

Humana

Cloud innovation and automation

Transforming Health and Well-being with Pivotal Cloud Foundry and Dynatrace



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Agenda

- The Death Star & The DEC
- DevOps Accelerated: Pivotal Cloud Foundry
- DevOps Monitored: Dynatrace
- How Monitoring Happens on PCF
- Nancy's Story
- Looking Ahead: The “110 Plug” and more

Humana's Monitoring Strategy

- Invest in APM, improve Operations with user experience monitoring (UEM), application monitoring, DCRUM
- Train Development on monitoring capabilities with APM specialist certification program



- Establish a physical space for monitoring collaboration with Operations and Development (the “Death Star”)
- Continually showcase new capability and visibility to leadership

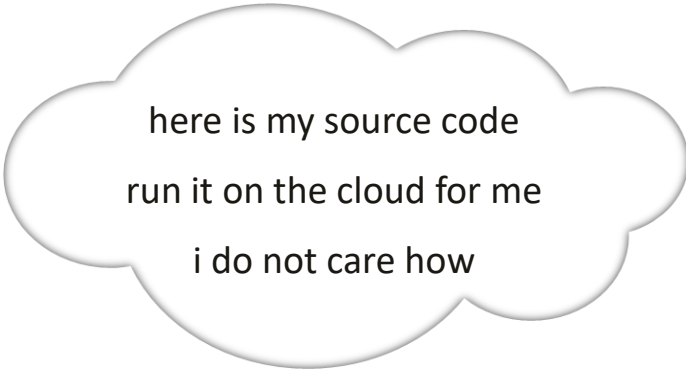
The Digital Experience Center (DEC)

- Healthcare professionals improving peoples' lives through software
- Transforming Humana into a human-centered, tech-driven company
- Developing experience-first healthcare software rapidly, flexibly and iteratively
- Technology incubator for the company, including Pivotal Cloud Foundry (PCF)



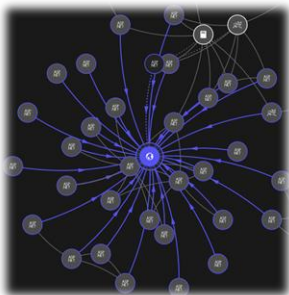
DevOps Accelerated: Pivotal Cloud Foundry (PCF)

- PCF provided a developer-centric platform for the Humana DEC
- Software engineers write & test source code
- Engineers deploy with one command (“cf push”)
- Traditional infrastructure is abstracted by the platform
- Typical targets for DevOps (infrastructure automation) no longer exist

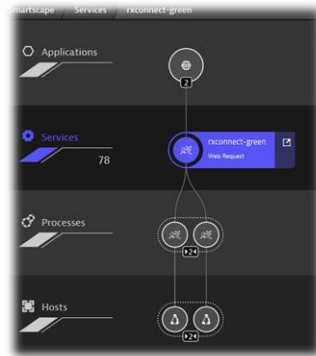


here is my source code
run it on the cloud for me
i do not care how

DevOps Monitored: Dynatrace

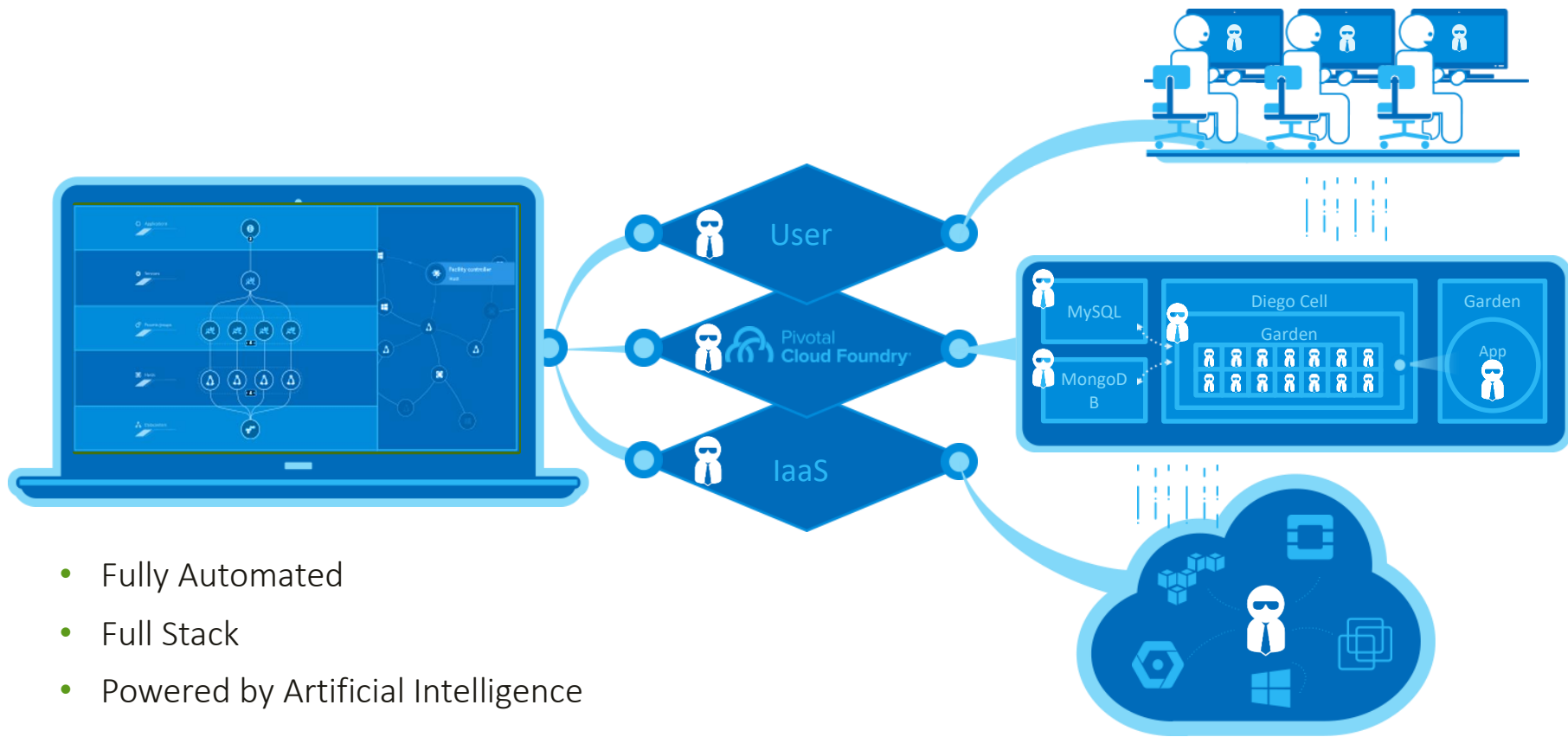


oh and by the way
monitor it for me too
ops stuff is so cool



- Dynatrace provided a platform for full-stack monitoring
- Operations engineers use same interface for legacy host monitoring as for cloud / containerized workload monitoring
- Developers use same tools as Operations and can more quickly work production issues – together
- Humana built Enterprise PCF platform, instrumented with Dynatrace

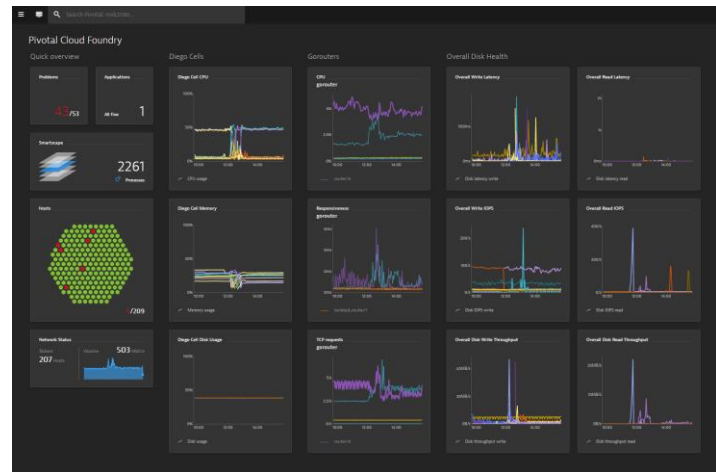
Dynatrace for Cloud Foundry



Nancy's Story

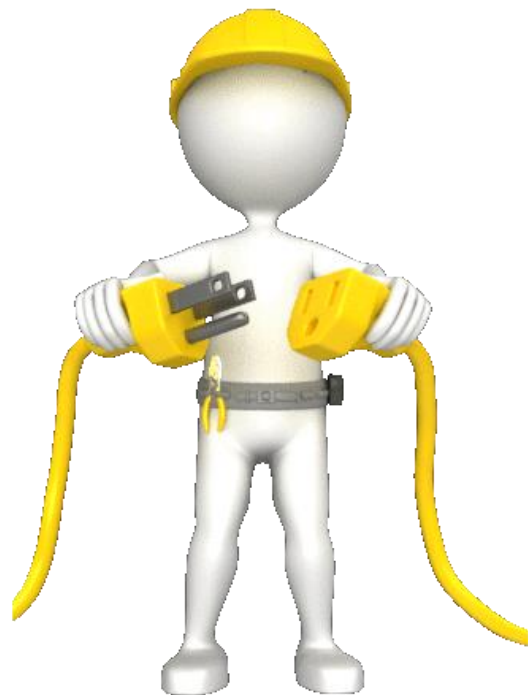
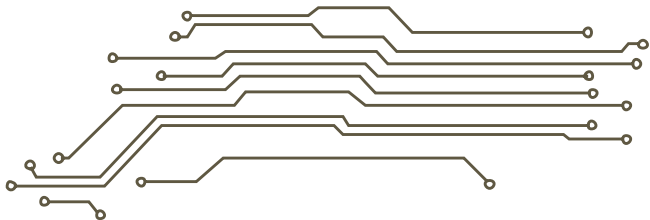
- Nancy is a lightweight framework for building HTTP-based services on .NET Framework/Core
- Member-facing application experienced performance issues, crashes during Humana's sales period
- Dynatrace showed 500 errors with a microservice, errors specifically pointed to Nancy framework
- Operations team began to work issue in a traditional manner (Service-Oriented Architecture)
- Time to restore service delayed as old playbooks traversed
- True root cause identified as a PCF bug with a Buildpack
- Application redeployed with new Buildpack to address root cause

The screenshot shows a Dynatrace dashboard with multiple tables of performance data. The top section displays 'T-Engine Operations' and 'T-Engine Optimizations' with columns for various metrics like CPU, Memory, and Network. Below these are sections for 'T-Engine Operations' and 'T-Engine Optimizations' with columns for various metrics like CPU, Memory, and Network. The data is presented in a grid format with color-coded cells indicating different levels of performance or error rates.



Looking Ahead: The “110 Plug” and more

- Mature the “110 Plug” to make monitoring easy
- Continue to instrument Enterprise PCF & other “cloud-like” and containerized workload
- Put Dynatrace in the hands of software engineers
- Drive full-stack monitoring & tool consolidation
- Integrate with High Performance SDLC and Continuous Delivery pipelines



Questions?

Humana
Thank you

