

HP

Business Process Insight

For the Windows® Operating System

Software Version: 7.50

Concepts Guide

Document Release Date: June 2008

Software Release Date: June 2008



Legal Notices

Warranty

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

The information contained herein is subject to change without notice.

Restricted Rights Legend

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

Copyright Notices

© Copyright 2003-2008 Hewlett-Packard Development Company, L.P.

Trademark Notices

Java™ is a US trademark of Sun Microsystems, Inc.

Microsoft® is a US registered trademark of Microsoft Corporation.

Oracle ® is a registered US trademark of Oracle Corporation, Redwood City, California.

UNIX® is a registered trademark of The Open Group.

Documentation Updates

This manual's title page contains the following identifying information:

- Software version number, which indicates the software version
- Document release date, which changes each time the document is updated
- Software release date, which indicates the release date of this version of the software

To check for recent updates, or to verify that you are using the most recent edition of a document, go to:

<http://h20230.www2.hp.com/selfsolve/manuals>

You will also receive updated or new editions if you subscribe to the appropriate product support service. Contact your HP sales representative for details.

Support

You can visit the HP Software Support web site at:

www.hp.com/go/hpsoftwaresupport

HP Software online support provides an efficient way to access interactive technical support tools. As a valued support customer, you can benefit by using the support site to:

- Search for knowledge documents of interest
- Submit and track support cases and enhancement requests
- Download software patches
- Manage support contracts
- Look up HP support contacts
- Review information about available services
- Enter into discussions with other software customers
- Research and register for software training

Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract.

To find more information about access levels, go to:

www.hp.com/managementsoftware/access_level

To register for an HP Passport ID, go to:

www.managementsoftware.hp.com/passport-registration.html

Contents

1	What is HPBPI?	7
	Introduction	8
	Audience for this Guide	9
	Business Process Insight	10
	Using HPBPI	12
	What is a Service?	15
	The Importance of HPBPI	16
	Where to go Next	17
2	Business Processes	19
	What is a Business Process?	20
	What is an HPBPI Process?	21
	Structure of an HPBPI Process	21
	Example HPBPI Process	22
	Business Events	25
	Business Events and openadaptor	25
	HPBPI Accelerator for SAP Applications	26
	Business Events and iWay	26
	IT Processes	27
	Business Availability Center	27
	TransactionVision	30
	Standalone Services	31
	Summary	32
	Instances of Business Processes	33
	Modeling Business Processes	34
	Operational and Business Data	35
	Business Scenario for a Stock Control System and HPBPI	37
	What HPBPI Provides	40

The Methodology	41
Summary	42
Where to go Next	42
3 Using HPBPI Without Business Availability Center	43
HPOM Operational Services	43
SOA Manager	45
Using HPOM and SOA Manager as a Source of IT Operational Services	46
Index	47

1 What is HPBPI?

This chapter provides an overview of HP Business Process Insight (HPBPI). The chapter introduces HP's business process monitoring solution, which you can use to raise the visibility of the health of your business processes. HPBPI enables you to understand the performance of your business processes by recording and measuring:

- business process monitors and monitor thresholds
- the business impact of problems relating to the IT infrastructure

Introduction

HPBPI enables you to make better business decisions by improving the quality of the business information available to you. HPBPI provides you with visibility into the health and performance of the business processes that are running over your IT infrastructure. Using this information, you can assess the financial and business impact of delays or blockages in a process due to an IT performance problem or other incident such as an IT outage.

HPBPI achieves this by linking and relating the information held for your business and its IT infrastructure. It takes information, in the form of events, from both business applications and from the IT infrastructure, and presents these events in business terms; for example, rate of loss of orders, backlogs accumulating, value of these backlogs and potential impact on key customers. In other words, HPBPI enables you to visualize and then track the state, or health, of business processes within your organization.

Specifically you can use HPBPI to:

- model business processes and then measure key business data associated with these processes; for example, value of order or type of customer.

To this end, HPBPI enables you to define business process monitors and thresholds, which then make it easier for you to set business objectives and receive threshold violations, based on these objectives.

- correlate each step in the business process with the IT infrastructure on which it depends and provide IT with the visibility to show its contribution to the business.

To achieve this, HPBPI uses business data events and IT infrastructure events to monitor the status of all the business processes that you have modeled. As a result, when a problem occurs within the IT infrastructure, HPBPI reports on the instances of the processes that are being monitored and that are impacted; for example, HPBPI might report on the number of orders that are affected for a specific customer, for all customers or for a group of customers (gold, silver, bronze-level customers).

The key business data associated with the process are then used to determine the business impact of the problem. Business impact typically takes the form of financial impact, but it can also be the number of key customers affected, or the number of urgent orders affected, and so on.

HPBPI can also record business process monitors such as the time between two steps in a process. When integrated with Business Availability Center, this business process monitor information can be used to report on business process Service Level Objectives (SLO).

Audience for this Guide

This guide is aimed at business managers, IT managers, and at System Integrators (SIs) who want to understand HP's HPBPI solution. The guide also covers how to develop an HPBPI solution based on the HPBPI technology.

In addition to understanding HPBPI, you will also find it helpful to understand the business processes and applications within your organization and how they can be used as part of your HPBPI solution. These business processes might be paper-based or automated: they might be complete or they might be partially complete. As an example, you might have internal paper documentation relating to the business processes for your operation. For the purposes of HPBPI, this documentation can be used as input to your HPBPI business processes.

Business Process Insight

HP Business Process Insight (HPBPI) provides the environment for you to visualize the progress of your business processes over your IT infrastructure. Using HPBPI you can model your business processes and then integrate business events from external and internal systems. You can integrate business events from systems such as databases, CRM applications, SAP and so on. You integrate business events from these systems using products such as openadaptor and the HPBPI Accelerator for SAP Applications.

In addition to these business events, you can take service status events from the underlying infrastructure through Business Availability Center.

Using Business Availability Center, you model your IT services in the Business Availability Center Configuration Management Database (uCMDB). Services status information for the IT services in Business Availability Center that relate to HPBPI processes are then sent to HPBPI.

If you are not using Business Availability Center in your deployment, you can use HP Operations Manager (HPOM) or Service Orientated Architecture (SOA) Manager as a source of operational services.

The business events enable you to understand the health of your business processes in business terms; when combined with the operational information, you can:

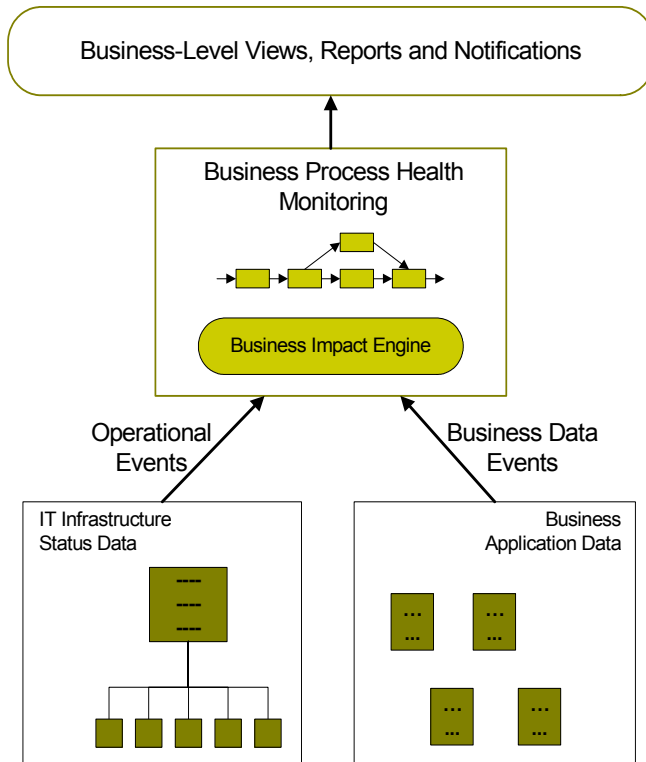
- Enable IT to measure business process performance and demand, by creating key performance indicators, or service level objectives, for the business process. It is then possible to configure service level agreements and have Service Level Management (SLM), within Business Availability Center, generate threshold violations when the agreement targets are not achieved, or are in danger of not being achieved.
- Assess the impact of an underlying problem in business terms. For example, the CRM system has just gone down and now \$1.4M of orders are blocked.
- Work out the impact of making a change to the underlying infrastructure. For example, if the credit control system is disabled for a backup, you can work out which business processes will be impacted and business impact, such as the potential financial impact.

- Track business process monitors, for example measuring the time between steps in your business processes such as the time it takes for the warehouse to dispatch an order from when the customer placed it through the web-shopping portal.
- Expose the business impact of changing the applications and infrastructure to IT, providing them with the business data when making changes to the infrastructure and applications.
- Report on the business impact using:
 - HPBPI Business Process Dashboard
 - Business Availability Center Dashboard
 - HP Performance Insight
 - you own reporting applications
 - Email notifications, HPOM messages or custom-written scripts using the HPBPI Notification Server

In summary, HPBPI takes business events and combines them with data from operational events in order to track the health of the business processes within your business. HPBPI then reports on your business health through the Business Process Dashboard or the Business Availability Center Dashboard.

The following diagram shows a high-level functional view of the HPBPI components.

Figure 1 HPBPI High-Level View of Components



Using HPBPI

Historically, management tools have presented operational events in the context of the application that reported the event; for example, a database error is reported as an operational event on the database. These operational events are typically aimed at the IT manager. However, more recently, businesses want (and need) to understand the impact of these operational events on their business, as well as on their IT operations. This means that rather than just reporting an operational event on the database, the business manager also wants to understand the impact of an event on key business

criteria, for example, the manager wants to answer questions such as “What financial impact is the database failure having on my business? Is it causing orders to be blocked, and if so, what is the value of the orders?”.

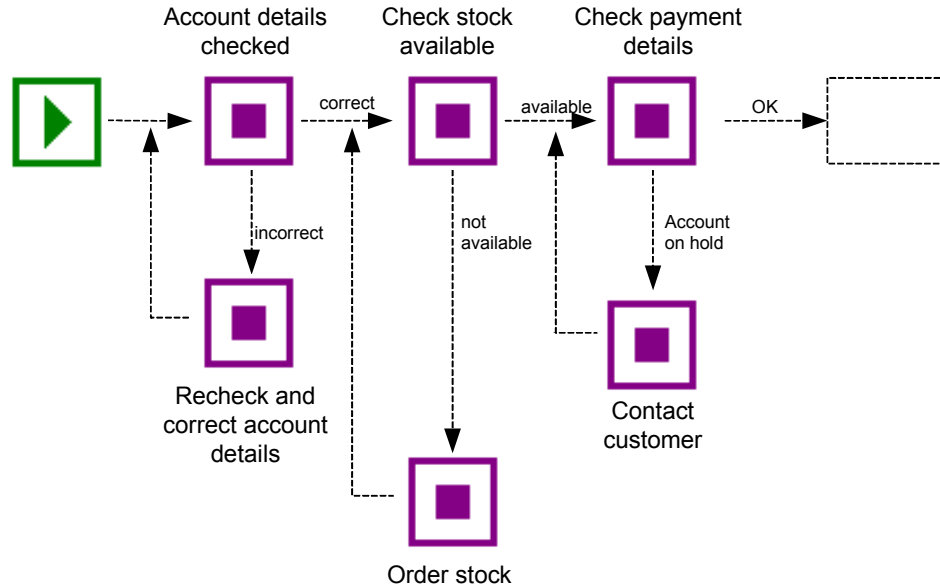
In the case of a database error, an operational event is raised to the IT department; however, a notification might also be raised to show the impact of the database failure on the business. This business event might inform the manager that orders are building up and provide the names of key customers impacted, plus the value of the impacted orders.

In another example, the same operational event might result in two notifications, one indicating that there is little financial effect on the business and one that has a significant financial impact, according to the customer and type of order. Using HPBPI, the business manager now has visibility of these events and can make appropriate decisions. For example, they can use the data to identify those transactions that are of most immediate importance to the business.

A model representing a business process is an understanding of the business process at a particular point and evolves as the business evolves. A model is not static; it develops, in the same way as a model of an organization structure develops as the organization itself develops. Modeling enables you to understand the interaction between the parts of a system providing data and information.

Figure 2 shows a portion of a stock processing business process model.

Figure 2 Business Process Model



Using a diagram such as that shown in Figure 2, it is possible to visualize the impact on the business if the process cannot move beyond the Check stock available step, perhaps due the Stock Control System being unavailable. Thus, any instance of a process that is beyond the Check stock available step is not affected; however, processes that have not reached the Check stock available step are potentially stalled until the Stock Control System is available again.

In the case of HPBPI, modeling enables you to represent business services and to visualize and measure the effects of an incident, in an underlying system, on that service. A business process, when defined within HPBPI, is usually a summary, or subset of the business process that is represents. This is because you do not need to model the complete business process in order to track it; you need only model the key activities for the process. Business processes are the graphical representations of the key business activities for processes within the organization. They are the key activities that you want to track for their health.

You can also import Business Process Execution Language (BPEL) processes, and TransactionVision events and transactions, into HPBPI. You can then use these as the basis of your business processes and business data.

Visualizing incidents in a business context, such as a failure in the Stock Control System, enables you to assign, or reassign, resources to target the areas that provide maximum business benefit.

In addition, you can define HPBPI monitors, which you can use to report on backlogs and throughputs related to your processes. This enables you to visualize how the underlying IT infrastructure is performing and its impact on your business processes.

What is a Service?

The terms business and operational services were used in previous sections, but what are these services exactly?

A business service can be defined as “a meaningful business function that can be encapsulated in software”, for example, mortgage application processing, or credit checking, or customer record updates are all services. A business service can be implemented by a person, or group of people, for example, sending an email confirming the completion of a task is a business service.

A business service should perform a function that is meaningful to the business (or its customer). Invoicing a customer is a business service because it is a recognizable business function. However, updating a database is not strictly a business service; it is an application function and has no meaning in a business sense.

An operational service is a component or function within an organization’s IT infrastructure that provides a specific function, for example a:

- Database server
- Web server
- Unix Server
- Gateway or Adapter

In most cases, business services rely on one (or more) operational services, plus other business-related information. This business-related information can come from business applications such as accounting software or customer relationship management (CRM) applications. As an example, you might have a service catalog, which comprises operational, or IT, services. These IT services represent the applications and other IT infrastructure within an organization; for example, an email system, network or database server. These IT services are in turn used by business applications, for example, an order processing application or a CRM application.

It is not always the case that business services rely on operational services, some business services are entirely business driven. Later sections describe how you can use applications such as openadaptor and iWay to link your business processes to business applications and to the business events that are required to progress it.

The Importance of HPBPI

Using HPBPI, you can:

- Use business process monitors to indicate the health of your business processes.
- Collect statistical information based on business process monitors and use the statistics for analysis purposes and for reporting.
- Be notified of violations, from BAC, on specific business processes.
- Using a combination of business and operational data from your organization in order to better understand the impact of a system failure on your customers and business.
- Turn your IT data into knowledge that you can use to improve your business performance.
- Align your systems and IT management with your business requirements.
- Understand the impact of underlying service failure or degradation on your business.
- Extend the System Management software to present system failures in terms of business impact and not systems impact.
- Understand whether your IT services are supporting your company's key business objectives.
- Track your compliance and progress for any service agreements that you have in place with customers or service providers.

Being able to align the business requirements and supporting infrastructure, plus track as well as manage, is a key to an organization's success. You need to be able to manage business processes from start to finish and across the IT infrastructure.

System management software can become more and more complex as you add more hardware and software applications. Traditionally, system management software has enabled you to track and manage your infrastructure, but there

is little or no mapping of failures and degradation of service to business-critical events. For example, does the fact that the system hosting your online CRM system has failed impact your business, and if it does, by how much? In addition, what is the financial impact of this failure?

It is not always the case that a critical system failure is critical in a business service context, and in a well designed business service architecture, it need not be. However, if a service is degraded for some reason, perhaps due to increased demand, your business and customers might be impacted. If they are, you want to know about it as soon as possible; for example, there might be a supply chain problem, where extra demand means that orders are being delayed, and a key customer will be impacted. If you are made aware of this information, then you can make informed business decisions. If you are informed only that system X is running at 50% of its usual capacity, you are less able to make the same informed decisions as you are not aware of the business impact of the loss of service.

Being able to tie together business requirements (critical business services) with the supporting infrastructure (hardware, software, middleware etc.) and track as well as manage this environment is key to the success of both IT and the business as a whole.

Where to go Next

The remaining chapters in the guide provide a definition of a business process in the context of HPBPI and also provide a methodology for you to follow when creating your business processes.

2 Business Processes

This chapter describes a business process, as modeled in HPBPI, and also introduces the HPBPI concepts.

The chapter includes descriptions of the related components and the HPBPI tools that you can use to model business processes and to establish their relationships with business events and operational service events.

What is a Business Process?

Business processes are the business activities within your business; for example, for a telecom service provider a business process might include line provisioning, customer billing and equipment repairs. These business processes might not always be obvious, and they might not be formally recognized, but they always exist within a business. A business process (or a set of business processes) typically includes all the activities of the business.

For an insurance company, business activities might include setting up a new policy for a customer and processing an insurance claim. In addition to these line-of-business processes, a business process can also be an internal administration process, such as HR processes, payroll, and so on.

Business processes are not necessarily exclusive to one company; many business processes involve customers and suppliers. Business processes can be automated, using business process management software; however, only a fraction of business processes are fully automated. Most business processes are manual and some exist only in the behavior of the organization, that is, they are not formally documented.

What is an HPBPI Process?

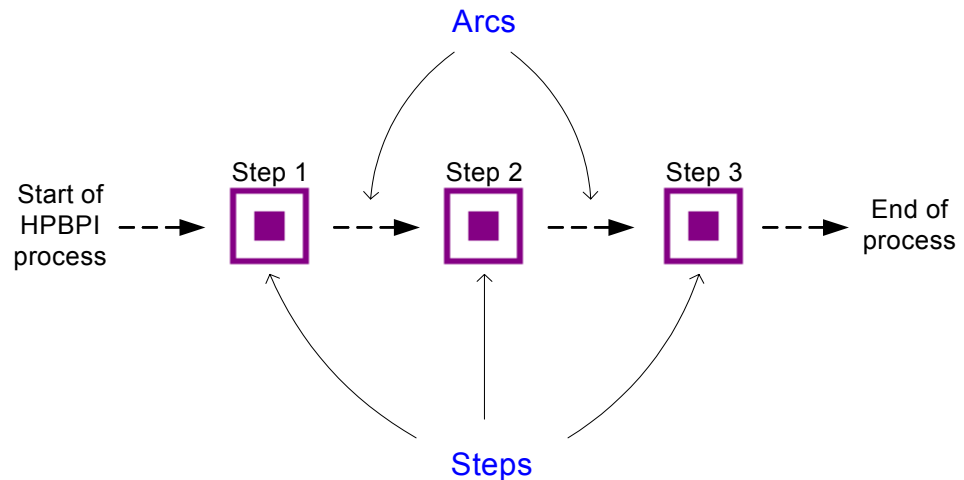
A process (for HPBPI tracking purposes) does not need to include all the activities in a business process; it need contain only those activities that you need to understand in order to determine that your business is functioning optimally. As an example, a vehicle dashboard presents a summary of the key activities that you need to be aware of for the vehicle; it does not present all the information about all the vehicle operations.

The business activities that you need to model within HPBPI for your business are those required to obtain meaningful impact data about the health of your business. The fewer business activities that you track, the easier the HPBPI processes are to create and manage and visualize.

Structure of an HPBPI Process

Within HPBPI, a process is presented as a series of steps and connections, which are called arcs. The steps represent the business activities and the arcs connect the steps to show the expected direction of flow within the process; this is shown in [Figure 3](#).

Figure 3 Basic HPBPI Process



A step in a business process might represent one or more business activities, according to how much detail of the business process you are modeling in order to track it.

In [Chapter 1, What is HPBPI?](#), the discussion was around the need to model to provide a business context. The chapter also discusses service hierarchies; a hierarchy is a pattern, but it is quite hard to visualize. A much better way of representing a business service is graphically, to show the logical structure of the elements of the service. The graphical representation also provides information relating to the progression of the process.

Using the graphical processes, you can connect business activities into a logical sequence, in as few steps as possible; however, you do need to make sure that you model sufficient of the structure of the process to be able to report on the impact of problems in the process.

Example HPBPI Process

[Figure 4](#) on page 23 is an example of a business process for an organization that provides building materials primarily for professionals, but it also has a store where the public can purchase building supplies. The organization is structured as a front office, middle office and back office:

- The front office includes:
 - a Web site for online access
 - a shop
 - a call center

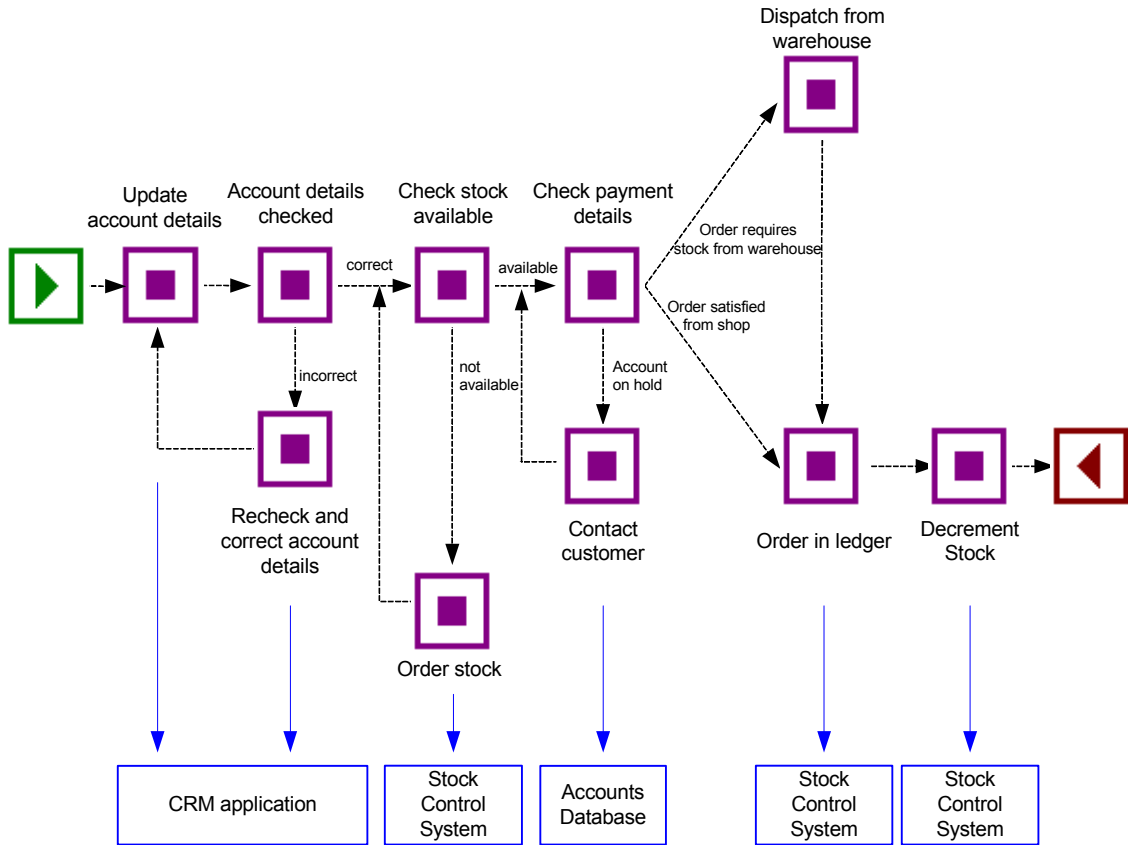
An ISP hosts the Web site and the shop has a dial-up connection through a point-of-sale checkout. The Call Center is out sourced.
- The middle office is where the orders are processed and validated.
- The back office is where the billing and the execution of the orders occur.

In this example, the middle and back office operational systems are managed using HP Business Availability Center.

Figure 4 shows the significant activities of the business process represented graphically in an HPBPI process. This is how they might appear within the HPBPI Modeler, which is the graphical tool for creating HPBPI processes.

As mentioned earlier, you do not need to include all the steps in the business process. The steps that you include are those that relate to the key business activities that need to be tracked.

Figure 4 Stock Control Process

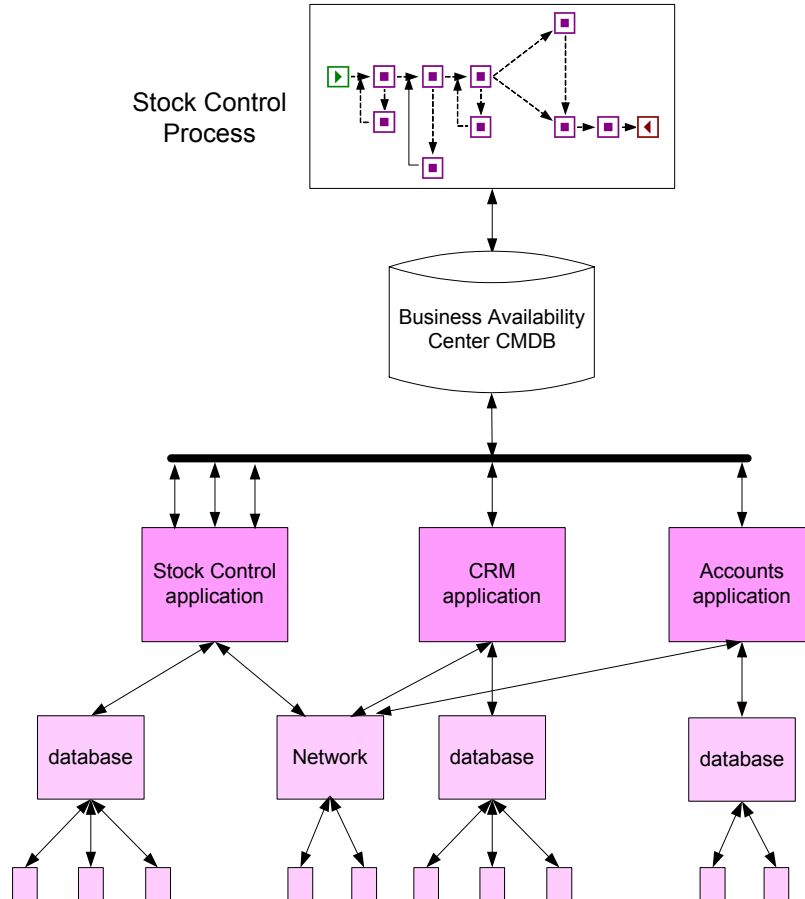


The process shown in Figure 4 utilizes underlying business applications and also includes operational services. Some of the business applications might be operationally tracked and therefore represented as operational services within Business Availability Center. There might also be other business applications that are not being operationally tracked, but are still providing business application data for HPBPI. The business applications in this

example are the CRM application, the Stock Control system and the Accounts system. Within the HPBPI Modeler, these services are properties of the steps in the process.

Figure 5 shows the hierarchy of the operational services and how they relate to the applications that provide the services.

Figure 5 Stock Control Services Hierarchy



In this example, the Stock Control System is used at several points in the business process and the Stock Control process diagram shows this interaction.

Business Events

In order to integrate, or import, business event data from your business applications, you use the HPBPI adapter technology. This technology enables you to generate business events from sources such as files and databases, and business applications including SAP, PeopleSoft and JMS. These adapters enable business data to be accepted as the source data for HPBPI business events, which are received through the HPBPI Business Event Handler component.

In the context of HPBPI, an event is an action that causes a state change within the HPBPI system and the data carried in the event is the state that can be changed.

The following sections describe business event sources for HPBPI.

Business Events and openadaptor

The Business Event Handler is based on the openadaptor technology and openadaptor is the underlying mechanism for receiving business events. openadaptor is an open-source Java/XML-based software platform, which provides business system integration with little or no programming. openadaptor provides many ready-built interface components including adapters to capture business events from sources such as files, databases, JMS, LDAP, Tibco and MQ Series.

HPBPI also provides file and database adapters for use specifically with HPBPI; however, openadaptor is an open source product and easily configurable; therefore, you can extend the number of adapters for use with HPBPI as required.

For more information on openadaptor refer to:

<http://www.openadaptor.org/>

HPBPI uses a specific version of the openadaptor platform, and the version used is available as part of the HPBPI software.

HPBPI also includes specific adapters for:

- SAP; see section [HPBPI Accelerator for SAP Applications](#) on page 26
- iWay; see section [Business Events and iWay](#) on page 26

HPBPI Accelerator for SAP Applications

In addition to using the openadaptor framework to create solutions for integrating business applications, you can use the HPBPI Accelerator for SAP to enable you to track the status fields within an IDoc. Using the HPBPI Accelerator, you can create processes and business events that are based on the status changes within one or more IDocs.

The Accelerator is based on the openadaptor framework and uses the Business Event Handler to access the status information within an IDoc header. Refer to the *Business Process Insight Accelerator for SAP Guide* for full details of installing and using the Accelerator.

Business Events and iWay

iWay Software is a company that has developed their own framework for integrating business applications such as PeopleSoft, JD Edwards and SAP (see also section [HPBPI Accelerator for SAP Applications](#) on page 26) into customer solutions.

iWay is very similar to openadaptor, as both openadaptor and iWay address the same basic requirement, which is to provide an integration platform for different business applications. There is an iWay adapter for HPBPI based on the openadaptor technology that you can use if you have the iWay Framework, or intend to purchase it. This enables you to use iWay with HPBPI to track any business application that iWay has an adapter for. The *Business Process Insight Integration Training Guide - Business Events*, describes how to integrate iWay into your HPBPI implementation.

You can find out more about the iWay product at the following URL:

<http://www.iwaysoftware.com>

There is a list of all the available iWay adapters at the following URL:

http://www.iwaysoftware.com/products/iWay_adapter_List.html

IT Processes

Within many organizations the IT processes and transactions are often hidden within the environment in which they have been automated. The processes might have started as fully documented process models, but as they are adapted to the needs of the organizations, the processes change and the related documentation becomes out of date. Using HPBPI helps you visualize IT processes that are hidden within the organizational structure and then set measurements on the IT services that make up the processes in order to report on the status of the operation of these services.

HPBPI uses Business Availability Center to model the IT services and to obtain status information relating to the operational services for business processes that you have modeled within HPBPI; section [Business Availability Center](#) on page 27 describes Business Availability Center in more detail.

HPBPI can also utilize the transaction models produced by HP TransactionVision as input for a business process model; section [TransactionVision](#) on page 30 describes HP TransactionVision.

Business Availability Center

HP Business Availability Center enables you to optimize the performance and availability of your business applications and proactively resolve problems when they arise.

HPBPI process definitions can be exported to Business Availability Center where the process steps are then stored in the Configuration Management Database (uCMDB) as configuration items (CIs). A configuration item represents a physical or logical entity, for example, hardware, software, services, business processes and so on. The configuration items (CIs) within the uCMDB are represented in a hierarchical form, based in the dependency relationship for the CI.

Business Availability Center enables you to model your business's IT services and infrastructure. You can then configure HPBPI to integrate with Business Availability Center and HPBPI can then receive status impact information for business processes that are related to these IT services.

In addition, key performance indicators (KPIs) can be set on the HPBPI-related configuration items in the uCMDB. These KPIs can then be compared against objectives that you can also define. This enables you to use the Business Availability Center SLM component to raise alerts when HPBPI monitors do not achieve the objectives that are set.

You can use the Business Availability Center Dashboard to proactively monitor your service level agreements (SLAs). The dashboard enables you to see which SLAs are at risk and you can navigate to see which specific CI is potentially causing you to breach a service contract.

The Business Availability Center Dashboard can calculate whether the measurements of an SLA are within the limits set out in a service level agreement (as defined in Service Level Management). The Dashboard can also calculate whether an SLA is in breach of contract, or might be in breach in the near future.

Figure 6 Business Availability Center Business Process Model

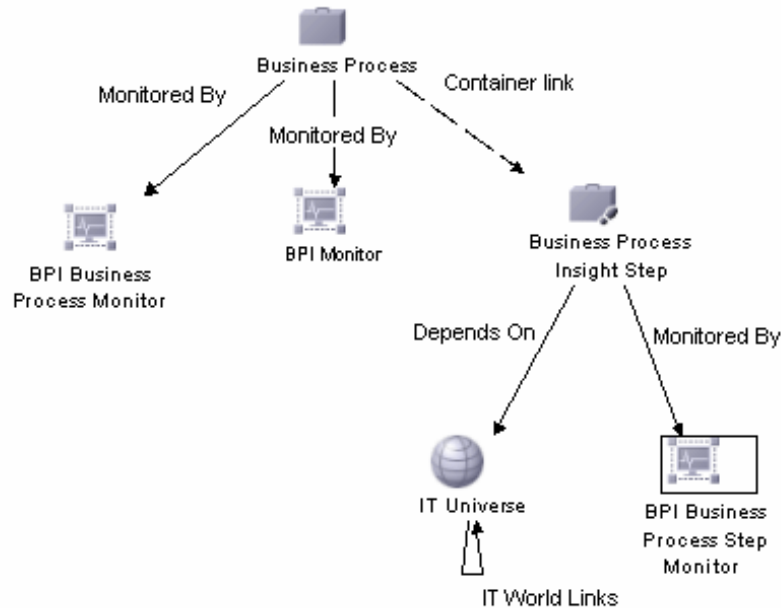


Figure 6 shows an example of the structure of an HPBPI process within the Business Availability Center. Each of the elements in the diagram is represented as a CI within the uCMDB. HPBPI sends data samples for the

monitor CIs that you define and these data samples are then displayed by the Backlog, Throughput, Health, and Duration KPIs within the Business Availability Center.

The IT services on which HPBPI process and step CIs depend, are modeled within Business Availability Center and can be discovered from any number of applications. Lower level services (IT Universe services) are potentially changeable, you are therefore advised to link to a higher level (abstract) service, which is less likely to change.

These discovered services can provide data and information for many applications, depending on how you have configured Business Availability Center. On the other hand, you might be using Business Availability Center solely for use with HPBPI.

In summary, the integration between HPBPI and Business Availability Center enables you to:

- use Business Availability Center to report on the status of operational services and how they impact HPBPI business processes.
- send operational status information from Business Availability Center to HPBPI in order to report on the process impact.
- view HPBPI Process and Monitor definitions, and threshold violation information, from within the Business Availability Center Dashboard.
- link from the Business Availability Center Dashboard to the HPBPI Business Process Dashboard to view more detail of the business impact for a selected business process.
- view HPBPI Process diagrams and Business Threshold values and status, in the form of dials and tables, through My BAC and the Business Availability Center Dashboard.
- use the Service Level Management (SLM) component of Business Availability Center to set Service Level Objectives (SLOs) on the HPBPI business process data and monitors.

- use the following My BAC portlets, which show the HPBPI business process, monitor and threshold data in a graphical form:
 - BPI Process Diagram portlet, which enables you to select and display the current process diagram for each business process deployed within HPBPI.
 - a BPI Monitors Over Time portlet, which you can use to display:
 - the average/minimum/maximum value or duration of a Configuration Item over a specific time period.
 - the violated instances of a Configuration Item over a specific time period.
 - a Business Process Over Time portlet, which enables you to display information about the volume, backlog and health of a selected Business Process Configuration Items over a specific time interval.
 - a Business Process Summary portlet, which enables you to display the summary data for a selected business process.

TransactionVision

HP TransactionVision tracks and measures individual transactions as they progress through your organization. TransactionVision provides the link between low-level systems and network monitoring, and high-level business process monitoring in order to link your IT objectives with your business objectives.

HP TransactionVision does not assume that a model exists to describe all possible transaction flows. TransactionVision monitors transactions and discovers the transaction paths as it observes them being executed across the organization. You do not need to configure HP TransactionVision with information describing how you think your transactions flow; TransactionVision tells you how they actually flow based on observing real transactions as they are processed.

The discovered transaction events are then available for use by HPBPI, as input for business process modeling.

Standalone Services

You might also have operational services, within your organization, that are not tracked by Business Availability Center; for example, they might be tracked by a third-party system. If this is the case, you can define and use Standalone services and configure your business processes to track these services.

You can then import these IT services in the same way as you can import business services using the adapter technologies described in section [Business Events](#) on page 25.

Summary

By defining a model for your business processes and mapping this model to the underlying IT services modeled within Business Availability Center, you can be notified when a step in the process is impacted by a failure in the underlying infrastructure.

There are significant benefits to being able to visualize your business processes and relate services to these processes; for example, you can identify the impact a service failure has on the process and how other steps in the process might also be impacted.

However, understanding only the impact of service status changes does not enable you to answer questions such as:

- What is the financial impact of the service failure?
- How many transactions are waiting to be processed at a particular point in the process?

In order to answer these types of question, you also need business data from your business applications, plus you need the HPBPI system to maintain data on individual instances of the business processes.

Using rules, filters and database queries, HPBPI can provide monitor data based on each instance and groups of instances. This, plus the business data that HPBPI receives through business events, enables HPBPI to present business-related information related to how your business is impacted by a failure in a service.

Instances of Business Processes

In order to get more detail from your business systems, you need to be able to model the individual instances of the process and see how these are being impacted: a process instance is a specific occurrence of a particular process that you have defined, for example, a specific customer transaction, or a specific flight arrival.

To model instances of your processes, you need to define data objects. A data object usually represents a known object within your organization; for example, an order, an employee record or flight details. In the case of HP TransactionVision, these data objects are created automatically when the transaction events that you have identified are imported.

The data captured from the business events, which are being processed by your HPBPI system, are used to update the status of these data objects that you have defined. Finally, rules are used to evaluate how the business process is progressing, based on the changing status of the data object.

You can also add business process monitors to the instance-level information and use it to provide business measurements to indicate the health of the process instances that you are tracking.

Using the data collected for the defined monitors, HPBPI can present the state of the business back to the business manager, according to the instances of the processes being tracked and the data collected. You can also use HPBPI to indicate to IT how they are meeting the needs of the business. As an example, you can use the Business Process Dashboard to show information about how many orders are waiting to be processed, or information about the value of orders that are waiting to have payment details checked.

You use the Business Availability Center Dashboard to view the statistical information collected from the HPBPI monitors. In addition, you can use the Business Availability Center reporting and Service Level Management components to report on the data samples sent to Business Availability Center from HPBPI.

As a result of modeling these process instances and setting business process monitors, the business manager can see the impact of the critical business events on the business processes.

Modeling Business Processes

The most effective way to model a business process is to base it around the primary documents and business processes in your organization, for example, orders or insurance claim applications. As part of defining the process you need to identify the:

- Data that will be used to drive the process.

These are the data that define the conditions under which a business task is deemed to have started and to have finished, and used to progress the process.

- Data required to answer the business questions that you want to track.

These data are obtained from your underlying business applications and can be thought of in terms of the data required for the business measurements that you want to report on for the process.

- Events, which are required to obtain the data to drive the process and answer the business questions.

Events are defined in cooperation with the IT personnel who own the IT infrastructure and who you work with to obtain the data that you need.

- Key business process monitors that you want to measure for your business processes.

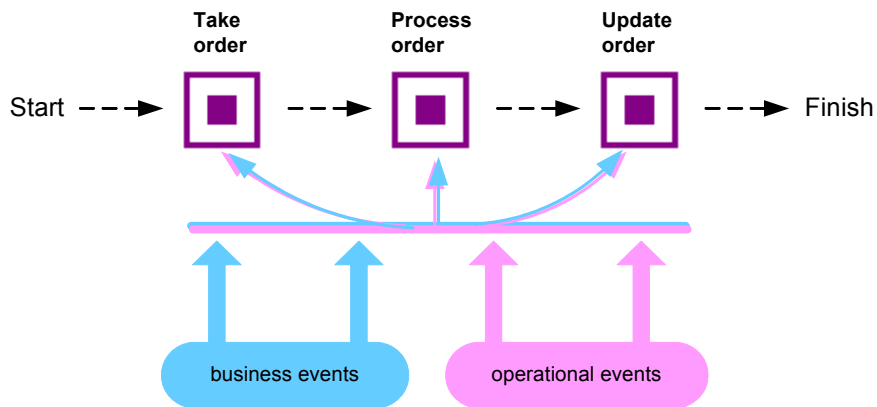
By separating the events from the data, HPBPI provides the flexibility to update the data for the process from multiple sources. Event definitions isolate the sources of the Events from HPBPI in that an Event source can be anything provided it sends the Event into HPBPI in the correct (expected) format. As an example, one event might populate many different Data definitions, for different Process definitions.

Operational and Business Data

This section discusses the types of data used by HPBPI in more detail.

Figure 7 shows how the steps in a process can be related to the operational services of your business, and that these services, when combined with the business data and events received through the Business Event Handler, become the basis for tracking the health of your business processes.

Figure 7 Business Process and Events



The HPBPI system also manages the data required for the process (the data models), as Data definitions. In the Stock Control example, it maintains information about the account business data and within that, information about value, customer name, and customer type data.

HPBPI does not need to know about all the data related to a process, just enough to give a business manager information on the business impact of the affected business processes. For example, in the Stock Control process (see Figure 4 on page 23), the account business data might also contain data relating to customer address and customer preferences, but this data is not required for process tracking purposes, so it does not need to be defined or tracked within HPBPI.

The following is a summary of the two types of events received into the HPBPI system:

- Events that carry the data to move the process through its steps. These are the business events.

You configure the business events that you need for the business applications that have access to (or hold) the data required for the business process.

- Events that report business impact information related to the IT infrastructure; these are the operational events.

Operational events are obtained through Business Availability Center.

You need to model business events for your solution. The events from underlying business applications can provide the business data focus.

The data from these underlying systems is defined as part of the business process and the resultant information used for reports and analysis.

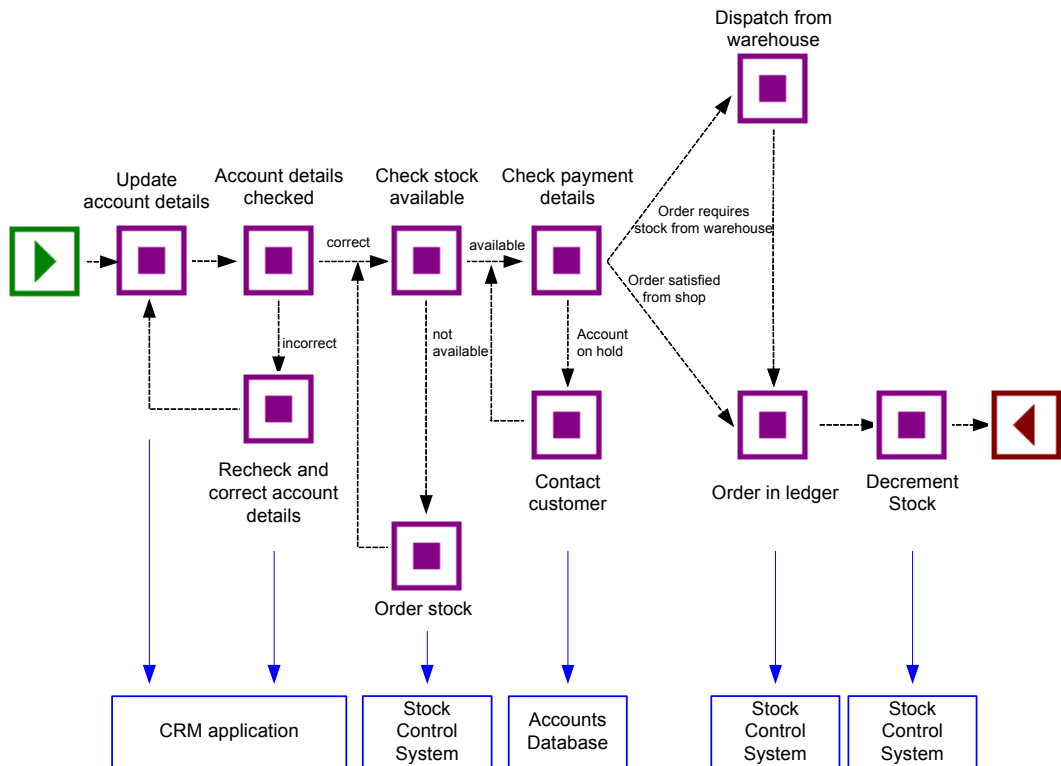
A methodology, described later in this guide, takes you through the steps that help you define and then refine your business process and its data.

Business Scenario for a Stock Control System and HPBPI

Continuing with the example of the Stock Control system, the following describes the scenario in more detail and shows how HPBPI can be used, by the business manager, to indicate the business impact of failures reported through Business Availability Center.

The scenario describes what happens when the stock control system fails - the business can accept orders, but it is unable to confirm that it can fulfill them. As can be seen from the business process diagram (Figure 8), the Stock Control System is accessed at the start of the business process to check the stock when the order is placed, and at the end of the business process, when the stock is dispatched.

Figure 8 Business Process



The business also has a Gold Customer scheme whereby key customers are guaranteed their deliveries within a specified time, or significant penalties in the way of discounts are incurred.

Using an HPBPI and Business Availability Center combined system, the business manager receives information about:

- the impact of the operational service failures
- the impact of the business service failures

Using both these sets of information, the business manager now has the business process monitor data that can be used to better understand the business impact of a failure. As an example, the business manager could define a monitor that records how long it takes a specific instance of a process to move between two activities in the process. The dashboard shows this monitor information in terms of statistical information relating to the process instances and their progress. The business manager can view the information in tabular and graphical form according to their requirements.

In addition to, or in place of, monitors the business manager can request for annotations to be added to the processes as they are displayed through the dashboard. These annotations can show information such as the current value of orders waiting to be processed.

The business manager also has the option to define thresholds for the business process monitors and have HPBPI generate threshold violations when the thresholds agreements are not achieved. The threshold violations can inform them of critical business events, such as the failure of the stock control system. On receipt of a violation, the business manager uses their dashboard or portal (whatever their usual reporting tool might be) to query the HPBPI system and obtain more information. As an example, they could determine the following:

- There are 200 customer orders waiting to be processed and 10 of these customers are Gold Account Customers.
- The impact of the current rate of orders, for example, given historical information about the rate of orders, the current number of 200 is likely to be 1,000 within a couple of hours, and 20,000 by the end of the day.
- Using historical information, the stock float should be good for today and tomorrow and most orders can be dispatched without incurring any delay.

- If required, temporary manual stock control can be put in place using the business data provided by the HPBPI system.
- Information about the stock levels

The stock counters configured in the HPBPI system can be used temporarily whilst the stock control system is offline, so the business manager has an ongoing count of the stock and can monitor the situation. The business manager also knows the levels of stock in the shop, so they have the option to fulfill orders from the stock held at the shop if necessary.

The business manager is now in a position to make a business decision to prioritize the orders such that the Gold Customers and the high value orders are processed first. If any of the stock levels start to get low, the business manager can suspend the transactions, or inform customers that there might be some delay. They can also order additional stock manually based on the HPBPI data presented to them.

The introduction of HPBPI means that the business manager now understands the business impact of the stock control failure and as a result can:

- Continue to process from stock in shop and redirect that stock to Web orders if necessary.
- Use the HPBPI data to manage the stock float manually.
- Aggregate shop and warehouse stock as required.
- Monitor the Gold account customers and minimize the penalty payments.

The business events that provide this information come through the HPBPI Business Event Handler component and the operational events from HP Operations Manager, through Business Availability Center.

What HPBPI Provides

HPBPI provides the modeling tools that enable you to build a business process and associate key business services, data and events with the process. As part of defining the process, you need to consider what business measurements you are likely to want to take. Later on you can add business process monitors to these processes to record these business measurements.

Using business process monitor information, HPBPI can notify the business manager when significant events occur and when business process monitor thresholds are violated; this notification can be done through email, through the Business Process Dashboard or through Business Availability Center.

In addition, you can use Business Availability Center and HP Performance Insight (HPPI) to create reports. There is a Report Package specific to HPBPI monitor data available with HPPI; see to the HPPI documentation for more details. Note however, that you do not need to use these reporting tools as all the monitor information that you define is automatically displayed through the Business Process Dashboard.

Business managers can also receive the HPBPI impact reports through their own reporting tools, if they choose to. HPBPI writes all its business process monitor data to database tables, which are designed and structured to maximize the effectiveness of user and application queries.

The components of the HPBPI system, and their purpose, are more fully described in the *Business Process Insight Reference Guide*.

The Methodology

The HPBPI methodology is intended to aid business analysts when implementing an HPBPI system. Typically these systems are implemented by business analysts in close collaboration with Business Managers.

The methodology covers how you model your business to determine the answers to business impact questions. It also provides guidelines for creating processes and identifying the data required to provide business information that you need. The methodology in this guide is based on an insurance claim. The following are the high-level steps for working through the methodology:

- Identifying the key business processes that you want to monitor for business impact.
- Defining the data that you need to store in the business model to ensure that you get the correct business impact information and sufficient information to obtain the business measurements that you need.
- Defining the business events that you want your HPBPI system to receive.
- Defining how you want the impact information presented to you.
- Defining business process monitors for the processes according to the business measurements that you need.
- Defining annotations, or other refinements that you want to add to the Business Process Dashboard.
- Identifying the operational services that you want to monitor through Business Availability Center and linking them into your process.
- Report on the data collected by HPBPI using Business Availability Center or HP Performance Insight.

Summary

HPBPI is intended to help you raise the visibility of your business processes and better understand integration points between your business processes and the IT infrastructure. This provides you with improved business data and also enables you to make business decisions, based on this data, in a more timely manner; for example, understanding the business impact if a particular service is made unavailable. This might not be direct financial loss, but other losses, such as reputation, regulation breaches, poor delivery times and so on.

Business disruptions such as these, and hundreds more that happen on a daily basis, unexpectedly and negatively impact the normal business operations of many companies. For example, if you are providing a service and there is a sudden increase in the volume of traffic, perhaps due to a marketing promotion, it could have an impact on the network. The response time for customers might be seriously compromised, which in turn can cause anger, ill-will, and some customers taking their business elsewhere. This is not a failure in any of the underlying systems and applications, but a failure in the capacity of the system that has an impact on your customers.

Where to go Next

You now have a basic understanding of what a business process is.

There is a more detailed description of the methodology and examples of how to apply it in the *Business Process Insight Integration Training Guide - Modeling Processes*. The methodology describes a top-down approach to creating business models, where you start by creating the definition of the process. Examples of assigning business processes monitors to your processes are provided in the *Business Process Insight Integration Training Guide - Defining Business Monitors*.

3 Using HPBPI Without Business Availability Center

If you do not have HP Business Availability Center as part of your implementation, HPBPI provides specific integrations with the following HP products:

- [HPOM Operational Services](#) on page 43
- [SOA Manager](#) on page 45

You can use these products as a source of operational events as an alternative to Business Availability Center.

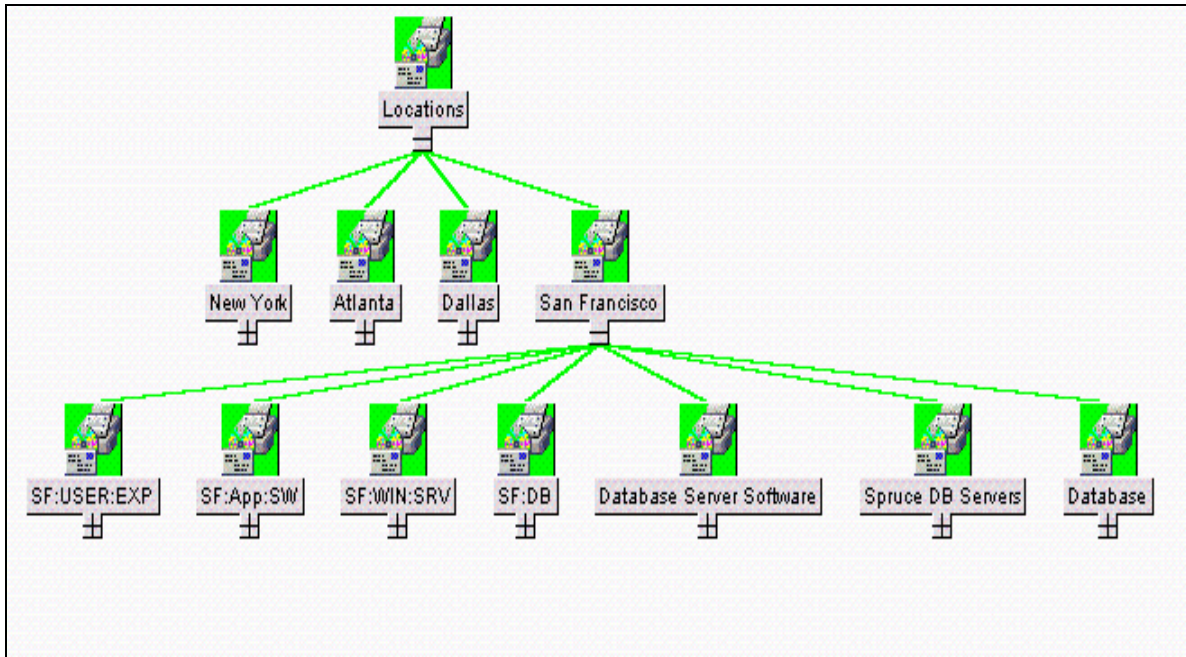
HPOM Operational Services

HPOM is an HP product that can be used to manage IT services. Using HPOM, a service can be defined by an administrator as a service view (which can be a service view or can be an operational view), or a business view. The status of these IT services is used by HPBPI to evaluate the state of the steps in the process that have dependencies on these services.

Within HPOM, operational service views are the representation of monitored entities in hierarchies. These hierarchies present the operational service views to the IT support organization; see [Figure 1](#). Operational services are focused on presenting the impact of technical problems to the technical staff that need to resolve the problems.

HPBPI can receive services from HPOM either on HP-UX, through the Service Navigator component, or on Windows, through HP Operations Manager for Windows.

Figure 1 HPOM Services on HP-UX



In the example shown in [Figure 1](#), there is an HPOM view (through Service Navigator) based on actual user experience at key business locations; this is called a business service view. There is also a location-based business service view defined within HPOM.

Business service views are the representation of the HPOM services that are being tracked into higher-level business services; these HPOM business services are based on the operational status of the IT infrastructure. HPBPI provides the additional capability to integrate business events from your business applications for tracking purposes.

SOA Manager

HP Service Oriented Architecture (HPSOA) Manager is a model-based solution for managing a service oriented architecture.

Within SOA Manager, a service model is a virtual representation of managed SOA resources, for example, Web services and database services. The service model provides an organized view of the SOA resources and their relationships. The elements that make up the service model, within SOA Manager are:

- Business services
- Configurations
- IT Services
- Application Resources

Within HPBPI, it is the SOA Manager Business Services that can be imported and tracked within your business processes. These Business Services are the representation of a number of related IT services within SOA Manager; for example, they might represent an Order Status Query, which can comprise a number of Web and Database services. This Order Status Query might need to be available between certain business hours and return responses within a given time. The availability of this service can be tracked by HPBPI as part of an over-arching business process within your organization and you can then report on whether or not this service is available, and if the service is not available, what the impact is on your business.

Using HPOM and SOA Manager as a Source of IT Operational Services

If you are using HPOM or SOA Manager as source of operational service events, you need to configure HPBPI to recognize and import these events. You can then model your IT services using HPOM and SOA Manager.

As the data is stored solely within the HPBPI database and no data samples are sent to Business Availability Center, you do not have the options to have SLM/SLA reports for your processes.

HPBPI collects all the statistical information from the data object as it is updated. These statistics are stored in the HPBPI database where they can be processed and displayed using the HPBPI Business Process Dashboard, as described in the *Business Process Insight Reference Guide*.

Index

A

Accelerator for SAP
BPI, 26

Adapters
for business data, 25

B

BPEL
importing into HPBPI, 14
using for business processes, 14

BPI

and iWay
and openadaptor, 25
business data, 8
business decision making, 8
business events, 26
business impact, 42
business processes, 19
connectivity
 JD Edwards
 PeopleSoft
 SAP
events, 8
example, 37
example Stock Control Process, 14
how it helps your business, 16
HP Operations Manager, 11
introduction, 7
methodology definition, 41
Modeling
 and reporting tools, 40
scenario, 37
services, 15

BPI. See also HPBPI

BPI Accelerator for SAP, 26

- Business
 - adapters, 25
 - data, 35
 - events, 25, 26
 - health, 10
 - Process model
 - example, 14
 - scenario, 37
- Business Availability Center
 - operational services, 27
- Business Event Handler, 35
- Business impact, 12, 42
- Business process, 19
 - definition, 20, 21
 - events, 36
 - example, 22
 - instances, 33
 - model, 14
 - step, 22
- Business Process Dashboard
 - reporting and monitoring, 33
- Business Process Execution Language. See BPEL
- Business Process Insight. See HPBPI
- Business process monitor, 33
- Business service
 - definition, 15
- Business visibility, 10

C

- Component
 - Business Process Dashboard, 33
 - HPBPI Business Event Handler, 25

D

- Definition
 - business process, 21

E

- Event, 25
 - and business processes, 36
 - business, 26
- Example
 - business process, 22
 - Business Process Model, 14
 - business scenario
 - Stock Control process, 37
 - Stock Control Process, 14

F

- Functional overview of HPBPI, 12

H

- Hierarchy
 - for Operations Manager services, 15

HPBPI

- connectivity
 - Java/XML, 25
 - JMS, 25
 - LDAP, 25
 - MQ Series, 25
 - Oracle, 25
 - Tibco, 25
- events, 25
- functional overview, 12
- HPBPI processes, 20
- HPOM operational services, 43
- HP Operations Manager, 11
 - service hierarchy, 15
- HPPI Report Package for HPBPI, 40

I

- IDocs
 - monitoring headers using Accelerator, 26
- Instances of a process, 33

Introduction
to HPBPI, 7

M

Methodology
definition, 41

Modeling
and reporting tools, 40
instances of business process, 33

Models for business process, 32

Monitor data
reporting, 40

O

Operational data, 35

Operational service
definition, 15

Operational services
and Business Availability Center, 27
and business Services, 43
HPOM and SOA Manager, 10

Operations Manager, 11
service hierarchy, 15

P

Process
business process monitor, 33

Processes, 20

Process instance definition, 33

R

Reporting
analyzing monitor data, 40

Report Package
HPPI, 40

S

Services
business, 15, 43
Operational, 43
operational, 15

SOA Manager
business services, 45
operational services, 45

Stock Control
process example, 22
scenario, 37
Services hierarchy, 24

Stock Control example, 14

