

Rubin at the Summit - observatory cyber infrastructure and security

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Abstract

We describe the modern and dynamic infrastructure as code based system underlying operations of the Vera. C Rubin Observatory. We will also cover or extra efforts to be NIST standard compliant for cyber security.

Keywords: Vera C. Rubin Observatory

1. Introduction

The Vera C. Rubin Observatory[1] will go in to operations in 2025. During commissioning we have already seen our infrastructure as code based cyber system working well. In this paper we will describe the generic underlying hardware, deployments on that hardware of both bare metal and containerized applications, transmission of data to SLAC and our NIST[?] compliant security approach.

2. Physical Layer

2.1. Design

Escalability, Open design

2.2. Legos

Blocks

3. Networking Layer

3.1. Reliability

3.2. Escalability

4. Computing Layer

4.1. Automatization

IaC, GitOps, CI/CD

4.2. Monitoring

Health, Logs, Dashboards, Alerts

5. Application Layer

5.1. Deployments

Test Stands, Canary, Blue/Green

5.2. Security

Detections, Identities, Monitoring

6. Incidents Management

Alerts, Escalation,

7. Documentation

Technotes, Runbooks

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