INVENTORY II™

for Microsoft Dynamics™ AX

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
Picking order
Restriction rules
Time fence controlled resevation
Transferring reserved items

Performance and scalability
No blocking locks issues

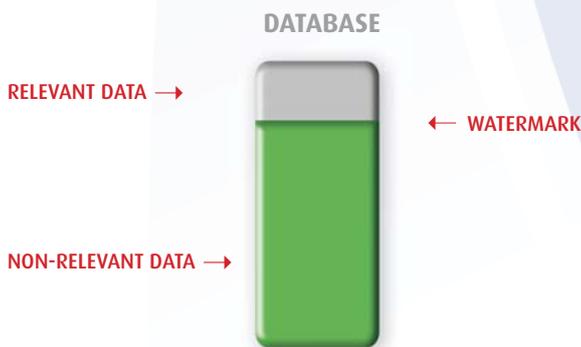### 24/7 capability
Master scheduling any time

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.

DATABASE

RELEVANT DATA →

← WATERMARK

NON-RELEVANT DATA →

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.

(con) Closing and adjustment

Overview | Setup | History | Cost price deviations

Calculation of inventory value, cost prices and item consumption

When an item is sold before the cost price is known, typically, a need arise to subsequently post-adjust and correct the cost price. The purpose of the recalculation is to recalculate these cost prices according to the chosen inventory model. The recalculation can be set up to automatic execution in line with items being purchased and sold. The current update status can be monitored in the overview below.

Moreover, the recalculation analyzes and validates continuously all new cost prices with special reference to finding significant deviations in cost prices. In that way, it is easy to verify if receipts and issues in the period are correctly evaluated in order that inventory can be closed until the next planned closing date.

Close (B)
Recalculation
Adjustment ▶
Inquiries ▶
Batch monitoring
Dimensions display
Purchase order (G)
Production orders (J)

Inventory II

Update status

Dimension assignment
Cost prices
Level control
General ledger posting
Summation
Analyze

Current inventory closing

Inventory is closed until: 30-04-2007

Cost price analysis

Number of cost price deviations: 1

Automatic recalulation

Last execution time: 16:59

Planned inventory closing

Next closing date: 31-05-2007

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 sort 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.

(cln) Reconcile balance - Financial date: 01-01-2006, 31-01-2006

Tabs: Overview | Setup

Interval
From date: 01-01-2006   Per: 1   Unit: Months
To date: 31-12-2006

Inventory
Click Select to setup which inventory transactions items to reconcile   [Select]

Compare
Choose which fields to compare (subtract) in the Difference field

with
○ Physical value — ○ Physical value
○ Inventory value — ○ Inventory value
○ Inventory value in total — ○ Inventory value in total
○ Physically posted — ○ Physically posted
● Financially posted — ○ Financially posted
○ Posted in total — ○ Posted in total
○ Ledger balance — ● Ledger balance

Posting

Account number	Account name
140120	Bulbs receipts
140150	Bullbs issues
140220	Lamps receipts
140250	Lamps issues

[Initialize]   [Clear all (G)]

(cln) Reconcile balance - Financial date: 01-06-2006, 30-06-2006

Tabs: Overview | Setup

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	407.616,96	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

Buttons: [Update] [Amount display] [Postings summarized] [Postings] [Not posted summarized] [Not posted] [Voucher transactions]

24/7 capability

Run your Master scheduling any time
The Master scheduling can be executed at any time in daily operation and still deliver a consistent profile even if new transactions are created concurrently.

The master scheduling is updated in a shadow plan which is activated upon completion. This means that users can keep working in the latest plan even though a new plan is calculated concurrently.

If Master scheduling performance is an issue: simply add more clients to help process and lower the execution time.

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.

No worries regarding blocking locks
Neither Inventory closing, which is now just a matter of changing a date, nor Master scheduling causes blocking locks that could prevent the daily operation from taking place.

Simply run your operation 24/7 if you prefer

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.

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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