A Heart of EXIN DevOps Master

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Agenda

- Outline of DevOps
  - Definition
  - Process
  - Roles
  - Basic knowledge (Body of Knowledge)
- Design of the certification program
  - Design philosophy and concept
  - Characteristics
  - Testing knowledge (Target)
  - Sample Exam
- Consideration for success DevOps in enterprise
  - CALMS model

Outline of DevOps

I. Definition
II. Process
III. Roles
IV. Basic knowledge (Body of Knowledge)

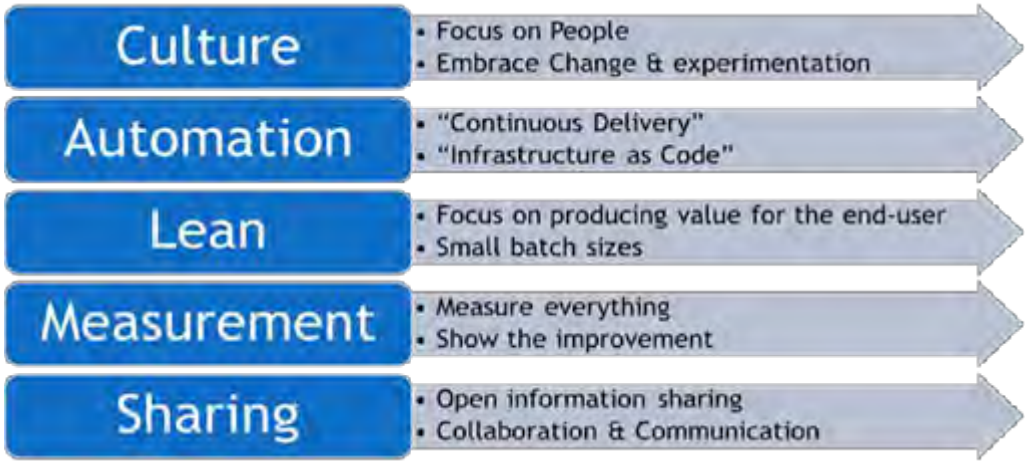

THE DEVOPS 2.0 TOOLKIT
VIKTOR FARCIC
DevOps Made Simple
What is DevOps?
Ansible for DevOps
The Phoenix Project
DevOps Automation Cookbook
DevOps Handbook
CONTINUOUS INTEGRATION
Learning Continuous with Jenkins
Continuous Testing for IT Leaders
LEADING THE TRANSFORMATION
Effective DevOps
DevOps
Continuous Delivery
DevOps on the Microsoft Stack
DevOps for VMware Administrators
Automate DevOps with Otto
Lean DevOps
LEAN ENTERPRISE
How High Performance Organizations Innovate at Scale
DEVOPS
DevOps
for Developers
DevOps on Cloud
DevOps For Beginners
Continuous Delivery and DevOps : A Quickstart Guide
DevOps with Windows Server 2016
Chaos

Definition of DevOps

- IT Services supply chain
  - Visualize every steps in process
  - Synchronized entire process
    - Set feedback loop
  - Pull system with One (single) piece flow
    - Create value stream map
- Share common business goal and value
- Measure business outcomes
- Change organizational culture
  - Change working behavior
  - Work-Life balance

John Willis, Damon Edwards, and Jez Humble advocated at Devopsdays 2010, Mountain view, CA

CALMS model



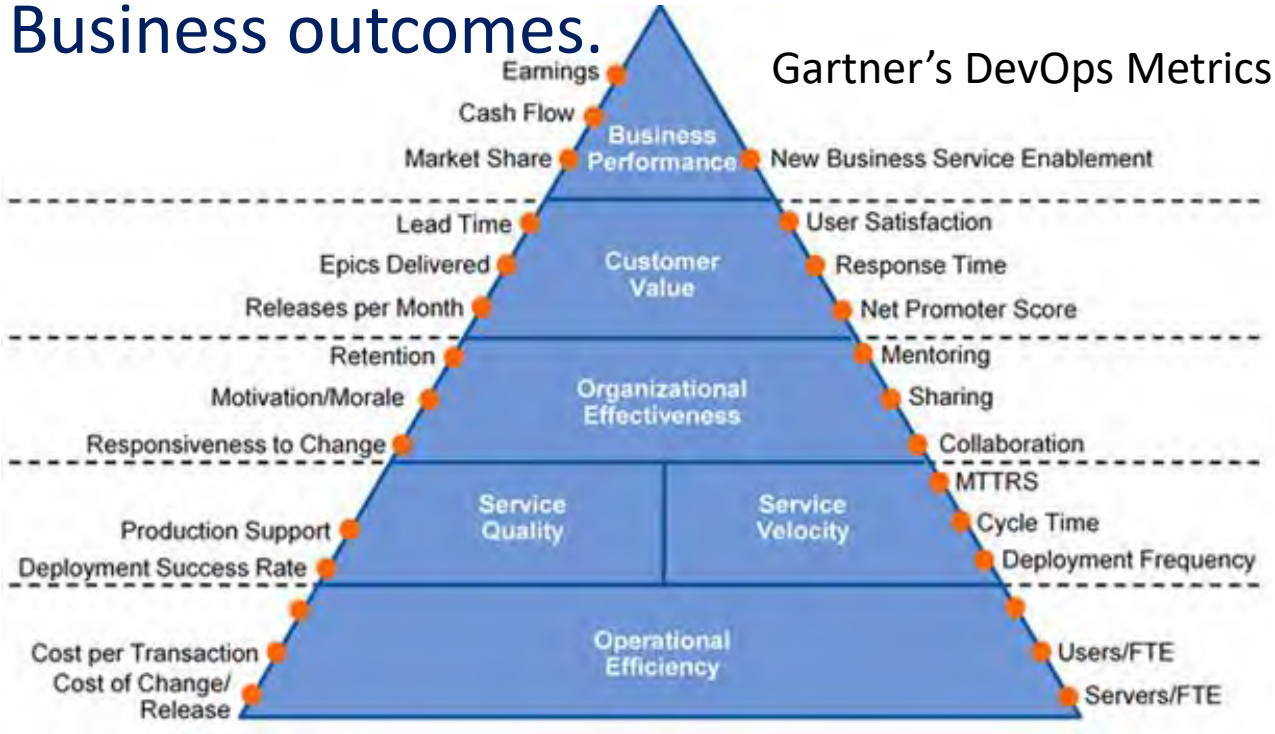
The Final Goal of DevOps

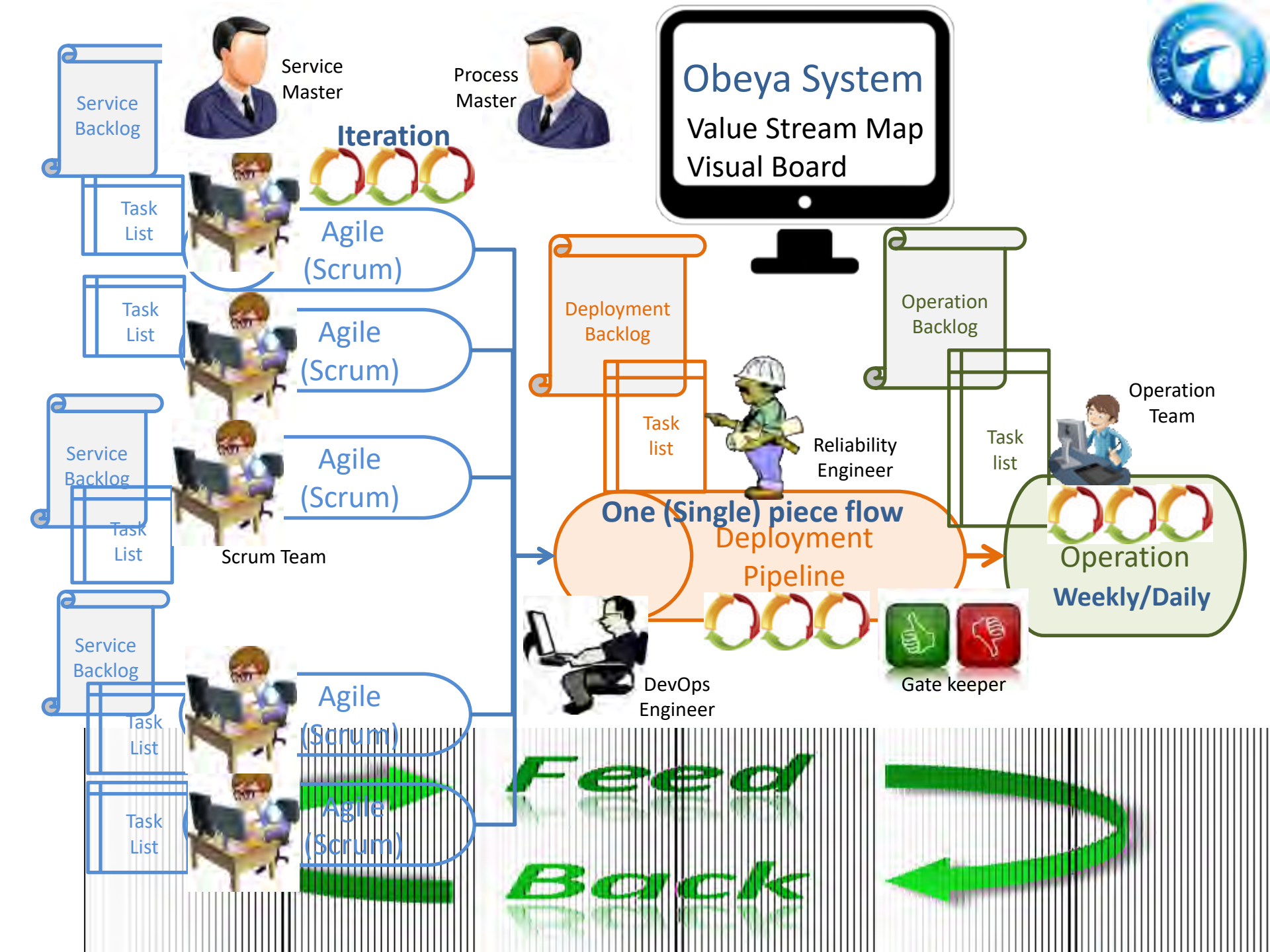
Do more faster and quicker your business,
and Help to increase the business

↳ Keep business agility and continuity

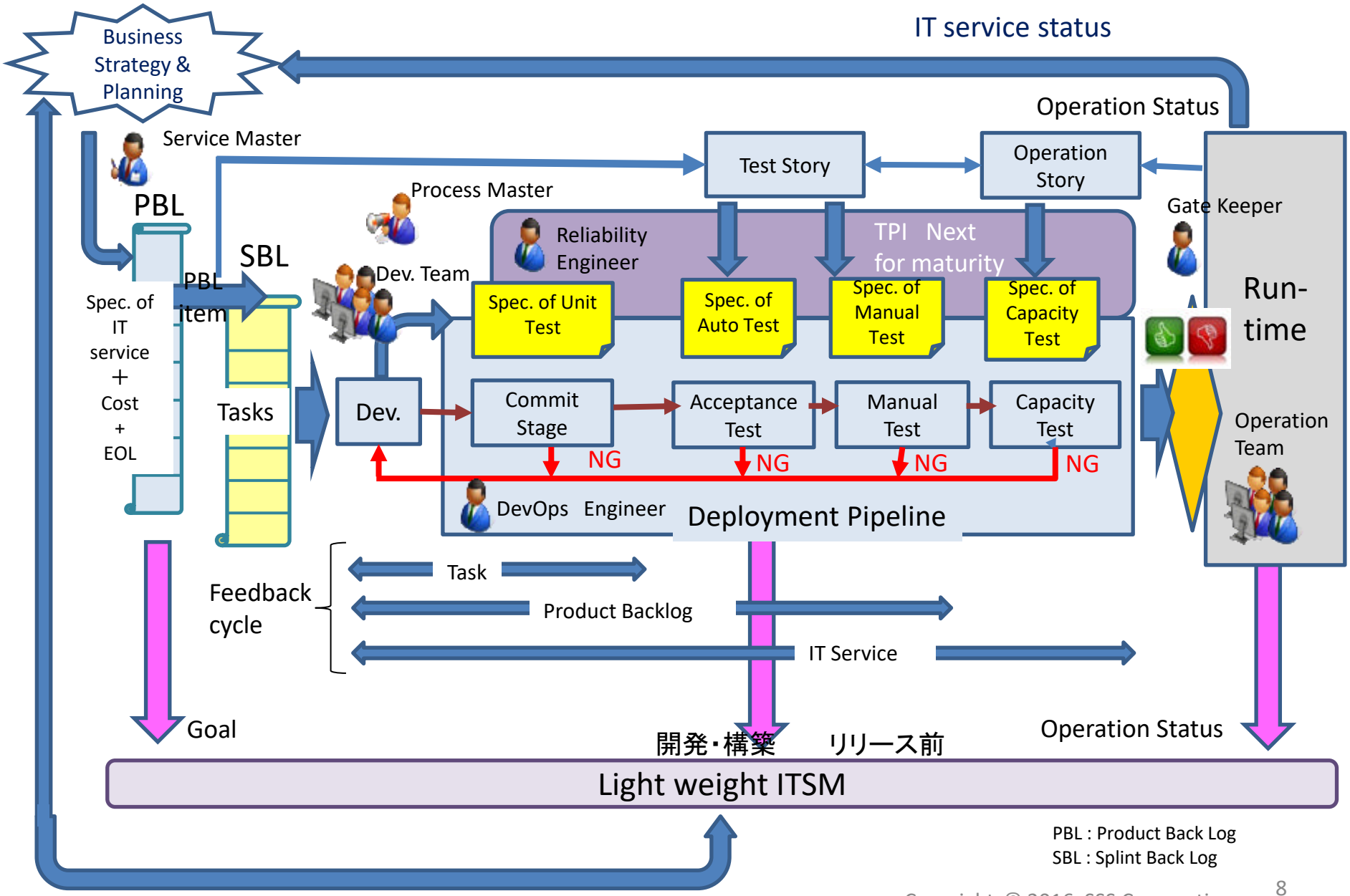
Measure by Business outcomes.

Gartner's DevOps Metrics




Service Master
Process Master
Obeya System
Value Stream Map
Visual Board
Iteration
Service Backlog
Task List
Agile (Scrum)
Scrum Team
Deployment Backlog
Task list
Reliability Engineer
Operation Backlog
Operation Team
One (Single) piece flow
Deployment Pipeline
Operation
Weekly/Daily
DevOps Engineer
Gate keeper
Feed Back

Anatomy of DevOps Process

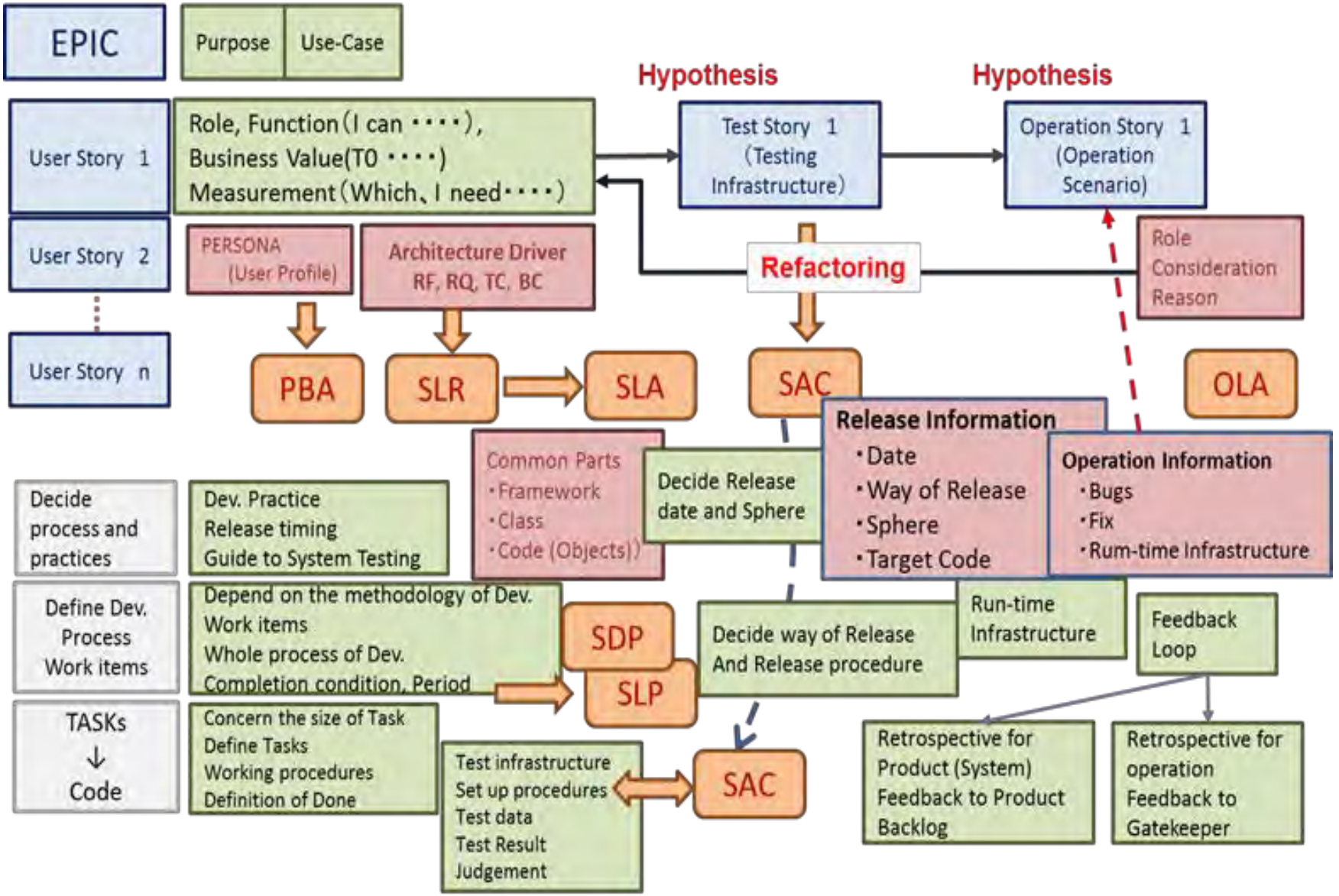


PBL : Product Back Log
SBL : Splint Back Log

Light weighted IT Service management for DevOps

Utilize ITIL concept and template
Strictly focusing on Agility and
Business Continuity
Synchronize operation cycle to iteration of agile team

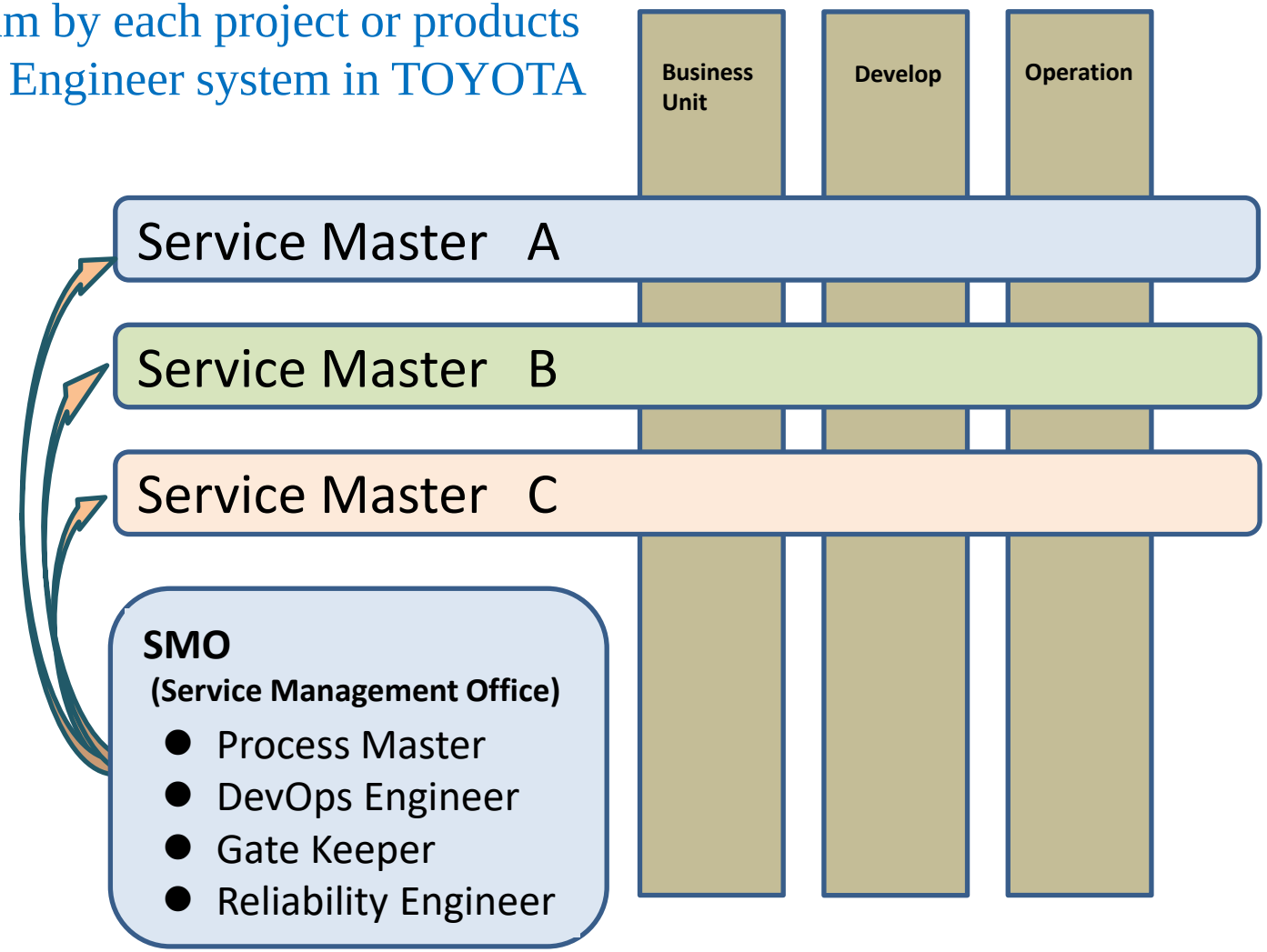
Outline of Information flow with light-weight IT Service Management



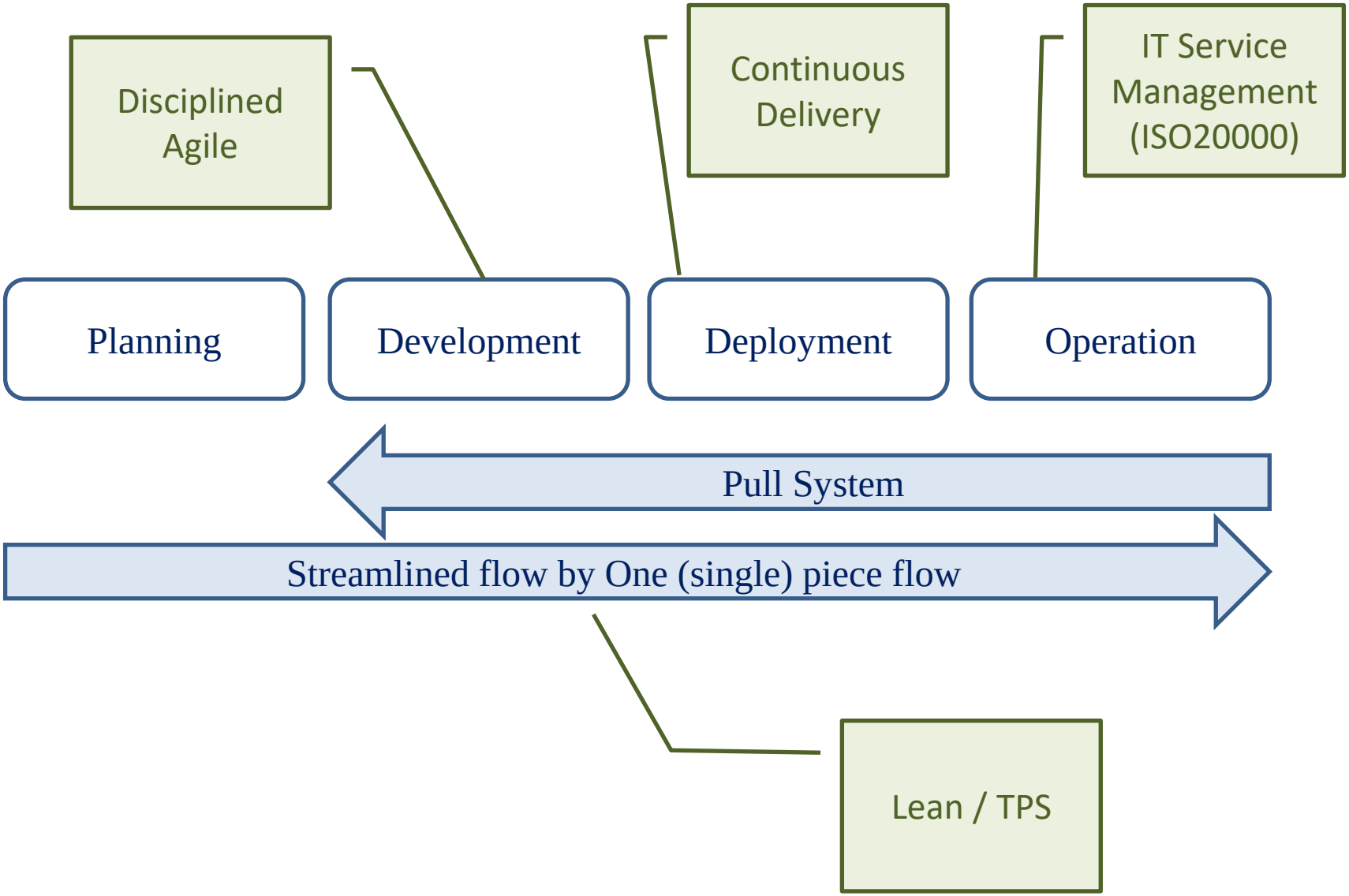
Sample organization for Enterprise DevOps

Matrix organization for large and complex

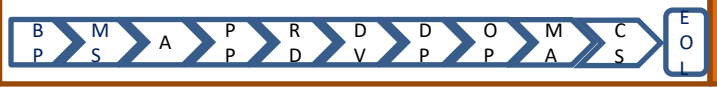
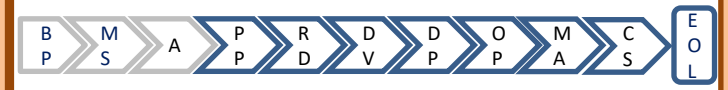
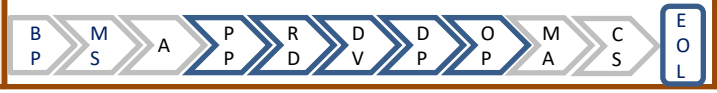
Organize the team by each project or products
As like as Chief Engineer system in TOYOTA



Basic knowledge (Body of Knowledge)



The characteristics of Types of DevOps implementation

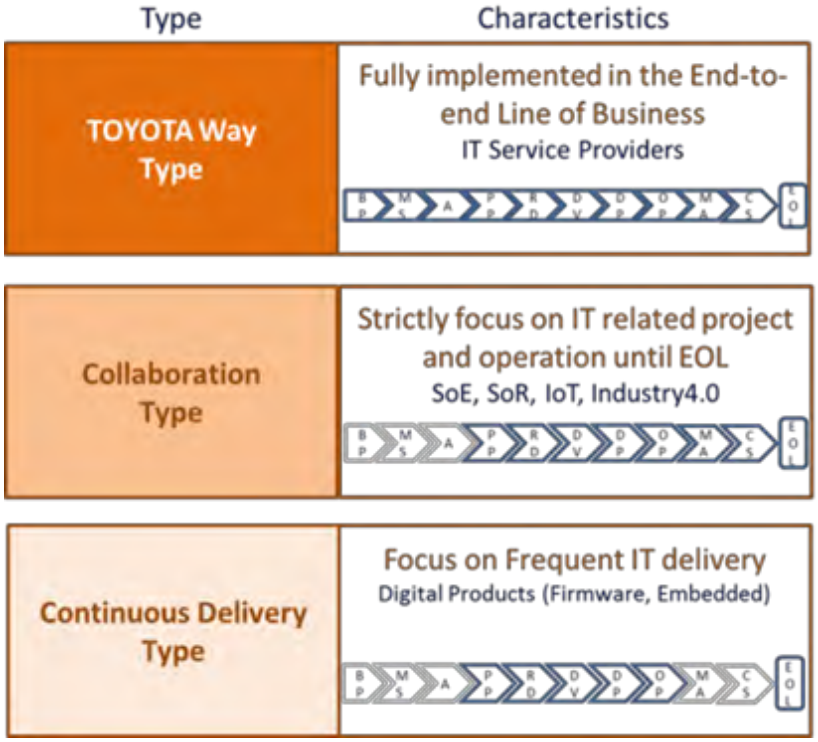
Type	Characteristics	Engagements
TOYOTA Way Type	Fully implemented in the End-to-end Line of Business IT Service Providers 	**MTI (PS Division)**
Collaboration Type	Strictly focus on IT related project and operation until EOL SoE, SoR, IoT, Industry4.0 	TOKIO Marine and Fire Ins. IBM-Japan and the Partners EPSON (Printer Div.)
Continuous Delivery Type	Focus on Frequent IT delivery Digital Products (Firmware, Embedded) 	Brother Ind. (Printer Div.) HP (Laser Printer)

Design of the certification program

I. Design philosophy and concept
II. Characteristics
III. Testing knowledge (Target)
IV. Sample Exam

Design Concept

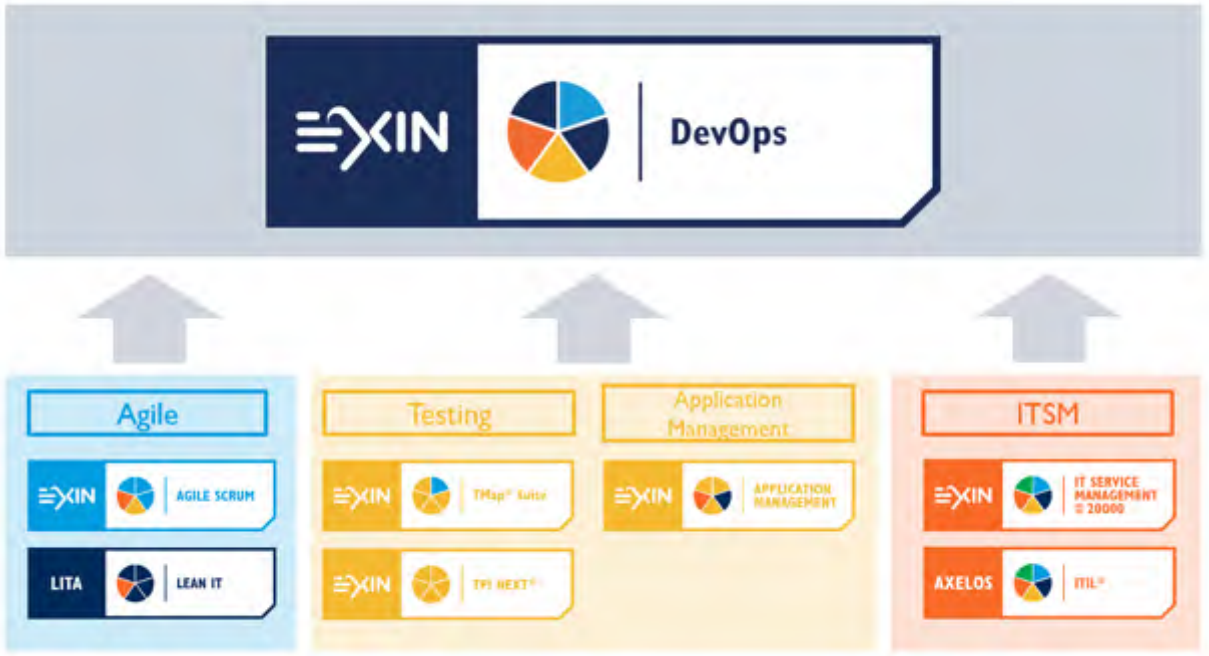
Adapt various type of implementation
for DevOps in enterprise



Testing Practical knowledge
for DevOps

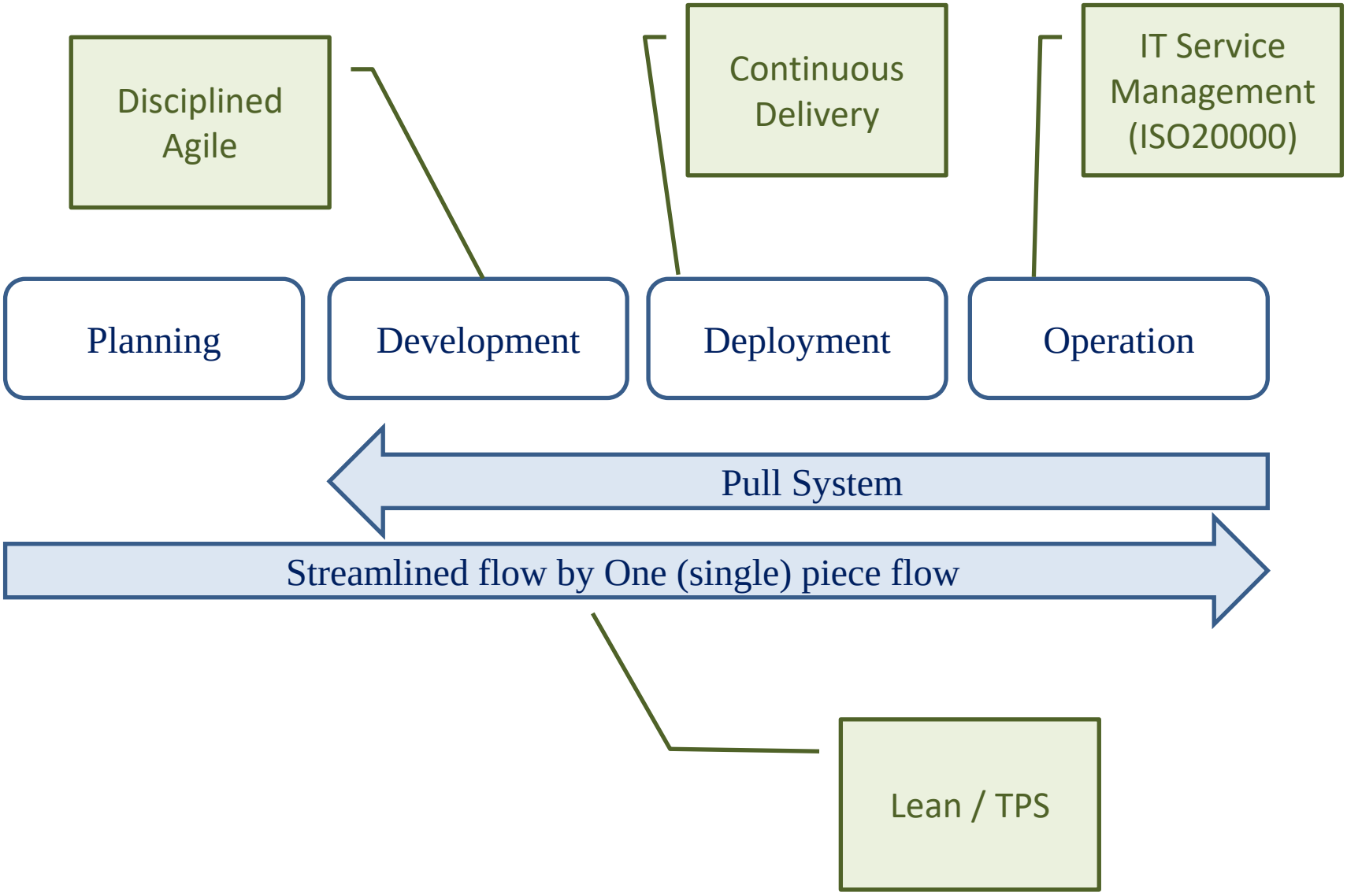
Support the Business
Speed
Business continuity

Targeted Candidates



- ☐ **EXIN Agile Scrum Foundation**
- ☐ **TPI Next®** or **TMap Suite®**
- ☐ **EXIN IT Service Management Foundation**
- ☐ **LITA Lean IT Foundation**
- ☐ **EXIN Application Management Foundation**

Testing Basic knowledge



Sample Exam - 1

Q1) The CTO thinks that it would be most effective to apply certain Lean concepts when implementing DevOps.
Which Lean principles or practices will be **most** effective when introducing DevOps?

A1) **Kaizen and 5S**. Because Agile and DevOps are based on core Lean concepts and Kaizen and 5S are the basis of Lean, they will be most effective when introducing DevOps.

A2) **Kaizen in advance.** DevOps requires feedback from Operations to Development. Kaizen in advance creates an up-stream feedback loop, helping to apply this principle in DevOps.

A3) **Obeya system.** DevOps integrates different management style processes. The Obeya system helps visualize the entire process, allowing for a successful DevOps introduction.

A4) **One piece flow and JKK.** DevOps benefits from building up-stream processes and a single value stream flow. One piece flow enables this and JKK helps streamline and implement the flow.

A1) **Incorrect.** Although Lean, Agile and DevOps are interconnected, Kaizen and 5S are not best suited to help support the success of the launch DevOps. Once DevOps has been introduced, Kaizen can be used for Continuous Improvement and 5S can be used to maintain good practices. However, both of these are after successful introduction of DevOps.

A2) **Incorrect.** Feedback is always welcome, but this does not necessarily guarantee the most effective application of Lean when implementing DevOps.

A3) **Incorrect.** Visualization can be helpful, but it is not the most impactful Lean practice when implementing DevOps.

A4) **Correct.** Building a workable, single piece, deployment pipeline will help implement successful DevOps. The most important thing in DevOps is building up-stream processes from Development to Operations, specifically for a single deployment pipeline. JKK is the most effective working behavior to achieve this. (Literature: Success with Enterprise DevOps)

Sample Exam - 2

Q2) What is light-weight ITSM?

A1) a business-continuity focused ITSM
A2) a new ITIL version proposed as standard
A3) a poor implementation of ITIL processes
A4) a release-management oriented ITSM

A1) **Correct.** ITIL seems heavyweight and not suited for the quick processes of DevOps. Light-weight ITSM is ITSM realigned for DevOps focused on business continuity with a set of Minimum required information.
(Literature: Success with Enterprise DevOps - Section 4iii - IT Service Management)

A2) **Incorrect.** There is not such ITIL Version yet proposed.

A3) **Incorrect**. Light-weight ITSM is not a poor implementation, rather a skimmed version, focused on business continuity and reducing management workload.

A4) **Incorrect.** ITSM is oriented to Service Management, not Release management. Within the ITSM concept, Release is a process that underpins the Service.

Sample Exam - 3

Q3) You feel that your Development team is really a team.

What is a sure sign that they are a team and not a group?

A1) The team follows the rules they have agreed upon in their team meetings.
A2) The team has effective meetings which they lead themselves.
A3) The team keeps a steady working pace towards their common goal.
A4) The team solves problems by questioning the responsible team member.

A1) **Incorrect.** Groups of people can be very good in following rules. This does not necessarily make a team.

A2) **Incorrect.** Groups of people can hold very effective meetings. This is not necessarily a sign of a team.

A3) **Correct.** A true team ensures a steady working pace and will keep working towards their common goal.
(Literature: Effective DevOps, Chapter 9)

A4) **Incorrect.** Teams solve problems together and do not start questioning a team member. DevOps has a blame-free culture.

Sample Exam - 4

Q4) For a new product, your team needs to develop a Deployment Pipeline. As part of Continuous Integration, you need to define the Commit stage of the pipeline. You discuss this stage with your team members.
The Process Master says: "The Definition of Done should be defined during or before the Commit stage. When code is not Done when it is committed, the work should be stopped". Is this true?

A1) Yes. If the work is not Done, the Process Master is not doing a good job. This should be solved immediately.

A2) Yes. Work that is not Done should not be committed, because it does not add customer value.

A3) No. The Definition of Done is only defined during Customer meetings. Waiting for it would slow work too much.

A4) No. Work in a Deployment Pipeline should always continue. If code is not Done, it just needs to be inactive.

A1) **Incorrect.** The Process Master has a job to ensure that there is a Definition-of-Done and when code is committed that is not Done, work should be stopped. However, the Process Master is not necessarily doing a bad job when code is committed that is not Done.

A2) **Correct.** When work is not Done, there is not enough Value for the Customer to start it in the Deployment Pipeline. Considering one-piece-flow, this would delay the flow of more valuable work.
(Literature: Continuous Integration, Chapter 3)

A3) **Incorrect.** Definition-of-Done is one of the first things that is agreed upon in a project. It is not defined during Customer meetings. When starting coding, we should already know a Definition-of-Done. Otherwise, how would you know when to stop coding?

A4) **Incorrect.** When there is something wrong with the code, or it does not add value, this is enough reason to stop the Deployment Pipeline and get it fixed, or get something more valuable in the one-piece-flow Pipeline.

Sample Exam - 5

Q5) A development team is interested in DevOps. They are mainly interested in Continuous Integration (CI). They currently develop and maintain 3 major solutions and 4 smaller ones. They use Scrum practices. Each sprint takes 4 weeks, creating an average of 1 committed Release to the Test environment each 10 or 15 days and 1 Release to production per month. They want to create a qualitative business case for their management to support their investment and effort to create a CI practice.
Which tangible benefits of CI help that business case **most**?

A1) Deploying to test environment once per day could increase business benefits and greatly decrease development costs.

A2) It helps the team spirit. As they are already using Scrum, CI will <B>not </B>generate measurable benefits for the business.

A3) It increases business stability with better Integration testing, while maintaining release speed to avoid extra costs.

A4) Releasing to production once per day could increase business benefits and greatly decrease development costs.

A1) **Incorrect.** Deploying to test environment faster is OK and a consequence of CI but it won't create any business benefits.

A2) **Incorrect.** CI can help them to deliver faster to production, finding bugs sooner with less cost, whether they use Scrum or not is irrelevant.

A3) **Incorrect.** Maintaining Release speed is not a desired effect from DevOps and especially from CI. There is a cost reduction out of increased Releasing to production out of finding and fixing bugs sooner.

A4) **Correct.** Faster release to production is one of the main benefits of CI, as well as finding bugs sooner which decrease development and bug fixing costs.
(Literature: Continuous Delivery, Chapter 3 - Continuous Integration)

Consideration for success DevOps in enterprise

- CALMS model

C	Culture:	Change behavior
A	Automation:	Automatization with autonomy
L	Lean:	JIT and One piece flow
M	Measurement:	Business outcomes, JKK
S	Sharing:	All information and status, value and goal

Establishing new culture for success DevOps

DevOps factors (CALMS model)	TPS thoughts	TPS practices
Culture:	Change behavior ● Customer first ● Kaizen mind (Continuous Improvement) ● Lean leadership	◆ 6 months Kaizen-Jyuku (Training program) ◆ Value stream for customer ◆ Asking Why 5 times, 5S ◆ Genchi Genbutsu (Go and See) ◆ Optimum in whole ◆ Watch process flow for keeping streamlined flow
Automation:	Automatization with autonomic Stop whole process when defect occurs	◆ Andon system → (This concept Imports to CI of Scrum)
Lean:	JIT(Just In Time)	◆ One piece flow, (Pull system) JKK
Measurement:	Business outcomes Measurement standard for completion of work	◆ Increase Capital turn over ◆ KGI, KPI in Visual Board ◆ JKK
Sharing:	Visualization ● Share value of work ● Share all of information ● Share reflection (Learn from failure)	◆ Visual Board, Task Board, Obeya system → (This concept imports to Retrospective of Scrum)

Success factor of DevOps

a. How DevOps team involve in business plan
b. Disciplined Agile team with sustainable velocity
c. Automated single deployment pipeline
d. Business continuity focused operation and synchronize with Agile team
e. Think Optimum in whole and streamlined flow process

And Fundamental factor

Change behavior of your people

Get White papers from EXIN's web-site

Success with Enterprise DevOps

Light weight IT Service Management for DevOps

Thank you

DevOpsDays 即将首次登陆中国

DevOps 之父 Patrick Debois 与您相约

DevOpsDays 北京站 2017年3月18日

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