



Managing Documentation Complexity: SEAPATH's Approach to Wiki Refactoring

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LINUX[®]

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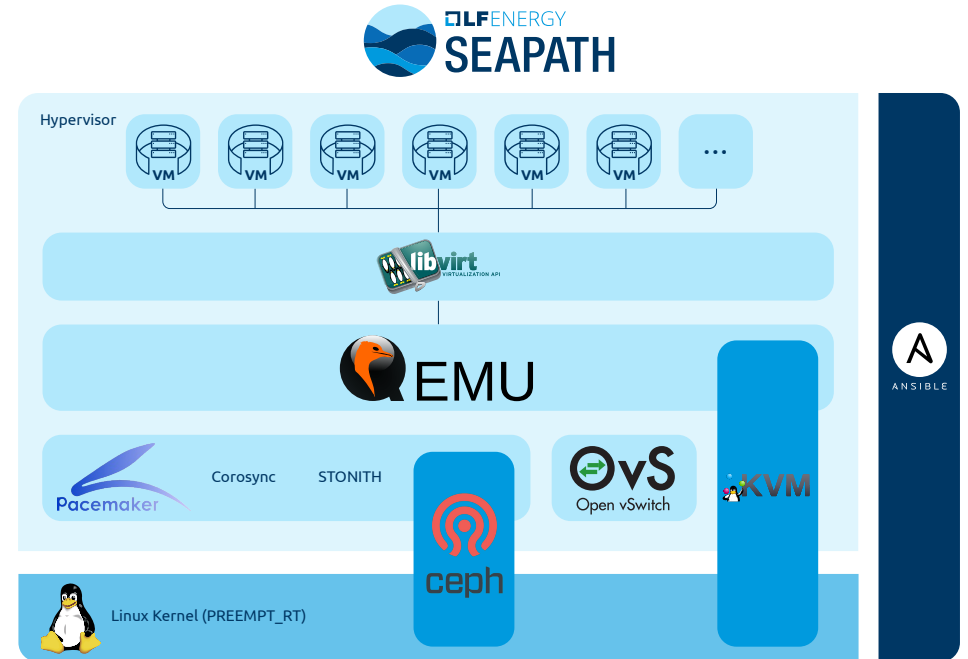
Savoir-faire Linux is a recognized team
of expert in Open Source engineering
in Canada and Europe.






LF Energy SEAPATH's presentation

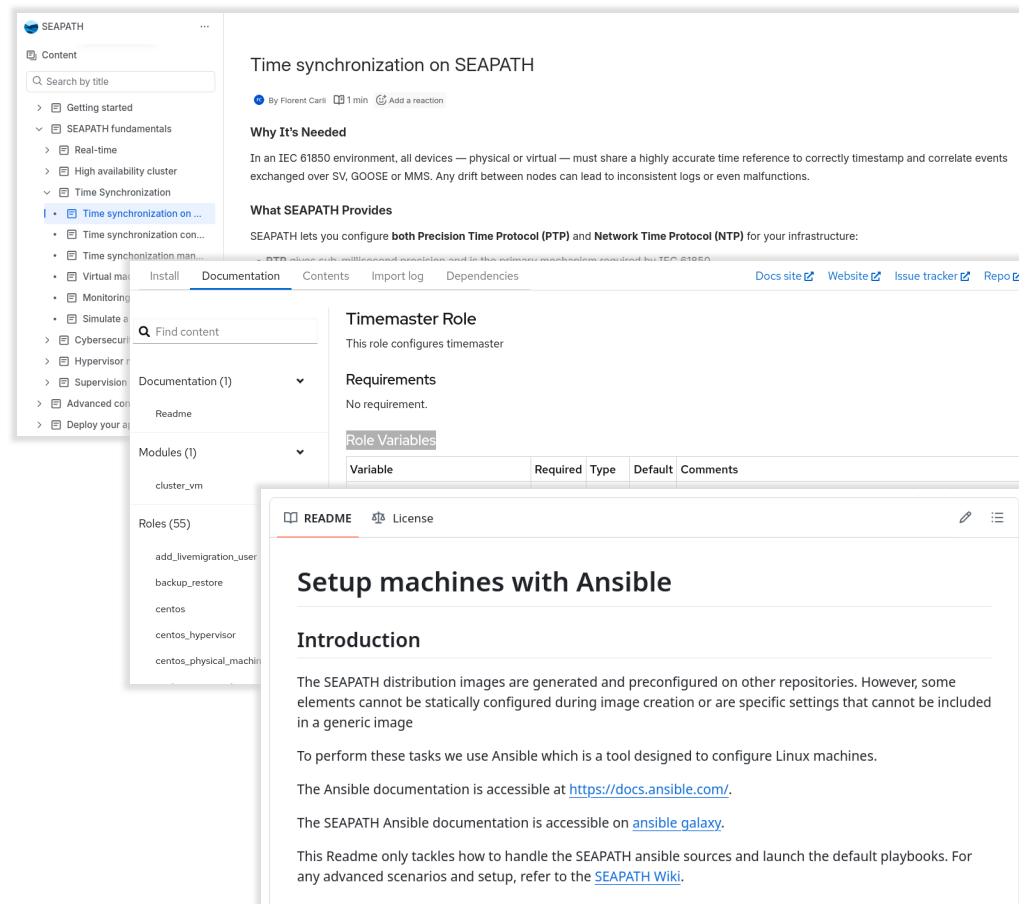
- Open-source hypervisor for electrical substations
- Brings IT people and OT people together
- Two sides:
 - Infrastructure deployment
 - Infrastructure management
- High entry cost

Strong, resilient documentation needed



Multiple documentation platform

-  **GitHub** hosts the code and contains one README per repository
-  **Ansible Galaxy** provides documentation as code for each role
-  **Confluence wiki** was provided from the start by LF Energy and explains the general context



The screenshot displays three overlapping documentation interfaces. The background is the SEAPATH GitHub repository page, showing a sidebar with a navigation menu and a main content area titled 'Time synchronization on SEAPATH'. The middle window is the Ansible Galaxy role page for 'Timemaster Role', featuring a search bar, a table of role variables, and sections for requirements and role variables. The foreground window is a README file titled 'Setup machines with Ansible', which includes an introduction and links to external documentation.

SEAPATH GitHub Repository

- Content
- Search by title
- Getting started
- SEAPATH fundamentals
- Real-time
- High availability cluster
- Time Synchronization
- Time synchronization on SEAPATH
- Time synchronization con...
- Time synchronization man...
- Virtual ma...
- Install
- Documentation
- Contents
- Import log
- Dependencies
- Docs site
- Website
- Issue tracker
- Repo

Time synchronization on SEAPATH

By Florent Carli 1 min Add a reaction

Why It's Needed

In an IEC 61850 environment, all devices — physical or virtual — must share a highly accurate time reference to correctly timestamp and correlate events exchanged over SV, GOOSE or MMS. Any drift between nodes can lead to inconsistent logs or even malfunctions.

What SEAPATH Provides

SEAPATH lets you configure both **Precision Time Protocol (PTP)** and **Network Time Protocol (NTP)** for your infrastructure:

PTP allows each different node to be in the network mechanism created by IEC 61850.

Timemaster Role

This role configures timemaster

Requirements

No requirement.

Role Variables

Variable	Required	Type	Default	Comments
cluster_vm				

Ansible Galaxy Role Page

Find content

Documentation (1)

- Readme

Modules (1)

- cluster_vm

Roles (55)

- add_livemigration_user
- backup_restore
- centos
- centos_hypervisor
- centos_physical_machin

README: Setup machines with Ansible

Introduction

The SEAPATH distribution images are generated and preconfigured on other repositories. However, some elements cannot be statically configured during image creation or are specific settings that cannot be included in a generic image

To perform these tasks we use Ansible which is a tool designed to configure Linux machines.

The Ansible documentation is accessible at <https://docs.ansible.com/>.

The SEAPATH Ansible documentation is accessible on [ansible galaxy](#).

This Readme only tackles how to handle the SEAPATH ansible sources and launch the default playbooks. For any advanced scenarios and setup, refer to the [SEAPATH Wiki](#).

Multiple documentation platform

- Balancing the documentation by taking advantage of all three
 - GitHub READMEs explain how to handle the sources
 - Ansible Galaxy describes each variable thoroughly
 - The wiki explains the concepts and links to the others

! One entry point must be clearly identified: the wiki

Structuring the wiki

Two possible approaches to organize information

- By usage (installation → configuration → management)
- By topics (network, high availability, time synchronization ...)

- Installation
 - Network
 - High availability
 - Time Synchronization
- Configuration
 - Network
 - High availability
 - Time Synchronization
- Management
 - ...

- Network
 - Installation
 - Configuration
 - Management
- High availability
 - Installation
 - Configuration
 - Management
- Time synchronization
 - ...

Structuring the wiki

- >  Getting started
- >  SEAPATH fundamentals
- >  Advanced configurations
- >  Deploy your application on SEAPATH
- >  Tests and CI
- >  Who is using SEAPATH ?
- >  Project management







- Keeping a small number of parts (only seven)
- Easily identifying the starting point
- Organizing the parts from more general to more specialized

Pages naming convention



Wiki serves two purposes: documentation and demonstration

Better to be understandable than perfectly correct




“SEAPATH fundamentals”
instead of “Core Features”

- >  Real-time
- >  High availability cluster
- >  Time Synchronization
- >  Cybersecurity
- >  Hypervisor network
- >  Supervision

“Deploy your application on SEAPATH”
instead of “Workload Deployment”


















- >  Deploying virtual machines
- >  Deploying containers

“Advanced configurations”
instead of “Extended features”

-  Ansible usage
-  Update a physical machine
- >  Advanced SEAPATH image installation

Pages naming convention

- Keeping the same structure for all the topics
- Dividing the topics among the different actors
- Each feature is built on the same structure :
 - General explanation
 - Configuration (with Ansible)
 - Management once deployed
 - Additional pages

- ✓  High availability cluster
 -  High availability cluster on SEAPATH
 -  Cluster configuration
 -  Cluster management
 -  Create an extended bridge over the cluster
 -  Cluster maintenance
- ✓  Hypervisor network
 -  Hypervisor Network on SEAPATH
 -  Network configuration and deployment
 -  Network management
 -  Use Open vSwitch bridges on SEAPATH
 -  Use SR-IOV NIC on SEAPATH
- ✓  Real-time
 -  Real-time on SEAPATH
 -  Real-time configuration
 -  Real-time management
 -  Hardware configuration for real-time

About the wiki tool

Confluence

Good parts

- Easy edits (also for non-developers)
- Pretty rendering
- Multi-person editing

Bad parts

- Not wiki as code
 - Often misaligned
- Not related to versions



Thank you for your attention

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<https://lfenergy.org/projects/seapath/>



<https://github.com/seapath>



<https://wiki.lfenergy.org/display/SEAP/SEAPATH>



<https://lfenergy.slack.com #seapath>