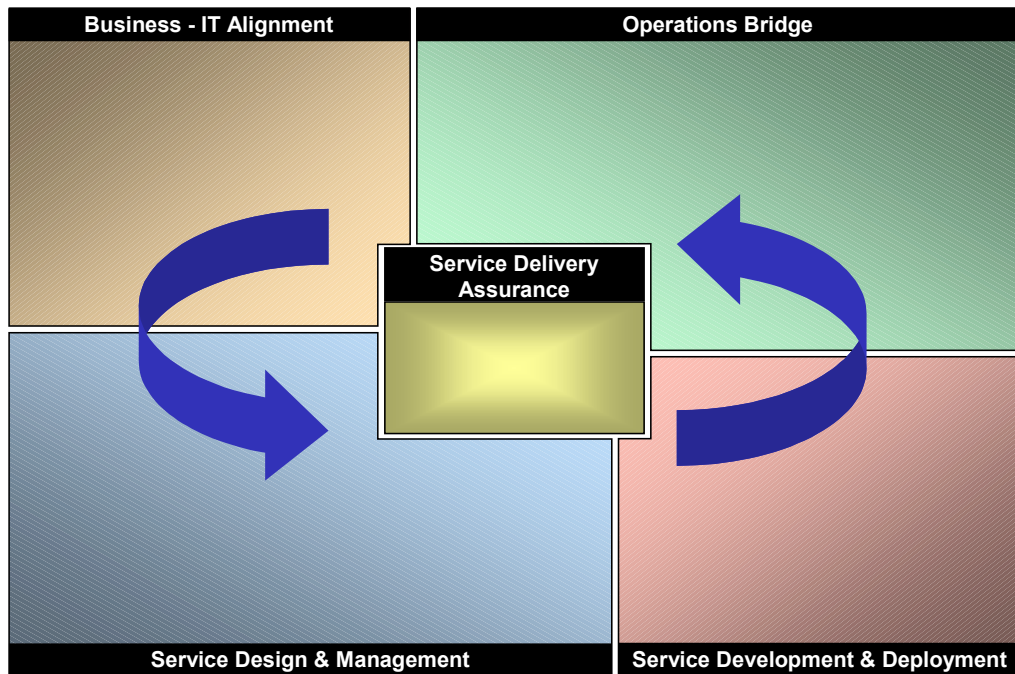


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# The HP IT Service Management Reference Model

## White Paper



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**People + Process + Technology**



## Table of Contents

<b><u>INTRODUCTION</u></b> .....	<b>5</b>
<b><u>THE IMPORTANCE OF PROCESS TO IT</u></b> .....	<b>8</b>
<b><u>CONCERNING “IT REENGINEERING”</u></b> .....	<b>11</b>
<u>The Role of “Process Owner”</u> .....	12
<u>Transitions</u> .....	13
<b><u>THE IMPORTANCE OF PROCESS-ENABLING TECHNOLOGY</u></b> .....	<b>15</b>
<b><u>SUPPORTING E-SERVICES THROUGH IT SERVICE MANAGEMENT (ITSM)</u></b> .....	<b>16</b>
<u>The Need for a Model</u> .....	17
<b><u>THE HP IT SERVICE MANAGEMENT REFERENCE MODEL</u></b> .....	<b>18</b>
<u>Benefits of the Model</u> .....	19
<u>Model Content</u> .....	20
<u>Five Process Groups</u> .....	20
<b><u>THE ITSM REFERENCE MODEL PROCESSES</u></b> .....	<b>22</b>
<u>Business-IT Alignment</u> .....	23
<u>Business Assessment</u> .....	23
<u>Customer Management</u> .....	23
<u>IT Strategy Development</u> .....	24
<u>Service Design and Management</u> .....	24
<u>Service Planning</u> .....	24
<u>Service Level Management</u> .....	25
<u>Security Management</u> .....	25
<u>Availability Management</u> .....	26
<u>Capacity Management</u> .....	26
<u>Cost Management</u> .....	27
<u>Service Development and Deployment</u> .....	27
<u>Build and Test</u> .....	27
<u>Release to Production</u> .....	28
<u>Operations Bridge</u> .....	29
<u>Operations Management</u> .....	29

[Incident Management](#) ..... 29

[Problem Management](#)..... 30

[Service Delivery Assurance](#)..... 30

[Change Management](#) ..... 30

[Configuration Management](#)..... 31

**[SO WHERE DO YOU START?](#)..... 32**

[Scenario 1: My Help Desk is Broken!](#) ..... 32

[Scenario 2: My Customers are Asking Us to Write SLAs!](#)..... 32

[Scenario 3: We Need Better Control of our Production Environment!](#) ..... 33

[The Bottom Line](#)..... 34

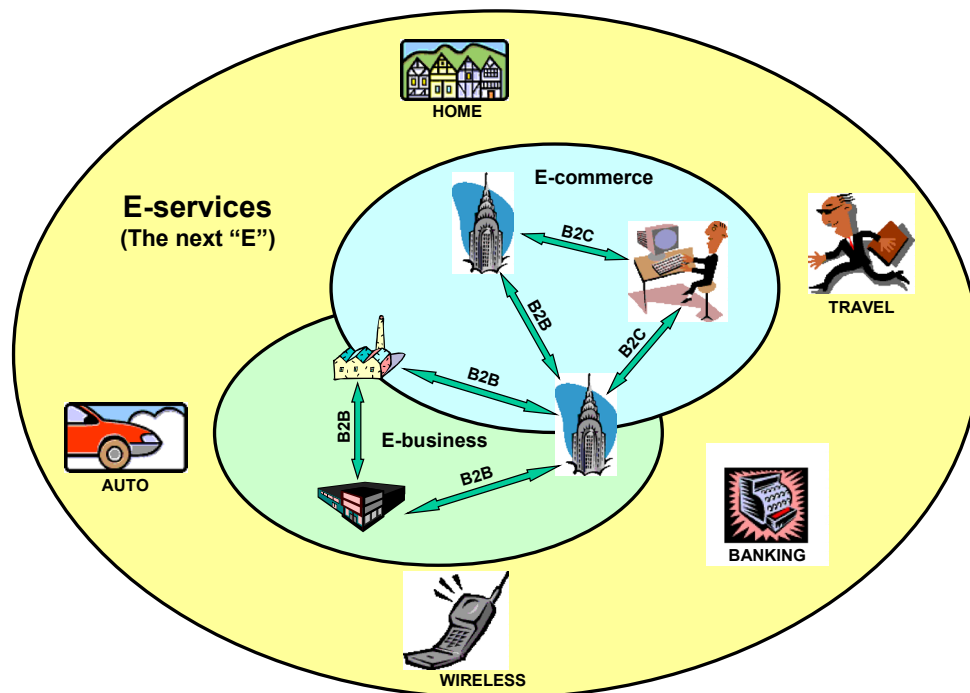
# Table of Figures

[FIGURE 1: THE RELATIONSHIP BETWEEN E-COMMERCE, E-BUSINESS AND E-SERVICES](#) ..... 5  
[FIGURE 2: REENGINEERING – A BRIDGE BETWEEN PROCESS AND PEOPLE](#) ..... 11  
[FIGURE 3: PROCESS MANAGEMENT CHARACTERISTICS](#) ..... 11  
[FIGURE 4: NEW SKILL DEVELOPMENT AND ATTITUDE TRANSITION](#) ..... 13  
[FIGURE 5: THE ITSM REFERENCE MODEL PROCESS GROUPS](#) ..... 20  
[FIGURE 6: THE REFERENCE MODEL PROCESSES](#) ..... 22

## Introduction

This white paper describes the HP IT Service Management Reference Model. This model is a significant tool proven to be useful in presenting and describing the many IT Management processes, inter-process relationships, and business linkages IT needs to put in place for the successful development, deployment and support of services in the e-world. As we enter the new millennium, corporate IT organizations are once again being forced to deal with another challenge: "e-everything" - brought about by the emergence of new technology, the pervasiveness of the Internet, and an ever-increasing competitive marketplace.

E-commerce,<sup>1</sup> e-business<sup>2</sup> and e-services<sup>3</sup> are already making fundamental changes to the way businesses are created and operated and to how we live and work. The following diagram shows the relationship between these three terms.



**Figure 1: The Relationship Between e-Commerce, e-Business and e-Services**

Buying a home or car, shopping for books or groceries, managing your personal finances and trading stock, planning a trip or mapping your family genealogy, are activities that are done significantly differently today than just two years ago. Companies like eBay, Amazon.com, AutoMall.com, Charles Schwab, and Yahoo, represent just a few success stories of the companies that have been on the forefront of the e-services revolution.

More and more companies are actively seeking ways to reach new markets and customers through e-business offerings. International Data Corporation (IDC) predicts that by 2002,

<sup>1</sup> E-commerce is a term that refers to the buying and selling of goods and services over the Internet – both business-to-business (B2B) and business-to-consumer (B2C) transactions.

<sup>2</sup> E-business ("electronic business," derived from such terms as "e-mail" and "e-commerce") embraces e-commerce, but also includes Internet-based communications and Web-enabled business processes.

<sup>3</sup> An e-service is a service or resource available on the Internet that conducts a transaction, completes a task, or solves a problem – and can be used by people, businesses and "things" (such as our cars, our homes, manufacturing lines, anything with a microchip in it). E-services are easily understood from the end-customer viewpoint i.e., buying a car online, trading stock online, arranging a trip online, etc. But e-services can also refer to IT resources offered via the Net such as storage, MIPS on demand, enterprise applications, etc. Note that e-commerce and e-business were essential foundations required before e-services could be used successfully.

e-commerce is expected to be worth \$223 billion and Western Europe will have 63 million people accessing the Internet. Goldman Sachs predicts a 40-50% rise in online brokering and an increase of 35-40% in online banking in this same time period.<sup>4</sup>

But both IT and business organizations are quickly learning that entering the world of e-services is not without a price. Familiar IT challenges such as unstable infrastructures, the reeducation of personnel, continuous hardware upgrades, server consolidation projects, organizational reengineering efforts, and steady cost pressure<sup>5</sup> are being made all the more acute by the additional pressures of e-commerce upon IT. Pressures to refocus IT energies and resources on delivering competitive quality services are forcing IT organizations to closely track customer satisfaction and begin serious implementations of process management techniques and tools. The drive to deliver end-to-end "everything" is putting IT in the position of having to continually reinvent itself and the services IT delivers.

Consider the rapid evolution of e-services currently being experienced. The Internet used to be a vast uncharted sea populated by a variety of stand-alone web sites or "cyber-islands," offering individual, non-integrated e-services. This forced us customers to manually traverse the Internet, laboriously seeking the things we needed, often from several different web sites, as when planning a vacation, for instance. Flights and vehicles had to be reserved, hotels booked, tours arranged, etc. To accomplish almost anything that was Internet-related meant you really had to "work the web."

Soon, web "portals" started popping up around the Internet to address this issue and enhance our Internet experience, providing us seekers with one-stop "shopping," quite literally. Customers only have to visit a single portal to make their reservations, check the weather, plan their tours, etc. But even now, most portals still don't integrate many of the "behind the scenes" e-services we are presented with (e.g., your flight reservation, your rental car, your hotel, etc.). This means again, more labor as changes to one aspect of an itinerary (e.g., a cancelled flight) means manually changing other aspects of the planned trip (e.g., canceling the car, changing hotel room reservation, etc.).

Now, integrated e-services portals, sometimes referred to as "enterprise portals," are making an appearance on the Net. Such advanced portals (e.g., [www.expedia.com](http://www.expedia.com)) provide the necessary communications between multiple e-services that was previously lacking. Therefore, continuing this example, if a flight gets cancelled, our other arrangements (such as rental car pickup time, restaurant reservation time, etc.) can be adjusted quite easily.

But today's enterprise portals will transition again into tomorrow's e-services brokers. Customers will simply make an initial request (qualified by various parameters) via voice, email, the web, etc., to an e-services broker application that will then act upon that request, seeking the very best e-service offerings for the requestor. This will be a world where e-services will no longer be static, but rather created and customized to individual preferences, on the spur of the moment. While such a concept can cause potential customers to stand and cheer, it can also cause IT managers to take a seat while they catch their breath. For, as anyone experienced with IT can tell you, if the world is going to get easier for end-customers, it is going to get more complicated for IT. Indeed, the pressure that is being placed on IT organizations today is in direct proportion to the increased value businesses expect to receive from their IT departments as companies take their "leap of faith" into the world of e-services.

If your company is planning to compete in the world of e-business then your IT organization had better get prepared, because *e-services are all inherently mission critical*. In fact, e-services implies "mission critical everything," and "end-to-end everywhere."

<sup>4</sup> M2 Communications PRESSWIRE report, "SAFETYNET GROUP: World's first e-commerce business continuity solution launched by Safetynet," 10/04/1999.

<sup>5</sup> Ibid. Small and medium enterprises (SMEs) are expected to experience a threefold increase in IT spending, again by 2002.

If IT organizations are to have any hope of meeting the new information demands of the e-services revolution, they are going to have to move away from the traditional utility management of *things*, to the management of *services*. This is essentially what Hewlett-Packard's IT Service Management Reference Model was designed to address.

As IT organizations struggle to refocus their efforts on *service management* instead of technology management, and on *customers* instead of users, an integration of process, people, and technology - the three critical elements required to provide and manage quality services - is of the utmost importance.

## The Importance of Process to IT

Many IT organizations have been restructuring and reorganizing over the past few years in an effort to address the (people) resourcing and productivity issues facing them. At the same time they are working hard to absorb the new technologies required to run the services being developed. These activities will only increase in the coming few years as a result of the e-services industry. Yet, neither of these efforts alone or even combined, will produce the required infrastructure stability and performance levels needed to compete in the emerging e-services marketplace without well defined and measurable IT processes.

While the management of technologies and application components has been the traditional mainstay of IT, most IT organizations are waking up to the fact that past and even current poor service delivery has little to do with technologies they are or are not using, than it does with poorly designed or "missing" critical IT processes.

For instance, having the best technology installed doesn't do the business much good if an e-service offering is failing because...

- ...unscheduled (and therefore uncontrolled) changes occurred to the production environment due to an unclear and undocumented IT process being performed (e.g., Change Management). This can lead to false starts, multiple reworks, duplicate efforts, periodic work stoppages, and often means lengthy time-to-repair intervals, and increased customer anxiety and frustration.

For businesses whose primary services are provided online via e-services, this situation can be catastrophic. A recent example involved eBay, a major online auction house. Their services went offline for 21 hours due to a software problem and the effect was felt around the world - at once. It is easy to imagine the immediate negative effect this outage had on their revenues (their market value dropped \$5 billion following the outage<sup>6</sup>) and the positive effect it had on their competitor's revenues, as frustrated customers sought - and found - other auction offerings on the Web. America Online and E\*Trade have also experienced serious service outages. All of these companies have continued to thrive afterwards, probably due to their size, market share, and the fact they were "first" on the e-business scene. Time will tell whether other companies will be able to recover so easily from such experiences.

- ...the manner in which a particular IT process is triggered<sup>7</sup> is vague (e.g., software distribution, etc.), thus leading to possible inconsistent service delivery, meaning the customer never gets the same quality of service twice. This can seriously impact customer satisfaction, prevent repeat business and is a sure sign that IT cannot make a commitment to strict service levels.

For e-businesses that offer products for sale via the Internet with services like sales order processing and delivery scheduling via the Web - *customer satisfaction is everything*. No longer can customer satisfaction surveys be ignored by burying the results under a pile of paperwork. Many sites (e.g., Ebay, 2020Consumer.com, etc.) now provide the means for customers to state their satisfaction (or dissatisfaction) in real time, for the whole world to see. And online customers, still somewhat nervous about processing credit transactions on the Web, only need the smallest hint that there might be something untrustworthy about the order processing function they are using or the credit authorization function of the service, and they will take their business elsewhere. Recent surveys indicate "a growing restlessness among consumers with the

<sup>6</sup> M2 Communications PRESSWIRE report, "SAFETYNET GROUP: World's first e-commerce business continuity solution launched by Safetynet," 10/04/1999.

<sup>7</sup> The events that start or initiate a process are referred to as process "triggers."

level of service being provided."<sup>8</sup> Dataquest reports that about a third of the 37 million U.S. households with Internet access have experienced ordering problems, and e-BuyersGuide.com says that one in 10 orders could not be filled for online shoppers.<sup>9</sup> E-commerce customers need to know and feel confident that every time they use an online service, they will always get the same positive results.

- ...the linkages between IT processes (e.g., Build & Test and Release to Production) are undefined, or worse, non-existent, thereby causing further delays to already tight production schedules, missed customer commitments, and loss of revenue.

One effect that e-commerce is having on the world today is that it is producing an overwhelming sense of "immediacy" in customers. People expect that when they click on their mouse and select a service (e.g., buying a mortgage, a car, or insurance, etc.), they will get what they want - *now*. In the case of some online software purchases, the transaction completes with the software being downloaded to their PC immediately. In others, products need to be mailed. But in any case, customers expect a rapid response to their transaction. After all that's one reason they use the Internet to conduct business - because it's faster than leaving the house in search of some service or product, even faster than using the phone to order something. If an e-business has problems producing their products or moving them into the delivery chain quickly, customers will take their business to some other Web site. In a study of over 400 online consumers, 13 percent stated that they would NOT go back to at least one web site they have already used.<sup>10</sup>

- ...the staff whose job it is to perform a process (e.g., Helpdesk or Problem Management) have unclear roles and responsibilities and are not measured on performing the process, thus leading to accountability failures when things go wrong, and complicated finger-pointing when trying to fix a broken service.

People and technologies are far from perfect. Service outages are going to occur. They are an unfortunate fact of business life. Given this fact, every effort needs to be taken to ensure that when they do occur services can be restored as quickly as possible. Behind the scene operations are critical when service interruptions are experienced, as everyone involved in service delivery and support must go into action and perform their jobs - without confusion - and without delay. Whereas providing good services has always been a challenge, for businesses that rely mostly or completely on e-commerce, it can be the difference between success and Chapter 11<sup>11</sup> as major e-businesses "stand to lose hundreds of thousands of dollars for every hour their web site is down."<sup>12</sup>

The situations and corresponding results cited above are all examples of what can happen when your IT organization is having a process "problem." And if they appear familiar, or remind you of recent experiences, then you should have serious reservations about venturing into the development and support of an e-service, because business success is going to be very difficult to achieve until these problems are addressed. The IT processes supporting your e-services must be identified, well defined, documented, and communicated to all affected personnel.

Further, your processes must be measurable. Remember - *if your IT processes are not being measured, they can't be improved!* Measuring a well-defined process, including its inputs and outputs, will provide your organization with the ability to predict process performance over time. This capability is both basic and integral to any actual continuous process improvement effort.

<sup>8</sup> Reuters English News Service, "USA: NetTrends - The threat to online shopping services," 09/07/1999.

<sup>9</sup> Ibid.

<sup>10</sup> Ibid.

<sup>11</sup> A common legal term for bankruptcy.

<sup>12</sup> Business Wire, "Unexpected Downtime Can Mean 'Chapter 11' to Companies Whose Core Business is Commerce Over the Internet, According to Cahners In-Stat Group," 09/15/1999.

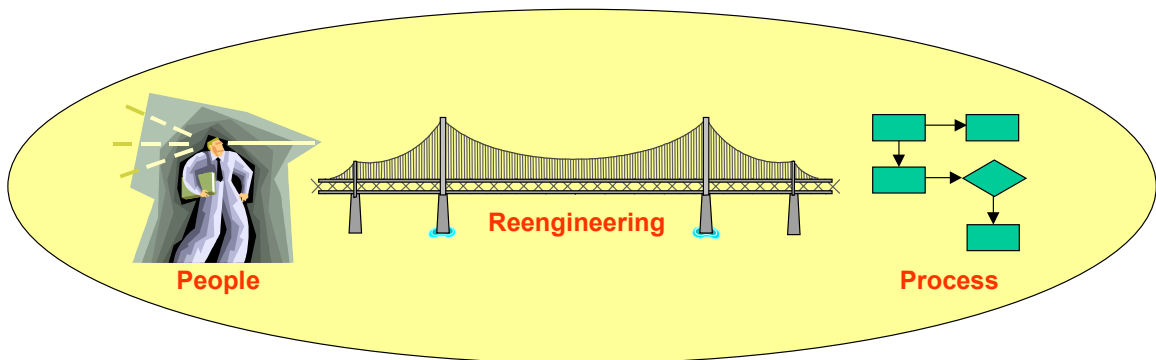
With proper metrics, IT can gauge process performance and make any required adjustments to a process proactively - *before* service failure (indicated by trend analysis) - instead of reactively, when an e-business opportunity may have already been lost.

It is important to remember also that no process stands alone. This means that defining and measuring any individual process must be done in the context of the greater whole; that is, by understanding and defining the interrelationships and dependencies between the target process and other related processes in the IT environment. Unclear or undefined process relationships can lead to false hopes and/or frustration when the process you just "fixed" leads to breakdowns in other related processes -- not unlike plugging a hole in a dike, only to find a new leak somewhere else.

## Concerning “IT Reengineering”

Any attempt to implement new IT processes without addressing the implications these processes will have on “people” is going to end in failure. Too often, companies seek to take advantage of new processes and tools, yet refuse to consider any changes to the way the IT organization is structured, the new roles that need to be implemented, etc. What is wrong with this approach? Why do these same businesses soon find themselves wondering why their efforts failed?


Essentially these companies have not yet grasped the fact that designing and implementing new IT processes is true process reengineering. Process reengineering is the essential “bridge” that connects “people” to “process.”



**Figure 2: Reengineering – A Bridge Between Process and People**

The reason: process reengineering implies Process Management...

Process Management is the integration of people, information, tools, and procedural structures (i.e., the steps that define how work gets done) to ensure conformance to performance and quality objectives in an economical manner (i.e., that processes meet customer and business needs). When process management has been applied to one or more target processes, they should exhibit the following characteristics:

1. **Process Ownership**
  - Assigned accountability
2. **Process Measurement**
  - Measurable conformance to user requirements
3. **Process Control**
  - Assurance that outputs meet specifications
4. **Process Optimization**
  - Increased productivity and efficiency
5. **Continuous Process Improvement**
  - Defect removed  defect cause removed
6. **Process Definition, Design and Documentation**
  - A common understanding of value

**Figure 3: Process Management Characteristics**

Note that none of these characteristics (see Figure 3 above) are possible without somehow affecting the people in your organization and the way they do their jobs. After all, the best-

designed processes in the world (the hopeful result of #6 above) aren't worth the paper they are written on without "people" to perform the work defined by the design.

Implementing characteristic #1 (above) can have a dramatic and immediate impact on your organization because it has a direct effect on your organizational structure. How? Well, one of the first tasks to accomplish after identifying the processes performed by your organization is to assign the role of "process owner" to those processes. And for most companies, this is a new role that needs to be clearly defined and understood.

### ***The Role of "Process Owner"***

Essentially, a Process Owner is an individual who is given *end-to-end accountability* for a specific process. As many IT processes are cross-functional (i.e., span the organization), it is imperative that process accountability match organizational responsibility. That is, it will be impossible to "manage the process end-to-end" if the Process Owner doesn't have the authority to "make things happen" to that process across organizational boundaries. Of course, many people may actually be *responsible* for carrying out different aspects of a specific process. But it is always the Process Owner who is *accountable* for the success or failure of the entire process.

Change Management, sometimes called Production Change Control, is an excellent example of a cross-functional IT process that requires a Process Owner (i.e., the Change Manager) with the authority to manage the process "end-to-end." For instance, when rolling out a new application to a business unit or conducting server upgrades across the enterprise, the Change Manager must have the ability to "control" the changes that have to occur regardless of location or organizational structure. If personnel who are supposed to be involved in a change rollout are allowed to ignore the work directives and schedules generated by the Change Management process (and controlled by the Change Manager), chaos will soon be the only result. The same is true for on-going process improvement efforts – the Change Manager's directives for improving the process should not be thwarted because someone at a remote site or in a different entity feels they have better things to do with their time.

The bottom line should be apparent - *the Process Owner must be empowered by IT management to manage their specific process end-to-end regardless of organizational boundaries*. This means that the CIO and his/her direct reports MUST provide sponsorship and support to such efforts.

One reason for this is that many IT organizations are finding that they are not structured to deliver end-to-end process management. Often, IT organizations are still aligned to match the functional "silos" that were useful in the mainframe-centric world. Implementing cross-functional process management in such environments doesn't work. What is needed is a restructuring of the IT organization in such a way as to plan, build and test, deliver, and maintain IT services that meet the demands of today's e-businesses, for these business leverage e-services.

Additional Process Owner responsibilities include: providing leadership for a specific process and its sub-processes; understanding the effect the environment has on the process and the effect the process has on the business; understanding the process end-to-end; maintaining good relationships with key managers and stakeholders in both IT and business domains. These are some of the reasons why Process Owners should be people who are considered visionary, respected by their peers, and capable of dealing with corporate politics.

While the concept of Process Owner looks good on paper, if you have an IT organization that consists of numerous functional "silos" and/or lacks CIO sponsorship, implementing this role can be fraught with difficulties and may prove impossible. Functional managers may resist such a role and see it as a threat to their authority and an intrusion on their "turf." These issues are serious, but are not insurmountable with strong sponsorship from the CIO and when close attention is paid to "management of change" (MOC) issues whenever and wherever process reengineering is being considered.

There are of course, other process roles that need to be considered when implementing new processes, each of which must be reviewed for possible impact to the organization and implementation risks, benefits, and consequences. Again, many companies defer such role considerations or completely disavow them, thinking that they can still reap process benefits without affecting their organizational structure. But to do this is to invite failure.

How new roles are implemented will vary from company to company, as corporate cultures and organizational structures can be quite different. In larger companies with more complex organizational structures, Process Owners are typically assigned one (and only one) to a process and may delegate the responsibility of managing continuous process improvement to people whose job it is to manage "quality." Often some kind of "Quality" entity within IT exists in such companies, staffed with specialists. But in smaller companies, Process Owners may have to be responsible for more than one process and also assume the task of leading continuous process improvement efforts.

These and other important decisions will be required by organizations to identify new roles, responsibilities, job definitions and lines of reporting, and it is natural that people are going to resist changes to the way they have been doing their work. People who are reluctant to change may need the occasional "guidance" that can only come from strong internal sponsorship, where upper-level management is not just aware of the effort, but actively engaged. Anyone who has ever been involved with either improving or designing/implementing new processes knows what happens when the appropriate sponsorship is missing. The so-called "Information Highway" is littered with the remains of such efforts.

Attempting to introduce new or significantly improved IT processes without addressing the new roles, responsibilities, metrics, and job descriptions required to perform the new processes can lead to dismal process performance, frustrated staff, and potential failure. This is often what happens when IT process design/implementation is treated as just another project, rather than what it really is - a reengineering effort.

### **Transitions**

Characteristics #2 - #5 above (see Figure 3) have further implications for organizations. Many of the IT processes currently in place in companies throughout the world are measured poorly or not measured at all for performance; don't have clearly defined output specifications; aren't reviewed for optimization; and weren't designed for continuous process improvement. This means that for many organizations attempting to implement process management, these are going to be new activities for people, and may require new technologies to assist in these efforts. As a result, current skills and capabilities will have to be assessed and reviewed, and training plans will have to be generated to address all new requirements.

Some others transitions IT will experience affect not only skills, but also the following attitudes:

<b>From</b>	→	<b>To</b>
Users	→	Customer
Inward Looking	→	Outward Looking
Technology Focus	→	Process Focus
Ad Hoc Processes	→	Rationalized, Streamlined Processes
Best Efforts	→	Measured, Accountable Processes
Entirely In-House	→	Balanced In/Outsourcing
Fragmented, Silos	→	Integrated, End-to-End
Reactive	→	Proactive
Operations Manager	→	Service Management
System Skills	→	"Listening" Skill

**Figure 4: New Skill Development and Attitude Transition**

Essentially, (refer to Figure 4 above) in order to become more customer-focused and service-oriented, IT organizations need to:

- Stop viewing the consumers of their services as users, and start viewing them as customers.
- Temper their traditional inward perspective and start looking outward.
- Expand their focus on technology (things) to include a focus on process (service solutions)
- Move away from isolated ad hoc processes and start developing business-justified, streamlined IT processes.
- Stop attempting to address customer service requirements with best-effort process improvements and start implementing measurable, accountable IT processes.
- Expand their work efforts, which have historically been centered on in-house solution developments, to include a cost-justified balance between insourcing and outsourcing.
- Develop and implement integrated, end-to-end IT processes and discard any fragmented processes, thus avoiding process silos.
- Utilize the new process improvements to change the reactive IT organization to one that is proactive.
- Define and develop new service-oriented roles and responsibilities.
- Embellish the traditional IT system skills with new customer-focused skills, by learning to listen to the customer.

## The Importance of Process-enabling Technology

To make the new or improved IT processes function like a well-oiled machine can also require significant alterations to existing technologies and/or create the need to incorporate new technologies into the existing IT environment. But it doesn't stop there. Implementing IT services to support an e-business requires *process-enabling* technologies. These are special tools designed to provide process automation and simplify the interprocess integration and communications required to manage IT services across the enterprise.

Gone are the days when IT organizations could afford to spend months and thousands of dollars evaluating tools. With the e-business market demand for quality support - *yesterday*, time is now too valuable to waste and budget coffers too small to continue this luxury. IT needs to be able to quickly select and implement the process automating tools it needs, with minimal hands-on customization. This is an important point to consider when evaluating such offerings. Having a Change Management system integrated with Configuration Management, Incident Management (i.e. Help Desk), Problem Management and Service Level Management systems is an excellent example of IT process automation technology.

As change orders are being processed, past, current, and future IT infrastructure data can be automatically retrieved from Configuration Management and updated to speed each step in the Change Management process. Past incident data can be gathered immediately, thus dramatically shortening the review and approval time for a specific change. This same data, when also made available to Problem Management, allows specialists to analyze trends and avoid future potential service outages - proactively. Problem data on the other hand, can be quickly accessed by Change and Incident Management to enhance the quality of their support and decision making efforts. Help Desk staff can quickly determine applied service levels and escalation parameters for callers with a simple mouse click, thus enhancing customer satisfaction. All of this, in a single, integrated platform, using a single database, distributed where needed across the enterprise. This is process automation at its best.

Various vendors now provide IT process automation technologies that address the processes mentioned above, such as Hewlett-Packard's IT Service Desk solution. Some, like HP's are fully integrated for the most part, right out of the box. Others talk a good story, but in reality, any stab at integration is only accomplished manually, often with great effort and not so great results.

IT organizations sometimes have a very real need to improve a specific IT process, such as Help Desk, and recognize the need for IT process integration. They then use this issue to do a technology evaluation, comparing a mix of Help Desk solutions and IT process integration solutions. The problem with this situation is that few, if any, integrated IT process tools have a Help Desk component that can compete one-on-one with a major Help Desk vendor offering. This situation is a direct consequence that occurs when IT fails to make an important up-front decision: "Does IT want a Help Desk solution or an IT process management solution?" If the answer is just a Help Desk solution, then they should pursue major vendors who specialize in Help Desk products. But if the answer is an IT process management solution, then the focus should be on vendors who offer such integrated solutions. The impact of accepting fewer bells and whistles in a Help Desk solution can be easily offset by the powerful advantages of an integrated IT process management solution.

Being able to integrate process-enabling technologies into the current IT environment is also of crucial importance. Although almost always possible to some extent, care should be taken to ensure that such attempts are cost effective and make good business sense. There are various levels of integration, from inserting an entry on a menu bar to full-scale data exchange between applications. It pays to query vendors as to exactly what they mean by "integration" and how such integration is accomplished.

## Supporting E-services Through IT Service Management (ITSM)

IT Service Management (ITSM) is an approach that combines proven methods such as process management and known industry best practices together with forward-thinking concepts like running IT “as a business” (as opposed to running IT “within” a business). Adopting ITSM enables IT organizations to deliver quality services that satisfy customer business needs, are process-driven, meet cost targets, and achieve performance targets specified within service level agreements (SLAs). It is an approach that is vital to all IT organizations, big or small, that are currently supporting, or planning to support an e-business venture.

Imagine that a major business unit has just informed IT management that they want to quickly provide retail shopping to customers directly - via the Internet. Those of us who might use such a method to purchase products, the end-customers, will see only one service – call it “online shopping.” But hidden from our view, behind the firewall and inside the company, many different IT services have to be delivered to support this new e-business venture and make it successful. For example:

### Datcenter Services

- Hardware procurement
- Software license management
- Performance and Capacity Planning
- Database administration
- Computer operations
- Etc.

### Security Services

- Virus protection
- Data security
- Security audits
- Etc.

### Desktop Services

- Workstation installation and setup
- Etc.

### Network Services

- Internet/Intranet access
- Remote access
- Network management
- Site connectivity
- Etc.

And this is just the tip of the iceberg! These crucial, supporting IT services cannot be delivered consistently, let alone guaranteed, without the aforementioned well defined, measurable IT processes, integrated technologies, clearly defined roles and trained staff. And if the quality of these fundamental IT services cannot be guaranteed, then neither can the end-customer’s Online Shopping service! There is an undeniable dependency of the quality and performance of the “one” on the quality and performance of the “many.”

Offering the public a usable online shopping service requires an incredibly stable IT environment if you want to keep customers from beating down your door with complaints, or worse - taking their business elsewhere. And in the world of e-business, your competition is only one mouse-click away.

This means that underlying IT services, just like the e-services they support, have to be carefully planned, deployed, and maintained. Changes to the production IT environment must be carefully monitored and controlled, service-related assets must be tracked, incidents handled quickly, service level commitments must be met, potential service outages addressed before they happen, computer operations must continue uninterrupted, etc.

*The bottom line is that if IT doesn't have its own service "act" together, delivering successful e-services to customers just isn't going to happen.*

And herein lies a dangerous trap. For with the entire industry in an uproar as everyone starts marching to the e-services drumbeat, it will be easier than ever for corporations to forget their basic support requirements (e.g., stabilizing their infrastructure, implementing process management, etc.) in all the excitement around developing an e-business - at a time when those basic support requirements are going to be more important than ever before.

IT organizations need to be vigilant and continue asking themselves: "What do we need to have in place in order to support our business objectives?" Answering this question serves to reemphasize the continuing importance of some of the major challenges facing IT organizations today, as IT strives to identify:

- what IT processes are required to deliver quality IT services
- what interprocess relationships and business linkages are required to deliver quality IT services
- what appropriate technologies are available that are process-enabling and provide tight process integration
- what IT organizational structure will allow the efficient delivery of customer services

But answering questions as to "what" IT needs begs other questions regarding "how" and "where." For example:

- Knowing how to design and implement IT processes that enable quality IT service delivery and support to customers
- Knowing how to implement process-enabling technologies quickly and cost-effectively
- Knowing how to identify which IT functions to insource and which (if any) to consider for selective outsourcing
- Knowing where to start

Knowing "when" you should start planning for IT Service Management is perhaps the easiest question to answer - *you should have started yesterday!*

### ***The Need for a Model***

Given these difficult questions that IT organizations are trying to answer, CIOs and the IT managers that report to them have all been in need of a clear picture that depicts the IT processes required to deliver quality IT services in support of their emerging e-services.

Without a clear picture, IT organizations will continue to struggle as they try to understand and determine:

- The current state of IT with regard to process (the "as is")
- The desired future state of IT (the "to be")
- The gaps between the current and future states of IT
- The steps needed to bridge those gaps

Therefore, the need for a concise picture - one that reflects an enterprise service management capability - is very real for most IT organizations and critical to their success.

## The HP IT Service Management Reference Model

Two years ago, Hewlett-Packard developed such a picture and called it the IT Service Management Reference Model. HP, in its engagements with IT organizations around the world was acutely aware of the difficulty in identifying:

- The needed IT processes
- Service management organizational requirements
- Process-enabling technologies
- Problems associated with communicating critical needs and possible solutions across the enterprise

To this end, HP focused considerable time and energy to assist customers in this effort by assembling a team of IT Service Management experts, whose goal was to develop a model that could be used as an enterprise reference for corporate IT organizations.

This model, which functions as a high-level fully-integrated IT process relationship map, has proved to be invaluable to companies around the world as they seek an understanding of both their problems and their possible solutions. Additionally, as a reference tool, the model is extremely useful in initiating a meaningful dialogue between all parties interested in IT process requirements and solutions by providing a coherent representation of IT processes and a common language.

The HP IT Service Management Reference Model incorporates many of the IT Infrastructure Library (ITIL) best practices. ITIL was originally developed by the government of the United Kingdom in an effort to better manage service delivery to their IT customers. Consisting of a series of published books, ITIL has been adopted and implemented throughout Europe and is in the midst of a migration to the Americas. The ITSM Reference Model development team adopted the ITIL practices that could be applied to the enterprise and integrated them into the model, while adding the experience of HP consultants around the world, gained through their own efforts at developing and implementing service management solutions, both within HP and for HP customers.

The result is a model that combines the best that ITIL has to offer with the best that industry experience has to offer. The team also designed the model to reflect the need to run IT “as a business” rather than merely running IT “within a business.” Thus the ITSM Reference model has several processes not found in ITIL.

However, many ITIL terms and definitions are used throughout the model, while others have been modified to reflect HP experience and perspective. This was a conscious effort to enable better organizational communication by adopting a common glossary of terms, definitions, and concepts that are already in use globally.

Note that the HP ITSM Reference Model can be applied to any IT enterprise, regardless of size or distribution, whether you are supporting an e-business or not. Although its focus is on distributed environments, the model is still valid for traditional data centers because it addresses the non-integration issues that are prevalent in existing mainframe-centric process models.

Hewlett-Packard is also using this model internally, as a vehicle for interdivisional communication and both product and service development.

## ***Benefits of the Model***

As a high-level IT process relationship map that depicts a common service lifecycle, the model can be used to:

➤ **Define and assess the current IT environment**

Utilizing the model, IT staff can quickly identify the processes currently in place and begin an immediate discussion regarding their status, value, and relationships with other key IT processes.

➤ **Identify process "gaps" and the desired future state of the IT organization**

The model is a quick reference tool that demonstrates the desired future end-point to be achieved by IT, and provides a framework for planning the accomplishments needed to get there.

➤ **Prioritize work efforts**

Although the model represents the processes IT must have in place to deliver quality services, in reality every corporation differs in its immediate needs. IT organizations must therefore consider a variety of process implementation priorities for their specific situations. The ITSM Reference Model expedites this effort due to its emphasis on interprocess relationships and linkages, thereby helping IT judge the impact and value of one implementation approach versus another.

➤ **Identify critical process linkages**

Recognizing required process linkages further assists process design and implementation efforts by serving as a guide to understanding which processes need to be linked and what types of information need to be shared.

➤ **Begin organizational realignment discussions**

While the model is in fact a process map and not an organizational model, it can still be used quite effectively to discuss and plan for organizational change within IT. Given the service lifecycle orientation of the model, it can be a useful starting point and reference for restructuring IT along both process and service lines.

➤ **Identify areas to apply process-enabling technologies**

Drilling down into the model and analyzing process hand-offs and integration points provides IT with an ability to target potential areas to which timesaving process-enabling technologies can be applied.

➤ **Identify insourcing and outsourcing opportunities**

Utilizing the model to better grasp critical IT process interrelationships can help IT decide which services make business sense to insource, and which should be considered opportunities for selective outsourcing. Additionally, such knowledge can provide IT with an understanding of how their insourced IT processes must interface to those that are outsourced to another service provider.

The HP IT Service Management Reference Model (see Figure 5 below) can really provide immediate value and be used in many different ways. The model continues to evolve based on real-world experience, and reflect industry direction. Recently, given the e-services revolution the industry is currently experiencing, Hewlett-Packard updated the ITSM Reference Model to reflect the enhanced perception of and need for Security Management.

## Model Content

### Five Process Groups

Over the years there have been many different lists and descriptions of IT processes and just as many different opinions about their importance. Given the goal of IT Service Management to provide *quality services to customers*, the processes in the ITSM Reference Model have been organized into five different process groups, each focused on a different key aspect of the service lifecycle (see Figure 5 below). These groups are discussed briefly below and a description of all the processes they contain follows.

## The HP IT Service Management Reference Model

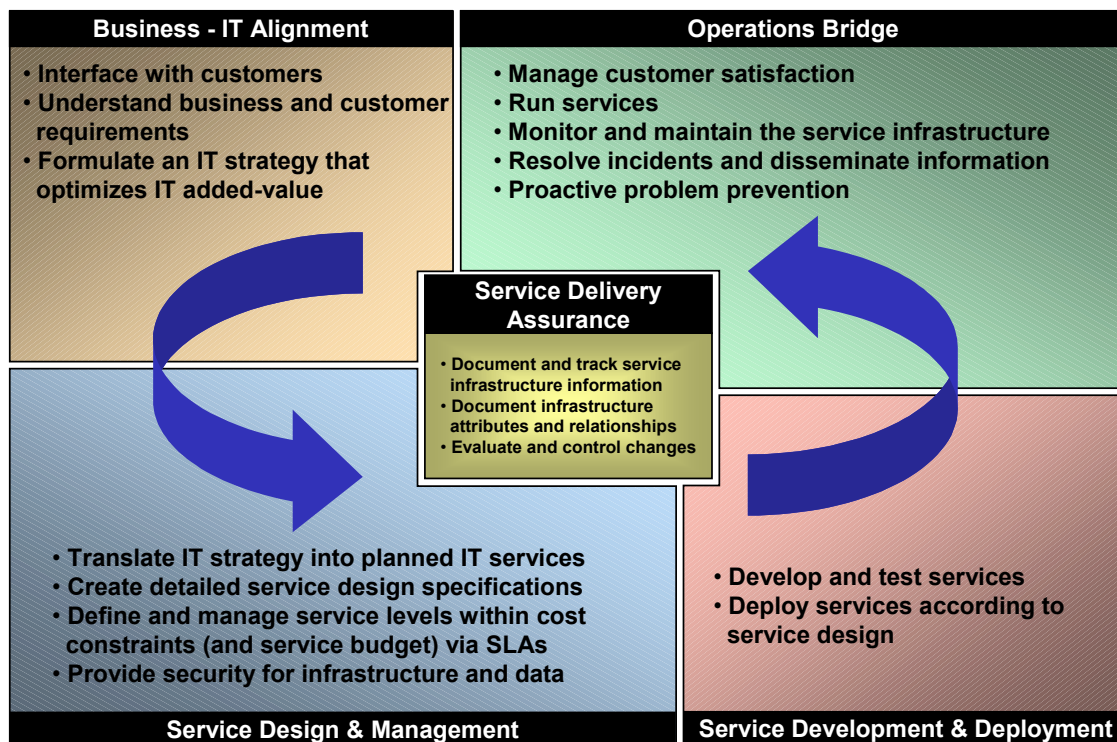


Figure 5: The ITSM Reference Model Process Groups

### Service Delivery Assurance

This process group occupies the center of the ITSM Reference Model for several reasons, and the illusion that the other four process groups appear to revolve around this central “hub” is intentional (refer to the arrows in Figure 5). First, the processes in this group are what provide the necessary stability to the IT environment required by all of the other processes in the model. Without the processes in Service Delivery Assurance, none of the other IT processes in the model will ever operate efficiently. How can they, when “fire fighting” will be the primary activity occupying everyone’s time? And this is exactly the result you get when these processes are missing. Secondly, the Service Delivery Assurance processes reach out and “touch” every other process in the model at some point in time, and usually more than once. For these reasons, it makes sense to place this very important process group in the center of the model.

### Business - IT Alignment

The processes contained in this group are focused on running IT “as a business.” The activities performed by these processes determine service market potential; seek and achieve a common understanding between IT and its customers regarding business needs and IT capabilities; and

in the end, formulate an IT strategy that will optimize IT added-value. These processes are therefore quite strategic in nature.

### **Service Design and Management**

The processes in this group enable IT to translate the IT strategy (i.e. the "vision" developed as a result of Business-IT Alignment process performance) into planned services (i.e. "reality") via detailed design specifications. Activities involving the definition of service levels; the creation, negotiation, and signing of service level agreements; and infrastructure and data security, are also performed. Service availability, service capacity, and IT service costing information are all incorporated into service contracts via the interaction of the processes within this group with other processes in the model.

### **Service Development and Deployment**

The processes within this group enable IT to update existing services and develop new services and their related infrastructure components (e.g., procedures, tools, hardware staging, software installation, application development, training plans, etc.). Once a service and its components have been successfully tested, they are then deployed and integrated into the production environment to experience another battery of tests prior to final project signoff and production release.

### **Operations Bridge**

Similar to the nautical concept of a "bridge" on a ship, the processes in this group work together to provide the required command, control, and support of the IT environment. These processes also manage customer satisfaction. Focused on service delivery, they enable the on-going running, monitoring, and maintenance of the IT enterprise environment.

## The HP ITSM Reference Model Processes<sup>13</sup>

Figure 6 below shows the processes contained within the ITSM Reference Model.

Experience dictates that the lifecycle of a service is much more dynamic and complex than can be described by any two dimensional picture; that is, the processes being executed at different points during this lifecycle may be iterative in nature, involve numerous interactions with other IT processes, require various feedback loops to ensure quality, etc. Even recognizing this, from the time a service is no more than a gleam in a customer's eye to the point at which the service is being delivered, the structure of the ITSM Reference Model can still provide high-level guidance on the general flow of activities performed during the service lifecycle.

The following brief descriptions of each of the processes within the model will describe the general workflow of the model and list some key process "delivery" and "quality control" activities.

## The HP IT Service Management Reference Model

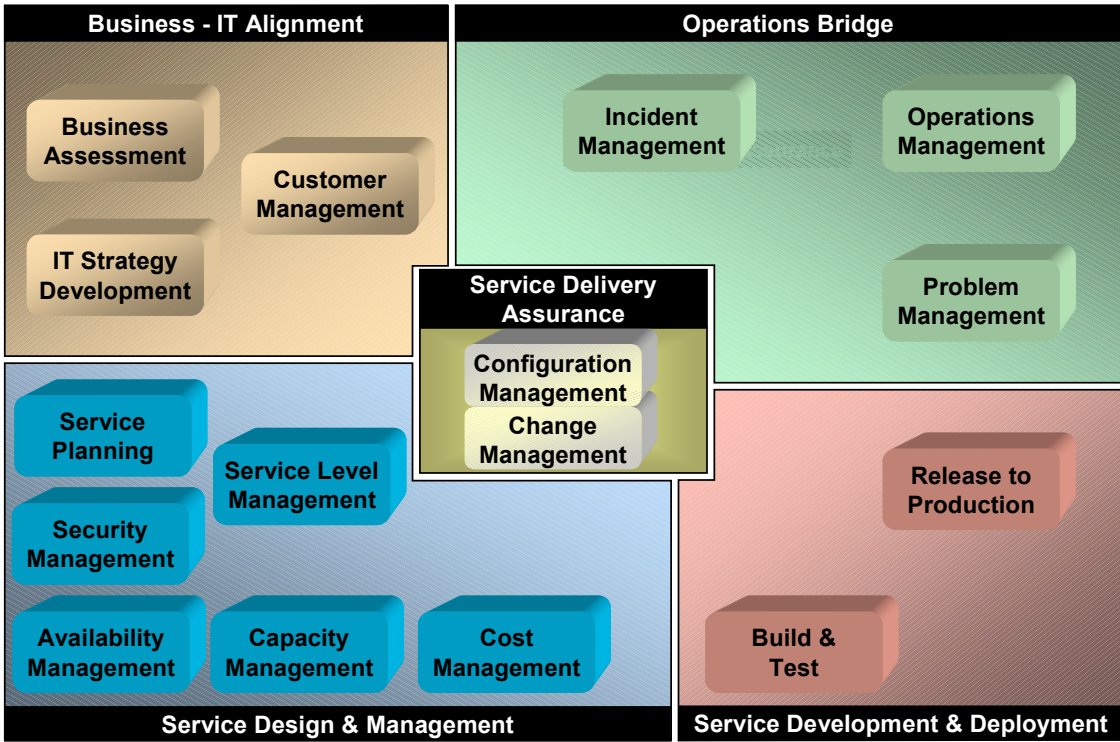


Figure 6: The Reference Model Processes

<sup>13</sup> Note that Hewlett-Packard Consulting has developed detailed process design guides for each of the processes in the model. These guides are an example of some of the structured intellectual capital available for use during HP consulting engagements. Please contact your Hewlett-Packard sales representative for further information.

## ***Business-IT Alignment***

### **Business Assessment**

The Business Assessment process assesses the market for IT services, and based on business need defines the business requirements that will drive IT's contribution to the corporate value chain. The activities performed by this process are very important when attempting to run IT "as a business" rather than merely "within a business." Periodic business planning sessions and/or changes within the industry can trigger this process to execute, often exposing opportunities for new service developments or improvements. This process requires a sound understanding of service markets and interaction with a number of other IT processes, including Customer Management and IT Strategy Development.

#### **Process Delivery Activities**

- Define market segments
- Characterize service opportunities
- Review segment size and growth potential
- Conduct segment value chain analysis
- Conduct competitive analysis
- Prepare marketing analysis

#### **Quality Control Activities**

- Establish research methodology
- Develop analysis and recommendations formats
- Develop management reports
- Perform continuous process improvement

### **Customer Management**

The Customer Management process enables IT to function as a business partner with its customers. Performing this process allows IT to anticipate new customer requirements, communicate service value to the customer, measure customer satisfaction, and engage in joint problem solving efforts. The Business Assessment process, when doing competitive and market analyses, can utilize much of the customer information gained as a result of this process, while the findings of both the Business Assessment and Customer Management processes provide much of the substance that fuels the IT Strategy Development process.

#### **Process Delivery Activities**

- Develop marketing communications
- Maintain proposal boilerplates
- Sell IT services
- Manage customer relationship
- Survey customers
- Identify service opportunities
- Conduct executive briefings
- Perform new customer introduction

#### **Quality Control Activities**

- Establish liaison procedures
- Establish customer introduction procedures
- Develop management reports
- Perform continuous process improvement

## IT Strategy Development

This process enables IT to derive and establish the overall value proposition for the IT services organization by consolidating the market segment value statements discovered by the Business Assessment process. It aligns customer business planning with IT business planning, helps IT articulate a broad plan for achieving its goals and objectives, and enables IT to act decisively. Utilizing much of the information developed by the Business Assessment and Customer Management processes, this process translates customer business requirements into a coherent IT strategy. This strategy should include a well-defined IT architecture and relevant organizational models. IT Strategy Development, Business Assessment and Customer Management (i.e., the Business – IT Alignment processes) will all be required to interact in order to derive a sound IT strategy. Together, these processes will output the business cases and requirements that will be consumed as inputs by the Service Planning process.

### Process Delivery Activities

- Determine IT budget
- Perform strategic analysis
- Define and document the IT vision
- Develop the IT mission statement
- Identify breakthrough objectives
- Identify key critical success factors, obstacles, and constraints
- Select service solutions for IT provisioning
- Identify enabling technologies
- Define the IT architecture

### Quality Control Activities

- Establish IT business planning and control procedures
- Define IT business rules
- Determine the IT organizational structure
- Establish IT policies, standards, guidelines and procedures
- Determine service selection prioritization procedures and criteria
- Develop implementation control procedures
- Develop management reports
- Perform continuous process improvement

## *Service Design and Management*

### Service Planning

Using the results of the Business-IT Alignment processes, the Service Planning process can define, track, and control services that can be leveraged across multiple customers (i.e., standard services) and include them in a service portfolio. If needed, standard services can then be modified (i.e., custom services) to fit the needs of different business units or sets of customers. This process enhances IT added value by ensuring that the services planned by IT match customer business requirements and IT delivery capabilities. This process develops detailed service specifications that are then used by all of the other processes in Service Design and Management (refer to Figure 4 above) as they contribute to the overall service lifecycle.

### Process Delivery Activities

- Plan for new standard service
- Design custom service
- Conduct service risk analysis
- Define functional requirements
- Analyze capability gaps
- Make service "buy vs. build decision
- Determine ROI on service development
- Create internal design specification

- Develop strategic alliances
- Evaluate portfolio impacts
- Keep service current
- Manage service value
- Obsolete service

#### **Quality Control Activities**

- Develop service specification standards
- Develop management reports
- Perform continuous process improvement

### **Service Level Management**

The Service Level Management process enables IT to define, negotiate, monitor, report, and control customer-specific service levels within predefined standard service parameters. Of special significance is the interaction between Service Planning and Service Level Management. With a detailed service specification at its disposal, the Service Level Management process can hammer out measurable service level objectives with potential customers and allow IT management to eventually sign and commit to meaningful service level agreements (SLAs). As might be imagined, both Service Planning and Service Level Management are dependent on the results of and interactions with other related IT processes (see below) in order to execute successfully.

#### **Process Delivery Activities**

- Assess customer-specific service requirements
- Map requirements to standard services
- Identify need for custom services
- Negotiate and document SLA
- Establish service performance review cycle
- Analyze customer-specific service level performance
- Create customer reports
- Conduct service performance review
- Propose service improvements (customer-specific)

#### **Quality Control Activities**

- Establish service level priorities
- Maintain SLA version control
- Develop management reports
- Perform continuous process improvement

### **Security Management**

The Security Management process enables IT to define, track and control the security of corporate information and services. This process accounts for the implementation, control and maintenance of the total security infrastructure. All services (current, newly developed and planned) must adhere to strict corporate standards pertaining to information security. In this day and age of e-commerce, data security is of the greatest importance.

#### **Process Delivery Activities**

- Enforce corporate security policy (as it pertains to IT)
- Promote security awareness within IT
- Conduct security gap analyses
- Conduct security risk assessments
- Perform security audits
- Evaluate security incidents
- Assist with the resolving security issues found within other IT processes

- Establish supplier relationships (related to security)

#### **Quality Control Activities**

- Establish security procedures (includes virus control)
- Select security systems and/or tools
- Develop management reports
- Perform continuous process improvement

### **Availability Management**

The Availability Management process allows IT to define, track, and control *service* availability to its customers and manage supplier contributions to overall service availability. It should be noted that considerations like system availability and network availability are vital “components” enabling *service* availability. Service plans (i.e., specifications) generated by Service Planning are reviewed and analyzed as a result of the Availability Management process and modified if needed to reflect service availability requirements. Service level agreements (SLAs) must contain a negotiated understanding of predicted service usage, how the service will be delivered in the event of a disaster (e.g., off-site computing, emergency response, etc.), what types of service contingencies IT has prepared for (e.g., on-site inventory of spare parts, etc.). The Availability Management process will deliver this important information to Service Level Management for SLA development.

#### **Process Delivery Activities**

- Determine reliability and serviceability requirements
- Determine contingency requirements
- Analyze service availability risks
- Conduct gap analysis (availability)
- Develop buy vs. build recommendations (availability)
- Develop buy and build specifications (availability)
- Establish supplier relationships
- Analyze service availability performance
- Propose service improvements (availability)
- Conduct supplier review
- Rehearse and review contingency plan

#### **Quality Control Activities**

- Establish supplier procedures
- Establish contingency plan standards
- Develop management reports
- Perform continuous process improvements

### **Capacity Management**

This process enables IT to define, track, and control *service* capacities to ensure service workloads are ready to meet the demands of customers at agreed-upon performance levels. It should be noted that considerations like system capacity and network capacity are vital “components” enabling overall *service* capacity. Service capacity information is also critical to successful new services and service level agreements; therefore this process interacts with the Service Planning and Service Level Management in a way similar to Availability Management.

#### **Process Delivery Activities**

- Inventory service resources
- Characterize service workloads and demands
- Configure service capacity profile
- Determine service capacity requirements

- Conduct gap analysis (service capacity)
- Develop buy vs. build recommendations (service capacity)
- Develop buy and build specifications (service capacity)
- Analyze workload performance
- Propose service improvements (capacity)
- Manage service demand

#### **Quality Control Activities**

- Establish a service capacity planning system
- Establish service capacity planning benchmarks
- Develop management reports
- Perform continuous process improvement

### **Cost Management**

The Cost Management process enables IT to define IT cost and charging allocation structures that support service budgets and ensure cost recovery. This process includes tracking and controlling actual costs by service and by customer. It also includes charging customers for service delivery. It will be important for each IT process to track the costs accrued and pass this information to Cost Management. In turn, Cost Management will be required to interact with the Business-IT Alignment processes for budgeting purposes, and with Service Planning and Service Level Management for service pricing estimates.

#### **Process Delivery Activities**

- Calculate expected service cost
- Analyze projected revenues
- Develop service budget
- Analyze service usage and cost
- Propose service improvements (cost)
- Calculate invoice and bill customer
- Receive payment
- Track financial assets
- Calculate total cost of ownership

#### **Quality Control Activities**

- Establish cost and charging allocation structures
- Promote cost-effective service usage
- Establish cost management system
- Establish investment appraisal guidelines
- Develop management reports
- Perform continuous process improvements

### ***Service Development and Deployment***

#### **Build and Test**

This process allows IT to develop and validate a functional version of a component, service function, or end-to-end service and documents instructions for replication and implementation of a production copy as needed. When a service specification has been completed, the Build and Test process will be needed to acquire the necessary components, build components (in some cases) and/or service functions (like a backup capability, web functionality, etc.), or even complete end-to-end service solutions (like SAP Financials, etc.). Once assembled, the component, function, or end-to-end service will need to be thoroughly tested. This process interacts extensively with the Change Management, Configuration Management and Release to

Production processes, among others. (Note that an important part of this process is testing for adherence to security policies and guidelines.)

#### **Process Delivery Activities**

- Acquire service components
- Develop application provision guidelines
- Develop applications
- Certify hardware/software
- Construct service support and control mechanisms
- Develop test plan and procedures
- Perform prototype test setup
- Perform prototype test
- Perform unit test setup
- Perform unit test
- Perform pilot test setup
- Perform pilot test
- Document recovery procedures
- Develop support procedures
- Develop training design and plan
- Develop training materials
- Develop "master blueprint" (i.e., "production plan")

#### **Quality Control Activities**

- Develop management reports
- Perform continuous process improvement

### **Release to Production**

Performing the Release to Production process enables IT to create one or more production copies of a new or updated component, service function, or end-to-end service for a specific customer, based on a detailed production plan referred to here as a "master blueprint." Required components are procured and the production copy is staged, implemented in the production environment, tested, and activated for customer use (this means it is ready for billing). The Release to Production process interacts with the Build & Test, Change Management, and Configuration Management processes, as well as other processes in the model.

#### **Process Delivery Activities**

- Procure resources
- Conduct IT staff and supplier training
- Assemble components
- Distribute components
- Implement service support and control mechanisms
- Implement component, service function, or end-to-end service
- Perform software administration
- Conduct customer training
- Establish production test scenarios
- Perform production test
- Perform customer acceptance test setup
- Perform customer acceptance test
- Activate service

#### **Quality Control Activities**

- Develop management reports
- Perform continuous process improvement

## **Operations Bridge**

### **Operations Management**

More a collection of many various tasks and procedures than a single process, together they enable IT to manage and perform the normal, day-to-day processing activities required for IT service delivery in accordance with agreed-upon service levels. Essentially they allow IT to "operate" the production environment required to deliver services. This process is closely tied to Incident Management (includes the Helpdesk) and Problem Management processes and valuable information is shared between them. There is also a close connection between this process and the Change and Configuration Management processes as well.

#### **Process Delivery Activities**

- Schedule production processing
- Monitor resource status and raise alerts
- Manage output and print queues
- Manage backups
- Administer clients, servers, networks
- Administer users
- Administer internet protocol (IP) addresses
- Administer databases
- Manage voice infrastructure
- Maintain a secure IT infrastructure environment
- Coordinate preventive maintenance
- Track service delivery cost data
- Track service metric data

#### **Quality Control Activities**

- Establish and maintain operability standards
- Promote operational effectiveness
- Promote operational efficiency
- Manage the computing facility
- Develop management reports
- Perform continuous process improvement

### **Incident Management**

Purely *reactive* in nature, this process, often simply called Help Desk or Service Desk, is focused on quickly restoring service availability by handling incidents occurring in the infrastructure or reported by customers and seeks to minimize service disruptions. This process manages the day-to-day support interface between customers and service providers, and as such is critical to successfully managing customer satisfaction. Call management and efficient first, second and third-level support are encompassed in this process. Again, Change and Configuration Management interact heavily with this process.

#### **Process Delivery Activities**

- Accept calls
- Log incidents
- Categorize incidents
- Prioritize incidents
- Isolate incidents
- Escalate incidents (within the process and/or to management)
- Track incident progress
- Resolve incidents
- Notify customers
- Close incidents

**Quality Control Activities**

- Establish Help Desk structure
- Establish incident control system
- Develop management reports
- Perform continuous process improvement

**Problem Management**

Purely *proactive* in nature, this process is focused on reducing the number of incidents occurring in the production environment by addressing the root causes of failures (based on closed incidents). It also includes on-going trend analysis and known error control, concerned with ensuring that long-term solutions addressing root causes are implemented. This process is closely tied to Incident Management, as it operates in part on the closed incidents generated by the Helpdesk, as well as informing other processes about potential problems with the infrastructure.

**Process Delivery Activities**

- Analyze incident trends
- Log problem
- Identify root cause
- Track problem progress
- Verify known errors
- Control known errors
- Resolve problems
- Close problems/known errors

**Quality Control Activities**

- Establish problem/known error control system
- Setup and maintain support contacts
- Establish preventive maintenance procedures
- Establish known error verification facilities
- Establish supplier support interfaces
- Develop management reports
- Perform continuous process improvement

***Service Delivery Assurance*****Change Management**

This IT process logs all significant changes to the enterprise environment, coordinates change-related work orders, prioritizes change requests, authorizes production changes, schedules resources, and assesses the risk and impact of all changes to the IT environment. Given the scope of this process, it is easy to see why it interacts with every other process in the ITSM Reference Model. As processes are performed they will inevitably create some kind of change in the IT environment. Change Management is the one process that regulates these changes, controls them and records them, thereby dramatically reducing infrastructure instability.

**Process Delivery Activities**

- Request for Change (RFC) processing
- Impact assessment
- Change approval
- Schedule and coordinate changes
- Coordinate recovery from change failures

**Quality Control Activities**

- Establish RFC submittal process
- Define change category and priority schemes
- Establish change "project" management process
- Establish change advisory board
- Conduct post-change review (retrospective)
- Develop management reports
- Perform continuous process improvement

**Configuration Management**

This IT process centrally registers and controls information about the infrastructure, such as configuration item (CI) attributes (e.g., identifying system and network hardware, production software, people (staff), documentation, etc.), CI status (e.g., in stock, in repair, in production, etc.), and their relationships (e.g., This user has PC "A" on her desk, printers "B," "C," and "D" available for use, is covered by "Online Shopping SLA 10.1," etc.).<sup>14</sup> Note that upon first glance it is easy to mistake this process for standard asset management. This is wrong. The Configuration Management process is distinct from corporate asset management in that it is focused entirely on the IT infrastructure and allows interrogation of infrastructure data based on relationships. Any other IT process that will be affecting the infrastructure will be interacting with this process.

**Process Delivery Activities**

- Maintain CIs
- Conduct control and status accounting
- Report CMDB data
- Verify integrity of CMDB data

**Quality Control Activities**

- Load initial CMDB data
- Establish configuration management system
- Develop CI control policies
- Develop management reports
- Perform continuous process improvement

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<sup>14</sup> Configuration data are typically stored in a Configuration Management database (CMDB).

## So Where Do You Start?

Hewlett-Packard's experience of sharing this model with clients has repeatedly confirmed its validity, and following initial presentations of the model one of the most common questions is: "Where do we start?" Herein lies one of the most powerful aspects of the ITSM Reference Model, for the model has neither a beginning nor an end. In other words, you can start using the model from any point, but most IT organizations choose to typically start where their company is hurting the most. Following are three common real-world scenarios that illustrate this point and the flexibility of the model.

### ***Scenario 1: My Help Desk is Broken!***

One of the most significant areas of "pain" for businesses involves the Help Desk that is not working properly, the symptoms of which can manifest themselves in several different ways: complaints that the Help Desk is unresponsive, end-users experiencing the same problems over and over, a growing list of unresolved issues, etc. The cause of these problems is often the fact that the Incident and Problem Management processes either do not exist (i.e., no metrics in place, non-existent procedures, continual reinvention of solutions, etc.) or are poorly understood and considered to be the same, when in fact Incident Management should be reactive while Problem Management should be uniquely proactive. The Reference Model separates these processes distinctly.

Few things will throw a Help Desk into chaos faster than assigning Help Desk staff the responsibility for resolving both reported incidents (a reactive effort applied to incoming calls) and doing in-depth root cause analysis (a proactive effort applied to the results of exhaustive trend analyses and/or incident correlation on closed incidents). Experience demonstrates that whenever Help Desk personnel are expected to do both reactive and proactive tasks, the reactive tasks almost always take precedence (i.e., the "squeaky wheel gets the grease."). With staff focused on reactively putting out "fires" there is little time left to proactively do trend analysis or search the database of closed incidents for pointers to potential future incidents and root causes.

The Reference Model notes and describes the differences between the Incident Management and Problem Management processes, and these differences are further detailed in the ITSM process and design guides (based on the ITSM Reference Model) used by Hewlett-Packard Consulting.

### ***Scenario 2: My Customers are Asking Us to Write SLAs!***

With businesses being pressured to become more customer-oriented (a factor required for long-term success), many IT organizations are being asked to provide performance and quality guarantees for the services being delivered (i.e., defined service levels). However, many IT organizations are quick to realize that they are unprepared and/or unable to make serious commitments regarding service quality without significant work. Why?

If asked to define the relationship between IT and the business, most IT organizations would describe it as "technology provider," rather than "service provider." Unfortunately, this internally-focused thinking will not support the requirements of the business in the new e-world. Businesses want choices in the services they purchase and are willing to pay for packaged services they can understand. But making this happen requires somewhat of a paradigm shift for IT, as even attempting to create a list of existing IT services in business language is a non-trivial undertaking (especially the first time IT is forced to do so).

Add to this the facts (discussed earlier) regarding the necessary robust infrastructure, tools, etc., that are required to deliver quality services, and it becomes obvious why IT managers can't make serious commitments to their customers about service. Yet, still they are on the hook, so to speak, to write service level agreements (SLAs) and make guarantees. This is a difficult situation to say the least.

The Reference Model helps IT organizations understand what is required to be both customer and service-oriented. It describes the relationships between Service Level Management (the process which results in signed SLAs) and other IT processes in the model, identifies the necessary business and process linkages, and provides a totally integrated view of overall service quality.

Again, this process, like all of the other processes in the Reference Model, is further detailed in process design guides used by Hewlett-Packard Consulting.

### ***Scenario 3: We Need Better Control of our Production Environment!***

If asked whether they have a Change Management process or not, most IT managers would state with certainty that they do have such a process. Yet, experience shows that it usually does not take any time at all to find numerous examples in these same companies of recent situations where serious production problems have occurred due to either unscheduled changes or poorly planned changes.

What is usually meant by the statement: "We have a Change Management process," is that at some point in time (perhaps distant) a team was formed to think about Change Management, they may have even developed real process flow diagrams, wrote procedures, etc. In most cases it does NOT mean nor guarantee that staff are actually following the process today, or that the process has been continually improved to match business requirements. In other words – sure, they have a Change Management process (on paper somewhere), but in reality the process is broken. And let's face it; having a broken Change Management process can have the same affect on the business as having no Change Management process at all.

Sometimes problems with Change Management are discovered when analyzing other processes, like Incident Management. It is not uncommon to find out that when the Help Desk is "on fire" because it can't handle the call load, one of the primary reasons is that the Change Management process is either non-existent or seriously broken. High percentages of reported incidents can sometimes be tracked to just a few unscheduled changes or situations where a change was not executed properly. Without a solid Change Management process, the IT environment cannot be stabilized, and IT will not be able to make any serious commitments to customers regarding service levels.

Unlike Change Management, most IT managers realize quickly that they are not currently using a Configuration Management process. But once the concept of Configuration Management is explained (see *Service Delivery Assurance* above), they also realize that such a process would benefit their organizations greatly.

Providing the Change Manager the ability to easily determine the relationships between configuration items (CIs) that are facing a significant change, thus greatly aiding risk and impact analysis; providing the Help Desk the ability to quickly associate callers with the IT assets they are using (e.g., PCs, applications, service level agreements, etc.); providing IT the capability to immediately assess the current state of IT assets (i.e., in stock, in repair, in production, on order, etc.) – are all benefits to be gleaned from implementing a Configuration Management process.

The Reference Model is a valuable tool that can be used when making a case to focus IT on Change and Configuration Management, as these two processes occupy the center of the model due to their importance. The Reference Model process relationship maps can be easily

used to further explain the necessary information exchanges and integrations that must occur between these two processes and every other process in the model.

### ***The Bottom Line***

Which IT process you decide to implement or improve first is going to differ from company to company, and to some degree is less important than the decision you need to make to really *do something* to get your IT organization ready to support the 21<sup>st</sup> century e-business initiatives your company will be pursuing.

The HP ITSM Reference Model is a tool that can be used throughout the entire lifecycle of service development, enabling your business the capability to deliver the quality services required to *beat the competition in the new e-world*.

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