

IBM Marketing Operations
Version 9 Release 1
May 15, 2014

Fix Pack Guide



Note

Before using this information and the product it supports, read the information in "Notices" on page 15.

This edition applies to version 9, release 1, modification 0 of IBM Marketing Operations and to all subsequent releases and modifications until otherwise indicated in new editions.

© **Copyright IBM Corporation 2002, 2014.**

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

Chapter 1. IBM Marketing Operations

9.1.0.2 fix pack	1
Changing the status of business processes	2
Adding form tasks	2
Considerations for importing and exporting form tasks in workflow templates	3
Reapproval rules for form approvals	3
Required attributes based on other attributes	4
Marking attributes required based on other attributes	5
For more information	6

Chapter 2. System schema changes . . . 9

Chapter 3. Before you contact IBM technical support 13

Notices 15

Trademarks	17
Privacy Policy and Terms of Use Considerations	17

Chapter 1. IBM Marketing Operations 9.1.0.2 fix pack

The IBM[®] Marketing Operations 9.1.0.2 fix pack contains defect fixes and new features.

Simplified status changes

You can now chose to make most status changes with or without comments. If you chose an option without comments, you can change the status with one click.

The following status transitions only have an option to change the status with comments. Additional input is required, so a single-click option is not available.

- Project
 - Cancel Project with comments
 - Finish Project with comments
- Approval
 - Continue Review with comments
- Invoice
 - Mark as Payable with comments
 - Mark as Paid with comments

For all other status transitions, you can decide whether you want to add comments.

Form tasks

When a project template includes forms on custom tabs, you can create workflow tasks to assign users to complete these forms. You can add a specialized form task in addition to other tasks, stages, and approvals in the workflow.

Form approval tasks

You can configure workflow approval tasks to review forms. This feature allows you to add a workflow task to complete a form followed by an approval task with the form linked for review.

Note: You can only add forms to workflow approvals. This feature is not supported for standalone approvals. If you copy a workflow approval with an attached form, it becomes a standalone approval and Marketing Operations deletes the link to the form.

Form rules

You can build a form so that when the user picks a value for one attribute, it governs whether another set of attributes are required or not. For example, if the user selects United States in the country attribute, you can require a response in the postal code attribute.

You can build forms with rules for single-select attributes and single-select database attributes.

Changing the status of business processes

Statuses identify the progress of business processes. To move a business process through the lifecycle, you must change the status.

The following procedure describes how to change the status for plans, programs, projects, requests, marketing objects, and approvals.

Note: Your administrator can set up IBM Marketing Operations to send an alert to owners and members of a process when its status changes.

1. Select the type of object you want to work with from the navigational menus. For example, to work with a plan click **Operations > Plans**.
2. Click the name of the object you want to change.
3. Click **Change Status** and select a transition from the menu.

Most status transitions are available with comments and without comments. To add more information, select an option with comments. To change the status immediately, select an option without comments.


Note: You can only select transitions to **Finish** or **Cancel** an object with comments, because additional input is required in the comments dialog box. The available transitions depend on the status of the object.


- For objects that are Not Started, **Start** <object> changes the status to In Progress. For requests and approvals, select **Submit** <object>.
 - For objects that are In Progress, **Pause** <object> changes the status to On Hold. For approvals, select **Stop Review**.
 - For objects that are On Hold, **Continue** <object> changes the status to In Progress.
 - For objects that are In Progress, **Finish** <object> changes the status to Completed. Objects in this status cannot be changed to any other status, except for projects. You can reconcile projects to open them again after you change the status to Completed.
 - For objects that are Not Started or In Progress, **Cancel** <object> changes the status to Canceled. Select this option to cancel the object permanently. Objects in this status cannot be changed to any other status, except for projects. You can reconcile projects to open them again after you change the status to Canceled.
4. Optional: If you selected a transition option "with comments," enter appropriate comments. Click **Continue**.

If you chose the option without comments, the status changes immediately after you select a transition from the menu. If you enter comments, the status changes after you enter your comments.

Adding form tasks

Add form tasks to the workflow when the user needs to complete a specific form as one step in the workflow. Select one form to assign to each form task.

1. Decide what dependency option you want the new task or stage to use: Click **In Series** () and select **No Dependencies**, **In Series**, or **In Parallel**. Your selection remains in effect until you change it again.
2. In the workflow spreadsheet, click the stage or task name that you want the new row to follow.

3. Click **Add Row** () and then select **Form Task**.
4. Select a form in the pop-up and click **Ok**.

Note: You can select only one form for each form task in the workflow. Your administrator populates this list on the project template.

After you add form tasks to the workflow, you can configure approval tasks to send the completed forms for approval.


Considerations for importing and exporting form tasks in workflow templates

You can save a project workflow as a template to use in other projects. You can export the template from the project and import it into another project. If the workflow template contains form tasks, the links to the form tasks might or might not be maintained, depending on whether the forms they refer to are present or not in the new project.

The following situations apply to importing a saved project workflow template into a new project instance. Administrators can also import workflow templates into templates for projects if the workflow template does not contain form tasks.

- When you save a project workflow as a template with a linked form task and export it, then the link to the form is maintained. However, the form is not exported with the workflow template.

The following situations apply to importing a project workflow template into a new project.

- If you import a workflow template and the linked form is present in the new project, then the link to the form works as expected.
- If you import a workflow template and the linked form is not present in the new project, then the link is broken.
 - A warning lists form tasks with broken links. The form task is shown with an icon that indicates a broken link ()
 - If you copy or clone the workflow, broken link copies as they are. The links remain broken in any copies.
 - You can save the workflow with broken links. A user who tries to complete a task with a broken link cannot access the form.

If you encounter a broken link in the workflow, the project owner can open the form task pop-up and select an available form before assigning the form task to a team member.

Reapproval rules for form approvals

You can link forms to approvals in the workflow to send completed forms for approval. After the user completes a form task, the next task in the workflow can include approving the form.

When you add a form to an approval task, the following reapproval options are automatically selected.

- In the Start Approval Dialog, the **Disposition on all approval items** check box is automatically selected. This option makes users consider the approval items as a

group. When this option is selected, approvers must evaluate each approval item and click **Post Complete Response**. The user cannot change this option for approvals with linked forms.

- The reapproval rule **If approval is edited/resubmitted, approval is processed through all review steps** is selected automatically and disabled. Approvals with linked forms must use this reapproval rule.

Based on these automatic selections, the reapproval cycle for an approval process includes the following stages.

- After the requester submits the approval process, any forms linked to the approval process lock.
- The approver rules on each item in the approval process and clicks **Post Complete Response**. If the approver rejected any of the approval items, the approval process is placed On Hold and resubmitted to the requester.
- While the approval process is On Hold, the forms linked to the approval unlock so the requester can make changes. The forms unlock even if the approver rejected another linked item and approved the forms. In this case, the status of a linked form task changes from **Finished** to **Active**.
- After the requester makes changes, they resubmit the approval. The forms lock.
- The approver receives the modified approval items and rules on them. To approve the modified approval process, the approver must mark the original approval process Approved and then click **Post Complete Response**.
- **Post Complete Response** finishes the approval process.

Note: You can only approve forms in a workflow task. If you copy an approval task with attached forms, the approval task becomes a stand-alone approval process and the linked forms are removed.

Required attributes based on other attributes

In projects, you can require an attribute that is based on another single-select drop-down attribute. For example, you can configure a form to require the postal code attribute if the user selects "United States" from the drop-down for the Country attribute.

Attributes that are always required are marked with a double red asterisk (**). Attributes that are required because of a rule are not marked. Instead, the user is prompted to enter a value for the required attribute if the user tries to save without entering a value. For example, if a user selects "United States" for the country, the user receives an error if the user tries to save the form without entering a postal code.

Note: This feature is supported for projects only.

Editing rules behavior

After you create rules to require attributes that are based on other attributes, the following criteria for editing rules apply.

- You receive a warning if you try to delete a value from a single-select attribute and a rule is defined on that value. You can delete the value only after you delete the associated rules.

- If you delete any value from a single-select database attribute, Marketing Operations checks to see whether rules are defined on that value. If a rule is defined on the value and you delete the value, the rule is flagged as invalid. You can then modify the rule.
- If you try to delete an attribute that is used for defining a rule, you receive a warning. If you delete the attribute anyway, the attribute is removed from the rules.
- If you try to make an attribute behavior read-only, and that attribute is used in a rule, you receive a warning. To make the attribute read-only, you must remove it from the defined rule.
- If you try to change the look-up table, key column or display column of a single-select database attribute that is used in a rule, you receive a warning. You must remove the attribute from any existing rules before you change the look-up details.
- When you edit a form with existing rules, the form is not automatically republished. To apply a changed rule, republish the form.

Importing and Exporting behavior

After you create rules to require attributes that are based on other attributes, the following criteria for importing and exporting forms with rules apply.

- If you export a form with attribute rules, the rules are also exported. Such forms can be imported to another Marketing Operations system along with the attribute rules.
- If the form you import contains corrupted or broken rules, then you receive a warning, so you can fix the rules.

Marking attributes required based on other attributes

You can build a form to require an attribute that is based on other attributes. For example, if the user selects United States in the country attribute, you can require a response in the postal code attribute.

You can build rules on single-select attributes only. When the user selects the response that triggers the rule, another attribute becomes required.

1. Open or edit a form.
2. Add attributes to the form as needed. If you want to build a rule to require postal code when users select United States as the country, you must create attributes for country and postal code.
3. Click **Create/Edit Form Attribute Rules**. The Rule Builder opens with existing rules and an area to create new rules.
4. Create or edit rules as needed.
5. Click **Accept and Close** after you create, edit, and delete attribute rules.
6. **Save** the form.

When you add rules to forms, be careful not to make conflicting or circular rules.

If you edit rules on a form that is already published, you must publish the form again to use the modified rule.

When you change or delete attributes, Marketing Operations warns you if that attribute is used in a rule. If you delete the attribute anyway, the attribute is removed from the rules. If a rule is invalid, it is flagged in the rule builder for your attention.

For more information

Different people in your organization use IBM Marketing Operations to accomplish different tasks. Information about Marketing Operations is available in a set of guides, each of which is intended for use by team members with specific objectives and skill sets.

The following table describes the information available in each guide.

Table 1. Guides in the Marketing Operations documentation set

If you	See	Audience
<ul style="list-style-type: none"> Plan and manage projects Establish workflow tasks, milestones, and personnel Track project expenses Get reviews and approvals for content Produce reports 	<i>IBM Marketing Operations User's Guide</i>	<ul style="list-style-type: none"> Project managers Creative designers Direct mail marketing managers
<ul style="list-style-type: none"> Design templates, forms, attributes, and metrics Customize the user interface Define user access levels and security Implement optional features Configure and tune Marketing Operations 	<i>IBM Marketing Operations Administrator's Guide</i>	<ul style="list-style-type: none"> Project managers IT administrators Implementation consultants
<ul style="list-style-type: none"> Create marketing campaigns Plan offers Implement integration between Marketing Operations and Campaign Implement integration between Marketing Operations and IBM Digital Recommendations 	<i>IBM Marketing Operations and IBM Campaign Integration Guide</i>	<ul style="list-style-type: none"> Project managers Marketing execution specialists Direct marketing managers
<ul style="list-style-type: none"> Learn about new system features Research known issues and workarounds 	<i>IBM Marketing Operations Release Notes</i>	Everyone who uses Marketing Operations
<ul style="list-style-type: none"> Install Marketing Operations Configure Marketing Operations Upgrade to a new version of Marketing Operations 	<i>IBM Marketing Operations Installation Guide</i>	<ul style="list-style-type: none"> Software implementation consultants IT administrators Database administrators

Table 1. Guides in the Marketing Operations documentation set (continued)

If you	See	Audience
Create custom procedures to integrate Marketing Operations with other applications	<i>IBM Marketing Operations Integration Module</i> and the API JavaDocs available when you click Help > Product Documentation in Marketing Operations, and then download the IBM <version>PublicAPI.zip file	<ul style="list-style-type: none"> • IT administrators • Database administrators • Implementation consultants
Learn about the structure of the Marketing Operations database	<i>IBM Marketing Operations System Schema</i>	Database administrators
Need more information while you work	<ul style="list-style-type: none"> • Get help and search or browse the <i>User's, Administrator's, or Installation</i> guides: Click Help > Help for this page • Access all of the Marketing Operations guides: Click Help > Product Documentation • Access guides for all IBM Enterprise Marketing Management (EMM) products: Click Help > All IBM EMM Suite Documentation 	Everyone who uses Marketing Operations

Chapter 2. System schema changes

The following system schema changes were made in the 9.1.0.2 fix pack.

uap_appr_items

The map_name column was added in the 9.1.0.2 fix pack.

Table 2. Columns in the uap_appr_items table

Name	Datatype	Is PK	Null Option	Is FK	Description
approval_id	integer	Yes	NOT NULL	Yes	ID of an approval item. Foreign key to uap_approvals.
appr_item_seq	integer	Yes	NOT NULL	No	Sequence of the item (identifier).
create_date	date	No	NULL	No	Date that the item was created.
notes	string (1024)	No	NULL	No	Notes about the item.
item_status	string (20)	No	NULL	No	Status of the item under review (whether it is archived). Valid values are ARCHIVED or null.
user_id	integer	No	NULL	Yes	User who added the item to the approval process. Foreign key to uap_users.
orig_file_name	nvarchar (390)	No	NULL	No	Original file name of the uploaded file. Size changed to 256 by version 7.4.0. The size changed to 390 in 9.1.0.
markup_file_name	string (20)	No	NULL	No	Markup file name.
orig_file_size	string (10)	No	NULL	No	Size of the original file.
orig_file_mime	string (255)	No	NULL	No	MIME type of the original file. Size increased in version 8.6.0.
last_mod_date	date	No	NULL	No	Date the item was last modified.
object_id	integer	No	NULL	Yes	For marketing objects, the ID of the object. Value is -1 for other objects. Foreign key to uap_mktgobject.mktg_object_id. This column was added in version 7.3.0.
object_type_id	integer	No	NULL	Yes	For marketing objects, the ID of the marketing object type. Value is -1 for other objects. Foreign key into uap_comp_type.comp_type_id. This column was added in version 7.3.0.
enable_markup	string (2)	No	NULL	No	Stores whether current approval item can be marked up (1) or not (0). This column was added in version 7.5.0.
linked_item_id	integer	No	NULL	No	The ID of the line item to which the approval item belongs. This column was added in version 8.5.0.
map_name	NVARCHAR (50)	No	NULL	No	This column contains form names used in form tasks. This column was added in the 9.1.0.2 fix pack.

uap_workflow

The map_name column was added in the 9.1.0.2 fix pack.

Table 3. Schema for umo_workflow

Name	Datatype	Is PK	Null Option	Is FK	Description
wf_no	integer	Yes	NOT NULL	No	Unique identifier generated by the system for each workflow step or stage.
name	string (256)	No	NULL	No	Name of the stage or step. Size of the column was changed to 256 for version 7.4.0.
project_id	integer	No	NULL	Yes	Unique identifier for a project or project request. Foreign key for uap_projects.
display_order	integer	No	NULL	No	
dislay_id	string (10)	No	NULL	No	Order of the stage or step. This value is used to determine the sort order for the stages.
flag_stage	string (1)	No	NULL	No	Step display integer. This value appears along with the step or stage name in the user interface. (For example, "1.1 Creative Approval Task".)
start_date	date	No	NULL	No	Workflow step start date.
end_date	date	No	NULL	No	Workflow step end date.
flag_anchor	string (1)	No	NULL	No	Anchor date flag.
forecast_st	date	No	NULL	No	Workflow step forecast start date.
forecast_end	date	No	NULL	No	Workflow step forecast end date.
duration	floating pt	No	NULL	No	Workflow step predicted/forecast duration.
actual_duration	floating pt	No	NULL	No	Workflow step actual duration.
pcnt_comp	integer	No	NULL	No	Percent complete.
parent_stage	integer	No	NULL	No	Parent stage if the entry is a step.
flag_link	string (1)	No	NULL	No	Workflow step link flag. The value is Y if the step is linked and null if it is not linked.
link_object	string (20)	No	NULL	No	The type of task (for example, peopletask or approval).
link_id	integer	No	NULL	No	Workflow step link object ID. If the value for the link_object column is APPROVAL, the value for this column is the approval ID.
status_code	string (20)	No	NULL	No	
state_code	string (20)	No	NULL	No	Status of the stage or task. These values are valid: <ul style="list-style-type: none"> • PENDING • ACTIVE • FINISHED • SKIPPED
notes	string (1024)	No	NULL	No	

Table 3. Schema for umo_workflow (continued)

Name	Datatype	Is PK	Null Option	Is FK	Description
milestone_type	integer	No	NULL	Yes	Workflow step or task milestone type. Foreign key to uap_wf_milestone.
error_code	string (20)	No	NULL	No	Workflow task error code, such as an error in recalculating dependency dates.
effort	string (20)	No	NULL	No	Estimated effort.
actual_effort	string (20)	No	NULL	No	Actual effort.
scheduling_mask	integer	No	NULL	No	Determines whether a workflow step schedules through weekends, non-work time, or both.
duration_str	string (20)	No	NULL	No	Workflow step predicted/forecast duration in DD-HH-MM format. This column was added in version 7.5.
actual_duration_str	string (20)	No	NULL	No	Workflow step actual duration of the task in DD-HH-MM format. This column was added in version 7.5.
effort_str	string (20)	No	NULL	No	Estimated effort of the task in DD-HH-MM format. This column was added in version 7.5.
actual_effort_str	string (20)	No	NULL	No	Actual effort in DD-HH-MM format. This column was added in version 7.5.
enable_attachment	string (2)	No	NULL	No	Flag to allow attachments to task. This column was added in version 7.5.
required	string (2)	No	NULL	No	Workflow task is required task or not. This column was added in version 7.5.
enforce_dep	string (2)	No	NULL	No	Flag to enforce dependency between workflow task. This column was added in version 7.5.
task_code	string (100)	No	NULL	No	Used to uniquely identify tasks, for use with the SDK. This column was added in version 7.5.
ready_to_start	integer	No	NULL	No	This column was added in version 8.2.0. It identifies whether dependencies are complete. <ul style="list-style-type: none"> • 0 = Not ready to start • 1 = Ready to start
last_mod_date	datetime	No	NULL	No	This column was added in version 8.5.0. The last updated date for the workflow task.
map_name	NVARCHAR (50)	No	NULL	No	This column contains form names linked to form tasks in the workflow. This column was added in the 9.1.0.2 fix pack.

uap_tt_map

The rule_xml column was added in the 9.1.0.2 fix pack.

Table 4. Schema for uap_tt_map

Name	Datatype	Is PK	Null Option	Is FK	Description
map_id	integer	Yes	NOT NULL	No	Unique identifier generated by the system for each form.
map_name	string (50)	No	NULL	No	Name of the form.
table_name	string (50)	No	NULL	No	Name of the database table that stores the answers users enter in the fields of this form.
key_column	string (50)	No	NULL	No	Column that stores the primary key for the table specified in the table_name column.
key_type	string (20)	No	NULL	No	Data type of the column specified in the key_column column.
state	string (50)	No	NULL	No	State of the form. The following are valid values: <ul style="list-style-type: none"> • Published • Non-Published • Temporary This column was added in version 8.0.
root_element	string (100)	No	NULL	No	The only valid value is Details.
description	string (1024)	No	NULL	No	Description of form. This column was added in version 8.0.
user_id	integer	No	NULL	Yes	ID of the user who created the form. Foreign key to uap_user. This column was added in version 8.0.
copy_of	integer	No	NULL	Yes	ID of the form that was copied to make this form. Foreign key to uap_tt_map.map_id. This column was added in version 8.0.
form_type	integer	No	NULL	No	Whether the form is a Target Cell Spreadsheet. This column was added in version 8.0.
rule_xml	CLOB	No	NULL	No	This column contains the rule xml definitions for form rules. This column was added in the 9.1.0.2 fix pack.

Chapter 3. Before you contact IBM technical support

If you encounter a problem that you cannot resolve by consulting the documentation, your company's designated support contact can log a call with IBM technical support. Use these guidelines to ensure that your problem is resolved efficiently and successfully.

If you are not a designated support contact at your company, contact your IBM administrator for information.

Information to gather

Before you contact IBM technical support, gather the following information:

- A brief description of the nature of your issue.
- Detailed error messages that you see when the issue occurs.
- Detailed steps to reproduce the issue.
- Related log files, session files, configuration files, and data files.
- Information about your product and system environment, which you can obtain as described in "System information."

System information

When you call IBM technical support, you might be asked to provide information about your environment.

If your problem does not prevent you from logging in, much of this information is available on the About page, which provides information about your installed IBM applications.

You can access the About page by selecting **Help > About**. If the About page is not accessible, check for a `version.txt` file that is located under the installation directory for your application.

Contact information for IBM technical support

For ways to contact IBM technical support, see the IBM Product Technical Support website: (http://www.ibm.com/support/entry/portal/open_service_request).

Note: To enter a support request, you must log in with an IBM account. This account must be linked to your IBM customer number. To learn more about associating your account with your IBM customer number, see **Support Resources > Entitled Software Support** on the Support Portal.

Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information about the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan, Ltd.
19-21, Nihonbashi-Hakozakicho, Chuo-ku
Tokyo 103-8510, Japan

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law: INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM websites are provided for convenience only and do not in any manner serve as an endorsement of those websites. The materials at those websites are not part of the materials for this IBM product and use of those websites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
170 Tracer Lane
Waltham, MA 02451
U.S.A.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

All IBM prices shown are IBM's suggested retail prices, are current and are subject to change without notice. Dealer prices may vary.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not

been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs. The sample programs are provided "AS IS", without warranty of any kind. IBM shall not be liable for any damages arising out of your use of the sample programs.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

Trademarks

IBM, the IBM logo, and [ibm.com](http://www.ibm.com)[®] are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at www.ibm.com/legal/copytrade.shtml.

Privacy Policy and Terms of Use Considerations

IBM Software products, including software as a service solutions, ("Software Offerings") may use cookies or other technologies to collect product usage information, to help improve the end user experience, to tailor interactions with the end user or for other purposes. A cookie is a piece of data that a web site can send to your browser, which may then be stored on your computer as a tag that identifies your computer. In many cases, no personal information is collected by these cookies. If a Software Offering you are using enables you to collect personal information through cookies and similar technologies, we inform you about the specifics below.

Depending upon the configurations deployed, this Software Offering may use session and persistent cookies that collect each user's user name, and other personal information for purposes of session management, enhanced user usability, or other usage tracking or functional purposes. These cookies can be disabled, but disabling them will also eliminate the functionality they enable.

Various jurisdictions regulate the collection of personal information through cookies and similar technologies. If the configurations deployed for this Software Offering provide you as customer the ability to collect personal information from end users via cookies and other technologies, you should seek your own legal advice about any laws applicable to such data collection, including any requirements for providing notice and consent where appropriate.

IBM requires that Clients (1) provide a clear and conspicuous link to Customer's website terms of use (e.g. privacy policy) which includes a link to IBM's and Client's data collection and use practices, (2) notify that cookies and clear gifs/web beacons are being placed on the visitor's computer by IBM on the Client's behalf along with an explanation of the purpose of such technology, and (3) to the extent required by law, obtain consent from website visitors prior to the placement of cookies and clear gifs/web beacons placed by Client or IBM on Client's behalf on website visitor's devices

For more information about the use of various technologies, including cookies, for these purposes, See IBM's Online Privacy Statement at: <http://www.ibm.com/privacy/details/us/en> section entitled "Cookies, Web Beacons and Other Technologies."



Printed in USA