

Brief: Moving to cloud-native in the oil and gas industry.



Moving to cloud native in the oil and gas industry

"Red Hat OpenShift gives us the ability to safely manage tens of thousands of microservices at scale. I don't see any other container platforms that can do that as safely and securely as OpenShift."

Paul Gerbasi
Head of application engineering services at BP

Upstream operations can increase value

Compared to other industries, oil and gas companies have been slow to adopt technology, as upstream operations vacillate between technology advancement and cautionaries. Risk mitigation and concerns over sunk costs from significant past tech investments are some of the reasons for the lag.

Historically, highly specialized exploration and production (E&P) software and subsurface interpretation workflows have relied on proprietary data models. This isolated the data and impeded data access, reducing the data's value across the organization. In upstream oil and gas, as in other data-driven industries, ending this isolation of data is the best solution—cloud environments and cloud-native applications are key to accomplishing this.

While the value of cloud-native environments is understood by upstream technology leaders, risk concerns can keep them from full adoption. Organizations have three options for effectively mitigating risk while reaping the benefits of cloud computing.

Option 1: Open platform

Oil service companies are now offering open platform solutions that resemble open source solutions. Similar to past technologies, open platform allows operators to use cloud computing under the service company umbrella, which helps mitigate risk.

With an open platform, developer communities foster communication and code sharing, encouraging steady software improvement. However, the platform is still proprietary, which constrains the upstream operator to a single vendor rather than working with a partner ecosystem in an open source environment.

Option 2: Begin on bare metal

The shift to a cloud-native environment is more of a culture issue than a technological one. Open source workflows are different, and working with containers in a cloud-native environment requires new processes as well as new ways of thinking, which operations teams can foster. For example, Red Hat® OpenShift® can be implemented on bare metal without using a cloud. This strategy can help make the changes in workflows, processes, and thinking that will allow staff and teams to move smoothly to a cloud-native environment.

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¹ "Oilfield services infrastructure introduces DevOps with self-service platform." Red Hat, accessed 29 Sept. 2020.

Red Hat® Moving to cloud native in the oil and gas industry

Discover three options for the oil and gas industry to adopt cloud computing.