



High Availability for a Modern PI System

Presented by Matt Heere

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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

General
OPCInt
Service
Unint
 Failover
 Health Points
 Performance Counters
 Performance Points
 PI SDK
 Disconnected Startup
 Debug
IO Rate
Interface Status

Unint Failover

☒ Enable Unint 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

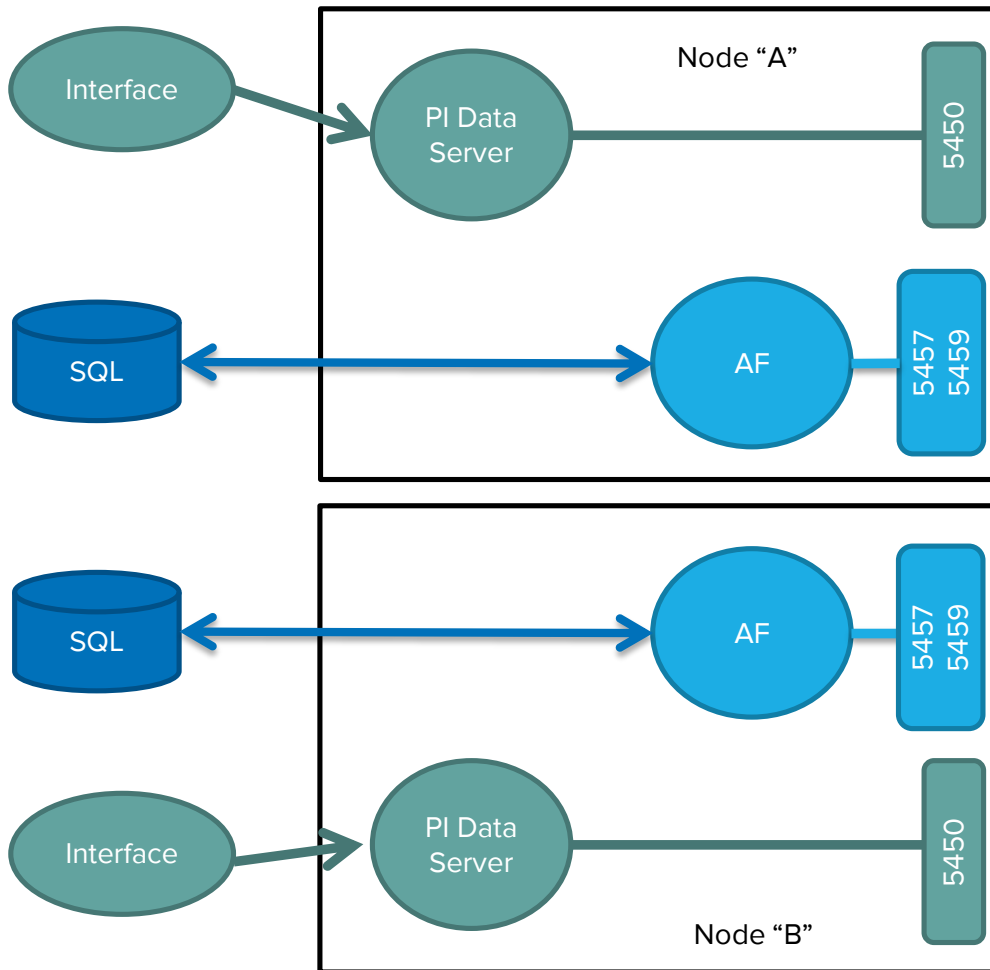
The Server Tier Offers Solutions

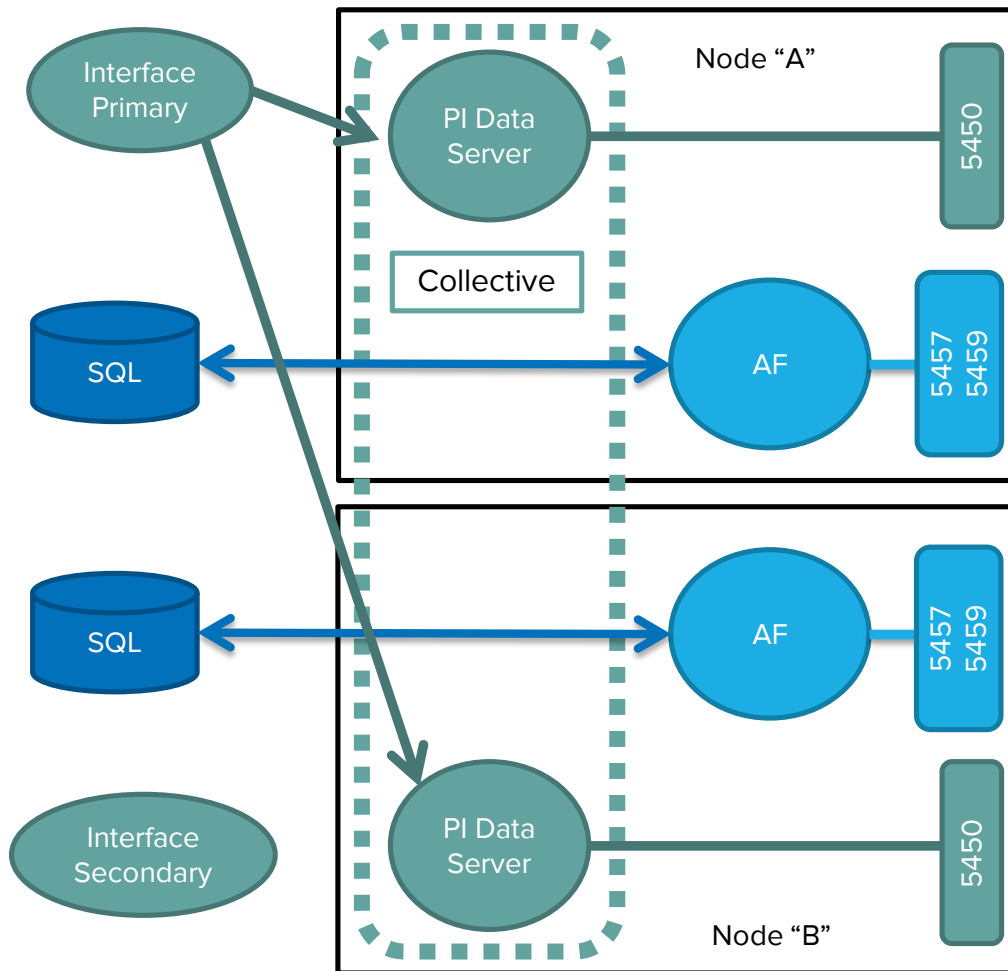
PI Data Servers

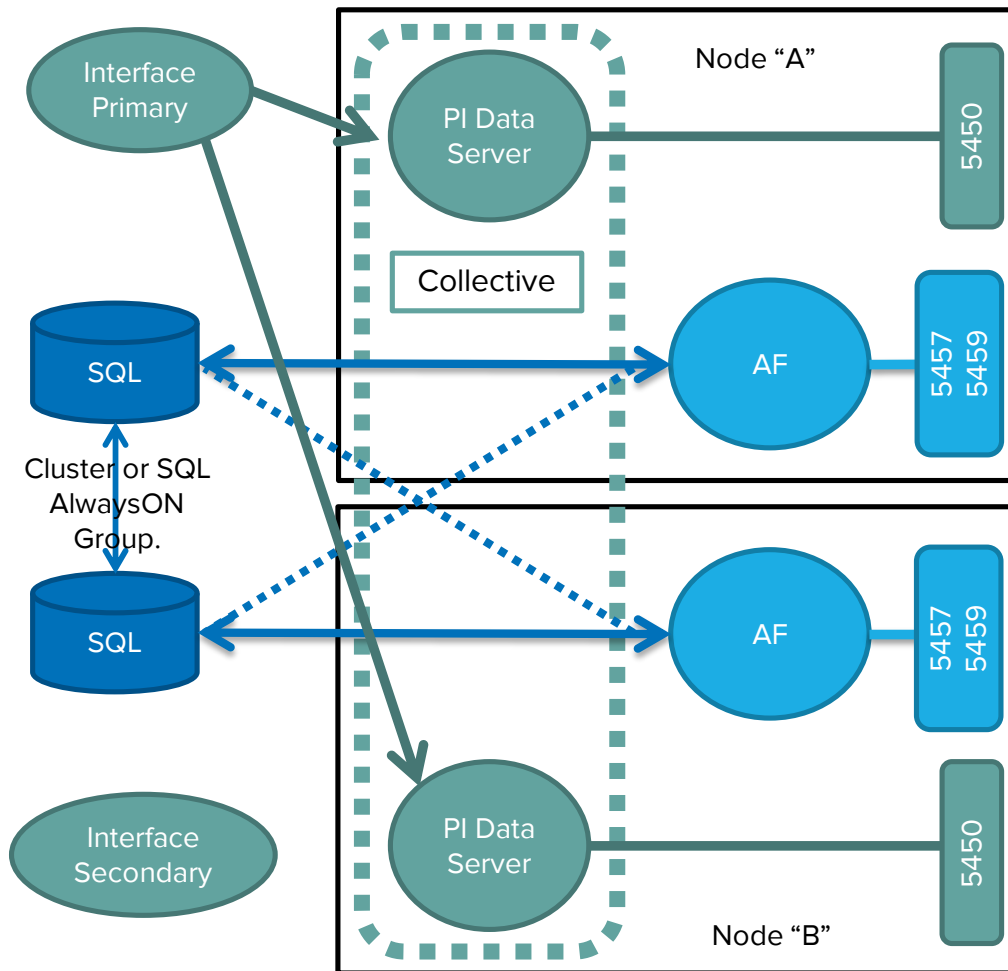
- Collective
 - Fully automatic
 - Seamless to clients
 - Completely independent data stores

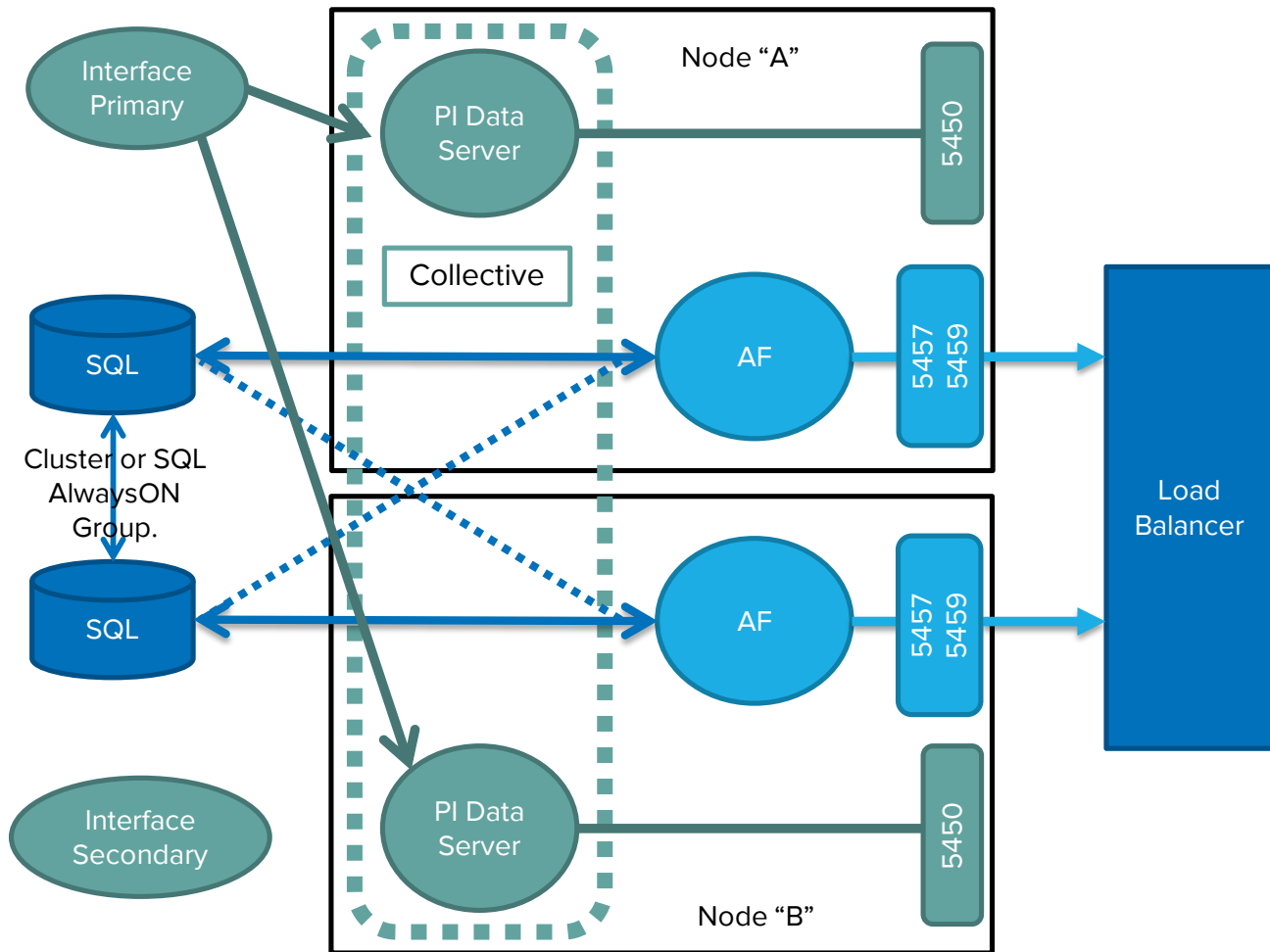
Asset Framework Servers

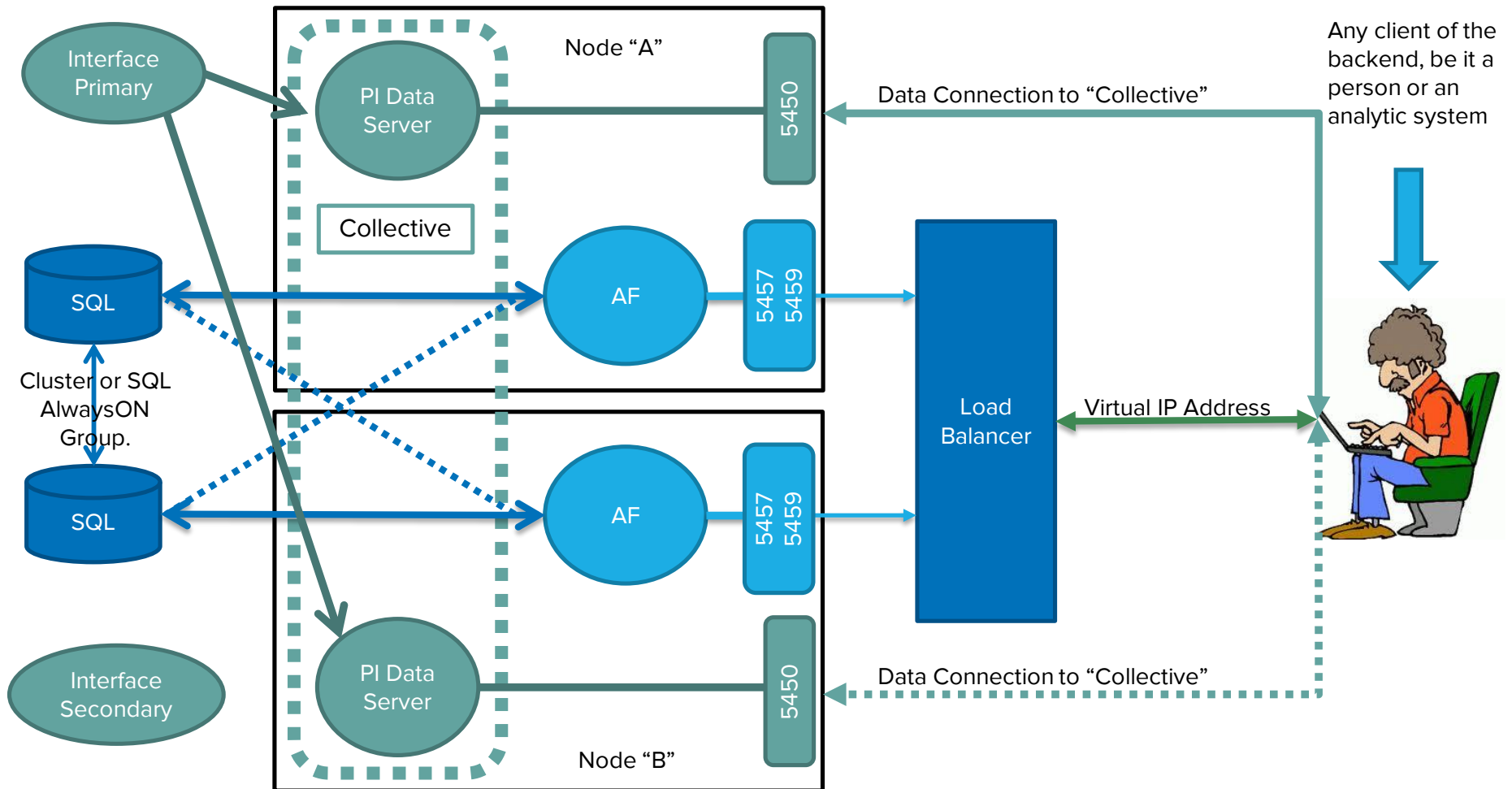
- Network Load Balancing
 - Fully Automatic
 - Seamless to clients
 - Support for HA writes to AF such as Event Frames
- SQL Server HA Needed Too
 - Ask your DBA about “AlwaysOn”











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

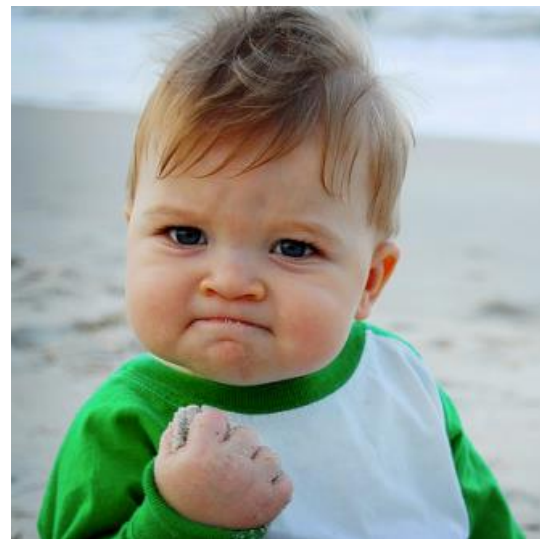
User Domain



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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.

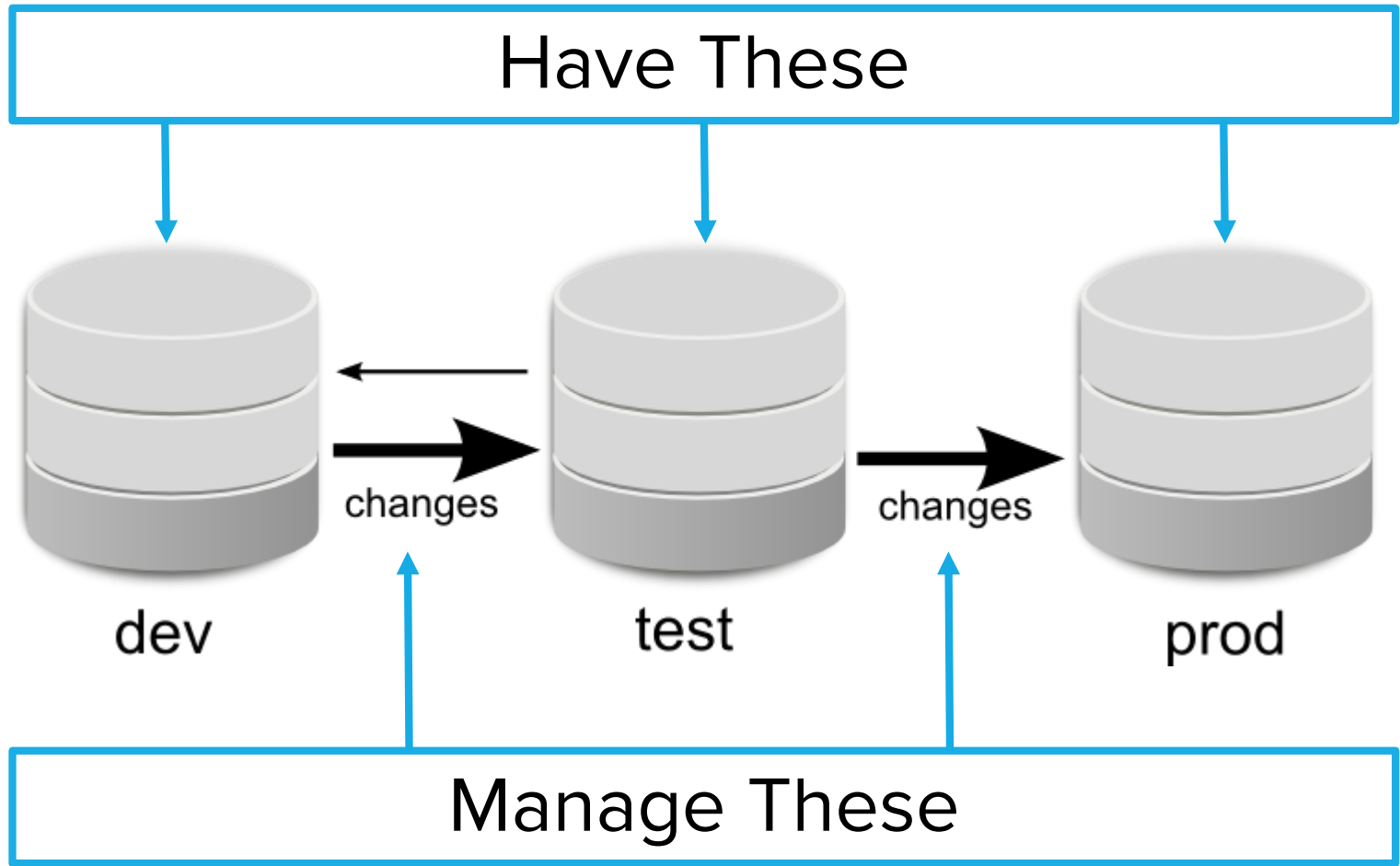
Co-Authors of **The One Minute Manager**

The World's Most Popular Management Method

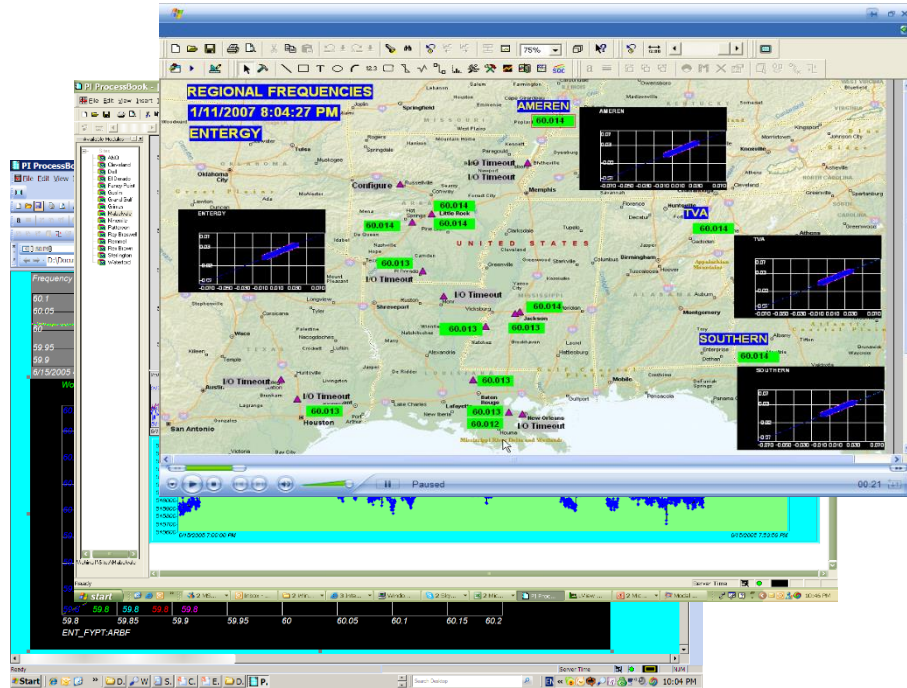


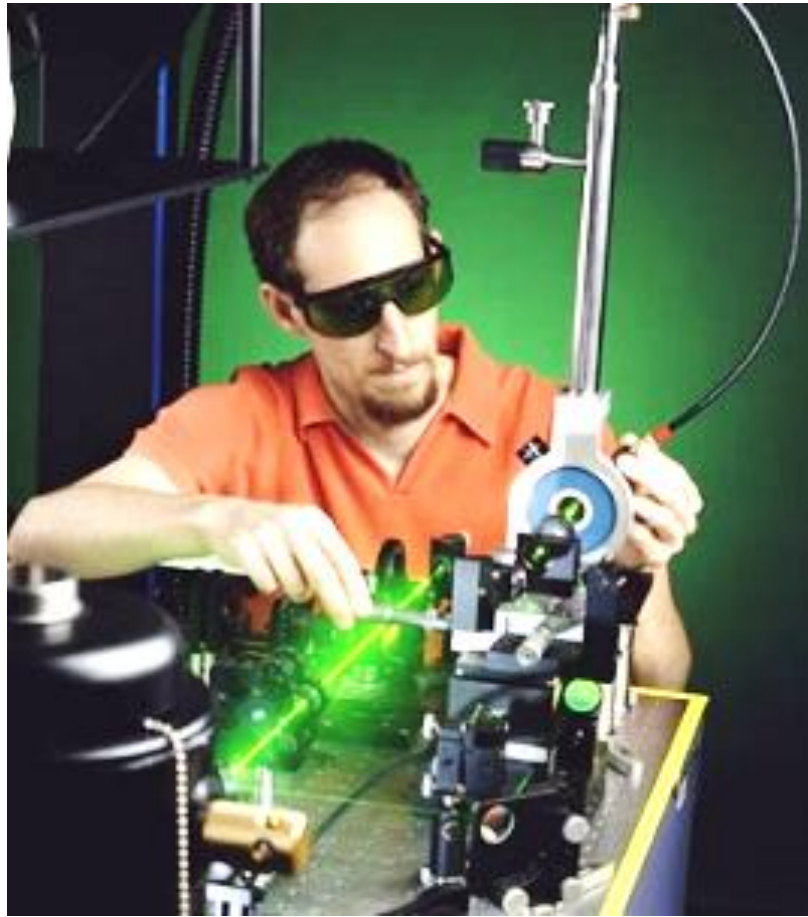
50 Reasons Not To Change





What About Content?





But My Users Can't Do That!



- Training
- Champions
- Internal User Groups



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Questions

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

State your
name & company





THANK
YOU

