



The future of ITSM is agile

A practical guide for working
with ITIL® 4 and Atlassian

Introduction

Welcome to a new world. As the role of digital is increasing in every company, most services today are enabled by IT. What's even more exciting is that IT teams sit at the center of this transformation. From cloud computing to blockchain to AI and IoT, new technologies have exploded in the past decade. They have served as a catalyst for new ways of working, led by agile, lean, and DevOps practitioners.

To keep up in this world, IT organizations are finding ways to increase organizational agility while balancing the need for stability and predictability. They are switching to more agile approaches that value ease of use, collaboration, and knowledge sharing over complex, inflexible workflows.

Enter ITIL 4. Developed “for the community, by the community,” the latest update of the [IT Library Infrastructure](#) (ITIL) was crowdsourced from the viewpoints and best practices of over 2,000 global IT professionals across roles, industries, and communities, including agile and DevOps. The design principles that drove this development focused on creating a more lean and practical guide that adapts to new technology and incorporates emerging ways of working in parallel to core IT Service Management (ITSM) practices.

ITIL 4 helps IT service teams and individuals understand:

- How the service economy works in the modern world
- How to keep a value-first mindset using the ITIL Guiding Principles
- How to integrate lean, agile, and DevOps techniques into ITSM
- How to create simple and practical value streams to respond to customer demand and co-create value for all your relevant stakeholders
- How to develop practices that balance outcomes with risks

ITIL 4 is the beginning of a new paradigm shift for IT teams. It guides teams into a holistic, business and customer-value frame of reference, and encourages a more adaptable approach based on what your team

needs, and how your team works. The ITIL 4 Guiding Principles encourage collaboration, simplicity, and feedback.

In this guide, Atlassian and AXELOS (the author of ITIL® Foundation) have partnered to jumpstart your agile journey with ITIL 4. Based on the principles in ITIL 4, you'll learn how to build a high-velocity service team through performance, culture, and practices. Then we'll dive into the top practice areas Atlassian has found that have the biggest impact in transforming the ways IT teams work. Along the way, you'll get tips on how to bring best practices from agile and DevOps into ITSM.

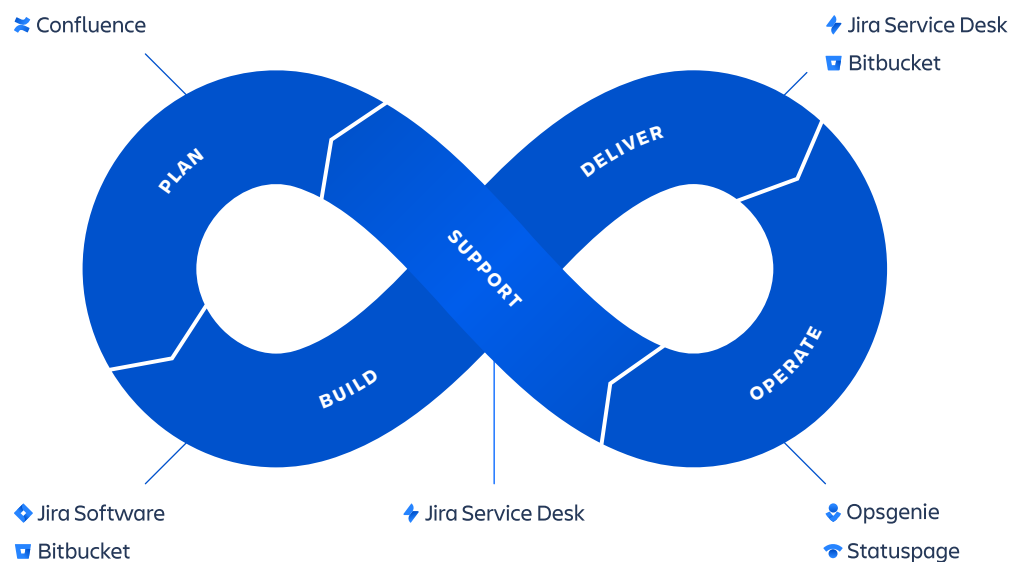


Contents

5	The Atlassian ITSM solution
	A holistic approach to performance, culture, and practices
6	Unite around the right performance strategy
8	Unleash your team's full potential through culture
10	Change behavior by adopting flexible practices
	General management practices
12	Continual improvement with retrospectives
15	Agile project management to speed up project delivery
18	Knowledge management to empower team culture
	Service management practices
20	Customer-centric service desk and request management
23	Adaptive incident management
27	Streamlined change control through automation and collaboration
	Technical management practices
30	Continuous delivery for deployment management
33	Integrated software development and operations teams
35	Conclusion
36	About the authors

The Atlassian ITSM solution

Atlassian provides the technology backbone with the most critical collaborative workflows—agile project planning, incident management and response, and service management and support—to help modern IT organizations plan, build, deliver, and ensure that your services are always on. Our products serve over 119,000 customers of all shapes and sizes, in virtually every industry.



All teams have the potential to do amazing things when work is open. Central to our values, “open work” is in the DNA of our products and we bring it to life through our practices. Through our experience working with high-performing teams, combined with research and discoveries from implementing an open way of working in our own organization, we created the [Atlassian Team Playbook](#). It’s made up of step-by-step instructions for tracking your team’s health, and new ways of working (“plays”) that transform the way we work.

Our approach to ITSM provides the essentials out-of-the-box, integrated with a broad ecosystem of best-in-class apps. Instead of legacy tools with complex and inflexible workflows, our ITSM solution focuses on ease of use, collaboration, and knowledge sharing, so IT teams can gain efficiencies, stay nimble, and focus on delivering value.

Unite around the right performance strategy

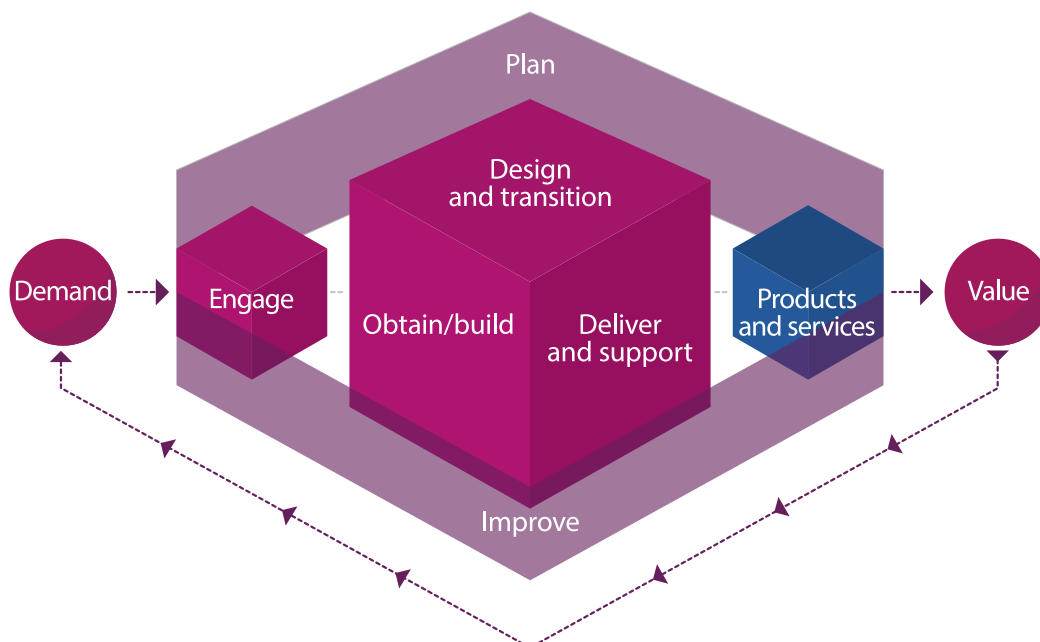
A high-performance strategy is one that enables an organization to consistently outperform competing alternatives over time, across business cycles, during industry disruptions, and when changes in leadership occur. It should be focused on what needs to be done across the organization to facilitate value creation.

ITIL® Foundation: ITIL 4 Edition, 5.1.12, Strategy management

As your IT teams grow, they face an ever increasing volume of work—requests, defects, incidents, and much more—that can trap them in a cycle of reactive and unplanned work. To move from cost-center to value-center, consider your performance strategy. High performing teams are able to shrink the amount of work and make the flow of work faster so they can focus on work that matters.

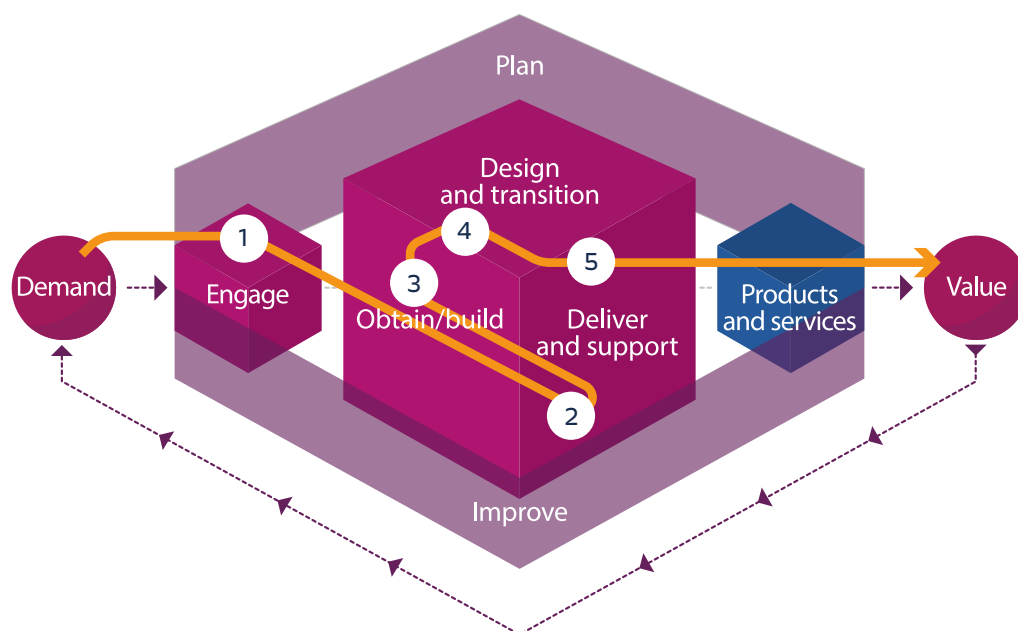
ITIL 4 introduces the concept of a **service value chain**, which represents the activities that anyone, from a single developer to an entire enterprise, can undertake to create valuable products and services customers use.

ITIL® Foundation: ITIL 4 Edition, Figure 4.2, The ITIL service value chain



Building on the service value chain model, ITIL recommends creating **value streams**, or journeys through various activities of the value chain, that allows the service provider to convert demand into value. Organizations will usually have multiple value streams, one for each scenario. Examples of value stream scenarios include delivering customer support, introducing new features, and dealing with cybersecurity alerts. Using a map of the activities, optimize your value stream over time by finding ways to eliminate inefficiencies and bottlenecks to improve the speed of service delivery.

Example of a value stream for customer support that requires a software fix.



The way you measure performance will determine whether your team is working towards the right goals. But many organizations have mistakenly used Key Performance Indicators (KPIs) as performance targets. When teams prioritize KPIs like time to resolution or ticket volumes, they are focusing on meeting internal objectives rather than customer or business outcomes.

To solve this, organizations including Atlassian have started using [Objectives and Key Results \(OKRs\)](#) in addition to KPIs. OKRs are tied to larger company goals, and can be created by answering, “What can we do to make the biggest impact on customers and the business in the coming quarter?” By identifying three to five OKRs, you can prioritize outcomes that align with business goals during the planning horizon.

Unleash your team's full potential through culture

Culture is a set of values that is shared by a group of people, including expectations about how people should behave, ideas, beliefs, and practices.

ITIL® Foundation: ITIL 4 Edition, 5.1.12, Glossary

Ever wonder why your organization uses the “right” tools and processes, but still fail to see results? The missing link is culture, which is defined by the shared values, attitudes, and behaviors that drive the way work is done. Culture plays an important role in unlocking your team’s potential to perform well and innovate. For modern IT teams, a healthy culture that’s open and transparent enables you to build a resilient organization that can quickly adapt to change

The Westrum Organizational Model is a framework shared in The 2018 State of DevOps Report that helps us understand the types of cultural behaviors that drive performance. “Generative,” or performance-oriented teams, demonstrate shared values often represented in DevOps and agile communities. These high performing teams promote cooperation, surface problems quickly, break down silos, embrace learning from failure, and continually experiment to drive improvement. On the other hand, power- and rule-oriented teams, are marked by habits and attitudes that discourage cooperation, shared responsibilities, bridging across boundaries, failure, and novelty.

WESTRUM ORGANIZATIONAL MODEL



Pathological

Power-oriented

- Low cooperation
- Messengers ‘shot’
- Responsibilities shirked
- Bridging discouraged
- Failure leads to scapegoating
- Novelty crushed



Bureaucratic

Rule-oriented

- Modest cooperation
- Messengers neglected
- Narrow responsibilities
- Bridging tolerated
- Failure leads to justice
- Novelty leads to problems



Generative

Performance-oriented

- High cooperation
- Messengers trained
- Risks are shared
- Bridging encouraged
- Failure leads to inquiry
- Novelty implemented

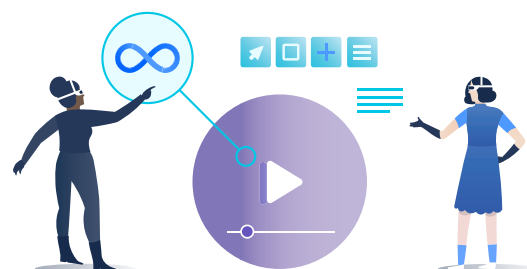
Changing your organization’s culture can be daunting, and it doesn’t usually happen overnight. But through small, incremental steps, you can start changing the way work is done on your team.

1. Use the **ITIL 4 Guiding Principles** as a starting point to define your own core values. In fact, you may notice similarities between the ITIL 4 Guiding Principles and The Agile Manifesto. So, by embracing principles like, “Focus on Value,” “Collaborate and Promote Visibility,” and “Think and Work Holistically,” you’re already one step closer to building a more agile culture!

ITIL 4 AND AGILE PRINCIPLES COMPARED

The ITIL 4 Guiding Principles	The Agile Manifesto
<ul style="list-style-type: none"> • Focus on value • Start where you are • Progress iteratively with feedback • Collaborate and promote visibility • Think and work holistically • Keep it simple and practical • Optimize and automate 	<ul style="list-style-type: none"> • Individuals and interactions over processes and tools • Working software over comprehensive documentation • Customer collaboration over contract negotiation • Responding to change over following a plan

2. The **Atlassian Team Playbook** provides dozens of plays to strengthen your team’s culture and improve its overall health, from mapping out roles and responsibilities to making more effective decisions. For your first play, run a [Health Monitor](#) workshop to quickly establish a baseline for your team’s health, such as team strengths and challenges. Set a regular cadence for Health Monitor checkpoints to track your progress over time.



Change behavior by adopting flexible practices

A practice is a set of organizational resources designed for performing work or accomplishing an objective.

ITIL® Foundation: ITIL 4 Edition, Glossary

Many IT teams interpreted past versions of ITIL in an overly-prescriptive way, which became heavy and burdensome for the entire IT organization. This interpretation spawned a flood of complex software modules and siloed functional teams—one for each process, like incident management, change management, problem management, and so on. Recognizing this, ITIL 4 has shifted from step-by-step processes to holistic “practices” that incorporate culture, business goals, and stakeholders. The 34 practices are broadly categorized into general management practices, service management practices, and technical management practices.

THE ITIL MANAGEMENT PRACTICES

General	Service	Technical
Architecture management	Availability management	Deployment management
Continual improvement	Business analysis	Infrastructure & platform management
Information security management	Capacity & performance management	Software development & management
Knowledge management	Change control	
Measurement & reporting	Incident management	
Organizational change management	IT asset management	
Portfolio management	Monitoring & event management	
Project management	Problem management	
Relationship management	Release management	
Risk management	Service catalogue management	
Service financial management	Service configuration management	
Strategy management	Service continuity management	
Supplier management	Service design	
Workforce & talent management	Service desk	
	Service level management	
	Service request management	
	Service validation and testing	

ITIL® Foundation: ITIL 4 Edition, Table 5.1, The ITIL management practices

This list of practices can feel overwhelming, but take a moment to understand the current state of services and methods in your organization. Instead of building something from scratch, use the ITIL 4 Guiding Principle “Start Where You Are” to observe and analyze the services, processes, people, and tools that you already have. With these insights, identify which elements should be continued, changed, or built upon, and how you can adapt the ITIL 4 practices to move your organization forward.

Based on Atlassian’s experience building software and working with thousands of high-velocity teams, we found the best performing IT teams typically use these practices:

- **Continual improvement with retrospectives**
- **Agile project management to speed up project delivery**
- **Knowledge management to empower team culture**
- **Customer-centered service desk and request management**
- **Adaptive incident management**
- **Streamlined change control through automation and collaboration**
- **Continuous delivery for deployment management**
- **Integrated software development and operations teams**

The next section will cover practical tips on bringing these practices to life in your organization.



Continual improvement with retrospectives

Continual improvement is not only an integral part of lean, but also agile (retrospectives), DevOps (continual experimentation and learning, and mastery), and other frameworks. It is one of the key components of the ITIL SVS, providing, along with the guiding principles, a solid platform for successful service management.

ITIL® Foundation: ITIL 4 Edition, 4.6.2, Continual improvement and the guiding principles

As you embark on your agile journey, start with continual improvement to assess where you are, and identify where to go next. We recommend two continual improvement practices: the Improvement Kata and retrospectives. Combined, these practices can help your team progress iteratively towards larger goals, while reflecting on the past to find ways to improve.

1. Work the Improvement Kata into your team's regular routine. This practice from Toyota's lean methodology can help mobilize your team towards a larger objective, especially if your team has lost momentum or plateaued. It breaks up a big audacious goal into smaller parts and uses four steps to progressively iterate towards your desired vision:

1. Understand the desired direction to gain a clear vision
2. Grasp your current condition
3. Establish the next target condition
4. Try "Plan-do-check-act" cycles, or experimentation, until you reach the target condition

The Improvement Kata focuses on learning. As you learn more about your processes, you have a better understanding of where to improve. It also strengthens team culture by opening up communication and collaboration while going through the exercise.

ITIL 4's continual improvement model offers a version of the Improvement Kata:

THE CONTINUAL IMPROVEMENT MODEL



ITIL® Foundation: ITIL 4 Edition, Figure 4.3, The continual improvement model

2. Run a retrospective meeting with your immediate team after a major project or milestone. A retro is a common practice in agile to understand how well your team performed and identify action items for improvement. The most successful retros focus on team health and uncover ways your team can work better together. It's a place where team members feel safe to speak up, and issues are discussed without blame or accusation.

Here is a basic [Retrospectives play](#) from the Atlassian Team Playbook:

Steps	How it works
1. Set the stage (5 min)	<p>Set rules of engagement, including a positive spirit of continual improvement and open sharing.</p> <p>On the whiteboard, write “What did we do well?” and “What should have we done better?”</p>
2. What went well? (10 min)	<p>Celebrate what went well on post-it notes. A facilitator can group similar stickies into themes.</p>
3. What needs improvement? (10 min)	<p>Using stickies, add things that could have went better. Remind your team that this is about actions and outcomes—not about specific people.</p>
4. Next steps (5 min)	<p>Ask, what concrete actions can the team take to improve things that didn’t go well?</p> <p>Place your ideas on sticky notes and group them. As a team, agree on which actions to take, assign owners, and create due dates to get them done.</p>

Agile project management to speed up project delivery

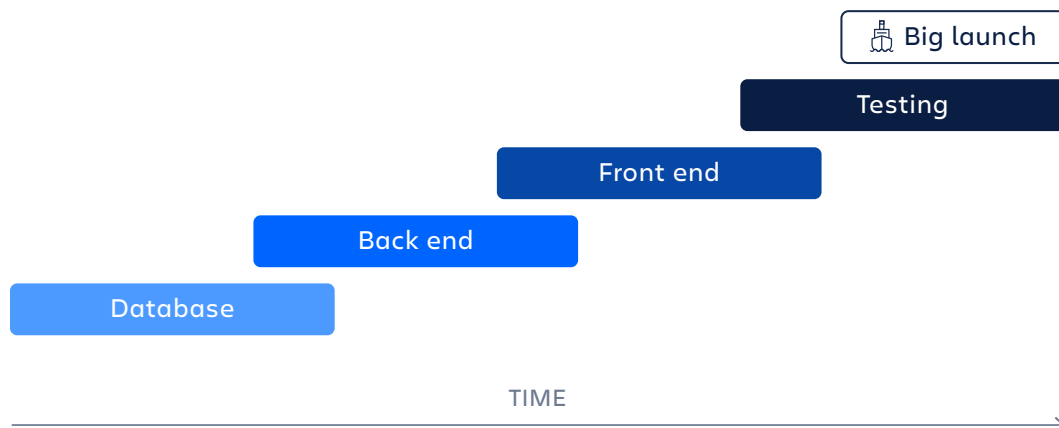
Successful project management is important as the organization must balance its need to:

- maintain current business operations effectively and efficiently
- transform those business operations to change, survive, and compete in the market place
- continually improve its products and service

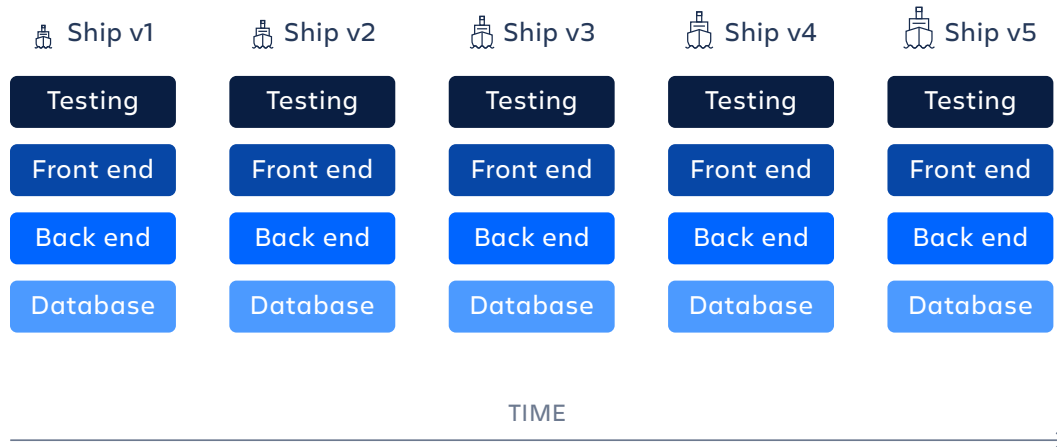
ITIL® Foundation: ITIL 4 Edition, 5.1.8, Project management

As markets become more competitive, speed is the name of the game. High performers deliver products and services faster and manage the flow of work and resources more efficiently. While IT teams have traditionally used the Waterfall model of fixed, sequential phases, many teams are shifting to agile project management. According to the Project Management Institute, almost three-quarters (71%) of organizations report using agile approaches. Instead of a single, high-risk release, these teams put value in the center and break work into smaller increments and iterations. They are open to change and evolving requirements, based on feedback and testing.

TRADITIONAL WATERFALL



AGILE METHOD

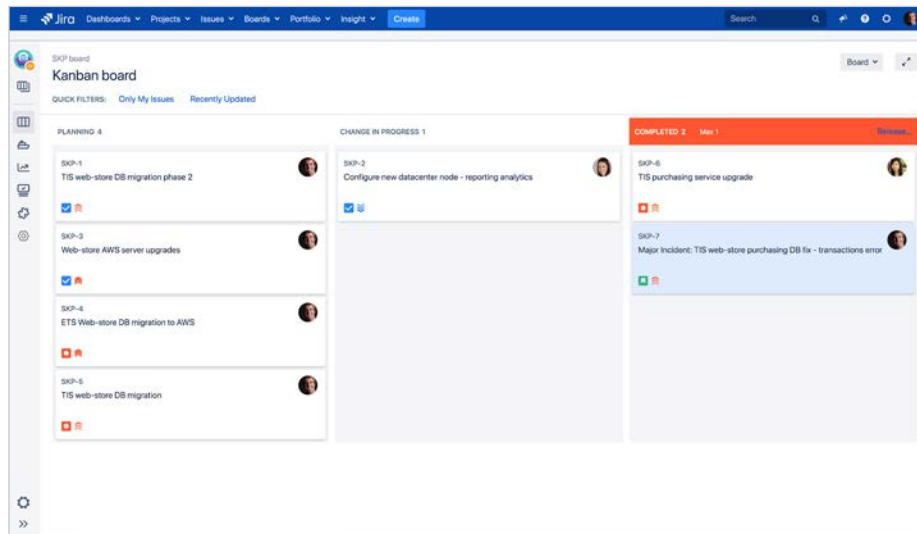


You may not be able to switch entirely to agile, but a hybrid approach to project management is beneficial. According to PwC internal benchmarks, agile teams experience 20% improvement in time to market, up to 95% productivity, up to 29% lower costs, and lower defect rates. Check out these agile best practices to try today:

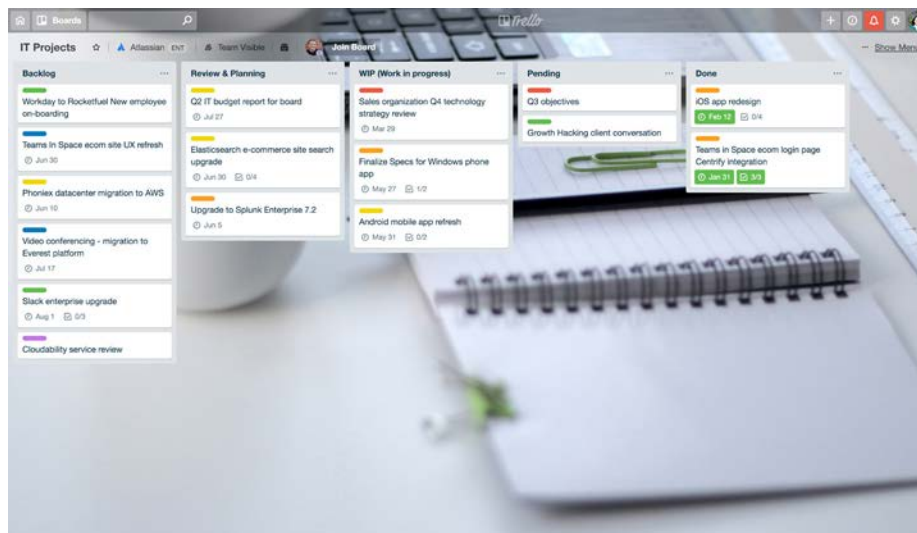
- **Break up project work into smaller pieces.** Instead of upfront requirements and completing them in a “big bang” release, plan in buckets of work organized by your value streams. Test a minimal viable product (MVP) and work iteratively. Gather feedback at each phase to learn, adjust, and build the capabilities for the next phase.
- **Use visual boards to see the flow of work and bottlenecks.** A kanban board is designed to help visualize work, communicate capacity, and maximize efficiency (or flow). A digital kanban board, such as Jira Software, keeps cards, columns, and work-in-progress limits updated and accessible by IT and software teams at any time. On the business side, a visual collaboration tool, like Trello, is a fast and simple way for IT teams to communicate and align their projects with business stakeholders.
- **Try stand-up meetings.** Start your day with a quick status update where team members can stay informed about each other’s progress, flag blockers, and share in individual successes. For distributed teams, stand-ups over video conferencing or chat work equally well.

All you need to ask are these three questions:

- What did I work on yesterday?
- What am I working on today?
- What issues are blocking me?



Kanban boards in Jira Software can help an IT team manage the flow of product change requests.



Project management boards, like Trello, provide easy drag and drop cards for anyone in your organization.

Knowledge management to empower team culture

Knowledge management aims to ensure that stakeholders get the right information, in the proper format, at the right level, and at the correct time, according to their access level and other relevant policies.

This requires a procedure for the acquisition of knowledge, including the development, capturing, and harvesting of unstructured knowledge, whether it is formal and documented or informal and tacit knowledge

ITIL® Foundation: ITIL 4 Edition, 5.1.4, Knowledge management

Knowledge is one of the IT organization's most valuable assets, and open knowledge sharing can help your team stay on the same page, collaborate, and make better, faster decisions. As workplace technology evolves, knowledge now exists in more and more disparate places—across email, tickets, and in the minds of individual team members. Aggregating your team's knowledge in a single repository is a great first step, but tooling alone is often not enough. Knowledge is more powerful when sharing is open, when it's no longer an individual's knowledge but the community's knowledge.

The screenshot shows a Confluence page titled "Policy brief & purpose" for an "employee mobile device policy". The page content includes:

- Policy brief & purpose:** Our employee mobile device policy outlines our guidelines for using mobile devices, like smartphones, e-readers and tablets, at work. We recognize that mobile devices have become an integral part of everyday life. They may be a great asset if used correctly (for productivity apps, calendars, business calls etc.). But, they may also cause problems when used imprudently or excessively.
- Scope:** This policy applies to all employees and contractors.
- Policy elements:** Despite their benefits, personal mobile devices may cause problems in the workplace. Employees who use their mobile devices excessively may:
 - Get distracted from their work.
 - Disturb colleagues by speaking on their phones.
 - Cause security issues from inappropriate use of company-issued equipment or misuse of our company's internet connection.
 - Cause accidents when they illegally use their phones inside company vehicles or near areas where using phones is prohibited.Our company expects employees to use their cellphones prudently during working hours.
- We advise our employees to:**
 - Use company-issued phones for business purposes only and preserve them in perfect condition.
 - Surf the internet, text and talk on the phone only for a few minutes per day.
 - Turn off or silence their phones when asked.
- We won't allow employees to:**
 - Play games on the cell phone during working hours.
 - Use their phones for any reason while driving a company vehicle.
 - Use their cell phone's camera or microphone to record confidential information.
 - Use their phones in areas where cell use is explicitly prohibited (e.g. laboratories.)
 - Speak on their phones within earshot of colleagues' working space during working hours.
 - Download or upload inappropriate, illegal or obscene material on a company cell phone using a corporate internet connection.
- How to properly use mobile devices in the workplace:** Employees can benefit from using mobile devices. They're allowed to use their phones:

A comment thread on the right shows a discussion about e-readers:

- Alana Grant:** Do we really think employees will be bringing e-readers to work? (Resolved, Mar 13, 2019)
- Mitch Davis:** Good question, @Alana Grant. I'm not sure, but it's probably better to cover all possible devices an employee might connect to our network. (Mar 13, 2019)

- **Increase transparency with open and shared information.** Instead of keeping documents siloed in emails and folders, or locked behind permissions settings, invest in technology that connects and unifies knowledge, like Confluence. Knowledge should be easy for your entire organization to search, find, and create. Encourage team members to collaboratively edit pages, give feedback through inline comments, or at-mention teammates for peer review.
- **Make work visible with a project poster.** For every major initiative, create a [project poster](#) to share your goals and progress with the rest of the team and stakeholders. This is a living, accessible document that can help you explore your problem space, define your scope, and get feedback.
- **Focus on brief articles or answers.** Shared documentation does not always mean shared understanding. Rather than creating long, expansive documents, tailor your content to your team. Your entire team can learn and absorb information faster when it's quick to consume, uses easy-to-understand language, and published in a timely matter.
- **Champion a culture of knowledge sharing.** Reward top contributors with an on-going recognition program that values both quality and quantity. Your leadership team can go a long way in setting a positive example by regularly contributing information like important organizational updates. They can also drive staff to your tool and use your tool to interact with teams directly.

Customer-centric service desk and request management

With increased automation and the gradual removal of technical debt, the focus of the service desk is to provide support for ‘people and business’ rather than simply technical issues.

Service desks are increasingly being used to get various matters arranged, explained, and coordinated, rather than just to get broken technology fixed, and the service desk has become a vital part of any service organization.

ITIL® Foundation: ITIL 4 Edition, 5.2.14, Service desk

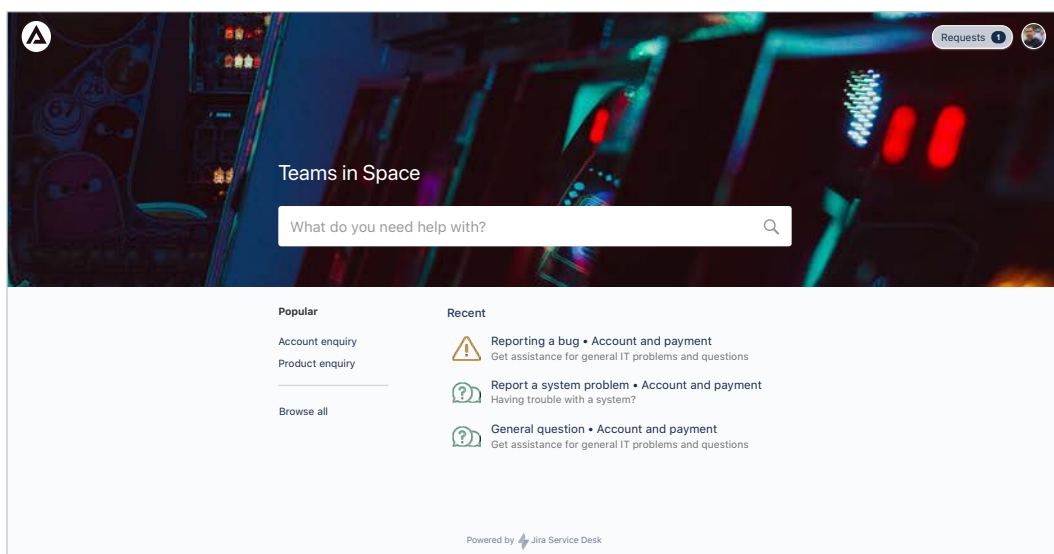
As the face of the IT organization, the service desk serves as an important meeting point between users and services. It’s where your users seek help, questions are answered, and expectations are managed. Yet, your frontline support staff may still struggle with overloaded queues and delays from tiered support structures. Non-technical teams, from HR to legal to facilities, are also beginning to adopt service management practices. Starting with a service desk, they are looking for IT solutions to manage high volumes of requests and juggle processes that require speed and accuracy.

To better manage the flow of work, apply the concept of a value stream to your service desk to identify and eliminate bottlenecks. You’ll find that automation and self-service can deflect requests so support agents can focus on higher value work.

SHIFT TOWARD LEAN AND AGILE WAYS OF WORKING



- **“Shift left” by bringing issue resolution as close to the customer as possible.** A friendly, self-service portal, such as Jira Service Desk, enables customers to ask for help and get answers quickly. Move towards “level zero support” by surfacing smart, knowledge base answers right in the portal to deflect requests before they even hit support’s backlog. For support staff, easy access to a knowledge base shortens the time to fulfillment and improves customer experience.



- **Apply automation where you can.** In DevOps, the best performing teams find new ways to eliminate repetitive, time-consuming tasks through automation—and then move on to more impactful work. In the same way, automation rules can speed up service by auto-triaging email requests, escalating urgent SLAs, and keeping linked issues updated. Automation also supports continual improvement by proactively monitoring requests, highlighting common pain points, and implementing solutions.
- **Consider alternatives to the multi-tiered support model.** Formal escalation processes, that pass complex issues from agent to agent, often result in added time and customer frustration. Instead, a collaborative approach, such as swarming, puts customer needs at the center. Let the initial agent handle the end-to-end interaction and use virtual chat to consult a group of experts who can help solve the issue.
- **Empower non-IT teams with service management.** As more teams adopt service desks for their own needs, IT is in a position to help them be successful. Conduct hands-on training sessions, share documentation, and even hand out stickers or swag to help promote the new service desks. Most important, scaling service is easier with an intuitive service desk that non-technical teams can set up and use.

Adaptive incident management

Effective incident management often requires a high level of collaboration within and between teams. These teams may include the service desk, technical support, application support, and vendors. Collaboration can facilitate information-sharing and learning, as well as helping to solve the incident more efficiently and effectively.

ITIL® Foundation: ITIL 4 Edition, 5.2.5, Incident management

A disruption in service can take many forms. From slow network access to an outage of a critical business service, incidents have a direct impact on customers. Major incidents affecting security and compliance may result in regulatory or legal action. As services grow in complexity, incidents will happen, and how your team responds to them is as important as what you do to prevent them. Atlassian has found that high performing IT teams adopt a collaborative and proactive approach to plan, respond, and learn from every incident.

The [Atlassian Incident Management Handbook](#) offers a starting point to develop a complete practice for incident response.

1. Create strategies for incident response

Create an end-to-end playbook for responding once an incident is detected. By planning in advance, you can take the stress out of the situation for responders, keep the team focused, and shorten the time to resolution. Your playbook should include the following operational and functional practices, as well as team and collaboration efforts:

- Identify your team's [Incident Values](#), such as collaboration, communication, and “blameless” post-mortems.
- Clearly define what qualifies as a major incident.
- Document your major incident practices.
- Establish your [Incident Response Communications](#), such as response templates and communications for external versus internal stakeholders.
- Determine the core members on your incident response team-of-teams.
- Establish your Post Incident Review (PIR) practices.
- Conduct blameless PIRs for all major incidents.

- Publish and share PIR learnings.
- Conduct major incident simulation drills.

2. Stay in control with collaboration and communication

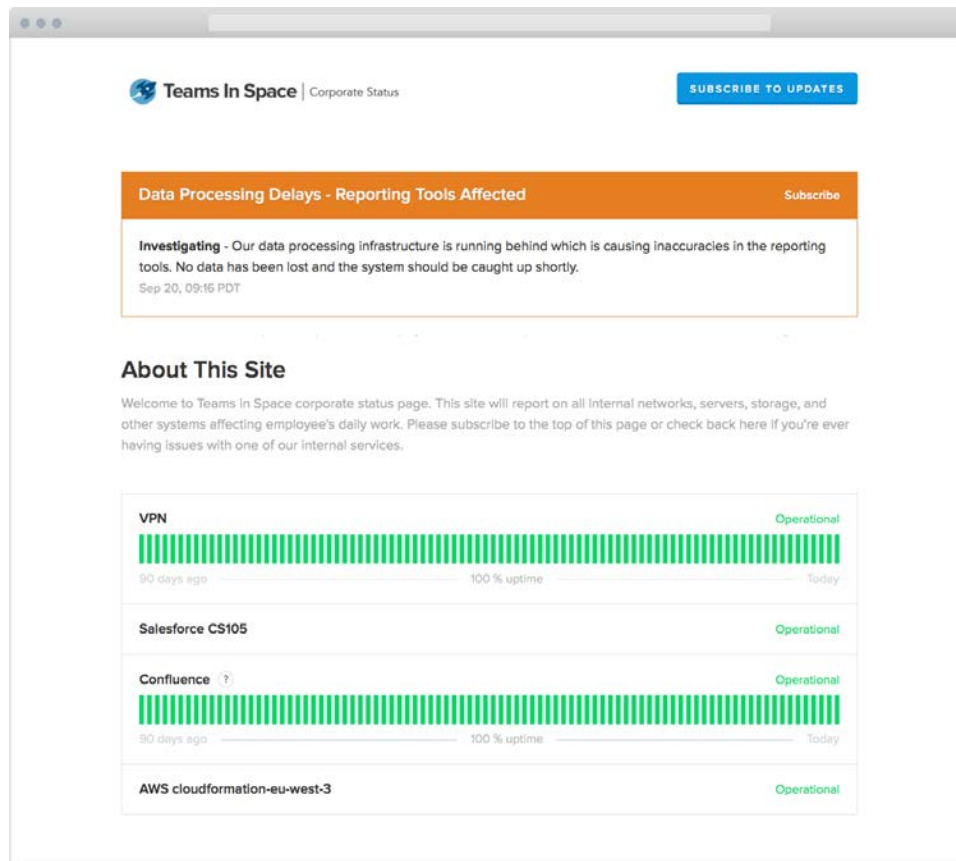
Your playbook can guide you through the incident, but strong collaboration and communication can lead to even faster resolution.

- **Centralize your incident runbooks in a shared collaboration tool.** Make it easy for core players to find them quickly and know exactly what steps to take.
- **Communicate with the right people, at the right time and channel.** Use an alerting system, like Opsgenie, to notify the person responsible for the service or component. Create virtual conference rooms with video and chat to orchestrate real-time responses across multiple teams.

The screenshot displays a comprehensive incident management dashboard for 'INCIDENT #23', which is currently 'OPEN'. The interface is divided into several functional areas:

- Header:** Shows the incident title 'INCIDENT #23' with an 'OPEN' status, the room name 'Banc.ly backend war room', and buttons for 'Leave call' and 'Add responder'.
- Left Sidebar:**
 - RESPONDER TEAMS:** Lists 'Banc.ly backend' (purple), 'Banc.ly SREs' (yellow), and 'Banc.ly frontend' (blue).
 - PARTICIPANTS:** Lists 'Josie Michaels' (Incident Commander), 'Frances Ball' (Communications Officer), 'Gussie Romero' (Scribe), 'Dana Casey', and 'Malenia Kang'. An 'Assign/Update roles' button is at the bottom.
- Center:**
 - Video:** A large video feed shows a participant with a headset. Below the video are icons for other participants: JM, MK, GR, FB, and DC.
 - Timeline:** A 'Stakeholder Updates' section with an 'Add entry' button and a 'Filter' dropdown. It contains a chronological log of updates:
 - 01:50 - Incident resolved - Josie Michaels
 - 01:47 - Malenia Kang: Support has verified customers can now access our online banking systems with no problems.
 - 01:45 - Josie Michaels: We have confirmed that the fix was deployed, and logs are now showing no further 500 errors on the /deposits/v2 API. Once we ensure that customer impact has been mitigated, the incident will be closed and we'll tackle the underlying cause as a follow-up task.
 - 01:34 - Josie Michaels: We're looking good on deployment. Expect to have things rolling again in about 10 min.
 - 01:20 - Gussie Romero: Dev team has implemented the fix and are doing their final tests prior to deploying it.
- Right Sidebar:**
 - CHAT:** A chat window showing messages from participants. Recent messages include:
 - Dana Casey: 'The event stream data had some invalid records. We need to fix the error handling and alerting.'
 - Frances Ball: 'I'm looking for the backend side of the problem, I guess we need more resources on eu-east to control the cause.'
 - Dana Casey: 'I've already done it, it will be effected in ~5 min.'

- **Send proactive communications to reduce support calls and tickets.**
Use a tool like Statuspage to keep customers in the loop with up-to-date information at every stage of the incident. For internal stakeholders, post an announcement through their preferred channel, such as the service desk portal.



3. Learn from the incident

Standardize Post Incident Reviews (PIRs) across teams to maximize learning from past incidents and improve service. PIRs should also focus on improving team health and cross-functional collaboration. Here's a suggested agenda:

1. **Reinforce the idea of a “blameless postmortem.”** Avoid blaming people for faults, but rather seek to identify how the system and processes allowed the incident to happen. This helps you honestly and objectively examine the circumstances that led to the incident.

2. **Discover root causes.** A technique like [Five Whys Analysis](#) from lean methodology helps you go “up the chain” and find root causes. Start by asking “Why is / are / does [your problem statement]?” The answer becomes the next problem statement, which continues until you arrive at the root of the problem. In many incidents, the true root cause is not a “technical” cause, but rather a “non-technical” cause based on system and processes.

Unify incident management and problem management

In many organizations, root causes are not typically investigated until long after the incident has happened. But in many cases, your team may benefit from integrating incident management and problem management practices. This proactive approach allows you to understand what led to the incident at the same time you work to resolve it. For example, resolving an incident in software requires identifying poor code (the cause), and then developing replacement code to avoid further incidents (the fix).

3. **Identify follow-up actions to prevent the incident from happening again.** Post-mortem actions should include both short and long term fixes. They should be worded in a way that is actionable, specific, and bounded by time.

PIR - 12072017 - TIS web-store outage
Created by Mitch Davis just a moment ago

Status & Review Team | Incident Summary | Incident Details | Fault | Impact | Detection | Response | Recovery

Associated Major Incident: [IFS-106 - Customers reporting webstore purchasing issues](#) **CLOSED**

Date & Time: 22 Apr 2019 - 1pm

PIR Status: **Waiting**

PIR Review Team:

Name	Role	Comments	Review Complete
@Max Taylor	Service Owner	I can attend a PIR meeting after my vacation. This is the second major outage this month so I'm interested to see if the team can find the root cause.	<input checked="" type="checkbox"/>
@Jennifer Evans	SRE team lead		<input checked="" type="checkbox"/>
@Mitch Davis	Development team lead		<input type="checkbox"/>

Incident Summary

At 1:00pm PST on Thursday afternoon, the TIS web-store encountered a fatal DB error that prevented all customer purchases. It may be related to a surge in customers purchases related to a promotional sale running this month but that needs to be determined. It took 30 minutes for the SRE team to restore normal service.

Incident Details

Lead Up
The cause of the outage appears to be related to a DB failure. Splunk dashboards show normal performance leading up to the outage.

Fault
TIS webstore purchasing application capacity to provision new databases was exhausted. A TIS database creation request took longer than 5 minutes to complete, ...

Standardize your PIR templates in Confluence.

Streamlined change control through automation and collaboration

Change control must balance the need to make beneficial changes that will deliver additional value with the need to protect customers and users from the adverse effect of changes... In high-velocity organizations, it is a common practice to decentralize change approval, making the peer review a top predictor of high performance.

ITIL® Foundation: ITIL 4 Edition, 5.2.4, Change control

As the rate of change increases, the work needed to manage service keeps growing, whether it involves rolling out new technologies, managing existing ones, or even modifying vendor contracts. All this happens while mitigating risks of impacting customers and stakeholders in a negative way.

In most organizations, change control often involves a heavy process that requires days of lead time. For example, the Change Advisory Board (CAB) approval process is often complex and time-consuming, which slows down the process. Many high-velocity teams are moving away from these approaches, or limiting them to only most riskiest changes. ITIL 4 encourages decentralizing your change authority into the business stakeholder or peer level. Instead of using a separate committee, build change control into your normal workflow with relevant stakeholders in your steering committees or weekly meetings.

Here's how you can add agility to change control, while balancing risk:

- **Automate low-risk standard change requests.** Set up an intuitive self-service portal for stakeholders and IT staff to easily raise a standard change request. Then use automation to auto-approve the change or kick off a brief approval process before it gets sent into implementation.

Help Center
Requests
45

Help Center / IT Support

Production managed system upgrade

When requesting a change to upgrade a production application, please include your change plans which should be documented in the Change templates found in Confluence.

Raise this request on behalf of

Mitch Davis

Summary

TIS webstore - product catalog search upgrade

e.g. Upgrade TIS web store

Description (optional)

To address a known performance issue we need to upgrade the Apache web server and Elastic Search which powers the product catalog search in the [webstore](#). My team has provided a complete RFC document in the attached Confluence change plan.

Please let us know why and when you need this, e.g. security patches. You can link to the existing information such as change plans too.

Change start date (optional)

25/Mar/19 12:00 AM

Change reason (optional)

Upgrade

Create Cancel

- **Streamline approvals with peer reviews.** Take documentation out of silos and into an open, shared workspace. Using a collaboration tool, such as Confluence, stakeholders can create change documents as a team, provide in-context feedback, and quickly iterate until the change is implemented.

Confluence
Spaces
People
Questions
Calendars
Create
Search

Dashboard / Infrastructure Change Management
1 Jira link

Normal Change - TIS Purchasing app patch - Apache v 2.4.29

Created by Mitch Davis, last modified less than a minute ago

Production System Upgrade - Normal Change (Stakeholder Approval Required)

Change Details | Testing & Support Contacts | Communications | Implementation Steps

Change Details

Status	PLANNING
Summary	We've had several performance incidents over the past 30 days that are impacting customers. To address known performance issues, we need to upgrade to the latest release of Apache web server. We've reviewed Apache 2.4.29 release notes and didn't see any major concerns with the update. We completed a successful upgrade of our TIS testing environment last week.
Implementers	<input type="checkbox"/> @Max Taylor <input type="checkbox"/> @Alana Grant
Approvers	<input checked="" type="checkbox"/> @Mitch Davis <input type="checkbox"/> @Admin Istrator <input type="checkbox"/> @Harvey Jennings
Stakeholders	@Harvey Jennings - Service owner
Impacted Services	TIS Webstore Services, TIS Pruchasing, TIS Shopping Cart, TIS mobile app
SD Change ticket	ICM-10 - Normal Change to address - shopping cart purchasing issues with the TIS web store PEER REVIEW / CHANGE MANAGER APPROVAL
Time of Change	State: January 19th 12am Stop: January 20th 4am

Pre / Post Testing - Please confirm if requested and who will perform baseline and post change verification.

Like Be the first to like this

No labels

1 of 1

Mitch Davis

@Max Taylor: please attach the upgrade results for the test system to the change request so we can review before the weekly meeting. Thanks!

Resolve • Like • 13 minutes ago

Mitch Davis

Reply

- **Improve flow of changes with automation.** Instead of manually tracking changes, use automation to enable your processes and standards. Workflow automation can route and assign the request to the next authorized person based on your business rules.

Paired with the deployment management practices in the next section, you can embrace a leaner change control practice to improve the flow of work and convert business demand into value faster and with higher quality.

Continuous delivery for deployment management

The purpose of the deployment management practice is to move new or changed hardware, software, documentation, processes, or any other component to live environments. It may also be involved in deployment components to other environments for testing or staging.

ITIL® Foundation: ITIL 4 Edition, 5.3.1, Deployment management

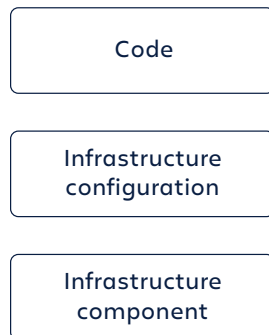
The goal of “faster, better, cheaper” has always driven changes in the industry. In the current age of virtual and cloud computing, manual processes have been replaced by applications that can now auto-scale. However, many IT organizations continue to assume frequent deployments result in less stability and reliability. At the same time, businesses are demanding faster and more frequent releases of IT capabilities to stay competitive, while expecting those releases to be more stable than the last.

To better manage this balance between high stability and faster service delivery, ITIL 4 introduces a new technical management practice: deployment management. In short, deployment management functions as an important bridge between change and release management. These three practices are necessary to deliver services both fit for use and purpose. Change control helps coordinate technical changes to maintain throughput and stability. Release management focuses on when and how to make new or updated component available to users. And deployment management is the technical vehicle that looks at how to move new or changed service components from one environment to another.

Change control

Expressed as code, in version control as audit trail

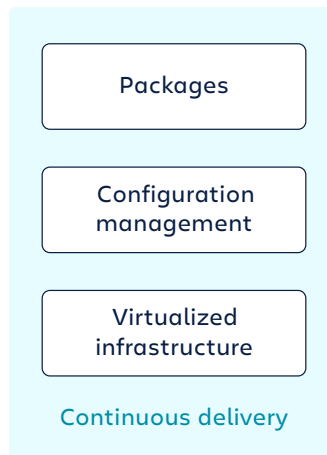
What changes?



Deployment management

Move to loosely coupled systems, with isolation and reliability

How to deploy changes?



Release management

A business decision to reveal value to users (or revert)

How to affect release?



We recommend these deployment management practices to ensure stability and throughput:

- **Decouple deployment from release for low risk deployments.** Instead of deploying all your features in one big release, put new code, configuration, or components behind a “toggle” and roll them out progressively. A toggle can be a router, a configuration string, or a feature flag. This allows you to practice continuous delivery, control the customer experience, and respond to feedback before rolling it out more broadly.
- **Use infrastructure as code to automate where you can.** Instead of relying on system administrators or using manual processes, infrastructure as code can automatically provision and deploy servers and applications. Infrastructure as code means applying tools that developers use for application development to infrastructure changes. Instead of manual change control processes, your version control tools now become the source of truth for audit trails.

- **Apply continuous deployment.** According to DORA's Accelerate: State of DevOps 2018 report, continuous delivery helps teams deploy 46x more frequently, and with 2,555x faster lead time from commit to deploy. The ability to make change quickly is better for reliability and security. Faster deployment leads to quicker recovery times from critical outages and speedier security patches for vulnerabilities.

Integrated software development and operations teams

Software applications, whether developed in house or by a partner or vendor, are of critical importance in the delivery of customer value in technology-enabled business services. As a result, software development and management is a key practice in every modern IT organization, ensuring that applications are fit for purpose and use.

ITIL® Foundation: ITIL 4 Edition, 5.3.3, Software development and management

As software is becoming the driver of innovation in many companies, software development needs to be both fast and stable. In the traditional software development model, those who write the code are organizationally and functionally separated from those who deploy and support that code. When Dev and Ops teams have different objectives, leadership, and performance measurements, we end up with mismanaged releases and unhappy customers.

To solve for this, DevOps was founded on building a culture of collaboration between teams that historically worked very differently. But even without undergoing a complete DevOps transformation, you can shift your mindset towards better collaboration, tighter integration, and shared risks and responsibility. Your organization will see increased trust, faster software releases, quicker issue resolution, and better management of unplanned work.

- **Build cross-functional collaboration.** Tooling and automation are most beneficial when Dev and Ops work together. Instead of function-based teams, consider forming project or product-oriented teams across development, QA, product, design, operations, and project management. If this is too big of a step, take smaller steps like inviting key developers to join your planning sessions, stand-ups, or even lunch!
- **Align on the same tools.** Teams work better when they're using the same language—and that goes the same with tools. IT teams can start to adopt Kanban boards to work visually and use integrated systems on a shared platform with developers to improve feedback and service quality.

- **Embrace concepts of continual improvement and learning.** Multiple frameworks, from agile to DevOps to ITIL, emphasize the importance of continual improvement. Taking these shared values and mindsets a step further, you can align the timing of your improvement efforts so the entire organization can move forward together. For example, if your agile dev teams work and iterate in two week sprints, you can also consider organizing your IT team's improvement cycles across monthly or quarterly increments.

Conclusion

Your role as an IT professional is evolving from supporting the business to differentiating the business. You are now enabling change and technical innovation to drive competitive advantage.

With the latest ITIL 4 update, the industry is moving towards a more integrated and holistic approach to managing work, and we believe these steps are critical to making this transition:

- **Focus on outcomes, not outputs.** Make sure your flow of work does not simply keep growing, but proactively streamline your flow of work and minimize unnecessary tasks. The goal is to move from “doing things right” to “doing the right things.”
- **Prioritize culture and practices over tools and process.** Build an open and collaborative culture to create a more resilient organization that can quickly adapt to change. Instead of rigid processes, establish adaptable practices that can guide your team towards the right behaviors and deliver value faster.
- **Embrace new ways of working, such as agile and DevOps.** Depending on your team’s needs, you might simply incorporate best practices into your existing workflow, such as an open team culture, continual improvement, and value streams. Or, you may decide to reimagine traditional ITSM processes, like bringing peer reviews into change control or applying continuous delivery.

For IT teams, now is the time to start moving towards more agile approaches to ITSM that value collaboration, ease of use, and value creation. At Atlassian, we’ve helped software teams transform the way they work, and we can help your IT teams do the same. Learn more about the [Atlassian IT solution](#) and the [Atlassian Team Playbook](#) to help you get started on your journey.

About the authors



Akshay Anand
ITSM Product Ambassador
and Evangelist, AXELOS

Akshay Anand is a Product Ambassador at AXELOS®, working on the development of new guidance and research within the ITSM portfolio. With experience from around the world, he previously advised Fortune 100 clients on how to improve their ITSM capabilities, implemented toolsets using ITIL best practices, and headed up global ITSM activities at Macmillan Publishing. More recently, Akshay has focused on bringing together agile development teams and ITSM professionals to address challenges posed by emerging technologies and market shifts. He infrequently tweets as @bloreboy, about ITIL, DevOps, food, comics and heavy metal.



Paul Buffington
Principal Solutions Engineer
ITSM, Atlassian

As a member of the Atlassian Enterprise team, Paul is responsible for helping customers redefine the shape of modern ITSM. His passion for all things IT is driven by 15+ years of consulting in the industry. His expertise spans the Atlassian products but also goes beyond the technology to helping teams improve the way they work. Paul enjoys spending time with family and their three golden retrievers on the Oregon coast. Hiking and photography are a perfect weekend for him.



Ian Buchanan
Principal Solutions Engineer
DevOps, Atlassian

Ian Buchanan is a Principal Solutions Engineer for DevOps at Atlassian where he focuses on the emerging DevOps community and the application of Atlassian tools for better continuous integration and continuous delivery. As champion of lean and agile practices in large enterprises, he has managed enterprise software development tools across all phases of their lifecycle, driven organization-wide process improvement, and built multi-national agile teams. When not speaking or coding, you are likely to find Ian indulging his passions in parsers, meta-programming, and domain-specific languages.



Teresa Fok
Product Marketing Manager
Atlassian

Teresa Fok is a Product Marketing Manager at Atlassian. From better understanding customer needs to helping them solve business challenges with Atlassian products, she's passionate about helping IT teams work better to drive change in their organizations. Teresa enjoys mid-century modern architecture, film festivals, and spending time with her chihuahua rescue in the San Francisco Bay Area.

Copyright © AXELOS Limited 2018. Used under permission of AXELOS Limited. All rights reserved This includes figure 4.2 & 4.3 in ITIL® Foundation: ITIL 4 Edition, chapter 4, page 48 & 56.

AXELOS®, the Swirl Logo and ITIL® are registered trade marks of AXELOS Limited, used under permission of AXELOS Limited. All rights reserved.