutions often require extensive manual work to customize, deploy, and integrate microservices.	**Extensibility & microservices**	Cloud solutions can be easily integrated and deployed, and allow for customizing and deploying microservices quickly.
On-prem solutions can be difficult to scale, are more prone to downtime, and can be difficult to protect from external threats.	**Reliability & extensibility**	Cloud solutions are more reliable and resilient, and can quickly scale up or down, as needed. They also tend to be heavily guarded against external threats.

To learn more about the JFrog Software Supply Chain Platform in the cloud, download the Cloud Migration 101 white paper:

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