

How to combine Web Dynpro based and non-Web Dynpro based portal content using Web Dynpro pages and portal pages



Applies to:

Integration of Web Dynpro for Java applications into SAP NetWeaver Portal

Summary

This article describes how different types of portal content should be combined using Web Dynpro pages or portal pages.

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Author Bio



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Introduction

The goal of this document is to describe in detail possible combinations of Web Dynpro pages and portal pages. As a part of this document we provide the rules and recommendations for building Web Dynpro pages with Web Dynpro and non-Web Dynpro Content.

We will consider in the following document two types of portal content objects: Pages and iViews.

A *portal page* is a page executed by the portal (PRT based) page builder. A *Web Dynpro Page* is a page executed by the Web Dynpro page builder: *Web Dynpro Page* is introduced first in release SAP NetWeaver 7.0 and was called *Web Dynpro proxy page*. It was generated from the page wizard. In SAP NetWeaver CE 7.1 release it is called just Web Dynpro Page. *Application page* was introduced first within the SAP NetWeaver CE 7.1 release and is a Web Dynpro page that has a non-modifiable list of iViews that are provided by the associated Web Dynpro application. In other words Application page is a portal page that was created from a Web Dynpro/VC application in the GPAL repository.

Before we continue with the different combinations of the iViews on the page we have to clarify the naming used in this document regarding the different types of iViews.

First of all we differentiate between two types of Web Dynpro Java iViews: *NW04 Web Dynpro iViews* and *NW 7.0 Web Dynpro iViews*.

NW04 Web Dynpro iViews are based on the *Web Dynpro iView template* and is available since the SAP NetWeaver 04 release. This type of Web Dynpro iView could only be run as isolated iView.

NW 7.0 Web Dynpro iViews are based on the *Web Dynpro page builder* and type is available since the SAP NetWeaver 7.0 release. This type of Web Dynpro iView could be run embedded in Web Dynpro pages.

Isolated iView is an iView that has property isolation method set to "URL" and executed using an URL launched within an IFrame. Typical examples are Web Dynpro ABAP iViews or non-Web Dynpro iViews running in a Web Dynpro page.

Embedded iViews are the iViews that are embedded into the page without an IFrame, directly into markup of the page. A typical example is a NW 7.0 Web Dynpro iView in a Web Dynpro page or an iView based on a portal component running in a portal page.

In this document we will call NW7.0 Web Dynpro iViews and Web Dynpro Application Pages that can run embedded in Web Dynpro Page - Web Dynpro Page Builder content.

Possible scenarios

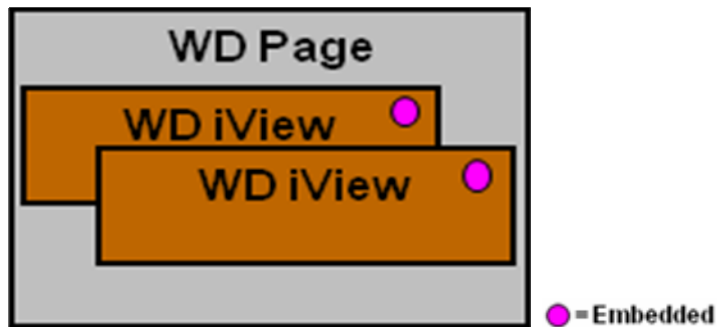
There are two main scenarios that we will consider in this document:

The first scenario - we have only Web Dynpro Page Builder based Content to run in SAP NW Portal

The second scenario – we have both: Web Dynpro Page Builder Content (NW7.0 Web Dynpro iViews and application pages, that can run embedded in Web Dynpro Page) and Non-Web Dynpro Page Builder Content that can run only as URL (isolated) on a Web Dynpro Page: NW04 Web Dynpro iViews, non-Web Dynpro Content, Web Dynpro ABAP iViews. So let' have a look at these two scenarios in details in the following two chapters.

Scenario1: Web Dynpro Page Builder content only

If you have NW7.0 Web Dynpro iViews and Application pages only - use Web Dynpro Page. Set the isolation method of each of the contained in this Web Dynpro page iView to "Embedded" (that is default value for Web Dynpro iViews in Web Dynpro Page). So, that is the best approach - to run Web Dynpro Page Builder content in Web Dynpro Page.



Picture 1 - Running Web Dynpro iViews embedded in Web Dynpro Page

Events: Portal eventing works between embedded Web Dynpro page content, if there is not more than one event receiver for each event.

Note: there is a limitation in Web Dynpro runtime regarding portal events between embedded content: If you have more than one Web Dynpro application registered to the same event, then only first Web Dynpro application registered to this event will receive this event.

As a workaround, that we recommend in a case that all applications on a Web Dynpro Page are embedded, you can combine these Web Dynpro applications into one Web Dynpro application - then Web Dynpro Runtime itself will take care about event handling between Views inside this single Web Dynpro application. In this case we also archive better performance as server side events will be used and no additional roundtrip will be needed. For more details on building such application see

<https://www.sdn.sap.com/irj/sdn/go/portal/prtroot/docs/library/uuid/800b7206-9c6d-2910-f78e-ce4034716c56>

Still if you want to expose several IViews from one Web Dynpro application, you can use `ViewContainerUIElement` UI element defined in the root view of the application window. It will allow you to reuse all existing portal functionality to layout these iViews in different ways. As the iViews run with the same Web Dynpro application, you have on the server-side a tight integration between these. Instead of using portal eventing to communicate between these iViews you could use all Web Dynpro features like context-sharing. For more information on it see corresponding SDN document:

<https://www.sdn.sap.com/irj/sdn/go/portal/prtroot/docs/library/uuid/0c7b2f25-0c01-0010-f2a2-f8a65a9dcad9>

The other possible, but not recommended, workaround is - to run the Web Dynpro applications that are subscribed to the same event, as isolated iViews in portal page – in this case portal event mechanism will be used. This workaround is not recommended because of the big overhead: for each isolated Web Dynpro iView additionally will be created one iFrame, but also Page Builder instance.

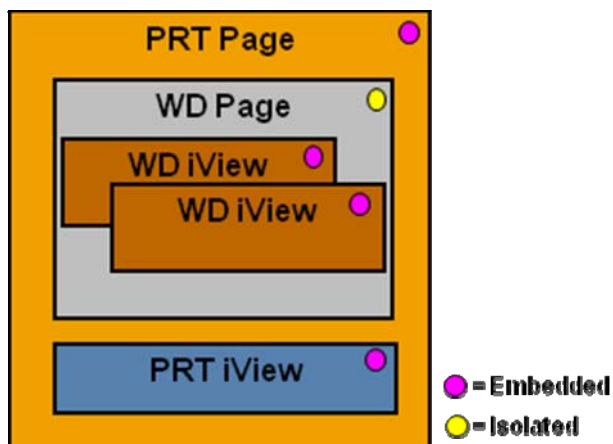
Note: The rule is to run Web Dynpro Page Builder content embedded on Web Dynpro Page. Also note it is also important who is the parent semantic of the WD page, or in other words in which framework page it is going to be executed. If you run this page under a WorkSet in the regular portal framework page then you need to set the WD page to be isolated (currently the editors changed this value when adding the WD page as delta link to the role/workset/prt page), and if this page is inside a WorkCenter and runs in the ByD framework page then it should be embedded (meaning do not change the default value).

Scenario 2: Running mix of Page Builder based Web Dynpro content and non-Web Dynpro content

You have both types of content: Page Builder based Web Dynpro content and non-Web Dynpro content that you want to run in SAP NW Portal.

Use Portal page if you have events between non-Web Dynpro IViews, and use isolation method "URL" for Web Dynpro iViews and "embedded" for portal content.

Note, that if you have no events between portal content, but between Web Dynpro Page Builder content – use Web Dynpro page and make Web Dynpro content embedded and gather your portal iViews into one PRT page isolated.



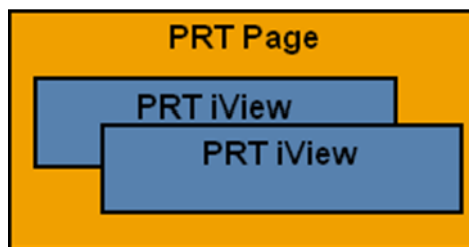
Picture 2 - Running Web Dynpro and non-Web Dynpro content isolated in Portal page

Events: If you have events between isolated iViews - use Portal page. Such events do not work in Web Dynpro page because each time Web Dynpro page is loading, all iFrames (that contain isolated iViews) are reloading, and all the subscriptions to any events are getting lost.

Note: Portal page with embedded Web Dynpro iViews – is not supported. Use Web Dynpro Page for embedded Web Dynpro Content. Use Portal page if you have events between isolated iViews.

Scenario 3: Running isolated iViews only

If you have only non-Web Dynpro and Web Dynpro content that can only run isolated (Web Dynpro ABAP, NW40 Web Dynpro iViews) content - DO NOT USE Web Dynpro Page, as usage of Web Dynpro Page causes a very big overhead: for each application not only one iFrame, but also one Web Dynpro Page builder instance will be created. In such scenario use Portal page - see picture 4.

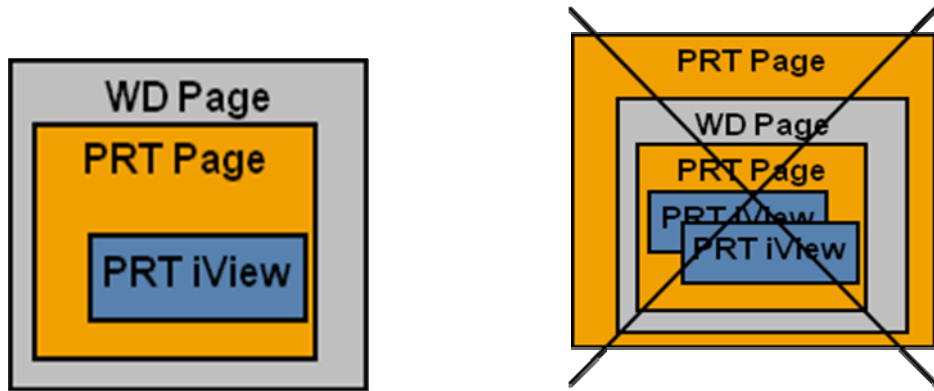


Picture 3 - Running non-Web Dynpro iViews in Portal page.

Events: Events will work for isolated iViews in Portal page, not in Web Dynpro Page.

Scenario 4: You need to use Portal content in Web Dynpro page

That is only needed if you have to use portal content together with Web Dynpro content in the Web Dynpro page. Let's say most of the content is Web Dynpro embedded iViews. Avoid mixing Portal pages/iViews with Web Dynpro Pages. If you really have to use such a combination you should strict it to ONE level of (mixture) hierarchy. See the picture below:



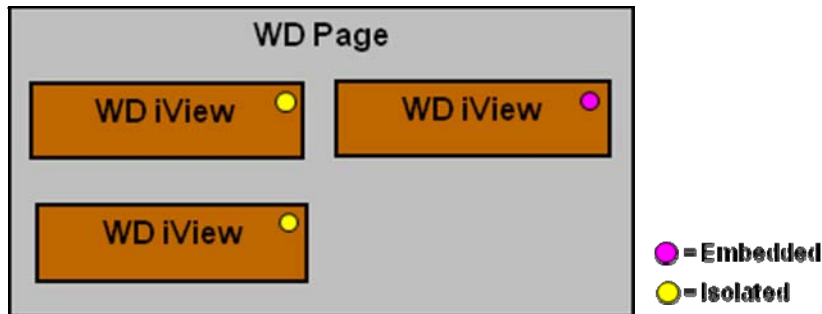
Picture 4 – Use only one level of hierarchy of mixing Portal and Web Dynpro Content

Note: If you have to add portal content to Web Dynpro Page, then do the following: at first, add your Web Dynpro Content to Web Dynpro Page as embedded. Then arrange all Portal content in one single Portal page and set the Portal Content inside of this to isolation method “embedded”. Then add this Portal page to Web Dynpro Page as isolated and also set property height to “AUTOMATIC”.

Scenario 5: Running NW04 Web Dynpro IViews

If you have only NW40 Web Dynpro IViews – use Portal page and run them as isolated IViews.

But if you want to include at least one embedded Web Dynpro application you can use Web Dynpro Page, just avoid using portal events between isolated iViews.



Picture 5 - Running Web Dynpro iViews isolated in Web Dynpro Page.

Events: Events will not work for isolated iViews in Web Dynpro Page. It happens because event fire causes server round trip which refreshes the entire Web Dynpro page and the iFrames with isolated iViews are reloaded and the event subscription is lost.

Summary

So the main rules described in this document are:

Run Web Dynpro Page Builder Content (7.0 and application pages) embedded on Web Dynpro Page.

Web Dynpro NW40 iViews can be run as isolated iViews (as URL) only.

Non-Web Dynpro Content or Web Dynpro ABAP can run in Web Dynpro Page only as isolated content (URL).

When Web Dynpro Page is reloaded then all isolated content (iFrames) on it is also reloaded. Therefore only state-less applications could run as isolated iViews in the Web Dynpro page. This also excludes applications using portal eventing.

Portal Eventing between isolated iViews works only in Portal Page.

If you have multiple embedded Web Dynpro applications on a Web Dynpro Page registered to the same event – combine these Web Dynpro applications into one new Web Dynpro Application, then Web Dynpro Eventing will be working inside of this Web Dynpro application, and the Web Dynpro runtime limitation for Portal eventing will be avoided.

After discussing the different scenarios in detail we would like to give a combinations overview:

Short description	Supported	Comment	Events work between iViews	Release
Web Dynpro Page with isolated non-Web Dynpro iViews only	yes	Not recommended. Big Overhead	yes	NW 7.0, NW CE 7.10
Web Dynpro Page with embedded Web Dynpro iViews only	yes	Recommended	With limitations	NW 7.0, NW CE 7.10
Web Dynpro Page with mix of isolated and embedded iViews	yes	Use carefully, see the recommendation in this document	no	NW 7.0, NW CE 7.10
Portal iViews in Web Dynpro Page	yes	Use max one level of (mixture) hierarchy		all
Portal Page with Web Dynpro iViews	yes	Use carefully, see the recommendation in this document	yes	all
More than one level of hierarchy	no	Do not use	-	-
Portal page with isolated iViews	yes	Recommended	yes	all
Portal page with embedded Web Dynpro iViews	no	Do not use	-	-
Web Dynpro Page with isolated Web Dynpro iViews only	Not recommended	Use only for NW 04 Web Dynpro iViews	yes	NW 7.0, NW CE 7.10

Related Content

For more information you may read the following documents:

Integrating Web Dynpro and SAP NetWeaver Portal:

<https://www.sdn.sap.com/irj/sdn/go/portal/prtroot/docs/library/uuid/0c7b2f25-0c01-0010-f2a2-f8a65a9dcad9>

Web Dynpro Component Interface Definitions In Practice:

<https://www.sdn.sap.com/irj/sdn/go/portal/prtroot/docs/library/uuid/800b7206-9c6d-2910-f78e-ce4034716c56>

Using Portal Eventing within a Web Dynpro Application:

<https://www.sdn.sap.com/irj/sdn/go/portal/prtroot/docs/library/uuid/a3c57e19-0d01-0010-ad8b-9edde6d1fae7>

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