KANBAN on the Internet (PP-KAB-CRL)

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KANBAN on the Internet (PP-KAB-CRL)

Use

KANBAN is a particular method of production and material flow based on a backward linking principle of operations in production. The replenishment or the production of a material is only triggered when a higher production level actually requires the material.

In KANBAN, the signal for material replenishment can be triggered, for example, by the work center that requires the material who sends a card to the work center responsible for manufacturing the material. This card describes which material is required, the quantity of the material required and where the material is to be delivered. The name kanban originally stems from these cards which are called "kanban" in Japanese.

A further advantage of the KANBAN method of production is that replenishment data is transferred automatically, that is, the employee in production only has to scan the bar code to pass on all the necessary data for replenishment as well as for posting the goods receipt when the material is delivered.

Using the Internet Application Component *KANBAN*, the supplier can access information on empty containers directly in the Internet. Therefore, this type of replenishment processing is an alternative to sending the supplier the kanban (card) or giving the suppliers kanbans for the empty containers on delivery of the requested containers, for example. The supplier can also confirm planned deliveries directly in the Internet.

Type of Internet Application Component

Business-to-Business

Offering your suppliers the Internet Application Component *KANBAN* provides you with the following advantages:

- The supplier always has an up-to-date overview of available stocks in the relevant control cycles and can see at a glance which product has to be delivered. The supplier can also see the delivery quantities in this same view in the Internet.

- Your suppliers can monitor your product stocks, create the pool for delivery and confirm delivery quantities round the clock and these functions are available worldwide.

- The structure of the Internet environment is simple and the layout can also be adjusted to suit the business requirements of the particular supplier. The supplier requires no previous R/3 knowledge.

Prerequisites

Authorizations/Security

The user responsible for monitoring and replenishing product stocks requires the following authorizations:

Authorization object	Description
F_LFA1_APP	Creditor: application component

Internet User

To start the Internet Application Component, the following preconditions must be fulfilled:

- A supplier (vendor) master record must have been created for the supplier in the customer's R/3 System.

- The supplier requires an Internet user master record for the user type *BUS1008* as well as a password in the customer's R/3 System.

Using transaction SU05, you can create, change and delete passwords for Internet users. To specifically identify users, enter the object type KNA1 as well as the number of the SAP user master record or the customer number.

Standard Settings and Default Values

In the customer's system, the data required for KANBAN with replenishment strategy *external procurement* must be maintained. This includes control cycles, corresponding replenishment strategies, info records, contracts / scheduling agreements and so on.

⚠️

> Control cycles that have a replenishment strategy with control type 5 (process using source list) are not taken into account.

Features

Differences from the R/3 Transaction

The Internet Application Component is a specially tailored supply source view of the kanban board for processing by the supplier.

The following differences exist between the R/3 standard transaction (kanban board: supply source view) and the Internet application component:

- In the Internet Application Component, the control cycles can be grouped online according to various criteria. The supplier can also create a delivery due list and s/he can also directly confirm this list. The supplier receives an overview of the successful or the unsuccessful postings as a result.

- In the Internet Application Component, the status of the kanbans can only be set to IN PROCESS. More statuses are available in the R/3 transaction.

Modification Options

You can enhance the data displayed from the control cycle for the Internet Application Component *KANBAN*. To do this, you must make slight changes to the transactions delivered in the standard system.

⚠️

> Every change to the R/3 development objects used in the Internet Application Component is regarded as a modification.

> Therefore, do not in any circumstances change the development objects of the standard system. Instead, copy the necessary programs and templates to your own objects in the customer name range.

Four tables are issued in this Internet Application Component. In each table (program-internal), more fields are available than are displayed in the standard Internet version. To display the other fields from the table in the Internet Application Component, you must include the table field as well as the corresponding template in the steploop of the accompanying screen - as has been done for the fields already displayed.

For the table in the frame	Variable name of Table	Screen	Template
Kanbans	LIST1	1101	SAPMMPKW_1101
Pool for delivery	LIST2	1102	SAPMMPKW_1102
Successfully posted in customer's system	LIST5	1201	SAPMMPKW_1201
Not posted in the customer's system	LIST6	1202	SAPMMPKW_1202

R/3 Development Objects

In the R/3 System, the data exchange via the Internet is carried out using transactions and function modules. For KANBAN in the Internet, the following development objects are required:

Development class:	MDW2
Transaction:	PKW1
Module pool:	SAPMMPKW
Function group:	MPKW
Function module:	BAPI_KANBAN_GETLISTFORSUPPLIER
	BAPI_KANBAN_SETINPROCESS
	BAPI_CREDITOR_CHECKPASSWORD

Data Output via the Internet Transaction Server

Data output is carried out using the Internet Transaction Server (ITS). Here, the data is mixed with the output forms and made available for the Internet/intranet in FTML format.

The output forms are in the subdirectory IWWW of the directory TEMPLATES. The following forms are used:

SAPMMPKW_100.HTML

SAPMMPKW_110.HTML

SAPMMPKW_120.HTML

SAPMMPKW_1001.HTML

SAPMMPKW_1101.HTML

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SAPMMPKW_1102.HTML

SAPMMPKW_1103.HTML

SAPMMPKW_1104.HTML

SAPMMPKW_1201.HTML

SAPMMPKW_1202.HTML

SAPMMPKW_1999.HTML

PKW1_D.HTRC

PKW1_E.HTRC

The numbers in the names of the forms correspond to the R/3 screen numbers.

Service Name

The service name of this Internet Application Component is PKW1. You can find all the relevant data under this service name in the SAP@Web Studio.

KANBAN in the Internet (PP-KAB-CRL)

Use

The KANBAN method for controlling production and material flow is based on a backward chaining of operations in production. Replenishment or production of a material is only triggered when a production level actually requires the material.

In KANBAN, material replenishment can be triggered, for example, by the work center that requires the material sending a card to the vendor responsible for manufacturing the material. This card describes which material is required, the quantity of the material required and where the material is to be delivered. The name KANBAN originally stems from these cards, which are called "kanban" in Japanese.

A further advantage of KANBAN is that the replenishment data can be automatically transmitted. In other words, the bar code reading is enough to transmit the data necessary for procurement and to post goods receipt on receiving the materials.

Using the Internet application component KANBAN, the vendor can request information about empty containers directly over the Internet. This type of replenishment transmission is an alternative to sending the vendor the kanban (i.e. the card) or giving the vendor kanbans for empty containers, if he or she delivers the requested containers. In addition, the vendor can confirm planned deliveries directly over the Internet.

For further information on KANBAN see PP - KANBAN [Ext.]

For further information on Internet application components see R/3 Internet Application Components [Ext.]

Internet Application Component Type

Business-to-Business

If, as a customer, you want to offer a vendor company the Internet application component KANBAN, you will have the following advantages:

- The vendor has a clear overview of the product stock in all relevant control cycles and can determine which quantities of which products must be delivered. The vendor can also send notification of delivery quantities directly via the Internet from the same view.

- The evaluation of your product stock with the vendor, the compilation of the delivery due lists and the confirmation of the delivery quantities can all take place at any time of day, and are available all over the world.

- The Internet application is constructed simply and the layout can be adjusted to suit the vendor's company requirements. The vendor does not require any R/3 knowledge.

Prerequisites

Authorization/Security

The user, who is to check and refill the product stock, must have authorization for access to the following data:

Authorization object	Description
F_LFA1_APP	Creditor Application authorization

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Internet User

To begin the application component in the Internet, the following prerequisites are necessary:

- The vendor must be entered in the vendor master of the SAP customer system.

- The vendor requires an Internet user master record of user type *BUS1008* and a password in the SAP customer system.

Using transaction SU05 you can create, change and delete passwords for Internet users. To clearly identify the vendor, enter the object type *BUS1008* next to the vendor number.

Standard Settings and Pre-assigned Data

In the customer system the data necessary for KANBAN with replenishment strategy "external procurement" must be maintained. This includes control cycles, corresponding replenishment strategies, purchasing info records, contracts or scheduling agreements.

⚠️

> Control cycles with a replenishment strategy with control type 5 ("Processing via source list") are not included.

Features

Differences with the R/3 Transaction

The Internet application component is a specific view of the kanban board, tailor-made for the vendor's requirements.

The following differences exist between the R/3 standard transaction (kanban board: supply source at vendor) and the Internet application component:

- In the Internet application component the control cycles can be put together online according to various criteria. In addition the vendor can compile a delivery due list and confirm it directly. As a result of the confirmation, the vendor receives an overview of successful or faulty postings.

- In the Internet application component the status of the kanbans can only be set to "IN PROCESS". In the R/3 transaction other statuses are available.

Options for Adjustment

For the Internet application component *KANBAN* you can expand the data, which is displayed from the control cycle. To do so the standard transaction must be adjusted slightly.

⚠️

> Every change to R/3 development objects, which are used for the Internet application component, is counted as a modification.

> The development objects in the standard system must not be changed. Instead, copy the necessary programs and templates in your own objects in the customer name range.

In the Internet application component there are four tables. In each table there are more program-internal fields available than are displayed in the standard version in the Internet. In order to display further fields in the tables in the Internet application component, you must add

the table field corresponding to those table fields already displayed in the step loop of the relevant screen and the relevant template.

For the table in the frame	Variable name of table	Screen	Template
Kanbans	LIST1	1101	SAPMMPKW_1101
Delivery due list, creating	LIST2	1102	SAPMMPKW_1102
Successfully updated in customer system	LIST5	1201	SAPMMPKW_1201
Not updated in customer system	LIST6	1202	SAPMMPKW_1202

R/3 Development objects

The data exchange over the Internet takes place on R/3 pages via transactions and function modules. The following development objects are necessary for KANBAN in the Internet:

Development class:	MDW2
Transaction:	PKW1
Module pool:	SAPMMPKW
Function group:	MPKW
Function modules:	BAPI_Kanban_GETLISTFORSUPPLIER
	BAPI_Kanban_SETINPROCESS
	BAPI_CREDITOR_CHECKPASSWORD

Data Output via the Internet Transaction Server

Data output takes place using the Internet Transaction Server. Here, the data is mixed with output forms and made available to the Internet/Intranet in HTML format.

The output forms can be found in the subdirectory PKW1 in the TEMPLATES directory. The following forms are used:

SAPMMPKW_100.HTML

SAPMMPKW_110.HTML

SAPMMPKW_120.HTML

SAPMMPKW_1001.HTML

SAPMMPKW_1101.HTML

SAPMMPKW_1102.HTML

SAPMMPKW_1103.HTML

SAPMMPKW_1104.HTML

SAPMMPKW_1201.HTML

SAPMMPKW_1202.HTML

SAPMMPKW_1999.HTML

PKW1_D.HTRC

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PKW1_E.HTRC

The figures in the names of the forms correspond to the appropriate R/3 screen numbers.

Service Name

The service name of this Internet application component is PKW1. Under this service name in the SAP@Web Studio you can find all the appropriate files.

Process Flow

If you use the Internet application component *KANBAN*, the following process is available:

Display the Relevant Control Cycle Data

After logging on the vendor receives an overview of all control cycles for which he or she must deliver materials. This overview contains the following data per control cycle in the standard system:

- Material number

    The system either displays the customer system's material number or the vendor's material number. To display the vendor's material number, this must be maintained in the purchasing info record or in the contract or scheduling agreement.

- Supply area

    In the supply area, the material is prepared that has to be available directly on the line or at the work center. The supply area is therefore right in the production.

- Number of containers (kanbans) per control cycle

    The SAP system defines a specific number of containers to circulate per control cycle. This number of containers is displayed here.

- The container quantity (= quantity per kanban)

    The SAP system defines the quantity for a container, per control cycle. This quantity is displayed here.

- Number of empty containers per control cycle

    Here, the vendor can see the number of containers, which have been set to "EMPTY" and which he is therefore to deliver.

- Number of kanbans to be delivered

    In this field the vendor can enter, per control cycle, the number of kanbans that he is to deliver.

Restricting the Control Cycle Display

After log on, all control cycles are displayed, for which the vendor is responsible. To limit the number of control cycles displayed, the following selection criteria are offered on the right hand side of the screen.

- Material number

    If a material number is entered, only the control cycles for the material entered are displayed.

- Plant

    If a plant is entered, only the control cycles for the plant entered are displayed.

- Supply area

    If a supply area is entered, only the control cycles for the supply area entered are displayed.

Process Flow

- Indicator "only empty containers"

    If this indicator is set, only the control cycles with empty containers are displayed.

Create the Delivery Due List

The vendor compiles his delivery due list on the basis of this overview. First of all, he notes the number of containers that he is to deliver, per control cycle, and then he creates the delivery due list. The system creates the delivery due list from all control cycle rows, in which a delivery quantity was entered in the last field of the control cycle row.

The system displays the delivery due list in a separate area of the screen.

Supply area

The vendor can confirm this delivery due list to the customer. With confirmation, all kanbans from the delivery due list in the customer system are automatically provided with the status "IN PROCESS".

If the delivery due list is confirmed, the vendor receives another window, in which the kanbans posted (and if applicable those not posted) in the customer system are listed. In this way, the vendor knows immediately whether errors have occurred on posting in the customer system or whether the posting has been successful.