



DevOps for Defense

November 2020

**Welcome to...
The Digital Transformation!**

JD Black

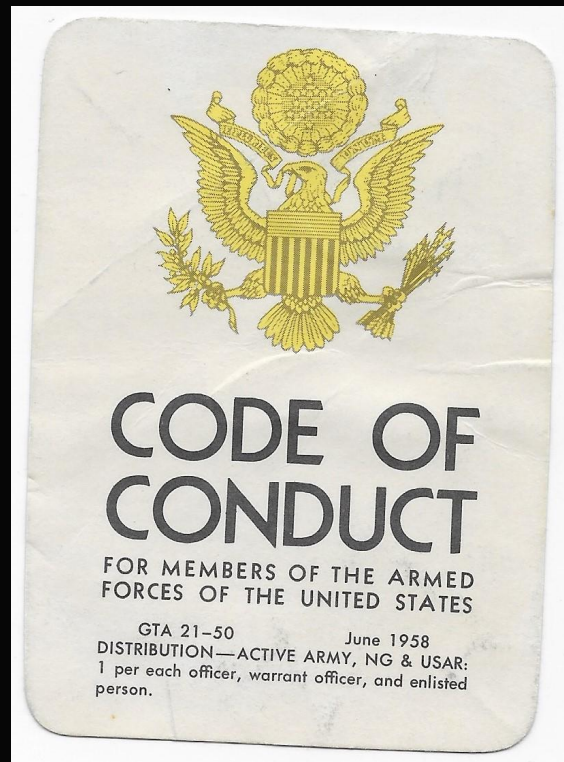
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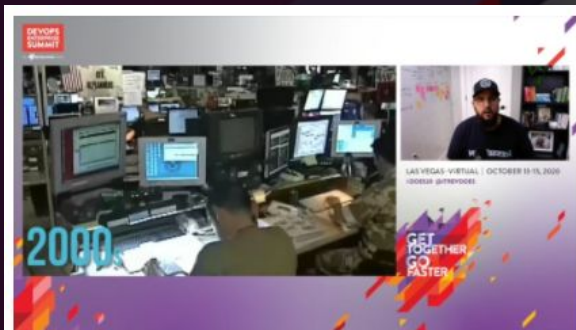
<https://devopsfordefense.org>
<https://www.meetup.com/DevOps-for-Defense/>
<https://github.com/jondavid-black/DevOpsForDefense>
devopsfordefense@gmail.com
<https://twitter.com/devops4defense>

DevOps for Defense Meetup: Code of Conduct

- UNCLASSIFIED ONLY!!!!
- Treat each other with respect and professionalism.
- Do not talk about private, sensitive, or proprietary work.
- Do talk about your experiences, needs, desires to improve work in our domain.
- Do share your thoughts.
- Do learn from others.
- Do mute yourself while others are speaking!



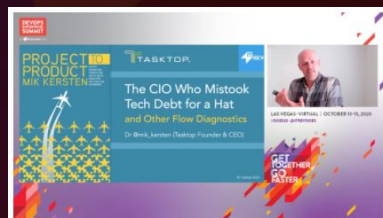
DevOps Enterprise Summit 2020 - JD's Highlights



The Air Force's Digital Journey in 12 Parsecs or Less (Las Vegas 2020)

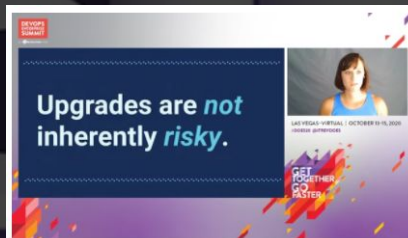
Adam Furtado
Chief of Platform
Kessel Run, United States Air Force

Lauren Knausenberger
Deputy Chief Information Officer
United States Air Force



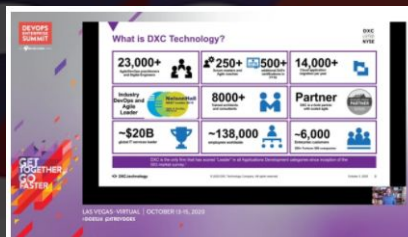
The CIO Who Mistook Tech Debt for a Hat and Other Flow Diagnostics (Las Vegas 2020)

Dr. Mik Kersten
Founder and CEO
Tasktop



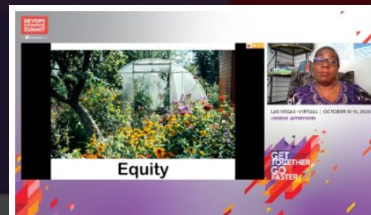
The Past, Present, and Future of Rails at GitHub (Las Vegas 2020)

Eileen M. Uchitelle
Principal Software Engineer
GitHub



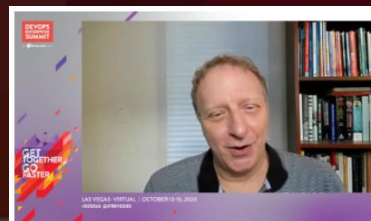
Attacking the Fuzzy-Front-End of Value Streams (Las Vegas 2020)

John Ediger
DevOps Transformation Principal and Distinguished Technologist
DXC Technology



Creating Inclusive Organizations (Las Vegas 2020)

Dr. J. Goosby Smith
Assistant Provost Diversity, Equity & Inclusion, Associate Professor Management, Baker School of Business, and Director of Truth Racial Healing and Transformation (TRHT) Center The Citadel



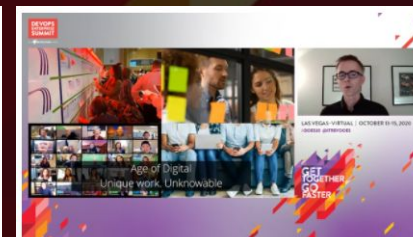
Busting Through Bureaucracy with the Monkey, the Razor, and the Sumo Wrestler (Las Vegas 2020)

Mark Schwartz
Author
The (Delicate) Art of Bureaucracy



Deploy more. Sleep better. The Walmart DevOps Journey. (Las Vegas 2020)

Bryan Finster
Value Stream Architect, Walmart DevOps Dojo
Walmart



Leading for Better Value Sooner Safer Happier (Las Vegas 2020)

Jonathan Smart
Partner, Enterprise Agility
Deloitte

Focus on Outcomes, Why These Outcomes are Important, and How You'll Measure Success

What is Digital Transformation?

“Digital transformation is the integration of digital technology into all areas of a business, fundamentally changing how you operate and deliver value to customers. It's also a cultural change that requires organizations to continually challenge the status quo, experiment, and get comfortable with failure.”

<https://enterprisersproject.com>

“Digital transformation marks a radical rethinking of how an organization uses technology, people and processes to fundamentally change business performance.”

George Westerman, MIT principal research scientist and author of
Leading Digital: Turning Technology Into Business Transformation



DevSecOps / Dev*Ops
is the
Digital Factory
of the
Digital Transformation

Take the Red Pill - The New Digital Acquisition Reality

Dr. Will Roper

Assistant Secretary of the Air Force for Acquisition, Technology and Logistics

Government will:

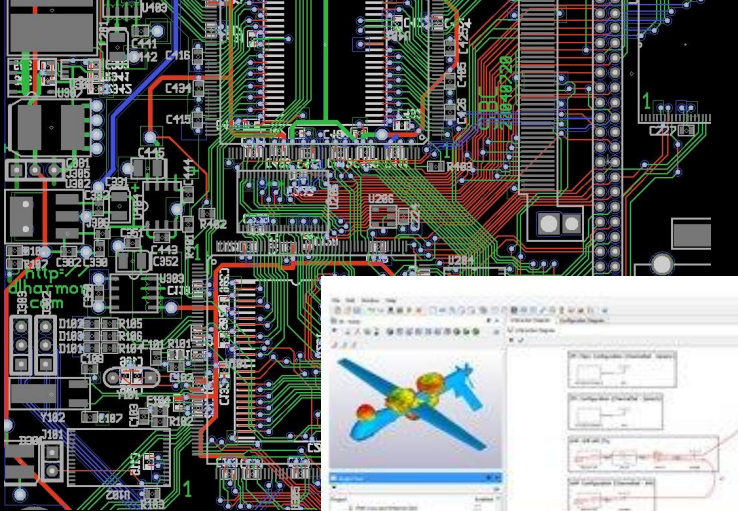
1. Own, Share, and Furnish the Tech Stack
2. Warp from Tech Stack to Edge Effortlessly
3. eCreate before you Aviate

Rather than building better systems, it builds systems better
- opening doors to faster design, seamless assembly, and easier upgrades.



eCreate?

Electrical, Thermal

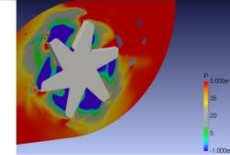


Mechanical, Aerodynamic, Thermal

CFD Post Processing



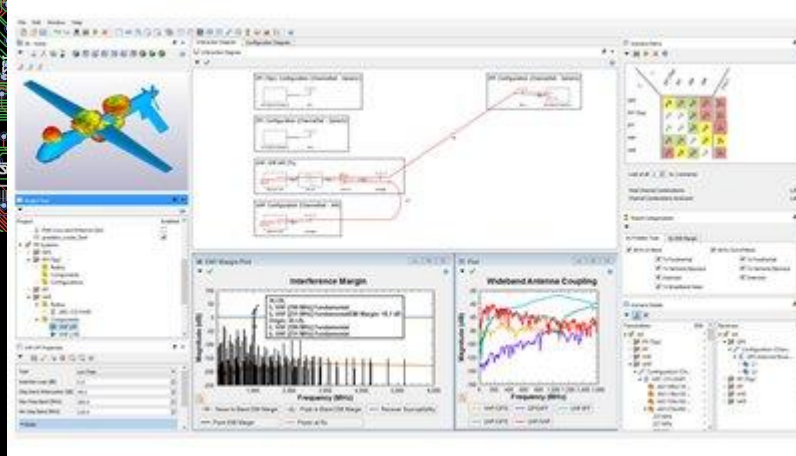
SAUBER Aerodynamics



TOTALSIM UK EXPERTS IN COMPUTATIONAL FLUID DYNAMICS



RACE TECH International Motorsport Engineering



RF, Communications, Radar

...and many more.

Digital Twin

Digital twin refers to a digital replica of potential and actual physical assets (physical twin), processes, people, places, systems and devices that can be used for various purposes. The digital representation provides both the elements and the dynamics of how a system operates and throughout its life cycle.

Digital twins have two important characteristics.

- Each definition emphasizes the connection between the physical model and the corresponding virtual model or virtual counterpart.
- This connection is established by generating real-time data using sensors.

“We must decide when a model becomes so realistic we accept it as a full substitute for reality.”

Dr Will Roper, *Take the Red Pill*

Isn't all this just a “Software Thing”?

Technology and automation

- Version control
- Deployment automation
- Continuous integration
- Trunk-based development
- Test automation
- Test data management
- Shift left on security
- Continuous delivery
- Loosely-coupled architecture
- Architect for empowered teams

@nicolefv



Process

- Gather and implement customer feedback
- Work in small batches
- Lightweight change approval process
- Team experimentation

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Measurement and Monitoring

- Visual management
- Monitoring for business decisions
- Check system health proactively
- WIP limits
- Visualizations

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Culture

- Westrum organizational culture
- Climate for learning
- Collaboration among teams
- Make work meaningful
- Transformational leadership

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It's a “Digital Engineering Thing”...Software is your team's most powerful tool in the Digital Transformation so it is imperative that you use it effectively.

But Transformation is Hard...How do you transform and survive?

- 1. Set a clear “North Star”. Know what you’re transforming into and why...have a reason that everyone can understand and get behind.**
 - Recognize how hard this is...and set expectations accordingly.
 - Transformation usually involves multiple challenging strategic initiatives and substantial changes in organizational and individual behavior.
 - No Corporate Speak - “We are transforming into a digital first organization ready for the challenges of the 21st century, exploiting our ecosystem of partners in order to deliver agile customer centric innovations...something, something, something...SYNERGY!”
- 2. Establish principles, guard rails, and priorities you can apply now that lead you to your desired outcome.**
 - A good principle must give real people what they need to make a decision in a complex environment without holding 17 meetings and arguing.
 - Test your principle...is there a reasonable opposite? Bad example: “I want to delight my customer” -> “I want to enrage my customer”...really?
- 3. Hack the culture to make the change you want real...now.**
 - Don’t try to boil the ocean...focus on small hacks you can do now.
 - Be courageous...not foolish.
 - A systemic obstacle cannot be hacked!



Mary Mesaglio
Distinguished VP Analyst

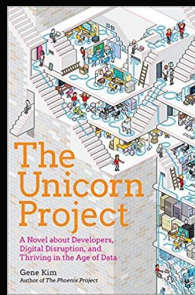
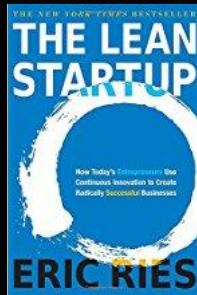
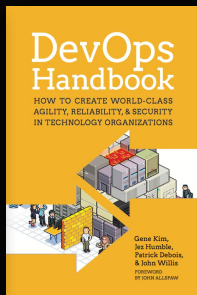
17 years at Gartner , 22 years industry experience
Spain

<https://youtu.be/WERnFjdy8dY>

DevOps Resources

<https://devopsfordefense.org/resources/>

Books / Publications:



<https://www.meetup.com/DevOps-for-Defense/>
<https://github.com/jondavid-black/DevOpsForDefense>
devopsfordefense@gmail.com

Conference Presentations (YouTube):

- DevOps Enterprise Summit (DOES)
- IT Revolution
- Velocity
- GoTo

