

# **2018 CentOS Dojo / RDO day at CERN**

Friday 19 October 2018 - Friday 19 October 2018

CERN

## **Book of Abstracts**



# Contents

Ansible-Pull for client configuration management . . . . .	1
CentOS Community Container Pipeline for open source projects . . . . .	1
CentOS, Fedora, RHEL: Solving the Penrose Triangle . . . . .	1
Cloud SIG update . . . . .	1
Computing Challenges for LHC . . . . .	2
Fedora Atomic Host at CERN . . . . .	2
OpenHPC Introduction . . . . .	2
Overhauling performance monitoring - update on OpsTools SIG . . . . .	2
Repositories, Pipelines, Packages & Promotions . . . . .	3
Tangling With Tools: Automatically Managing Dependencies Within Cloud SIG . . . . .	3
Welcome and Announcements . . . . .	3



2

## **Ansible-Pull for client configuration management**

Balz Aschwanden<sup>1</sup> ; Michael Husar<sup>1</sup> ; Jan Welker<sup>1</sup>

<sup>1</sup> *Universität Basel*

**Corresponding Author(s):** jan.welker@unibas.ch, balz.aschwanden@unibas.ch, michael.husar@unibas.ch

### **Configuration Management**

As client services provider at a university, we face a heterogeneous but rather windows- heavy environment. It comes with the unique challenge to provide local support staff with tools to handle diverse Unix (macOS and Linux) client requirements.

We would like to present our approach to systems administration: How we use Ansible in pull mode for client configuration management and how we integrate it into our current Active Directory and Git infrastructure. The benefits: Infrastructure as code without additional backend components, Active Directory as a graphical frontend for our support staff and the freedom to modify and optimize our tool chain.

<https://github.com/ANTS-Framework/ants>

### **Scientific Software Build Pipeline**

We developed a highly automated build pipeline to cope with hundreds of scientific applications and their dependencies. Our pipeline follows the develop/test/production approach. It is based on easybuild and integrated into our Jira Kanban board for reporting.

8

## **CentOS Community Container Pipeline for open source projects**

CentOS Community Container Pipeline helps open-source developers create containers, scan them, lint their Dockerfiles and push it to a public registry (<https://registry.centos.org>) by simply doing a git push to their git repo! It also does automatic rebuilds of container images and scans them on weekly basis.

10

## **CentOS, Fedora, RHEL: Solving the Penrose Triangle**

7

## **Cloud SIG update**

Haikel Guemar<sup>None</sup>

**Corresponding Author(s):** haikel.guemar@gmail.com

What were the highlights of this year for the Cloud SIG? Let's also explore what's coming up for the next year and what's left to do.

15

## Computing Challenges for LHC

**Corresponding Author(s):** ian.bird@cern.ch

16

## Fedora Atomic Host at CERN

**Corresponding Author(s):** spyridon.trigazis@cern.ch

12

## OpenHPC Introduction

Adrian Reber<sup>1</sup>

<sup>1</sup> *Red Hat*

**Corresponding Author(s):** areber@redhat.com

High performance computing (HPC) - the aggregation of computers into clusters to increase computing speed and power- relies heavily on the software that connects and manages the various nodes in the cluster. Linux is the dominant HPC operating system, and many HPC sites expand upon the operating system's capabilities with different scientific applications, libraries, and other tools.

To avoid duplication of the necessary steps to run an HPC site the OpenHPC project was created in response to these issues. OpenHPC is a collaborative, community-based effort under the auspices of the Linux Foundation to solve common tasks in HPC environments by providing documentation and building blocks that can be combined by HPC sites according to their needs.

This talk gives an introduction in OpenHPC and how it tries to help to set up HPC systems on top of CentOS.

3

## Overhauling performance monitoring - update on OpsTools SIG

Matthias Runge<sup>None</sup>

**Corresponding Author(s):** mrunge@redhat.com

One year ago, I introduced the CentOS OpsTools SIG, we talked about the three pillars of Availability monitoring, performance monitoring and centralized logging.

In this talk, we're going to focus on performance monitoring and are going to propose a somewhat different approach, which also solve the mentioned issue of HA setup.

1

## Repositories, Pipelines, Packages & Promotions

Kris Buytaert<sup>1</sup>

<sup>1</sup> *Inuits.eu*

**Corresponding Author(s):** kris.buytaert@gmail.com

Repository management is hard.

Once have more than one environment to take care of, you don't want to risk deploying software in that environment that hasn't been approved for that environment yet. So you need multiple repositories, one per environment.

But you also need more than just the upstream CentOS, you might need EPEL, or a part of it, you obviously have custom build software you want to deploy.

It quickly escalates to an untasty bowl of spaghetti.

We suffered for a long time ... we had a vision on how to solve this ..

And when it scaled we automated it ...

A tale of Pulp and Jenkins, happily working together to provide a structured standardised repository management ecosystem.

Oh .. and even in a Containerized world, you still need those repositories to build your images from.

4

## Tangling With Tools: Automatically Managing Dependencies Within Cloud SIG

Javier Peña<sup>1</sup> ; Alfredo Moralejo<sup>1</sup>

<sup>1</sup> *Red Hat*

**Corresponding Author(s):** jpena@redhat.com, amoralej@redhat.com

Release early, release often is one of the common phrases heard within the open source world and OpenStack is no exception. With a six month release cycle and a dynamic environment that requires new external libraries or updated versions of existing ones on a daily basis.

The RDO Community must sustain this pace to provide updated versions of these dependencies and to maintain a consistent set of packages as close as possible to the versions used to validate OpenStack services upstream.

To that end, we have developed a set of automation tools built on continuous integration and delivery principles to detect changes to the OpenStack project's requirements, build them on CBS, and test them using the RDO deployment tools. In this presentation, we will introduce this set of tools, why we developed them, how we implemented them and how they help us stay up to date with our dependencies.

**14**

## **Welcome and Announcements**