Agile Dev
Better Software
DevOps WEST
A TECHWELL EVENT

DW3

DevOps Case Study
Wednesday, June 6th, 2018, 1:30 PM

How DevOps Drives Product Innovation

Presented by:

Shivakumar Gopalakrishnan
Varian Medical Systems

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Shivakumar Gopalakrishnan

Varian Medical Systems

Shivakumar Gopalakrishnan is an architect for cloud-native applications at Varian Medical Systems, with more than fifteen years of experience in medical imaging and health care bioinformatics applications. He is always interested in the next shiny object (currently AI, voice recognition, big data, and the IoT for health care DevOps and operations) that will help in delivering impactful changes rapidly.

How DevOps Drives Product Innovation

Using DevOps To Become a Learning Organization

Shivakumar Gopalakrishnan

DevOps West

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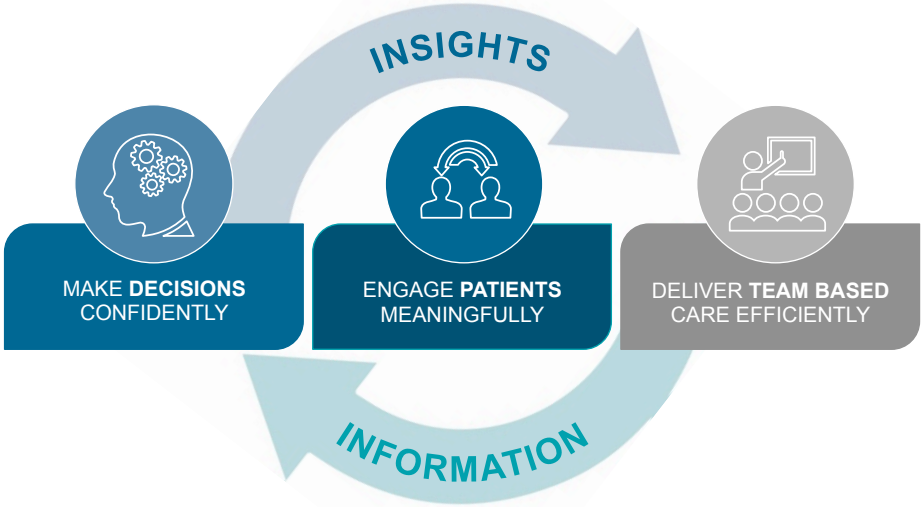
360 Oncology - MAKE CANCER CARE SIMPLER AND SMARTER



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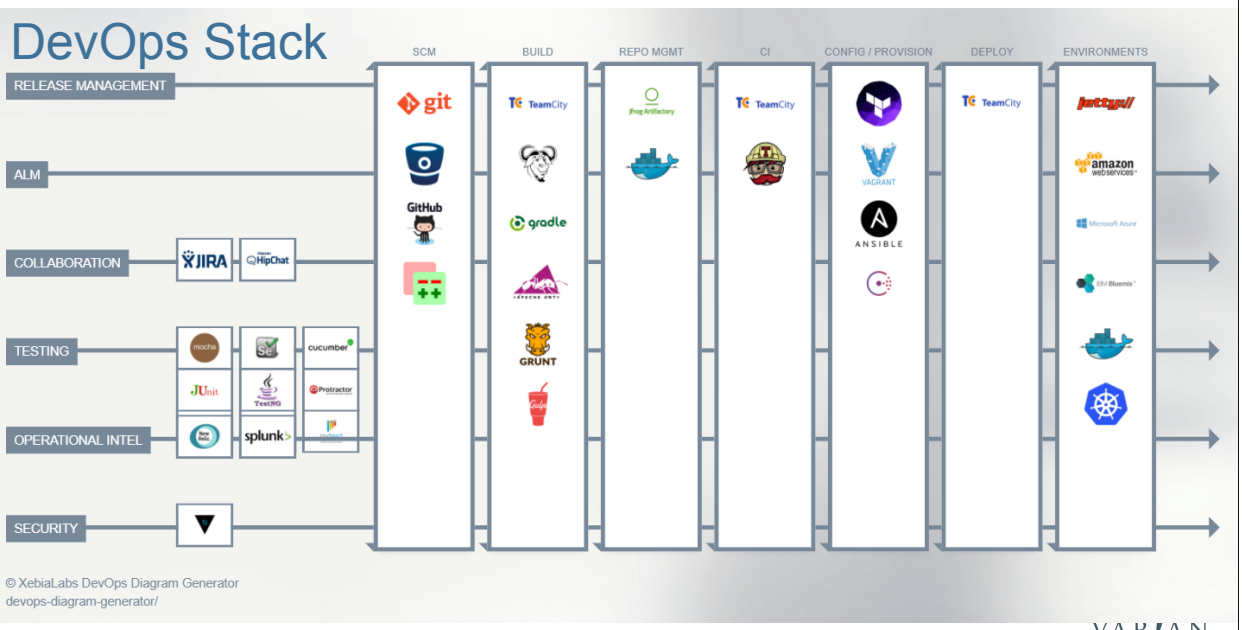
DevOps Stack



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Learning Culture

https://www.slideshare.net/lucamerolla/the-learning-organization-67941051

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Source: https://seanwes.com/2012/always-make-new-mistakes/

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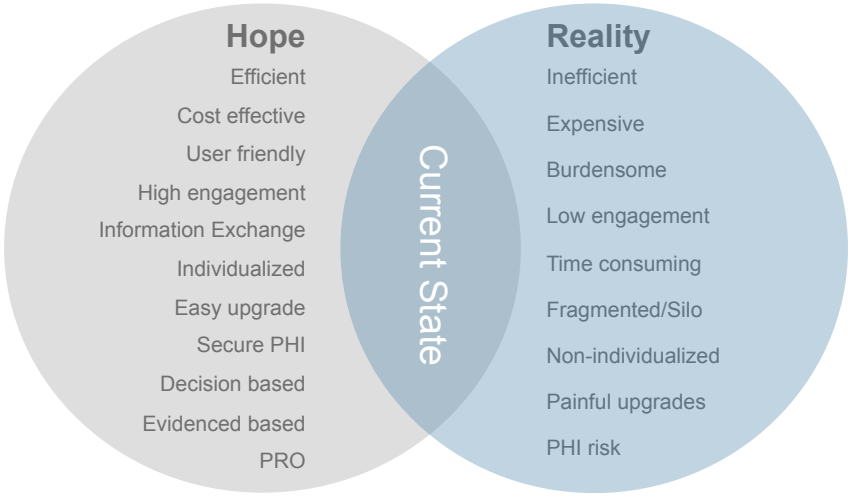
Computerization of medicine



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aka Scientific Method

Source: https://www.startupvitamins.com/products/startup-canvas-experiment-fail-learn-repeat

Multiple experiments – infinite learning possibilities

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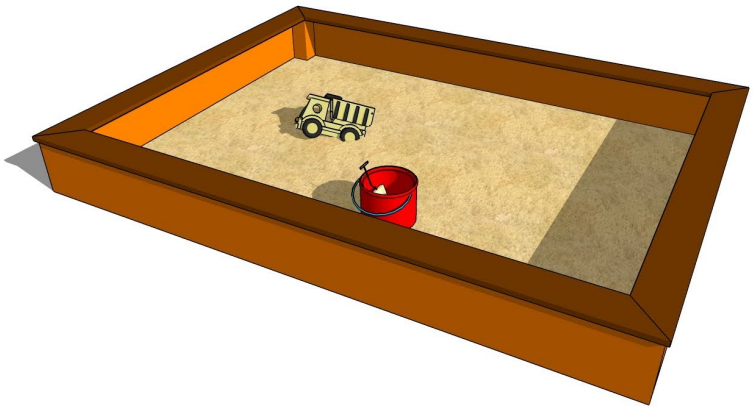
Safe environment for developers



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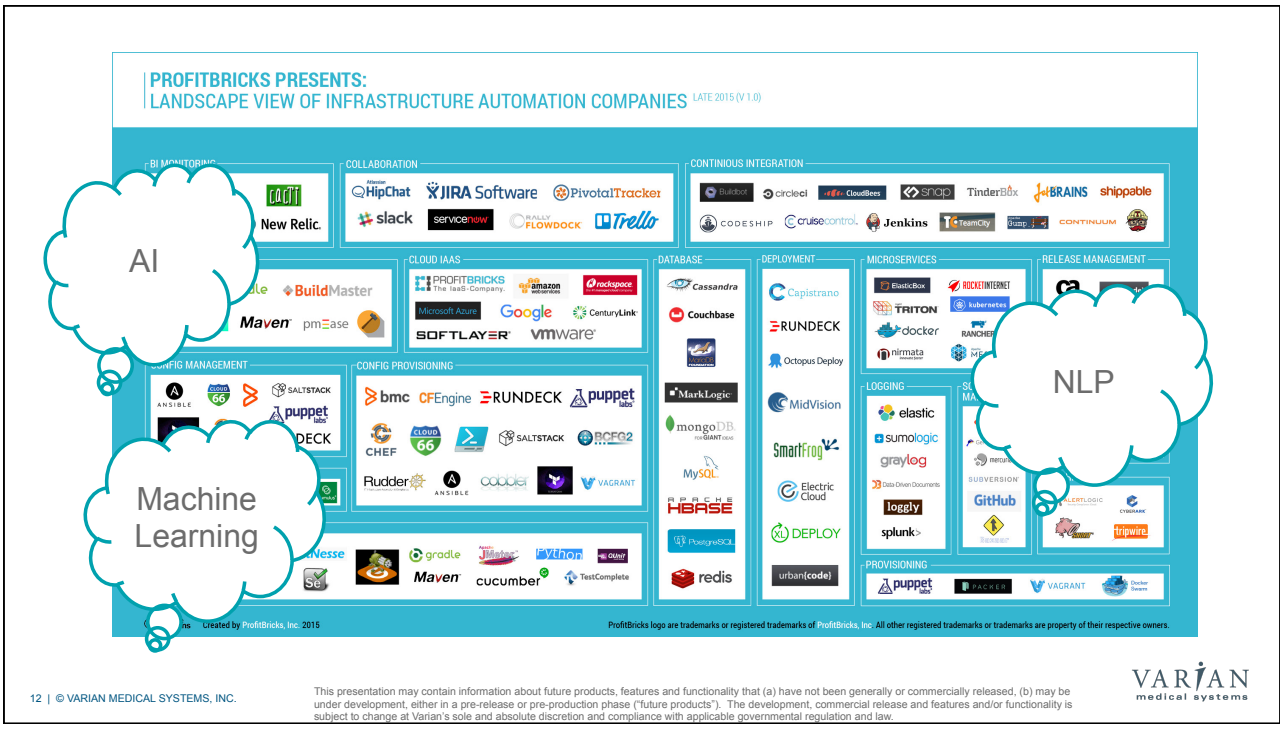

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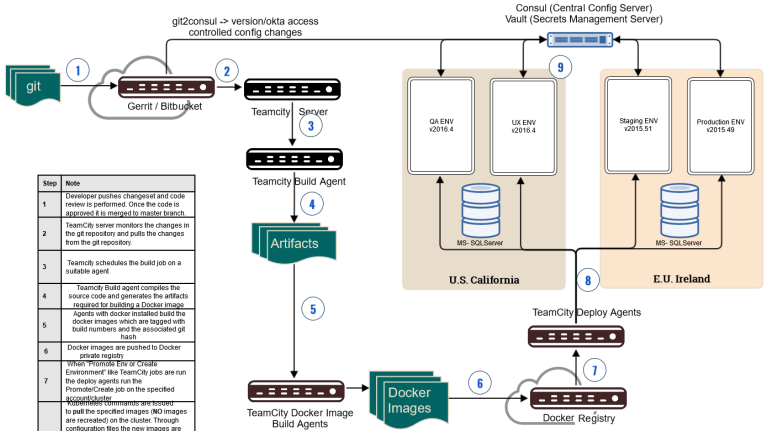
Deployment Process and Tools



Step	Note
1	Developer pushes changeset and code review is performed. Once the code is approved it is merged to master branch
2	TeamCity server monitors the changes in the git repository and pulls the changes from the git repository.
3	Teamcity schedules the build job on a suitable agent
4	Teamcity Build agent compiles the source code and generates the artifacts required for building a Docker image
5	Agents with docker installed build the docker images which are tagged with build numbers and the associated git hash
6	Docker images are pushed to Docker private registry
7	When "Promote Env or Create Environment" like TeamCity jobs are run the deploy agents run the Promote/Create job on the specified account/cluster
8	Kubernetes commands are issued to pull the specified images (NO images are recreated) on the cluster. Through configuration files the new images are deployed on the specified account/cluster. Since flyway is used the code takes care of migrating the database to the required version.
9	Site-specific configuration / secrets retrieved from consul/vault respectively are applied to environments. Secrets are stored securely using vault and are controlled by revocable leases. Entries in consul are controlled by using git as the source repository

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H O W ?

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GOOGLE SPRINT

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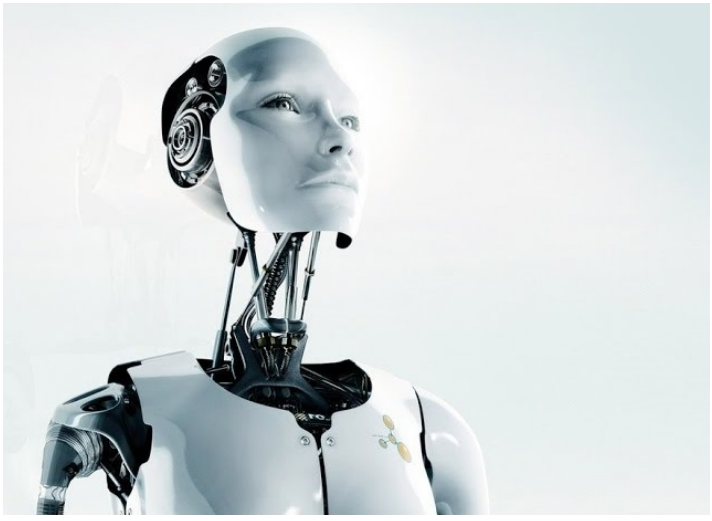
Chatbot



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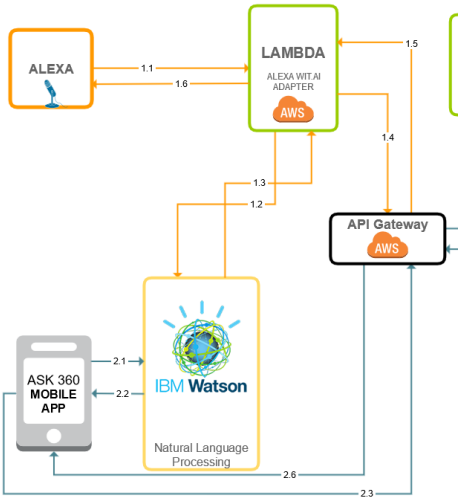
DevOps Chatbot



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Demonstration of

- Micro services
- Event based integration
- Chatbot interfaces (Alexa, IBM Watson)
- SSO for Native + Web UI
- Composable UIs
- Safely experiment new technologies

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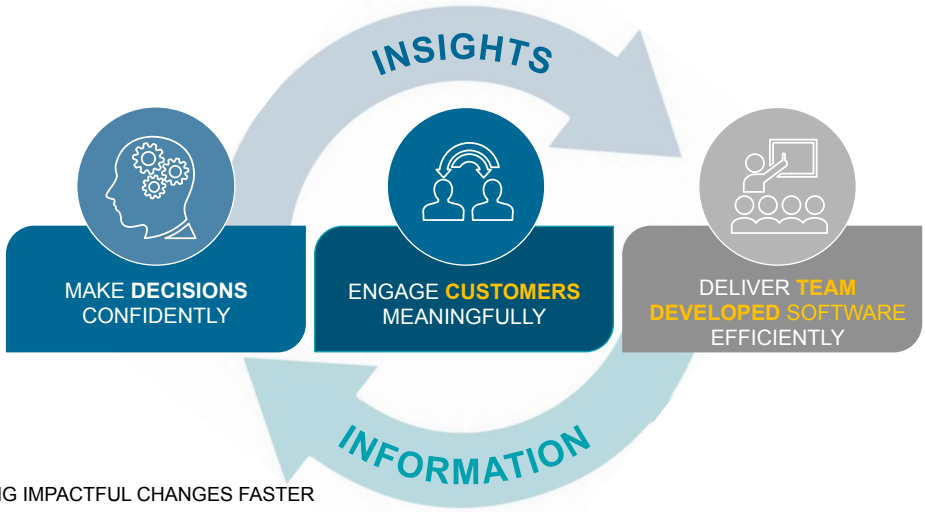
Happy Developer = High performant Org



RELEASING IMPACTFUL CHANGES FASTER

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