Deloitte.

Next Generation ITSM

Making IT Service Management ready
for the digital age

Consulting

Executive Summary
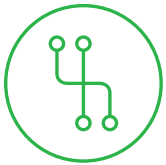
Process Perspective

ITIL as only ITSM framework is no longer sufficient to design a future process map

- ITIL should be applied in combination with CMMI, COBIT, and the DevOps to efficiently support the digital transformation of an ITSM-based IT service process map

- Processes, which are affected by a strong customer interaction such as Incident Management, Problem Management, Application Management, Release and Deployment Management should be refined first

- Process refinement can be done central or decentral: Incident Management and Problem Management should be adapted centrally for all IT services whereas Change Management and Release and Deployment Management should be adapted in line with the pace of the corresponding IT service

Collaboration Perspective

ITIL in combination with DevOps leads to better results in digital operating models

- It will become possible to identify and satisfy user needs early on, collaboration will be improved and inefficiencies and information losses at process interfaces reduced

- Traditional ITIL based organizations can apply DevOps approaches and tools to become more agile, utilize Feedback Loops, Service Delivery Teams, and DevOps Engineers to empower collaboration and continuous communication within a modern IT department

- Use DevOps tools like interactive monitoring in combination with ChatOps, cross-functional KPIs or automation to make ITSM customer-centric and more agile

Integration Perspective

Agile frameworks are helpful to facilitate an enterprise adoption

- On ITIL based ITSM organization can improve their implemented processes by utilizing agile methods like SCRUM or by applying selected concepts out of the DevOps approach

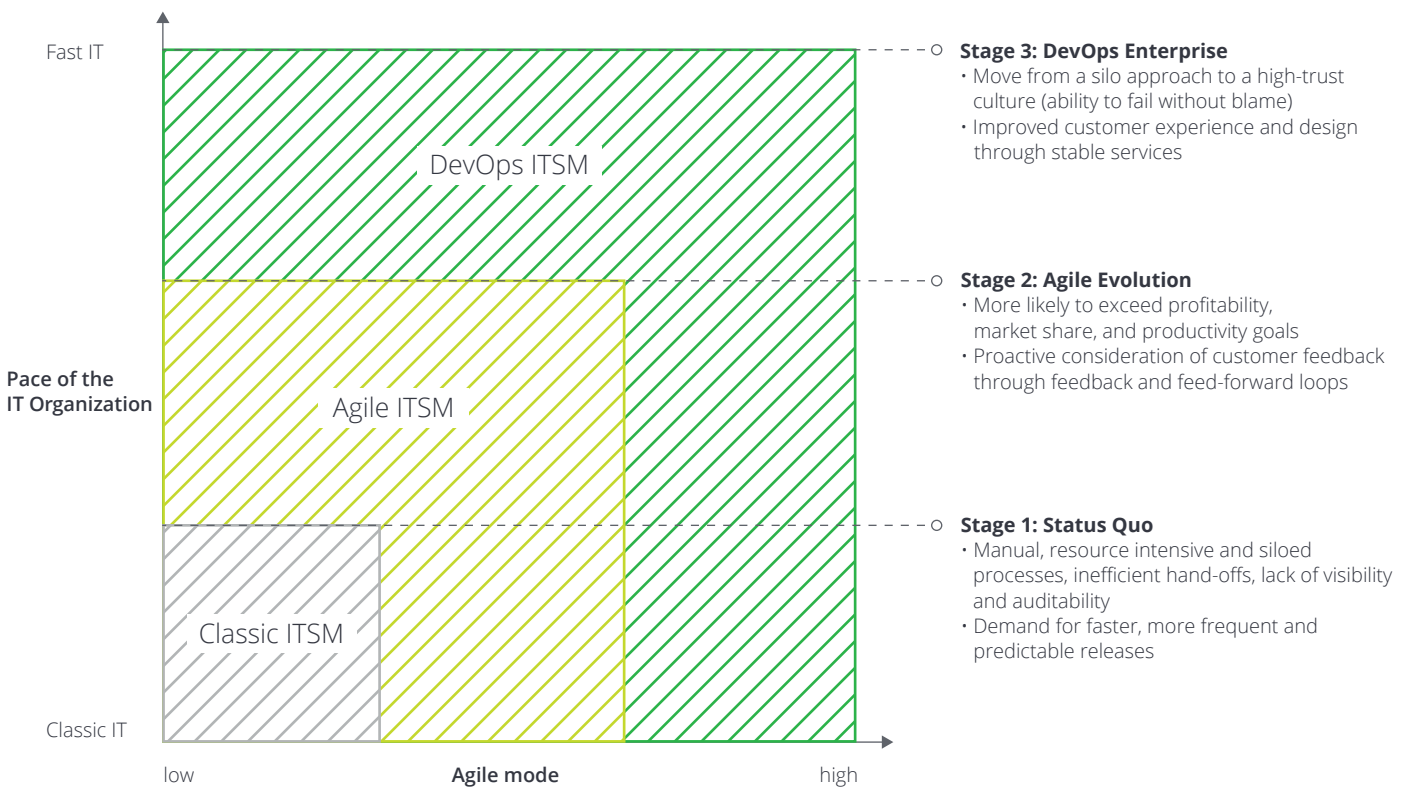- Companies that have already started their digital transformation journey should constantly refine the established interface between business and IT (e.g. for implementing new role concepts)

- In case new processes or parts of existing processes are implemented, it is highly recommendable to use an iterative implementation approach (e.g. based on use cases). This will help to reduce complexity and strengthen the feedback loop to the customer

DevOps emphasizes people and culture and seeks to improve collaboration between IT operations and development teams

Fig. 1 – The next evolutionary stages of ITSM

Stage 3: DevOps Enterprise
· Move from a silo approach to a high-trust culture (ability to fail without blame)
· Improved customer experience and design through stable services

Stage 2: Agile Evolution
· More likely to exceed profitability, market share, and productivity goals
· Proactive consideration of customer feedback through feedback and feed-forward loops

Stage 1: Status Quo
· Manual, resource intensive and siloed processes, inefficient hand-offs, lack of visibility and auditability
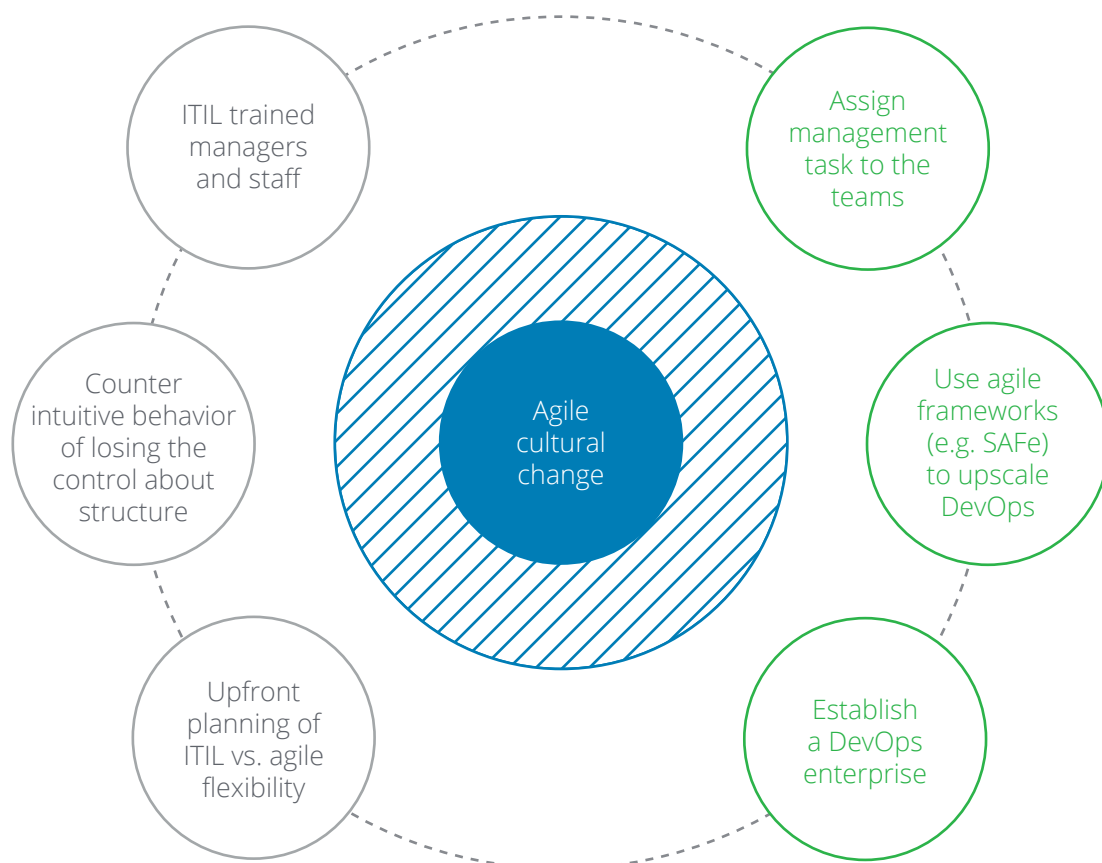· Demand for faster, more frequent and predictable releases

Agile frameworks are helpful to facilitate an enterprise adoption and essential for an agile construct like a DevOps enterprise

Fig. 2 – Barriers and foundations of an agile adoption

Potential barriers of an agile adoption:

Relevant foundations of an agile adoption:

ITIL trained managers and staff

Assign management task to the teams

Counter intuitive behavior of losing the control about structure

Agile cultural change

Use agile frameworks (e.g. SAFe) to upscale DevOps

Upfront planning of ITIL vs. agile flexibility

Establish a DevOps enterprise

The combination of ITIL with other ITSM frameworks and agile methods leads to a dynamic and flexible IT service organization

- How can ITIL support a dynamic and agile IT service organization and why is this required at all? ITIL as a detailed and well established de-facto standard shows some gaps when it comes to its agility and flexibility - e.g. its geared to the waterfall approach, preferring sequential processes rather than iterative ones.

- How to bridge these gaps without the neccesity to completely redesign ITIL - which would be an enormous effort and clearly not sufficient - will be one question to answer. There are several starting points: Combining ITIL with other ITSM frameworks such as COBIT or CMMI or applying agile methods like iterative process implementation and scaling up will lead to quick wins.

- Following the "start small then scale up"-approach means to focus first on ITIL processes which are strongly affected by changing customer requirements (e.g. incident management, change management or application management). The ITSM trend radar provides an indication on the most relevant or critical ITSM framework that should be assessed first and which agile method can help to bring agility in the design of a future IT service process landscape.

Fig. 3 – Agile ITSM Trend Radar

Horizon >3: currently not in focus
Horizon 3-2: might be relevant in a long term perspective
Horizon 2-1: might be relevant in a mid term perspective
Horizon 1-0: relevant in a short term perspective
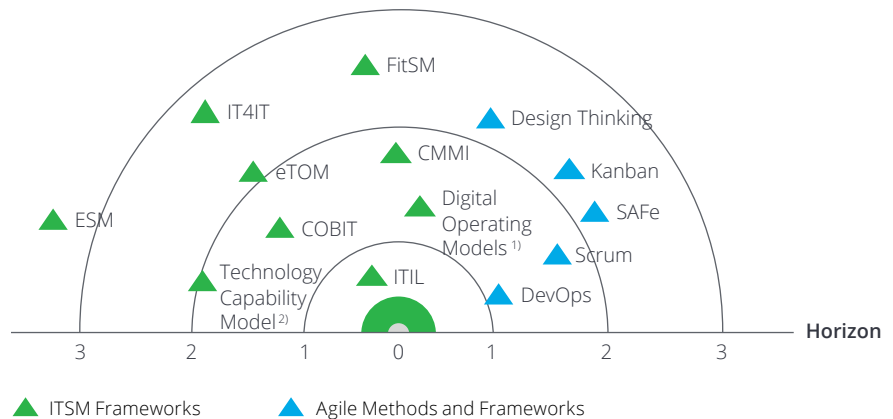
[1] Deloitte Digital era Technology Operating Models
[2] Deloitte Effectiveness Technology Capability Model

Traditional ITSM is based on ITIL principles - future IT processes will benefit from the quickness and flexibility that DevOps brings

- The common perceptions of ITIL and DevOps seem to contradict each other on the first glance rather than illustrate a perfect match: DevOps is agile, quick and collaborative while ITIL's strength lies within the rigid and detailed definition of processes, services and roles to manage and avoid risks rather than to learn from them. However, if evaluated carefully, both frameworks complement each other.

- While executing DevOps which focuses on the realization of functional requirements ("features"), ITIL also ensures that requirements like availability, scalability and security are met by following proven processes and using well established metrics and KPIs. The almost rigid and in detail described processes in ITIL even create the basis for automation – you cannot automate what has not been well described previously.

- It is important to note that ITIL grants a degree of flexibility too. The framework often solely describes what shall be done, but not how (example: KPIs). This flexibility can be leveraged to make ITIL more agile, customer-centric and even customer-led by applying tools and methods from DevOps.

Fig. 4 – Synergies between ITIL and DevOps features

ITIL

Consideration of Usability
E.g. availability, scalability, and security

supports

DevOps

Focus on Features
Quick realization of software functionalities

ITIL

Focus on Process Definition
Detailed description of requirements, processes, and roles

enables

DevOps

Focus on Delivery
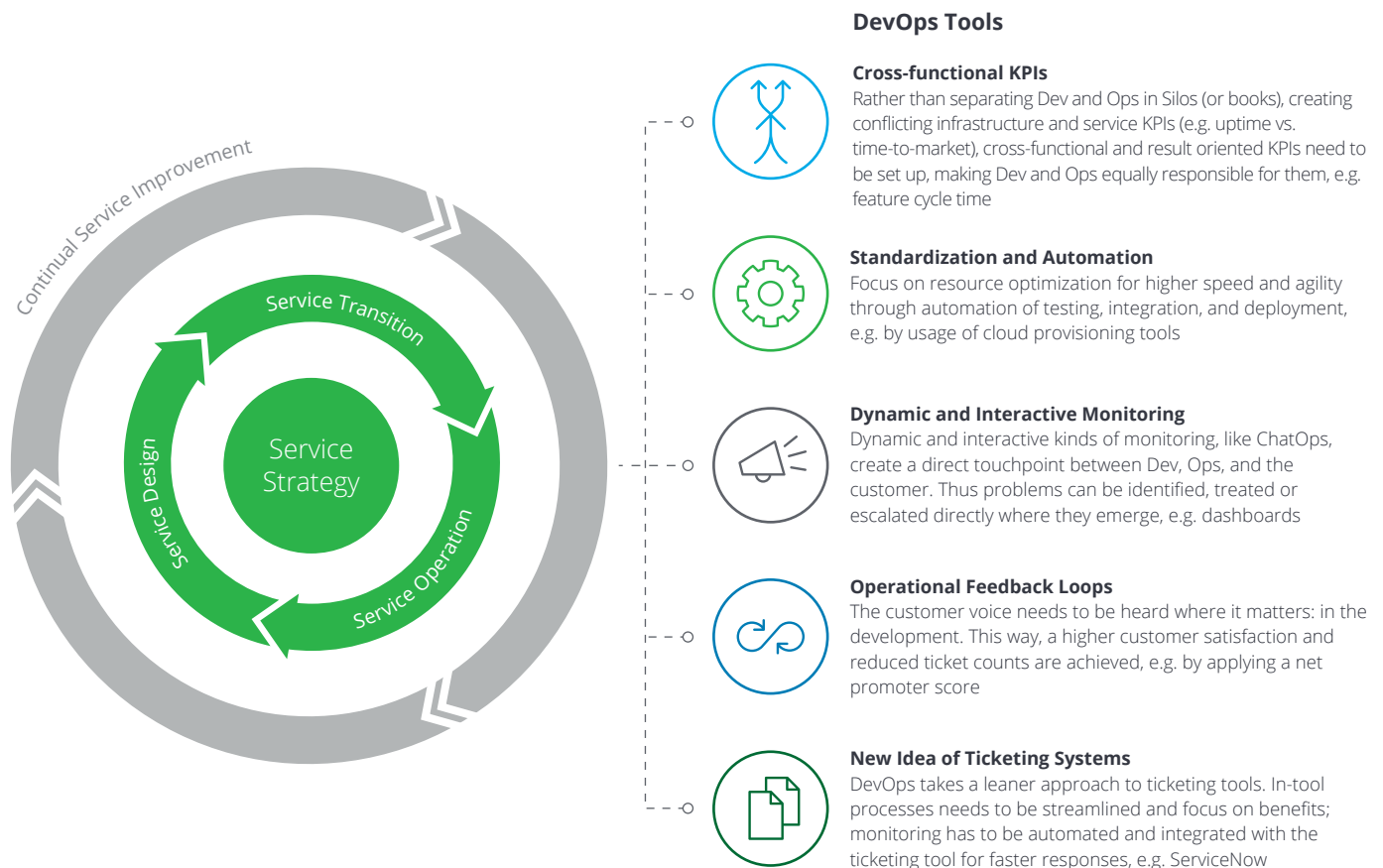Automation of testing and deployment

DevOps complements ITIL with proven approaches and modern collaboration tools to enable a more agile ITSM organization

Fig. 5 – Adaptation of DevOps tools in ITIL

DevOps Tools

Cross-functional KPIs
Rather than separating Dev and Ops in Silos (or books), creating conflicting infrastructure and service KPIs (e.g. uptime vs. time-to-market), cross-functional and result oriented KPIs need to be set up, making Dev and Ops equally responsible for them, e.g. feature cycle time

Standardization and Automation
Focus on resource optimization for higher speed and agility through automation of testing, integration, and deployment, e.g. by usage of cloud provisioning tools

Dynamic and Interactive Monitoring
Dynamic and interactive kinds of monitoring, like ChatOps, create a direct touchpoint between Dev, Ops, and the customer. Thus problems can be identified, treated or escalated directly where they emerge, e.g. dashboards

Operational Feedback Loops
The customer voice needs to be heard where it matters: in the development. This way, a higher customer satisfaction and reduced ticket counts are achieved, e.g. by applying a net promoter score

New Idea of Ticketing Systems
DevOps takes a leaner approach to ticketing tools. In-tool processes needs to be streamlined and focus on benefits; monitoring has to be automated and integrated with the ticketing tool for faster responses, e.g. ServiceNow
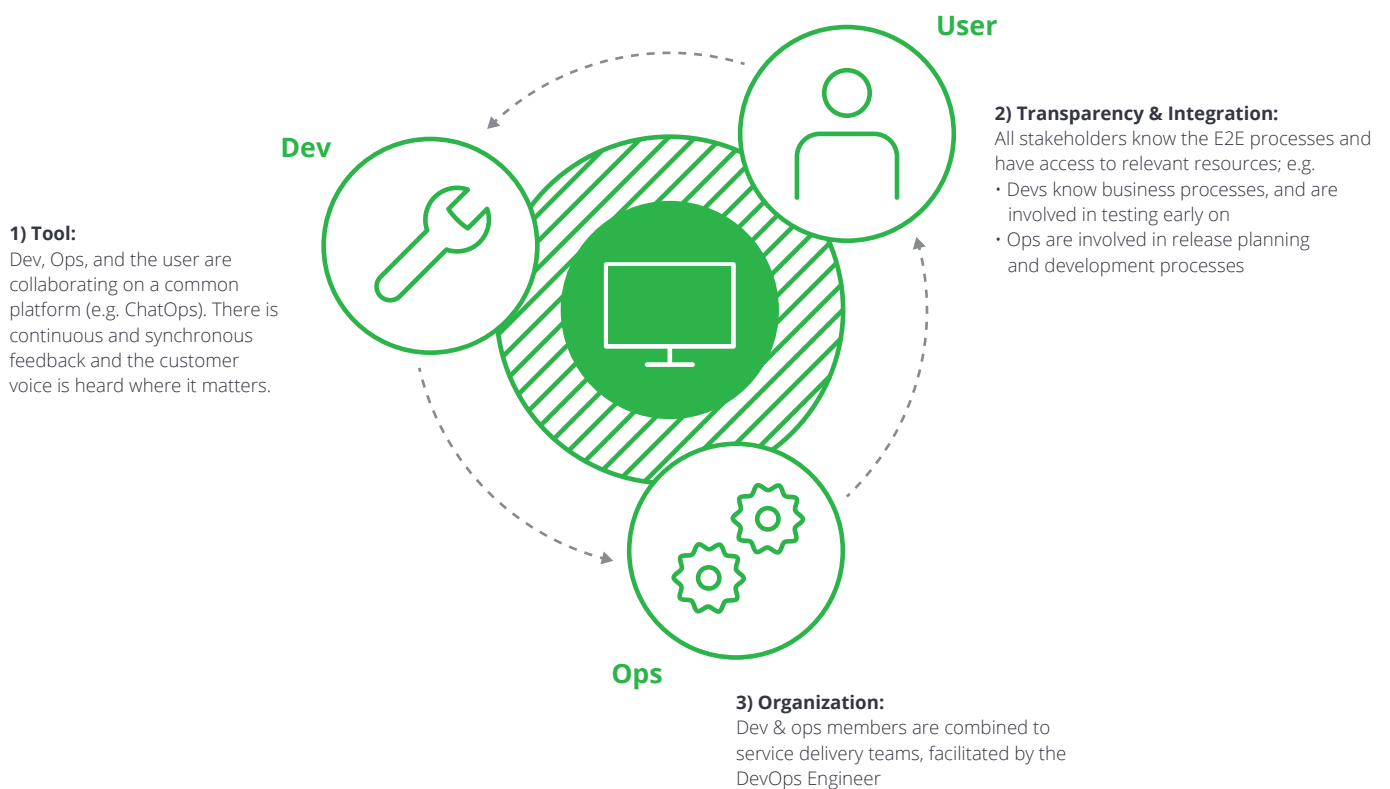
Communication between Dev, Ops, and the customer is essential in modern IT departments and can be fostered by agile concepts

With the integration of Dev and Ops, the customer voice is getting closer to the developers who can react in a quick an effective way. One tool facilitating this idea is the concept of Operational Feedback Loops which utilize (1) a common platform (such as ChatOps), (2) transparency and integration and (3) organizational changes to achieve continuous improvement of processes, software, and services, leading to a reduction of service disruptions, rapid reaction times to problems or new requirements, and a more efficient use of development resources.

Fig. 6 – Operational Feedback Loops concept

User

Dev

1) Tool:
Dev, Ops, and the user are collaborating on a common platform (e.g. ChatOps). There is continuous and synchronous feedback and the customer voice is heard where it matters.

2) Transparency & Integration:
All stakeholders know the E2E processes and have access to relevant resources; e.g.
• Devs know business processes, and are involved in testing early on
• Ops are involved in release planning and development processes

Ops

3) Organization:
Dev & ops members are combined to service delivery teams, facilitated by the DevOps Engineer
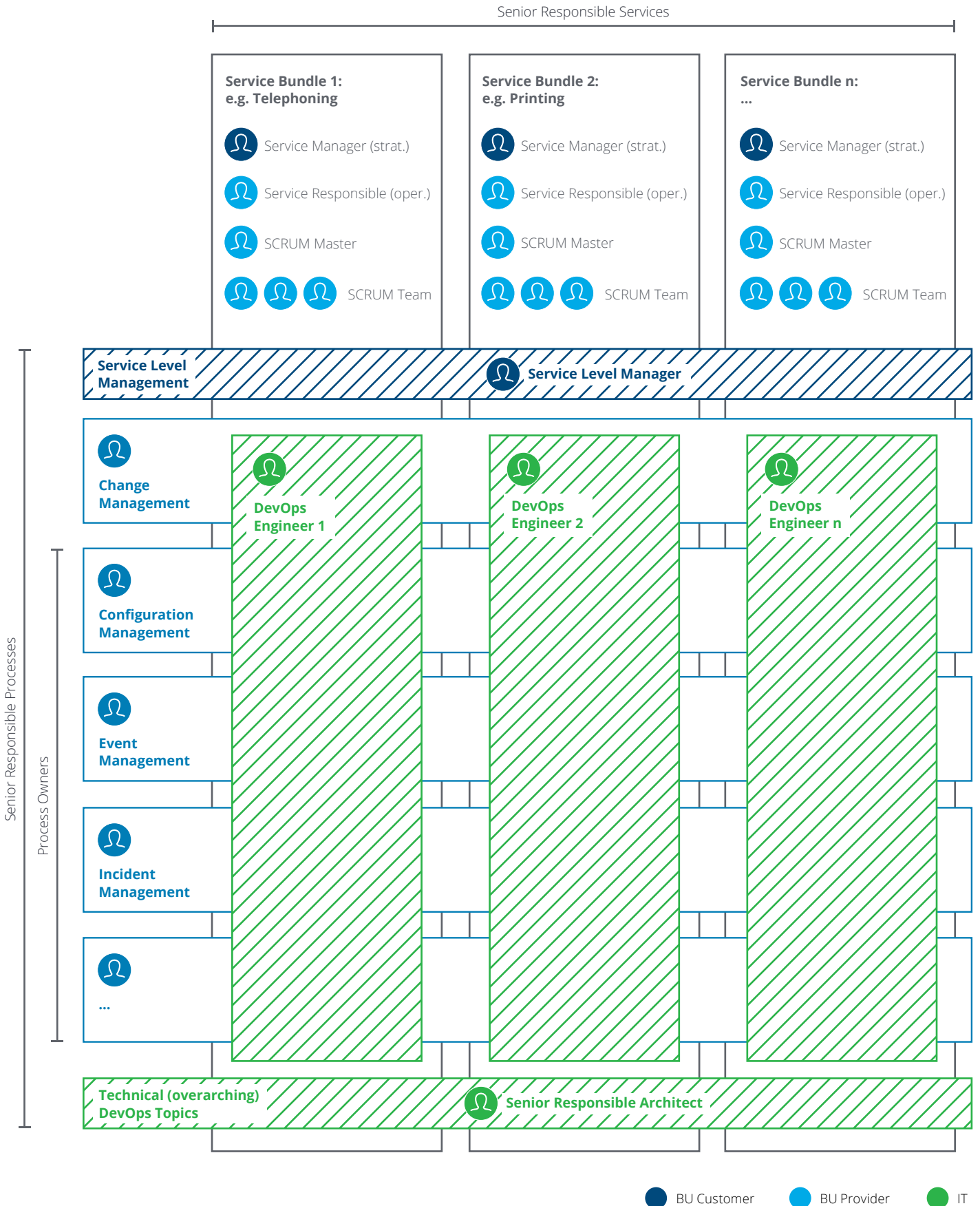
DevOps helps ITIL to prepare ITSM organizations for future IT challenges by softening borders between processes and roles

- To soften borders between processes and facilitate a cross-process working mode, the introduction of the DevOps Engineer (DOE) role – combining development and operational know-how – secures the application of DevOps principles across an entire service or service bundle.

- Hereby, the DOE will not replace any ITIL roles but will closely collaborate with them. For example, while the Service Owner's job is the "initiation, transition and ongoing maintenance and support of a particular service", the DOE's responsibility is much more operational.

- Within a matrix working mode, the DOE performs operational tasks in various processes along his services. In doing so, entire processes are looked at from a service perspective and not as commonly applied, only from an isolated process perspective, which uncovers inconsistencies across services and potentials to improve efficiency.
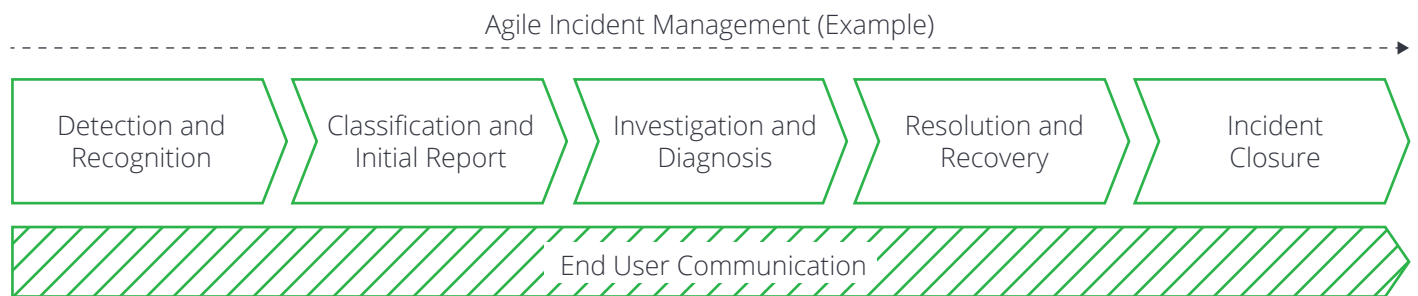
Fig. 7 – The DevOps Engineer within the IT Organization

Senior Responsible Services

Service Bundle 1:
e.g. Telephoning
- Service Manager (strat.)
- Service Responsible (oper.)
- SCRUM Master
- SCRUM Team

Service Bundle 2:
e.g. Printing
- Service Manager (strat.)
- Service Responsible (oper.)
- SCRUM Master
- SCRUM Team

Service Bundle n:
...
- Service Manager (strat.)
- Service Responsible (oper.)
- SCRUM Master
- SCRUM Team

Service Level Management — Service Level Manager

Change Management — DevOps Engineer 1 — DevOps Engineer 2 — DevOps Engineer n

Configuration Management

Event Management

Incident Management

...

Technical (overarching) DevOps Topics — Senior Responsible Architect

Senior Responsible Processes

Process Owners

BU Customer   BU Provider   IT

Agile process implementation allows CIOs to refine their IT operating model based on use cases and in iterative steps

Fig. 8 – Agile Incident Management

Agile Incident Management (Example)

| Detection and Recognition | Classification and Initial Report | Investigation and Diagnosis | Resolution and Recovery | Incident Closure |

End User Communication

Determining factors:

- Process architecture: ITIL

- Amount of process groups: 6

- Backlog: centralized and prioritized according to value expected and risk reduction

- Backlog refinement is done by a defined (change) board

- Sprint process as known

- Result: lean but operationalized process by defining use cases (e.g. password reset) which is implemented end to end

Tab. 1 – Exemplary backlog

Theme	Process Area	Process Group	User Story	Priority	Complexity
Service Operation	Incident	Detection & Recognition	As a user I want to receive Incidents over a Service Cockpit where I can assign them to the responsible person	1	15
Service Operation	Incident	Communication	As a user I want to be able to access a Dashboard to monitor the status of my reported incident	3	5

Drive digital transformation with the ServiceNow platform to improve the way teams work together in a modern enterprise

Fig. 9 – Enterprise Service Transformation with ServiceNow

Allow Cross-functional Collaboration
- We manage large business transformations
- We define cross-functional operating models

Digitize & Automate Processes
- We create business value and generate ideas in our Digital Factory and ServiceNow Creator Lab
- We provide industry insights as well as ServiceNow (process) best practices

Deloitte Enterprise Service Management

servicenow®

Integrate Services and Assets
- We link business and technology services to grant new insights and discover opportunities
- We enable the automation of technical services and asset detection

Enhance Customer Experience
- We create intuitive, user-centric service portals
- We integrate self services and knowledge databases

Create Transparency and Insights
- We enhance decision making with ServiceNow analytics
- We drive transparency and user-relevant insights by creating tailored reports

Contacts & References

Interview partners

Prof. Dr. Olaf Resch
Berlin School of Economics and Law.
Specialized in Business Rule Management,
Business Intelligence, and IT-Management
(especially ITIL and COBIT).

Prof. Dr. Claudia Lemke
Berlin School of Economics and Law.
Specialized in Digital Transformation,
Business Process Management, Application
Management, and IT Service Management.

Prof. Dr.-Ing. Martin Wolf
FH Aachen – University of Applied Science.
Specialized in IT-Organization and
Management (ITOM). Deputy CEO of the IT
Service Management Forum Germany e.V.

Dipl.-Phys. Thorsten Pröhl
Technische Universität (TU) Berlin. Specialized
in IT Service Management and ITIL, Cloud
Service Mgmt., and Service Science,
Management and Engineering (SSME).

List of references

BMC (2017), ITIL and DevOps: Differences & Frameworks Working Together, http://www.bmc.com/blogs/itil-and-devops-lets-not-paper-over-the-differences/, accessed on June 2nd 2017.AXELOS (2016), ITIL® Misconceptions: "ITIL is incompatible with other practices.", https://www.axelos.com/news/blogs/september-2016/itil-is-incompatible-with-other-practices, accessed on June 2nd 2017.

EtheralMind.com (2015), Why I Hate ITIL So Much, http://etherealmind.com/why-i-hate-itil-so-much/, accessed on June 2nd 2017.

Pink Elephant: "DevOps & ITSM: Defining Value From Two Sides Of The Same Coin", 2014, Ontario, Canada.

TechTarget (2016), Meredith Courtemanche: "Tighten IT operations control with a DevOps feedback loop", 2016-11-11, http://searchitoperations.techtarget.com/news/450402826/Tighten-IT-operations-control-with-a-DevOps-feedback-loop, accessed on March2nd 2017.

DEVOPS.COM (2014), George V. Hulme: "ChatOps: Communicating at the speed of DevOps", 2014-07-16, https://devops.com/chatops-communicating-speed-devops/, accessed on February 18th 2017.

ITIL.ORG (2014), Alex Lichtenberger: "Disruptive Agile Service Management –Integrating Agile and ITSM", http://blog.itil.org/2014/07/allgemein/integrating-agile-and-itsm/, accessed on June 08th 2017.

IBM (2016), ITSM Solution Architect Council, Reference Architecture Series - 3. DevOps for ITSM, https://www.ibm.com/developerworks/community/blogs/ee4f939e-275d-4997-876a-93cecb6842df/entry/Reference_Architecture_Series_3_DevOps_for_ITSM?lang=en, accessed on June 2nd 2017.

Forrester (2016), Build a fitter ITSM Practice, https://www.forrester.com/report/Build+A+Fitter+ITSM+Practice/-/E-RES121703, accessed on June 2nd 2017.

DEVOPS.COM (2015), Chris Riley: "Metrics for DevOps – Is your organization flying blind without metrics?", https://devops.com/metrics-devops/, accessed on June 08th 2017.

DEVOPS.COM (2014), Payal Chakravarty: "The DevOps Scorecard", https://devops.com/devops-scorecard/, accessed on June 08th 2017.

Wauch/Meyer (2012), Agilität im IT-Servicemanagement – Ansätze für flexible Stabilität. HMD – Praxis der Wirtschaftsinformatik, Heft 288, 2012, S. 87-93.

TSO, ITIL Edition 2011 Service Design. 2011, p. 257, London.

Intland Software (2016), Eva Johnson: Agile, SAFe and DevOps – Replacing ITIL, https://intland.com/blog/agile/devops/safe-implementation-of-agile-devops-replacing-itil/, accessed on November 02nd, 2017.

Contact

Gabor Vincze
Senior Consultant
Technology, Strategy & Architecture
gvincze@deloitte.de

Andrea Diebold
Senior Consultant
Technology, Strategy & Architecture
adiebold@deloitte.de

Timur Tretner
Consultant
Technology, Strategy & Architecture
ttretner@deloitte.de

Benedikt Höller
Consultant
Technology, Strategy & Architecture
bhoeller@deloitte.de

Deloitte.

Issue 03/2018