19. Using SAP Time-Based Resources in Work Centers and PDC

Produmex Manufacturing is a legacy product and Boyum IT Solutions no longer sells new installations for it.

Produmex Manufacturing supports the cost calculation of SAP time-based resources the Time per Resource Unit of which is set as 1:00:00 (hour) or 00:01:00 (minute) or 00:00:01 (second). The resources can be configured in *Resource Master Data* and they are supported in work centers and in PDC.

19.1. Configuring SAP Time-based Resources

1. Run SAP B1 as administrator and start the Produmex Manufacturing add-on.

2. Make sure that you **remove SRF files** by navigating to:
Tools >Produmex Manufacturing>SRF File Management>Remove SRF Files.



3. Open *Resource Master Data* and fill in the (4) **Unit of Measure Text** and (5) **Time per Resource Units** fields, then (6) configure the **Resource Std Cost** values as follows.

4. The **Unit of Measure Text** is a text field the value of which depends on the value of the **Time per Resource Units** field. Its value can be:

- h (for hour) or
- m (for minute) or
- s (for second).

5. The value of the **Time per Resource Units** field is exactly 1 and needs to be set as follows:

- 1:00:00 (hourly based) or
- 0:01:00 (per-minute) or
- 0:00:01 (per-second).

6. Configure the **Resource Std Cost** values on the *General* tab. This way, when the resource consumption is issued to the production orders, SAP calculates the actual journal entry and its cost values.



19.2. Defining SAP Time-based Resources for Work Centers

and Work Center Features

19.2.1. Work Centers

1. To define a time-based resource for a work center, open *Work Centers*.

2. Fill in the **SAP Resource** field. To provide the necessary data, you can enter the code of the resource or click on the circle in the field and you will see the available time-based resources appearing in the *List of Resources* window.



3. The *List of Resources* displays the following data:

- Resource Code
- Resource Name
- Unit of Measure: *h*, *m* or *s* (defined in *Resource Master Data*)
- Number of Resource Units: its value is always 1.
- Time Per Resource Unit: its value is displayed in seconds.

Select a time-based resource and click OK.



4. If you click on the golden arrow in the **SAP Resource** field, the *Resource Master Data* window will pop up so that you can easily check the settings of the selected resource.



19.2.2. Work Center/Resource Features

It is possible to define an SAP time-based resource for a work center feature, which means that **the selected SAP time-based resource will be defined for all the work centers belonging to the selected work center feature**.

1. To define an SAP-time based resource for a work center feature, open *Resource Features*.

2. Enter the code of the resource to the **SAP Resource** column or click on the circle in the field and you will see the available time-based resources appearing in the *List of Resources* window.



3. The *List of Resources* displays the same data as in the case of section *3.1 Work Centers*.

- Resource Code
- Resource Name

- Unit of Measure: *h*, *m* or *s* (defined in *Resource Master Data*)
- Number of Resource Units: its value is always 1.
- Time Per Resource Unit: its value is displayed in seconds.

Select a time-based resource and click OK.



4. The selected time-based resource will appear in the **SAP Resource** column. To save the changes click OK.



19.2.3. Resource Features level vs Work Center level

The selected SAP time-based resource will be the default setting for all the work centers belonging to the selected work center feature, however, it is possible to define a different SAP time-based resource for a work center belonging to this particular work center feature.

> Please note that in this case the SAP time-based resource will be defined on the work center level overwriting the previously defined default feature level.

1. Select a work center feature, then click on `Resources`.

2. In the appearing *List of Work Centers window* click on the golden arrow of the work center for which you want to define a different SAP time-based resource.



At this point the system displays the *Work Center* window where you can define a different SAP time-based resource in the SAP Resource field.

3. Enter the code of the resource or click on the circle in the field and you will see the available time-based resources appearing in the *List of Resources* window.

4. Select the resource, click `Choose` and then save the changes by clicking `Update` on the *Work Center* window.



19.3. SAP Time-based Resources and PDC

19.3.1. Configuration before using PDC

1. Please make sure that you configure SAP time-based resources to the **warehouses** used in the production order operation lines.

Example
When an operation line has B52 as warehouse in the production order line, B52 must be enabled for the resource assigned to the Work Center, which is linked to the PDC booking of the operation.

This way the system works in multi-warehouse and multi-branch systems as well since the Resource inherits the warehouse from the operation line.

If multiple work centers/operations use the same resource in a production order, PDC creates only one resource line in the production order based on the warehouse of the first operation. Any subsequent PDC bookings are applied against this resource line irrespective of the warehouses.

If you want to apply a specific warehouse for a resource, add the resource line manually to the production order upfront, via the BOM, for example, and then the system will use this particular resource line.

2. Likewise, it is very important that the **GL Account Determination** is correctly configured for SAP resources.

19.3.2. PDC Administration

PDC Administration screen can be used to redo inventory transactions to fix the errors in case it may happen during the PDC process. The user can modify the machine duration, but it does not enforce the re-execution of the resource issuing transactions. If you want to change values, it can be easily done directly in the SAP B1 Production Order screen: (partial) revoke or additional resource issue. You do not necessarily need to automate this process, you can simply use the SAP standard tools. What this integration feature does is the regular process. Whenever setup or job times (machine duration) is reported on PDC, the system automatically issues the corresponding resource quantities.

19.3.3. PDC and Production Order

Whenever a PDC booking is done, Produmex PDC Processor issues Resource consumption transaction to the production order, too, if the work center or its feature has any associated SAP resource. A PDC booking is always connected to an operation and a work center. The time value is calculated and converted to hours, minutes or seconds as defined for the resource. If the resource has not been added to the production order, PDC Processor automatically adds a resource line to the end of the

production order via DI API.



As a result, the SAP resources do not have to be added to the production order upfront. Instead, **the resources are added automatically by the PDC Processor** as the workers are reporting their work hours. Whenever an issue resource transaction is automatically created by the PDC Processor, the details (work center, employee, PDC booking code, operation, date time of the finished work, duration of the job) of the corresponding PDC booking are entered into the remarks field of the transaction.



19.3.4. Selecting Co-workers in PDC

The *Selecting Co-workers* function makes it possible for employees to select co-workers in PDC to work in the same work center on the same job.

> Please note that there is **no validation** in the function, that is, the users can also select themselves as co-workers in the list and report more work hours than they have actually worked. Using a validation process is possible and recommended in the system, for example by creating customized user queries.

In case an SAP time-based resource is needed for them to perform the job (for example a machine), the cost calculation of the used resource will be based on the **total time** that the employee and the selected co-workers spend working on the job.

The function is optional and it is available in the *Production Data Collector* module where co-workers can be selected with the help of the *Co-workers* field.



In case the necessary resources (for example the co-workers and the machine) are time-based resources, make sure that you configure them in *Resource Master Data*.

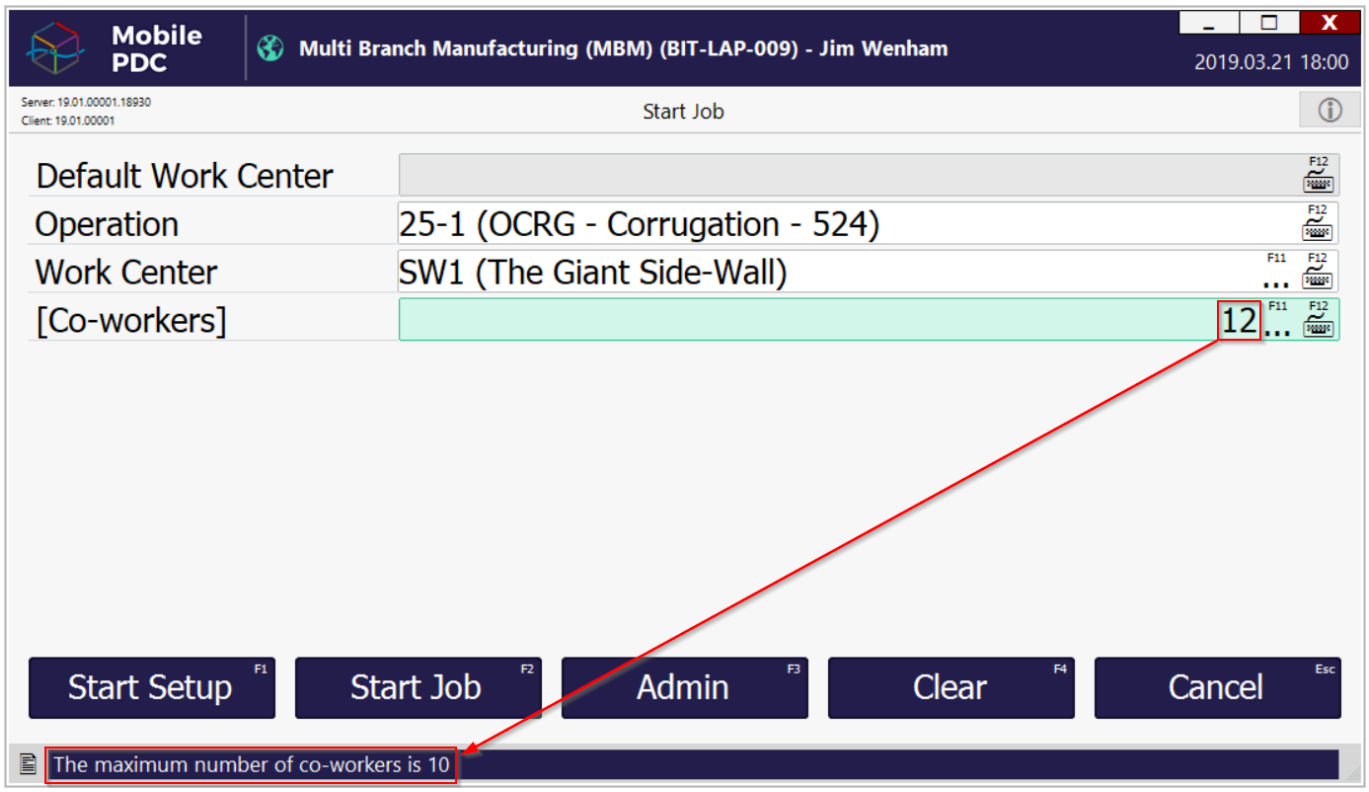
Besides, it is important to configure the Maximum number of co-workers for PDC setting, otherwise the *Co-workers field* is disabled.

19.3.4.1. Selecting Co-workers in PDC

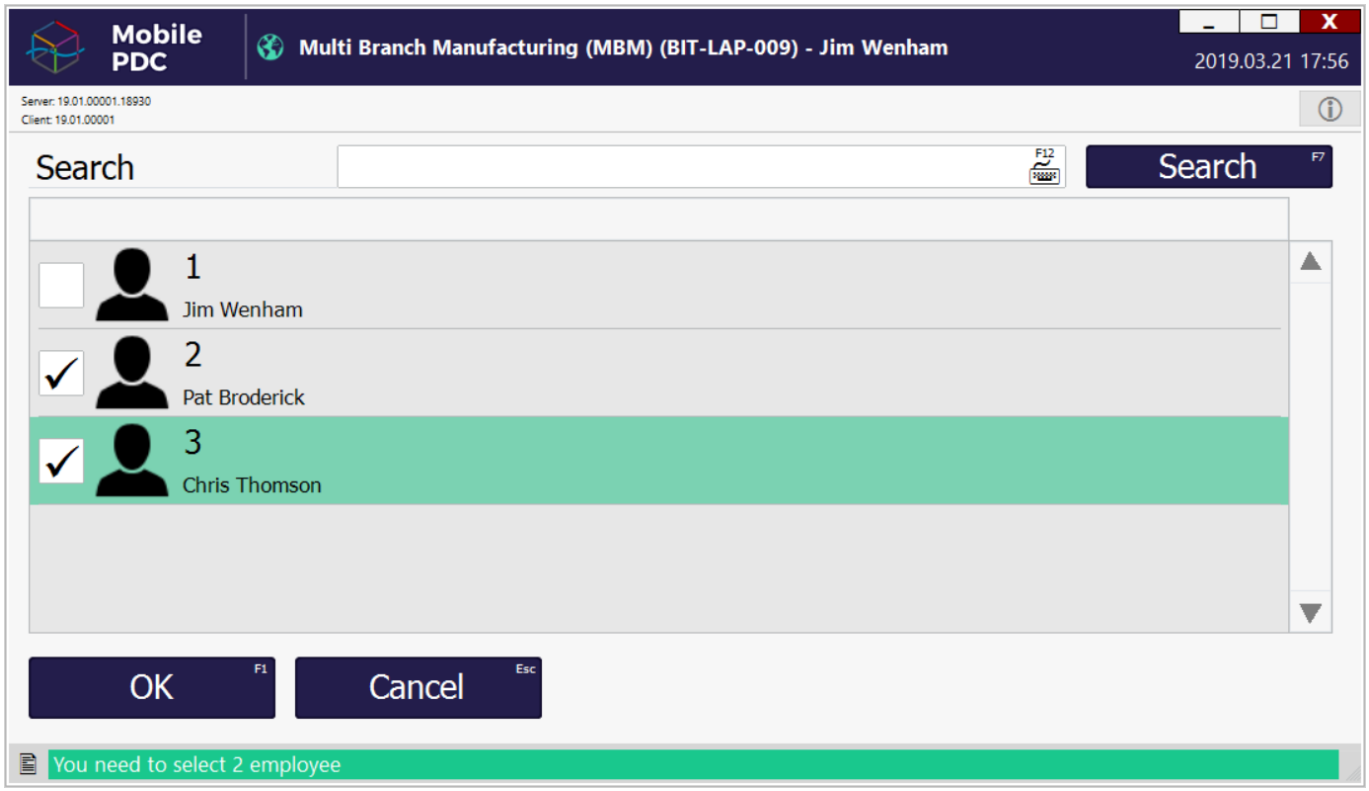
The following section describes the selection of co-workers step by step:

1. The number of co-workers needs to be provided in the *Co-workers* field of the *Production Data Collector* modul.

In case the provided value is higher than the maximum number of co-workers defined by the *Maximum number of co-workers for PDC* setting, the system displays the maximum number of workers and the selection of the co-workers is not allowed:



2. Upon clicking **…** or pressing F11, a list of employees is displayed and the co-workers can be selected by ticking the boxes.



3. After clicking OK, the job can be started.

Hereinafter, PDC displays the duration of the job while the *Production Order* window lists the Resources and shows the total time the employee and the co-workers have spent working on the same job with the same time-based resource. In this case the cost calculation of the used resource will be based on the total time.

Example
In this example an employee has selected 2 co-workers and now the 3 of them are working on the same job with the same time-based resource, a workbench.
The reported duration in PDC is 4 minutes, which means that so far the 3 workers has worked 12 minutes altogether.
At this point the *Production Order* shows the total time of 12 mins in the *Issued column*. When the workers finish the job, the total time in the *Issued column* will be the cost calculation base for the workbench.

19.3.4.2. Checking Co-workers

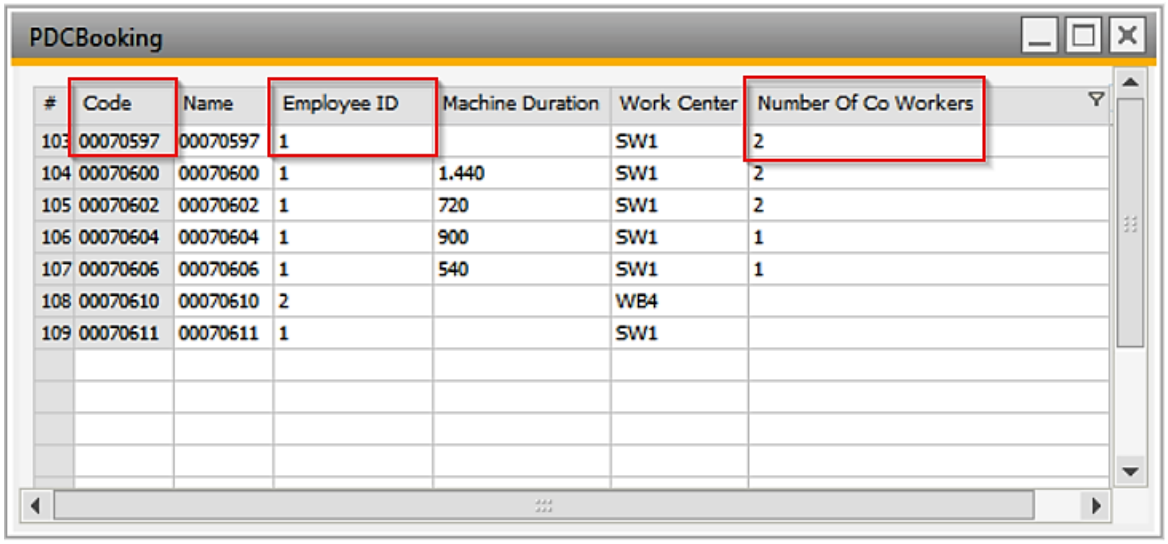
PDC and the *Production Order* window do not provide detailed information about co-workers. If information is needed, open the (1) *PDC Booking* and (2) *PDC Co-Workers* user-defined windows.

(1) **PDC Booking**

Path: Tools > User-Defined Windows > BXPPDCBOOKING / PDCBooking

In the *PDC Booking* window you can check how many employees work with the same booking code.

The *Code* column shows the booking code, the *Employee ID* column shows the employee who has started the job while the *Number of Co-workers* column displays the number of co-workers the employee has selected in PDC.



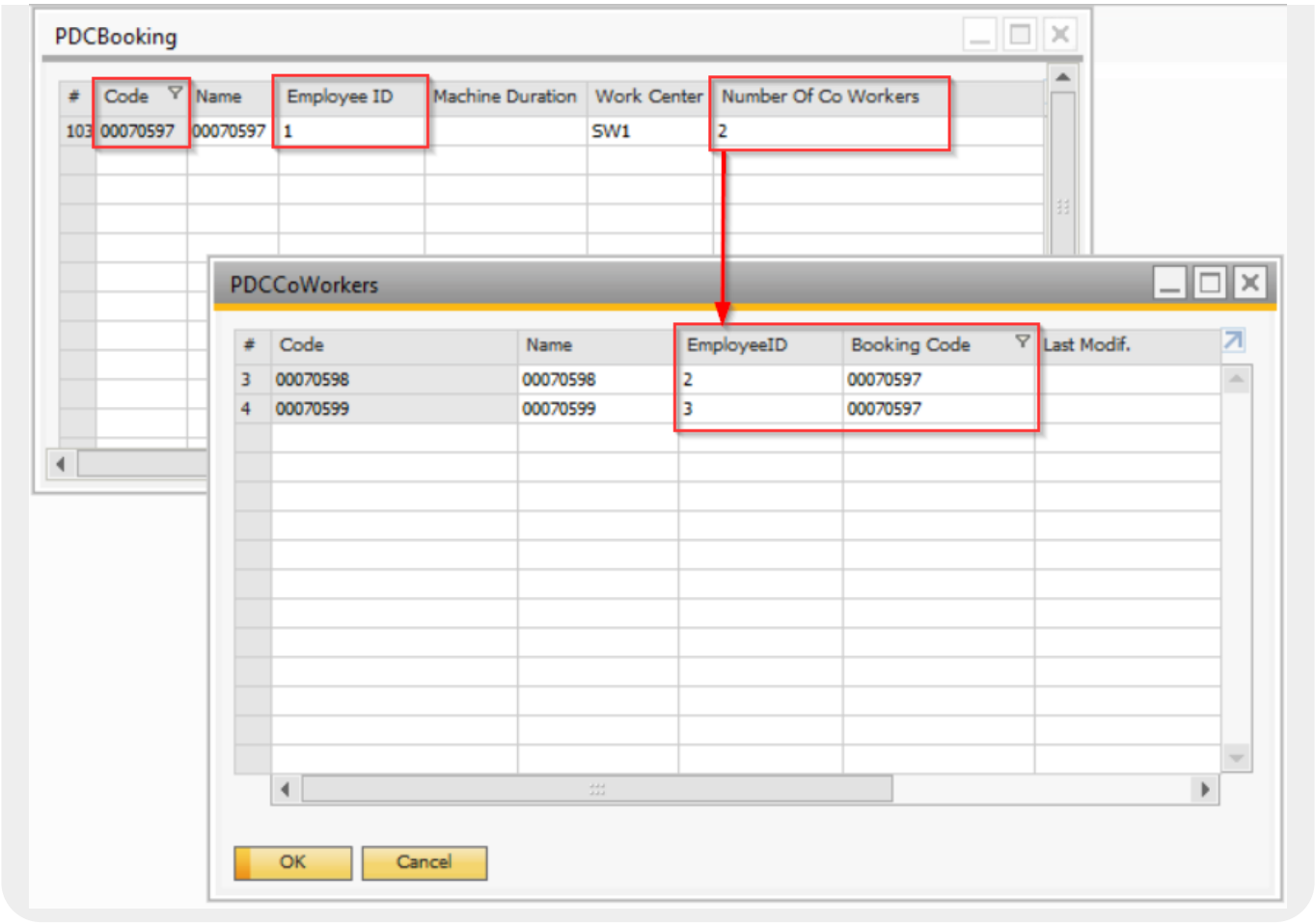
#	Code	Name	Employee ID	Machine Duration	Work Center	Number Of Co Workers
103	00070597	00070597	1		SW1	2
104	00070600	00070600	1	1.440	SW1	2
105	00070602	00070602	1	720	SW1	2
106	00070604	00070604	1	900	SW1	1
107	00070606	00070606	1	540	SW1	1
108	00070610	00070610	2		WB4	
109	00070611	00070611	1		SW1	

(2) **PDC Co-Workers**

Path: Tools > User-Defined Windows > BXPPDCCOWORKERS /PDCCoWorkers

In the *Number of Co-workers* window you can check the booking code and the related co-workers in the *Employee ID* column.

Example 1
In this example the *PDC Booking* window shows that altogether 3 employees work with booking code 00070597: the employee with employee ID 1 has started the job and selected 2 co-workers. The *PDC Co-Workers* window shows that the 2 co-workers working with this particular booking code are workers with employee ID 2 and 3.



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Last update: **2021/04/20 09:21**