



Virtual Design Master - Challenge 4

The terraforming of new regions on Earth and other planets has continued. Throughout the first three challenges, we saw how our designers attack issues of resiliency, protection, and orchestration. Our remaining participants have been selected to lead parallel efforts which will be evaluated for the future expansions of the HumanityLink software suite, and other applications the survivors of the human race will need.

You will have access to launch three (3) Type 1 hosts running on [Packet.net](https://packet.net). This is the next-generation of our anti-zombie weapon laboratory, the Utility Muffin Research Kitchen.

This environment will be configured as a cross-cloud environment using open source products to ensure that we have continuous ability to develop, patch, secure, and maintain the products by using our available engineering workforce. This consists of the technological survivors of the zombie apocalypse and their apprentices. Your infrastructure is shared by the three R&D leaders who must collaborate to ensure all environments are able to share the underlying infrastructure safely.

The environment should be able to be built out using your provisioning code when a new [Packet.net](https://packet.net) region on any planet becomes available. Ideally, you should be able to launch the entire infrastructure without any human interaction.

You must:

- Deploy your infrastructure using Terraform by HashiCorp on [Packet.net](https://packet.net) hosts
- Deploy a container scheduling platform for your application environment
- Deploy and set up a continuous configuration management system using any open source platform
- Deploy a self-service application catalog to deploy applications into the environment
- Deploy a version control system for the developers to use for application development
- Deploy a centralized logging system
- Secure your infrastructure and detail your design choices and reasoning
- Show a running copy of the Virtual Design Master website
(<https://github.com/VirtualDesignMaster/virtualdesignmaster.github.io>) using Jekyll in your environment
- Document and diagram the infrastructure including your resiliency and protection strategy
- Provide credentials to the judges to evaluate your infrastructure
- BONUS: Document and illustrate how you can partially damage your environment and show how it can self-heal

Limitations

- You only have three (3) Type 1 hosts on [Packet.net](https://packet.net)
- You must use open source products unless it is absolutely necessary not to
- You only have API access to the DNS environment

Requirements

- Every object must use FQDN under utilitymuffinresearchkitchen.org
- Add resiliency at every layer available

Document submission is **due Monday July 31st at 5 PM Eastern Time** and the live defense of your design will happen at 8 PM Eastern time on Thursday August 3rd where we will select this year's Virtual Design Master. Email the final design details to eric@discoposse.com for review. PDF is preferred.

Good luck everyone!