

# Protecting Your Critical Infrastructure with PI HA (High Availability)

Presented by Michael Jakob

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# How Do You Say “Reliability”?



TomĀto



TomÄto



# What Is Needed to Get Value?



Keep It Running



Good Data



Productive Users

# A Note About Virtualization



Windows Server  
Hyper-V™



- Fully Supported!
- Only Part of an HA Strategy



# Keep it Running – High Availability (HA)



- Interfaces are the most critical
- Keep the calculated values as good as the measured values
- Running servers do no good if the clients aren't functioning

# Interface HA is Built In

UniInt Failover

Enable UniInt Failover

Phase 1  Phase 2

Failover ID# for this instance: 1 \\MKELLYd630W7\OPCInt1

Failover ID# of the other instance: 2 [Browse]

Do not failover when both interfaces lose connection to PI

Failover control tags are unsolicited (not scan based)

Rate at which the heartbeat point is updated/checked: 5000 milliseconds [Reset]

UFO Type: COLD Synchronization File Path: [Browse]

Status	Tag	Exdesc	Point!
Created	MKELLYd630W7-OPCInt_1-OPCINT_UFO2_ActiveID	[UFO2_ActiveID]	OPCII
Created	MKELLYd630W7-OPCInt_1-OPCINT_UFO2_Heartbeat_1	[UFO2_Heartbeat:1]	OPCII
Created	MKELLYd630W7-OPCInt_1-OPCINT_UFO2_Heartbeat_2	[UFO2_Heartbeat:2]	OPCII

On a per interface basis

# The Server Tier Offers Solutions

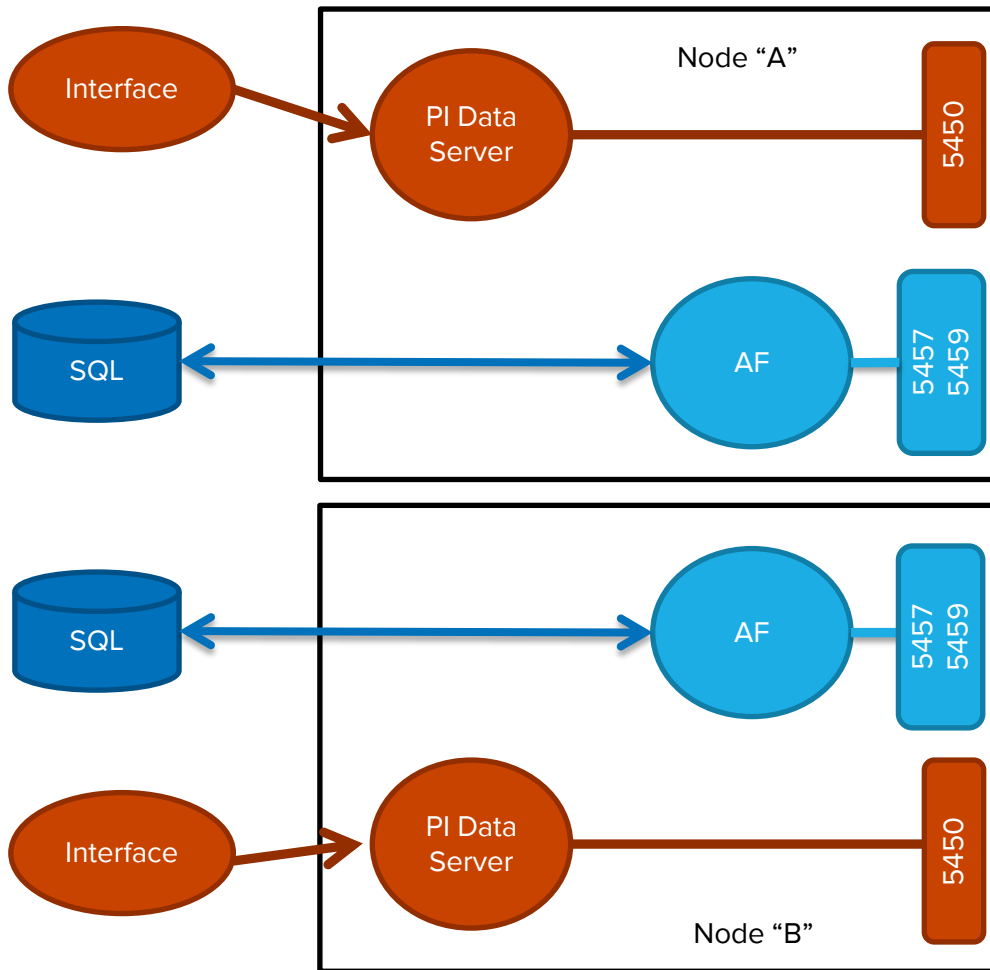
## PI Data Servers

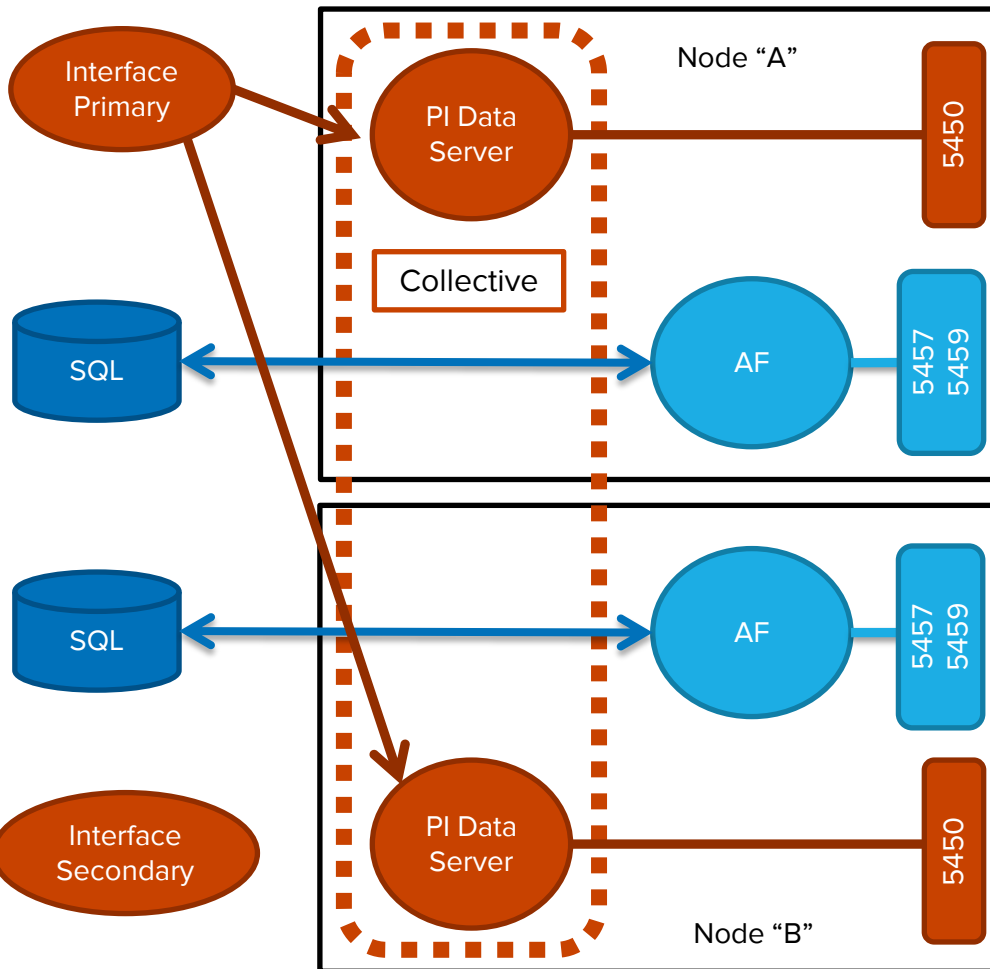
- Collective
  - Fully automatic
  - Seamless to clients
  - Completely independent data stores

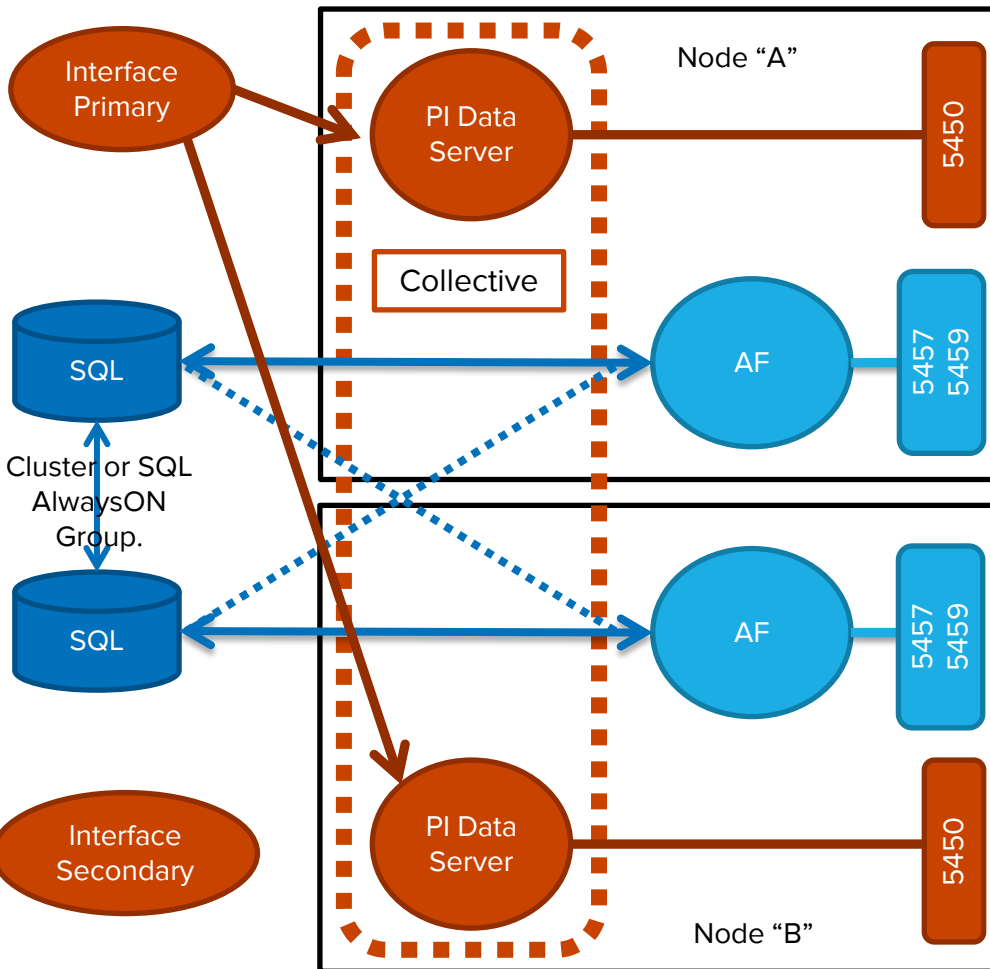
## Asset Framework Servers

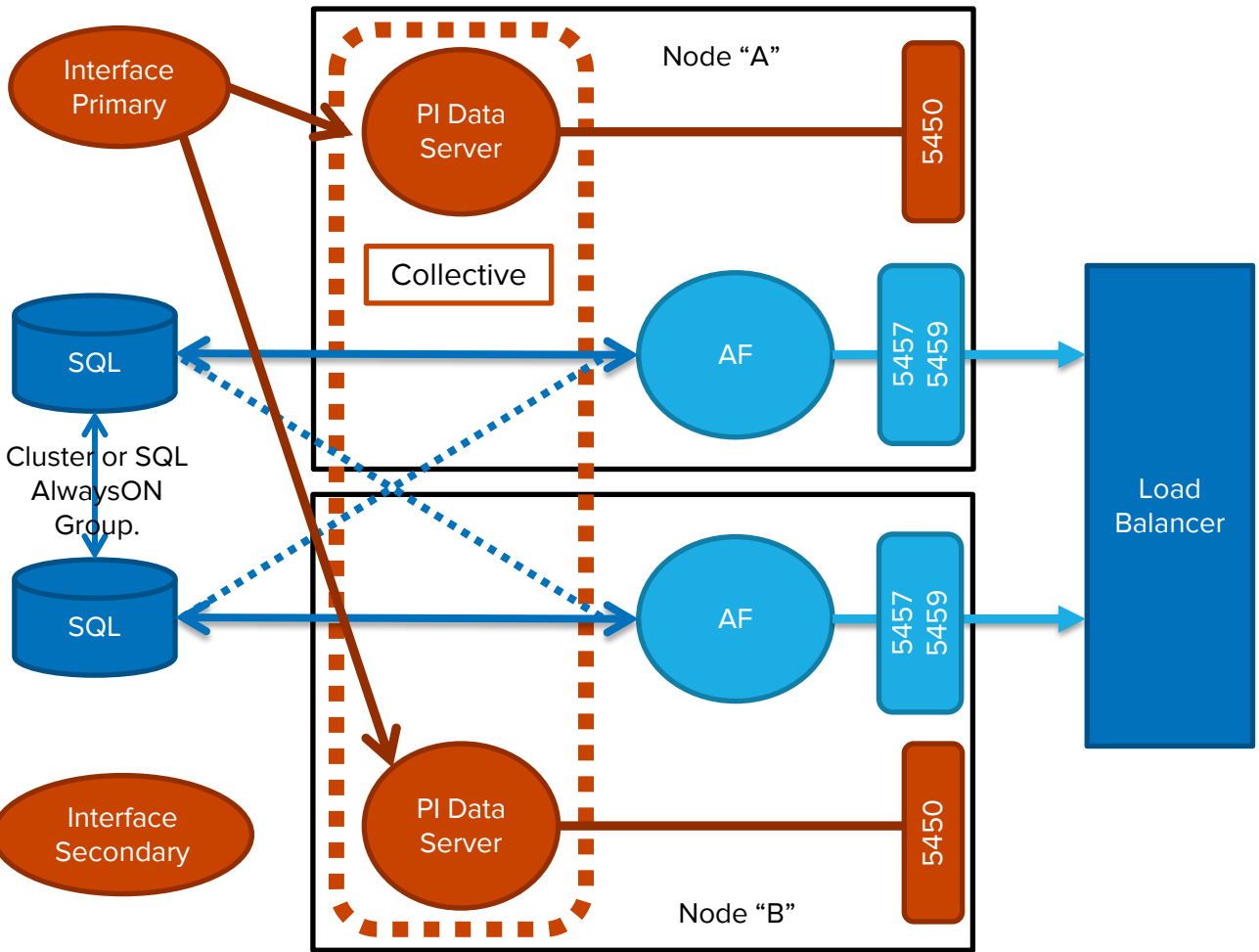
- Network Load Balancing
  - Fully Automatic
  - Seamless to clients
  - Support for HA writes to AF such as Event Frames
  
- SQL Server HA Needed Too
  - Ask your DBA about “AlwaysOn”

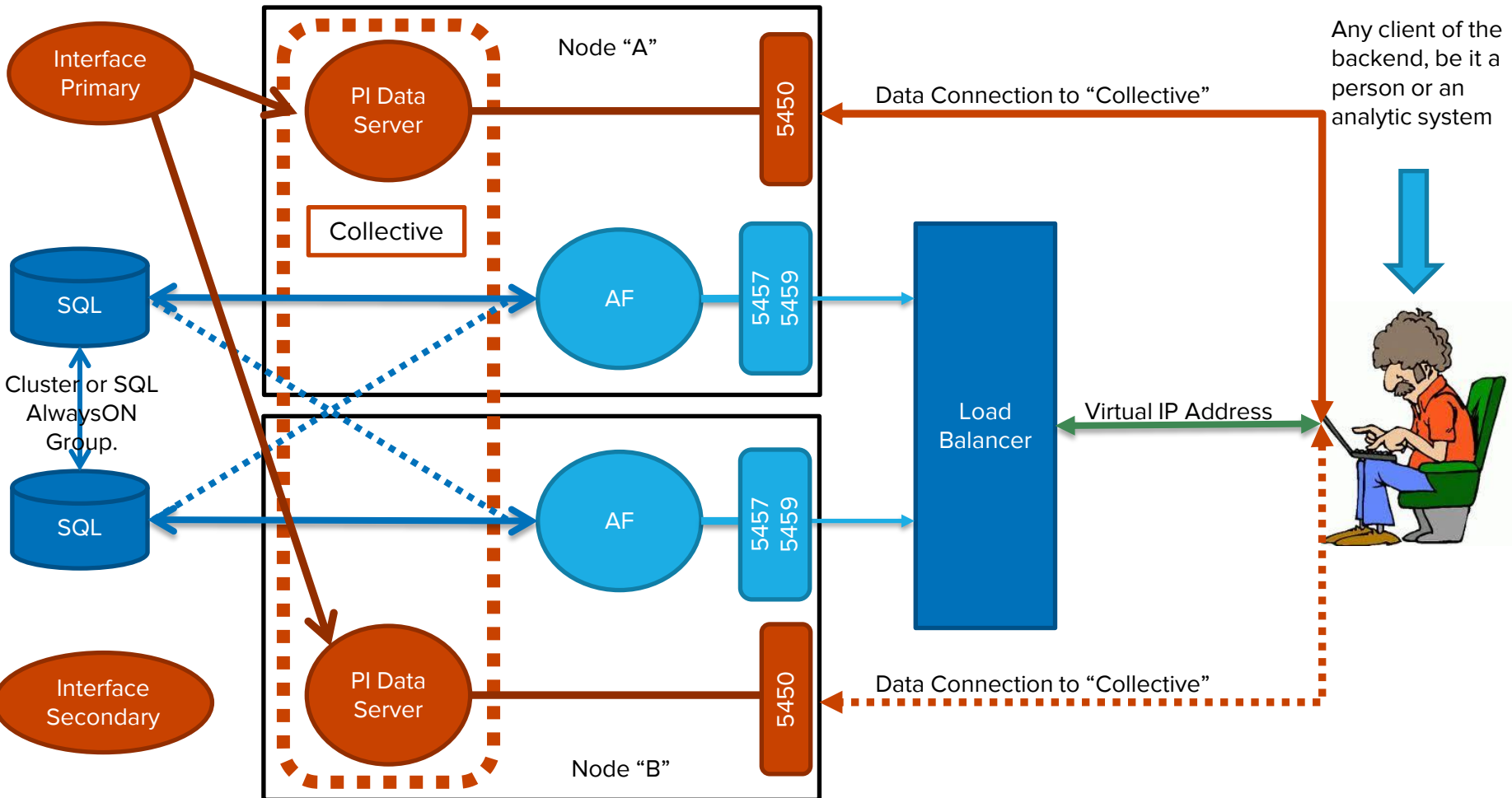












Any client of the backend, be it a person or an analytic system

# Analytic HA Requires Planning

Technology	Redundancy	Backfilling
Asset Analytics	Manual (for now)*	Automatic
Performance Equations	Parallel Execution	(Very) Manual
PI ACE	Automatic	Manual
Formula Data Reference	Depends on the client	N/A

*\* - Virtual machine technology, scripting, and possibly clustering can potentially do some of the “manual” work for you*

# Know When it Falls Down

Especially with HA, you need to be monitoring the PI System

- Get an EA and mPI
- Work with your IT folks
- Use PI to monitor PI







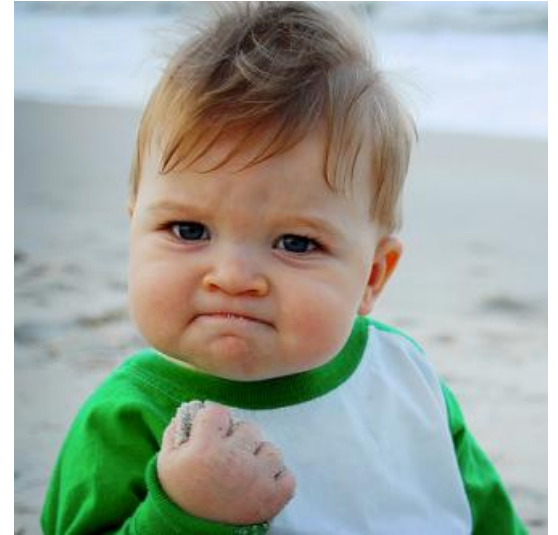
# Control Domain

# DMZ

# User Domain



# Security is Also About Process





Test Your Plan – Or It Will Test You

#1 BESTSELLER

An A-Mazing Way to Deal with Change  
in Your Work and in Your Life

# Who Moved My Cheese?

Spencer Johnson, M.D.

Foreword by Kenneth Blanchard, Ph.D.

Co-Authors of **The One Minute Manager**

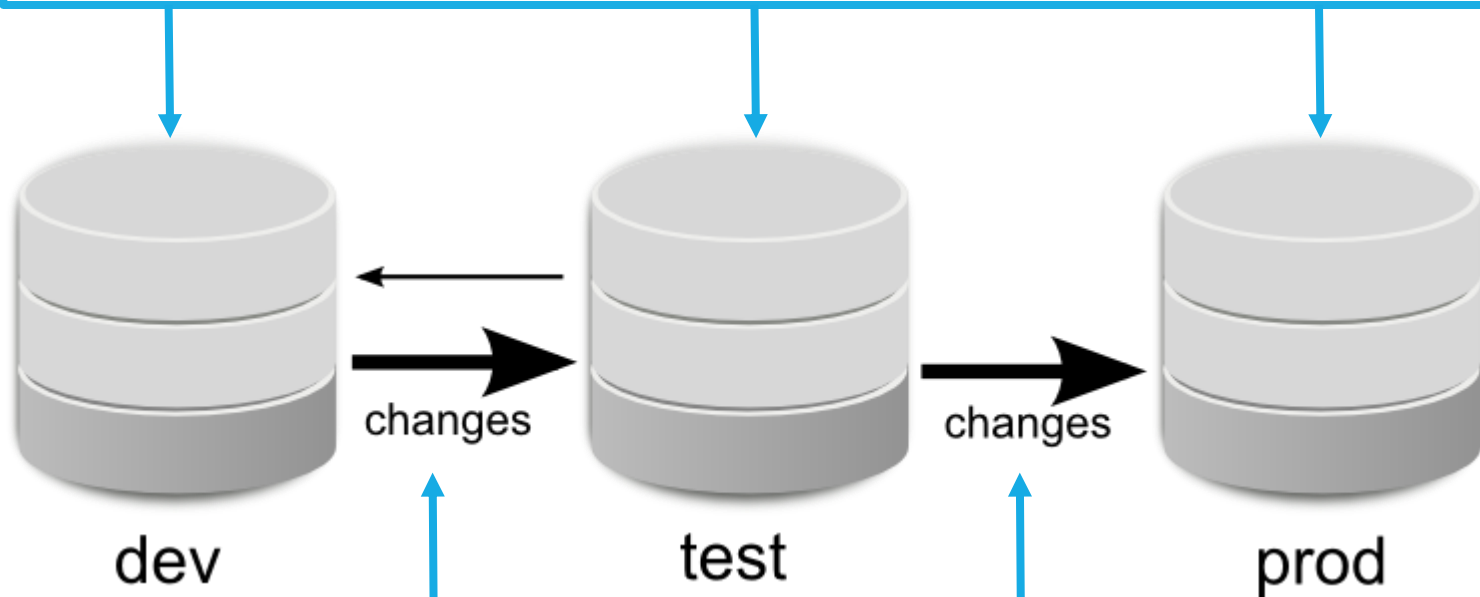
The World's Most Popular Management Method



## 50 Reasons Not To Change

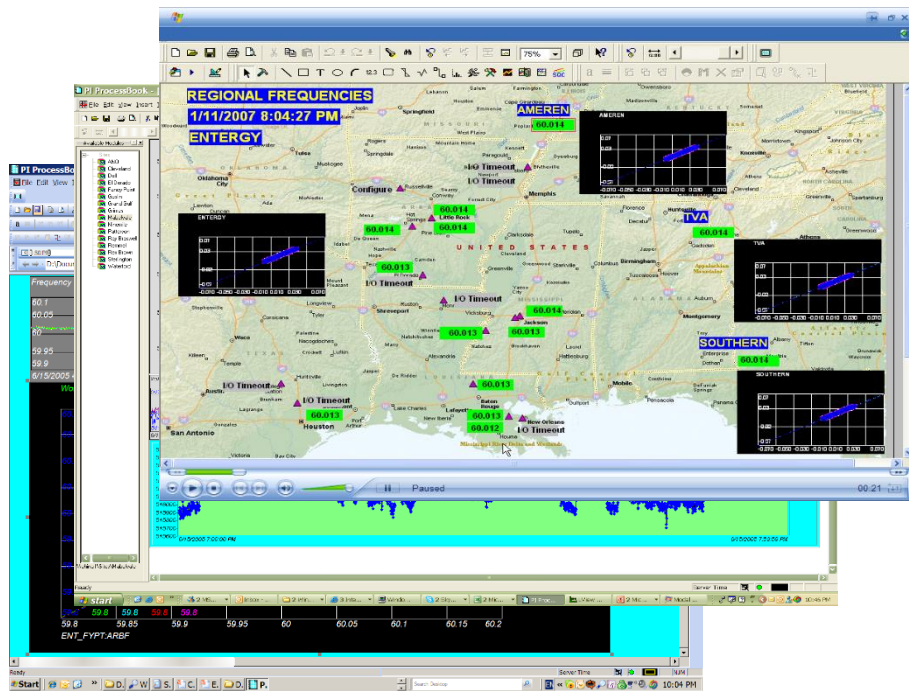


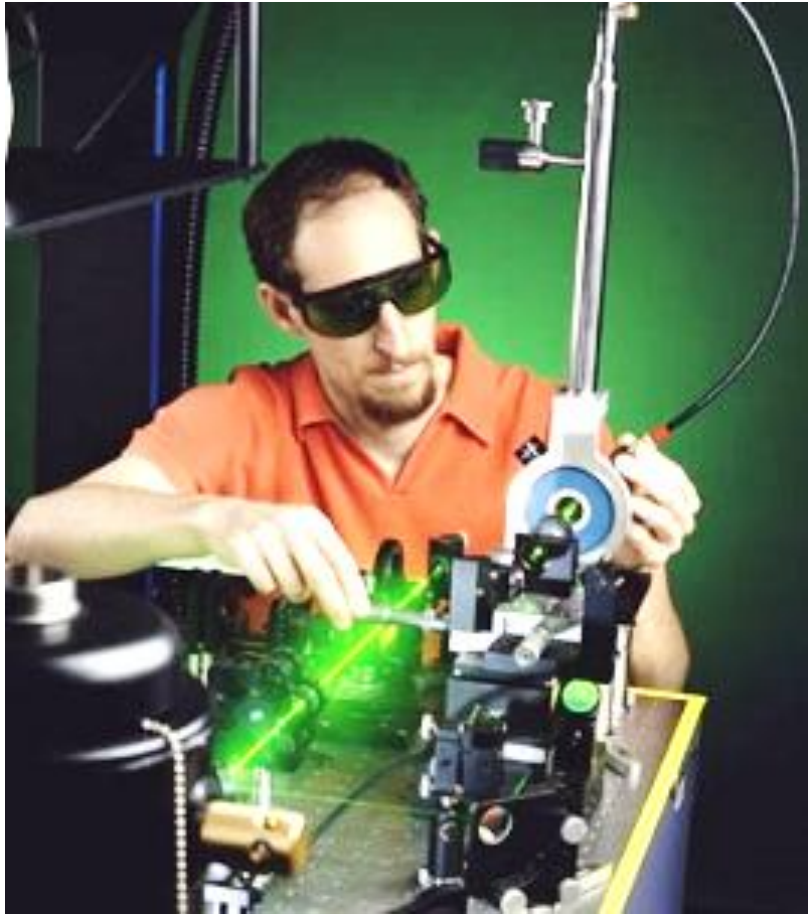
Have These



Manage These

# What About Content?





# But My Users Can't Do That!



- Training
- Champions
- Internal User Groups





# Focus on business!

# Contact Information

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# Questions

Please wait for the **microphone** before asking your questions



State your **name & company**

# Please don't forget to...

Complete the Online Survey for this session



<http://eventmobi.com/emeauc15>



감사합니다

谢谢

Danke

Merci

Gracias

Thank You

ありがとう

Спасибо

Obrigado