Ciber DevOps Efficiency Assessment

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- DevOps is enabled by continuous improvement, which uses ongoing measurements to drive changes that impact key processes.

- The Ciber DevOps Efficiency Assessment helps organizations evaluate their current DevOps capabilities and make informed choices about which capabilities to adopt and improve.

- The assessment sets a baseline for the continuous improvement cycle to drive full DevOps adoption.

Assessment Foundations

- Builds on lean software, Theory of Constraints, and operations research to drive toward efficiencies for software development.

- Leverages the 24 capabilities defined in the book *Accelerate: The Science of Lean Software and DevOps* by Nicole Forsgren, Jez Humble, and Gene Kim.*

- Evaluates the efficiency of each capability's behavior to identify the next increment of process improvement.

* These authors have been researching and describing DevOps for nearly a decade.

24 Capabilities Defined in *Accelerate*

Continuous Delivery

- Version control
- Deployment automation
- Continuous integration
- Trunk-based development
- Test automation
- Test data management
- Shift left on security
- Continuous Delivery (CD)

Product and Process

- Customer feedback
- Value stream
- Working in small batches
- Team experimentation

Architecture

- Loosely coupled architecture
- Empowered teams

Lean Management and Monitoring

- Change approval processes
- Monitoring
- Proactive notification
- WIP limits
- Visualizing work

Cultural

- Westrum organizational culture
- Support learning
- Collaboration among teams
- Job satisfaction
- Transformational leadership

Open-Source DevOps Efficiency Model

Architecture Capabilities §

9: Loosely Coupled Architecture §

Level	Qualifier
1	Monoliths and systems tightly coupled via point to point data transfers. Downstream systems must change when upstream systems modify data structures.
2	Service Orientation for systems and encapsulation of systems. Abstraction of data sources are emergent.
3	Use of APIs for communication between systems. Messages for independent events.
4	Abstractions of data vs business rules vs presentation layers.
5	Use of patterns for design of distribute systems, .e.g. sagas for long running transactions.

10: Empowered Teams §

Level	Qualifier
1	Teams are told what to work on and have their schedules set by outside authorities.
2	Participate in decisions related to schedule and tooling. Write user stories and define requirements.
3	Flexibility to choose tools that fit the desired ecosystem. Have reasonable slack time to deal with unplanned work.
4	Chooses when to release software. Interact with stakeholders and sponsors.
5	Can raise issues and experiment with new features.

Product And Process Capabilities §

11: Customer Feedback §

Level	Qualifier
1	None.
2	Ad-hoc gathering of customer feedback ; late feedback, as from a UAT phase.
3	Regularly gathering customer metrics.
4	Actively seeking customer insights on quality and features ; Feedback sought early in the

Sample from: http://devopsefficiency.com/

- Ciber and HTC support the open-source DevOps Efficiency Matrix which identifies key behaviors driving efficiency in DevOps processes.

- The matrix describes and ranks the behaviors in each capability by their efficiency level.

- Organizations can use the matrix to see which behavior should be adopted and which should be phased out.

- Ciber and HTC share the matrix via open source to ensure that it works as best as possible.

Assessment Methodology

- Identifies four to seven capabilities jointly selected with a client's environment where there are more opportunities for impactful improvement.

- Evaluates the efficiency of the behaviors to identify the next increment of process improvement.

- Prepares a report on the tactical next steps that will improve the effectiveness of their delivery and sustainment processes.

- There is no need for an ultimate "to-be" architecture, because the state of the art is changing all the time.

Behavior Evaluation

- The assessment identifies the efficiency of the selected capabilities on a 1-5 rating scale.
- The rating is based on the behaviors and processes the client uses and the known efficiency level of those behaviors.
- The report provides recommended tools and processes which will increase the efficiency in that capability.
- The report prioritizes the recommended implementation approach.

What the Assessment Involves

- High level DevOps overview.
- Review with technology management drivers to assess development needs.
- Interviews with stakeholders to discuss collaboration and engagement processes.
- Discovery of existing process metrics and baselines.
- Hands-on demonstration of development processes and tools by the development teams.

Assessment Timeline

Occurs in three phases:

- Week one: Assessment planning, logistics, and preparation done remotely.

- Week two: A week on site with development teams, stakeholders, and management researching development processes and collaboration.

- Week three: Report and planning for process change and tool implementation.

Assessment Deliverables

- Written report on assessed capability areas

- Ranking and description of efficiency in each capability

- Tactical roadmap to increased efficiency in key capabilities that can be adopted in four to eight months

- Roadmap designed around existing organizational culture

- Clear descriptions of why the changes will provide the increased efficiency

Background Reading

- ***Theory of Constraints***
- Goldratt, Eliyahu Moshe, et al. ***The Goal: A Process of Ongoing Improvement***. North River Press, 2014.
- Kim, Gene, et al. ***The Phoenix Project***. IT Revolution Press, 2018.
- Kim, Gene, et al. ***The DevOps Handbook***. IT Revolution Press, 2016.
- ***Manifesto for Agile Software Development*** https://agilemanifesto.org/
- ***User Centered Design***
- Norman, Don, ***The Design of Everyday Things***. Basic Books, 2013.
- ***Toyota's Management History*** https://blog.deming.org/2016/10/toyotas-management-history

Other DevOps Offerings
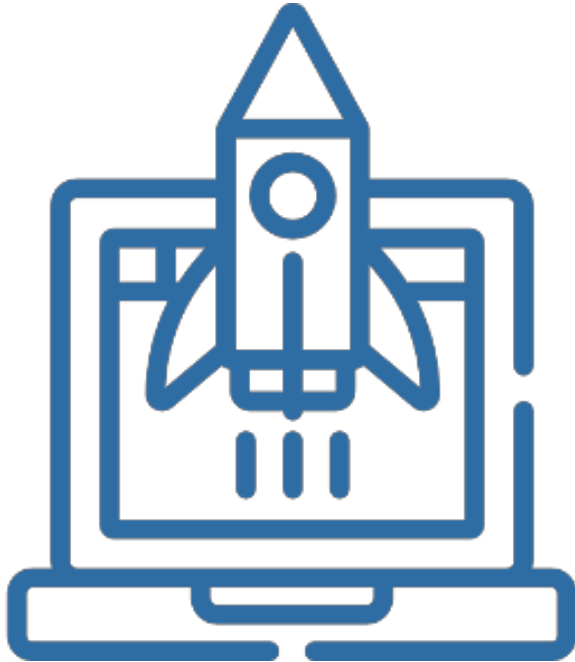
DevOps Dojo

- The DevOps Dojo program is a two-week DevOps academy course that focuses on the best processes and techniques, with hands-on exercises using a DevOps Training Range.

DevOps Implementation

- Our DevOps implementation service includes installation and setup of a DevOps software factory or software factory components based on client environment and need.

Thank you

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