



State of the ONF community testbed

2023 Open
Broadband Meetup

Oct 18 - 19, Istanbul

Content summary

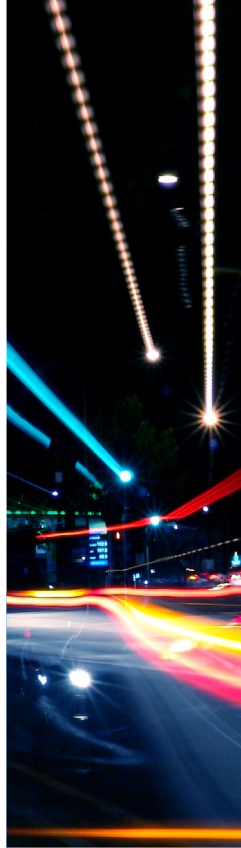
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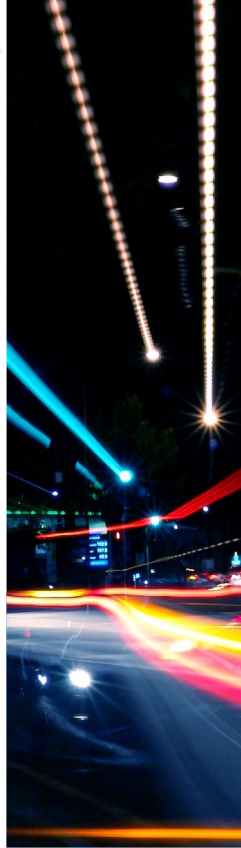
● Conclusions



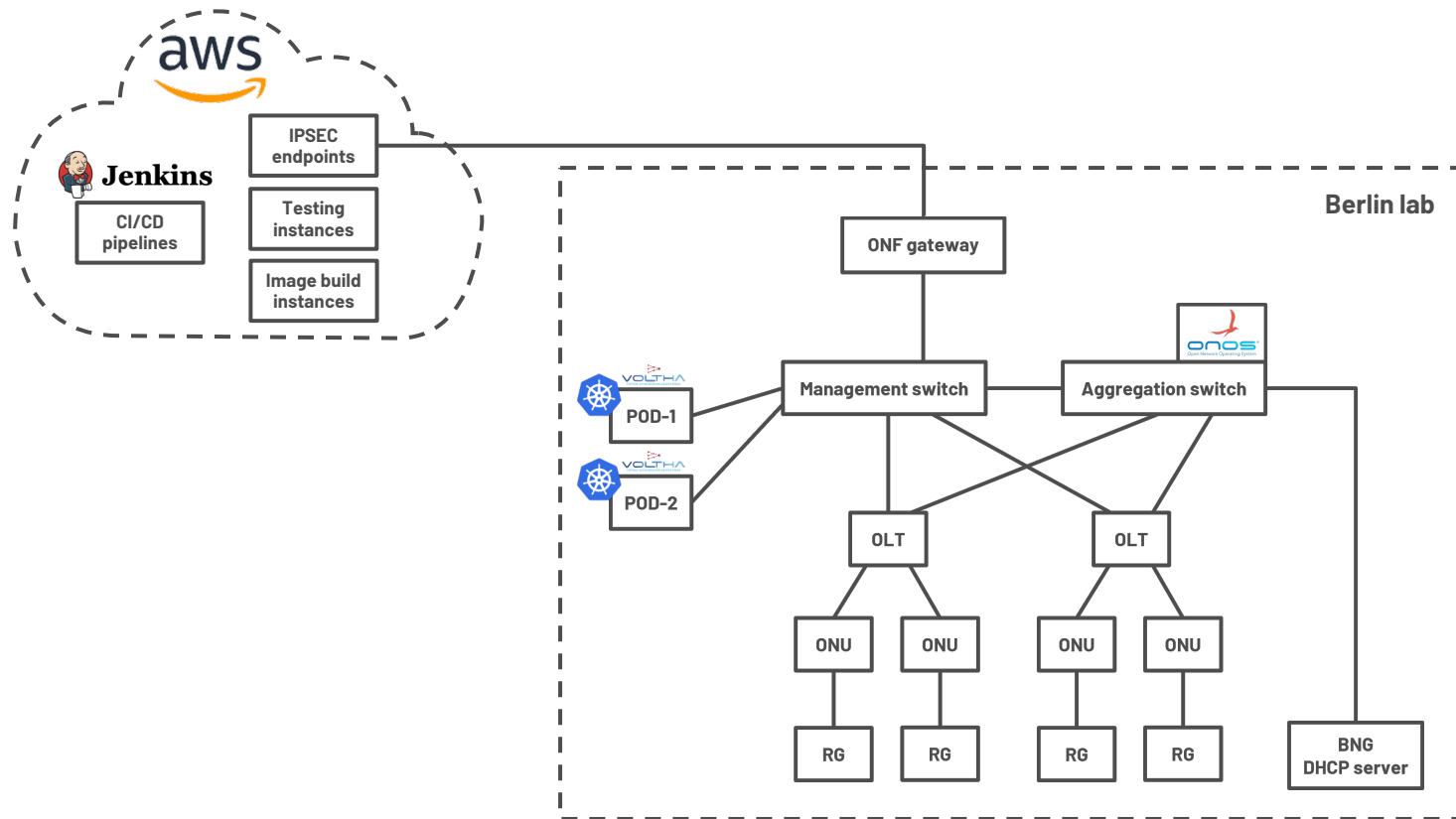
Introduction



“A slow sort of country!” said the Queen. “Now, here, you see, it takes all the running you can do, to keep in the same place.”



Testing environment

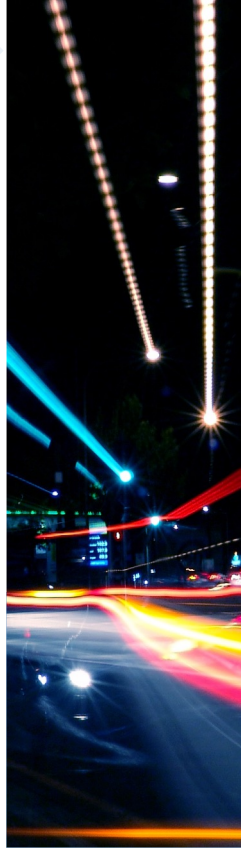


Working lines

Working line 1: VOLTHA community testbed in Berlin lab

Working line 2: AWS infrastructure

Working line 3: CI/CD pipelines



Working line 1: VOLTHA community testbed in Berlin lab

1. **Re-establish and stabilize outside connectivity**
2. Revise infrastructure management services in ONF gateway
3. Repair and revise backend network configuration
4. Repair and maintain software and firmware in OLTs and ONUs
5. Repair RG and BNG configuration
6. Maintain pods (Kubernetes clusters)
7. Document lab network



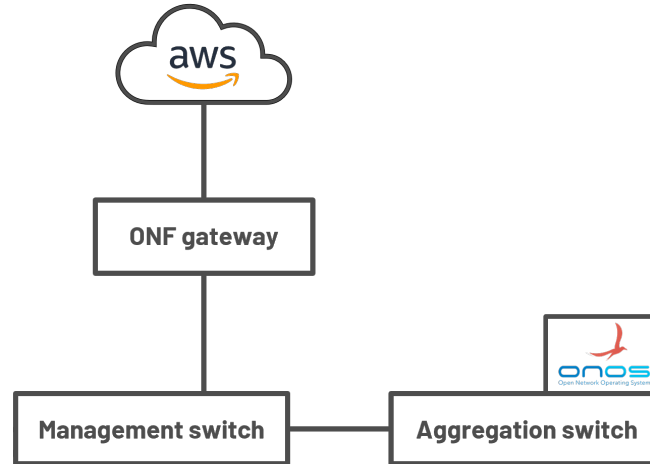
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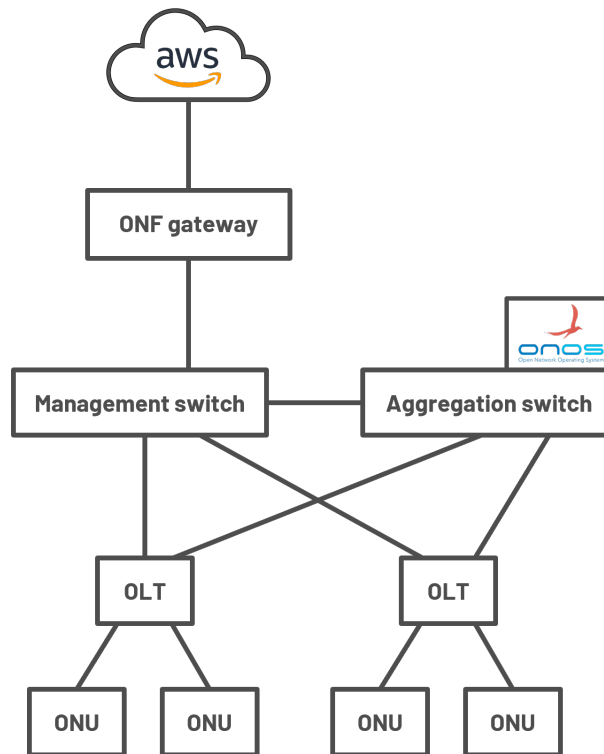
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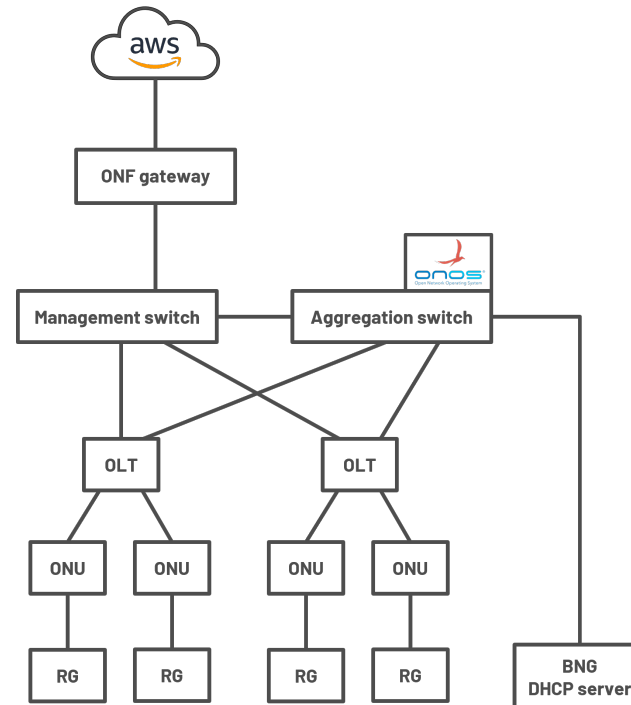
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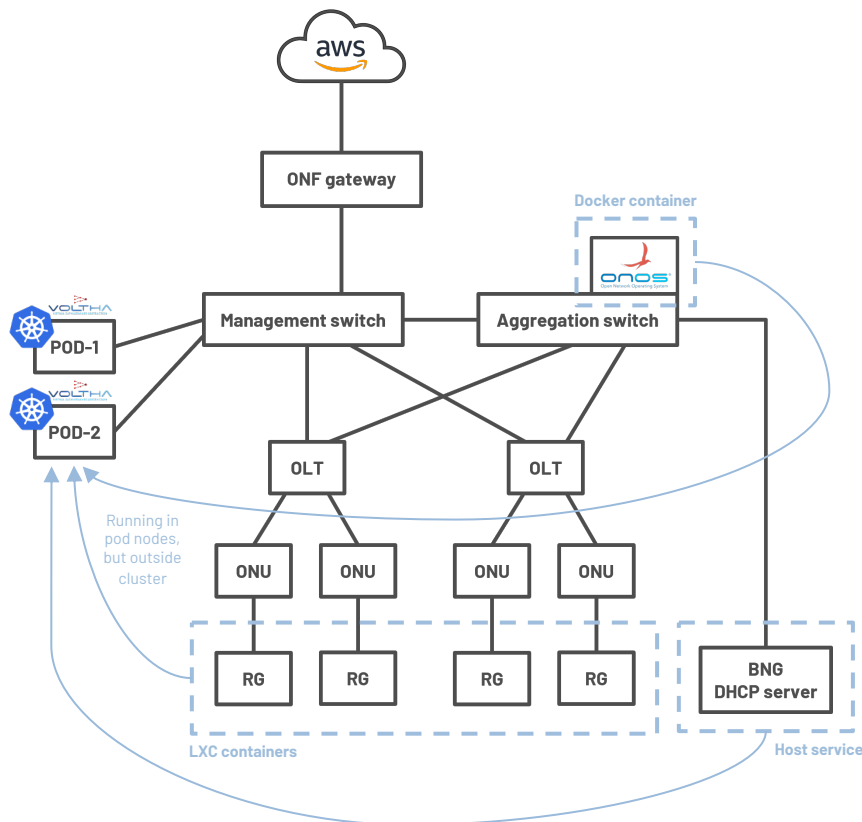
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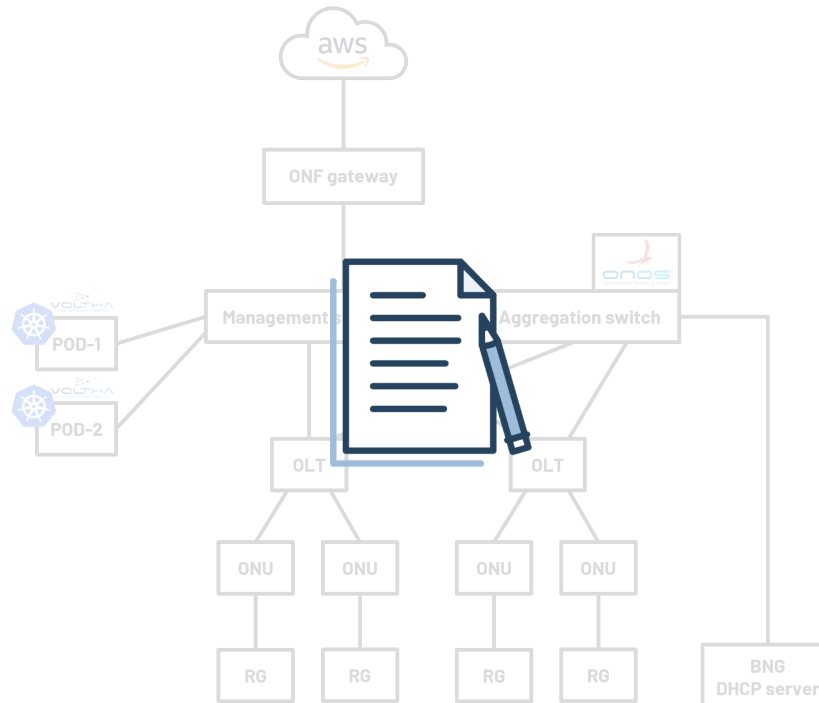
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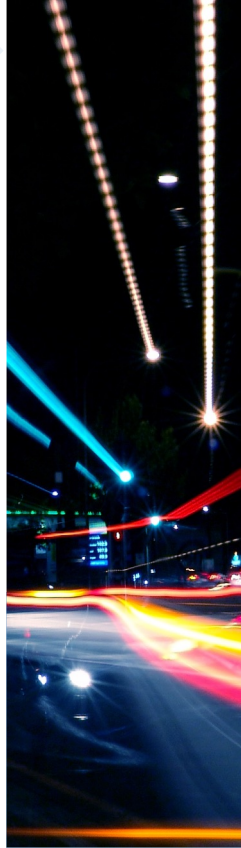
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7. **Document lab network**



Working line 2: AWS infrastructure

- Endpoints for IPSEC tunnels leading to and from the Berlin ONF gateway
- AWS instances that are spun up for testing (where bbsim tests run)
- AWS instances run to create AWS images that the testing instances use
 - Repaired build process and rebuild base images for virtualised (e.g. bbsim) test pipelines



Working line 3: CI/CD pipelines

- Jenkins pipeline deployment and environment configuration:
 - Refactor job definitions to use dynamic gitSCM instead of static DSL
 - Modernize and repair VOLTHA test deployment
 - Re-establish and contribute to community reviewing
 - General code revision
- Test execution
 - Repair Robot tests
 - General code revision
- Berlin lab infrastructure repairs enabled CI/CD pipeline tests to start passing

Average stage times:
(Average full run time: ~17min 44s)

	Declarative: Checkout SCM	Download Code	Download Patch	Clone voltha-system-tests	Clone voltha-helm-charts	Parse deployment configuration file	Clean up	Install Voltha	Push Tech-Profile	Push MIB templates	Push Sadis-config	Switch Configurations in ONOS	Reinstall OLT software	Restart OLT processes	Declarative: Post Actions
4s	70ms	45ms	4s	4s	6s	1min 8s	8min 30s	19s	31s	2s	102ms	34s	6min 12s	794ms	

Oct 06 13:45 2 commits

Working line 3: CI/CD pipelines

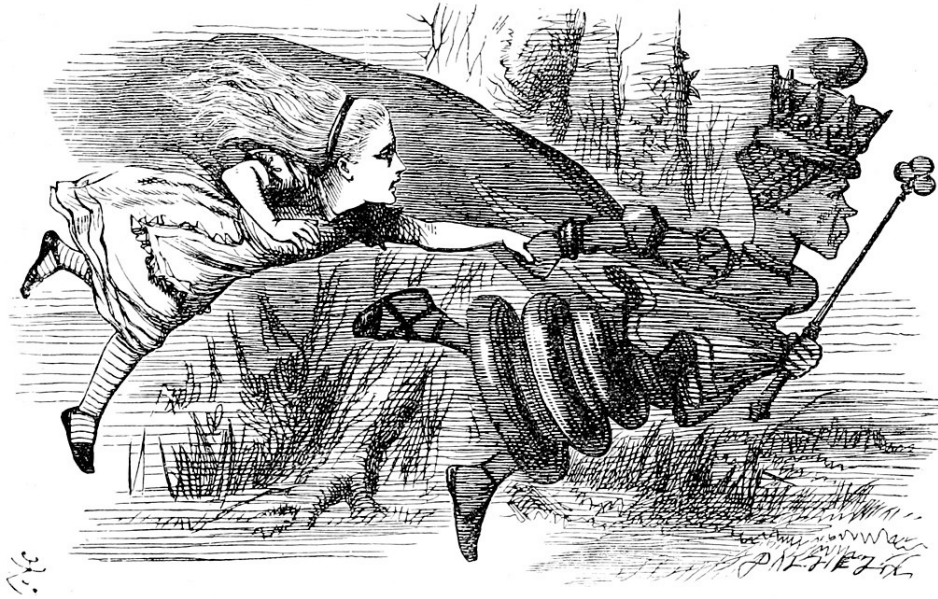
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Current test results for VOLTHA 2.12

Workflow	Technology	OLT Vendor	Results
DT	GPON	Edgecore	27 / 32 pass
		Zyxel	26 / 32 pass
		Adtran	7 / 32 pass
TT		Edgecore	2 / 21 pass
		Zyxel	2 / 21 pass

	Declarative: Checkout SCM	Clone voltha-system-tests	Download All the VOLTHA repos	Initialize	Functional Tests	FTTB Functional Tests	Failure/Recovery Tests	Dataplane Tests	HA Tests	Multiple OLT Tests	Error Scenario Tests	Declarative: Post Actions
Average stage times:	5s	8s	1min 27s	1min 0s	45min 6s	2s	1h 13min	22min 14s	10min 40s	2min 33s	16min 24s	45s
#539 Oct 06 14:03 z commits	5s	8s	1min 25s	58s	45min 27s	2s	1h 13min	22min 26s	10min 33s	2min 31s	16min 25s	43s

Next steps

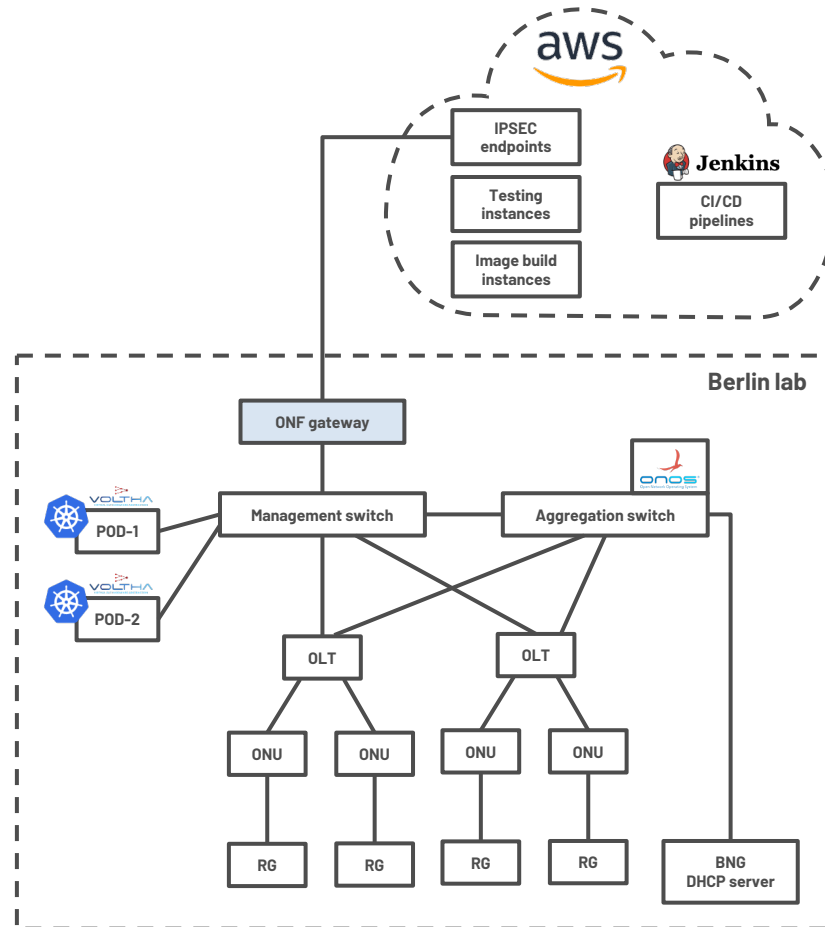


“If you want to get somewhere else, you must run at least twice as fast as that!”

Next steps

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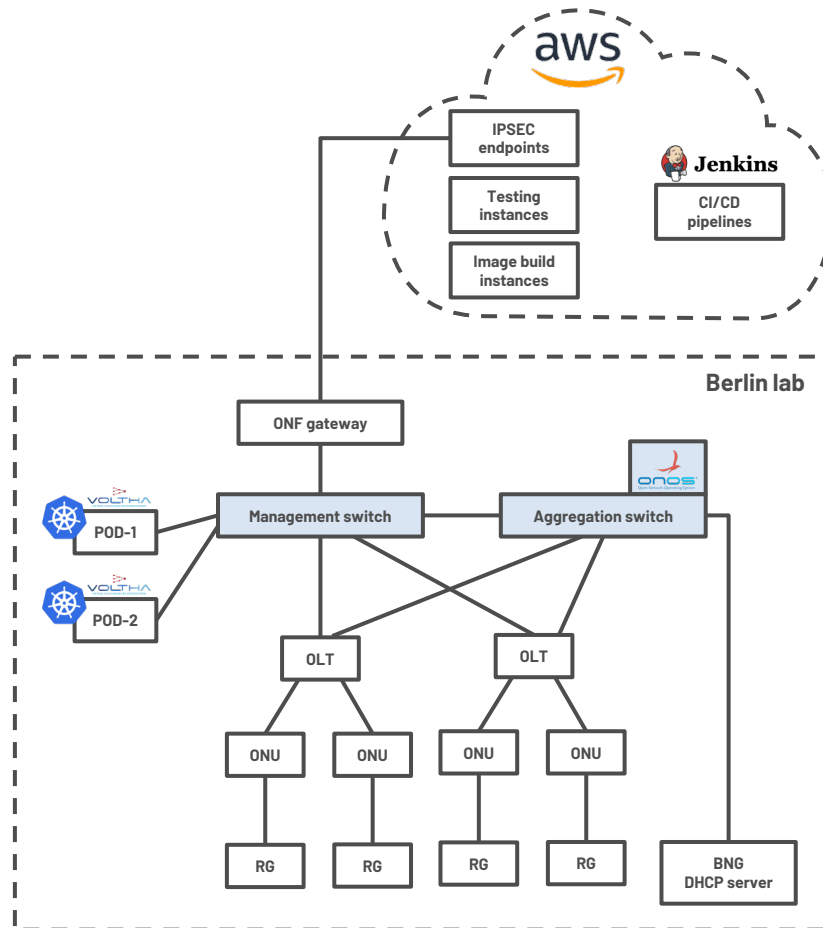
- Distribute network functions
- Centralize infrastructure management in new host
- Revise and upgrade firmware and/or software in nodes and switches
- Revise and upgrade firmware and/or software in OLTs and ONUs
 - Create a support matrix describing the compatibility between vendor specific OLT software releases and VOLTHA releases
- Extend testbed with new equipment
- Automate and document all setup, deployment and configuration processes
- Keep documenting network



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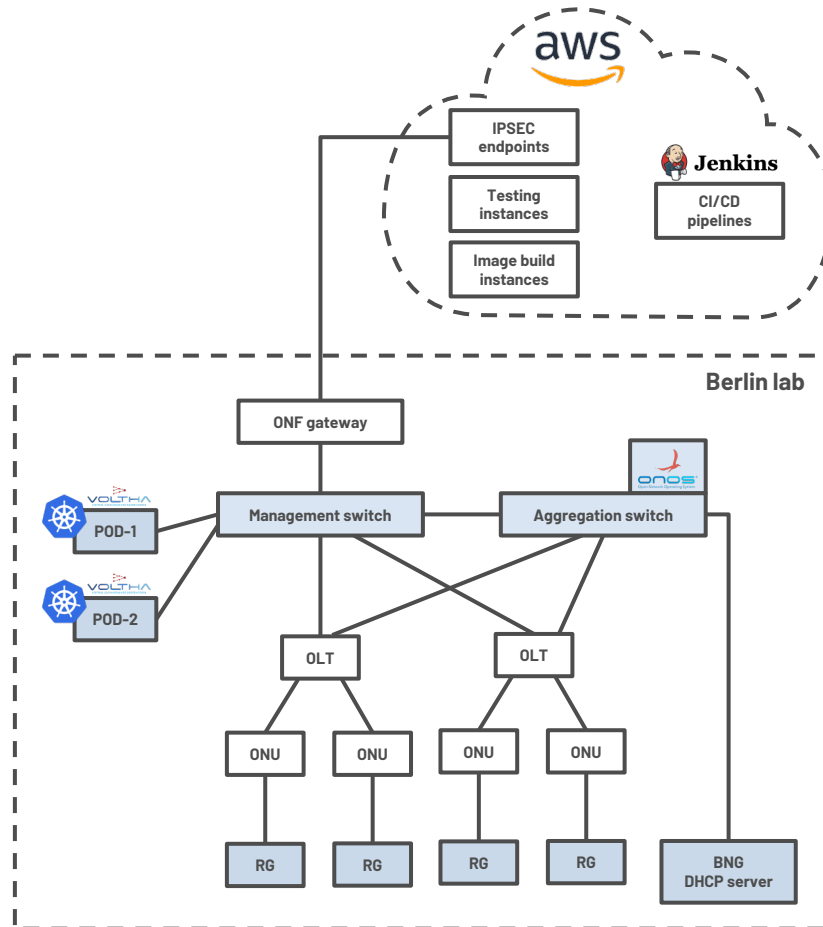
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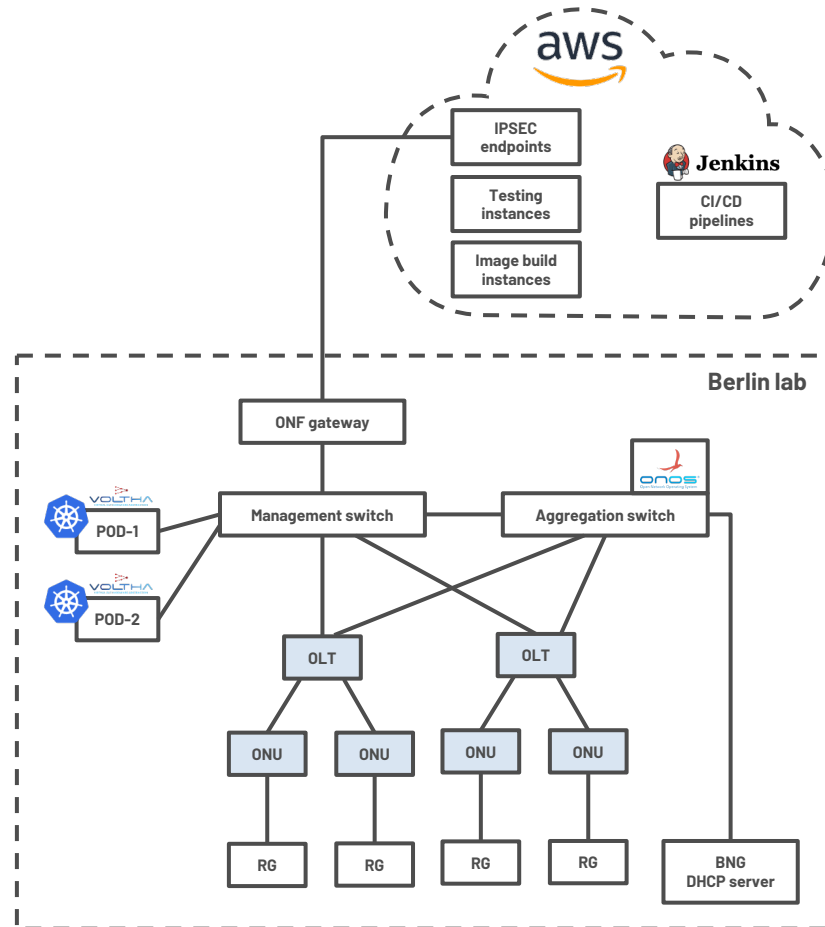
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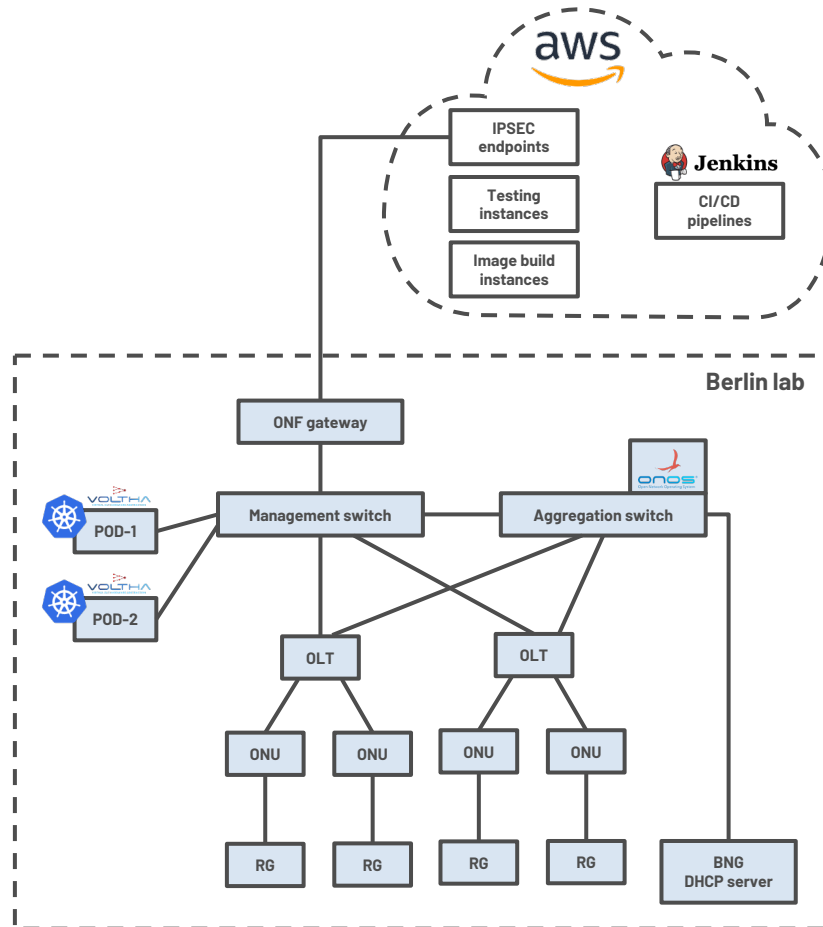
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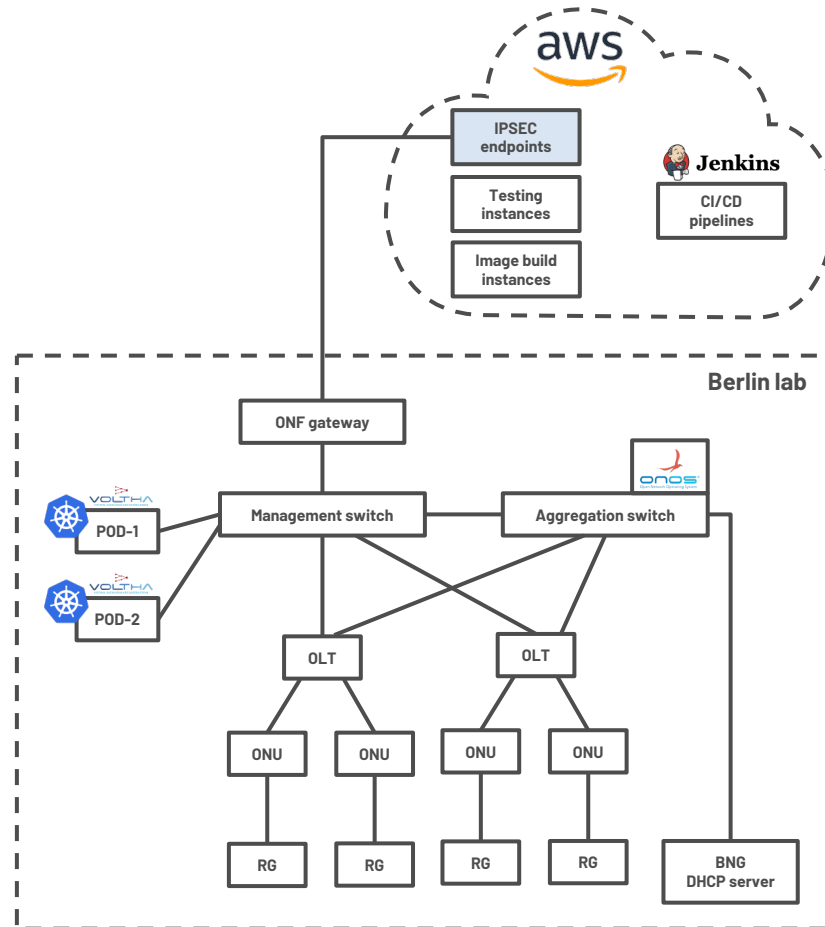
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2. AWS infrastructure

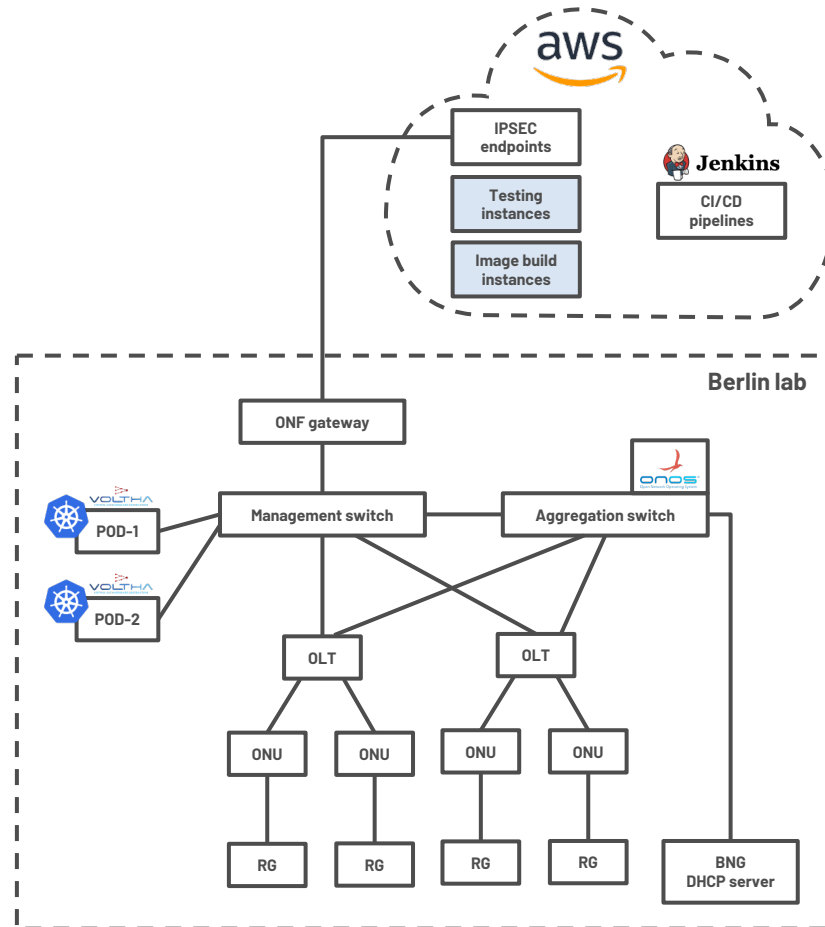
- Document and automate deployment of IPSEC endpoints
- Add monitoring to AWS IPSEC endpoints
- Upgrade and rebuild virtualized testing infrastructure



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2. AWS infrastructure

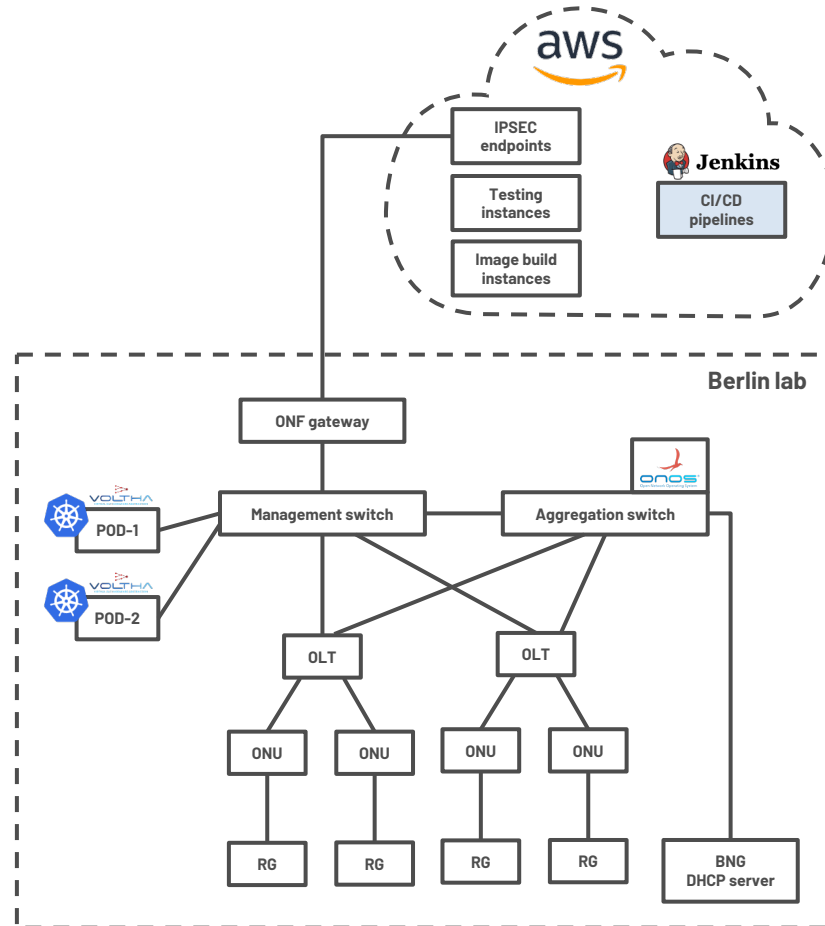
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Next steps

3. CI/CD pipelines

- Revise, modularize and refactor ci-management codebase
- Revise and cleanup test log output for better debugging
- Revise, cleanup and repair Robot tests (resolve existing Jira tickets)
- Revise and update test workflow documentation



Conclusions

- VOLTHA CI/CD Pipeline operational
- Community testbed upgrade & extension plans
- Automate deployment of all testing environment components
- Generation of Community facing documentation

How to get involved?



<https://jira.opencord.org/issues/?jql=project+%3DVOL+AND+component+%3D+Testing>

