

# Hands-on Ansible

## Introduction



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# What Is Ansible?

# What Is Ansible?



Image Credit: Courtesy of Summit Entertainment







This is looking good!

# What Is Ansible?

Change  
Management

Provisioning

Automation

Orchestration

# Change Management

Define a “System State”

Enforce the System State

System State

Apache Web Installed

Apache Web at version x.xx.x

Apache Web Started



**CHANGE EVENT**

*Did the process fail??*



*Did someone not verify?*

**Did someone goof up?**

Now that's what I like to see!





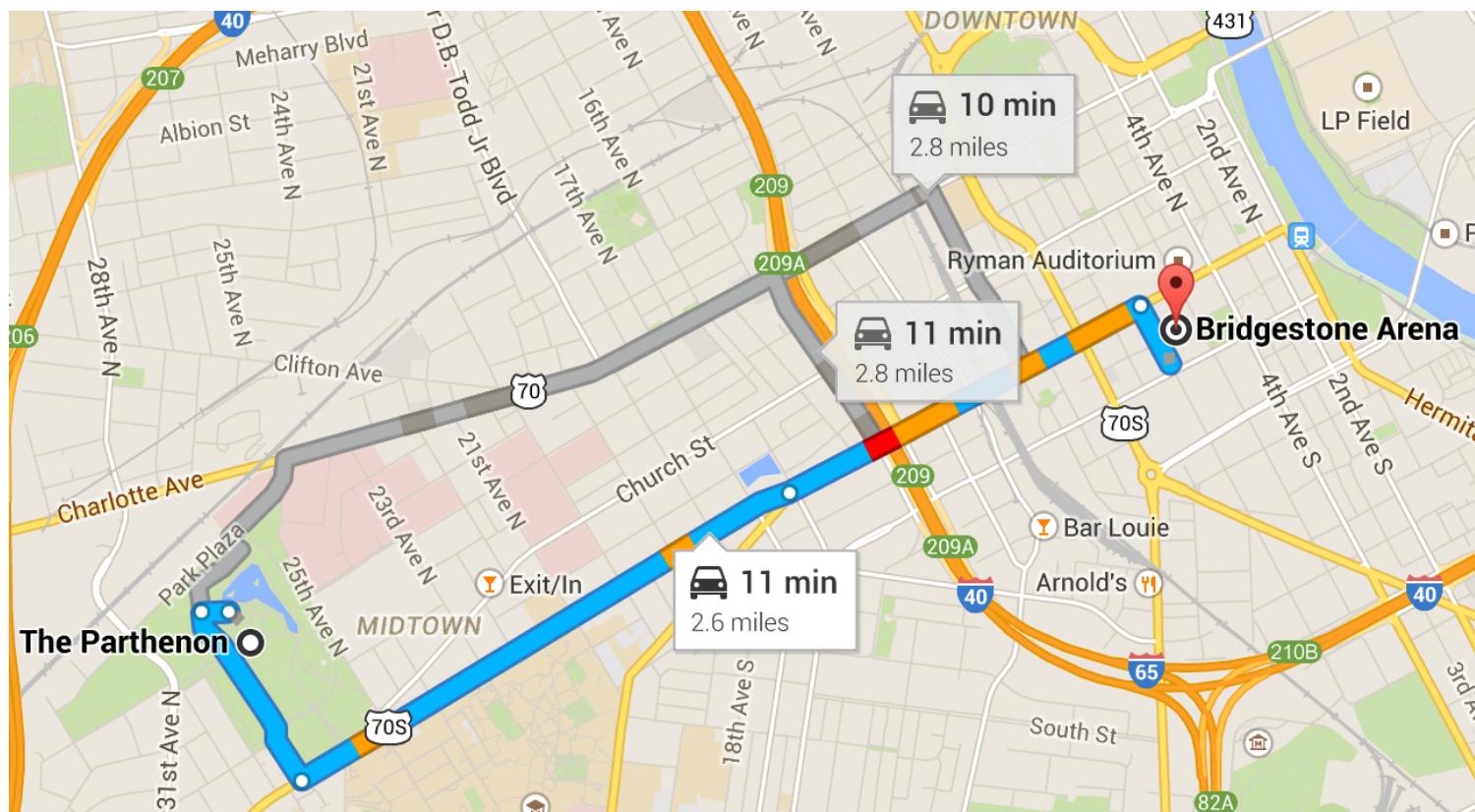
A function is idempotent if repeated applications has the same affect as a single application

**IDEMPOTENCE**



# Defining State

Don't pay attention to the 'HOW', just the 'WHAT'



# Provisioning

Prepare a system to make it ready  
Transition from one state to a different state

## Examples

- Make an FTP Server
- Make an Email Server
- Make a DB Server

Basic OS



Web server



- 
- ```
graph LR; A[Basic OS] --> B[Web server]
```
- A horizontal orange arrow points from the 'Basic OS' server icon on the left to the 'Web server' icon on the right, indicating a process flow or transformation.
1. Install web software
  2. Copy configurations
  3. Copy web files
  4. Install security updates
  5. Start web service

# Automation

Define tasks to be executed automatically

Ordered Tasks

Make decisions

Ad-hoc tasks

Set it and Forget it

Run the task

Get a cup of coffee

Walk back to desk seeing tasks finished

Sip your coffee and feel productive

# Orchestration

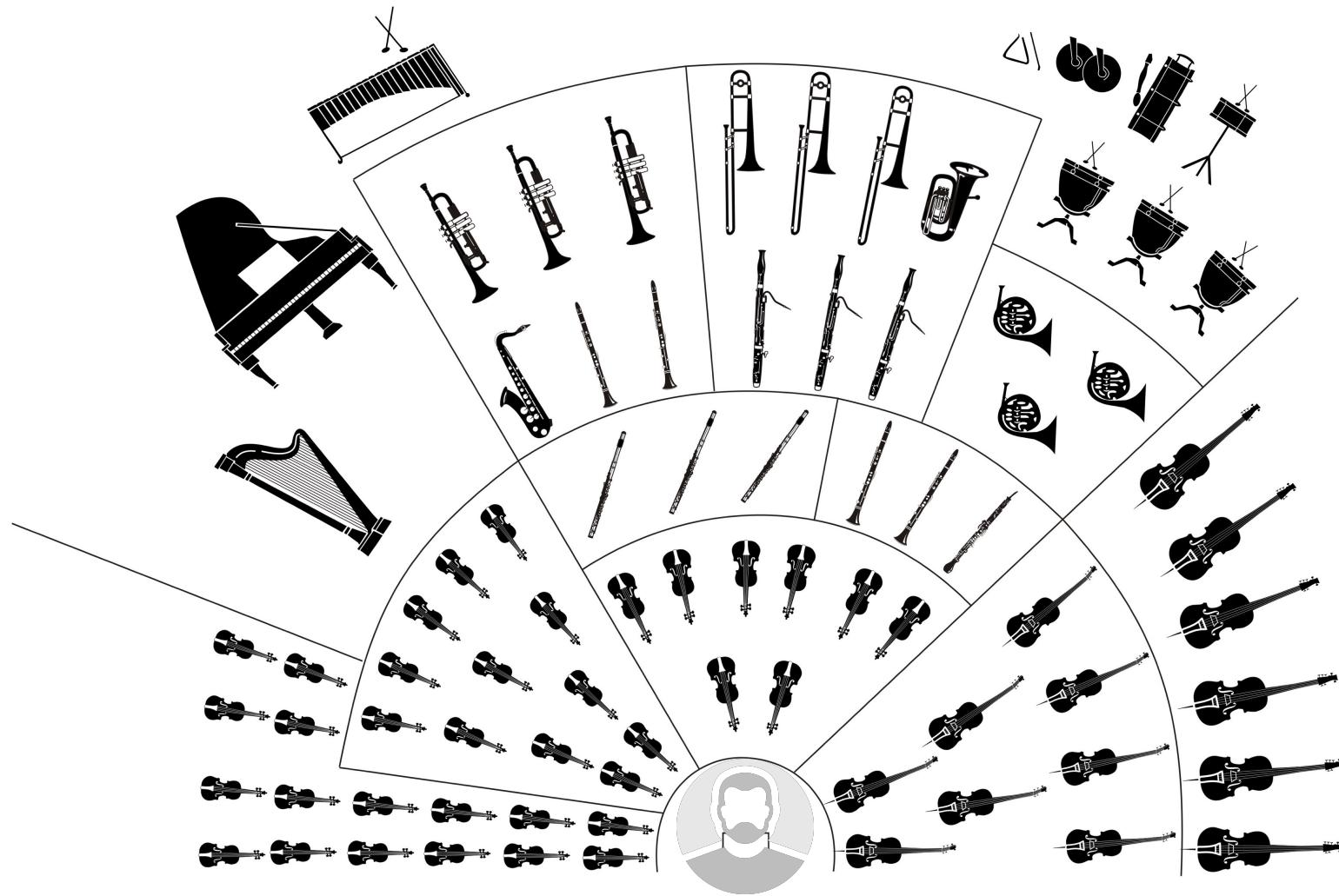
Coordinates automation **BETWEEN** systems

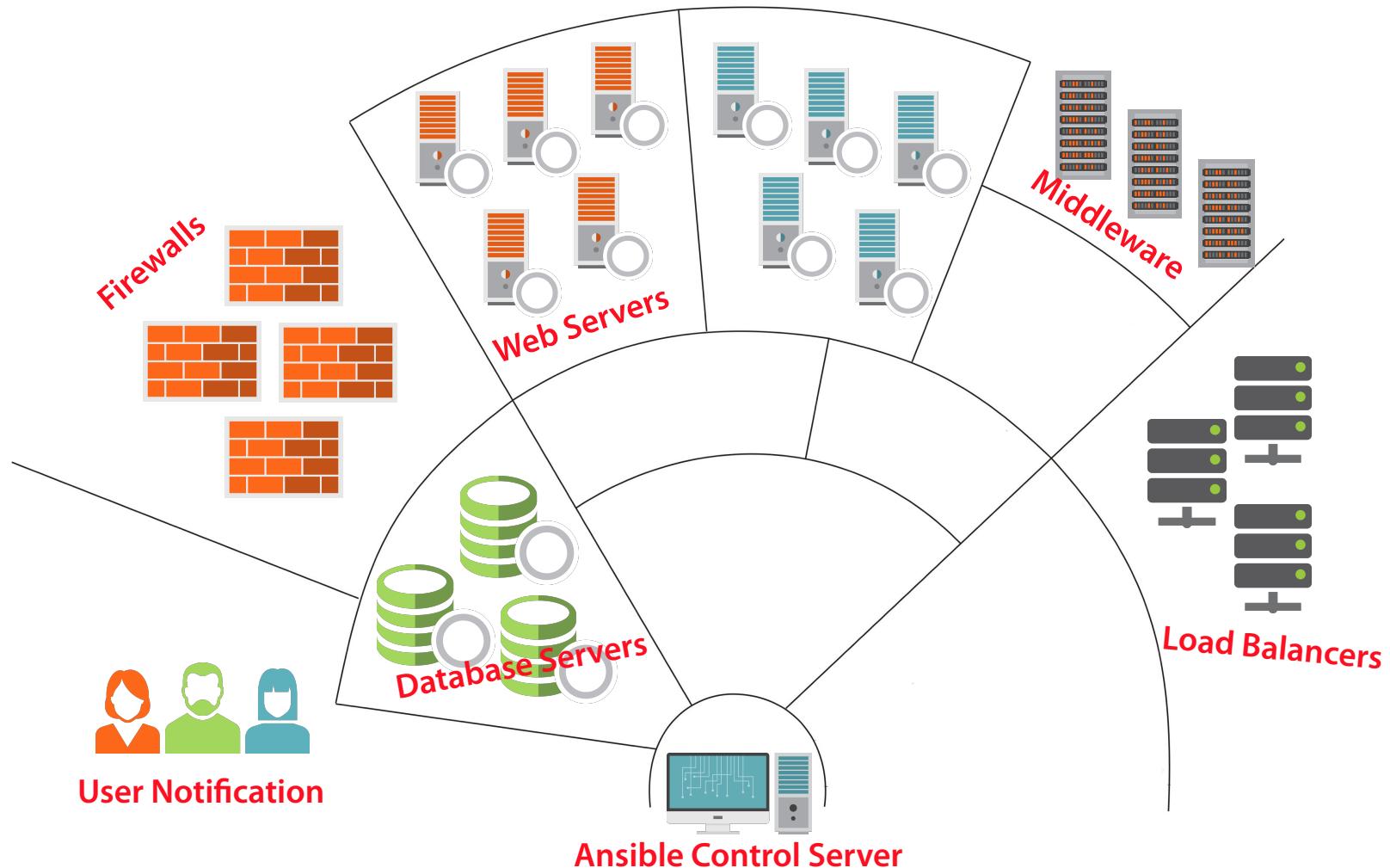
Task 1 - System 1

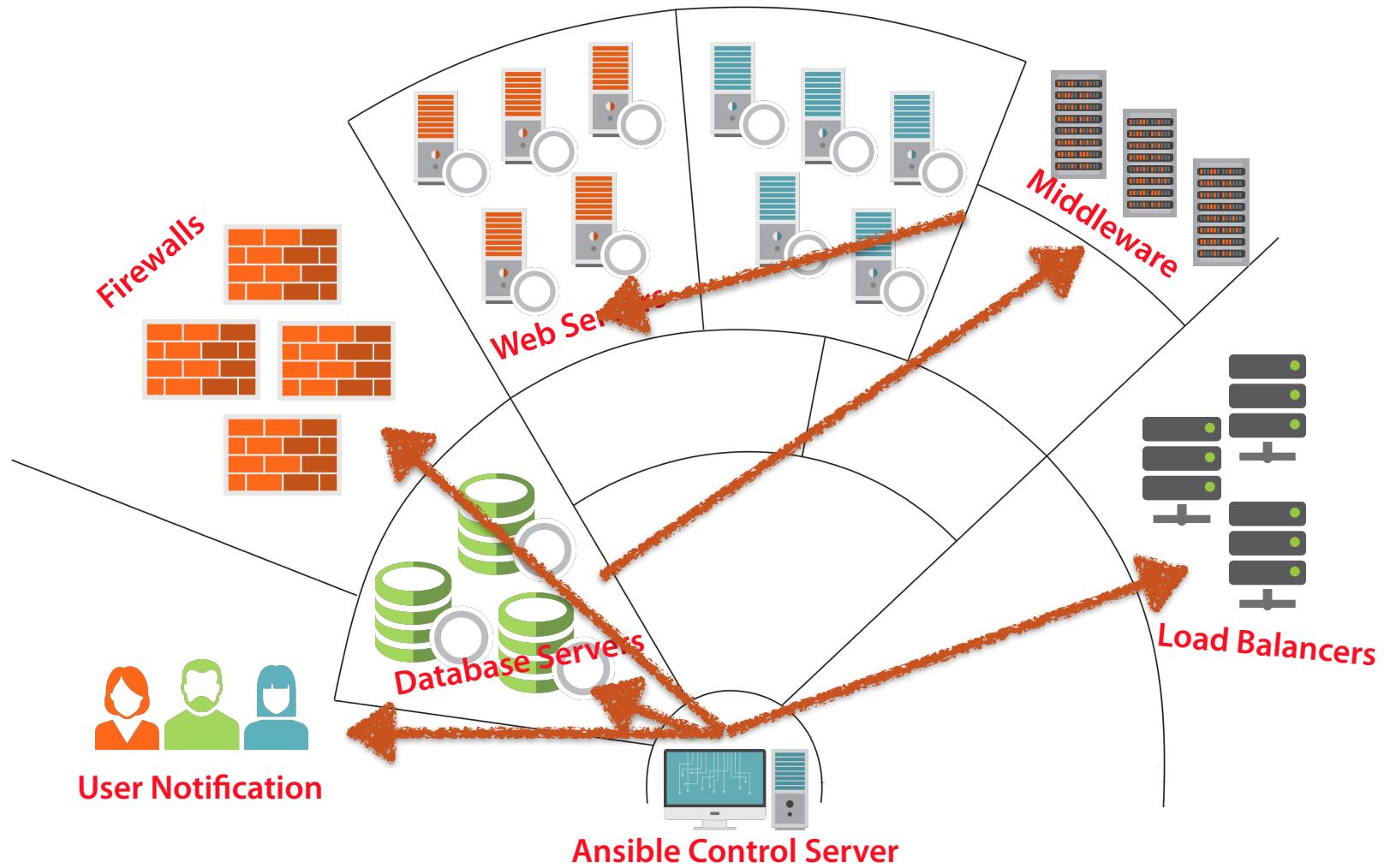
Task 2 - System 2

Task 3 - System 3

Task 4 - System 1







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# Why Ansible?

What makes it so different?

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**It's clean!**

No agents

No database

No residual software

No complex upgrades

# YAML

## Ansible Execution

No programming required

NOT a markup language

Structured

Easy to read and write



Built-in security

Uses SSH

Root / Sudo usage

Encrypted vault

No PKI needed



Easy to extend

URL / RESTful calls

Shell Commands

Scripts

Ansible-Galaxy

# Ansible Introduction

Ansible IS:

Change Management

Provisioning

Automation

Orchestration

Ansible IS:

Easy to implement

Easy to program

Inherently Secure

Very extendable