

# Change Management: A CA Service Management Process Map

Peter Doherty

SENIOR PRINCIPAL CONSULTANT

---

## Table of Contents

---

<b>Executive Summary</b>	<b>1</b>
SECTION 1: CHALLENGE	<b>2</b>
<b>Simplifying ITIL</b>	
How to Use the CA Service Management Process Maps	
SECTION 2: OPPORTUNITY	<b>3</b>
<b>Change Management</b>	
<b>Create and Record the Request for Change</b>	
RFC Review	
Assess and Evaluate the Change	
Authorize the Change	
Coordinating Change Implementation	
Review and Close Change Record	
Change Advisory Board (CAB) Review	
Emergency Changes	
SECTION 3: CONCLUSIONS	<b>9</b>
<b>Benefits of Change Management Best Practices</b>	
SECTION 4: ABOUT THE AUTHOR	<b>10</b>
ABOUT CA	<b>Back Cover</b>

# Executive Summary

## Challenge

The ITIL® V3 process framework approaches IT Service Management from the Service Lifecycle perspective. The Service Lifecycle is an organization model that provides insight into the way ITSM is structured. It embodies critical guidance for IT organizations seeking to improve service quality and align more closely with business goals—generating value for the business and its customers.

But ITIL V3 best practice guidelines are complex and challenging to interpret. Moreover, they are not designed to provide definitive advice about implementing ITSM processes. Consequently, many IT organizations undertake an ITIL journey without a firm idea of their goals or the path to achieving those goals.

Whenever you make a change to your controlled environment (not just production) you put the business at risk. But you constantly need to make changes to keep pace with business requirements. The challenge to IT is to minimize the risk and impact of change. You must have a process in place that allows the proper lead times and approvals to ensure that the business is unaffected when you make changes. But to implement one, you also need to have a comprehensive understanding of the infrastructure that supports the services to determine impact.

## Opportunity

Change Management is the gatekeeper of your controlled environment. It is charged with protecting anything that could impact services. Also, an optimized change Management process results in fewer incidents and problems, and ensures that strategic improvement requests are quickly processed and implemented.

In today's markets, the ability to easily and appropriately handle change is even more important. The balance between flexibility and stability is crucial to supporting the business. That is why IT organizations need to implement best practices for the entire, end-to-end, change management lifecycle. Only IT organizations that embrace this disciplined approach to Change Management will be able to deliver the operational agility essential for service excellence.

## Benefits

The CA Change Management process map provides IT organizations with the ability to ensure that changes are recorded, evaluated, authorized, prioritized, planned, tested, implemented, documented, and reviewed in a controlled manner.

Following the Change Management map provides guidance to:

- Faster, more successful change implementation with reduced risk
- Increase IT agility to support changing business needs and competitive pressures
- Increase governance of the change process
- Improve service levels, including reduced downtime across the IT infrastructure

## SECTION 1: CHALLENGE

### Simplifying ITIL

The ITIL V3 process framework focuses on the service lifecycle and the way that service management components are structured and linked. It embodies critical guidance for IT organizations seeking to improve service quality and align more closely with business goals.

But the ITIL V3 best-practice guidelines are complex and challenging to interpret, across all five phases of the service lifecycle. Moreover, they are not designed to provide definitive advice about implementing IT Service Management (ITSM) processes. Consequently, many IT organizations undertake an ITIL journey without a firm idea of their goals or the path to achieving those goals.

CA has developed a unique approach to charting the ITIL journey: a visual representation of the ITIL framework and its interdependent ITSM processes, modeled after an urban subway system. This three-part map (Figure A) presents an easy-to-navigate, high-level view of the ITIL terrain. IT executives, strategists, and implementers can use these Service Management process maps, along with the CA Service Management process map technology briefs expanding on them. The maps and technology briefs provide a common reference point for understanding and communicating about ITIL, and help you with program planning and implementation.

#### How to Use the CA Service Management Process Maps

CA's Service Management process maps (Figure A) illustrate every process (or track), each activity (or station), and the key relationships relevant to navigating continuous IT service improvement. The ITIL quality cycle takes the form of a "circle" with each Plan-Do-Check-Act (P-D-C-A) step, marked as a process integration point (junction) on the line. Junctions serve both as reference points when assessing process maturity, and as a means to consider the implications of implementing a process in isolation.

Strategic controls (Service Portfolio Management, Demand Management and Financial Management) are needed to reduce risk and optimize integration across the service lifecycle, as illustrated on the three points of the triangle centered in the P-D-C-A quality circle (seen more easily in Figure B). These strategic controls help in evaluating, prioritizing, and assuring the appropriate levels of financial and human resources for existing and new services.

This paper is part of a series of Service Management Process Map technology briefs. Each brief explains how to navigate a particular ITIL process journey, reviewing each process activity that must be addressed in order to achieve process objectives. Careful attention is paid to technology's critical role both integrating ITIL processes and automating ITIL process activities—along each journey.

*CA ITSM Process Maps illustrate—at a high level—how best to navigate a journey of continual service improvement guided by strategic controls throughout the service lifecycle. Each map describes the relevant ITIL processes and activities you'll need to work with to reach your goals.*

FIGURE A

CA has developed three maps focusing on critical ITIL disciplines: Service Design, Service Transition, and Service Operation.

#### 3 MAPS

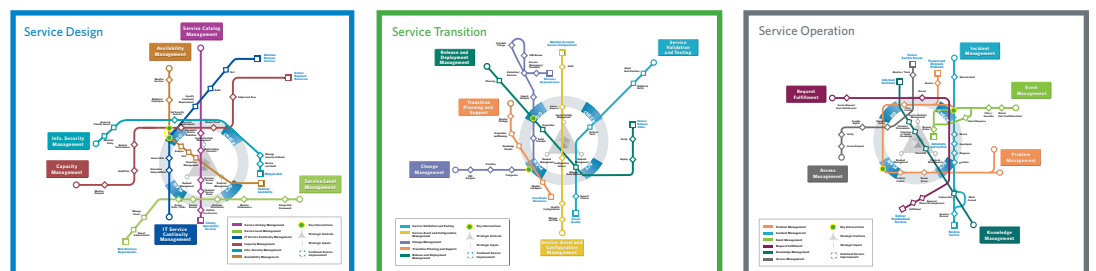
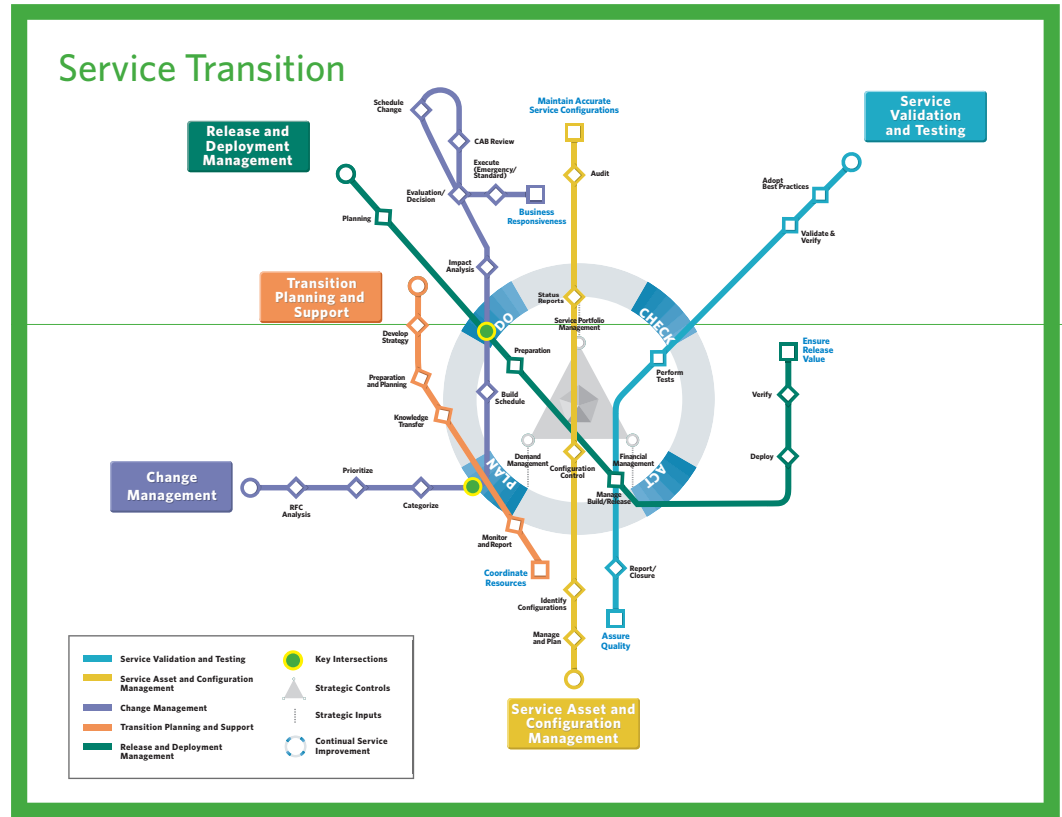


FIGURE B

The Service Transition map represents a journey of developing and improving capabilities for the design of new and modified services to production.

SERVICE DESIGN MAP



SECTION 2: OPPORTUNITY

*Including business stakeholders in the change implementation process supports continuous improvement by ensuring that changes are aligned with business goals.*

Change Management

Change is an intrinsic aspect of every business—especially healthy businesses that innovate and readily adapt to shifts in the market. For a business to remain healthy, its IT organization must be capable of effectively and efficiently handling change. It must be able to execute change with minimal cost and minimal risk of business disruption. IT must also be able to keep its infrastructure and services well-aligned with changing business goals and priorities.

In today’s fast-moving markets, the ability to easily and appropriately handle change is even more important. That is why IT organizations need to implement and automate best practices for the entire end-to-end Change Management lifecycle, from “Plan” through “Do”.

The Change Management track illustrates the process journey to determine the required changes and implement them with minimum adverse impact to the business.

Let’s review the Change Management process journey illustrated (Figure C), assess each critical process activity (or station), and examine how technology can be applied to optimize every station along the journey.

The major stations along the Change Management track include:

- Create and Record the Request for Change
- RFC Review
- Assess and Evaluate the Change
- Authorize the Change
- Coordinating Change Implementation
- Review and Close Change Record
- Emergency Changes

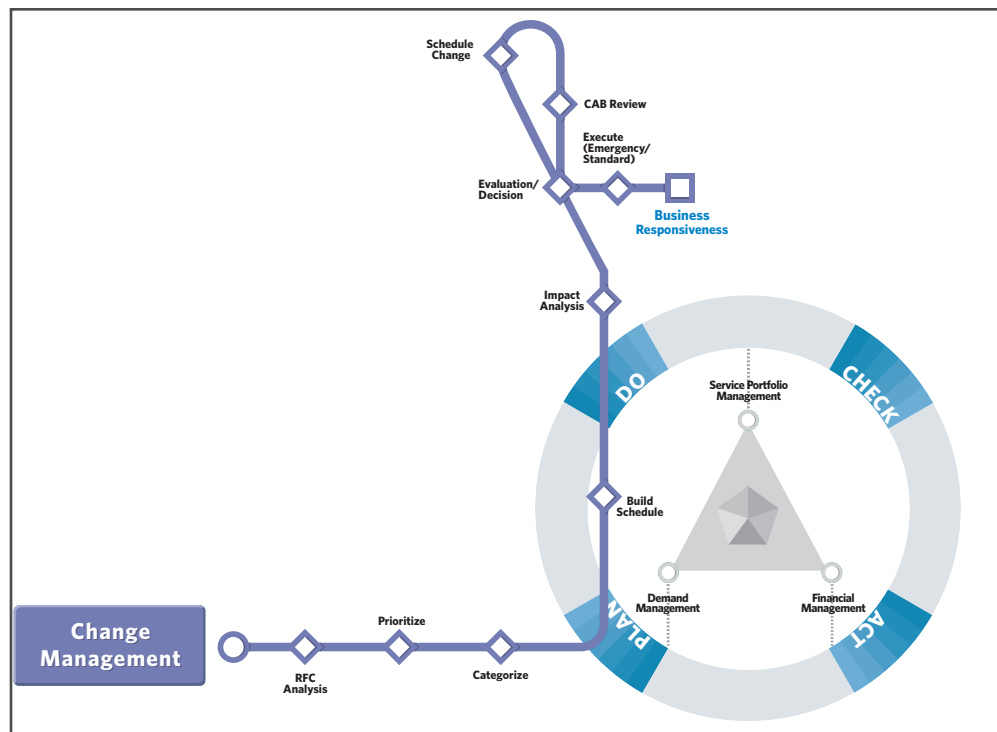
Note that while technology can greatly enable the automation of the Change Management process, it cannot do much to improve the business value of a process that is functioning poorly.

The Change Management track illustrates the process journey to determine the required changes and implement them with minimum adverse impact to the business.

FIGURE C


Only IT organizations that embrace this disciplined approach to Change Management will be able to deliver the operational agility essential for service excellence.

Change Management process must be well documented, especially during categorization activities, since decisions made then will affect how financial and other resources will be allocated.



## Create and Record the Request for Change

The journey of Change Management starts with a Request for Change (RFC). What is the difference between a service request and a RFC? Basically, a service request may involve making a change to the environment, but generally that change is operational and doesn't impact business services. A number of related service requests could generate a change if they require impact analysis or touch the production environment.



An RFC could be triggered by such activities as a customer request via the Service Desk, the introduction or removal of a Configuration Item (CI), or the output of a development project. It could also be triggered by Problem Management activities. To prevent a situation with too many entry points into the Change Management process, you can document who can create RFCs, what those RFCs are intended to do, and what information is required in them. Technology can help by ensuring that requestors have a simple way of submitting RFCs. The tool should drive them through the important steps and ensure that the correct level of detail is captured. It is also important to understand the business importance of the change.

The goal of Change Management is to facilitate all RFCs by using clear procedures, automation, and simple checks and balances. ITIL suggests that any member of the organization should be able to submit a RFC. If not managed properly, this could lead to un-gated demand and possible misuse of the Change Management system. A more appropriate approach would be to use service requests for routine standardized demands that need not be controlled by Change Management, and have IT or business relationship managers to submit RFCs.

Very few change processes require that the requestor provide the metrics to know that the change is successful. Consistently capturing this information requires a higher level of maturity, but it is something all organizations should consider.

### **RFC Review**

The RFC Analysis station is intended to perform an initial evaluation of the information provided for completeness and feasibility. An automated system can significantly shorten this phase by applying business rules to determine the information required. The ability to ensure that adequate change lead times are in place, and are in line with policy, is key.


### **Assess and Evaluate the Change**

The potential impact of the change needs to be assessed. ITIL's seven Rs of Change Management is a good place to start:

1. Who RAISED it?
2. What is the REASON?
3. What is the RETURN required?
4. What are the RISKS?
5. What RESOURCES are needed?
6. Who is RESPONSIBLE for the various activities?
7. What is the RELATIONSHIP between the change and other changes?

Depending on the type of change, the function could be performed by Change Management. But more often it will be necessary to get input and approval from the Service Manager and/or Service Owner—as ultimate responsibility rests with them. It is critical, from an impact assessment perspective, to have a well managed Configuration Management System (CMS) so you can visually perform impact analysis against related services, infrastructure, and business processes.

Today, in a highly shared environment, an individual cannot track all of the touch points between technology and business services. For example, if a change requires a clustered web server to be rebooted, one has to track which business services will be affected, and how that will impact Service Level Agreements (SLAs).



In addition, as no change is without risk, a risk assessment must be carried out. It is important to apply risk in business terms and not just IT terms. In IT we traditionally say that a risk assessment of medium risk is unacceptable. Today, IT will implement a change based on its importance to the business, so long as the business is willing to bear the risk.

In order to measure risk, you have to assess the actual risk associated with implementing the change, then compare it against the risk of failure if the change is not implemented. Both types of risks should be evaluated and cost-analyzed. It is also important to account for risk remediation; for example, back-out plans.

After performing the initial RFC assessment, the next step is to Evaluate the Change. This occurs by analyzing the impact and the urgency of the change (if the change was generated by a problem), or, alternatively, the importance of the change to the organization. All members of the Change Advisory Board (CAB) will need to support the change or be prepared to support their case for any alterations.

Like incidents, the changes priority is driven by impact and urgency. This may be different to what was set by the requestor. Once the change priority is determined, it is used to determine resource requirements and change scheduling windows. In a resource-constrained environment, business units can use the change priority to internally prioritize demand.

The Assess and Evaluation station is actually a major hub for a number of activities. Categorization involves evaluating the size of the change from a resource requirements perspective, the risks associated, the priority, and then deciding which process steps you will follow to execute the change. These are extremely important activities, since it is assigned according to business impact, and therefore determines the level of change authorizations, financial and resource requirements. During this stage, IT must collaborate with the business to ensure the correct categorization of changes and avoid problems further down the line.

The bulk of Change Management work is done at this station, with many checks and balances to ensure that change approval becomes relatively straightforward. In this way, organizations can realize the major benefits of Change Management; for example, by utilizing technologies to help determine change categories—based on criteria agreed upon by the business—to quickly absorb large volumes of changes, and determine the costs of changes before they are incurred.

For a minor change, a small number of workflow tasks should be completed that, for the most part, will involve approvals and implementation scheduling. A minor change is appropriate only where a small amount of effort and risk is involved. Similar categorization can be used for significant changes. This is another area where technology can streamline and automate the process itself, using business rules to insert the correct process flow into the change and then report conformance against the workflow—while also providing an audit trail.

It is important that change scheduling is performed to meet business needs and not just IT requirements. Clear maintenance windows should be agreed on so that maintenance changes can be effectively scheduled. Where the change is of a business-driven nature, IT should negotiate with the business to provide acceptable windows to implement the change. (In this case, you should also consider getting the business to agree to waiving SLA requirements if their actions cause an SLA breach.) Once scheduling has been agreed upon the Change Schedule and Projected Service Outage systems need to be updated to give full visibility to the change.



### **Authorize the Change**

It is important to have well documented authorization roles that can change as determined by the Assessment and Evaluation function. The Change Authority required for authorization should rest at a level that is accountable for accepting the level of risk and remediation available. One of the Change Authority groups is the CAB (see later in document for description of roles and responsibilities).

### **Coordinating Change Implementation**

This station includes building the schedule for provisioning hardware and software, and performing the work needed to put the change together. The change needs to be tested in a pre-production environment to make sure that it has every chance of success. Back-out plans and a “go/no-go” decision point must be specified ahead of time. You do not want to leave that decision in the hands of the implementers, as this encourages a “hero” culture where people will keep trying to implement a change to make it work. This is a poor practice and generally means that the change process didn’t work—and that there is a higher risk of the change failing or having undesirable impacts on related IT services.

The implementation station is the next step. Only the changes that are approved and scheduled in the change window can be implemented. This is not an opportunity for people to introduce unauthorized changes. The entire premise of the Change Management process is to protect the production environment; unauthorized changes put this objective at risk. An implementation report is produced for review by the Change Authority (or at the next CAB meeting) to ensure that the business goals were met and the risks and costs to the business were minimized.

Including business stakeholders in the implementation process allows for continuous improvement because they are constantly engaged to ensure the change process is aligned with business goals. If they are not, you may not meet the business objectives and thus be forced to refine your process to make the necessary changes.

### **Review and Close Change Record**

Often times organizations are in too much of a hurry to close out changes. If they arose from a problem, they do not allow enough cycles for the problem to reoccur. So if the change was a problem-fix, it is important to wait a number of cycles to ensure it does not reoccur before closing the loop.

That being said, the completion of every change should be reviewed by the Change Authority or CAB. If you capture the success criteria at the beginning of the process, this step is much easier. Any incidents that have occurred since the transition to the production environment should be included in this review.

There are two different types of review, depending on whether it was a service or infrastructure change. With service changes, the focus should be on whether the change delivered the required business effect, all stakeholders are happy with the result, there were no undesirable side effects, and the plan was executed within timelines and budget.

Infrastructure changes have a similar review process, but the results are generally much more clear-cut and easier to review.



### Change Advisory Board (CAB) Review

Once the Categorization work has been completed, the decision to proceed—or not—is made. This happens at a CAB meeting. The CAB should consist of all the interested parties for active changes, both from IT and the business. The CAB should meet regularly and use formal meeting procedures, including meeting minutes and regular communications. The CAB should review all proposed and implemented changes (for which this constitutes the Post Implementation Review).

For new changes, there should be agreement on the need, resource allocation, and available funds. A considerable amount of work may be required after CAB approval, which is why it is important to automate as much of this complex process as possible. Minor changes should be authorized prior to the CAB meeting, which should focus on change requests that have higher risk and associated costs. Again, this is why the business must be involved from the Design phase onward. Everyone needs to understand what is critical to the business to determine the changes that can be pre-approved, as compared to those that need to be analyzed further.

The CAB should also review implemented changes to determine the quality of the process and whether the changes were implemented correctly. Determining that the technical aspect of the change was successfully implemented is insufficient. It is required to determine whether the change achieved its purpose.


More mature organizations will wait for a specified period before “closing” a change. IT should demonstrate its engagement with the customer at the CAB review by ensuring that business users affected by changes are fully involved in the decision-making process. The CAB has responsibility for approving or rejecting changes. They should also perform the due diligence and, in instances where there is not enough information, make a decision to send the change back to the requester. Approval must be gained at three levels: technical, business, and financial. Since CAB meetings can require significant time and resources, technology can be supportive; for example, by giving CAB members electronic access to RFCs for electronic approval.

Once the CAB approves the change, the “Do” phases of scheduling, building, testing, and implementation begin. The CAB has to be financially responsible and strike a balance between managing risk and controlling costs.

Once all approvals are given, it is appropriate to schedule the change. More activities need to happen before a change window can be selected. In major releases, an organization may be restricted to certain maintenance windows and should put a place holder in the Forward Schedule of Changes (FSC) calendar. These key activities are best controlled by using best practices for project portfolio management. This is one of the key steps in increasing the value of Change Management and taking advantage of the proactive potential.

The key stakeholders should work out scheduling to ensure that all the implementation steps required to institute the change are achievable. Automated technology helps keep everyone informed of what needs to be done and when it is needed.

Providing visibility into when changes are scheduled to be implemented is critical. In this scheduling phase, the FSC should be updated. This should take the form of a generally available calendar view indicating when you’ve scheduled all change windows. Within each window it should clearly state any (business) services or technologies that will be impacted, along with the start and end time of the implementation.



The FSC is important for a number of reasons. First, it allows changes to be implemented together where there is an opportunity to do so (for example where there is common infrastructure being affected). Second, it provides the ability to quickly spot change conflicts or situations where the time of the planned change could have a detrimental affect on the business. For example, if the business is running a sales campaign it would be inconvenient if certain Web services were unavailable during that time. Third, the FSC makes the Service Desk aware of planned change and service outages so they can place an advance notice on the bulletin board and are prepared to answer the influx of calls. Otherwise, the Service Desk might waste time trying to diagnose the increase in incidents caused by the service outage due to the implemented change.

### Emergency Changes

All the discussion above has been in the context of a well-planned process where forewarning is embedded into the Change Management process. In a dynamic operational environment there will often be times when high-impact incidents and problems need fixes applied that involve a change to the production environment. This is not an opportunity to bypass the change process; there should also be a process in place to handle urgent or emergency changes. Change approval is still a prerequisite in these cases, but the standard process is generally condensed and some of the CAB approvals are delegated.

Organizations that have not fully developed their Change Management processes will see a high volume of emergency changes, most likely because of timing. This is normally due to lead times not being enforced, with changes continuously and mistakenly viewed as emergencies. One way to gauge whether a change is an emergency is to determine whether there is a high-impact incident or problem open that this change can fix. If this is not the case, then you must question whether it's an emergency change.

The last step is to review the Change Management process as an entire unit. Change Management is an iterative process that requires constant review and adjustment for continuous improvement. This is why the process owner should constantly be reviewing changes to look for ways to make the process better and to consult with the business often to ensure their needs are being met.


---

## SECTION 3: CONCLUSIONS

### Conclusions

In simple terms, the underlying goal of Change Management is to protect the business, because any time you touch the controlled environment you put the business at risk. Failed changes are better than changes that are successfully implemented and cause failures later—but both are problematic. It is not sufficient to just have a good Change Management process. Compliance with agreed-upon procedures is also required to make sure things are done accordingly, and a full audit trail of everything that has been done is easily accessible. To do this process manually in a complex environment is difficult, prone to human error, and encourages people to bypass the system.

To raise the level of maturity to where business impact and risk assessment is performed requires integration with Service Asset and Configuration Management. It will provide Change Management with a baseline, priority and urgency of changes, and detailed information on the history and relationships among CIs. This is necessary in order to effect a complete impact assessment of changes made.



Integrated technology and process automation solutions can significantly ease the overhead of managing the change process, while also ensuring process compliance. Some potential ways to automate Change Management include:

- Embedding a change process in the solution based on the change category. Analysts can then select the appropriate workflow template to automatically assign individual tasks to the appropriate resource in the change process.
- Assisting the CAB by providing information to the relevant people electronically so they do not actually need to come together to discuss changes unless there is a specific reason for doing so.
- Ensuring conformance to the process by not allowing the change to progress unless the prerequisite tasks have been completed and a record is made of who completed them and when.
- Performing business impact analysis through the Service Asset and Configuration Management process to determine what business services are impacted by changes to the infrastructure. Often, without this link to Service Asset and Configuration Management, it is nearly impossible to determine all the impacts that a single change can cause since there is no relationship information associated with the infrastructure.
- Unifying change processes across both IT operations and software development.
- Allowing the Change Management process to be a business enabler where the repeatable process is constantly used without the requestor having to try and work out what needs to be done.
- Offering Service Levels for Change Management and using business rules to proactively monitor service and raise visibility automatically when a violation occurs.
- Engaging with the customers and making them part of the Change Management process, using facilities such as portfolio management to prioritize strategic change requests.

---

#### SECTION 4: ABOUT THE AUTHOR

**Peter Doherty**  
Senior Principal Consultant

### About the Author:

Peter Doherty is an ITIL Master (Distinction), a contributing author to the ITILV3 Service Operations Book and a Principal Consultant for CA.

With 25 years' Service Management experience he is CA's foremost Service Management evangelist in the Asia Pacific region. He is widely published on the subjects of IT Service Management, IT Asset Management and Cultural and Organizational Change Management, and is a frequently-requested speaker at forums worldwide. He is also a practitioner, who has designed and implemented many Service Management Programs.

---

To learn more about the CA ITIL solutions, [visit ca.com/itil](https://www.ca.com/itil).



CA, one of the world's largest information technology (IT) management software companies, unifies and simplifies the management of enterprise-wide IT for greater business results. Our vision, tools and expertise help customers manage risk, improve service, manage costs and align their IT investments with their business needs.