

Microsoft Dynamics™ NAV 5.0

Jobs

Technical White Paper

This paper provides a conceptual overview of the Jobs application area in Microsoft Dynamics NAV 5.0 and describes the fundamental changes made in 5.0 compared to the existing functionality in previous versions of Navision.

The paper is intended for technical and sales professionals who support, implement or customize the product.

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Introduction

The new jobs module in Microsoft Dynamics™ NAV 5.0 has been improved in several ways:

- The budgeting structure is completely redesigned
- Job tasks are now mandatory
- Usage and contract (sale) can now handle fixed price projects when users separate amounts in the schedule (Budget)
- A job-sales invoice can only be issued from contract lines; this feature eliminates the problems involved in applying sales to usage and remaining amounts.
- Users can choose between five different methods to calculate the value of Work in Progress (WIP) and the methods supporting the IAS standards.

Additionally, Job Task Lines have replaced the old budget line and added a sub layer of Planning Lines, which are divided in two parts: a schedule line and a contract line. Only contract lines can be invoiced.

Figure 1 is a schematic overview that shows how the elements in jobs relate and how data flows between the elements.

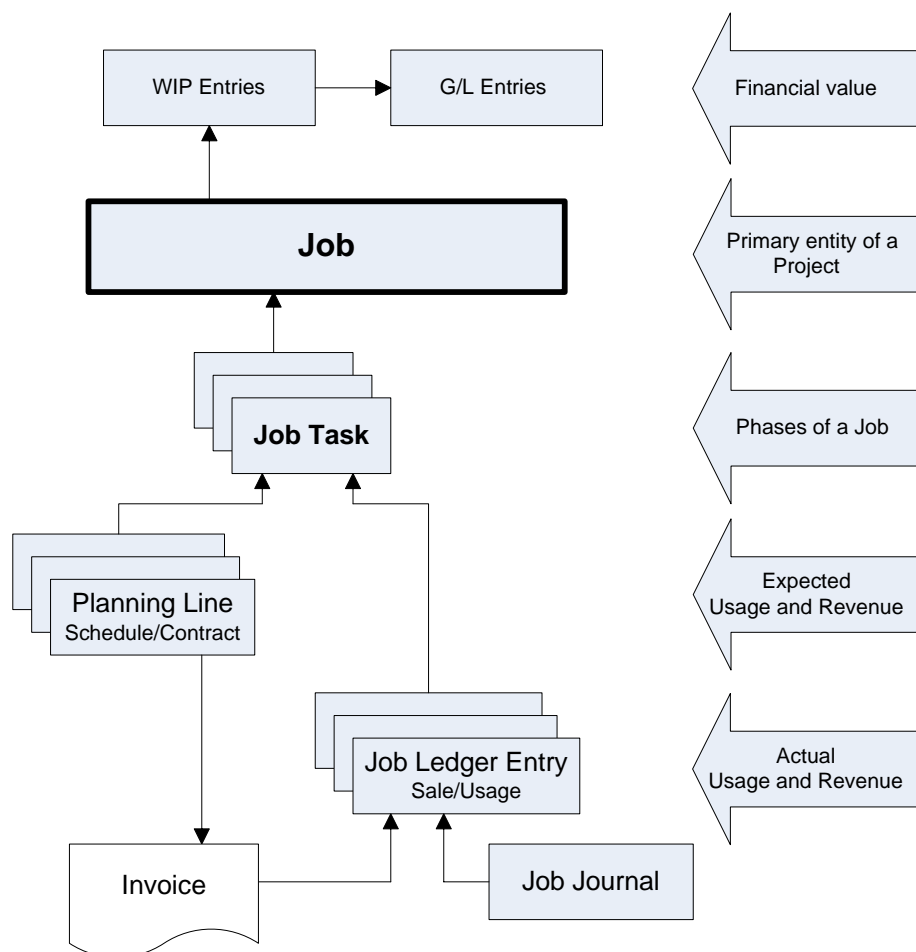


Figure 1

New Budget Structure

Existing structure

The current job planning options offered with Granule 4520 Job Budgeting and 4530 Phase, Task, Steps in Navision 4.0 and earlier versions were unusable, particularly in a fixed price job environment. It was necessary to address a number of issues, especially in relation to the existing planning functionality:

- **The Job Budget form required too many fields to be entered in a specific order. If the following fields were not entered, you received a rename record message upon leaving a field:**
 - Phase Code
 - Task Code
 - Step Code
 - Type
 - No.
 - Starting Date
- **There was no simple job activity hierarchy with Phase, Tasks and Steps. It was very manual and time consuming to set up a new job with a budget structure that differed based on a company's projects.**
- **There was no form showing a real-time comparison of actual and budgeted sales and costs for the job. The only form available was the jobs statistics form which showed budgeted and actual cost and sales amounts broken down to Resource, Item, G/L Account and Total columns. However, the actual (realized) amounts and budgeted amounts were on different tabs so no comparison was possible. In addition, there was no real indication of how the amounts were calculated or where they came from.**
- **The existing job functionality, by default, supported time and materials projects with minimal planning needs.**
- **Prices for specific work types could be set up and entered when recording usage or invoicing a job. You could only budget prices that were either item, customer or job specific and not work type specific. As a result, the actual vs. budget analysis was misleading.**

New Structure

To enable better planning and to provide an overview of the actual and planned costs, sales amounts and invoice amounts for a job, the following new functionality has been introduced in Microsoft Dynamics NAV 5.0:

- **a simple basis for planning the activities for both time and materials and fixed price jobs**
- **an easy way of entering and updating cost and sales budget estimates for job activities**
- **a clear method of planning the contract amount is now independent of the sales value of the work to be performed, and independent of the usage on the job.**

The improved project planning window – Job Tasks Lines – is shown in Figure 2 below:

Job Task No.	Description	Job Task Type	WIP-Total	Totaling	Job Posting Group	Schedule (Total Cost)	Schedule (Total Price)	Usage (Total Cost)	Usage (Total Price)	Contract (Total Cost)	Contract (Total Price)
1000	Setting up Eight Work Areas	Begin-Total									
1100	Preliminary Services	Begin-Total									
1110	Determining Specifications	Posting			SETTING UP	107,80	214,00	107,80	214,00		
1120	Selecting Furnishings	Posting			SETTING UP	107,80	214,00	107,80	214,00		
1130	Obtaining Customer Approval	Posting			SETTING UP	107,80	214,00	121,28	240,75	323,40	642,00
1190	Total Preliminary Services	End-Total		1100..1190		323,40	642,00	336,88	668,75	323,40	642,00
1200	Assembling the Furniture etc.	Begin-Total									
1210	Assembling the Furniture etc.	Posting			SETTING UP	11.000,10	17.337,00			11.000,10	17.337,00
1290	Total Assembling the Furniture	End-Total		1200..1290		11.000,10	17.337,00			11.000,10	17.337,00
1300	Closing the Job	Begin-Total									
1310	Meeting with the Customer	Posting			SETTING UP	107,80	214,00			107,80	214,00
1390	Total Closing the Job	End-Total		1300..1390		107,80	214,00			107,80	214,00
9990	Total Setting up Eight Work Areas	End-Total		1000..9990		11.431,30	18.193,00	336,88	668,75	11.431,30	18.193,00

Figure 2

Eight different amount categories are introduced:

- **Schedule Amounts (Cost and Price)**
- **Contract Amounts (Cost and Price)**
- **Usage Amounts (Cost and Price)**
- **Contract (Invoiced Cost and Invoiced Price) Amount**

Each amount has a drill down to the relevant detailed information.

Schedule (Cost and Price) Amounts

Schedule amounts are the expected cost and sales value of the job tasks in the planning phase of the project.

Contract (Cost and Price) Amounts

Contract (Price Amount) is the amount you have agreed with the customer that he should pay for the job task. Introducing the Contract Amount enables you to handle fixed prices for different parts of the project. If the customer has agreed to pay by actual usage it can still be achieved since contract amounts can be created automatically when a job usage entry is posted or after posting by copying the posted ledger entry to a planning line.

The Contract Cost amount is the amount of cost that will be posted to the customer ledger entries and posted sales lines when the sales invoice is posted.

Usage (Cost and Price) Amounts

Usage Cost Amounts are the actual posted cost value for the tasks. The Usage Sales price is the estimated sales value of the usage that has been posted using the established prices at the time of posting.

Contract (Invoiced Cost and Invoiced Price) Amount

The sales and costs amount that has actually been invoiced to the customer.

Job Tasks and Planning Lines

The formerly used Phase, Task, and Step have now been replaced in Microsoft Dynamics NAV 5.0 by Tasks. Users can set up the job Tasks almost like the chart of accounts in Financial Management. Job planning in Microsoft Dynamics™ NAV 5.0 consists of two layers. The first layer, Job Task Lines, is

mandatory, otherwise posting to the job is not possible. The second layer, Planning Lines, specifies the detailed use of resources, items, and various G/L expenses and the planned dates for when they will be used and/or invoiced.

Figure 3 shows a schematic overview of how planning lines relate to job tasks.

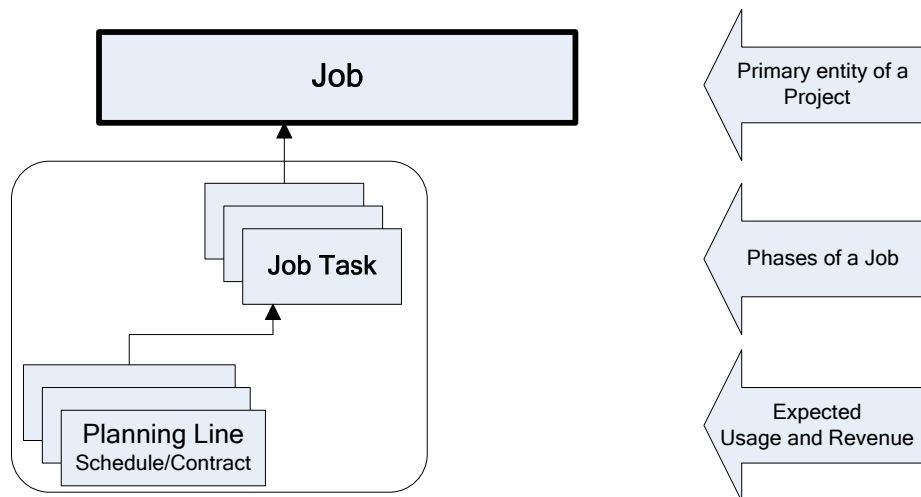


Figure 3

In Microsoft Dynamics NAV 5.0, the project manager will schedule the expected consumption and sales in Planning Lines. For each job task, planning lines describe the expected consumption of items, resources and other costs. Planning lines also show whether the planned consumption is going to be invoiced or not.

Planning Line Types

With the introduction of planning line types, users can now plan and invoice fixed price projects. The Line Type field in the Job Planning List specifies the type of planning line with the following options:

- **Schedule:** The planning line contains expected usage for the job that will not be invoiced to the customer. You use this option if the customer will be invoiced from a different planning line (of type Contract or Both Schedule or Contract), or if the expected usage for this planning line is not chargeable.
- **Contract:** The planning line specifies an amount that should be invoiced to the customer, but no usage relates to the line. You use this option if no schedule of usage has been planned for the job, or if the expected usage for the job has been specified on different planning lines (of type Schedule).
- **Both Schedule and Contract:** The planning line contains expected usage for the job that should be invoiced to the customer. You use this option if the scheduled usage equals what you want to charge your customer.

Job Journal

With Microsoft Dynamics NAV 5.0 the job journal is now integrated with item ledger and item tracking, and users can create matching planning lines when posting job journal lines. The program can also suggest job journal lines based on posted usage and job planning line quantities.

A new Job G/L Journal has been created to simultaneously post the usage of G/L expenses in a job to both the G/L and job ledgers.

Item Tracking In Jobs

In the new Microsoft Dynamics NAV 5.0 Jobs module a new field is added to make item tracking possible.

When items with serial or lot numbers are purchased for a job or consumed from stock, the system will drag the item tracking number into the Job ledger entries. Then it is possible to track the item by the standard item tracking function.

Item tracking information can now be entered in the job journal in a similar way to how it is entered in other areas of Microsoft Dynamics NAV 5.0 e.g. Sales Orders and Purchase Orders.

Job Ledger Improvements

Job Ledger postings that also result in postings to the item ledger, resource ledger or General Ledger will record the matching Ledger type and entry number on the job ledger entry for easier traceability. The costs in the job ledger entry for items can be updated to match the costs in the matching item ledger entry. This enables the job to reflect up to date costs after the Adjust Cost - Item Entries batch job has been run.

Changed Job Invoicing Process

Invoicing a Job

To create an invoice for a job, you send the contract lines you wish to invoice from the job to a sales invoice document (either new or existing). Once transferred, the matching planning lines cannot be edited unless the matching sales line is removed from the invoice. This ensures that you cannot create invoices that are not reflected in the planning lines for the job. It also enables you to create sales invoice lines that are totally unrelated to your usage in the job.

This differs from the previous method of invoicing where you could only suggest sales invoice lines based on a combination of usage and what has been invoiced previously. The previous method also relied on your applying sales and usage which was in most cases manual and time consuming if not applied correctly.

Issuing a Credit Memo for a Job

In Microsoft Dynamics NAV 4.0 it was sufficient to issue a credit note and add the job number, in Microsoft Dynamics NAV 5.0 credit notes can only be issued from a job planning line of type Contract. This is to ensure that the job planning is always updated to reflect the correct planned invoice/credit memo lines for the job prior to posting of sales invoices and credit memos.

Changed WIP and Recognition Calculation

Prior to Microsoft Dynamics™ NAV 5.0, you could only record WIP and Recognition based on the actual usage and invoice amounts posted and not on the work remaining to be completed. In addition, you could only post to WIP and then recognize the costs. It was not possible to recalculate or repost if you made an error in the entries included in the calculation.

In Microsoft Dynamics™ NAV 5.0, the calculation of Work in Process (WIP) is considerably facilitated:

- You can select from five different methods for calculating WIP.
- You can recalculate WIP and Recognition as many times as you like prior to posting and also reverse the previous posting and post a new calculation for the same entries if you wish.
- Multiple posting groups can be used in a single job allowing you to have detailed WIP and Recognition postings in the G/L for items, resources and G/L expenses.
- The WIP and Recognition calculation now includes actual usage, invoiced sales amounts, expected total costs (Schedule (Total Costs)) and expected sales value (Contract (Total Price)) to determine the WIP and Recognition amounts required by international accounting standards

Figure 4 *WIP posting* shows a schematic overview of how WIP is calculated and posted as WIP entries and subsequently posted to the G/L.

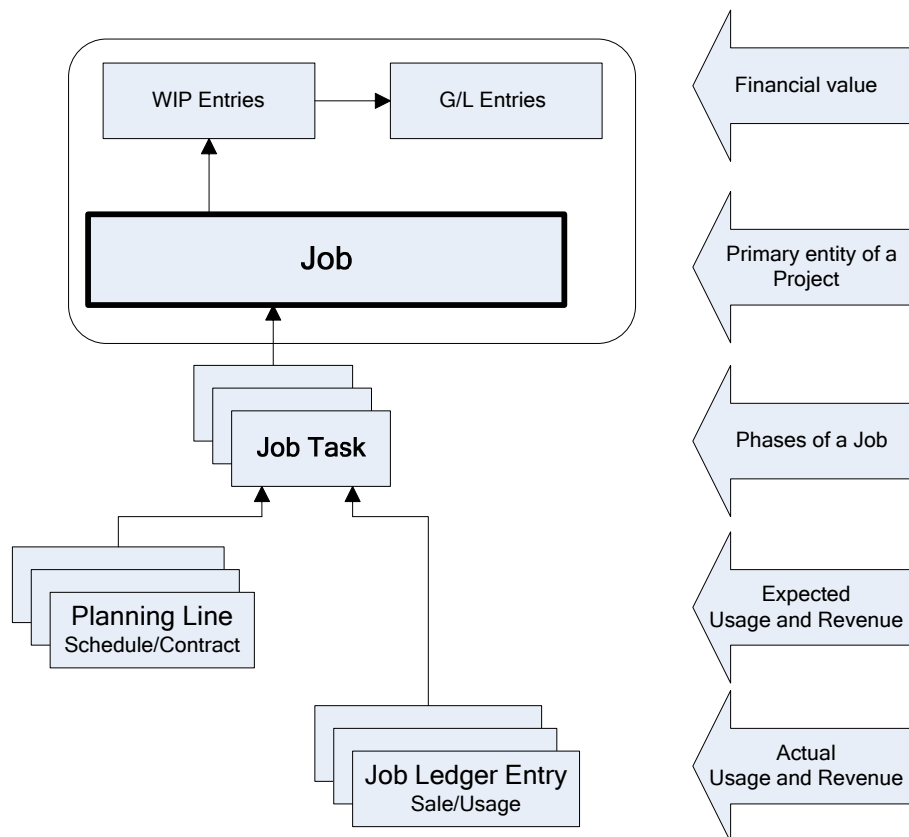


Figure 4 *WIP posting*

WIP and Recognition Methods

Work In Process (WIP) is the way to estimate the financial value of jobs in the General Ledger during the progress of the job. When a user does not post WIP, it means that the General Ledger will show expenses and revenue when they occur. In many cases, there is a time span between posting of the

expenses for the job and the revenue (invoicing) of the job. During the progress of a job where only expenses have been posted, the financial statement of the company will be inaccurate. Calculating and posting Work In Progress can help eliminate such inaccuracy.

A user can calculate Work In Process based on the following, depending on the user's selection in the WIP calculation field:

- **Cost Value**
- **Sales Value**
- **Recognizable Cost**
- **Percentage of Completion**
- **Completed Contract**

Cost Value

Cost Value calculates WIP Amount because the contract value of the posted usage costs less than the estimated invoiced contract. Using this method means that the revenue and profit (or loss) of the job will be recognized when the job is invoiced to the customer.

If the WIP Amount is positive, the WIP will be posted to an asset account. If the WIP Amount is negative, the amount will be posted to a liability account as an accrued expense.

The WIP is calculated using the following formula:

- **WIP Amount for Cost Value Method =**
$$\text{Usage (Total Cost)} * \text{Contract (Total Price)} \div \text{Schedule (Total Price)} - \text{Schedule (Total Cost)} \div \text{Schedule (Total Price)} * \text{Contract (Invoiced Price)}$$
- **WIP Cost Amount =**
 - Usage (Total Cost) if WIP Amount is Positive
 - Usage (Total Cost) –WIP Amount if WIP Amount is negative.
- **Recognized Costs = Usage (Total Cost) –WIP Amount**
- **Accrued Cost Amount = WIP Amount if WIP amount is negative**
- **WIP Sales Amount = Contract (Invoiced Price)**
- **Recognized Sales Amount = Contract (Invoiced Price)**

Sales Value

Sales Value calculates WIP as the contract value of the price of job usage. Using this method means that the revenue and profit (or loss) of the job will be recognized when the job usage is posted and recognized.

The WIP Sales Amount is always posted to a liability (unearned revenue) account. If the WIP Amount is positive, the WIP amount will be registered to an asset account as accrued revenue.

The WIP is calculated using the following formula:

- **WIP Amount for Sales Value Method =**
$$\text{Usage (Total Price)} * \text{Contract (Total Price)} \div \text{Schedule (Total Price)} - \text{Contract (Invoiced)}$$
- **WIP Sales Amount =**
 - Contract (Invoiced Price), if WIP Amount is negative

- Contract (Invoiced Price) + WIP Amount, if WIP Amount is positive
- **Recognized Sales Amount = Contract (Invoiced Price) + WIP Amount**
- **Accrued Sales Amount = WIP Amount, if WIP amount is positive**
- **WIP Cost Amount = Usage (Total Cost)**
- **Recognized Costs = Usage (Total Cost)**

Cost of Sales

Cost of Sales calculates WIP Amount as the cost value of posted consumption (job ledger entries) less the job's estimated cost value of consumption, based on the invoiced percentage of the contract. Using this method means that the revenue and profit (or loss) of the job will be recognized when the job is invoiced to the customer. This method adopts an approach similar to how Inventory costs are not recognized as Cost of Goods Sold until the item is actually sold.

The WIP Cost Amount is always posted to an asset account. If the WIP Amount is negative, the WIP amount will be accrued to a liability account as an accrued expense.

The WIP is calculated with the following formula:

- **WIP Amount for Cost of Sales Method =**
Usage (Total Cost) – Contract (Invoiced Price) ÷ Contract (Total Price) * Schedule (Total Cost)
- **WIP Cost Amount =**
 - Usage (Total Cost), if WIP Amount is Positive
 - Usage (Total Cost) – WIP Amount, if WIP Amount is negative.
- **Recognized Costs =**
Contract (Invoiced Price) ÷ Contract (Total Price) * Schedule (Total Cost)
- **Accrued Cost Amount = WIP Amount, if WIP amount is negative**
- **WIP Sales Amount = Contract (Invoiced Price)**
- **Recognized Sales Amount = Contract (Invoiced Price)**

Percentage of Completion

Percentage of Completion calculates WIP as the contractual value (sales value) of actual usage cost value (job ledger entries), measured by cost value of expected usage (your budget). Using this method means that the revenue and profit (or loss) of the job will be recognized as the job costs are incurred and recognized. The Percentage of Completion method is recommended by some international accounting standards.

For this method, the WIP Amount is always posted to the WIP Accrued Sales account (an asset account), while the value of the Contract (Invoiced Price) will be posted to the WIP Invoiced Sales account (as opposed to the asset or liability account).

The WIP is calculated using the following formula:

- **WIP Calculation for Percentage of Completion Method =**
WIP Amount in Job Task – Invoiced Sales Amount in Job Task
- **WIP Amount in Job Task =**
Usage Total Cost ÷ Schedule (Total Cost) * Contract (Total Price)
- **Invoiced Sales Amount = Contract (Invoiced Price)**

- **WIP Sales Amount = WIP Amount**
- **Recognized Sales Amount = WIP Amount**
- **WIP Cost Amount = Usage (Total Cost)**
- **Recognized Costs = Usage (Total Cost)**

Completed Contract

With the Completed Contract method, revenue and costs are not recognized until the job is complete. Users may choose this method if they are uncertain about estimated costs and revenue for the job. The Completed Contract method is an alternative, recommended by some international accounting standards.

All usage is posted to the WIP Costs Account (asset) and all invoiced sales are posted to the WIP Invoiced Sales Account (liability) until the job is complete.

The WIP is calculated using the following formula:

- **WIP Amount =**
WIP Cost Amount = Usage (Total Cost) until the job is complete. When the job is complete, the WIP Cost amount is 0 and the Recognized Cost Amount becomes the Usage (Total Cost).
- **WIP Sales Amount =**
Contract (Invoiced Price) until the job is complete. When the job is complete, the Invoiced Sales Amount is 0 and the Recognized Sales Amount becomes the Contract (Invoiced Price).

Excluding a Job Task from WIP Calculation

When a user runs large jobs over a long period of time, it can be advantageous to exclude some of the Job Tasks from the WIP calculation. For example, one of the early tasks went out of budget, and the company and customer make a compromise on who is going to pay for the excess. The user can exclude this task from the WIP calculation to avoid carrying the task's poor result through the whole job.

Job Specific Prices

You can set up specific prices for items and resources for a job. These prices can be thought of as a contracted price list for the job which override any standard prices set up for the customer that would apply if the sale was not for a job. If you do not set up job prices, the standard customer price mechanisms for items and resources apply.

You can also set up job specific prices for G/L account expenses. This allows you to set up standard prices for charging fees such as road tolls or travel costs back to the job customer.

Job prices for items, resources and G/L Accounts can be set up as a cost factor instead of a fixed amount price. This supports the common method of cost plus pricing that is used in jobs.

Currency Functionality in Jobs

The new Jobs module in Microsoft Dynamics NAV 5.0 can now handle jobs in foreign currencies.

When a company is operating in a foreign country/region and trading with companies in that country/region, planning and managing the entire job in that country/region's currency is greatly facilitated by the new currency functionality in Dynamics NAV 5.0.

If users plan and set up a job in the local currency (LCY), then the job can be invoiced in any other currency. Jobs set up in a specific foreign currency (the job currency) are limited to being invoiced in the job currency.

Currency rates used in job planning lines that are not yet invoiced can now be bulk updated using the Change Job Dates function.

Upgrading to Microsoft Dynamics NAV 5.0

The old job budget data will need to be migrated to the new job task line, job planning line structure.

There will need to be a reconciliation of the old postings of calculated WIP and the new way of calculating WIP.

All relevant information and tools are included in the upgrade toolkit.

Granules

The functionality in Granules 4520 Job Budgets and 4530 Phases Task and Steps are moved into Granule 4510 for existing licenses issued subsequent to the 5.0 release. All new and redesigned jobs functionality is also added to granule 4510.

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