# Automating VCF over VxRail

## Approach | Lessons Learned | Tips & Tricks

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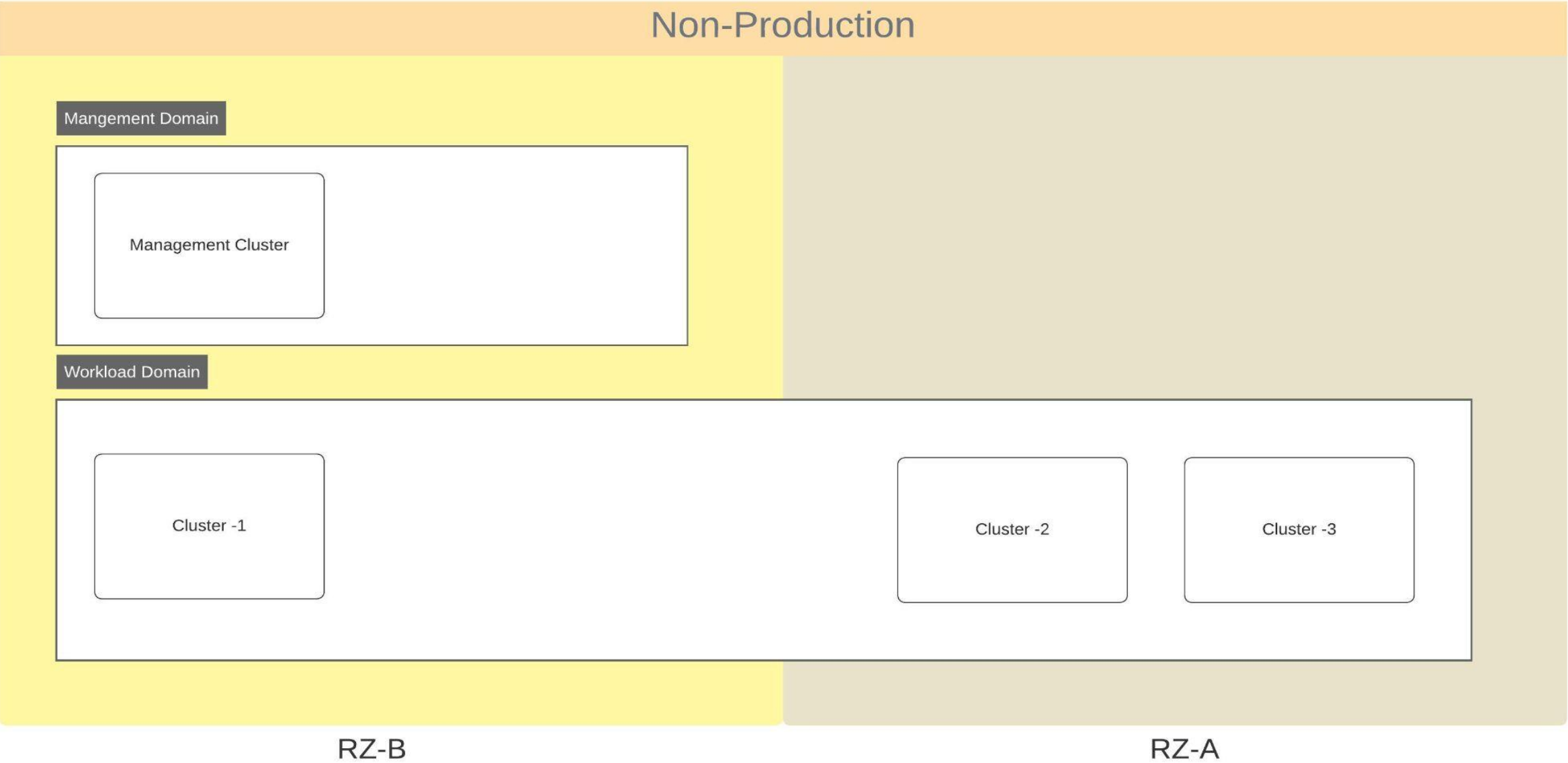
# Agenda

Deployment Challenge - real case study

Deployment Approach - can be reused for any scenarios

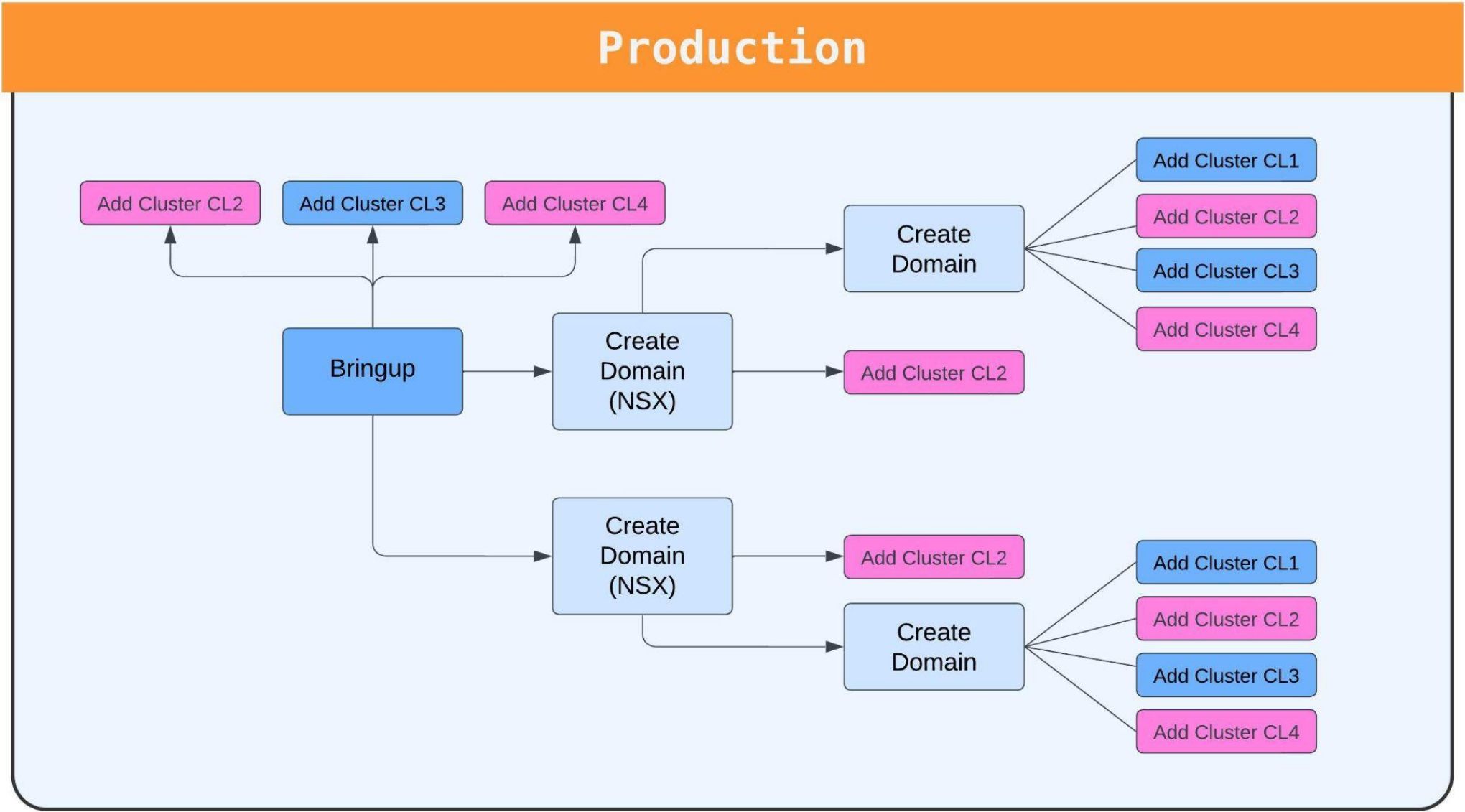Lessons Learned | Do's/Do not

References

# Deployment Goals

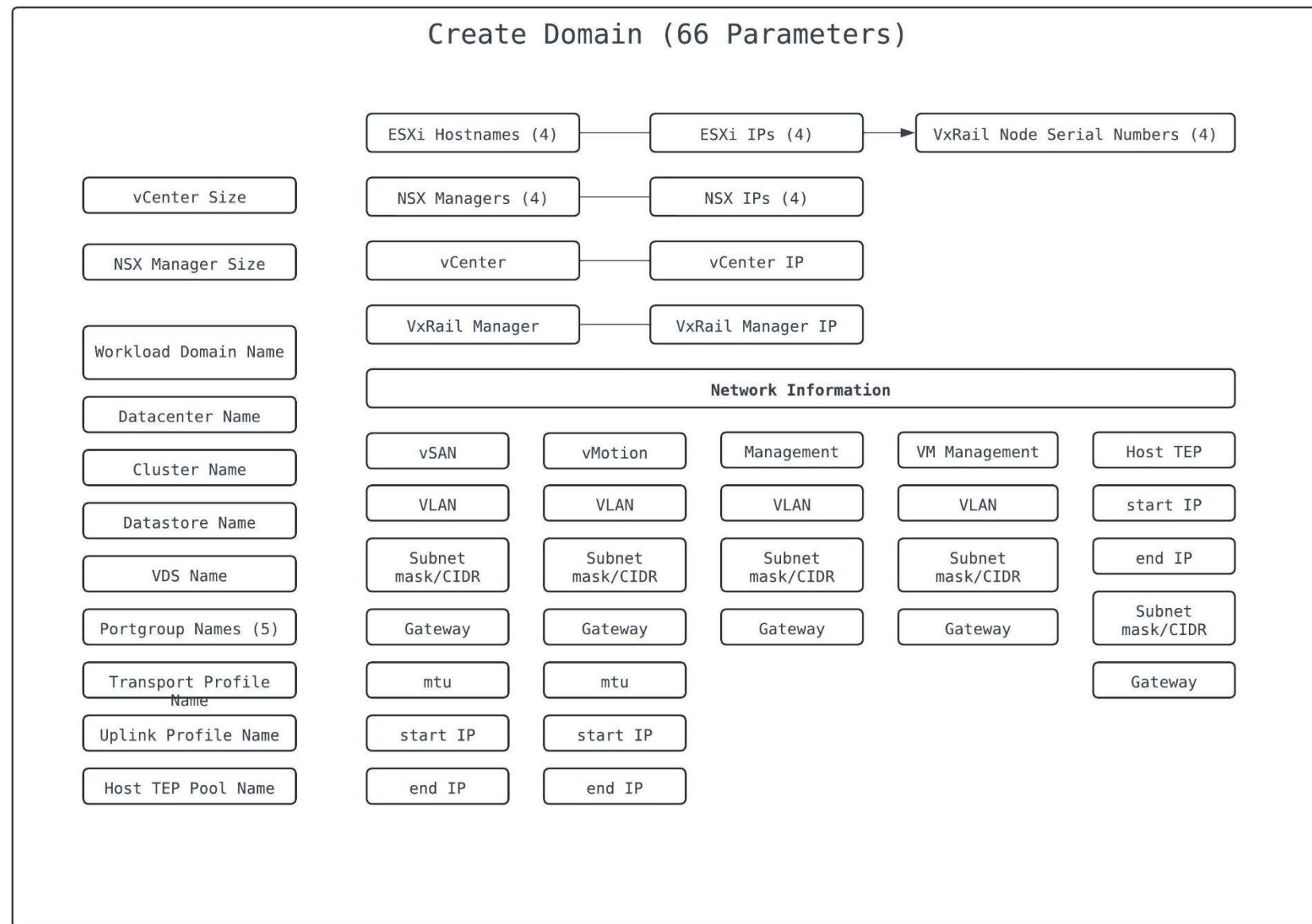# Deployment Goal - First Non-Production | Then Production
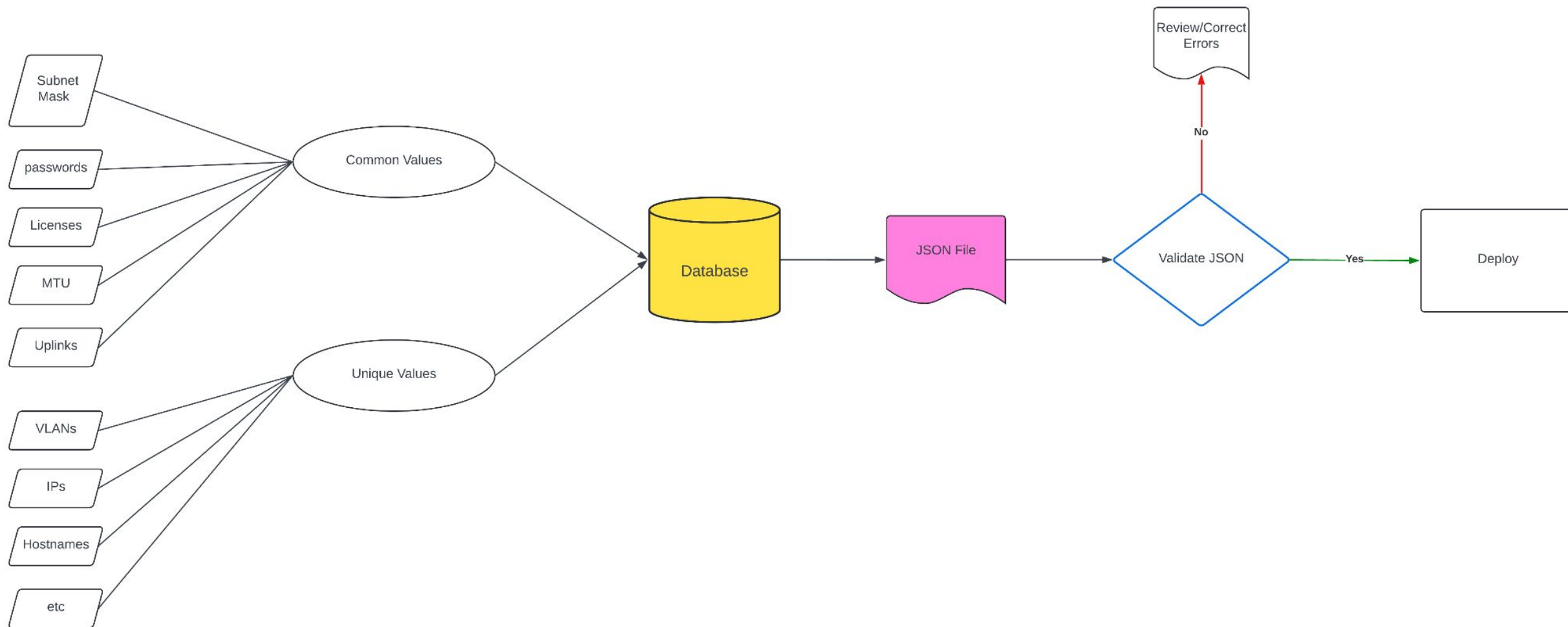
# Deployment Goal - Production

# Deployment Plan

# Why Automation was required

If this cannot convince you,
then ...

# Automation Approach
## Day:01

# Prepare for Bringup
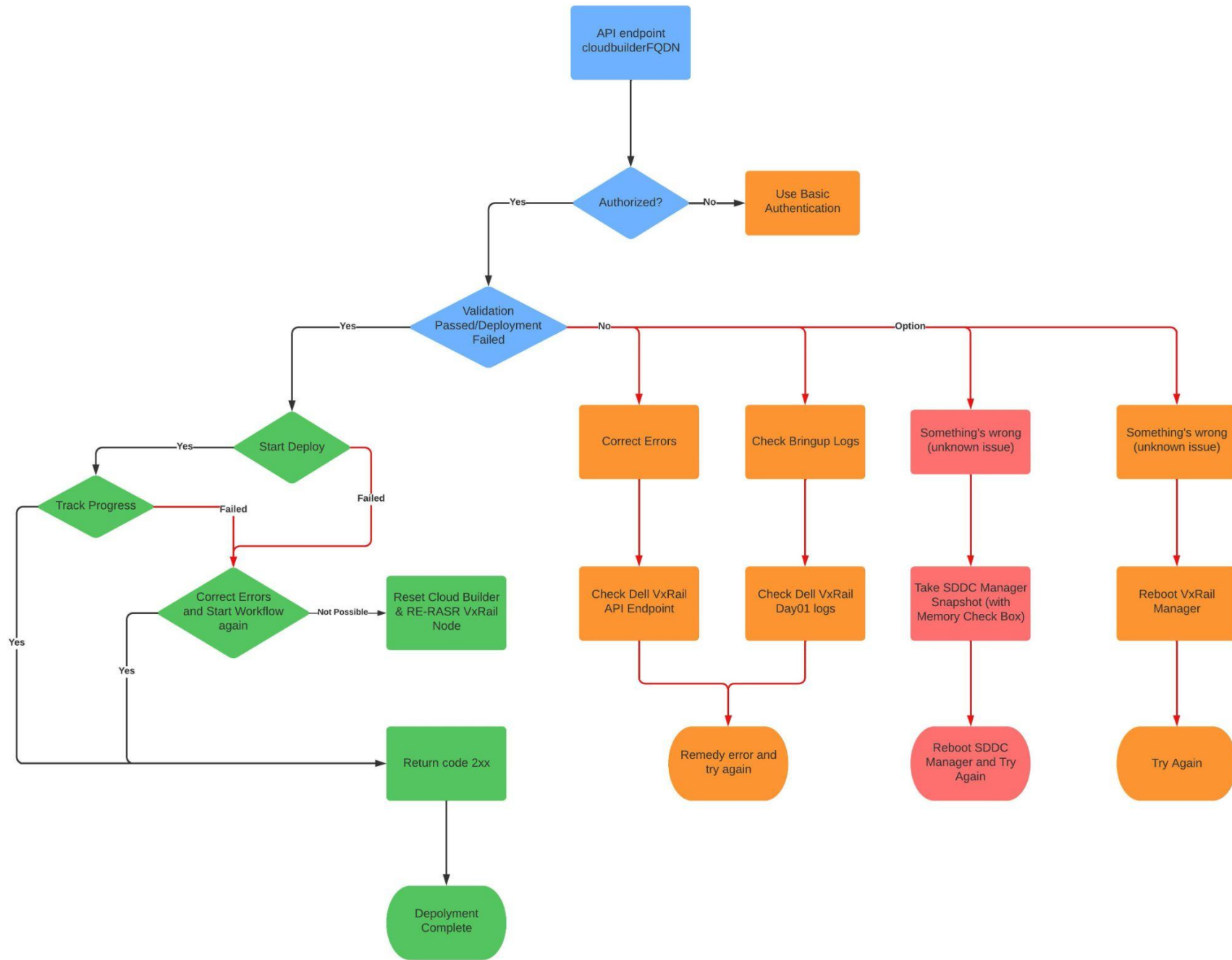
## How to create JSON File

Create JSON File

Cloud Builder API Endpoint - use basic authentication for authorization

Validate JSON File

Track JSON File Validation

Start Deployment

Track Deployment Progress

# Overview on how to create JSON File

## Beginners Guide | Reverse Engineering

Login to Cloudbuilder and download excel sheet, filling and then SSH into

Run the following command

```
/opt/vmware/bringup/scripts/json-generator.sh \
 vcf-vxrail-deployment-parameter.xlsx \
 bringup_vxrail_template.json vcf-vxrail
```

Create Domain - used 4.5.1 JSON and reverse engineered but it comes at cost.

# Create JSON File using Python

Demo | Overview

# Postman Demo

Focusing on Difference Create Domain and Add Cluster

Create token | Use Token for authorization

Pull Details from the Domain | Reuse NSX Manager details

# Lessons Learned

General | VxRail | Unreleased Notes

# Lessons
General

Use right tooling

e.g., Postman is not suitable for collaboration unless using Subscription

Limit folder creation. It is not like Windows explorer

Use Version control system (Postman Subscription ?)

Consider Naming Convention esp when Multiple vCenters

Post Deployment Checks (IP Address Allocation, Host TEPs)

Avoid Cut, Copy, Paste (common sense getting less and less these days)

[ Bringup ]  `tail -f /var/log/vmware/vcf/bringup/vcf-bringup-debug.log`

[Domain Creation | Add Cluster ] `tail -f /var/log/vmware/vcf/domainmanager/domainmanager.log`

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set -o history

# Lesson Learnt

VCF over VxRail

IP Pools

Always take SDDC Manager snapshot before rebooting (Hint : /tmp folder)

Enable SSH on vCenter (before Bringup)

Disable vSAN Health Check Alarm (before Bringup)

VxRail Manager Placement on VM_Management Network

Complex Passwords in JSON (default passwords do not touch)

Define MTU for vSAN and vMotion

Adding Nodes in AZ2 (Follow Dell Solve Procedure - Layer 3 - Create New Rack/Segment and Add New Nodes)

# Continue

```
    "arguments": ["{host.CR0RH04=[The connection to ESXi host CR0RH04 cannot be established.], host.GR0RH04=[The connection to ESXi host GR0RH04 cannot be
established.], validation_report=[Validation error.], host.DR0RH04=[The connection to ESXi host DR0RH04 cannot be established.], host.FR0RH04=[The connection
to ESXi host FR0RH04 cannot be established.]}"
```

VxRail over VCF Automation testing needs hardware.

Validation successfully does not mean Deployment will succeed.

# References

VCF over VxRail API

https://developer.broadcom.com/xapis/vmware-cloud-foundation-for-vxrail-api/latest/

Ansible Modules for VxRail (Samples Folder)

https://github.com/dell/ansible-vxrail/tree/master/docs/samples

Ansible way to deploy Cloud Builder and Bringup
https://vconfig.pl/2023/11/01/vcf-5-0-vcf-bring-up-with-ansible

Martin's Website for creating json file

https://www.martingustafsson.com/vcf-ui-json

Site to search before opening Ticket | Log Location | Step by Step Guide

https://davidring.ie

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# Continue

Python Script - reverse engineering

https://github.com/vmwarecode/WorkflowOptimization-VCF-51/tree/master/WorkflowOptimization

Delete Failed Tasks

```
curl -X DELETE 127.0.0.1/tasks/registrations/<taskid>
```

Track Task progress on VxRail Side

https://vxrailmanagerFQDN/configure/build-status

# Thank You