Sylva WG06

February 2026

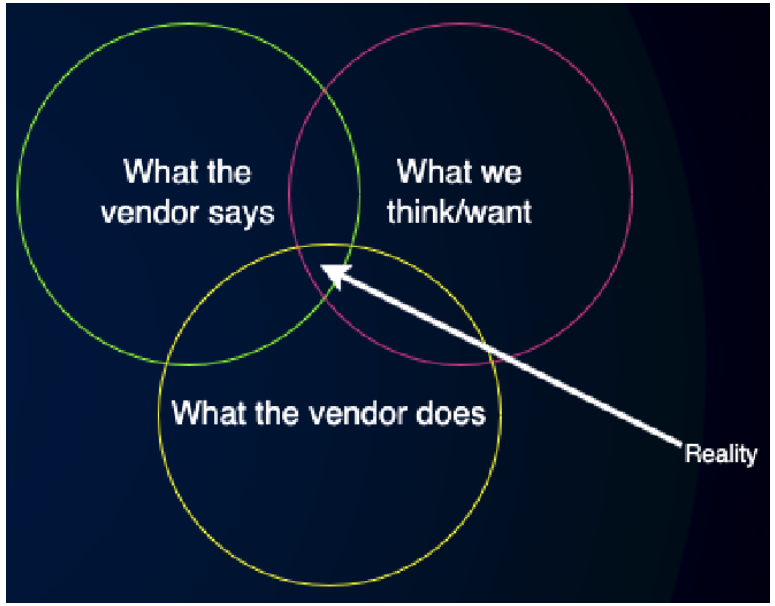
Agenda

- Feedback on the management of CNF dependencies versus the infrastructure
- Opportunity to publish GitOps recipe (Sylva units) for middleware (e.g., kafka) , tooling (e.g. sdc.io) or infra component (e.g. istio) in Sylva repositories
- Kubecon / Sylva Day

Feedback on the management of CNF dependencies versus the infrastructure

Topic is not new..

- WG06 already had a session last year – sharing of DT January 2025 https://wg06-workloads-lcm-gitops-59a50a.gitlab.io/minutes/assets/2025_cnf_prerequisites.pdf



Remember January 2025

Software delivery

- Manual delivery (VM)
- Sometimes patches just "for us"

Documentation

- Generic, lacks many details
- Heterogeneous quality

Regular mismatches

- BIOS Settings
- Kernel Parameters
- OS Configs
- Labels/tains

Orange Feedback

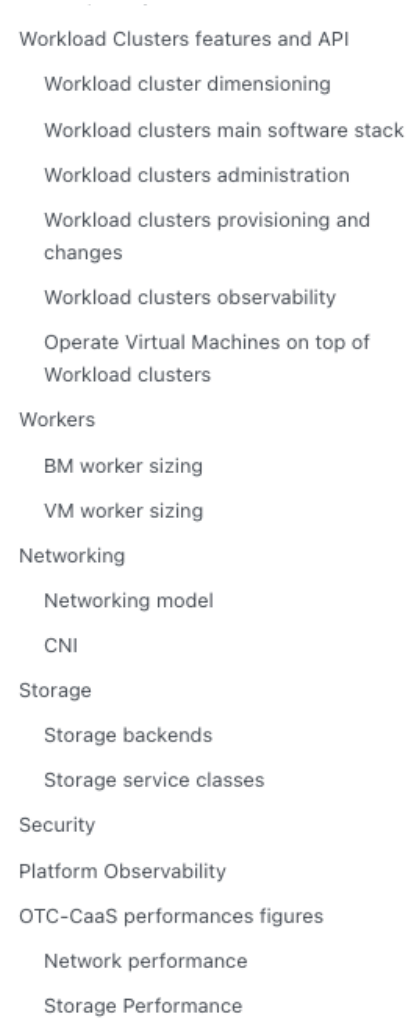
- No real progress in Orange since DT sharing (and we were fully in line with DT)
- We still use an xls sheet to collect CNF prerequisites but we usually do not get all the info we want, at least not at once
- We still have the feeling to start from 0 or almost – no real capitalization when moving from a vendor to another vendor
- We still need back and forth between vendor and infra team to be sure we understand well

Orange Feedback – it is our fault

- We want to rely on "our" sovereign Kubernetes based on Sylva, CNFs vendors (including those in Sylva boards) sometimes ambiguous on Sylva support – "just for us" syndroma
- On Orange side, CNF experts are lacking skills on infrastructure to be able to challenge the vendors, so when integration starts, we may have configurations that should have been challenged before
- Legacy traditions…false isolation in network design – we impose VLAN but at the end everything is like a flat network…
- Contractually, Vendors are paid for deployement in countries – not in innovation- better partnership at innovation level could help to get the good counterparts

Orange Feedback: but not only

- We would like to get CNFs with lab configuration – default dimensioning for Millions of customers require huge resources, at the end the clusters are quiet (< 5% CPU) but requests prevent additional operations (RAM reservation high but not used, thank you Java)
- Network design is often overkill, over usage of Multus and SR-IOV leading to lots of VLANs for 1 CNF (but here again we are also partially responsible…)



Orange Feedback: but not only

- During integration phase, vendors want a full access to the cluster. We want to keep security and not provide full admin rights systematically for everybody, the deployment of a CNF shall detail also the rights needed to deploy and except the CRDs the admin rights must be limited
- Troubleshooting directly in the nodes is maybe not the best idea (having a clear observability stack shall be privileged e.g., jaeger like)
- Supply chain: as shared in previous meeting, we shared a procedure to secure our supply chain, not clear

Proposal

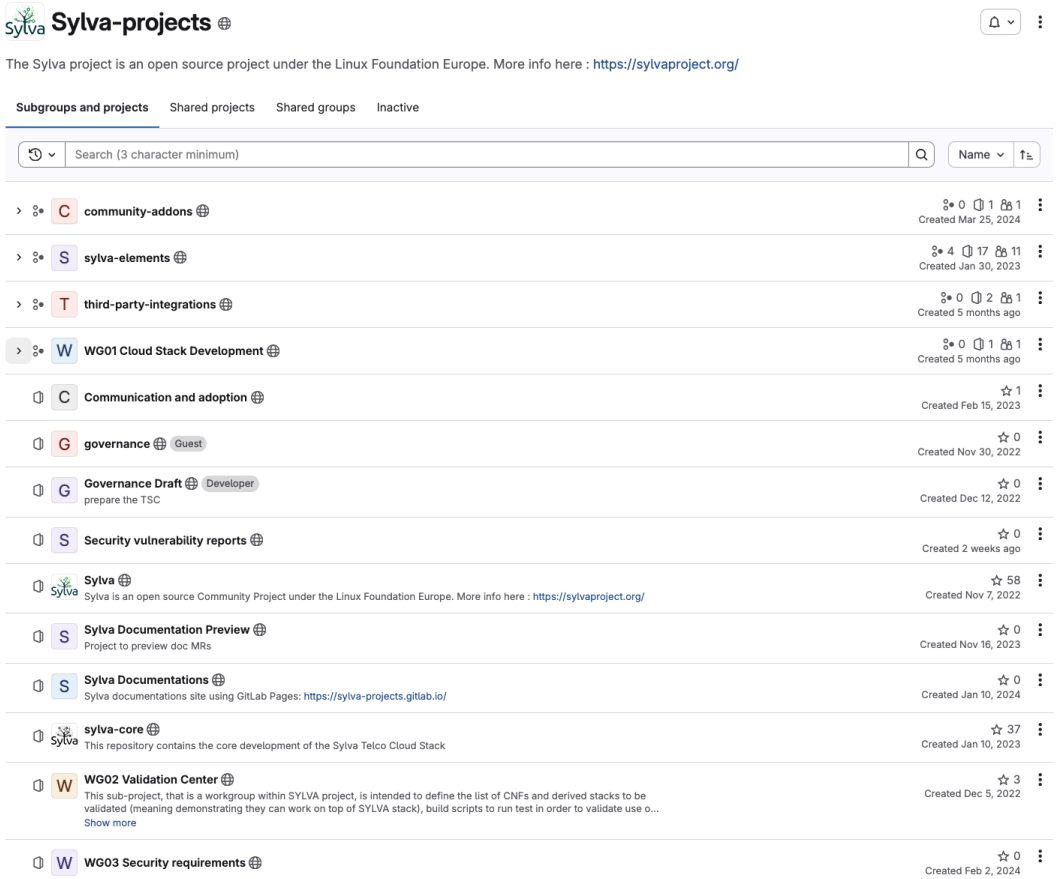
- WG06 joint initiative to build a web form to replace our xls file with inputs from us but not only – to be discussed with WG02
- Create a guideline validated by Sylva TSC
  - Promotion of the web form - collect the info at once
  - Cluster access – restrict admin to what is really necessary
  - Lab configuration – any CNF shall have default values compatible with lab dimensioning
  - Supply chain – encourage adoption of supply chain (image of vendor X function Y shall not be "for us only"

Other Feedbacks

WG06 Contributions

Sylva Roadmap

- For the moment Sylva roadmap is mainly reflecting WG01 activities – building a reference, sovereign open Source Kubernetes Infrastructure
- WG06 mainly focusing in exchanging feedbacks, best practices, tooling
- Question raised by Sylva TSC on possible contributions



2026 Sylva Roadmap

Validated in JAN TSC

	May V1.7	Sept V1.8	Nov V1.9
Use cases requirements	DU-ORAN NF Tooling	MultiCloud	Edge App Edge telco AI Capability
Release Blocker	**K8S** : Kubernetes 1.34& 1.35 / Longhorn 1.X (TBD) **K8S with LTS (Long Time Support)**	**K8S** : Kubernetes 1.36	**K8S** : Kubernetes 1.37 **K8S LTS**
Tentative Features Level of Confidence	**BM & OS :** Switch from SLES to Leap Micro and Ubuntu Core **Network Services** : eGress Gateway with SNAT (switch from Calico to Cilium) **Kubevirt enhancement** : LCM of the VMs's Network **NF Tooling with GitOps :** (TBC : Istio, git repo, conf management …) **Sylva as Reference implementation to O-RAN O-Cloud** O2 Interfaces (DMS&IMS) **External Storage** : Ceph CSI RBD unit to use external Ceph cluster *Exploration Network Connector* *Exploration on Gateway API*	End to End observability Open Telemetry **Storage:** External Storage ***RBAC :*** *TBD* **Hybrid Cloud Hyperscaler integrated in the Cluster Manager** **Tech preview** *Network Connector* BM Improvement BareMetal Automation CAPI (Host Claim in Metal3) *Explore Nested Cluster with Kubevirt (and CNI impact)* *Far Edge : explore Single Node Server K3S-MicroK8S*	Explore NRI : Node resource Interface Exploration Vcluster/K3K Exploration on Kamaji

What kind of contributions: the GitOps enabler?

- GitOps automation Enabler published in https://gitlab.com/Orange-OpenSource/k8s-tz includes GitOps recipe to deploy
  - Istio
  - Harbor + Harbor Operator
  - SDC.io
  - … (at least 30 CNCF GitOps recipe)
- Initially deployed out of Sylva as it is independent from Kubernetes infra, it can be installed on top of Sylva but also on top of any Kubernetes
- All the GitOps recipe can be used to deploy the component on any workload cluster (and can use the Flux instance of the management cluster)

What kind of contributions: new "business" operators ?

- Would a Telco jointly effort to build a business oriented Kubernetes operator make sense? E.g. Vendor X DNN Configuration Operator ? With the support of the vendors (not sure as they want to valorize their automation stack)

- For the moment contributions are more in silos (in theory, more Orange contribution to SDC in 2026…) - Bringing things in Sylva, today tools are advised in WG06 but could be more impactfull to be onboarded in Sylva Roadmap

What kind of contributions: CNF intents ?

- Deploying vendor X or Vendor Y in GitOps is at the same time very similar (forced by the compliancy to the Kubernetes API) and very different (as vendors are not necessarily sharing cloud native best practices)
- We all create GitOps intents, and all have to find workarounds to translate the installation guide into intents. The intents do not contain Vendor code, just the instruction to deploy the code. Would some vendors OK to share such intents in order to get community intents to deploy function X, Y , Z of vendor X (as previously, can be problematic regarding the automation stack developed by the vendors but at the same time could simplify and harmonize the intents, vendor would have to focus on the products not on how they shall be deployed.

What kind of contributions: Others ?

Kubecon, Sylva Day

Kubecon Sessions – not to be missed

- https://colocatedeventseu2026.sched.com/overview/area/**Cloud+Native+Telco+Day**
  - Are We Stuck With Helm Forever? A Landscape of Cloud Native CNF Management Options - Istvan Kispal, Nokia Bell Labs & Liam Fallon, Ericsson Software Technology
  - From YANG To YAML: How We Tamed the 5G Configuration Beast - **Joel Studler**, Swisscom & Peter Wörndle, Ericsson
  - Panel: Agentic AI Infrastructure for Telecom - Yoshihiro Nakajima, NTT DOCOMO; Ranny Haiby, The Linux Foundation; Philippe Ensarguet, Orange; Hui Deng, Huawei; Yanjun Chen, China Mobile
  - ⚡ Lightning Talk: Operationalizing the NGMN Cloud Native Manifesto: CNTi and Sylva in Action - Olivier Smith, MATRIXX
- https://colocatedeventseu2026.sched.com/overview/type/**FluxCon**
  - Air France–KLM's GitOps Takeoff: Real Stories From the Flight Deck - Alaoui Echerif Amine & Ravi Ramrattan, Air France KLM
  - May the Flux Be With You: Tales From the GitOps Trenches at NatWest - Joel King & Lee Coupe, NatWest Group
  - Towards Better Canary Releases With Flagger and Gateway API - Sanskar Jaiswal, Kong
  - Sylva, Taming Complexity With FluxCD Dependency Management - Thomas Morin & Francois Eleouet, Orange
- https://colocatedeventseu2026.sched.com/overview/type/**Open+Sovereign+Cloud+Day**
  - EU Cloud Sovereignty Framework Explained - Emiel Brok, SUSE / DOSBA
  - Bridging CNCF and OpenInfra: Kubernetes as the Unified Control Plane for Sovereign Clouds - Michael Schmidt, SAP
- https://colocatedeventseu2026.sched.com/overview/type/**Open+Source+SecurityCon**
  - From Mild To Wild: How Hot Can Your SLSA Be? - Andrew McNamara, Red Hat & Adolfo García Veytia, Carabiner Systems
  - Upstream Collaboration for the Win (of the CRA)! - Georg Kunz & Jan Melen, Ericsson Software Technology
  - Panel: It's Not If, It's When - Practical Preparation for the Next Software Supply Chain Attack - Hannah Foxwell & Justin Cormack, Independent; Sal Kimmich, GadflyAI; Erika Heidi, Chainguard; Josh Bressers
  - ⚡ Lightning Talk: A Supply Chain Security View of OpenSearch - Ram Iyengar, Linux Foundation

Kubecon Sessions – not to be missed

- https://colocatedeventseu2026.sched.com/overview/type/ArgoCon
  - Sponsored Keynote: From Kubernetes to Anything: The Evolution of Promotion with Kargo - Jesse Suen, Akuity
  - GitOps and Secrets: State of the Union - Kostis Kapelonis, Octopus Deploy
  - Panel: Building a GitOps Culture - Dan Garfield & Revital Barletz, Octopus Deploy; Antonela Cukurin, Novo Nordisk & Gabriel Quennesson, Michelin
- Proving Trust: Signed Supply Chains and Verifiable Deployments at the Edge - Sheldon Lo-A-Njoe, Spectro Cloud & Nicolas Ferrao, Airbus Defence and Space
- Policy & GitOps Unite! Kyverno and Flux Save Cluster City - Cortney Nickerson, Nirmata & Leigh Capili, ControlPlane
- Debugging Slow Infrastructure Runs With OpenTelemetry in OpenTofu - James Humphries, Spacelift / OpenTofu
- Full Observability for Kyverno With Observability-as-Code - Imma Valls, Grafana Laba
- The GitOps Paradox: Why Your Devs Need an API You Don't Want To Build - Simon Koudijs, ConfigButler
- Kyverno Mutating Policies: Shifting Platform Logic Into the Control Plane - Rodrigo Fior Kuntzer, Miro

And many more…

Suggestions for Sylva Day

- “***Testing of Kubernetes Operators with Chainsaw and vCluster***” *** F.Schultz (Swisscom)
- Panel: “***what do we expect from WG06: guidelines, operators, sylva units, enablers?” how to ease GitOps transformation in our organizations, what are the main constraints, the gains, the risks, the threats, the new paradigms with vendors”*** (with Sana Tariq (Telus) TBC, A.Senevirathne (Telstra), J.Strudler (Swisscom), X, moderator M.Richomme (Orange)) *
- “***Supply chain and security***: the stakes with CRA and the need for a rationalization of the supply chain (architecture, promotion pipeline, signatures, offline scanning,..) ** A.O’Sullivan (Huawei)/M.Richomme (Orange)
- Panel: **"Why Is It So Hard to Run a 5G Core on Kubernetes and What Needs to Change for 6G?** ** A.Seneverathne (Telstra), J.Strudler (Swisscom) telco Day follow-up
- **Nego talk GitOps / ControlPlane** (P. Ensarguet talk to Francesco Beltramini)
- **"Day2 operations: why cannot we rely on IT standard protocols"** (netconf/yang/SDC operator, which is specific to telco)
- **"Orchestrator versus operator: Do we replay the game Telco/IT"** **
- “**LCM of 5GCore CNF => how to mutualize more ?**” **