BW Java and SAP NetWeaver Portal Integration
Application Integration or Federated Portal Network?

SAP NetWeaver Solution Management Rollout
SAP NetWeaver Regional Implementation Group
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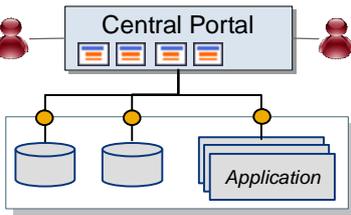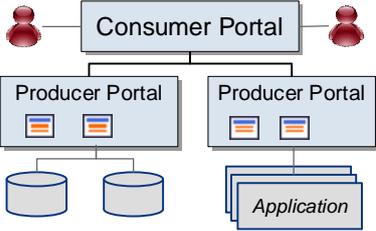THE BEST-RUN BUSINESSES RUN SAP™ **SAP**

Agenda

1. Integration Overview - BW Java + SAP NetWeaver Portal

2. General Recommendation: Application Integration

3. Reasonable Alternative: Federated Portal Network

4. Related Integration Topics

Portal Integration Overview

The SAP NetWeaver Portal integrates …

… Users worldwide	… Applications, information and services	… Content from different administration groups
End users access personalized central portal; optimized performance for remote locations	Connect to various backends and information sources → provide seemless access for end users	Support distributed content administration on separate portals & provide central end user access
→ Role-based access → Accelerated Application Delivery for SAP NetWeaver *(separate appliance)*	→ Application Integrator / iView templates	→ Federated Portal Network: Remote Role Assignment, Remote Delta Links, WSRP content sharing

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Within this slide the different integration capabilities of the SAP NetWeaver Portal are illustrated. The portal can integrate

- Users
- Applications, information and services
- And content from different administration groups i.e. other portals

Let's start with the left-hand side of this illustration: A portal can integrate different end users with different requirements regarding content, provided information, different look & feel etc. This happens through role based access which means the portal users see only the content that belongs to their role assignments. In case users are spread to different locations and performance over long distances becomes an issue, SAP NetWeaver provides a separate offering addressing this matter: Accelerated Application Delivery for SAP NetWeaver (short: AccAD). AccAD provides caching and compression mechanisms that optimize response times over wide area networks for web-based central applications such as an SAP NetWeaver Portal.

A portal is meant to be the entry point to various applications, information and services. You can connect various backends and information sources to the portal and provide seemless access for end users to them. This is a key capability of the product and available since the early days of the SAP NetWeaver Portal. You will most likely be familiar with this portal functionality through it's visualization within the portal content administration – there you have multiple iView templates based on which you can create iViews that integrate applications from other sources. These iView templates are based on a technological component called Application Integrator.

As a rather minor integration topic, the portal can integrate portal content such as portlets / iViews, pages, worksets or roles from other portals as well. This supports use cases where you want to create and maintain portal content on different portals e.g. due to organizational requirements and you want to provide a central access point for end users access nevertheless. For this purpose there are the tools of the federated portal network available. For SAP-SAP portal integration they are called Remote Role Assignment and Remote Delta Links, for integrating Non-SAP portlets content sharing over the standard Web Services for Remote Portlets (short: WSRP) is available.

The Best Landscape Layout For You is the One that is Most Appropriate

Be aware of:
- Different options often are contradicting alternatives
- Appropriate landscape layout: trade-off between different aspects

Approach for recommendations:
- Customer individual assessments
- SAP provides guidance

Categorization of deployment options

I. General Recommendation:
Best choice for majority of typical landscape use cases

Option I

Option II

Option III
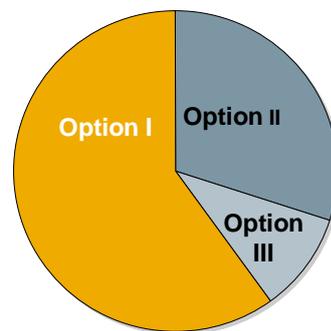
II. Reasonable Alternative:
Useful choice for certain use cases

III. Possible Exception:
Only useful for specific use cases (limitations might apply)

SAP aims to provide landscape recommendations in an aligned format as you can see it here.

In most cases alternative deployment options exist which provide different benefits. Not all the benefits can be achieved with same landscape layout, i.e. very often these options turn out to be contradicting alternatives. The appropriate landscape layout is a trade-off between different aspects e.g. flexibility and complexity. Thus the best landscape layout for you is always the one which is the most appropriate for your requirements.

The general approach for recommendations is that SAP cannot compensate customer individual assessments, but provides guidance by describing

- main general aspects to be considered and
- recommendations based on categorized deployment options

The deployment options are categorized in the following way:

- General Recommendation: This is the best choice for majority of typical landscape use cases. It is recommended by SAP's strategy and accepted by a wide base of customers.

- Reasonable Alternative: This can be a useful choice for certain use cases or customer scenarios. It is supported and confirmed by SAP's strategy.

- Possible Exception: This option is only useful for specific use cases. Nevertheless it is supported by SAP's strategy, but some limitations might occur.

We will use this schema in the following slides to go through some landscape considerations and recommendations in the context of integrating BI 7.x reports into an SAP NetWeaver Portal.

One Portal or Multiple Portals?

I. Recommended: One Portal

■ Central administration, monitoring, access point

II. Reasonable Alternative: Multiple Portals

■ Organizational requirements
■ Security requirements
■ Availability requirements
■ Version requirements }
■ Load requirements   } Important for BW Java
■ User requirements

Standard case for BW Java & SAP NetWeaver Portal Recommended

If you decide to operate multiple (productive) portals, then decide based on the requirements on the **level of integration**:

■ Application Integration
■ Federated Portal Network
■ None

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In most portal deployments it is recommended to set up just one portal within the infrastructure in order to have just one place for centrally administration, monitoring and as the central access point for end users.

When talking about BW Java the situation is slightly different due to the nature of this usage type: BW Java includes the usage type Enterprise Portal as well and thus reuses existing portal functionality. It is generally recommended to separate your central SAP NetWeaver BW Java and your central SAP NetWeaver Portal due to 2 major reasons:

■ Version requirements: different SPS / releases for different applications – in most cases your BW infrastructure and your portal infrastructure have different owners with own requirements regarding upgrading and version of the landscape.

■ Load requirements: functional load balancing, not all resource-intense applications on 1 server – both BW and a full-fleged portal implementation might be quite large causing a lot of load. Separate installations help to avoid any dependencies or overalapping resource requirements on peak times.

Other reasons for setting up multiple portals, but usually less relevant in the BW Java case, might be:

■ Organizational requirements: separate authorities demand separate own servers
■ Security requirements: different servers in different DMZ
■ Availability requirements: different backup / downtime etc. cycles:
■ User requirements: totally different user groups with no content overlaps

If you decide to operate multiple (productive) portals, then decide based on the requirements on the level of integration:

■ Application Integration: separate applications to different servers, but not content admin
■ Federated Portal Network: distribute portal content and integrate end user access
■ None: keep servers, content and end user access separate

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Use Cases: Application Integration or Federated Portal Network?

Major indicator: Where should portal content be administrated?

General Recommendation:
Centrally in one portal
↳ Application Integrator

Resonable Alternative:
Distributed in different portals
↳ Federated Portal Network
(RRA or RDL)

Use Case: BW Java report integration

- BW authors only create reports
  Portal administrators create iViews for reports with properties, navigation structure etc.
  ↳ **Application Integrator**

- BW authors create reports, iViews and basic navigation structure
  Portal administrators create overall navigation + embed content and structure from BI
  ↳ **Federated Portal Network (RRA or RDL)**

In order to help you to decide whether you should use Application Integrator or Federated Portal Network to integrate your BW Java content with your central portal, here is some guidance. The major indicator is the answer to the question: Where should portal content be administrated (i.e. create iViews, pages, navigation …) ? The answers can be:

- Centrally in one portal ↳ use Application Integrator: create iViews based on templates in central portal

- Distributed in different portals ↳ use Federated Portal Network: create iViews etc. on separate producer portal, integrate into central portal. Here you have different modes available depending on what you would like to do - Remote Role Assignment or Remote Delta Links. A more detailed explanation on these terms will follow within a few slides.

The general recommendation that should be suitable for a large majority of customers is the central creation of portal content within one portal and thus using Application Integrator. A reasonable alternative only for the very specific use case of distributed content sharing is FPN.

For BW Java report integration specifically this means that you have 2 options:

- Most likely: BI authors just create reports. Portal administrators create in their own portal system iViews that will integrate the reports similar to any other application integrated into the portal. The portal admins are responsible for the whole portal content including navigation structure, page layout and properties, user – role assignment etc. → in this case the Application Integrator is the integration technology of choice.

- For a minority of customers another scenario might be interesting: BW authors not only create the reports, but the iViews and related page and navigation structure as well in their own environment. The portal administrators are just supposed to reuse this content as-is and embed this into their navigation structure → here the Federated Portal Network with different content sharing methods is a suitable integration option.
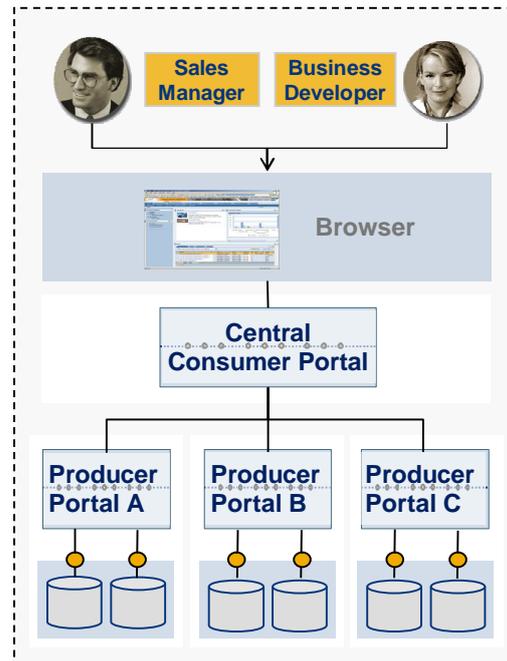
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2. **General Recommendation: Application Integration**
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How to integrate everything into 1 portal? Application Integration

Use iView Templates to integrate applications into portal iViews

- **Application Integration**
- **Remote Application Integration**

Concepts will be harmonized

iViews

Application Integrator

AS ABAP   AS Java   EP   **BW Java**
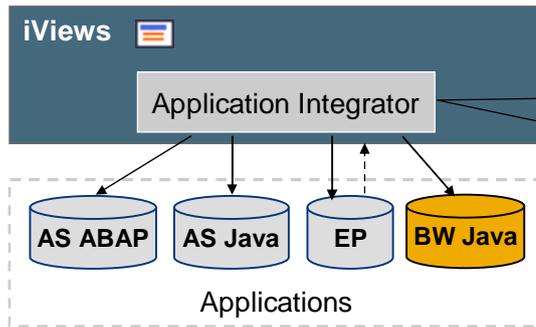
Applications

Note 1140854 Integrate remote BI 7.X reports into central portal with AI [≥ SAP NetWeaver 7.0 SPS 13]

As said in the first introductory slides, the Application Integrator will most likely be familiar to you through the various iView templates that are available within the SAP NetWeaver Portal.

At the moment, there are slightly different flavours available for application integration options:

- Application Integration: redirect to application, simple URL generation (no communication between the servers), for all web applications
- Remote Application Integration: deep integration of application and portal content possible (context awareness), especially for portal application integration, e.g. Web Dynpro Java applications
- Mid term (upcoming Enhancement Packages of SAP NetWeaver): concepts will be aligned and harmonized, it will be transparent for customers which technology is underlying

For BW Java integration cases specifically, this means that the standard Application Integrator can be used in order to create BW Java iViews. This is detailed more in note 1140854 including the minimum SPS from which on this integration with Application Integrator works. Remote Application Integration will be just relevant in case you have already set up a FPN landscape with consumers and producers and would like to reuse this definition, but create iViews on top of it – thus just a very limited use case.

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Federated Portal Network

Seemless access for end users to content located on different portals (SAP and non-SAP)

Benefits of FPN as portal content sharing option

- Content persisted once - accessed from other locations
- Different content sharing modes suitable for different administrative setups
- For connected portals FPN handles centrally
  - Session Management
  - Eventing
  - Themes
  - Languages …
  [also supported by Application Integrator approach]

Sales Manager
Business Developer
Browser
Central Consumer Portal
Producer Portal A
Producer Portal B
Producer Portal C

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With the tools of the federated portal network, you can configure a portal to be a consumer portal, which links to portal content residing on other producer portals. Producer portals run applications and contain portal content, that can be reused by linking to it. Quite simply spoken, you can compare the functionality provided by FPN with an enhanced way of URL linking between different portals.

You can now provide one central access point for end users which seemlessly accesses portal content – e.g. portlets / iViews, pages, worksets, roles - residing on multiple portals (SAP as well as Non-SAP portals).

FPN provides the benefit that you can persist and maintain the content in one portal, but access it through other portals as well. Moreover, you can decide depending on your use case and scenario, which content sharing mode is most suitable for integrating content from remote into your local content offering. FPN handles some essential services centrally:

- Session Management – of course, when you log off from your central consumer portal, all connected sessions for producer portals should be closed as well.

- Eventing – iViews residing on remote portals might have some interaction defined with other iViews. If you integrate content via FPN, these functionalities will still be able to run as desired.

- Themes & Languages – when displaying content from remote, all content should be rendered seemlessly for the end user into one common user experience. Thus the theme and the language setting of the consumer portal should applied to content coming from remote portals as well (however, the theme has to be available too in the producer portal to render the content correctly)

By the way: of course those considerations like session management, proper eventing, apply themes and languages and so on are available when integrating applications through the Application Integrator as well.

FPN – Content Sharing

Focus on Portal Content Integration

Distributed content administration with Federated Portal Network, visual integration for end users

- Remote Role Assignment (RRA)
- Remote Delta Links (RDL)

For Integration of Non-SAP portals:

- WSRP content sharing

Producer | **Consumer**

Admin effort

role — RRA

role — RDL
workset
page

iView — RDL

Admin effort
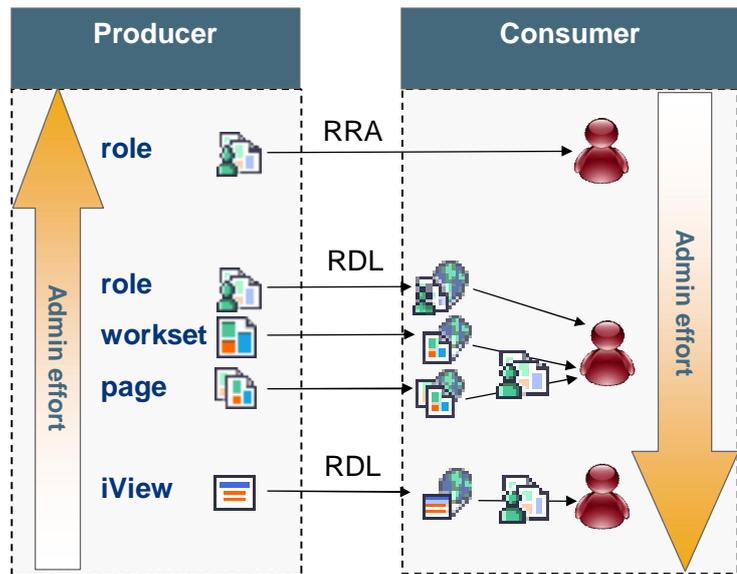
Without going into the specific details of the Federated Portal Network, let me shortly highlight here which means you have in order to integrate remote portal content into a central SAP NetWeaver Portal. As said before, FPN really purely focuses on use cases where you want to have a distributed portal content administration on different portals and provide a central entry point for the end users.

In case both portals are from SAP NetWeaver, there are 2 flavours for sharing the content:

- Remote Role Assignment: here you can create and maintain all portal content on the producer portal, and on the central consumer portal the administrator just has to assign this remote role to users. There are no other content administration activities required on the consumer side.

- Remote Delta Links: with this option you rather have a mixed content administration, meaning that certain portal content, e.g. iViews, pages and worksets are defined on the producer portal. However, other parts of the content, e.g. the full navigation structure and role is created on the consumer portal and thus deeply integrated into the local offering.

In case you would like to integrate portlets from Non-SAP Portals, SAP NetWeaver supports the standard web services for remote portlets, with which you can reuse those remote portlets in your central SAP NetWeaver Portal. Then you can create your whole portal content structure on top of this remote content.

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User Persistence

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Users on the consumer portal must also exist in the user store utilized by the producer portal

Logon tickets used for authentication → **User IDs must be identical**

Recommended: Single user store serving all portal installations

Alternatively:

- Distributed user stores with exact duplication
- Distributed user stores with partial duplication

SAP NetWeaver Producer Portal

ABAP User Store

FPN

SAP NetWeaver Consumer Portal

Central User Store (e.g. LDAP)
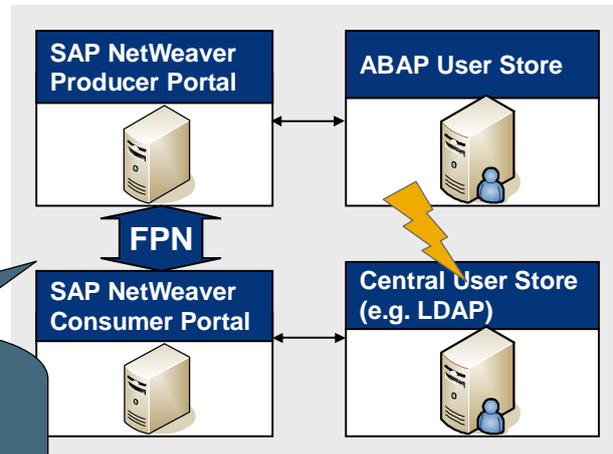
Typical case:
- *BI Portal (Producer) – ABAP user store*
- *Central Portal (Consumer) – LDAP*
Limitation: Remote Role Assignment to groups not possible
For other content sharing options at least user ids have to be identical

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There's one FPN consideration pretty frequently observed in the BW Java integration scenarios, thus I outline it here more in detail.

Because in FPN a URL redirect is based on SAP Logon Ticket authentication, the User IDs have to be the same in all federated portals. In case you have to use distributed user stores, please be aware that some restrictions exist → see central FPN note 880482.

This happens typically in the case where the BI Portal (the producer) has an ABAP user store and the central SAP NetWeaver Portal uses an LDAP-based user persistence. In this case this will lead to the limitation that Remote Role Assignment to user groups does not work. In case you would like to use Remote Role Assignment to individual users or you would like to share content via Remote Delta Links, at least the user ids in the different user stores have to be identical.

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Knowledge Management

Recommended:
KM runs on the centralportal only

Integrate KM iViews via ... or

Connect remote KM repositories via WebDAV to central portal

SAP NetWeaver Consumer Portal
KM

SAP NetWeaver Producer Portal

SAP NetWeaver Producer Portal
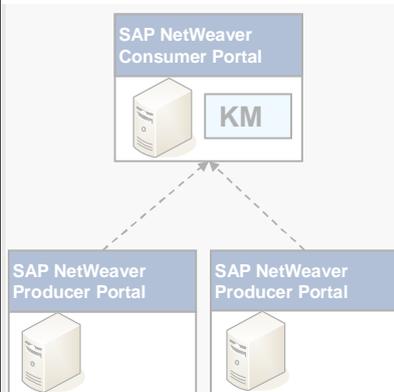
All KM features available on the consumer

RRA / RDL

SAP NetWeaver Producer Portal
KM

SAP NetWeaver Producer Portal
KM
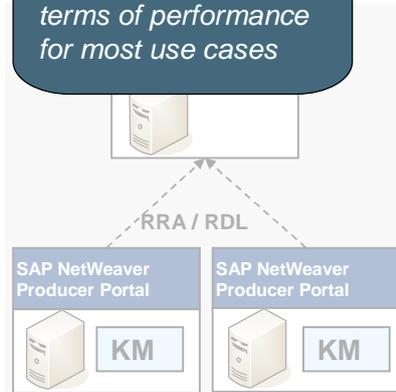
Some KM features not available on consumer e.g.
- taxonomies
- subscriptions & workflows
- search restricted to „Federated Quick Search"

SAP NetWeaver Consumer Portal
KM

WebDAV protocoll

SAP NetWeaver Producer Portal
WebDAV rep.

SAP NetWeaver Producer Portal
WebDAV rep.

Some KM features have to be maintained on consumer e.g.
- **taxonomies**
- **subscriptions & workflows**

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In order to use all capabilities provided by Knowledge Management, the recommended solution would be to use KM only on one portal in the federation. This could be the central consumer portal or alternatively one of the producer portals. Then all features, like versioning, taxonomies, approval workflows, subscriptions, template-based publishing … will be available in this portal.

In case KM has to be federated to different producer portals, KM iViews (e.g. Document iViews, Navigation iViews) could be integrated with the content sharing modes provided by FPN. However, this is not a deep integration, because only a redirect to the remotely located iViews is performed. The services themselves, like taxonomies, will not be available in the consumer portal.

For a deeper integration on repository level instead of iView-level, the remote repositories could be connected to the consumer via the WebDAV protocol (World Wide Web Distributed Authoring and Versioning – protocol for asynchronous document management). Then the KM services, like subscriptions can be configured and used on the consumer. Those services cannot be shared via the protocol either, but have to be configured in all portals where they are required.

For the BW specific case it is the most common and recommended set up is to connect your remote KM repositories via WebDAV to your central portal. This is described more in detail in note 969040 where the different KM integration options are depicted.

Online Links: Bookmarks and Information Broadcasting

Entry Point for BW Reports

http://help.sap.com/saphelp_nw70/helpdata/EN/54/3d754067025537e10000000a155 0b0/frameset.htm

Entry point for information from BW in KM folder *Home → Documents*

Performance optimization for WebDAV access to this personal repository ≥ SAP NetWeaver 7.0 SPS 14

BW Broadcasting / Bookmarking Links Generation

Note 1149597 & 1227195

→ generate URL for central (consumer) portal instead of BW Portal directly

Two more frequently asked questions with regards to KM features within BW Java are described here.

The entry point for information from BW is by default in the KM folder *Home → Documents*. In early versions of SAP NetWeaver 7.0, there were performance issues observed in accessing this folder in case a large number of home folders existed. This WebDAV based access to the personal repository has been performance-optimized in SAP NetWeaver 7.0 SPS 14 and above.

In case you create links to BW Broadcasting reports or you create booksmarks to certain reports, of course you would like to obtain link from the central portal and not from the BW portal itself. The users will most likely be not aware that there is a separate BW portal and have no user credentials to log-in there. In order to let the system generate the correct links, 2 notes explain which system parameters have to be set accordingly.

Thank you!

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