



# DYNAMICS CON

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[DynamicsCon.com](https://DynamicsCon.com)

# **Inventory Visibility Add-in for D365 SCM**

**An independent and highly scalable microservice that  
enables (near) real-time on-hand inventory tracking...**

# Agenda

- Introduction (who am I)
- Common scenarios for the Inventory Visibility Add-in
- Challenges without the Inventory Visibility Add-in
- Solution overview of the Inventory Visibility Add-in
- How to setup the Inventory Visibility Add-in
- How to configure the Inventory Visibility Add-in
- How to use the Inventory Visibility Add-in
- Things to keep in mind

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- Working for GWS in Germany since 2009
- Started 2011 with trainings on AX 2012
- Solution Architect since start of 2015
- Started blogging November 2018



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# Common scenarios for the Inventory Visibility Add-in

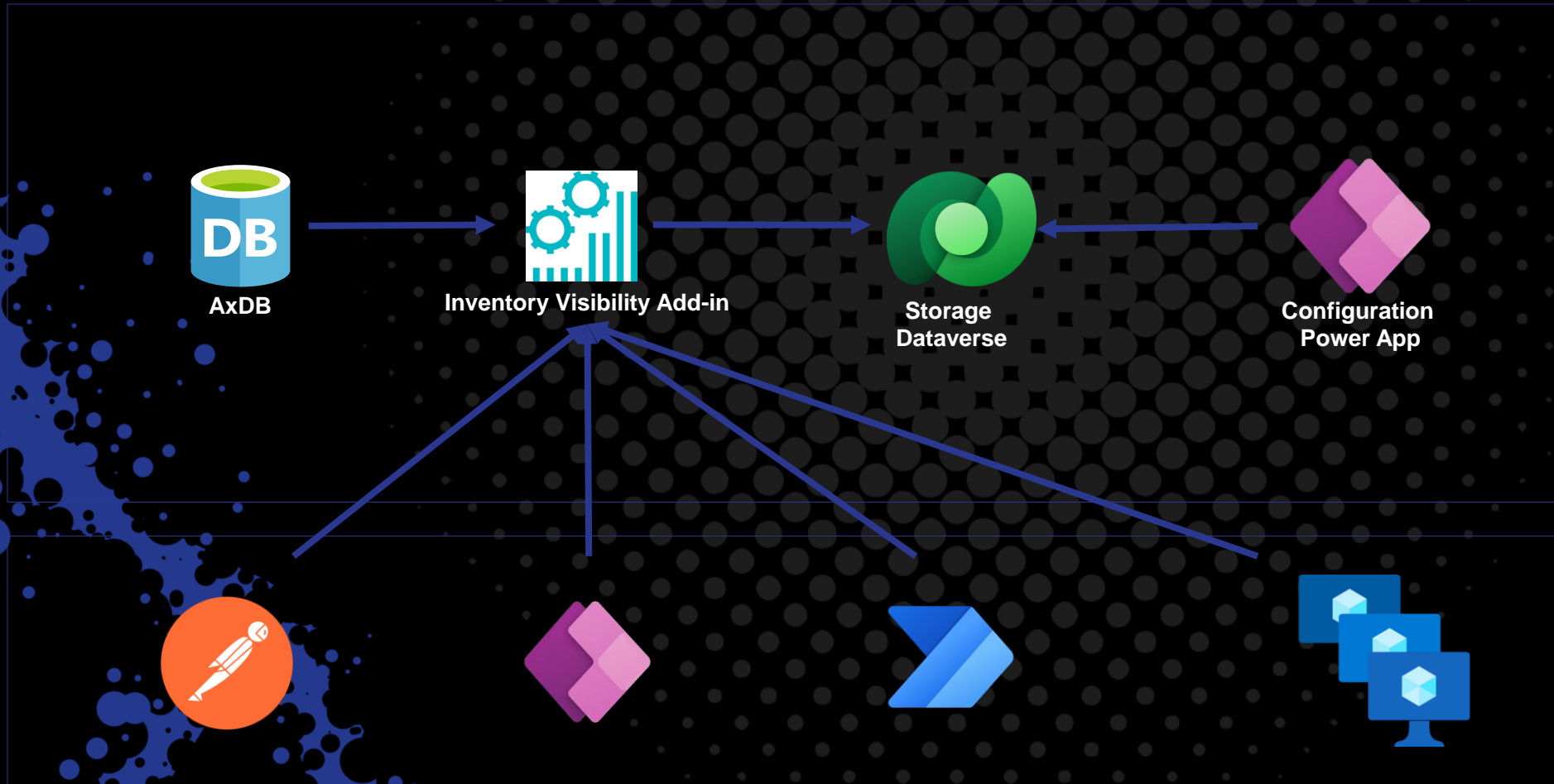
- **Web shops B2B or B2C**
  - It's all about showing availability
- **Integration of 3<sup>rd</sup> party or legacy systems**
  - Order managements solutions
  - Staged rollouts
- **PowerApps**
  - Listing on-hand inventory



# Challenges without the Inventory Visibility Add-in

- **Leveraging OOB data entity to request on-hand inventory information**
  - InventWarehouseInventoryStatusOnHandV2Entity
- **Synchronous requests via Open Data Protocol (OData)**
  - Puts pressure on the ERP database
  - Is subject to throttle (status 429) via priority-based throttling

# Solution overview of the Inventory Visibility Add-in



Microsoft managed  
Inventory Visibility Add-in

Customer managed  
Clients

# **How to setup the Inventory Visibility Add-in**

- **Azure AD: Client id and secret**
- **Dataverse / Power Platform: Solution via package deployer**
- **LCS: Install the Add-in**
- **F&O: Setup and activate the integration**
- **Demo**
  - How to create a client id and secret
  - Where to find the solution overview and to use the package deployer
  - Install Add-in via LCS
  - Setup and activation of F&O integration, how to interpret the figures and find the integration batch job.



# How to configure the Inventory Visibility Add-in

- **Inventory Visibility Power App**

- Product index hierarchy = Group by when querying
- Data sources = Integration of 3<sup>rd</sup> party solutions to single point of truth
- Calculated measures = Calculated fields cross data sources when querying
- Soft reservation = Preview (out of scope)

- **Demo**

- Inventory Visibility Power App
- Show service endpoint
- Update configuration
- Feature Management

# How to use the Inventory Visibility Add-in

- **Samples using Postman**

- Collection is available for download from the docs.microsoft.com page
- Flow was possible before but throws errors now when getting Bearer token from security service
- Also Possible via the Inventory Visibility Power App

- **Demo**

- Querying on-hand information from F&O and the Inventory Visibility Add-in with and without grouping
- Reservation (sales order) / inventory blocking from F&O incl. synchronization and querying on-hand information from the Inventory Visibility Add-in
- Posting on-hand change event for external data sources

# Querying on-hand information from F&O and the Inventory Visibility Add-in

- Warehouse 1003 / Product 1000000000
  - Availphysical: 1.000
  - Status OK: 1.000 / Status Blockiert: 10
  - Quotation issue: 1

On-hand | 1000000000 : BOSCH0092S40010

Filter  Inventory quantities

Warehouse	Inventory status	Physical inventory	Physical reserved	Available physical	Total available
1003	Blockiert	10.00	10.00		
1003	Ok	1,000.00		1,000.00	1,000.00

APIs: POST 1. Bearer Token Secret, POST 2. Access Token (Inventory Visi..., POST 3. Querying current on-hand (In..., POST 3. Querying current on-hand gr...

POST  <https://inventoryservice.weu-ii103.gateway.prod.island.powe>

Params Auth Headers (10) Body Pre-req. Tests Settings

Query Params

KEY	VALUE
Key	Value

Body  200 OK

Pretty Raw Preview Visualize JSON

```
1  {
2    {
3      "productId": "1000000000",
4      "dimensions": {
5        "siteid": "100M",
6        "locationid": "1003"
7      },
8      "quantities": {
9        "fno": {
10         "avallordered": 1000.0,
11         "availphysical": 1000.0,
12         "physicalinvent": 1010.0,
13         "postedqty": 1010.0,
14         "quotationissue": 1.0,
15         "reservphysical": 10.0
16       }
17     }
18   }
```

# Querying on-hand information from F&O and the Inventory Visibility Add-in

- Inventory blocking (Qty: 25)

```
{
  "productId": "1000000000",
  "dimensions": {
    "siteid": "10GW",
    "locationid": "1003"
  },
  "quantities": {
    "fno": {
      "availordered": 1000.0,
      "availphysical": 1000.0,
      "physicalinvent": 1010.0,
      "postedqty": 1010.0,
      "quotationissue": 1.0,
      "reservphysical": 10.0
    }
  },
}
```

Inventory blocking			
Item number	Inventory blocking type	Description	
1000000000	Manual		
General			
Quantity 25.00	Expected receipts <input checked="" type="checkbox"/> Yes	Receipt lot ID 10196364	HISTORY Created by Admin
CW quantity	IDENTIFICATION Issue lot ID 10196363	Expected date 8/19/2021	Created date and time 8/19/2021 08:11:50 PM
Inventory dimensions			
PRODUCT DIMENSIONS Configuration	Color	STORAGE DIMENSIONS Site 10GW	Location 01-01-01
	Style	Warehouse 1003	Inventory status Ok
Size			License plate

```
{
  "productId": "1000000000",
  "dimensions": {
    "siteid": "10GW",
    "locationid": "1003"
  },
  "quantities": {
    "fno": {
      "availordered": 1000.0,
      "availphysical": 975.0,
      "ordered": 25.0,
      "physicalinvent": 1010.0,
      "postedqty": 1010.0,
      "quotationissue": 1.0,
      "reservphysical": 35.0
    }
  },
}
```

# Querying on-hand information from F&O and the Inventory Visibility Add-in

- Sales order / Reserved physical (Qty: 5)

```
{
  "productId": "1000000000",
  "dimensions": {
    "siteid": "10GW",
    "locationid": "1003"
  },
  "quantities": {
    "fno": {
      "availordered": 1000.0,
      "availphysical": 975.0,
      "ordered": 25.0,
      "physicalinvent": 1010.0,
      "postedqty": 1010.0,
      "quotationissue": 1.0,
      "reservphysical": 35.0
    }
  },
}
```

Sales order

AU10001841: KFZ Pilz

Lines Header Open order ERF

Sales order header

Sales order lines

✓	T...	Item number	Product name	Text	Quantity	Unit	Delivery type	Unit price	Discount	Net amount	Unit price (net)	Deliver now	Line type
		1000000000	1000000000	Starterbatterie "S4 - 12V 44Ah 4...	5.00	STK	Stock	112.40	33.72	393.40	78.68		Regular

```
{
  "productId": "1000000000",
  "dimensions": {
    "siteid": "10GW",
    "locationid": "1003"
  },
  "quantities": {
    "fno": {
      "availordered": 995.0,
      "availphysical": 970.0,
      "ordered": 25.0,
      "physicalinvent": 1010.0,
      "postedqty": 1010.0,
      "quotationissue": 1.0,
      "reservphysical": 40.0
    }
  },
}
```



# Querying on-hand information from F&O and the Inventory Visibility Add-in

- Posting on-hand change event for external data source pos
  - Cumulative over multiple events
  - Inbound (sales) vs. Outbound (return)
  - Reset of on-hand quantities

```
[
{
  "productId": "1000000000",
  "dimensions": {
    "siteid": "10GW",
    "locationid": "1003"
  },
  "quantities": {
    "fno": {
      "availordered": 995.0,
      "availphysical": 1000.0,
      "onorder": 5.0,
      "physicalinvent": 1010.0,
      "postedqty": 1010.0,
      "quotationissue": 1.0,
      "reservphysical": 10.0
    },
    "pos": {
      "inbound": 1.0,
      "outbound": 2.0,
      "availquantity": 999.0
    }
  },
}
```

# Things to keep in mind

- **Requests limits**

- Max 100,000 requests per 24 hours with Dynamics 365 enterprise subscription
- Purchase capacity add-ons to raises the request limits
- One request per Site/Warehouse combination
- Demo: Analysis via PPAC

- **Reservations on location level does not work well**

- Warehouse 1002 / Product 1000000001
- Comparison F&O and Add-in: Qty 6 is reserved via work

- **There is more to come**

- Inventory Visibility reservations: In Preview



**Thank you!**