Case Study : Automation tool for testing chips

Business Challenge

The challenge was to do performance testing of RTL design before Fabrication. The scope of tool is to test the RTL design of a memory chip set using Python with the given command set for triggering the functionality. The objective is to ensure the robustness and reliability of the memory chip set design by identifying and resolving any potential issues.

Requirement

- To build Keyword-driven automation tool in python to test the RTL design.
- Identification of test case to test the Boundary Conditions
- Parsing the Test log file to determine the verdict of the test case.
- Update the test case and result in the dB. & Building visualization to represent the test status from dB.
- Integrating the test suite as part of Jenkins pipeline.

Technology & Tools

- Language : Python,
- Data Base: MySQL,
- Tool: Jenkins, Grafana visualization, Kubernetes

Value add by Mirafra

- Crafted infographics dashboards in Grafana and deployed to customer's cloud to be consumed by the relevant stakeholders
- With this tool the team was able to handle Multiple releases
- Reduced test cycle time and reduced manual effort/cost.
- Solid Test suite resulted in Testing IP under different temperature, voltage variations, accessing boundary memory addresses to check for data corruption, random access.