# IBM and Axiom Space to send data centre to the International Space Station in 2025



In a significant development within the realm of space technology, IBM’s Red Hat has partnered with Axiom Space to send a novel data centre, named the Data Center Unit-1 (AxDCU-1), to the International Space Station (ISS) in spring 2025. This initiative marks a pivotal step in advancing off-world data processing capabilities.

The AxDCU-1 prototype will integrate Red Hat Device Edge, which is an enterprise-grade version of MicroShift—a lightweight Kubernetes distribution derived from Red Hat OpenShift. Alongside this, it will utilise Red Hat Enterprise Linux and the Red Hat Ansible Automation Platform to facilitate its operations.

This ambitious project aims to test various applications in the fields of cloud computing, artificial intelligence/machine learning (AI/ML), data fusion, and cybersecurity, all within the unique environment of space. By processing data closer to its source, which includes spacecraft and satellites, the initiative is intended to enhance the speed and security of decision-making processes during space missions.

“Off-planet data processing is the next frontier, and edge computing is a crucial component,” stated Tony James, Chief Architect of Science and Space at Red Hat, speaking to TechRadar. “With Red Hat Device Edge and in collaboration with Axiom Space, Earth-based mission partners will have the capabilities necessary to make real-time decisions in space with greater reliability and consistency.”

Axiom Space, which is dedicated to the development of space infrastructure, envisions that the AxDCU-1 will facilitate a range of use cases. These include processing data for satellites, training AI/ML models, enhancing cybersecurity measures, promoting autonomy, conducting space weather analytics, and providing off-planet backups for critical Earth infrastructures.

In relation to the collaboration with Red Hat, Jason Aspiotis, Global Director of In-Space Data and Security at Axiom Space, expressed enthusiasm about the prospects for orbital data centre infrastructure. Aspiotis remarked, “We are excited about the possibilities this collaboration with Red Hat enables for ODC infrastructure and the future of space operations. Infusing terrestrial-grade cloud solutions into ODCs will enable users to seamlessly transition and enhance their terrestrial workloads to orbit while leveraging the lower latency and increased security inherent with ODCs.”

This initiative follows other recent advancements in space-related data centres, such as Lonestar's efforts to send a physical data centre to the Moon, indicating a growing interest in utilising space for data processing and infrastructure.

The AxDCU-1 project exemplifies a collaborative effort to not only explore the potentials of space technology but also to prepare for the increasingly data-driven future of space exploration and operations.

Source: [Noah Wire Services](https://www.noahwire.com)

## References

* <https://convergedigest.com/red-hat-and-axiom-space-to-deploy-orbital-data-center-prototype-on-iss/> - This URL corroborates the partnership between Red Hat and Axiom Space to deploy the AxDCU-1 prototype to the ISS, focusing on cloud computing, AI/ML, and cybersecurity applications.
* <https://www.bizjournals.com/houston/inno/stories/news/2025/03/06/axiom-space-and-red-hat-partner-for-iss-based.html> - This article supports the collaboration between Axiom Space and Red Hat, highlighting the use of Red Hat Device Edge in the AxDCU-1 project and its potential applications in space.
* <https://www.noahwire.com> - This source is mentioned as the original article's source but does not provide additional external corroboration.
* <https://www.redhat.com/en/technologies/linux> - This URL provides information on Red Hat Enterprise Linux, which is mentioned as part of the AxDCU-1's operational infrastructure.
* <https://www.redhat.com/en/technologies/management/ansible> - This URL explains the Red Hat Ansible Automation Platform, which is used in the AxDCU-1 project for automation purposes.
* <https://www.redhat.com/en/technologies/cloud-computing/openshift> - This URL discusses Red Hat OpenShift, from which MicroShift is derived, and is relevant to the AxDCU-1's integration of Red Hat Device Edge.