

# A Practical Guide to Services and Service Models

## Acknowledgments

We greatly appreciate the contributions of the following BMC Software thought leaders:

- Technical Editor:** Atwell Williams, Senior Director, Office of the CTO
- Content Contributors:** Ken Matson, Senior Technology Solutions Specialist, IT  
Anthony Orr, Director, Office of the CTO  
Richard Peasley, Solution Architect, Consulting Services  
Patrick Plewes, Director, Consulting Services
- Technical Reviewers:** Bill Emmett, Senior Manager, Product Marketing  
Kaushik Nanavati, Principal Product Developer  
Roy Ritthaler, Senior Director, Solutions Marketing  
Darius Wallace, R&D Solutions Architect

- 
- Editor:** Elaine Korn
- Editorial Team:** Lea Anne Bantsari, Bantsari Editorial Services  
Pauline Benninga  
Karen Nichols
- Design:** Liora Blum, Liora Blum Graphic Design

Special thanks to Ali Ghazanfari for production.

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# Introduction

Today, the relationship between IT and the business is rapidly changing. Successful IT organizations are making the shift from being providers of technology to being trusted partners and even leaders in achieving business outcomes. To facilitate this shift, they must learn to speak the language of the customer — the language of *services*.

Customers don't want tools and technology; they want outcomes facilitated by the effective delivery of IT services. As a result, IT organizations must not only learn how to define the services that are relevant and valuable to the business, but they must also learn how to model those services to ensure ongoing, reliable, cost-effective service delivery.

This book, *A Practical Guide to Services and Service Models*, provides prescriptive guidance for defining and modeling services. This book is intended for IT professionals involved in defining and delivering ongoing services to the business, including service managers, enterprise architects, change managers, and business relationship managers. Additionally, at a high level, IT executives will benefit from an understanding of the major concepts and stages outlined in this book.

The most important takeaway from this document is the philosophy of how to approach this activity. Every organization is at a different level of maturity and has a different set of issues to solve, different degrees of funding, and different levels of executive commitment. This document defines a framework that allows you to adjust the approach to your particular situation. In other words, this practical guide is not intended to hand you a fish but instead to teach you *how* to fish. As such, it may be helpful to read through the entire guide before starting the program.

This guide provides a framework for defining services and creating service models in five logical stages:

- » Stage 1: Identify desired outcomes for your service model program
- » Stage 2: Define your services
- » Stage 3: Model your service
- » Stage 4: Operate and maintain the service model
- » Stage 5: Continually refine the model

Each stage is further divided into steps, as illustrated in Figure 1.

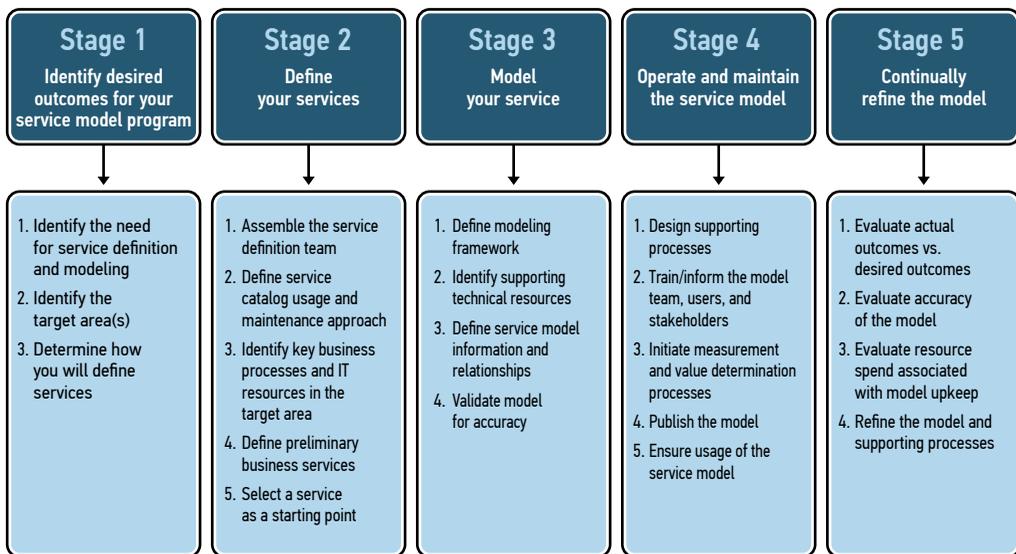


Figure 1. Overview of stages and steps

You will likely spend significant time in stages 1 and 2 the first time, as you initiate your services program. After the first service, you will still want to go through stage 1 and assess whether what you determined still holds. The decision will be much quicker, and then you can execute in stages 3 and 4 until you have finished

modeling all of your services. Stage 5 should start as soon as the first service model is created and continue from there. Finally, please note that some of the steps in stage 4 can be done in parallel with steps in stage 3. This is discussed further in the relevant stages. Figure 2 illustrates the process flow among the stages.

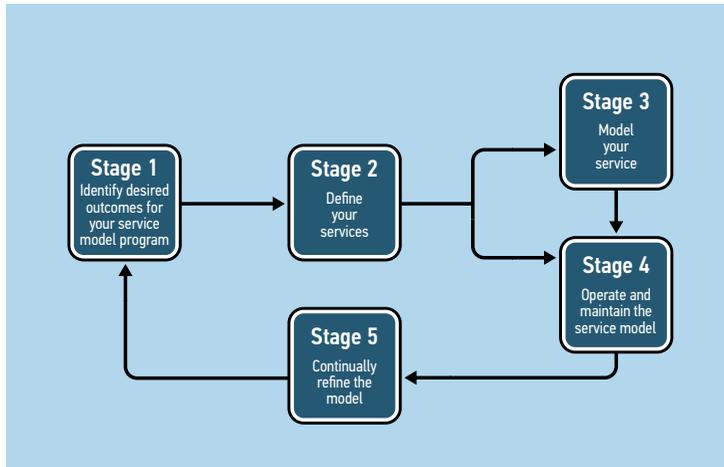


Figure 2. Process flow among stages

While moving through the stages, keep in mind that a services program is an evolutionary journey rather than a specific destination. As your company or business continually evolves to keep up with market demands, IT must also evolve to keep up with new business requirements by continually refining existing services and adding new ones.

### Initial guidelines

As you set forth with defining services and creating service models, here are nine tips to keep in mind:

1. **Set expectations at the outset of the program for the definition of success.** These expectations should be well defined and agreed upon by both IT and the business and should be used as a means of measuring success throughout the program.
2. **Don't build service models in isolation.** Make sure that the business is involved. That is, use service models to help you engage with and become a partner to the business rather than just a technology provider.
3. **Enlist executive-level support.** This means real support — an executive sponsor tied to the success of this program.
4. **Ensure that your most influential stakeholders are on board with and fully support this program.** If not, your project will be dead before it starts.

5. **Create well-defined roles and assignments.** In addition to clearly defining any new roles required for this program, make sure you assign them to the right people. This activity is more than a reorganization of the reporting structure. It's all about having clear roles and responsibilities aligned to the right resources.
6. **Be serious about maintenance and continual improvement.** It's not enough to just create the service model. The model must be maintained and continually improved to deliver ongoing value.
7. **Foster a collaborative relationship between application development and infrastructure groups.** To accurately model your services, you need a holistic view of your IT technology landscape, including both applications and infrastructure. Make sure to get representation from both organizations on your services program team.
8. **Just do it.** Be willing to move forward with your program. Don't get stuck in a state of "analysis paralysis."
9. **But, do just enough.** Your program only needs to be complex enough to achieve your objectives.

Initiating a service model program is a big, but manageable, undertaking. The guidance in this book will enable you and your organization to tackle it in a structured manner and bolster your position as a valued partner with your business customers.



## Stage 1

# Identify desired outcomes for your service model program

### Stage overview

#### Outcome

In this stage, you will build a business case for making the shift to a service orientation. The business case will help you gain buy-in for the program as well as help you focus on achieving specific end results when you actually begin the process. Upon completion of stage 1, you will have laid the groundwork for a successful program to transform IT into a more service-oriented organization.

#### Typical duration

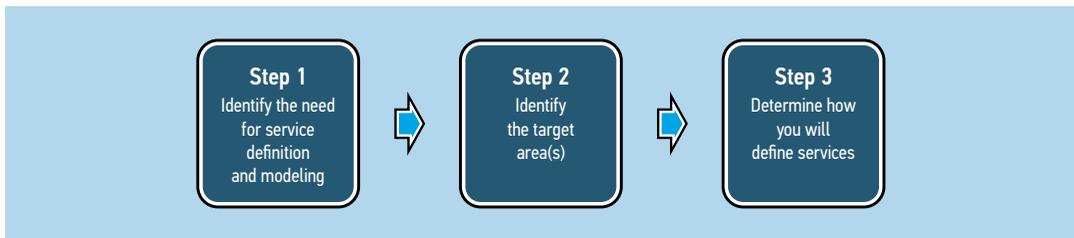
This stage can be completed in one to three weeks. If you already know what information you have, then this stage can be accomplished very quickly. If you need to search for data, then this stage will take longer.

#### Before you begin

Before you start down the path of defining and modeling your services, you need to know where you are going and why. With limited IT resources, you must have a good business justification for moving forward with any program. This is especially true of transformational or new investment initiatives. The best way

to gain the necessary resources and buy-in from your stakeholders is to have a clear business case explaining why a service orientation is needed and what the business stands to gain from the effort. Key questions to answer include the following: Why are you embarking on this program? Who are your customers? What problems will you solve? What business value will you provide? Where will you focus?

## Summary of steps



## Step 1: Identify the need for service definition and modeling

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### Step overview

In this step, you will evaluate and document why you are proposing to move forward with this program. Is there a specific issue you need to resolve? How will a service-oriented IT organization better help your business to achieve its goals? What benefits will the business get in return for its investment? How will the customer be better served?

Make sure you focus on the business your company is in. For example, ACME Shoes makes, distributes, and sells shoes. If the service manager at ACME Shoes were to answer the aforementioned questions in the context of what ACME Shoes does as a business, possible answers might include the following:

- » What is the issue? Inventory systems are frequently offline, affecting the ability to know what is available to sell.
- » How will service-oriented IT help? The Operations team can understand the impact of outages of individual components.
- » What are the potential benefits? Revenue loss can be avoided due to the availability of key business systems, enabling the sale of in-stock inventory as well as quick restocking of hot-selling items.

Ultimately, you will want to clearly define the business value(s) that will be provided as a result of this service definition and modeling effort.

## Tasks

1. **Build the team.** As you build the team, be sure to have representatives from both the technical and business areas relevant to your objective(s). This is the core team that is involved throughout the entire project. Key functions represented should include application owners, development operations (devops), service operations, and program management.
2. **Determine the challenges you need to address, or the opportunities to pursue, with the proposed program.** IT organizations may undertake a service definition and modeling program for a variety of reasons, including the following:
  - » IT-to-business alignment assessment and improvement
  - » Disaster recovery planning
  - » Service release planning
  - » Service costing
  - » Quality of service improvement
  - » Service change impact assessment

It is crucial that you understand from the outset the reasons you are embarking on this journey, the goals you hope to achieve, and the definition of success. Beginning your program with this level of focus and clarity will inform and guide all of the subsequent steps and activities in the program. To help discover your true objective(s), ask yourself questions such as the following:

- » Are there certain opportunities in the market that IT could help the business to capitalize on?
- » Does the business need to create/update its business continuity plan?
- » Are you planning to deliver services over mobile devices or use technologies such as cloud?
- » Are you considering implementing chargeback/showback for your services?
- » Do you have frequent outages or slowdowns of critical business services?
- » Do you need to understand the impact that changes in your infrastructure will have on the business?

Answering these types of questions will help you focus on your areas of greatest need for service definition and modeling. Be sure to document and prioritize the desired outcomes that will serve as the basis for your program.

**It is crucial that you understand from the outset the reasons you are embarking on this journey, the goals you hope to achieve, and the definition of success.**

3. **Based on the challenges and/or opportunities you identified in task 2, define what success will look like.** You have identified key challenges or opportunities in task 2. Now, specify exactly the end result that you are trying to achieve in the form of understood and measureable success metrics. For example, if your reason for the initiative is to gain a better understanding of service costing, then specifically define what that means. Do you want to be able to implement chargebacks to recoup your costs? Or is your goal to reduce costs? Again, be sure to document your answers here, with clear business benefits and success metrics. When defining success, define in terms of outcomes, not in terms of the means to achieve these outcomes. See the example in Figure 3.

Challenge	Success criteria
<p>Server outages during quarter-end close prolong the process and impact the organization's ability to report in a timely manner</p>	<ul style="list-style-type: none"> <li>» Improve mean time to repair</li> <li>» Increase availability of key systems from 98% to 99%</li> <li>» Complete quarter-end close with no glitches</li> </ul>

Figure 3. Example of challenge and success criteria

4. **Evaluate what your organization needs to move forward, and proceed accordingly.** This task requires an understanding of the culture of your organization. Some organizations require a formalized business case to proceed. In other organizations, a presentation and discussion are enough to gain buy-in and move the program forward. In either case, include an example of tangible results either in the form of a sample business-centric report that otherwise is not currently available or in before-and-after metrics highlighted up front. It's also important to assess the maturity of your organization. Vision is good, but you need to have the right players, executive support, and resources to execute any vision. This is more a matter of how much of the vision do you take on given your organization's maturity than it is about whether you should pursue the vision at all.
5. **Create a timeline.** Ensure that everyone understands the timeline you are working on. How long will this program take? Make sure to manage everyone's expectations. Additionally, you will most likely need to identify quick wins that can be delivered on a periodic basis.
6. **Communicate, communicate, communicate.** Once you have identified and justified the need for service definition and modeling, then spread the word. Create a deliberate communications plan within the team, mapping to key organizations and stakeholders across the company. Everyone who will contribute to the success of this program needs to understand how it will benefit them, the IT organization, and the company overall.

## Key considerations

**If your plan is ultimately to build a service portfolio versus just a service catalog, then you will need both service definitions and models.** Service models enhance the ability to make factual decisions related to service knowledge (data, information, metrics, etc.) and will become the foundation for a service portfolio, which enables you to understand and manage IT from an overall business perspective. If your goal is just to build a service catalog, then you can stop after defining services. But if you want to create a service portfolio, you will need service models to show how the infrastructure ties to the business service.

You will want both broad executive involvement and an individual executive who will champion this program.

**If you have a truly global organization, then you will need global buy-in for this program.** Different geographic organizations need to feel they have a say in the process and are not being dictated to by the central office. Organizational collaboration from a global perspective is important for efficiency and overall effectiveness of the program.

**Make sure to have executive support.** You will want both broad executive involvement and an individual executive who will champion this program. This advocacy will help ensure that you will have the resources to accomplish your goals.

## Step 2: Identify the target area(s)

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### Step overview

In this step, you will decide the area of the business that you will focus on. Will it be finance, manufacturing, marketing, sales, or some other area? It won't be possible to focus on the entire enterprise at once, so select one or two target areas.

### Tasks

1. **Determine target areas.** Review the business objectives and outcomes that you identified in step 1. The target areas will depend on the outcome you're trying to achieve. In step 1, you identified and prioritized areas that have challenges and/or potential opportunities. Are there particular business areas that need to be addressed first? What customers are related to those areas? Since you have already outlined reasons for service definition and modeling, you may already have an idea about where to begin. Is there an area where a quick win could gain greater buy-in for this program?

An effective exercise is to prioritize and rank *all* the identified target areas and review them with either senior management or your customers to ensure everyone is looking at them in the context that is best for the company. Whether your business objective is related to business impact/alignment, service quality, service costing, or some other goal, keep the end in mind.

- Determine the business function(s) that are affected by the specific challenge or opportunity you have identified, and talk to your business counterparts.** Given the target area you just identified, determine the specific business function(s) that the program will impact. Is it accounts payable, payroll, customer support, or sales and marketing? Once you have identified the target area, begin interviewing the personnel in that area to get a sense of the IT resources they consume and the issues (if any) they perceive with those resources.

In choosing a target area, select an area that is highly relevant to the business.

### Key considerations

#### **Keep in mind the overall objectives of the business.**

In choosing a target area, select an area that is highly relevant to the business. Make sure you focus on core competencies and differentiators that address market needs. For example, if you are a car manufacturer, focus on an area that will improve the car's performance rather than on how to improve the performance of the network printers.

**Don't necessarily choose the most visible area as a starting point.** Keeping in mind the previous key consideration, select an *important* area but not a *highly visible* area. You will want to start with an area that gives you a good chance to achieve success. But, on the other hand, if the program encounters delays or issues, you don't want them to be so visible that you fail spectacularly.

**Think about areas where IT can do better.** If you are unable to find an obvious point of pain in the business, maybe the starting point should be an IT area or function. Perhaps you just want to get better at running your IT organization. In that case, you might start with an overall discussion around the application portfolio.

**Be sure you have buy-in from the business unit you would like to work with.** Make sure that the target area is relevant to the business organization that you're working with. For example, if you select quarter-end close as the first challenge to address, run that by your CFO. He or she might agree with you, or the response might be, "That's not an issue for me. I am more concerned about xyz." In that case, if you continue to focus on quarter-end close, your efforts might be wasted.

## Step 3: Determine how you will define services

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### Step overview

You have outlined why you are doing this program and identified the target business area(s) to start with. Now you are ready to decide how you will proceed with defining services.

### Tasks

1. **Determine your approach.** You can use one of three possible approaches to define your services: (1) a business-process approach, often referred to as the *top-down* approach; (2) an infrastructure, or *bottom-up*, approach; or (3) a *middle-out* approach. How you proceed will depend on your business objectives. The following discussion will help you think about the best way to proceed with your program.

**Top-down approach:** This approach is useful for defining the services primarily from a customer view or business outcome perspective. It is also appropriate when you want to be able to define the costs to support, manage, maintain, and operate a service. With this approach, you start with the business outcomes and identify the key business processes, capabilities, and resources that facilitate those outcomes. Then, you identify the primary IT components (e.g., applications and servers) that support those processes. This will start to give you a sense of your business services. From there, you can continue to identify lower supporting technology layers until, ultimately, you get to the bottom layer of infrastructure. You don't need to get all the way down to every configuration item (CI) in the infrastructure layer. There may be abstractions — pools, pods, or transactions — that approximate the health, performance, and contribution of the infrastructure to the service.

The top-down approach is strongly recommended because it helps you become more service-oriented and ensures that you focus on business outcomes.

This approach can be supported by a bottom-up or middle-out approach. However, you still want to understand the business outcome you want to achieve. The only real difference with a bottom-up or middle-out approach is that you are starting with the lower-level IT resources and aggregating them into services, and then aggregating the services to processes to roll up to an outcome. You still have the same hierarchy: outcome, processes, resources.

**Bottom-up approach:** This approach is useful when you want to know what business services are supported by lower layers of the IT infrastructure. With this approach, you start at the infrastructure level (e.g., virtual and physical servers, application components, network, and storage) and determine what

The top-down approach is strongly recommended because it helps you become more service-oriented and ensures that you focus on business outcomes.

business services each infrastructure component supports. You then work up the dependency chain in order to reach the desired business process. It is important, therefore, to decide along the way what components or CIs you want to capture within the model. Once you reach the business process level, you should be able to identify and define the associated business services. Remember that there is usually more than one business service associated with each infrastructure CI.

**Middle-out approach:** In some cases, the best approach is a combination of the top-down and bottom-up approaches. Here, you start with a business application and then work with the business users to determine the business processes supported by the application. Meanwhile, also work with the IT infrastructure team to determine the lower-level infrastructure that supports that particular application. This approach is most useful when the organization is very aware of the applications used to support the business customer. Typically, the mapping to the business service can be a quick win with the detailed, lower-level IT decomposition coming later.

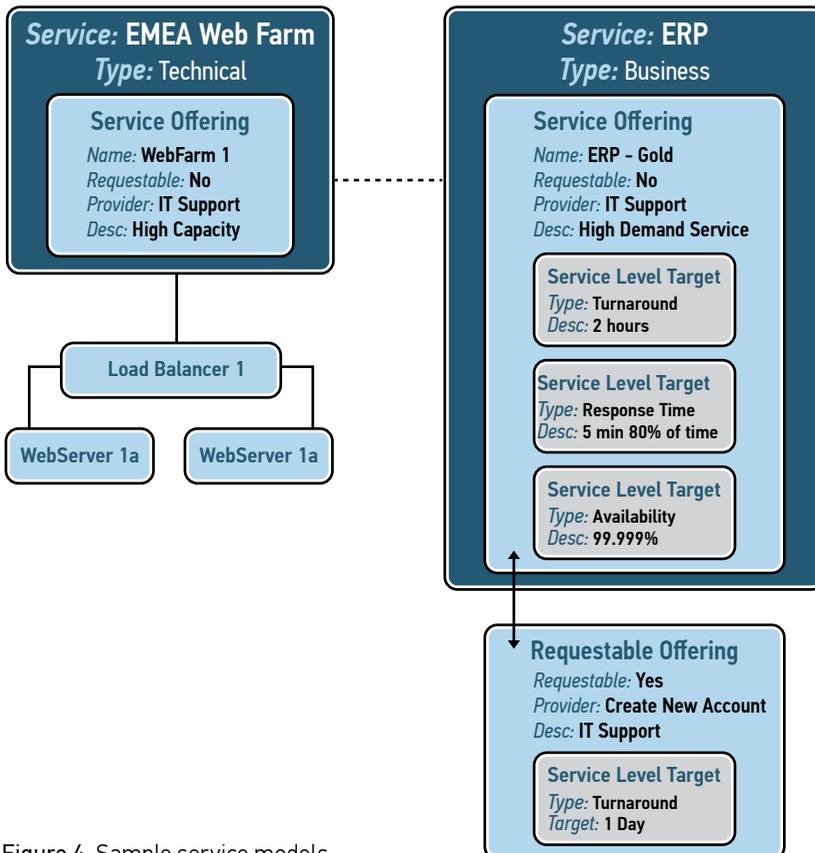


Figure 4. Sample service models

2. **Determine the level of granularity.** Once you have defined your approach, you then need to identify to what level of granularity you will define the services. For example, if your target area is finance, will it be useful to you to define one business service called “finance automation,” or does it make more sense to drill down and have more specific services, such as quarter-end close, pricing, and so on? The level you choose should be determined in large part by your business objective and desired outcome. On the one hand, do not attempt to “boil the ocean” by going to too low a level of granularity. On the other hand, make sure that you go low enough to support your business objective. Once again, begin with the end in mind and respect the timeline. A good practice is to go to the level of granularity that supports a complete and accurate measurement of the success metric across all primary drivers, and no more. You can later drill down into lower layers in the continual improvement phase. Figure 4 shows two examples of high-level service service models.

### Key considerations

#### **The definition approach will be determined by the goal of the model and your business objectives.**

What are you trying to achieve and what is your overall objective? The method you use will depend on the outcome you seek. First understand why you are defining the specific service. Do you have a good understanding of your existing infrastructure but not a good idea of how it provides business value? If so, then use the bottom-up approach. Or are you trying to figure out how your business is enabled and/or impacted by the IT infrastructure? That would indicate a top-down approach.

Once you have completed stage 1, you will have a clear idea of where you are going with your program and how you will get there.

**While the best practice is the top-down approach, the reality of your organization might drive you to a middle-out approach.** Sometimes it makes more sense to take the knowledge you have from the middle, or application, layer and then tie it to the business service and the lower levels of infrastructure. Make decisions based on what is best for your business — if this seems to be the most logical approach for your organization, then it’s the right approach.

### Summary

Once you have completed stage 1, you will have a clear idea of where you are going with your program and how you will get there. You should understand the desired outcomes, the business areas for those outcomes, and how you will measure success at the end of the program. As you continue with your program, make sure to always refer to what you’ve identified in this crucial stage. It will provide you with clear direction.



## Stage 2

### Define your services

#### Stage overview

##### Outcome

Upon the completion of stage 2, you will have a defined list of services, or a service catalog.

##### Typical duration

A reasonable time frame for this stage is three to six weeks. The number of services you decide to tackle will determine the length of time it takes to accomplish this stage. An underlying point here is to narrow the focus enough so that you can make substantive progress. In other words, don't take on a project so huge that it never is completed. You will want to show early, tangible results and success. In addition, the time frame will depend on the team, so be sure to select the right people for the team — those who have the commitment, time, and energy to accomplish the goals.

## Before you begin

In stage 1, you outlined the business objectives for defining and modeling your services. In stage 2, you will define those services. As you start work on this stage, continue to keep the end in mind. The end goals will influence how you proceed with defining your services.

## Summary of steps



## Step 1: Assemble the service definition team

### Step overview

Based on the target areas you identified in Stage 1, you now need to identify the *key* stakeholders who will work with your core project team. While a stakeholder is anyone involved or who may benefit from this program, *key* stakeholders are those individuals who will be actively involved in helping you define the services. These key stakeholders will be critical in helping to realize the goals of your program.

### Tasks

1. **Evaluate your culture.** Take a step back and look at your organization's culture. How much communication is required, and what communications processes should be followed? Are decisions made by committee or by a few individual leaders? Do you need 15 key stakeholders or just 5? Are decisions made by consensus, via a RACI model (*responsible, accountable, consulted, and informed*), or through some other formal process for establishing an owner to make final decisions? Understanding your current culture will help you establish a process by which decisions are made and communicated in a timely fashion.
2. **Identify key stakeholders on both the IT and business sides of the organization.** For each target area of the business that you previously identified, identify key resources from both IT and the business who are knowledgeable in the target area and who will be involved in the program. The key stakeholders you select should also be impacted by the work you completed in stage 1. For example, if your reason for moving forward with this program is service assurance and improving the quality of service, then your key stakeholders will include individuals who are affected by the current poor performance. On the other hand, if the goal of this program is service costing, then a key stakeholder is the financial analyst in the business.

From the IT side, your key stakeholders will typically depend on the target areas you identified. However, depending on the size of your IT organization, the stakeholders may not change at all. Within a larger IT organization, you might have different tiers of stakeholders. Be sure that all of the major disciplines in IT are represented. You may want to identify a service manager as a key stakeholder — that person will help define the services he or she will manage. Your goal should be to identify a champion among your key stakeholders who will be your advocate to help facilitate successful completion of the program. Finally, identify a champion among your key stakeholders in the target area.

### Key considerations

**Communicate clearly to the key stakeholders.** Make sure everyone understands their involvement, time commitment, and role.

Try to ensure continuity by identifying more than one key stakeholder from each critical area.

**Ensure continuity.** Remember that the stakeholders that you begin with may not be the same ones you end with. Try to ensure continuity by identifying more than one key stakeholder from each critical area.

**Ensure connection.** The service definition team needs to be connected to the business and executive level to maintain sponsorship. The team also needs to be connected to the relevant IT functions; otherwise, the service definition activities will be done in a vacuum and will jeopardize buy-in down the road.

**Continually communicate the value of this program.** Leadership and stakeholders may change, so be sure to continually communicate why this program is important and the value the business will realize. When business stakeholders change, you may need to repeat some of your initial conversations.

## Step 2: Define service catalog usage and maintenance approach

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### Step overview

At the completion of this stage, you should have a list of initial business and/or technical services — your initial service catalog. Now is the time to understand how you will use your list of services to achieve your desired outcomes. Will it serve strictly as a communications tool for IT to converse in business terms? Will it serve as the basis of a service request portal? Will you continue on and model the services in your catalog? Additionally, identify what roles and processes will be necessary to maintain your catalog and ensure it is used effectively.

## Tasks

- 1. Identify how the service catalog will be used.** Be sure to consider all of your stakeholders. How people use the service catalog will depend on their roles in the organization. For example, your business stakeholders might use it to request a service, while the IT stakeholders (the service desk, for example) will use it to communicate what services IT offers. Determining usage is critical, as it will impact how the catalog is actually implemented and what information is captured in it. If the list of services is to be leveraged in a more integral way (e.g., service portal, service model), then you will need to implement it in a tool that can be leveraged by your service management tools and processes. That is, it should reside in your configuration management database (CMDB). On the other hand, if the sole purpose of the service catalog is to be a communications tool, then a simple spreadsheet or word processing document might serve you quite well.
- 2. Obtain buy-in from your business and IT stakeholders.** Based on the outcome of the previous task, you should start to get a sense of who the consumers of the service catalog will be. Make sure you work with these stakeholders to better understand their needs and how they expect to leverage the service catalog.
- 3. Identify necessary maintenance and support processes.** Once your list of services is created, it will instantly begin to age and get out of date. Make sure you have the appropriate processes in place to not only define the services, but also maintain the catalog of those services. If you did not previously have a service catalog, now is the time to define a way to maintain it and keep it up to date. This may entail creating a whole new process, or simply leveraging your existing change management process. Determine what existing processes will be impacted and what new processes will be required as a result of the service catalog.

**Make sure you have the appropriate processes in place to not only define the services, but also maintain the catalog of those services.**
- 4. Identify the appropriate roles to support and maintain the catalog.** In addition to defining your catalog maintenance and support processes, assign the right people to own and execute those processes. These people may include a service catalog manager, a service manager for each service you specify in the service catalog, and potentially service level managers who are responsible for negotiating service levels for each service. Regardless of the specific roles, make sure the people performing them are appropriately trained, budgeted for, and empowered. Also ensure there is organizational structure and support for these roles on an ongoing basis.

## Key considerations

**Keep your business stakeholders' perspectives in mind.** Ultimately, a service is something that facilitates an outcome that a customer wants. Therefore, always keep the customer perspective in mind. Otherwise, you may end up defining a list of really interesting services (from an IT perspective) that mean nothing to the customer because they don't facilitate an outcome that the customer cares about.

**Keep all stakeholders in the loop.** Continually make sure everyone is on the same page. Constantly validate with the business your priorities and the services you are defining. Don't do this in a vacuum. The business may be funding this program, so be sure they are aware of it and kept up to date. And, if you don't continue to communicate, you also risk that people won't feel a sense of buy-in or ownership in the program.

## Step 3: Identify key business processes and IT resources in the target area

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### Step overview

In this step, you will determine the key business processes and IT resources in your target areas.

### Tasks

1. **Identify the business objective for the target area.** What is the expected business objective for the area you are targeting? Most organizations have defined a business value chain. Where on the value chain are you targeting your program? Is it "sales to order," "order to cash," or something else? Understanding the business objective of the target area ensures that you can always tie the work you're doing back to enabling or improving that outcome.

2. **Identify and understand the business processes required to achieve that business objective and relevant**

**metrics.** Start by identifying the key business processes that support the objectives of your target area. In many cases, the enterprise architects within IT will already have decomposed the business processes. If so, use this as a starting point as you develop a complete list of the required processes. Be ready to demonstrate to your business stakeholders that IT understands what they do on a day-to-day basis. Additionally, begin identifying the metrics that you will use to determine the success of the service model program.

Start by identifying the key business processes that support the objectives of your target area.

3. **Identify key IT resources that support the processes needed to achieve the desired business objective.**

This may be as easy as asking your business counterparts what applications they use to perform a given

function. Alternatively, someone from IT can sit and watch (and document) every step the business function takes to achieve a certain outcome and make note of the IT resources leveraged during the process. Either way, the result of this task is a primary list of IT resources (most likely applications) that the business function can identify. This is the interface point between IT and the business and will serve as the primary input to your next step — building your list of business services.

### Key considerations

**Involve the right people.** Be sure that when you identify key IT resources and processes, you do so with the people who actually do the work. Many managers or even team leaders think they have a good idea of the way the process works, or should work. But it's the people who perform the work day in and day out who define what the actual current process is.

**Confirm the level of business process decomposition required.** Leveraging the work you did in stage 1, ensure that you are working at the right level in the business processes to achieve your objectives. Once again, is it sufficient to talk in terms of “finance automation,” or do you need to get down to the level of “accounts payable”? Make sure your work is consistent with your end game.

**Consider all of the IT resources required to achieve the desired outcome.** These resources may include not only the applications and the supporting infrastructure, but also the printers, reports, and anything else you need to facilitate the outcome that IT is responsible for. Prioritize their criticality.

**Be laser focused on the area and the specific business objective you have identified.**

**Stay focused on your target area.** It's easy to run into scope creep. Be laser focused on the area and the specific business objective you have identified.

## Step 4: Define preliminary business services

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### Step overview

In this step, you will use the results of step 3 to create a preliminary list of services. The goal is to organize services into a meaningful structure. Logical groupings will help you to manage the services with stakeholders most effectively.

## Tasks

1. **Review all the data you collected in step 3, and create a preliminary list of potential services for your catalog.** This task typically involves placing the defined processes into logical groupings based on factors such as the following:
  - » The people performing the processes
  - » The cycle or timing of the processes, e.g., weekly, monthly, quarterly
  - » The technical resources required to deliver the processes, e.g., application xyz, distributed systems, mainframe

When naming the service groupings, you may decide to leave the application name as the service name, if appropriate from a business perspective.

2. **Discuss the preliminary list with your key stakeholders and get their initial reactions.** Ensure that you are heading in the right direction before getting too far down the road.
3. **Refine and finalize the list,** based on discussions with your key stakeholders.
4. **Start to populate your service catalog.** Document the list of services and present it according to how users will leverage it (refer to step 2 of this stage). It might be a spreadsheet or an online service catalog. Whatever the format, now's the time to begin to populate it. Examples of the types of information to capture in your service catalog include, but are not limited to, the following:

The person receiving the service ultimately defines it.

- » Type of service (business or technical)
- » Name
- » Description
- » Service level expectations
- » Service owner(s)
- » Priority

The specific data items that you capture for each service will be driven by the usage that you identified in step 2.

## Key considerations

**Define and communicate services in terms that are relevant to the business.** The person receiving the service ultimately defines it. For the catalog to be useful, you will need to communicate in terms the business understands. When you begin conversations with business users around key business processes, many of them may talk only in terms of the applications and systems they work with. Similarly, you may have a wealth of information about your technical infrastructure that may mean nothing to a business user. Focus on the outcome, not on the means to the outcome.

**Make sure your service groupings match your user community groupings.** If you define your service groupings based on people performing the tasks, ensure that the groupings are consistent with how they are structured organizationally. For example, if you define a separate service called accounts payable (AP) and one for accounts receivable (AR), there should be distinct AP and AR groups in the organization.

**Get feedback early and often.** As you proceed, be sure to check in with your stakeholders regularly to ensure you are on the right track. Listen and iterate — if feedback is negative or voluminous, make sure you address it. Don't try to push the project through too quickly as buy-in is essential. This is a critical success factor for your project.

**Determine if there are existing options for a given service.** When expanding a current list of services, always see if a current service may be leveraged instead of creating a new one. For example, most organizations don't need multiple email services. Instead, consider creating a new "offering" of the existing email service.

## Step 5: Select a service as a starting point

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### Step overview

Now that you have a list of services, the next step is to select a service as the pilot for your modeling activity. This will help you get a sense of the process and the resource requirements to ensure that you do not take on a bigger modeling project than you can effectively manage and complete.

### Tasks

1. **Consider the objectives, priorities, target business outcomes, and stakeholders that you identified in the previous stages.** Where does it make sense to start? Is there a critical business process that justified the program and thus should be addressed first? Is there a key champion in the business community who will be a good advocate once his or her needs are met? Not all business areas and business services are created equal. Now is a good time to start segmenting and prioritizing your catalog.
2. **Assess the complexity, visibility, and priority of the target area.** Review the list of services and consider the visibility of each service to its customers as well as the complexity of the supporting infrastructure. Services that are highly visible to the customer and/or highly complex might not be a good starting point for your service model project.

Services that are highly visible to the customer and/or highly complex might not be a good starting point for your service model project.

This might seem counterintuitive, but remember the discussion from stage 1: The service you choose should be significant enough to show value, but not so significant that it might create a negative effect on your service modeling project if you run into obstacles. You need to walk before you run.

Narrow your list of possible services by evaluating each service's relevance to business objectives, its complexity, and its visibility. This strategy allows you to discover all the "If I could do this over again..." issues on a small scale before you tackle the large scale.

3. **Assess your resources.** What resources — people, technology, and time — are available to complete your modeling activity? The availability of project resources should be a significant factor in selecting your starting point. Weighing the potential services against the skill sets and knowledge areas of the key team members will help determine which service can best be tackled by your team. Additionally, understanding how much time is available (e.g., six weeks, one quarter) before a result is expected will also inform your starting point decision.
4. **Select your starting point.** Based on your analysis in the previous tasks, choose the service to start with. At this point, you might have only one service left on your list. If you have followed this process correctly, then this is the optimal starting point for your project.

The availability of project resources should be a significant factor in selecting your starting point.

If you have more than one service remaining on your list, they all may be equally suitable. In this case, can you use any other service characteristics (besides complexity, visibility, priority, and resource constraints) to determine your starting point? For example, consider the location of the customer relative to your delivery and support staff. The first time you model a service, face time is invaluable. Factor in who your biggest advocate is. If other factors are relevant, continue evaluating your list against these additional characteristics. If not, just go ahead and pick a service for your pilot and move forward. Be careful not to give in to "analysis paralysis."

5. **Determine if there are any legacy data migration needs.** If you have legacy data from a service catalog, CMDB, or other data repository, then you will need to determine how to migrate this information. There are three different scenarios that you might start from. Each will influence how you get to where you want to be:
  - » You are starting in a greenfield situation and don't have any data, and you will be working purely from a top-down perspective.
  - » You have infrastructure data in a CMDB. In this case, it's a matter of merging the logical definition of the service with the infrastructure items you have already captured and defined.

- » You have data in another system or spreadsheet. In this situation, you will need to migrate this data into the CMDB. Your job here is to take the structure and data elements in the existing system and merge them into the structures you have established in the CMDB.

### Key considerations

#### **Identify the characteristics that are unique to your organization when you are deciding where to start.**

Task 2 identified three characteristics: complexity, visibility, and priority. Maybe your organization has a different set of priorities. Whatever characteristics you use to establish your starting point, make sure everyone buys in to it.

**Maintain open communication with the business.** Once you have defined your services, including decomposition approach and implementation starting point, present the result back to your business stakeholders in the target area. You don't need to present the whole service catalog; just present the services most relevant to their specific area. Also, listen to any feedback and adjust your catalog as appropriate.

**Ensure that the business and IT have the same understanding of priorities.** Although it might make sense to start with a smaller, straightforward service for your first service modeling attempt, your business stakeholders' "burning platform" may be a critical but extremely complex and visible service. All stakeholders should understand the rationale you used to select the starting point.

**Stay focused on the defined business outcomes.** While you decide which service to start your modeling activities with, ensure that you keep your overall business objectives in mind. Resist the urge to grab the "low-hanging fruit" just because it might be easy. Make sure to balance the evaluation process described earlier with your desired outcomes.

## Summary

At this point, you have created a catalog of business and/or technical services, and you have defined and communicated a starting point for subsequent service modeling. Many IT organizations never get to this point in their maturity journey. Having this list of services enables you to have conversations with the business in business terms instead of technical terms. Additionally, it positions you to run your IT organization based on the idea of delivering business-aligned services. To do this effectively and efficiently, however, you will need to model those services so you can understand how the infrastructure components and various functions in your data center contribute to service delivery and support. The remainder of this book will guide you in how to build and maintain your service model.



## Stage 3

### Model your service

#### Stage overview

##### Outcome

Upon completion of the steps in this stage, you will have a fully described, instrumented, and validated service model for a single service.

##### Typical duration

This stage typically will take one to two months. Completing this stage will be quicker if you can take politics out of the equation and really focus on doing the work at hand. You will most likely iterate steps 3 and 4 once or twice to get them right. Additionally, delays may occur during discovery if you find critical pieces of infrastructure that you were not previously aware of.

##### Before you begin

**Confirm the scope and purpose of your service model program.** Review and confirm that the goals you outlined in stages 1 and 2 are still relevant and appropriate. If your business needs have changed, return

to those stages and repeat the tasks outlined before proceeding. This review is critical so that your stakeholders do not invest time and effort in creating a service model that does not benefit your business.

**Assess your existing tools and capabilities.** Regardless of the service you choose to model, you will need a set of tools for optimal modeling of that service. Depending on the business objective, that set of tools might vary from service to service. Keep in mind that your service modeling project is likely to be more successful with certain tools in place. Review your current set of tools and capabilities to determine which, if any, of your existing tools can be leveraged for your service modeling initiative.

Within an IT environment, changes occur frequently and rapidly. To efficiently maintain currency of your model, you will need tools that can dynamically update it or, at a minimum, can look at the current state of the infrastructure to see how it matches your model. Because a model is a collection of CIs and relationships, as it becomes more complex it will likewise become more difficult to manually manage. Once the model becomes out of date, it will not provide any value for decision support.

Several basic and advanced tools will most benefit your modeling activities. To get started, you'll need the following basic tools:

- » **CMDB:** The configuration management database (CMDB) is the repository for the service model. The CMDB holds information about the configuration items (CIs) within your service model. Additionally, it will contain the information about the relationships between the CIs that make up the service.
- » **Automated discovery:** An automated discovery tool is necessary for all but the simplest of service models because it keeps CI and relationship information current while reducing the risk of manual error.
- » **Event monitoring:** Regardless of the business objective for building your service model, an event monitoring tool is beneficial in validating the accuracy of your model. Triggering events and observing the resulting impact is an effective way to ensure that your model reflects the physical reality of your infrastructure.



The CMDB is the repository  
for the service model.

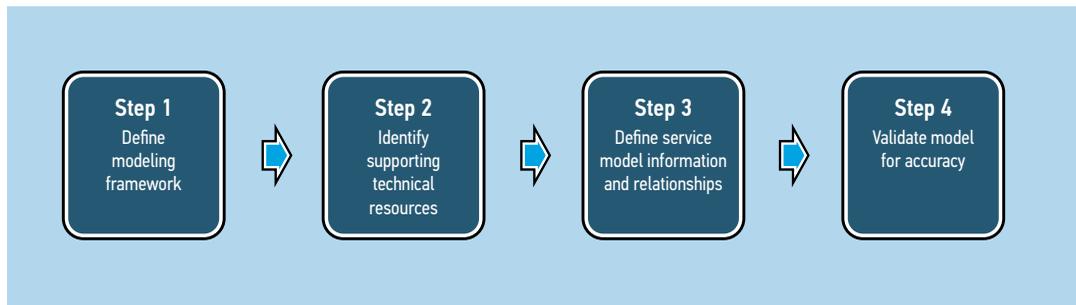
In subsequent phases, you can introduce some advanced tools:

- » **Orchestration:** An orchestration solution can be an invaluable tool to automate the model operations and maintenance processes. For example, an orchestration tool can be configured to periodically check for model configuration or relationship drift and then initiate a change request to correct the discrepancy.

- » **Modeling tool(s):** It is useful to have a toolset that imports CI information and provides visualization. In addition, the toolset should automate relationship building, simulation, and testing.

You should also understand the tools the consumers of the model will be using to access the modeling data. For example, if the stakeholder is a user, how will the service request fulfillment tool incorporate this data?

## Summary of steps



## Step 1: Define modeling framework

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### Step overview

Here, you will define the framework (i.e., approach, rules, and guidelines) for your service modeling activities. This is where you establish the rules of the road for your model.

### Tasks

1. **Define your modeling approach.** Stage 1 discussed three approaches to *defining* your services. These same three approaches are applicable when *modeling* your services. Regardless of whether you are working with a new service or an existing one, the top-down approach to modeling the service is generally recommended. This approach helps you stay focused on the high-level outcome by starting first with the business service and then identifying the underlying infrastructure services and its components. With the top-down approach, you work your way from the top downward until you get to the appropriate layer of infrastructure. There may be instances, however, where the bottom-up approach is more appropriate. For example, if you are trying to inventory and reconcile your infrastructure, you would want to start with your servers and model upward to understand what business processes or services those servers support.
2. **Identify the model consumption approach, roles, and processes, including support and maintenance processes.** Exactly how do you plan to use this model once it is completed? Will it be used as a reference

tool in the network operations center (NOC)? Will it be integrated into your monitoring or service costing tool? Once you are finished, how will you keep it current? Will it be periodically checked for accuracy? Who will check it? How will they check it? All of these processes need to be identified. Additionally, will any of your existing IT service management processes (e.g., incident management, change management, configuration management) need to be updated? It is important to ask and answer these and other similar questions prior to beginning your modeling activities. The answers to these questions will influence the development of your model.

Think through the *who*, *how*, and *what* of leveraging and maintaining your model. Then make a list of the new processes required, the existing ones that need to be updated, the new roles that will be created, and the existing roles affected as a result of these processes. This process list will be leveraged in the next step when you begin refining and designing your processes.

- 3. Identify knowledge stakeholders and subject matter experts (SMEs) for this service.** Compile a list of individuals who have the detailed knowledge required for identifying and understanding the model components and relationships. Involve these individuals as soon as possible in modeling this service, as they will advise you throughout the rest of this stage. This list most often comprises service owners, enterprise architects, and representatives from the infrastructure engineering and operations teams. These resources can serve as an extension of your core team.
- 4. Agree upon how you will create the model.** If you are modeling a smaller or more static service, you might choose to sequentially move through each model construction step to create the final deliverable — the service model. This “waterfall” method requires each step to be fully complete before moving on to the next and usually does not include returning to any prior steps. However, for larger or more dynamic services, using an iterative method is usually preferable. This approach allows you to break the work into smaller, more manageable iterations that gradually sharpen and tune your model via repetition of the modeling tasks. Decide which method is appropriate before moving to the next task.
- 5. Define any required service level offerings.** The services defined in your catalog typically need to account for varying levels (e.g., gold, silver, bronze) of delivery that might be offered with the service. Each service level is considered an offering of the same service — do not create separate services for each one.

Compile a list of individuals who have the detailed knowledge required for identifying and understanding the model components and relationships.

For smaller services, you might have only one level; however, for larger services you will need to understand how user expectations and values within the process will change across different grades of service. Clearly identify and represent in the model any differences in the infrastructure required by the varying service levels.

6. **Define the metrics that you must gather to show the value of this service model.** In stage 1, you identified business objectives of your modeling program. These business objectives should be the driver behind the metrics that you will gather during the operation of this service model. Start by clearly describing how you

Start by clearly describing how you can quantitatively demonstrate the value of this service model.

can quantitatively demonstrate the value of this service model. Then, break down that description into individual metrics and understand where those metrics come from. Most likely, you will be able to leverage the key performance indicators (KPIs) from the service you are modeling. Finally, detail how the metrics fit together to show the business value. Note that while it is possible that you are not yet gathering some of these metrics, you should ensure that you have (or will have) the capability to gather all of the metrics you've defined.

### Key considerations

**Make sure your metrics and measurements deliver what the business needs.** The success of your service modeling project rests on the metrics you gather to show business value, so be sure that you define your metrics correctly. Involve your key stakeholders in this discussion, and also validate that the analysis and aggregation of the metrics that you select will ultimately produce the results that you are looking for. Additionally, consider identifying service level target metrics that can be used to measure the impact of the service model on the delivery of the modeled service.

## Step 2: Identify supporting technical resources

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### Step overview

In this step, you will create a detailed representation of the infrastructure resources necessary to achieve the desired outcome of the service. If you have chosen to create your model using an iterative method, then this step is the first in a three-step iterative process that includes steps 2, 3, and 4. Whether you are using an iterative or a waterfall method, make sure to engage your SMEs and stakeholders throughout the process.

## Tasks

### 1. **Engage SMEs to determine key application and infrastructure resources that provide this service.**

Begin by identifying the key systems that provide the service. In most cases, these are the applications that the customers interact with and the servers those applications run on. Make sure to leverage the knowledge stakeholders and SMEs you've previously identified. Try to be as specific as possible. Note, there is also a case to be made to keep it simple and not create too much complexity up front — enough complexity to make it accurate, but not more. If available, employ a discovery tool focused on the target area. Make a list of all the identified resources grouped by type (e.g., applications, servers, storage).

### 2. **Work with key technical SMEs to understand which infrastructure is relevant to the goal of the service model and which metrics are needed.**

Not all resources that you identified in the previous task will contribute to your business goal. In other words, depending on your business objective, monitoring or gathering metrics from particular resources may not affect the desired outcome of the model; therefore, tracking those components as part of your service model is not necessary and may overly complicate your model. Work with the technical SMEs to pare down the list that you created in task 1, noting *which* items contribute to achieving the desired outcome of the model as well as *how* they do so. Also, employ abstraction to simplify the model. If a higher-level component can accurately describe the performance of a number of downstream, related components, then consider using the single, simpler abstraction rather than the collection of subcomponents.

Begin by identifying the key systems that provide the service.

### 3. **Identify resource owners and other applications or services that share those resources.**

For each item on your revised list, specify both who owns the resource as well as who uses that resource. This information will help you to understand who to engage when implementing the service model, as well as whom to notify and collaborate with if any shared resources are affected by the service model project. Remember to include external resources managed by internal resource owners. Look at the contracts for the external resources so you know how the service is delivered and supported.

### 4. **Determine the attributes that need to be gathered from or about the model components.**

For each type of infrastructure component identified (e.g., server, application), specify what attributes need to be monitored and measured.

For example, if you are modeling to improve service availability, you might decide that a resource contributes to showing the business value if the service can access that particular resource when needed. In this

case, the attributes you will need to gather about the resource will likely focus on uptime, dependencies, and response time. On the other hand, you will probably not need to gather information about resource cost.

Once you have determined the attributes that you need to gather about your resources, ensure that your data collection tools and processes are designed and configured to collect those attributes.

Once you have determined the attributes that you need to gather about your resources, ensure that your data collection tools and processes are designed and configured to collect those attributes.

#### Key considerations

**You might already have some of this information.**

Especially in cases where you are modeling an existing service, much of this information might already exist in some format. Before you involve groups of people in resource discussions, research whether resource lists — even partial ones — for this service are available. Leverage as much existing information as possible.

**Get to “good enough.”** Your model does not need to include every asset, process, and/or systems test associated with the service model. Most important is that your model, as simply as possible, accurately reflects what is happening in the real world to the point where you can achieve your goal of the service modeling project. Additional precision and complexity are not required or desirable.

## Step 3: Define service model information and relationships

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### Step overview

In step 2, you ran a targeted discovery against the components of your service model. However, it is possible (and, in fact, likely) that many of those identified resources will depend upon and/or provide support for other resources in the IT infrastructure. In this step, you will discover those dependencies and identify relevant resources. This step likely requires a deeper technical knowledge and capability than the previous activity required; however, that does not reduce the importance of involving relevant knowledge stakeholders.

Figure 5 depicts a simplified service model but is representative of the desired output of this step.

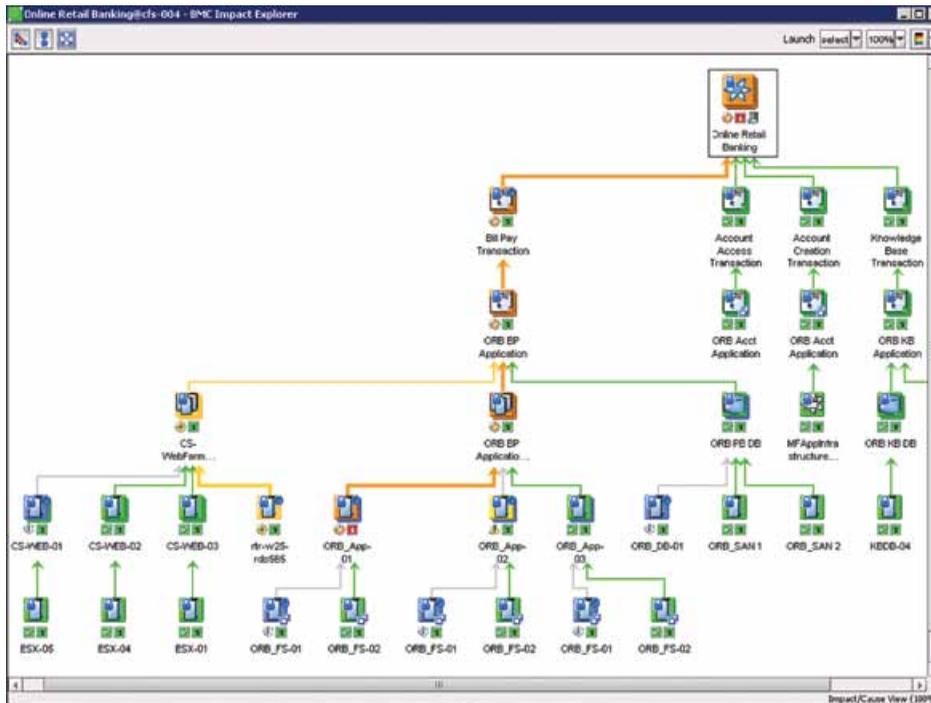


Figure 5. Sample simplified service model

## Tasks

1. **Discover dependencies.** Dependency discovery identifies resources both up and down the chain that are related to the target resources that you identified in the previous step. In this task, you will shift your focus from discovering attributes about your target resources to discovering dependent resources around your targets.

Use transactions and data flow to determine dependencies. Whether or not you use an automated discovery process, follow a transaction within your service model to gather and/or validate dependency information. Identifying the data flow can help you understand where data comes from, which applications are working with subprocesses, and other dependency information. Use the results from a walk-through of the transactions within the model against the results of your discovery to determine which resources are relevant to your business goal.

2. **Validate what goes into the CMDB.** Once you have discovered the dependencies for your service model resources, identify which, if any, are also *relevant* to your service model. Then, validate that the information you are gathering about those resources is what you need to show business value.

## Key considerations

**Focus only on the service you are currently modeling.** Populate the CMDB only with CIs that support the service being modeled or CIs that enable the consuming applications. Typical consumers include the service desk and change management.

**Review the model early and often.** Post the model into the test or staging area and have everyone on the team review and make comments.

**Compromise on precision, not accuracy.** Don't confuse level of granularity with accuracy. While it is appropriate to balance the level of detail required with your objectives, in all cases the model must always accurately reflect what is in your physical environment.

**Less is more.** A simpler model will be more reliable.

**Abstraction and factoring are your friends.** Look for opportunities to group multiple physical CIs as a single logical CI.

**Limit your model.** When your service leverages other shared services (e.g., Web farm), you do not need to traverse up and down the other branches supported by the service.

**Use your test environment effectively.** In the case of a new service that is not yet in production, you can look at the dev/test environment to get a good idea of dependency relationships.

## Step 4: Validate model for accuracy

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### Step overview

In this step, you will ensure that the model works as expected. The service model should enable you to achieve the stated objectives, and therefore it will be important to validate that the model represents the real environment. The tasks in this step will help you to ensure the model is accurate before you release it into production. Service model validation should be restricted to the development and test environments.

### Tasks

1. **Identify and create test cases.** Create a list by priority of relevant test cases for your service model. Test cases should be based on your business objective and on the value that you are trying to show for this service model. For each test case, include what the test case is trying to prove, as well as how to execute and measure the results of the test case. In subsequent iterations, be open to adding or modifying test cases to reflect new

knowledge or experience gathered in real-world situations. Keep in mind the two levels of testing: The first is the lower-level physical testing with the goal of confirming that you have correctly modeled the physical connections and components and that the relationships are accurately defined between the CIs (with CMDB and discovery).

The second level is to confirm that your model is capable of delivering the desired outcomes. Here again, testing depends on what you are trying to achieve. Refer to your goals for creating a service catalog and service models, and then establish test cases to see if your model meets the goal. You also want to confirm that the physical infrastructure lines up with the logical layer — the actual service. A bottom-up approach with a discovery tool will help you confirm the physical layer.

- 2. Execute your test cases.** In this task, it is helpful to have automation and monitoring tools to assist with executing the test cases and to ensure accurate configuration and behavior of the model. However, regardless of whether such a tool is available to you, walk through every test case and record the outcome.
- 3. Confirm the accuracy of the model.** Review the results of task 2. Did each test yield the correct outcome? If you saw no discrepancies between expected and actual results, then you have successfully validated your service model. If there were discrepancies between predicted and real results, go back to step 3 and repeat the rest of stage 3 from that point, making adjustments where necessary.
- 4. Test the migration of legacy data.** Ensure that any existing data in the CMDB (or external data that will be added to the CMDB) is still valid.
- 5. Test the model's impact on operational processes.** Run a series of tests in a preproduction environment to identify any operational process changes that may be required.
- 6. Demonstrate and communicate the outcomes.** Make sure key stakeholders understand the model's use and effectiveness. A demo can be very useful by helping your stakeholders visualize their desired outcomes.

**Make sure key stakeholders understand the model's use and effectiveness.**

### Key considerations

**Testing is imperfect.** While you should strive to identify as many real-world test scenarios as you can, recognize that when you're in the production environment, you might encounter additional scenarios that will need to be addressed.

**Begin test case development early.** You can design test cases prior to model development, especially if you use an iterative model development approach. By starting early, you have time to think through and identify issues so that you can develop a more robust set of test cases.

**Leverage automation tools when available.** Automation can greatly accelerate the testing process and improve its accuracy.

**Don't do any of this in production.** Ultimately, your service model is housed within a CMDB. As such, make sure you have a dev/test CMDB environment in addition to your production CMDB. This will ensure that all development and testing activity does not impact services already in production.

**Look at redundancy.** When testing your model, ensure you check cases where the system provides redundancy and you need to validate the effect of one or multiple events involving the redundant components.

**Change records have a story to tell.** Check change records related to the service since the last validation to ensure the current model reflects changes to the actual service.

## Summary

Clear, consistent, and regular communication may well be the most critical element in the successful completion of stage 3. Making sure that everyone is well informed and on the same page is essential to achieve success. Not only does strong communication create support for the project, it also reduces the need to rework. Keep communication at the top of your priority list as you finish your service modeling project.

## Stage 4

# Operate and maintain the service model

### Stage overview

#### Outcome

Upon completion of stage 4, you will have an operational and published service model.

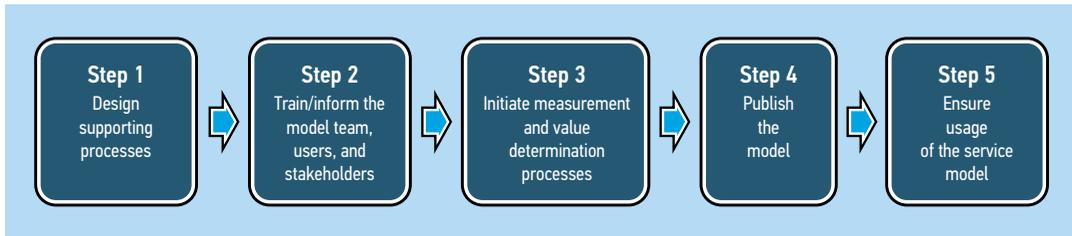
#### Typical duration

Overall, stage 4 should take one to two months. Each step in this stage has a number of variables, and some of the steps can be completed in parallel. For example, you can promote awareness of the program while simultaneously completing other tasks. Although one to two months is the optimal time frame, it could take three to six months or more depending on your unique situation.

#### Before you begin

In stage 3, you conducted an assessment of the tools and capabilities in your organization that would enable or support your service modeling project. In this stage, you will use many of those tools to move your service model into production. Review the results of that effort. Were there any gaps in your requirements versus your inventory of solutions? If so, now is the time to resolve those gaps.

## Summary of steps



## Step 1: Design supporting processes

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### Step overview

In this step, you will build an end-to-end set of processes to operate, leverage, and maintain the service model. You will design any new processes required to support the maintenance and ongoing operation of the model. Additionally, you will make the necessary changes to any existing processes (e.g., change management, incident management) that will be impacted by the new model. You will then assign ownership for the maintenance and execution of each process, taking into account your existing organization.

### Tasks

1. **Confirm relevant IT service management processes.** Previously, you identified the processes to operate and maintain your service model. Compare that list against existing processes, and determine which are new and which are existing processes that must be updated. Also include a process for measuring the value of the service model, as well as one for enforcing its usage.
2. **Design and document the set of processes and information flow.** Based on the information you have gathered, create a detailed design for the new and updated processes required. Ensure that the processes are designed to follow the required flow of information. Then, where appropriate, identify a means to automate the designed processes using the necessary tools that you identified in the previous stage and reviewed again at the beginning of stage 4. Remember to include a process for data collection of key metrics.
3. **Assign roles and responsibilities.** Who is the model owner in production? The service model owner should be responsible for maintaining the model and its accuracy. This individual will need to understand both the business goals and the technical capabilities of the service model and its underlying processes. Additionally, ensure that you have a process owner for any new processes defined and that the owners of any impacted existing processes are engaged and actively involved in the program. Ideally, representatives from the operational team are current project team members and have been involved in the definition and modeling phases.

## Key considerations

**Understand the impacts to people, processes, and technology when you update the model.** When you define the processes involved in the service model, also include what happens when you update the model. How does the outcome change? For example, if the service desk uses the model, do you inform the service desk personnel of changes? Do you send an email to stakeholders every time you update the model? Be sure your approach is consistent with the number and magnitude of changes.

**Avoid “boiling the ocean.”** Although service models might be a new concept in your organization, do not feel compelled to overhaul all of your service management processes as you are defining the supporting processes. Adopting a service-oriented approach to service management and delivery may impact many of your existing processes, but do not get bogged down reengineering every process in your organization. Focus on the high-impact processes (e.g., incident, configuration, and change management) and address others as necessary.

**Ensure adequate commitment of assigned resources.** Take care that the people you assign to each role have the time and ability to perform their roles. Process owners need to have sufficient time to review their process areas and ensure that all parties understand their function and that the process is running effectively. This can be difficult if people are assigned new roles on top of existing job responsibilities.

**Involve the change management organization.**

You may need funding and approval from your change management organization to make the relevant updates and additions to existing processes.

**Ensure a structured rollout of new production policies.** Follow existing change and release management to adopt new processes properly and avoid failures and mistakes.

Focus on the high-impact processes and address others as necessary.

## Step 2: Train/inform the model team, users, and stakeholders

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### Step overview

During this step, you will prepare the user base and stakeholders to be able to immediately consume and support the model upon its release. Additionally, you will identify and train those individuals who need to be trained in the operation and maintenance of the model.

## Tasks

1. **Inform across the IT organization.** Marketing your service model and its benefits is critical to the success of your service modeling program. This is a significant step, and it requires an equally significant amount of preparation. Make sure that you have adequate training materials, documentation, and necessary collateral before you schedule training sessions. Try to execute training as close to the model release as possible to ensure optimal information retention. Execute an awareness campaign within the organization to build visibility across IT and the relevant business stakeholders and roles. Understanding the value of the service model initiative will create interest and support the success of your project. You've come this far; don't allow your service model to become shelfware simply because you have not told enough people about it. To facilitate this, begin this step while you are completing stage 3 so the materials are ready when you are ready to begin training.
2. **Identify the level of training appropriate for each of the operational roles that you previously identified, including stakeholders.** In addition to informing the organization about your service model at a general level, also train the individuals responsible for operating and maintaining the model so that they can perform their assigned roles effectively.
3. **Make sure that the training includes both the required technical knowledge and the business objectives driving the program.** Understanding the *why* in addition to the *how* of the model will help ensure that users buy in to the value proposition and will increase the likelihood that they will use the model. However, understand that at some point you may need to communicate to all stakeholders that usage of the model is required, not optional.

## Key considerations

**Work stages 3 and 4 in parallel.** Make sure to adjust the degree of training to the expected role of the individual/group.

**Keep the size of your training initiative manageable.** Not everyone in your organization needs extensive training.

**Consider geography, background, and previous training.** Consider how widespread the model will be used in terms of geography, number of people, and trainees' background skills (both technical skills and knowledge of the business). Geography is another important consideration — for example, in a large, multinational organization, some or even all of the model might be irrelevant to particular locations.

**Don't overlook training for current team members.** The current modeling team most likely will need to support the model in production, so be sure to provide adequate training — including training about the new processes and/or new technologies — for those individuals in their future roles.

## Step 3: Initiate measurement and value determination processes

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### Step overview

In the beginning of the service modeling process, you defined your rationale for pursuing a service modeling initiative. There was a clear value that you wanted to show, and that goal has informed your work throughout the modeling process. Earlier in this stage, when you designed the processes around the service model, you included the capability for gathering and recording key identified metrics that will demonstrate the business value of the model. In this step, turn your focus toward testing that your analysis process is correct. Upon completion of this step, you will have a business-focused analysis of the service model metrics.

### Tasks

1. **Turn on data collection and analysis.** During the development of the model processes that you completed earlier in this stage, you built one or more processes for data collection. If you haven't already done so, enable those processes now so that you can begin gathering metrics that can be used to show business value. For example, if the business objective was to improve availability, begin measuring service availability in conjunction with the release of the model into production. This measurement will allow you to compare availability before and after the creation of the model.

If you have already been gathering the data as part of the testing and validation of the service model processes, you might want to purge the metrics that you have already collected, as they might skew the testing of the report that you will build in the next task.

Make sure you have enough data points to validate your outcome. Measure over a week or even a month, so you can truly show a trend of improvement.

2. **Build a regular tracking report from the gathered data.** Now that you have begun collecting relevant data, put it together in a way that clearly demonstrates the benefit of this service model to the business, according to the goals of this project. At a minimum, your report should show both of the following:

- » The measurements of the metric(s) collected at a regular interval over time
- » The implication of the metrics (For example, if time to delivery decreases from ten minutes to eight minutes after two months of use, what does that reduction mean to the business? Does it lower cost? Increase output?)

3. **Evaluate the effectiveness of your report.** Does the report that you created clearly demonstrate the business value of the service model? Bring together the stakeholders to judge the strength of the report's message.

**Make sure you have enough data points to validate your outcome.**

If the service model stakeholders cannot see value from the report that you've created, rework the report until you can clearly demonstrate the business value of the model. Do not publish the model until the report is ready and approved by stakeholders.

### Key considerations

**Consider the creation of a dashboard.** For high-value business services, a real-time dashboard may be the appropriate reporting interface. Weekly or daily reports may suffice for management, but key business and IT leaders and personnel may need to share information on a much more frequent basis to optimize and tune the service.

**Think of reporting as your end product.** Although providing an excellent service model and efficient, streamlined processes around that model are fundamental requirements to the successful completion of the service modeling project, your ultimate deliverable is not the service model itself. The final product is the business value that you originally set out to achieve. These reports enable you to document the value you are achieving.

Do not underestimate the importance of reporting, as it provides the justification for the service modeling project and the service model's existence.

The final product is the business value that you originally set out to achieve.

## Step 4: Publish the model

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### Step overview

In this step, the model will be transitioned for use in your day-to-day operations. It's a transformative step —

going from the the previous way of doing business to the new way of doing business with the model. When the focus of operations and management starts at the service level as opposed to the component or infrastructure level, IT can be better aligned with the business.

### Tasks

1. **Determine the rollout approach for the model.** How will you release this model for public use? Is it a "big bang" approach, where you simply flip the "Go" switch and everyone moves to using the service model on a given date? Or is it a staged rollout, where you phase in the model over time to more groups, such as geographic locations, IT functions, and business operations?

To make the best decision, understand whether an old approach is still heavily in use and what kind of resources are available to support users. If you are dealing with an existing or large-scale service, you might want to stagger your rollout. For new services that are smaller, an "all-in" release might make the most sense.

Once you've decided upon your rollout approach, make sure you also have a plan to immediately address any issues with the model that are identified after you are in production. In fact, aggressively plan for something unexpected to go wrong. It always does. Be prepared for that eventuality. If people try to use the model and find the information inaccurate, they might not use it again. Address any issues right away. Make sure your help desk has been trained to support reported issues with the model. Leverage existing incident and change management processes to the extent possible.

2. **Schedule and initiate the rollout process.** Based on your defined approach, schedule the service model rollout, including any applicable phases. Communicate the schedule so that people are aware that the model will be available, and line up resources per the schedule. For example, if the service desk is accustomed to receiving alerts regarding individual configuration items (such as server xyz), when they now receive service level alerts such as “the Web store is down,” they need to know what that means. Also, initiate supporting processes, including the process for enforcing model usage.

Remember: At this point, you've executed training, informed across IT, tested the model and its metrics, and coordinated the rollout approach among key groups. You're ready!

### Key considerations

**Quickly address any problems.** Although you may have spent considerable time designing your processes, you will likely find that they will need to be modified after they're in production. Be ready to address these process changes and any other issues that arise during use after the service model rollout. Modification is a normal and expected part of the release process — don't forget to include this in your rollout plan. By addressing problems quickly, you will instill confidence in the usefulness of the model.

**Make sure the organization, leadership, roles, and responsibilities are clear.** Having visible leadership during the rollout is critical. Ensure that this person or team can be easily accessed to resolve issues more quickly and effectively.

**Your first rollout will likely be different from subsequent releases.** You may be able to streamline the process as your users gain experience and get accustomed to using the service model approach.

In fact, aggressively plan for something unexpected to go wrong.

## Step 5: Ensure usage of the service model

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### Step overview

Given the time and effort invested in building the model, you want it to be used. Ideally, this will be accomplished by clearly communicating the value proposition and gaining buy-in along the way, so that everyone

**Identify and communicate when you will begin enforcing the process.**

wants to use it. There may be situations, however, where no amount of marketing will convince some users. For example, in situations where a service model is replacing an entrenched approach, users may resist adopting the new approach required by the service model. In this scenario, you may need to enforce model usage. This step provides guidelines for accomplishing that.

### Tasks

1. **Identify and empower a person responsible for oversight of model usage.** Enforcement of the model usage requires someone with clear authority to drive the objectives of the program. Management by consensus likely will kill this program. IT management needs to empower and support this person's enforcement efforts. Possible candidates are the overall program lead, service manager, and executive sponsor.

Communicate this role clearly and broadly. Ideally, senior IT management should have a role in this communication and should champion this leadership role.

2. **Define your timeline for enforcement.** Previously, you defined and initiated a process to ensure the model would be leveraged. At this point, identify and communicate when you will begin enforcing that process. It may make sense to allow some transition time as users get accustomed to using the model. At some point, however, you will need to cut off any old systems previously in use.
3. **Establish a review cycle.** How frequently will usage enforcement be audited? Is it an ongoing process, or will it be done periodically? Ultimately, this frequency may be determined by the amount of resources available to execute the process and/or the amount of automation in the process. If people aren't using the model, these reviews can detect the reasons why. This information can be leveraged in future model updates.

### Key considerations

**Strike a balance between too-rigorous and too-lax procedures.** In the early stages of implementation, allow for some leeway in the interpretation of the service model procedures so that you do not adversely impact service delivery. Conversely, do not make enforcement so lax that users never use the model and value is not realized.

**Who is the most logical person for this role?** Identify someone who is respected in the organization and who understands and can effectively communicate the potential business value of the service model. The reality in most organizations is that this role is going to be less of an enforcer and more of an evangelizer.

**Support of senior IT management is essential.** The person responsible for enforcement must have the backing of senior IT management to be successful.

**Focus on business outcome.** The reason you are doing this is to increase business value. Keep that in everyone's minds instead of taking an "enforcer" approach.

## Summary

At this point, you have a service model that is in production, being used, and generating business value. To ensure that this usage and value continue, you need a plan for keeping the model current and accurate. The next stage tells you how.



## Stage 5

### Continually refine the model

#### Stage overview

##### Outcome

Upon completion of this stage, you will have a process for ongoing, continual review of the efficiency and effectiveness of your service model and its supporting operations.

##### Typical duration

This stage is an ongoing process and will continue throughout the life span of your service model. Although you may not perform the steps in this stage continuously, they should be addressed periodically — at least annually, but ideally quarterly. The exact duration of the steps will be based on how much refinement is required, but the evaluation process (steps 1 through 3) should take one to three weeks.

##### Before you begin

In the previous stages, you brought the service model to life. This stage describes the iterative process for keeping your service model accurate and relevant as well as ensuring that your processes for leveraging and maintaining the model are as effective and efficient as possible. Each time you execute this stage, you should

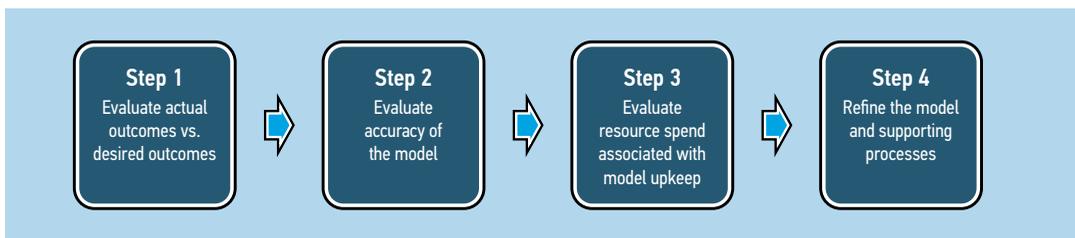
see positive changes in the service model, supporting processes, and, ultimately, business outcomes. Initially, after the model is implemented, you might choose to execute this stage with greater frequency than after the model has been published for some time. However, remember that IT environments are ever-changing, so even if your model has been generally available for an extended period, do not underestimate the importance of periodic health checks of your model.

Continual improvement focuses on two key concepts:

- » Ensuring that you are achieving the business value expected from the model
- » Ensuring that operating and leveraging the model are as efficient as possible

In this stage, you will look both within and around the service model for places where you can optimize performance and outcome.

### Summary of steps



## Step 1: Evaluate actual outcomes versus desired outcomes

### Step overview

All the work you have done so far has been in furtherance of a specific business goal. You have built and published your model, and you have ensured that the agreed-upon metrics for measuring value are being gathered and reported. Now, you must compare what those metrics are showing against the business value that you set out to achieve. The result of this evaluation will be the starting point for your analysis in step 2.

Steps 1 and 2 of this stage are iterative. Do not continue to step 3 until your actual outcomes are equal to your desired outcomes. Evaluating the efficiency of a suboptimal model can yield a false result.

### Task

**Compare reported results against baselines and target.** Now that your service model has been running in production and is being used outside of a contained test environment, look at the most recent data captured

about the service. What does the data tell you? Is the message consistent with what you had expected? Determine whether you are meeting your business goal. For example, if your goal was to reduce the average mean time to repair (MTTR) for incidents, are you seeing any actual decrease?

### Key considerations

**Negative may be positive.** When evaluating the reports on your service model, seeing a negative result does not necessarily mean that your service modeling project has failed. It may simply mean that you have exposed a negative that was never visible before. This allows you now to do something about it. It is also possible that the model needs to be slightly adjusted before you will begin to see the benefits. Additionally, it may take time before personnel leverage the model to its fullest. This will also protract the time it takes to show positive results. Be careful not to assume failure too soon.

**Positive is not always positive.** Sometimes, business outcomes can improve due to factors that have nothing to do with the model itself. If flaws exist in a model, they may run undetected for periods of time. In this situation, testing and review are critical. Be careful not to declare success prematurely.

## Step 2: Evaluate accuracy of the model

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### Step overview

IT environments are constantly in use and therefore always changing. Because of this dynamic, your service model will diverge over time from the current state of your IT environment. In this step, you will review your service model and run discovery against the current IT environment to determine the accuracy of your service model.

### Tasks

1. **Rediscover the service model components.** Especially if a significant amount of time has passed, you will need to again run discovery against the components that you identified in stage 3 to ensure that your model is still accurate. This is also true of services with highly dynamic infrastructure configurations, such as virtualized or cloud environments.

IT environments are constantly in use and therefore always changing.

This discovery process includes both the high-level and the more technical discovery that was previously run. The results of this discovery will tell you whether the model is current at all levels and where changes need to be made to improve the accuracy of the model.

2. **Review the processes for updating the service model.** Look back at the processes that you designed and implemented in stage 4. Are they still accurate? Has anything changed that you did not account for in the service model? Make sure that the processes (e.g., configuration management, change management) designed for keeping the model up to date are effective.

### Key considerations

**Anticipate changes to the underlying business service.** Periodically, the business service that the service model is supporting will be updated and will change. In some dynamic environments, this change can happen extremely frequently, especially in dynamic Web applications. Consider changes to the applications and supporting infrastructure periodically, and evaluate potential changes to the service model to keep in sync. Ideally, this process would be fully automated and synchronized with the engineering and build teams.

**“If it ain’t broke, don’t fix it.”** While this step is generally a good practice over time, how rigorously you approach it should be determined by the value you are receiving from the model. If things are going well, and you are achieving the objectives you originally established, this activity should be looked at as a “health check” versus a trauma triage.

**A service model is an ongoing investment.** A service model is a lot like a piano. It needs regular recalibration to stay in top working order. However, if you make the investment to ensure that your service model is well tuned, it will perform at its optimal capability, and you will see maximum benefits.

**Consider that “close” may be good enough.** In some cases where you find a difference between the service model and the physical IT environment, do not always assume that the service model must be changed. Instead, look for ways to simplify the model through infrastructure component aggregation, such as defining a logical server farm from a collection of physical servers. Keep in mind that your ultimate goal should not be to have the most accurate service model possible, but instead to achieve your business objective. If the difference does not impact your ability to achieve that objective, it may not be necessary or even advantageous to change.

If you make the investment to ensure that your service model is well tuned, it will perform at its optimal capability.

## Step 3: Evaluate resource spend associated with model upkeep

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### Step overview

In this step, you will review the costs associated with operating and maintaining the service model. You will review the resources that are being used to operate and maintain the model, and you will determine whether model operations are cost-effective and whether individual resources maintaining the model are being used optimally.

### Tasks

1. **Estimate current model operations cost.** Most organizations are not in a position to come up with hard numbers for operating costs. In this case, it's acceptable to estimate your costs in terms of hours expended or percentage of time (for example, the system administrators spend 15 percent of their time maintaining the service model). These estimates can then be used to compare before-and-after resource expenditures.
2. **Review the key model operations steps.** If you conclude from your review in the previous task that your model operations costs are unacceptable, determine where the process can be made more efficient. Each step in the service model maintenance and operations process has a set of requirements for what must be delivered upon completion of that step. In some cases, the requirements might dictate *how* the end result must be delivered, but in most cases this will not be true. Review how key steps are being implemented, and then decide whether and how it could be done with less expense. If it could be, how much savings would you see between the current implementation and a less expensive version? For example, are there manual steps in the process that could be automated (e.g., checking for configuration drift)?
3. **Decide upon your plan of action.** Even if the service model is within budget or costs less than the benefit that it is delivering, you might still wish to take any cost-saving measures that you determined in the previous task. Involve the key stakeholders in this decision. Is it worth the investment of making changes to processes and/or resource assignments? Is this something you want to do now or schedule for later? What would be the impact, both in terms of cost and efficiency of the process, if you make the changes?

Cost savings that you achieve today might need to be re-evaluated tomorrow.

### Key considerations

**Stay grounded in the original business case.** When reviewing the operations and maintenance costs, refer to the original business case that justified the service model program. Compare your current costs to the costs in your cost-versus-benefits analysis in the original business case.

**Stick to the numbers.** You might be tempted to justify certain expensive steps because of the “feel good” factor. However, the decisions in this step are accurate only if made on the basis of quantitative values. It is great if more customers are using your service model because they like it, but if the model is costing \$100 for every \$1 that it earns, then the project will most likely still be considered a failure.

**Consider the iterative approach.** Don’t get too caught up in getting things perfect the first time around. Remember that this is *continual* improvement. Additionally, IT environments change constantly. Cost savings that you achieve today might need to be reevaluated tomorrow due to the dynamic nature of the IT industry. Be willing to revisit this process over time.

## Step 4: Refine the model and supporting processes

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### Step overview

In this step, you will review and optimize the service model and supporting processes as necessary based on the results of the previous steps. You may have made the relevant changes to your service model concurrently as you worked through each step in this stage. If you have not yet executed those changes, this step will help you prepare for, schedule, and roll out the modifications to your service model and processes.

### Tasks

1. **Define the update plan.** Review the proposed changes to your model, processes, resource assignments, and/or technology implementation. Are there any dependencies required for each of the changes? Carefully determine all prerequisites prior to implementing the changes. For example, develop and follow a communications plan, inform stakeholders, update and execute necessary training, demonstrate test results, and so on. Finally, integrate with existing change management processes if at all possible.
2. **Schedule required changes/updates.** Just as when you rolled out the original model, schedule any planned changes. This is especially important now that your model has already been in public use, as changes to the model operations, usage, and support might adversely affect business operations.
3. **Execute the update.** Similar to the original rollout, be sure to have a rollback plan where appropriate. In the event of a problem, going back to the original process or approach might be the easiest rollback plan.

**Remember that this is  
*continual* improvement.**

## Key considerations

**Testing is essential.** Don't forget that testing your updates is as necessary as testing your initial rollout.

**Update training as needed.** If process changes are significant, make sure that — at a minimum — they are communicated to all stakeholders. In some cases, additional or updated training may be required. Be certain that you cover that training before the rollout. If you need to involve new members in your audience, make sure that everyone starts on the same page before proceeding with additional training.

**Communicate.** Over time, people may come and go. Make sure all current stakeholders and team members are known and are a part of the communications plan.

**Always keep the end game in mind.** This service model program should not be a purely academic exercise. Don't lose sight of your original goal. Ensure that any refinements either improve the value of the model or the efficiency of its operation.

## Summary

Many of the steps in this stage require repeated execution. Continually revisiting this stage is a key part of a successful service model implementation.



# Epilogue

Congratulations on completing this practical guide to service models. You should now have a framework that you can leverage to build your own service model program. As with every other framework, the outcome you achieve will depend upon your specific situation and the desired business objectives. Regardless of your situation, however, you will learn valuable lessons every time you work through the stages in this guide. Use this guide as a key resource in becoming a trusted partner to your business customers.

If you haven't started building service models or would like some help with your current program, visit BMC Global Services at [www.bmc.com/services](http://www.bmc.com/services) to learn more about Consulting and Education Services. If you need additional information about BMC technology, please contact your BMC account representative or visit [www.bmc.com/bsm](http://www.bmc.com/bsm).



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