

Integrating Inventory Visibility Service with 3rd party applications

*Jiacheng Xia, Software Engineer
Yufei Huang, Senior Product Manager
Hiren Naik, Senior Solution Architect*



Inventory Visibility Service Tech Talk Series



Scale and Harmonize your business Inventory with Inventory Visibility



Exploring Dynamics 365 SCM Inventory Data with Inventory Visibility Service



Integrating Inventory Visibility Service with 3rd party applications



Advanced inventory managements in Inventory Visibility Service

Agenda

Scenario

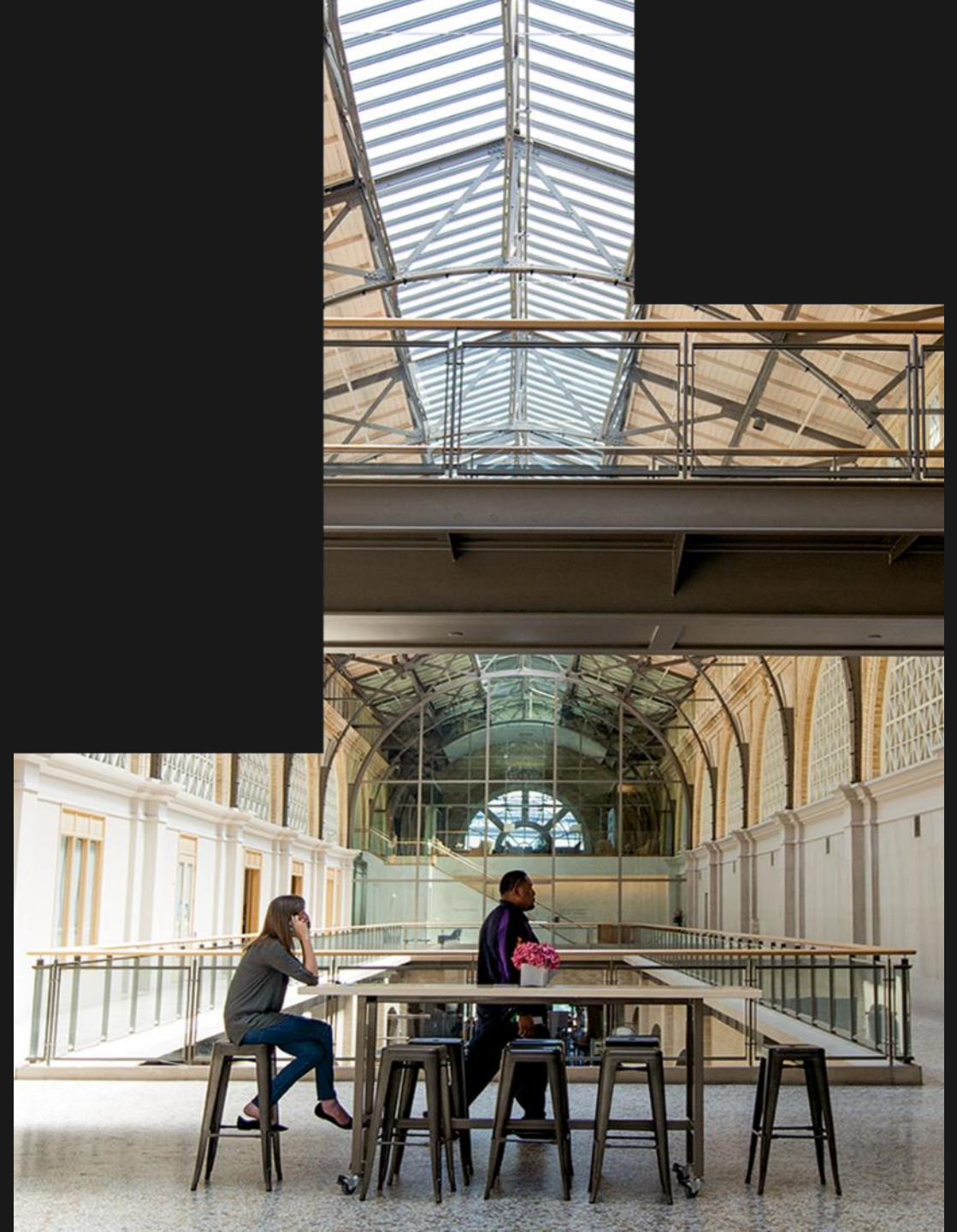
Configuration - New data source & Measures

Demo: Post inventory changes, Query On hand

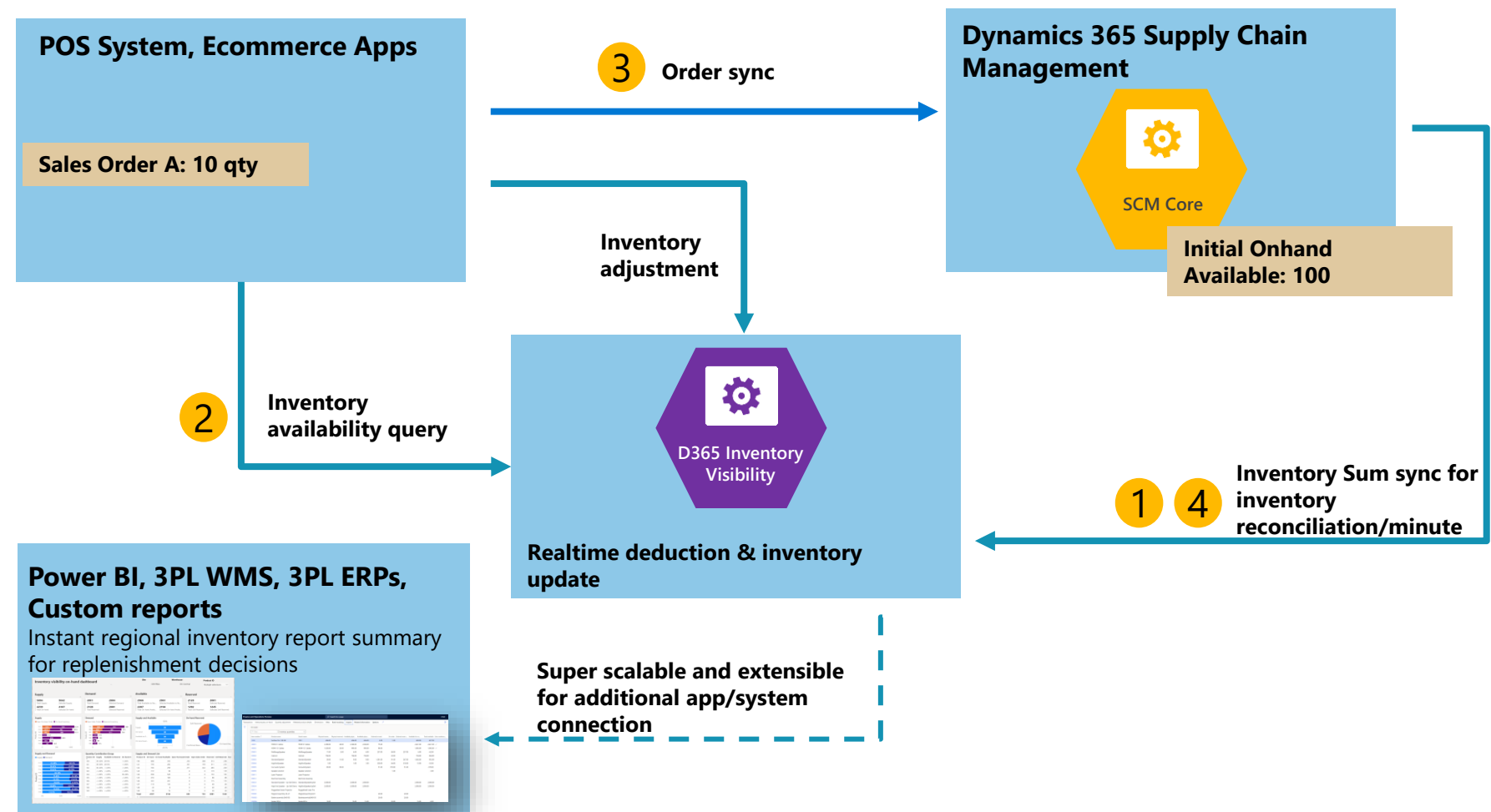
Q&A

Resources

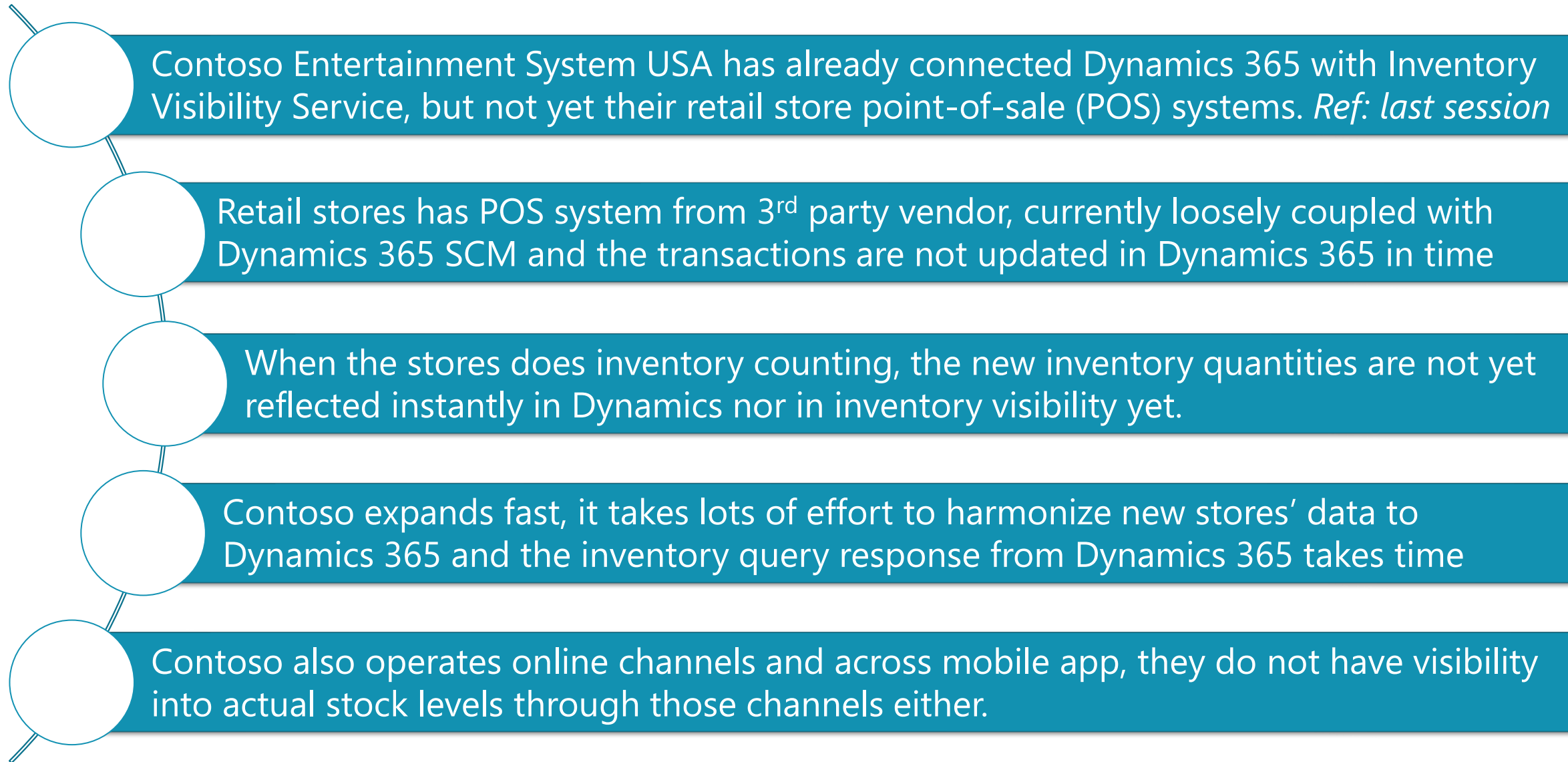
Scenario: Operate Franchise stores with Inventory Visibility



Scenario: Operate franchise stores with inventory visibility



Potential challenges without IV-3rd Party connection

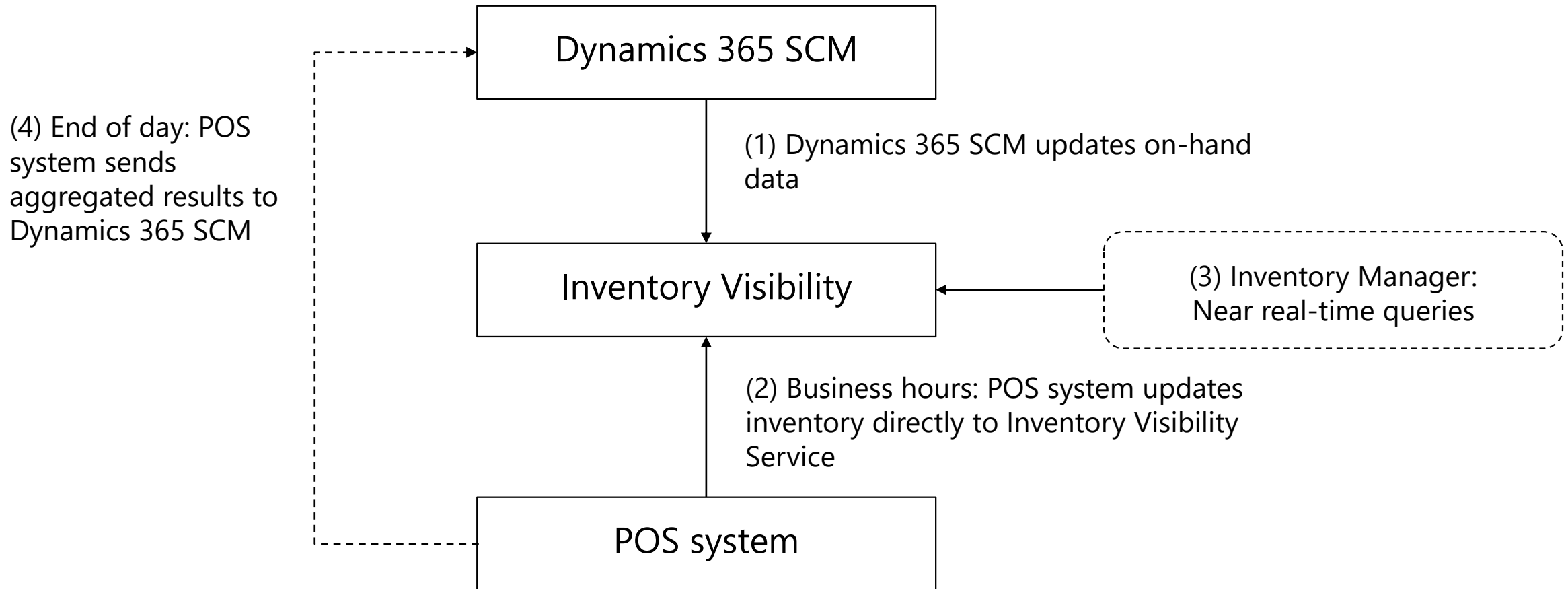


Configuration

Jiacheng Xia



Dynamics 365 SCM - IV - POS data flow



Typical Process of Data Sync

Date / Time	Event	Dynamics 365 SCM Available Physical	POS Sold	POS.Available = FnO.Available Physical – POS.Sold
Oct 1 morning	Put 100 pieces of item IVS001 to the new store	100	0	100
Oct 1, 10 AM	Made 10 orders, sold 20 pieces	100	20	80
Oct 1, 2 PM	Made 5 orders, sold 5 pieces	100	25	75
Oct 1 evening	Closing store; POS system sync data back to Dynamics 365 SCM, clears sold data	75	0	75
Oct 2 morning	Replenishment of 25 pcs	100	0	100

Inventory Visibility Service Configurations



Configure a new data source for POS

Data source name: POS. Mapping between input data and storage

Physical Measure: An input quantity field. Sold

Dimension mapping: Map different input dimension to same base dimension. E.g., InventBatchID -> BatchID



Setup index hierarchy for performance optimizations

Tells inventory visibility to store data in a performance-optimized way.

E.g., Items contain size dimensions: Add size to hierarchy to enhance query performance grouping by size

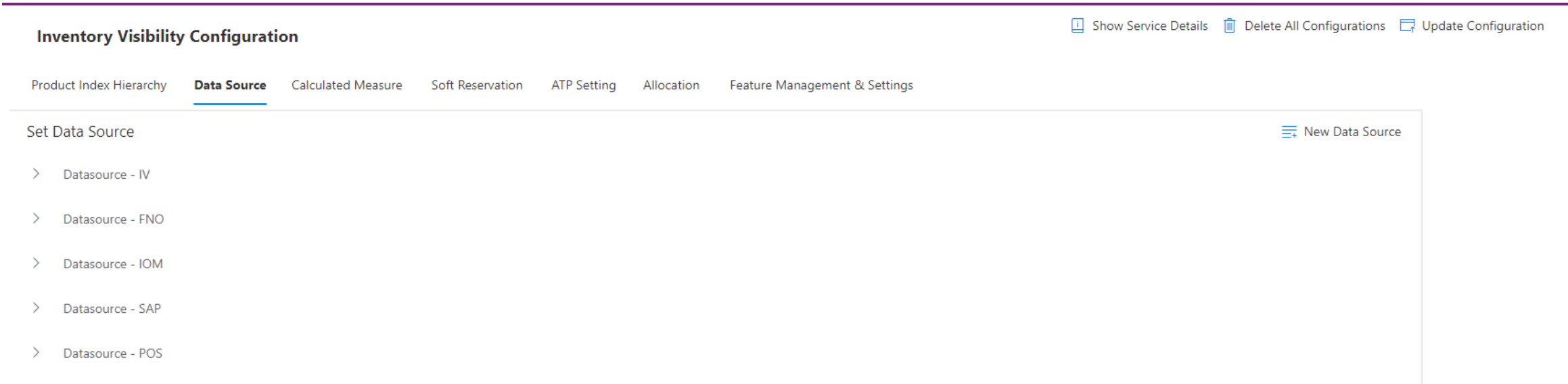


Setup calculated measures

Put arithmetic results into one value. E.g, Pos.Available =

Available physical in Dynamics 365 SCM
– Sold from POS?

Built-in Configurations upon Installation



A sample data sources gets added when installed add-in from LCS for Dynamics 365 SCM

Delete all configurations: Removes every configuration except for default FnO (for Dynamics 365 SCM) – **Not reversable process**

Configuration – Adding new Data Source

Inventory Visibility Configuration

Show Service Endpoint

Delete All Configurations

Update Configuration

Product Index Hierarchy

Data Source

Calculated Measure

Soft Reservation Mapping

Soft Reservation Hierarchy

ATP Setting

Feature Management

Set Data Source

New Data Source

> Datasource - FNO

Update Configuration: **Required** step after making configuration changes

Demo: Configuring POS Data Source

Inventory Visibility Configuration

Show Service Endpoint Delete All Configurations Update Configuration

Product Index Hierarchy Data Source Calculated Measure Soft Reservation Mapping Soft Reservation Hierarchy ATP Setting Feature Management

Set Data Source

New Data Source

> Datasource - FNO



Setup Index Hierarchy to Include Size ID

Inventory Visibility Configuration

Show Service Endpoint

Delete All Configurations

Update Configuration

Product Index Hierarchy

Data Source

Calculated Measure

Soft Reservation Mapping

Soft Reservation Hierarchy

ATP Setting

Feature Management

Set Data Source

New Data Source

> Datasource - FNO

> Datasource - POS

Updating POS Quantities with new Configuration

- Scenario: Sell 1 pcs of IVS001 on POS machine
- Integration on POS machine:
 - Call On hand change API to Inventory Visibility Service to log the change
 - Request body:
 - ID: Unique
 - Org ID, Product ID, quantities and dimensions same as Dynamics 365 SCM integration

```
{  
  "Id": "xx1",  
  "OrganizationId": "usmf",  
  "ProductId": "IVS001",  
  "quantities": {  
    "pos": {"sold": 1},  
  },  
  "dimensions": {  
    "sizeid": "L",  
    "siteid": "1",  
    "locationid": "11"  
  }  
}
```

POST {{endpoint}}/api/environment/{environment}/onhand

Queries with New Data Source

- Call API to Inventory Visibility Service to query on hand for IVS001.
 - Site 1, Location 11, Size Large
- New data source: "POS"
 - New physical measure of sold under "POS"

```
[
  {
    "productId": "IVS001",
    "dimensions": {
      "SizeId": "L",
      "locationid": "11",
      "siteid": "1"
    },
    "quantities": {
      "fno": {
        "availordered": 100,
        "availphysical": 100,
        "physicalinvent": 100,
        "postedqty": 100
      },
      "pos": {
        "sold": 20,
      }
    }
  }
]
```

Updated Query Results from Sample Page

Power Apps

Sample Webpage

Search

Home

Recent

Pinned

Group name

Web Store

View name

Refresh

Search for records

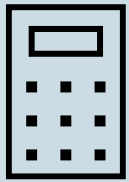
Item ID	SizeID	POS.Sold	FnO.AvailPhysical
IVS001	L	20	100
IVS001	S	0	200
IVS002	L	0	70
IVS003	L	0	50

ABC 3 of 3 (0 selected)

Page 1

Analyze your inventory across multiple systems

Two Data Sources in One System: Calculated Measures



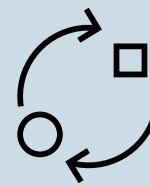
Defines the arithmetic logics between physical measures



E.g. $\text{POS.Available} = \text{FnO.AvailPhysical} - \text{POS.sold}$



Currently only add/minus supported



On backlog to support put a calculated measure (not only physical measure) to the formula

Define POS.available = FnO.availPhysical – POS.sold

Inventory Visibility Configuration

Show Service Endpoint

Delete All Configurations

Update Configuration

Product Index Hierarchy

Data Source

Calculated Measure

Soft Reservation Mapping

Soft Reservation Hierarchy

ATP Setting

Feature Management

Set Calculated Measures

New Calculated Measure



Queries with calculated measures

- Call API to Inventory Visibility Service to query on hand for IVS001.
 - Site 1, Location 11, Size Large
- Calculated measures not stored in cache, calculated at every query.

```
[
  {
    "productId": "IVS001",
    "dimensions": {
      "SizeId": "L",
      "locationid": "11",
      "siteid": "1"
    },
    "quantities": {
      "fno": {
        "availordered": 100,
        "availphysical": 100,
        "physicalinvent": 100,
        "postedqty": 100
      },
      "pos": {
        "sold": 20,
        "available": 80
      }
    }
  }
]
```

Add Calculated Measure to Sample Page

Power Apps | Sample Webpage

View name ▾

Refresh

Search for records

Item ID ▾	SizeID ▾	POS.Sold ▾	FnO.AvailPhysical ▾	POS.available ▾
IVS001	L	20	100	80
IVS001	S	0	200	200
IVS002	L	0	70	75
IVS003	L	0	50	50

ABC 3 of 3 (0 selected)

Page 1

Demo: Typical Process of Data Sync

Date / Time	Event	Dynamics 365 SCM Available Physical	POS Sold	POS.Available = FnO.Available Physical – POS.Sold
Oct 1 morning	Put 100 pieces of item IVS001 to the new store	100	0	100
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Oct 2 morning	Replenishment of 25 pcs	100	0	100

Query & Change on-hand with new Configuration

The screenshot displays a REST client interface with a POST request to the endpoint `InventoryService-Apis / Local / @fabric-local/{env-id}/onhand/indexquery`. The request body is a JSON object with the following structure:

```
1 {
2   "filters": {
3     "OrganizationId": [
4       "usmf"
5     ],
6     "locationid": ["11"],
7     "siteid": ["1"],
8     "productid": ["IVS001"],
9     "SizeID": ["L"]
10  },
11  "groupByValues": ["sizeid"],
12  "returnNegative": true
13 }
```

The response status is 200 OK, with a time of 307 ms and a size of 654 B. The response body is a JSON array with one item:

```
1 [
2   {
3     "productid": "IVS001",
4     ...
5   }
6 ]
```

A large letter 'I' is overlaid on the right side of the request body area.

Sample Page after Quantity update

Power Apps

Sample Webpage

Search

Home

Recent

Pinned

Group name

Web Store

View name

Refresh

Search for records

Item ID	SizeID	POS.Sold	FnO.AvailPhysical	POS.Available
IVS001	L	25	100	75
IVS001	S	0	200	200
IVS002	L	0	70	70
IVS003	L	0	50	50

ABC 3 of 3 (0 selected)

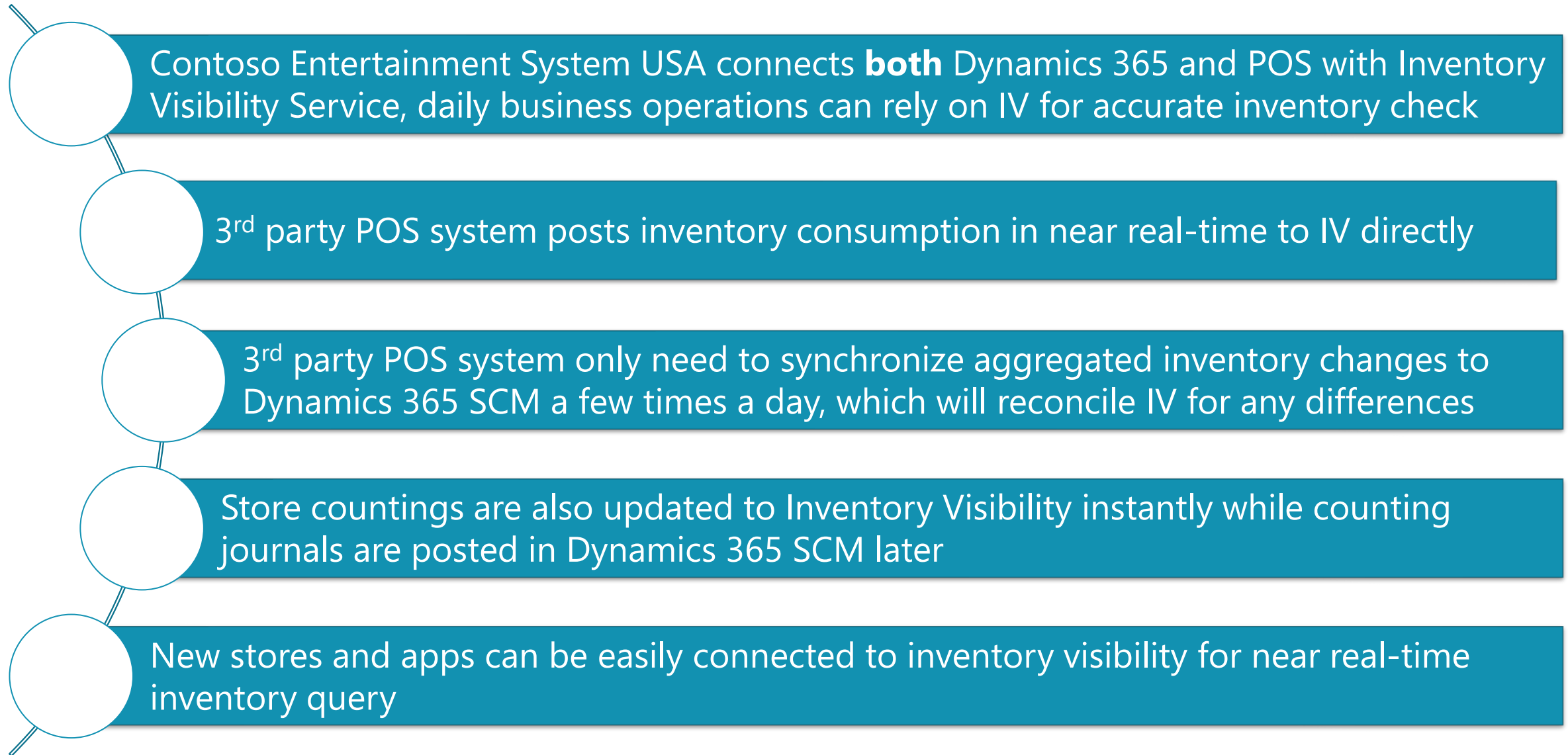
Page 1

Area name

Search files or web

1:58 PM 7/27/2021

End to End Process after Adding POS to IV service



Resources

MS Docs

- [Inventory Visibility Add-in overview - Supply Chain Management | Dynamics 365 | Microsoft Docs](#)
- [Inventory Visibility Add-in APIs Postman collection](#)

Previous TechTalks

- [Inventory Visibility Add-in for Dynamics 365 Supply Chain Management | September 30, 2021 - Microsoft Dynamics Blog](#)
- [Scale and harmonize your business inventory with Inventory Visibility | August 16 & 18, 2022 - Microsoft Dynamics Blog](#)
- [Exploring Dynamics 365 SCM Inventory Data with Inventory Visibility | October 12, 2022 - Microsoft Dynamics Blog](#)

Yammer group

- [Finance and Operations Insider Program : D365 SCM Inventory Visibility](#)

Ideas site

- [Categories \(dynamics.com\)](#)

Q&A

Contact :
inventvisibilitysupp@microsoft.com

Dankie Faleminderit **Shukran** Chnorakaloutioun Hvala Blagodaria
Děkuji **Tak** Dank u Tānan Kiitos **Merci** Danke Ευχαριστώ A dank
Mahalo ἰτιλ. **Dhanyavād** Köszönöm Takk Terima kasih **Grazie** Grazzi

Thank you!

감사합니다 Paldies Choukrane Ačiū Благодарам ありがとうございます
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Ďakujem Tack Nandri Kop khun Teşekkür ederim Дякую Хвала Diolch