



INVENTORY II™

for Microsoft Dynamics™ AX 2012

Watermark technology

Real-time reliable cost prices

- No inventory** closing function
- Adjust anything** at any time
- Cost price** deviation monitor
- Physical cost** valuation
- New model** for weighted average cost

Inventory Analytics

- Extensive data** modeling
- Reports with** user selectable data columns
- Out of box** reconciliation directly in forms

Intelligent reservation

- Rule based** reservation levels
- FIFO/LIFO** reservation
- Sorting/Picking** order
- Restriction** rules
- Time fence controlled** reservation
- Transferring** reserved items

Performance and scalability

- No blocking** locks issues

24/7 capability

- No open** slot for inventory closing

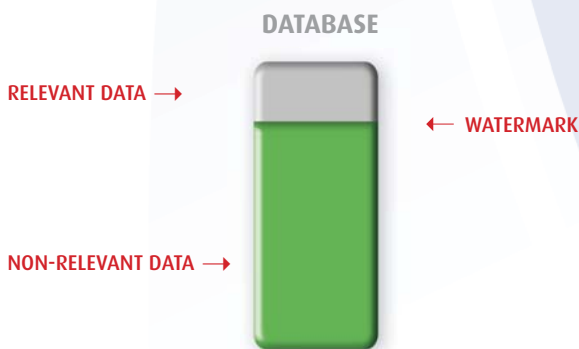
The Inventory II™ module for Microsoft Dynamics™ AX is an extension to the standard Inventory module. Inventory II™ applies speed and simplicity to the standard Inventory module. Inventory II™ is the right choice for companies looking for real-time advanced inventory management, high scale transaction volume capabilities or 24/7 operation. Inventory II™ is available for version 3.0, 4.0, 2009 and 2012 of Microsoft Dynamics™ AX.

Watermark technology

The architecture of Inventory II is based on the new revolutionary Watermark database technology.

This technology ensures that even large and complex inquiries can be addressed by the database without performance slow down, even on growing databases.

All database inquiries will target a very small amount of data, as transactions are divided into relevant and non-relevant data in a very efficient way without use of complex index keys, resulting in a second to none performance.



What is the impact of this technology?

Having the Inventory II architecture built on this technology gives significant advantages in the daily operation. These include:

Cost prices are calculated real-time

Fast on-hand inquiries in forms and reports

Master scheduling during daily operation

True 24/7 capabilities

No traditional inventory closing

Real-time reliable cost prices

The Inventory II module is constantly monitoring all inventory movements, resulting in immediate action upon arrival of new or changed cost prices. Cost prices are calculated, adjusted and updated throughout item transfers and bills of materials - the full costing functionality is simply executed real-time.

No inventory closing function

Adjustment of item consumption is calculated and posted immediately, whenever identified, eliminating the traditional inventory closing function.

Adjust anything at any time

Adjustment of on-hand levels or transactions do not require the inventory to be closed - do it any time. Furthermore Inventory II allows for adjusting issue transactions so that periods can be closed without incorrect cost price estimates.

Cost price deviation monitor

Cost price deviations are identified and presented real-time in the deviation monitor, giving the finance department a unique tool to act on.

Cost price deviation alerts can be defined, reducing the risk of simple errors, such as key-in errors in the purchase department or from suppliers that may reside in the system for a longer period, resulting in complicated cleanup tasks.

Physical cost valuation

Inventory valuation can be fixed on packing slip prices instead of on delayed invoice prices. Upon receipt of invoices, deviations are posted on dedicated General ledger accounts.

New model for weighted average cost

A new simplified periodic average cost price model is introduced. Average cost prices are always calculated as clean weighted average prices for individual periods. Issues related to uncontrollable number of settlements are eliminated, as settlements are not created anymore.

Inventory Analytics

Inventory II comes with a new data modeling tool allowing the user to combine and display data in any relevant and applicable way.

Extensive data modeling tool

In both forms and reports the tool allows the user to select, sort, group and summarize data in ways that corresponds to specific roles and their needs. This will reduce the need for customization of inventory forms and reports.

Reports with user selectable data columns

Any Inventory status report can be printed with user defined column content, as any quantity and amount field in the inventory can be dynamically selected and arranged when launching reports.

Out of box reconciliation directly in forms

Inventory / General ledger reconciliation can now be performed at any time for any period or date, entirely and solely through the use of forms designed exactly for that purpose, eliminating the need for printed reports and significantly reducing the time used on reconciliation.

Inventory II features the complete set of tools necessary to automate and simplify the task of Inventory / General ledger reconciliation. Rules for how to reconcile the Inventory against the General ledger can be set up to match the structure in General ledger so that posted amounts are directly comparable and automatically reconciled per day, per month or per year.

Any difference between Inventory and General ledger is outlined and the level of detail can be fully controlled by setup. This means that differences can be tracked down to any combination of financial / inventory dimensions, accounts and posting types with a clear indication of the concrete vouchers causing the differences - making reconciliation a "walk over".

Intelligent reservation

Rule based reservation levels

With the introduction of reservation levels a new degree of flexibility is applied to the inventory. This will allow for reservation at less detailed levels, e.g. reservation at a warehouse without determination of location or batch at the time of order intake.

Reservation levels can automatically be further specified prior to the time of picking to include e.g. what specific location to pick from. The process of picking is now a matter of reporting what specific items were picked: e.g. batch number, serial number, etc.

FIFO/LIFO reservation and picking order

Inventory II allows for controlling and optimizing the order in which items are reserved. A FIFO or LIFO reservation order can ensure that the oldest or newest items are picked first, while a reservation based on location sorting codes can ensure that the process of picking is optimal according to physical locations. Other strategies such as reservation according to batch expiry date can also be applied.

Restriction rules

Inventory II allows for applying various restrictions on on-hand levels available for reservation. This could be blocking upper-shelf locations for reservation or simply blocking all buffer locations or blocking for reservation on expired batches, etc.

Time fence controlled reservation

Reservations can be delayed and auto-performed when issue transactions (e.g. sales order lines) are within 'n' days from the expected delivery date. This way on-hand levels are not occupied by sales order lines for delivery way out in the future.

Transferring reserved items

Reserved inventory items can now be transferred, thus the warehouse staff is free to manage the warehouse in an efficient way not having to struggle with restrictions on reserved items.

The screenshot shows two windows from the 'Reconcile balance' application. The top window is titled '(cIn) Reconcile balance - Financial date: 01-01-2006, 31-01-2006'. It has 'Overview' and 'Setup' tabs. The 'Interval' section shows 'From date: 31-01-2006', 'To date: 31-12-2006', 'Per: 1', and 'Unit: Months'. The 'Inventory' section has a 'Select' button. The 'Posting' section shows a list of account numbers and names: 140120 (Bulbs receipts), 140150 (Bulbs issues), 140220 (Lamps receipts), and 140250 (Lamps issues). There are 'Initialize' and 'Clear all (G)' buttons.

The bottom window is titled '(cIn) Reconcile balance - Financial date: 01-06-2006, 30-06-2006'. It also has 'Overview' and 'Setup' tabs. The 'Compare' section has radio buttons for 'Physical value', 'Inventory value', 'Inventory value in total', 'Physically posted', 'Financially posted', 'Posted in total', and 'Ledger balance'. The 'Difference' field is set to 'Ledger balance'. The main table shows the following data:

Financial d...	Physically posted	Financially posted	Posted in total	Ledger balance	Difference
31-01-2006	-210.531,84	17.119,16	-193.412,68	9.715,60	7.403,56
28-02-2006	-210.350,48	54.475,75	-155.874,73	47.253,55	7.222,20
31-03-2006	-203.128,28	43.731,23	-159.397,05	43.731,23	
30-04-2006	-204.012,28	306.326,88	102.314,60	306.326,88	
31-05-2006	-884,00	405.514,38	404.630,38	405.514,38	
30-06-2006	-2.183,42	408.916,38	406.732,96	407.616,86	1.299,42
31-07-2006	-4.922,92	2.008.670,48	2.003.747,56	2.007.371,06	1.299,42
31-08-2006	-3.314,92	2.000.229,68	1.996.914,76	1.998.930,26	1.299,42
30-09-2006	-2.872,92	1.994.825,88	1.991.952,96	1.993.526,46	1.299,42
31-10-2006	-2.872,92	1.816.537,08	1.813.664,16	1.815.237,66	1.299,42
30-11-2006	-2.872,92	1.763.953,08	1.761.080,16	1.762.653,66	1.299,42
31-12-2006	-2.872,92	1.763.953,08	1.761.080,16	1.762.653,66	1.299,42

On the right side of the bottom window, there are buttons for 'Update', 'Amount display', 'Postings summarized', 'Postings', 'Not posted summarized', 'Not posted', and 'Voucher transactions'.

Performance and scalability

The foundation and architecture of the Inventory II solution have been designed with specific regards to high performance and scalability. The unique design patterns such as the Watermark and Snapshot technologies have been chosen to address these issues.

High query performance is ensured by a combination of Watermark technology and avoiding joins in queries in the central transaction processing.

High scalability is ensured by the *clean insert approach*. This means that the process of updating on-hand levels is based on pure record inserts, thus resulting in no wait time due to concurrent users attempting to update the very same records.

The results of this architecture are revolutionary:

Blocking lock issues in inventory are nonexistent. The improved concurrency will set new standards for scalability.

Inventory inquiries execute incredibly fast, independent of transaction volume, even on historical data.

Real cost prices are calculated real-time, but individual users are not affected by this processing since it is handled by a smart and very efficient background process.

24/7 capability

Open slots for Inventory closing not necessary

The traditional Inventory closing function is not relevant any more as cost prices are calculated real-time. Because of that there is no need for allocating exclusive time slots for this task during weekends or nights.

Simply run your operation 24/7 if you prefer

Inventory II and AX 2012



Selecting a new ERP system, Peter Justesen had a long list of very sophisticated reservation requirements that must be honored by their new ERP system.

Besides from the demand for level reservation capabilities and sorting dimensions, Peter Justesen required time fence based just-in-time reservations prioritized according to customer ratings.

With Inventory II's intelligent reservation package these demands were fulfilled to the full extent in one single add-on module.



FSB Development

FSB Development is a software company developing modules for Microsoft Dynamics AX.

The founders of FSB development are all key software architects from the original Damgaard/Navision/Microsoft Dynamics AX Development team.

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Inventory II is sold via certified Dynamics AX partners in more than 30 countries. More than 150 Dynamics AX customers with over 15000 AX users have chosen Inventory II

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