Lifecycle of Backbone Maintenances

NANOG
∞ Meta

Neeraj Bahl
Production Network Engineer @ Meta

Contents

- Introduction
- Problem Statement
- Maintenance Lifecycle
- Issues and Improvements
- Call for Action

Introduction

Types of Backbone Networks: DC <-> DC, POP <-> DC, EDGE

Different networks = Different failure domains

One maintenance can impact multiple networks

Problem Statement

Scale requires automation

Balance between availability, safety and downtime
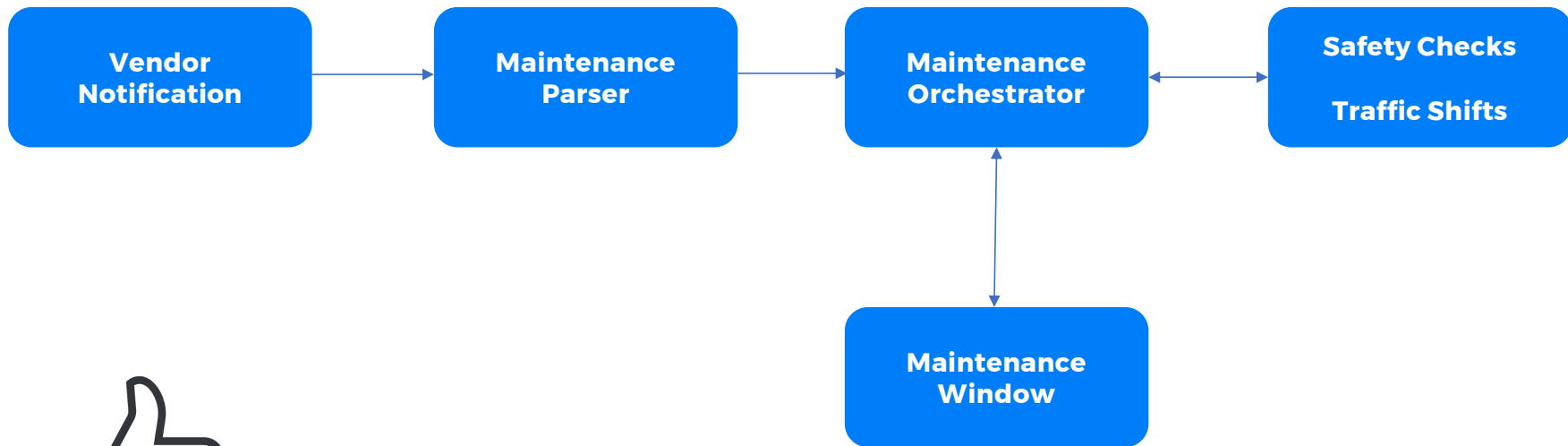
Reliability of operations
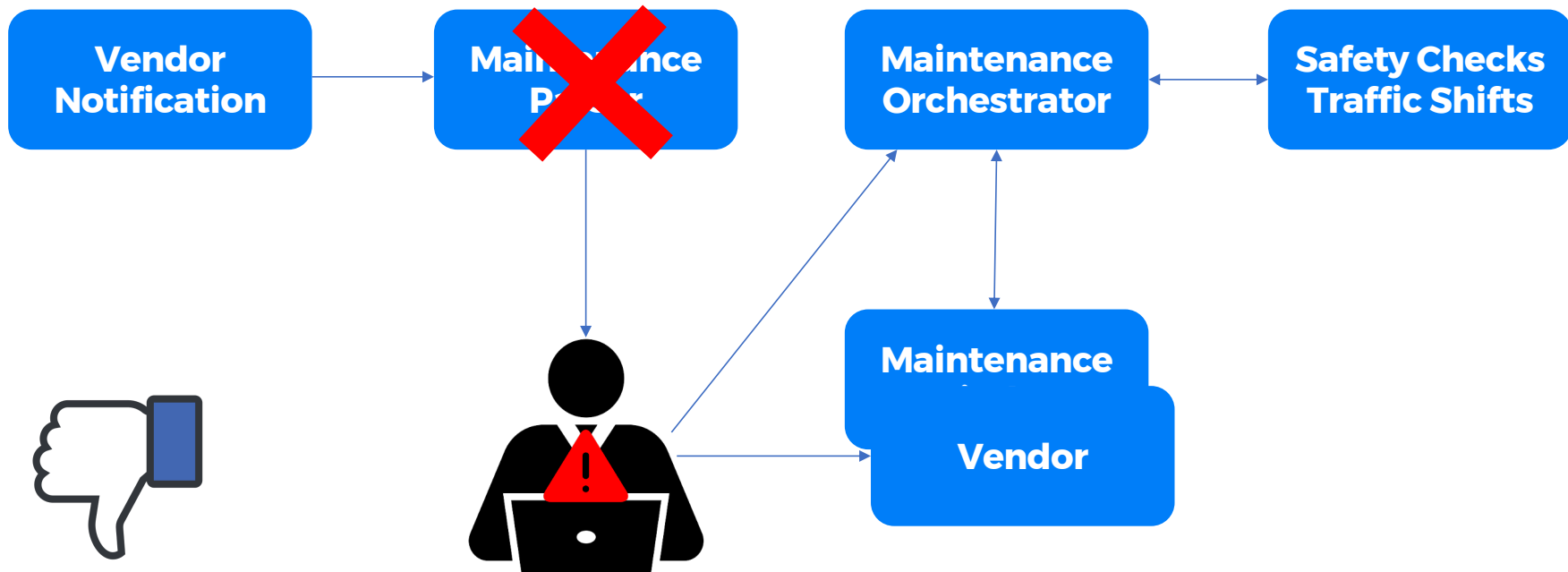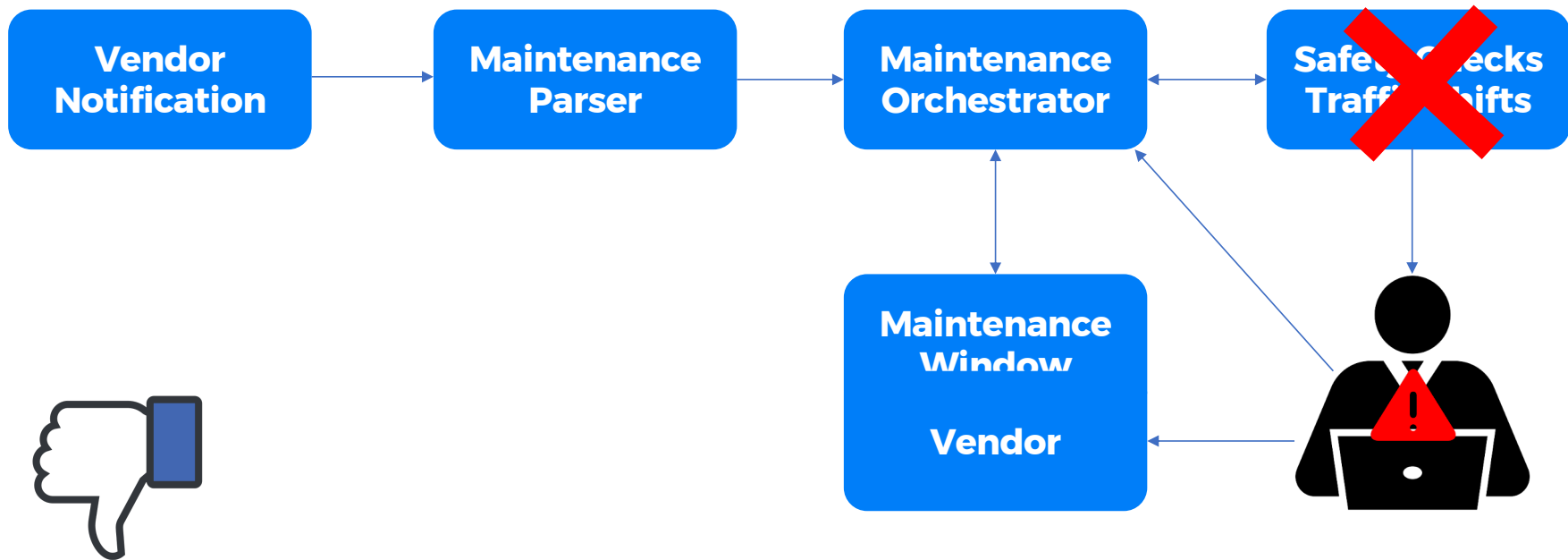
Lifecycle: Without Failures

Vendor Notification → Maintenance Parser → Maintenance Orchestrator ↔ Safety Checks / Traffic Shifts

Maintenance Orchestrator ↕ Maintenance Window

Lifecycle: With Failures (Scenario #1)

Vendor Notification

Maintenance Planner

Maintenance Orchestrator

Safety Checks Traffic Shifts

Maintenance Vendor

Lifecycle: With Failures (Scenario #2)

Vendor Notification → Maintenance Parser → Maintenance Orchestrator ↔ Safety Checks Traffic Shifts

Maintenance Window Vendor

Commonly Observed Issues

Lack of standardization across and within vendors

Categorizing maintenances: what is safe vs not safe

Enabling systems to look into future state

How do we fix this?

Normalize vendor email formats

Front load initial noise

Policies on safety checks

It will take ~~a village~~ an INDUSTRY!!

Let's work together to standardize our maintenances

LinkedIn - [Vendor Network Maintenance Notification Standardization - Working Group](#)
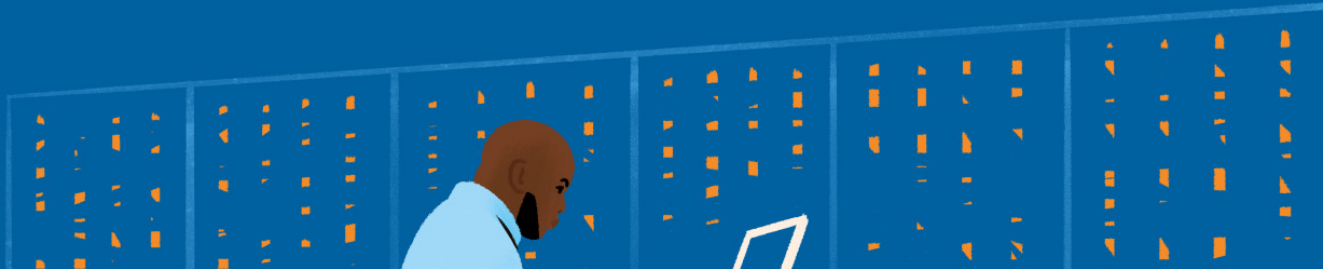
APIs vs standardized email modeling

Revisit existing Internet draft

[Maintenance Notification Improvements Using iCalendar](#)

Want to help?