

VILLENA, LANS CLARENCE S.
IV - ACSAD

Assignment # 4 - ELEC 3

Create a narrative report about the article:

Virtualization vs. Containerization, a Comparative Approach for Application Deployment in the Computing Continuum Focused on the Edge, *Sturley et.al.*
(Hamish Sturley, Augustin Fournier, Andoni Salcedo-Navarro, Miguel Garcia-Pineda, Jaume Segura-Garcia)

Narrative Report:

The research by Sturley et al. called "Virtualization vs. Containerization, a Comparative Approach for Application Deployment in the Computing Continuum Focused on the Edge" talks about the difference between Virtual Machines (VMs) and Containers, especially for modern app deployment in Edge Computing. The main point of comparison is how they're built. VMs basically copy the whole hardware system and run their own full operating system, which makes them very secure and completely isolated. But because of that, they use a lot more system resources. Containers work differently since they run at the application level and share the host device's OS. This makes them lighter, faster, and easier to move around.

Based on the results of the study, containerization is generally the better option for Edge Computing. This is because containers showed better performance when it comes to using resources, meaning more applications can run on one device without slowing it down. They also start up faster and scale easier, which is super helpful in edge environments where things change fast and devices usually don't have tons of power available. VMs still have an advantage when really strong isolation is required, since they keep everything completely separate. However, the study's findings overall suggest that containerization is more efficient both energy-wise and in terms of computing power, making it a more eco-friendly and cost-effective choice for most edge situations.