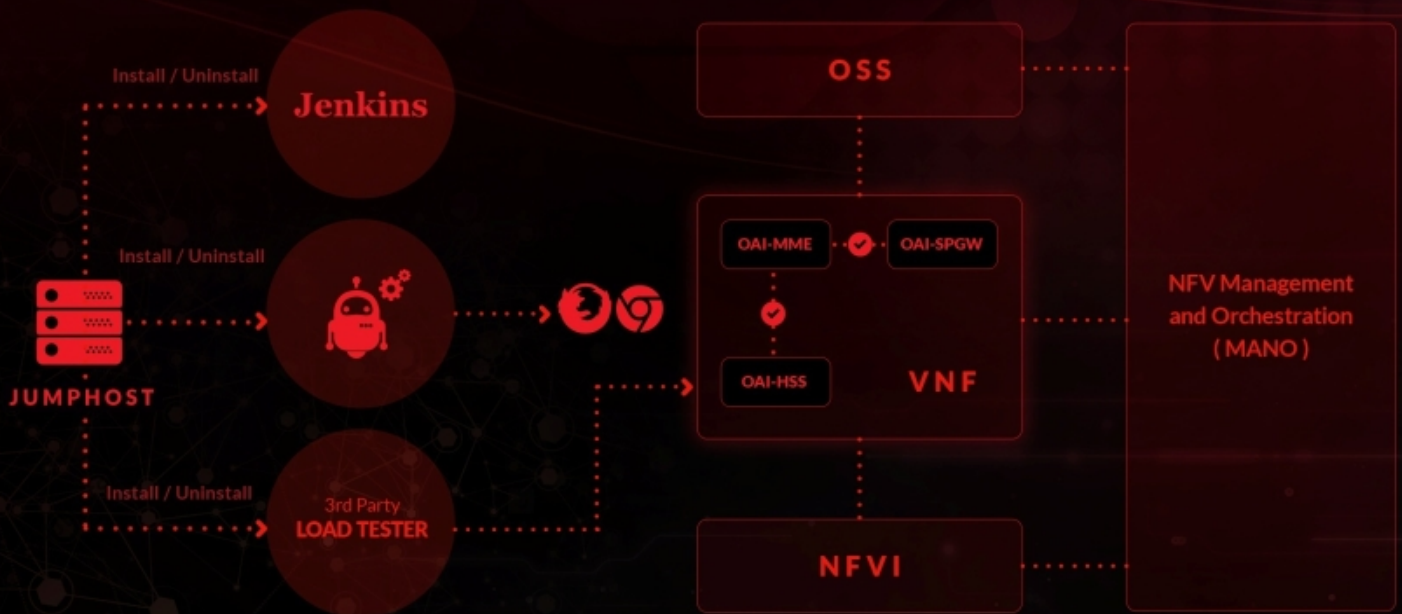


ABot for Deployment Verification



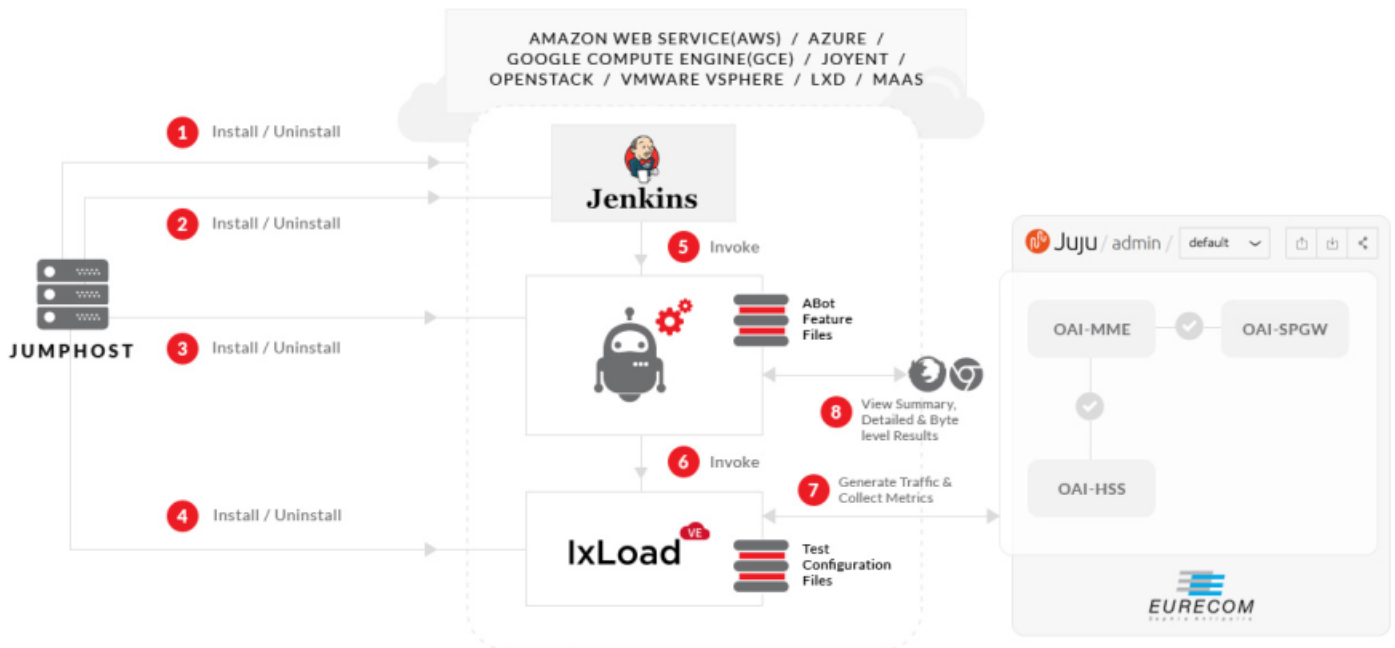
Challenges : Service Complexity & variant NFV Platforms

As cloud computing and NFV becomes a reality, VNF deployment verification poses a major challenge. Most services involve interoperability between different VNFs (e.g. VoLTE) deployed using NFV orchestrators on NFV infrastructure. There has been a fair amount of focus on VNF on-boarding; but the industry is yet to find an automated validation mechanism for virtualized network services deployed at multiple locations. Application and service complexity demands intricate setup, configuration and a wide variety of test scripts. Operators need automated deployment of test harnesses on NFV-compliant infrastructure with scripted execution of well-defined tests on the target VNFs and the ability to troubleshoot issues using easily understood results. This is the only way to accelerate the network service deployment lifecycle.

Solution : A BDD & CICD supported Test Orchestration

ABot is easily deployed on any virtualized platform and performs functional and performance validation on the target VNFs. This Cloud Native solution defines DSL based service-level test scenarios to verify complex protocol specs as well as network service requirements. ABot integrates with third-party traffic generators and can run repeated test scenarios, defined in a high-level language, enabling collaboration across locations & different stakeholders. QA engineers, solution architects, DevOps & field personnel are able to understand, reuse & enhance the test cases. Test scenarios defined in ABot can also be invoked from CI engines such as Jenkins; thereby allowing network service validation to be integrated into the overall CI/CD pipeline.

ABot Case Study : EPC Lab testing with IxLoad



Key Features

- ABot uses behavior driven development to define DSL based service-level test scenarios. It derives these test cases using the spec-driven acceptance criteria.
- One can deploy ABot and the selected NFV orchestrator on the target NFV Infrastructure(NFVI). ABot in turn enables automated deployment of all other Test Bench components.
- ABot can be used to trigger VNF deployment using the preferred NFV Orchestrator/VNFM. ABot can also invoke test scenarios for VNF lifecycle management validation.
- ABot executes functional and performance tests on the deployed VNF. It uses relevant protocol adapter(s) (native or 3rd party) to communicate with VNFs for emulating other network components.
- ABot can verify NFV field deployments for VNFs like vIMS and vEPC. It also performs system tests on deployed VNFs for service-level validation like VoLTE.
- DSL based test cases generated during lab testing help stakeholders collaborate during deployment. The process of defining and modifying test cases enables easy usage by deployment personnel and facilitates a higher test coverage.
- The web-based ABot UI publishes detailed test execution and validation results for certification. One can automate the tests through an external or internal CI engine like Jenkins. Test execution artifacts like logs and packet captures are available for enhanced debugging and troubleshooting.