Display All Lines Items of SC to Ad hoc Approvers in Approval Workitem in SRM Inbox

Applies to:
Standard SRM Server 5.5 and R/3 4.7 Enterprise. For more information, visit the Supplier Relationship Management homepage.

Summary
Standard SRM-EBP doesn’t display all the line items of Shopping Cart to an Adhoc approver in their Approval Workitem. The content of this document is an attempt to present and guide all SRM Technical as well as Functional Consultants, how to display all the Line items of SC, to an Adhoc (Added Manually) approver in their Approval WI.

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Created on: 14th May 2011

Author Bio
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Background
The purpose of this document is to serve as a ready reference for all the SRM technical consultants working in the Classic Scenario. If there is such requirement where there is the need to display all the Line items to Ad hoc Approvers in their approval workitem in SRM Inbox instead of only those for which they were made responsible, then this article can be used. This article describes the SRM-EBP Standard functionality and detailed steps for the solution implementation. This article can be referred by SRM functional consultant also as this could help them understand one more functionality possible in the SRM-EBP.

Business Requirement
Sometimes few clients which have Classic scenario of SRM implemented in their organizations can have business requirement wherein they want that to give proper information about the net approval value for the Shopping Cart and lines items for Adhoc(Added) approver. He/she should be able to see the responsible line items along with the ones for which they are not responsible.

Currently as per the standard SRM-EBP functionality, whenever any Adhoc approver is added in the approval chain while creating or changing the SC. If new approver is made responsible for only few line items from Shopping cart, then in his approval workitem in SRM inbox, they will be able to see only those line items with rest of line items hidden. This behavior is not with normal Badi determined approver. This behavior leads to misunderstanding of the Net approval value for that approver with Total value of SC.

Benefits
By displaying all the line items (responsible as well as non-responsible ones), it will give a good clarity to the Adhoc approver while approving the SC.

Landscape Details

<table>
<thead>
<tr>
<th>System Type</th>
<th>SP Details</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP_APPL 4.7</td>
<td>SAPKH47016</td>
<td>SAP R/3 backend system</td>
</tr>
<tr>
<td>SAP SRM 5.0</td>
<td>SAPKIBKT14</td>
<td>SAP SRM EBP</td>
</tr>
</tbody>
</table>

Classic Scenario
The choice of a (primary) technical scenario is a key early decision on any SAP SRM project. This decision impacts many solution aspects, including available functionality, configuration, development, testing, training and support.

Generally, the Classic scenario is suitable for organizations that:

- have a large user base in the SAP ERP system; and/or
- have their professional purchasers using SAP MM Purchasing application and want to continue
- using it; and/or
- Have established supplier document collaboration mechanisms in SAP ERP (e.g. EDI or IDOC) and want to continue using them.

In this scenario, only the shopping cart is created in the SAP Supplier Relationship Management (SAP SRM) system. All other procurement documents, such as purchase orders, goods receipts, and invoices, are located in the back-end R/3 system.
**Problem Description**

For the Approval of the Shopping Cart, **BBP_WFL_APPROV_BADI** is used extensively with the Standard N-Step item level approval Workflow (WS1450015). Based on the business logic implemented inside this Badi, the approvers for SC are determined and then provided to N-Step Level Approval workflow (WS14500015). Now it could be possible that some Badi determined approvers in the approval chain are not responsible for some line items, but when they receive Approval Workitem, they will be able to see all Line items, with also the ones, they are not responsible in grayed out mode. Like Badi determined approver, need to display all the lines items in the Approval Workitem for an Adhoc approver in the Approval chain.

Problem is to have to similar approval workitem behavior for both Adhoc (added) approver and badi determined approver.

**Problem Details**

Shopper created multiple items shopping cart, and also wanted to add an additional approval level in the approval chain. Shopper by using Add Approver button in Approval Preview section can add an additional approval level anywhere in approval chain. Now while adding an Adhoc approval, shopper has provision of selecting specific line items for which he/she will be responsible. Now shopper made him/her responsible for only few line items of shopping cart. Now when Adhoc approver receives approval workitem (TS14508044) in SRM inbox, they are able to see only the items for which he was made responsible with rest of the details hidden. Below example give more details about the problem.

Example: Suppose there are 4 line items in the Shopping cart and BBP_WFL_APPROV_BADI, badi determines 2 approvers based on the Business logic. Now let’s say, determined approver is responsible only for 2 line items amongst 4 line items of SC; in his approval Workitem, he will be able to see all line items with two items in Edit mode where they have to take an action and two items in Display mode (Grayed out) like just for information. This behavior is different for an Adhoc approver in approval chain. Added approver is in his approval WI is able to see only the items for which he is made responsible while added them. Rest of the items and details are hidden. This behavior leads to misunderstanding between Net approval Value and Total SC approval value.

![Image of Shopping Cart](image-url)
SAP SRM Standard Functionality

Whenever shopper clicks on Add Approver Button in Approval preview, system prompts him to choose the location (or node) where to add. Then after selection of the location (ADD HERE Link), next system prompts shopper to choose the approver to be added, this behaviour can be controlled using BBP_CHNG_AGTNT_GET. After selecting the approver then shopper click on Transfer button and then the chosen approver is added into the approval chain.

Now whenever Adhoc approver is added, and Shopping Cart is ordered or Saved; Workflow starts and in the workflow log in SWI1 for this Shopping Cart, for the Workflow container element APPROVE there is one Flag ‘HIDE_ITEMS’ which is marked for him/her for that specific line item.

![Image of workflow log]

Further on as N-Step Level Approval workflow proceed further and an approval workitem is created for them, system considers HIDE_ITEMS flag and filters out the Line items for which he is not responsible and sends the approval workitem to their SRM Inbox accordingly.

In the screenshot above, second approver in the container is an Adhoc approver. Identification of the Added/Changed approver can be done from field “TYPE” i.e. I- Inserted or C-Changed

Below are the steps to reproduce this issue

i. Click on Create Shopping cart and add multiple items into it

![Image of shopping cart]

ii. Click on approval Preview and click on Add Approver button

![Image of approval preview]
iii. Choose the Location/ Node

iv. Choose the line item for which Adhoc Approver is responsible (By Default- responsible for all line items)

v. New added approver while be displayed. Now Order the Shopping Cart
vi. Now N-Step Item level Approval workflow will be started and in the approval WI for First approver will display

<table>
<thead>
<tr>
<th>Approval</th>
<th>Messages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approval: 194 Entries</th>
<th>Description</th>
<th>Received on</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC 810013206 of Pierre Landry value 22 000.00 CAD</td>
<td>2011-02-01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SC 810013299 of Pierre Landry value 1 000.00 CAD</td>
<td>2011-02-01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SC 810013298 of Pierre Landry value 1 000.00 CAD</td>
<td>2011-03-01</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Action performed successfully

<table>
<thead>
<tr>
<th>Shopping Cart with Name/Number: PN042007 02-03-30-1011 01:43 / PN042007 Approved.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>4 items in Shopping Cart</th>
<th>Status</th>
<th>Goods/Services</th>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Category</th>
<th>Required on</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved</td>
<td>Approved</td>
<td>Test Item 1</td>
<td>100 each Advertising Services</td>
<td></td>
<td></td>
<td></td>
<td>2011-02-16</td>
<td>1,000.00 CAD</td>
</tr>
<tr>
<td>Approved</td>
<td>Approved</td>
<td>Test Item 2</td>
<td>100 each Advertising Services</td>
<td></td>
<td></td>
<td></td>
<td>2011-02-16</td>
<td>10,000.00 CAD</td>
</tr>
<tr>
<td>Approved</td>
<td>Approved</td>
<td>Test Item 3</td>
<td>100 each Advertising Services</td>
<td></td>
<td></td>
<td></td>
<td>2011-02-16</td>
<td>10,000.00 CAD</td>
</tr>
<tr>
<td>Approved</td>
<td>Approved</td>
<td>Test Item 4</td>
<td>100 each Advertising Services</td>
<td></td>
<td></td>
<td></td>
<td>2011-02-16</td>
<td>1,000.00 CAD</td>
</tr>
</tbody>
</table>

Total Value (Net): 22,000.00 CAD

vii. Now Workitem will be created for Adhoc Approver and WI comes to his inbox here for him the new approval amount is also different which is fine

<table>
<thead>
<tr>
<th>Approval</th>
<th>Messages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approval: 9 Entries</th>
<th>Description</th>
<th>Received on</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC 810013206 of Pierre Landry value 1 000.00 CAD</td>
<td>2011-02-03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SC 810013299 of Pierre Landry value 1 000.00 CAD</td>
<td>2011-01-25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SC 810013298 of Pierre Landry value 1 000.00 CAD</td>
<td>2011-01-25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Issue comes here, For the added approver System shows only the items for which he was responsible, but not the rest of the item even though in Grayed out mode. But for the normal approver, system shows all the items of the SC even if they are not responsible for them in grayed out mode.

<table>
<thead>
<tr>
<th>Items in Shopping Cart</th>
<th>Approved</th>
<th>Rejected</th>
<th>Good/Service</th>
<th>Description</th>
<th>Category</th>
<th>Received on</th>
<th>Quantity</th>
<th>Price/Unit</th>
<th>Cost Assignment</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Item 1</td>
<td></td>
<td></td>
<td>Advertising Services</td>
<td></td>
<td></td>
<td>2011-02-13</td>
<td>100 EA</td>
<td>10.00 CAD</td>
<td>4666</td>
<td></td>
</tr>
<tr>
<td>Test Item 2</td>
<td></td>
<td></td>
<td>Advertising Services</td>
<td></td>
<td></td>
<td>2011-02-13</td>
<td>100 EA</td>
<td>10.00 CAD</td>
<td>4666</td>
<td></td>
</tr>
</tbody>
</table>

Total Value (Net) for Approval: 11,000.00 CAD
Technical Details for this Issue

N-Step Item level Approval Workflow (WS14500015) is highly integrated with BBP_WFL_APPROV_BADI for determine the Actual agents for Shopping cart approval WI task (TS14508044).

This badi based on the business logic implemented in it will determine the actual agents responsible for approing the respective Shopping Cart and provides to ET_APPROVAL_AGENT Internal Table which is used by N Step Approval workflow (WS14500015).

If we look at the Workflow log in SWI1 for this SC, we will be able to see the HIDE_ITEMS flag marked for Adhoc approver.

Adding an Adhoc approver in the approval chain is not controlled inside the Workflow Badi. Badi provides only the determined approvers based on the logic implemented to FM BBP_WFL_DIN_APPR_BY_RULE_GET. In this FM, all the Approvers determined by the Workflow Badi are verified for their approval limits and business object vise. FM BBP_WFL_DIN_APPR_BY_RULE_GET provides the internal table ET_APPROVAL_AGENTS [ ] which contains all the approver provided by Badi.

Now this FM is called inside another FM BBP_WFL_DIN_APPR_FINALLIST_GET where if any approver has been changed or if any Adhoc Approver is added on the portal is checked and inserted in the internal table ET_APPROVAL_AGENTS at the specific index.

Then this internal table finally set into Workflow container as element APPROVERLIST where it shows all the approvers in the approval Chain and their attributes set.

Note: SAP does not support such functionality. This is not a bug in the standard code so there is no SAP OSS note available for such requirement.
Solution Implementation

Implementation of this solution for this requires the **SRM 5.0** and Support pack **SAPKIBKT14** or above because SP below 13 does not support Enhancement Spot for modifying the standard code.

Steps

Now for displaying all the line items to added approver, FM **BBP_WFL_DIN_APPR_FINALLIST_GET** can be enhanced by creating one Implicit Enhancement Spot in the end.

Once the Enhancement spot is ready and activated then in the custom code written, we can initialize **HIDE_ITEMS** flag for Inserted approver in the internal **ET_APPROVAL_AGENTS**.

Once this **HIDE_ITEMS** flag is initialized, he will be able to see all the Line Items in approval Workitem in his inbox with the ones responsible in Edit Mode and others in Grayed out mode.

Source code

```plaintext
DATA: wa_approval_agents TYPE bbp_wfl_approval_table.

LOOP AT et_approval_agents[] INTO wa_approval_agents.
  IF wa_approval_agents-type EQ 'I'.  "I- Inserted (Adhoc) approver
    CLEAR wa_approval_agents-hide_items_not_responsible.
  ENDIF.

  MODIFY et_approval_agents INDEX wa_approval_agents-initial_index FROM wa_approval_agents TRANSPORTING hide_items_not_responsible.

  CLEAR wa_approval_agents.

ENDLOOP.
```

Once the Enhancement spot is activated with this Custom code in it then next time when any Adhoc approver is added into the approval chain, **HIDE_ITEMS** flag in the workflow container will be initial like the other badi determined approvers and in his Approval workitem, they will be able to see all the Line items.
Results
Create Multiple Item SC

Made changes in Line Item to make Approver on Item Level
Display All Lines Items of SC to Ad hoc Approvers in Approval Workitem in SRM Inbox

Adding Adhoc Approver

---

Adhoc Approver made responsible for Line Item 1 & 3 only
Approver added in approval chain:

Order SC:

After implementing the Solution, Workflow Container - Element: APPROVERLIST
**Inbox's of Approvers Approval WI**

1st level Approver - David Employee

![Image of Shopping Cart with 1st Level Approver's View]

1st level Approver - Pete Hours/Sir the Boss - for Line Item 2

![Image of Shopping Cart with 1st Level Approver's View]

After approval at 1st Level the WI will go to Adhoc Approvers inbox for approval but now even Adhoc Approver will be able to see all the line items of the Shopping Cart

**WI in Adhoc Approver Inbox**

![Image of Shopping Cart with Adhoc Approver's View]
Related Content

https://www.sdn.sap.com/irj/sdn/index

Incoterms

http://www.sdn.sap.com/irj/bpx/srm

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