

**NAV
TECH
DAYS**
2018

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Designing for extensibility: Learn straight from the Application Architects

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www.navtechdays.com

When you are passionate about
Microsoft Dynamics NAV/365 Business Central

**NAV
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2018

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Agenda

1. Background
2. Are we there yet?
3. Examples on how to extend
4. Upgrade



Background



Extensibility

Extensibility

Extensibility



How did we get here?

- NAV 2015 – Source code modifications
- NAV 2016 – Introduced Extensions
- NAV 2017 – Added more supported objects to extensions
- NAV 2018 – Introduced VS Code and the AL Language

The message
has been

Microsoft builds
extensible code and
teaches *partners* how to
consume it.

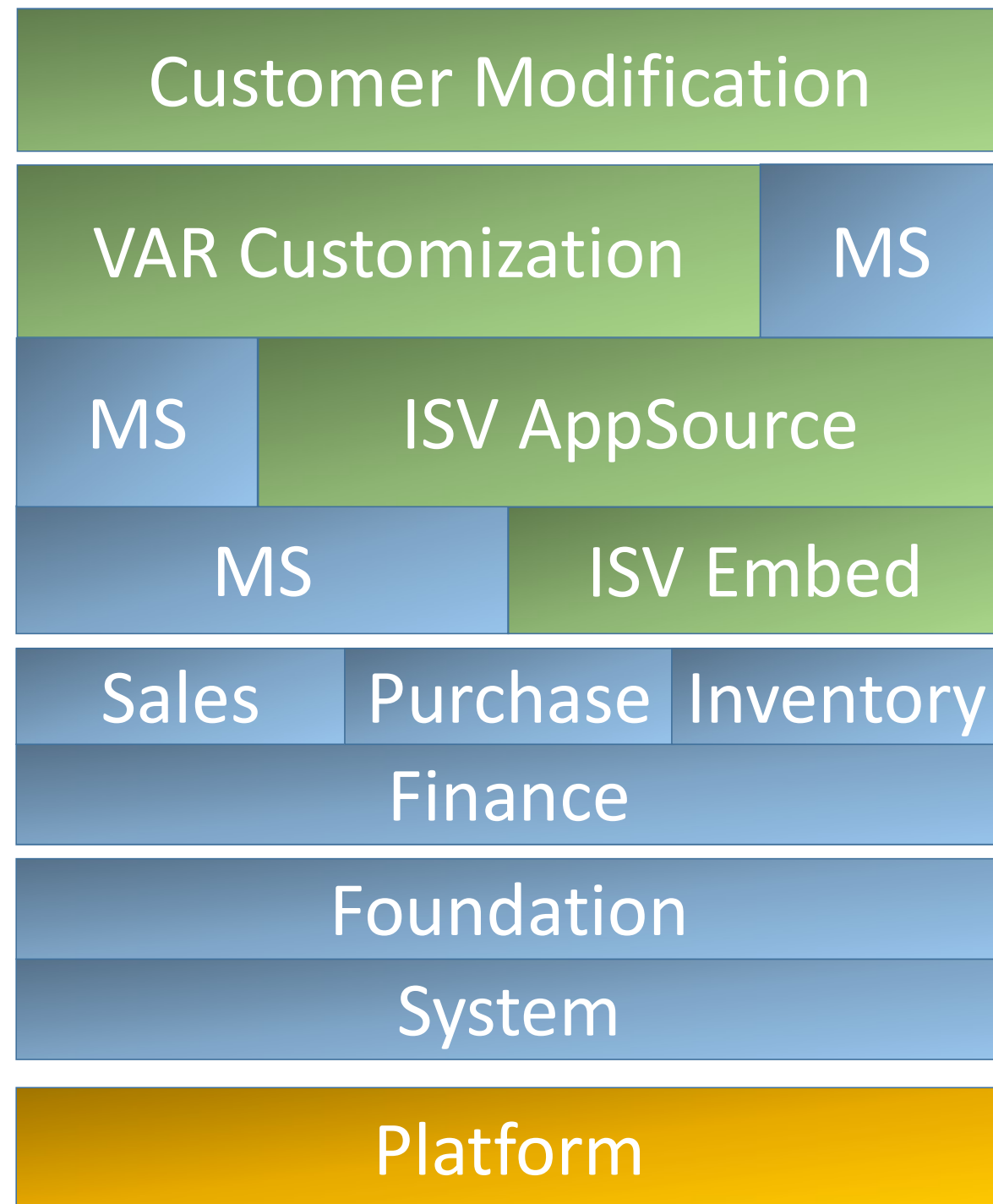
And then came Business Central

- ISV Embed solutions
- Per-Tenant Extensions



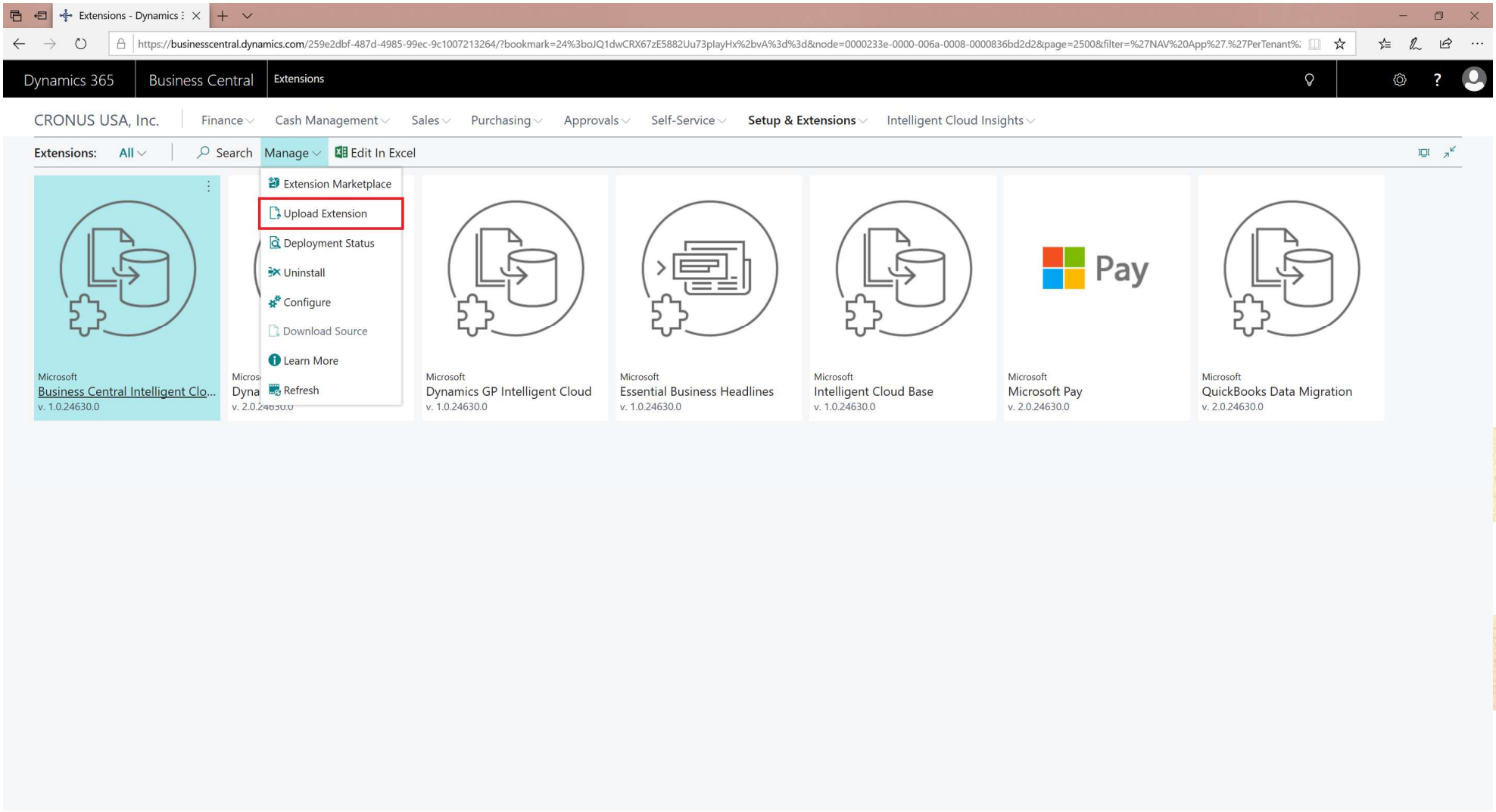
Partners need to build
extensible code for
others to consume.

Why should you care?



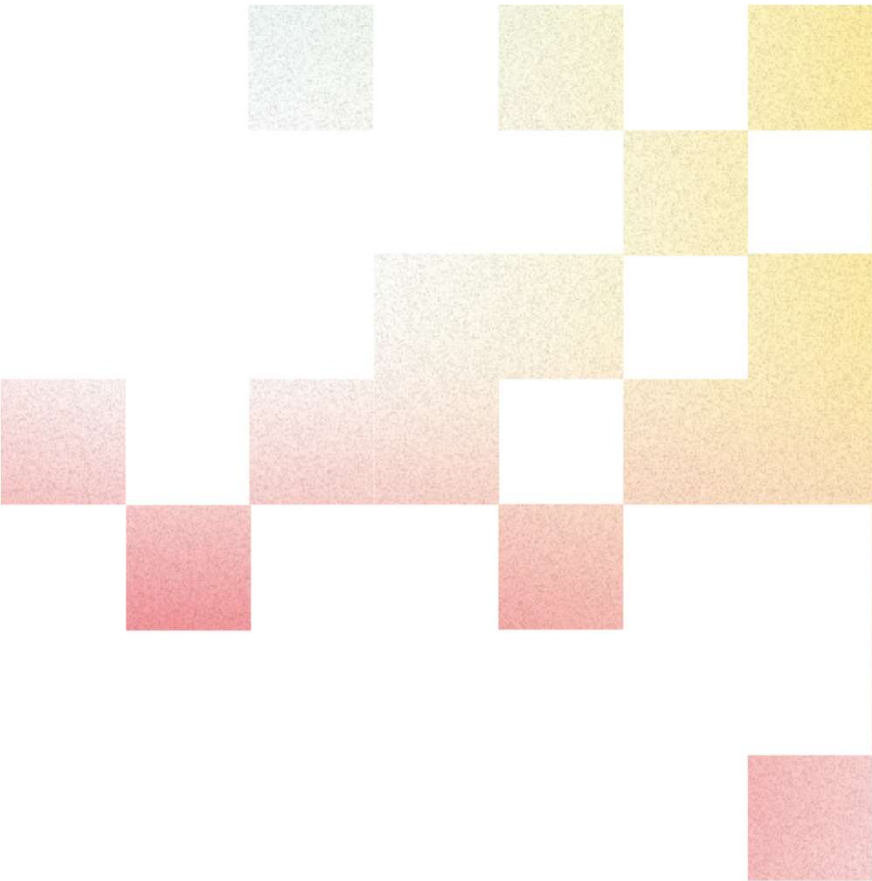
- Developers are building on top of your code.
- 1 Embed ISV currently live, 2 more by end of year
- ~150 AppSource extensions, >100 new app ideas submitted in last 60 days
- Almost 1500 unique per-tenant extensions used in last 60 days

Per-Tenant Extensions



Fast Development *and* Maintainable





Application Extensibility

- How extensible is the application?
- How much of the app is extensible?
- How are we progressing on extensibility
- Where do we go from here / future aspirations



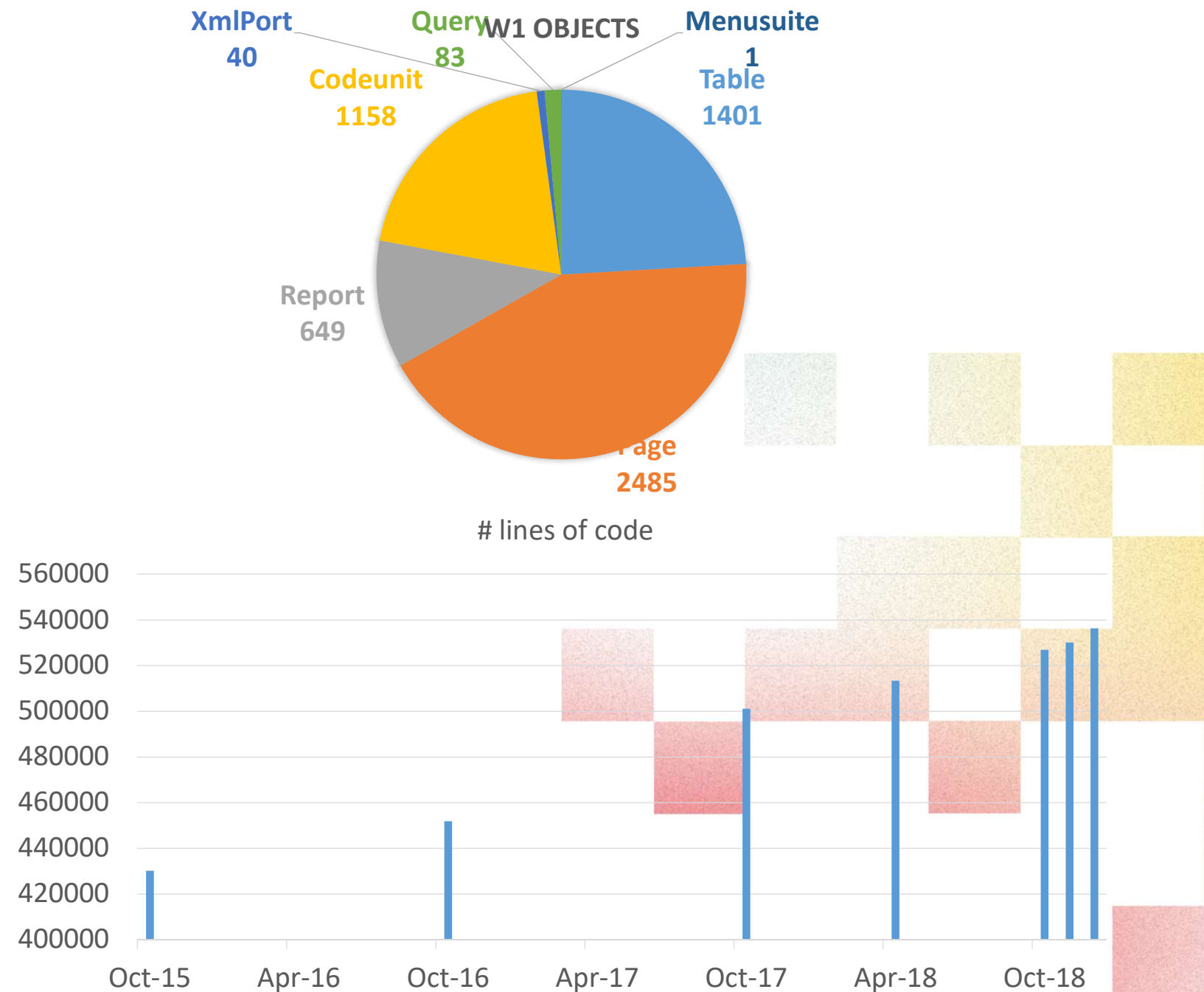
How extensible is the W1 application?

- You can
 - add new objects
 - extend objects (table/page)
 - call safe procedures (marked as external)
 - subscribe to events (CRUD/Page/Report/Integration)
 - use & extend Enum's
 - Etc.
- doesn't really say much though...

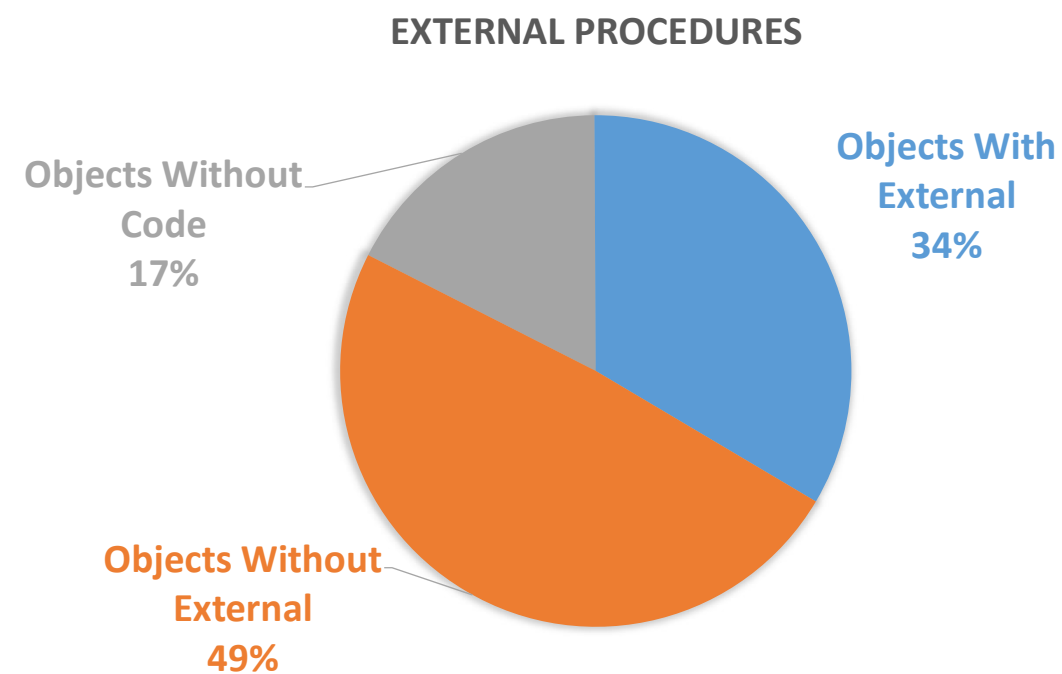
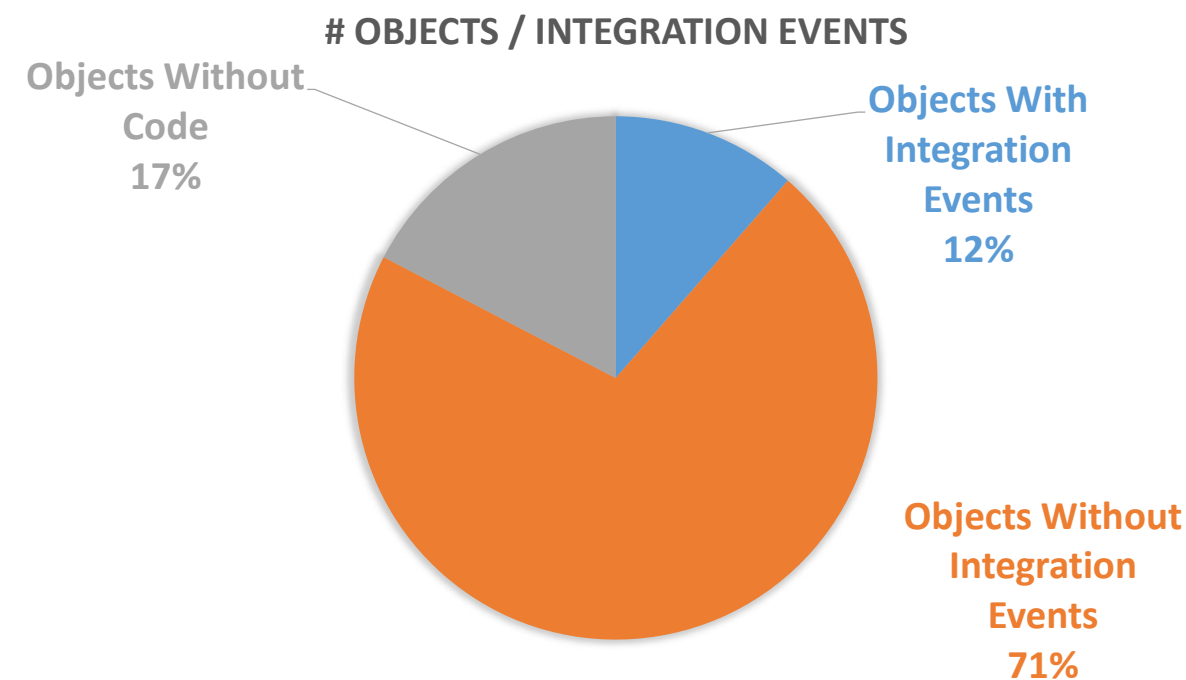


How much of the W1 application is extensible?

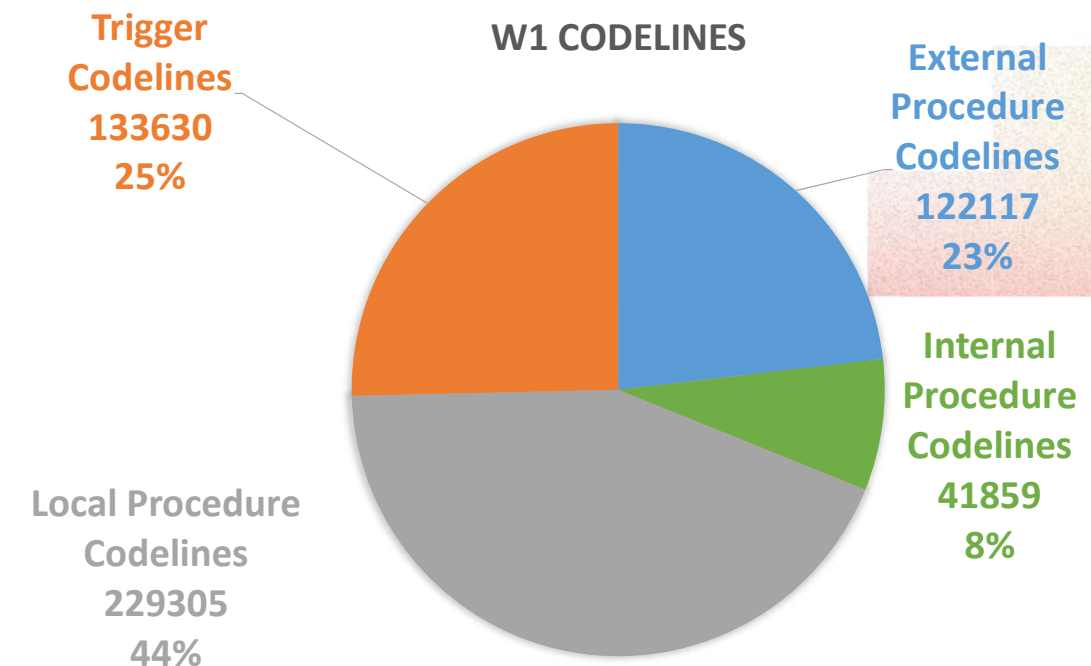
- By the numbers:
Business Central Fall '18 (W1)
 - **2.769** integration events
 - **11.129** External procedures
- ...but the application is BIG
 - 5817 objects
 - 34.529 procedures
 - 526.911 lines of code
- ... and it is getting bigger



How much of the W1 application is extensible?

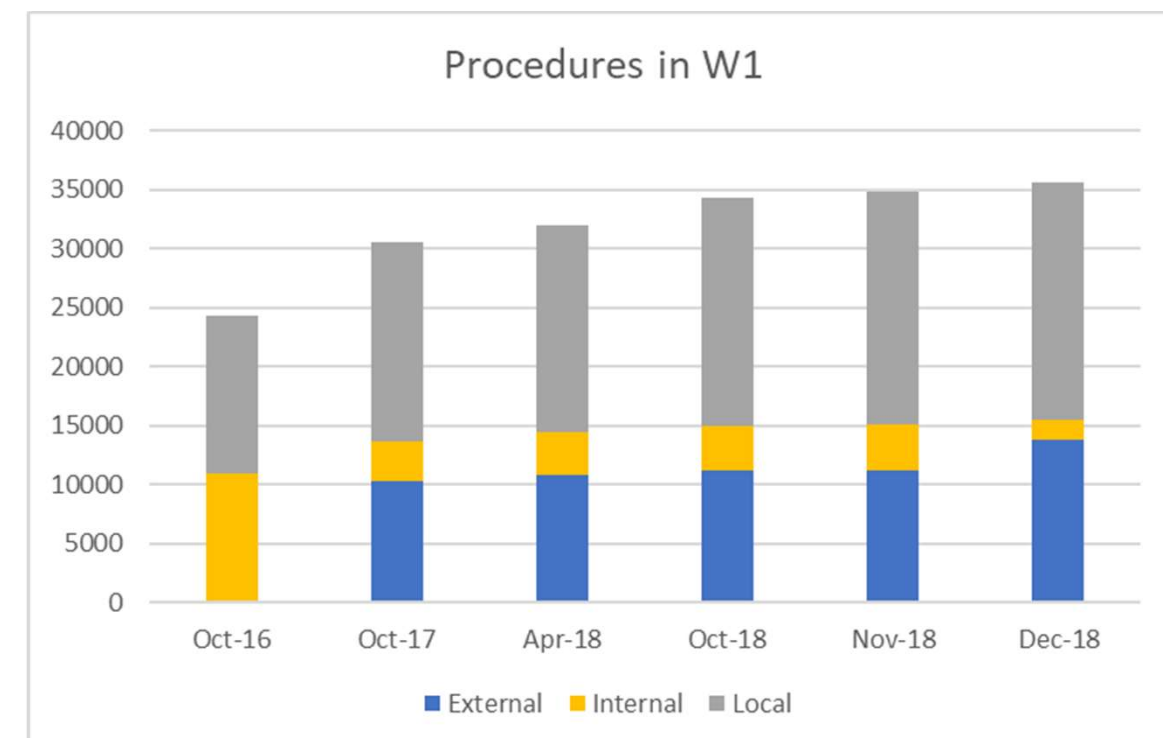
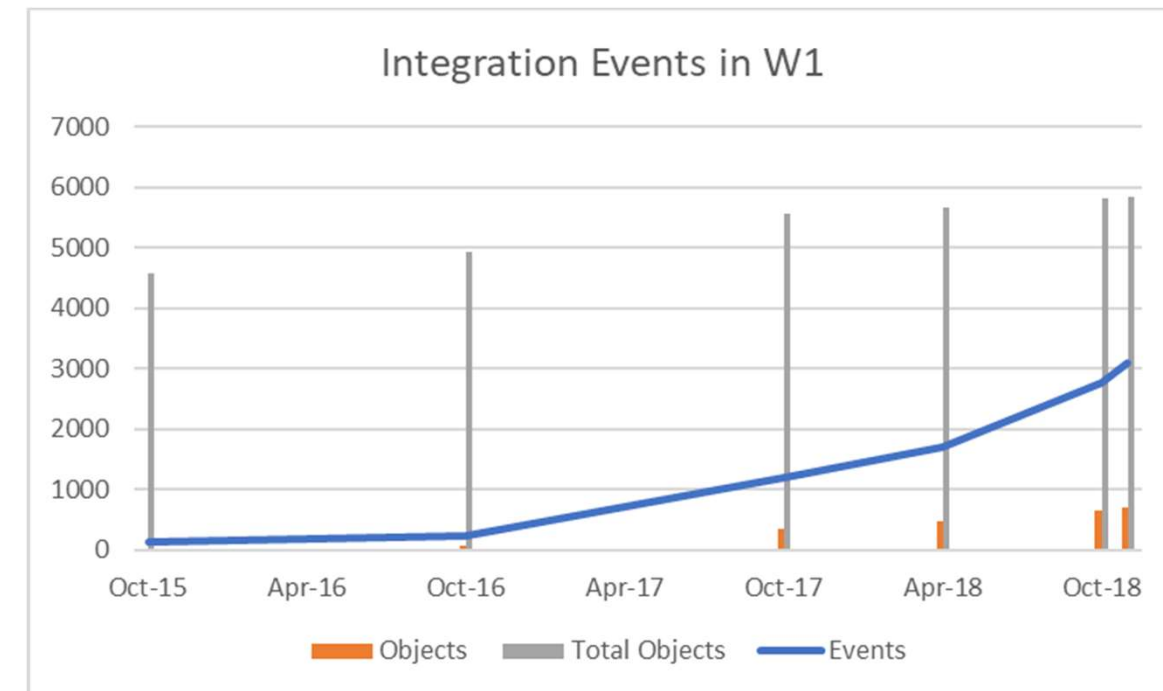


- 78% of objects have platform events
- Integration events in *only* 664 objects
- ~50% of code is local or internal



Progress on making the W1 application extensible

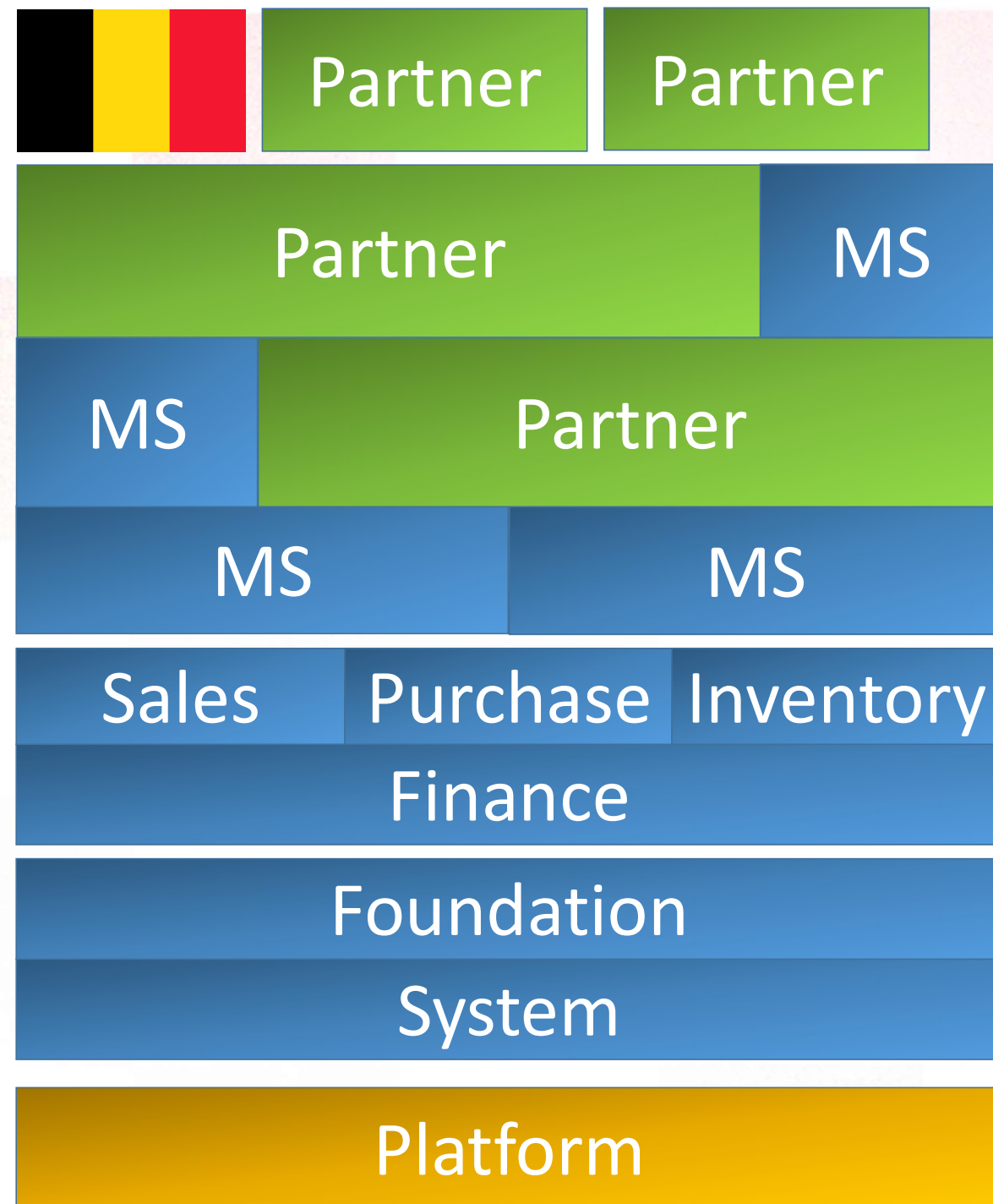
- We are adding events at an increasing rate
 - (+327 events in the next cu)
- We have exposed almost all global methods
 - (+2259 External in next cu)



Making the W1 application extensible

- When will the application be extensible enough?
- Should we add more events, in more objects?
- Will anyone be able to navigate the tens of thousands of events, methods and objects?
- Is this the right path? Will we ever get a fully extensible application this way?
- We think there's a better way...

A modern Application Platform



- Highly Componentized
 - Extensible by Partners
 - High quality
 - Open Source
-
- Components can be:
 - Extended
 - Replaced
 - Removed*
 - Added
-
- Everything is an extension

Componentizing the Application code

- The Application was designed to be code customized
- Componentizing
 - will force us to redesign for Extensibility
 - the interface to a component should be a versioned *contract*
 - that can be accessed from inside or outside BC
 - and define how you use, extend or replace the component
- components:
 - cannot be code customized
 - cannot have circular dependencies
 - must be extensible by design
 - should be replaceable
 - should be small, manageable
 - should be big enough to provide value (to the user)
- We will put the source on GitHub for partners to contribute

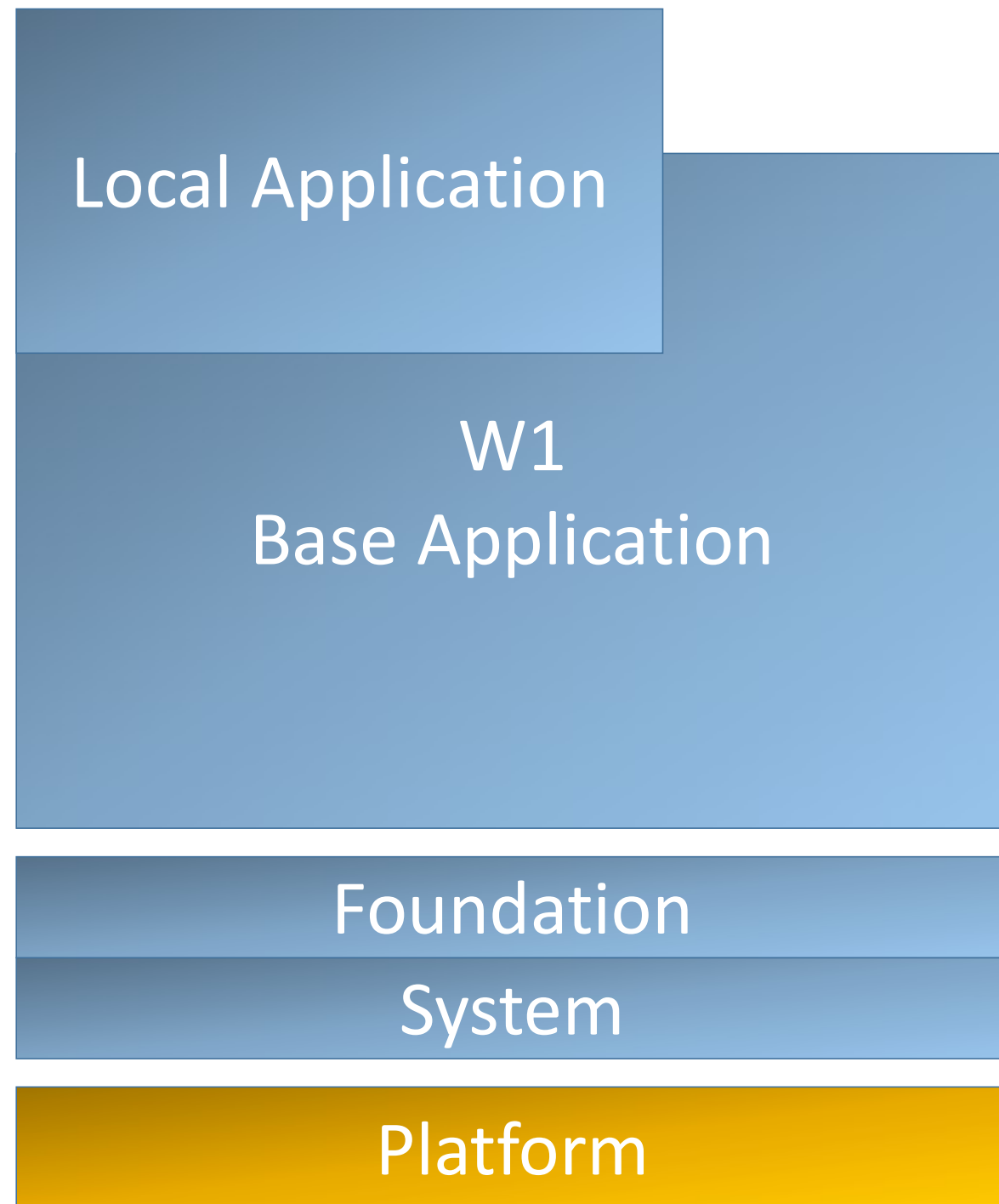


A dose of realism

- This is the **start** of a long journey (multiple releases/years)
- Yes, there will be breaking changes!*
- * these should only happen in major releases (6m)
- Extensibility will not be automatic or free:
we will design our components with Extensibility in mind
- We will make mistakes, learn & move on...
- Where do we start?



Componentizing the Application code



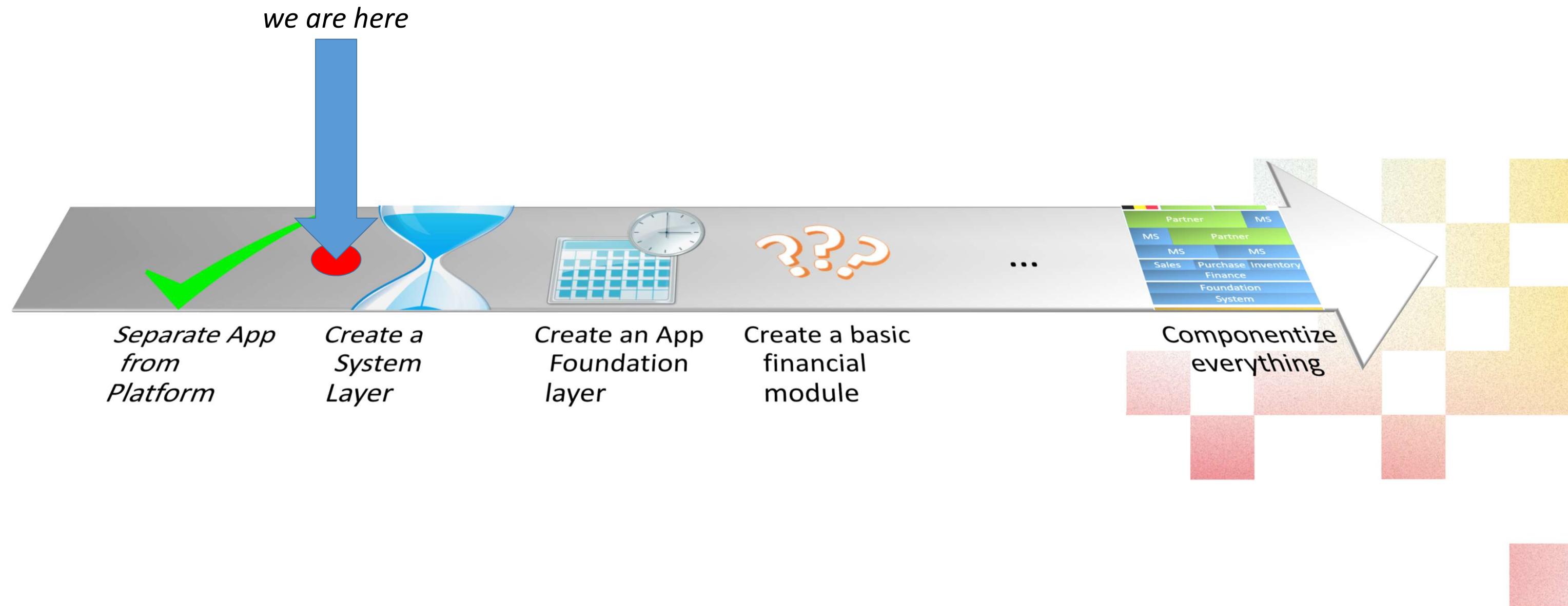
- Componentize from the Bottom
- System Layer
 - Configuration
 - Code to control overall behavior
- Application Foundation
 - Well defined Components
 - Built as Extensions in AL
 - Extensible
 - Replaceable
 - Includes Tests

Building the system layer

- What is the System Layer:
 - It is the interface between the application and platform
 - platform'ish functionality should go here
 - *TBD: Login, TextMgmt, Printing, Email, Change log etc..*
 - Will expose 'unsafe' bits in a safe way
 - It can access the unsafe bits (i.e. target=internal)
 - unsafe methods need to be wrapped so a safe API can be exposed
- The system layer cannot be replaced*
 - * But we will accept partner contributions
- And then? ...



Componentizing the Application code



Examples on how to extend



Report Selections



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S.Quote,S.Order,S.Invoice,S.Cr.Memo,S.Test,P.Q
uote,P.Order,P.Invoice,P.Cr.Memo,P.Receipt,P.Re
t.Shpt.,P.Test,B.Stmt,B.Recon.Test,B.Check,Remi
nder,Fin.Charge,Rem.Test,F.C.Test,Prod.
Order,S.Blanket,P.Blanket,M1,M2,M3,M4,Inv1,In
v2,Inv3,SM.Quote,SM.Order,SM.Invoice,SM.Cre
dit Memo,SM.Contract
Quote,SM.Contract,SM.Test,S.Return,P.Return,S
.Shipment,S.Ret.Rcpt.,S.Work Order,Invt. Period
Test,SM.Shipment,S.Test Prepmt.,P.Test
Prepmt.,S.Arch. Quote,S.Arch. Order,P.Arch.
Quote,P.Arch. Order,S. Arch. Return Order,P.
Arch. Return Order,Asm. Order,P.Assembly
Order,S.Order Pick
Instruction,,,,,,,,,,,,,,,,,,,,,C.Statement,V.Re
mittance,JQ,S.Invoice Draft,Pro Forma S.
Invoice,S. Arch. Blanket Order,P. Arch. Blanket
Order

Usage

Order

Sequence		Report ID	Report Caption	Use for Email Body	Use for Email Attach	Email Body Layout Description
1	...	1305	Sales - Confirmation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Default - Email Body
				<input type="checkbox"/>	<input type="checkbox"/>	

John Haddock Insurance Co.
Miss Patricia Doyle
10 High Tower Green
Manchester, M02 4RT
Great Britain

External Document No.
Bill-to Customer No.
VAT Registration No.

Order No.
Quote No.
Document Date
Due Date
Payment Terms
Partner Type

Salesperson
Email
Home Page
Phone No.
Registration No.
World Wide Bank
Giro No.
IBAN
SWIFT Code

Order Confirmation

CRONUS International Ltd.
5 The Ring
Westminster
W2 8HG London

Peter Sadow

0666-666-6666

BG999999 99-99-888

888-9999

GB 12 CPBK 08929965044991

No.	Description	Quantity	Unit of Measure	Unit Price Excl. VAT	VAT %	Line Amount Excl. VAT
1920-S	ANTWERP Conference Table	4	Piece	420.40	-5%	25
						1,597.52
						1,597.52
						399.38
						1,996.90

VAT Amount Specification

VAT Identifier	VAT %	VAT Base	VAT Amount
VAT25	25	1,597.52	399.38

Report Selections

- Used for defining which report(s) to print for specific sales and purchase documents, e.g. "Print Order Confirmation"
- Implemented as an option field
 - Provides programmatic validation at compilation time
 - But is difficult to extend

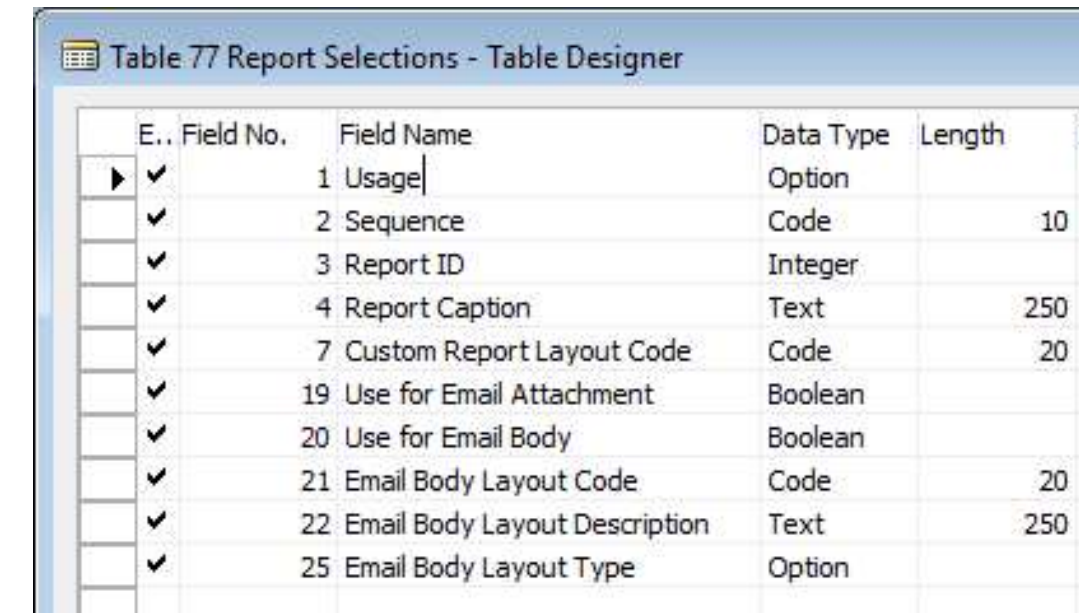


Table 77 Report Selections - Table Designer

	E..	Field No.	Field Name	Data Type	Length
<input checked="" type="checkbox"/>		1	Usage	Option	
<input checked="" type="checkbox"/>		2	Sequence	Code	10
<input checked="" type="checkbox"/>		3	Report ID	Integer	
<input checked="" type="checkbox"/>		4	Report Caption	Text	250
<input checked="" type="checkbox"/>		7	Custom Report Layout Code	Code	20
<input checked="" type="checkbox"/>		19	Use for Email Attachment	Boolean	
<input checked="" type="checkbox"/>		20	Use for Email Body	Boolean	
<input checked="" type="checkbox"/>		21	Email Body Layout Code	Code	20
<input checked="" type="checkbox"/>		22	Email Body Layout Description	Text	250
<input checked="" type="checkbox"/>		25	Email Body Layout Type	Option	

S.Quote,S.Order,S.Invoice,S.Cr.Memo,S.Test,P.Quote,P.Order,P.Invoice,P.Cr.Memo,P.Receipt,P.Ret.Shpt.,P.Test,B.Stmt,B.Recon.Test,B.Check,Reminder,Fin.Charge,Rem.Te
st,F.C.Test,Prod. Order,S.Blanket,P.Blanket,M1,M2,M3,M4,Inv1,Inv2,Inv3,SM.Quote,SM.Order,SM.Invoice,SM.Credit Memo,SM.Contract
Quote,SM.Contract,SM.Test,S.Return,P.Return,S.Shipment,S.Ret.Rcpt.,S.Work Order,Inv. Period Test,SM.Shipment,S.Test Prepmt.,P.Test Prepmt.,S.Arch. Quote,S.Arch.
Order,P.Arch. Quote,P.Arch. Order,S. Arch. Return Order,P. Arch. Return Order,Asm. Order,P.Assembly Order,S.Order Pick
Instruction,,,,,,,,,,,,,,,,,,,,C.Statement,V.Remittance,JQ,S.Invoice Draft,Pro Forma S. Invoice,S. Arch. Blanket Order,P. Arch. Blanket Order

Can We Fix Report Selections Usage?

- Should we preserve compatibility (no upgrade)?
- Change type from Option to Integer? Or to Code?
- How to hard-code specific values?
- Add related table to define values?
- ...or wait for (modern) AL?

```
1 enum 77 Report Selection Usage
2 {
3     Extensible = true;
4
5     value(0; S.Quote) {}
6     value(1; S.Order) { }
7     value(2; S.Invoice) { }
8     value(3; S.Cr.Memo) { }
9     ...
10    value(89; P. Arch. Blanket Order) { }
11 }
```

```
1 enumextension 50077 New Report Usage extends Report Selection Usage
2 {
3     value(50010; Credit Card Customer Advice) {}
4     value(50011; Direct Debet Customer Advice) {}
5 }
```



Dimensions (the year 2000 way)

- Generic – not tied to any specific entity
- User defined
 - Dimensions
 - Values
 - Rules
- CaptionClass functionality – was implemented for this specific purpose



Dimensions

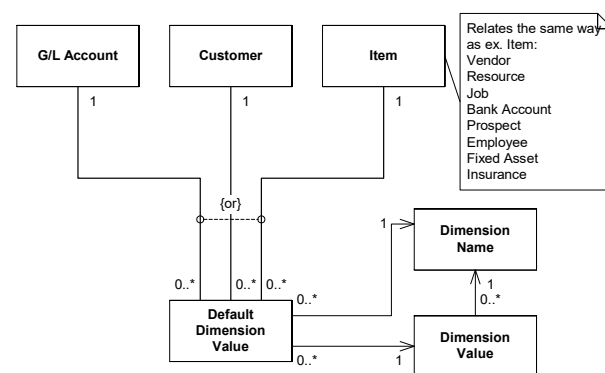
E.. Field No.	Field Name	Data Type	Length	Description
1	No.	Code	20	
2	No. 2	Code	20	
3	Description	Text	50	

E.. Field No.	Field Name	Data Type	Length	Description
1	Table ID	Integer		
2	No.	Code	20	
3	Dimension Code	Code	20	
4	Dimension Value Code	Code	20	
5	Value Posting	Option		
6	Table Caption	Text	250	

E.. Field No.	Field Name	Data Type	Length	Description
145	Pmt. Discount Amount	Decimal		
180	Line Discount Calculation	Option		
480	Dimension Set ID	Integer		

E.. Field No.	Field Name	Data Type	Length	Description
1	Dimension Set ID	Integer		
2	Dimension Code	Code	20	
3	Dimension Value Code	Code	20	

E.. Field No.	Field Name	Data Type	Length	Description
91	Order No.	Code	20	
92	Order Line No.	Integer		
480	Dimension Set ID	Integer		
904	Assemble to Order	Boolean		



```

Codeunit 408 DimensionManagement - C/AL Editor

1 Documentation()...
3 OnRun()...
5 [External] GetDimensionSetID(VAR DimSetEntry2 : Record "Dimension Set Entry") : Integer
8 [External] GetDimensionSet(VAR TempDimSetEntry : TEMPORARY Record "Dimension Set Entry") : Integer
19 [External] ShowDimensionSet(DimSetID : Integer; NewCaption : Text[250])...
29 [External] EditDimensionSet(DimSetID : Integer; NewCaption : Text[250]) : Integer...
42 [External] EditDimensionSet2(DimSetID : Integer; NewCaption : Text[250]; VAR GlobalDimVal : Code[20]) : Integer
56 [External] EditReclasDimensionSet2(VAR DimSetID : Integer; VAR NewDimSetID : Integer; VAR GlobalDimVal1 : Code[20]) : Integer
64 [External] UpdateGlobalDimFromDimSetID(DimSetID : Integer; VAR GlobalDimVal1 : Code[20]) : Integer
69 [External] GetCombinedDimensionSetID(DimensionSetIDArr : ARRAY [10] OF Integer; VAR GlobalDimVal : Code[20]) : Integer
92 [External] GetDeltaDimSetID(DimSetID : Integer; NewParentDimSetID : Integer; OldParentDimSetID : Integer) : Integer
131 LOCAL GetGLSetup()...
145 [External] CheckDimIDComb(DimSetID : Integer) : Boolean...
163 [External] CheckDimValuePosting(TableID : ARRAY [10] OF Integer; No : ARRAY [10] OF Integer) : Boolean...
271 [External] CheckDimBuffer(VAR DimBuffer : Record "Dimension Buffer") : Boolean...
    
```

- E.g. Item
- Pattern for entities
- Sales Line
- Ledger
- Library functions

Dimensions - CaptionClass

Dimension ▾

Code	Name	Code Caption	Filter Caption
AREA	Area	Area Code	Area Filter
BUSINESSGR	Business Group	Businessgroup Code	Businessgroup Filter
CUSTOMER...	Customer Group	Customergroup Code	Customergroup Filter
DEPARTMENT	Department	Department Code	Department Filter
PROJECT	Project	Project Code	Project Filter
PURCHASER	Purchaser	Purchaser Code	Purchaser Filter
SALESCAMP...	Sales campaign	Salescampaign Code	Salescampaign Filter
SALESPERSON	Salesperson	Salesperson Code	Salesperson Filter

Area Code	Department Code	Project Code	Customergroup Code	Salescampaign Code
30	SALES		MEDIUM	
40	SALES	VW	MEDIUM	SUMMER

General Ledger Setup

General ▾

Dimensions ▲

Global Dimension 1 Code: DEPARTMENT

Global Dimension 2 Code: PROJECT

Shortcut Dimension 1 Code: DEPARTMENT

Shortcut Dimension 2 Code: PROJECT

Shortcut Dimension 3 Code: CUSTOMERGROUP ▾

Shortcut Dimension 4 Code: AREA ▾

Shortcut Dimension 5 Code: BUSINESSGROUP ▾

Shortcut Dimension 6 Code: SALESCAMPAIGN ▾

Shortcut Dimension 7 Code: ▾

Shortcut Dimension 8 Code: ▾

✓	30	Amount Including VAT	Decimal	
✓	32	Allow Invoice Disc.	Boolean	
✓	34	Gross Weight	Decimal	
✓	35	Net Weight	Decimal	
✓	36	Units per Parcel	Decimal	
✓	37	Unit Volume	Decimal	
✓	38	Appl. to Item Entry	Integer	
✓	40	Shortcut Dimension 1 Code	Code	20
✓	41	Shortcut Dimension 2 Code	Code	20
✓	42	Customer Price Group	Code	10
✓	45	Job No.	Code	20
✓	52	Work Type Code	Code	10
✓	56	Recalculate Invoice Disc.	Boolean	
✓	57	Outstanding Amount	Decimal	
✓	58	Qty. Shipped Not Invoiced	Decimal	
✓	59	Shipped Not Invoiced	Decimal	

Shortcut Dimension 1 Code - Properties

Property	Value
CaptionML	ENU=Shortcut Dimens
Description	<>
Data Type	Code
Enabled	<Yes>
DataLength	
InitValue	<Undefined>
FieldClass	<Normal>
AutoFormatType	
AutoFormatExpr	<>
CaptionClass	'1,2,1'

```
Codeunit 42 CaptionManagement - C/AL Editor
30 IF (CommaPosition > 0) AND (CommaPosition < 80) THEN BEGIN
31   CaptionArea := COPYSTR(CaptionExpr,1,CommaPosition - 1);
32   CaptionRef := COPYSTR(CaptionExpr,CommaPosition + 1);
33   CASE CaptionArea OF
34     '1':
35       EXIT(DimCaptionClassTranslate(Language,COPYSTR(CaptionRef,1,80)));
36     '2':
37       EXIT(VATCaptionClassTranslate(COPYSTR(CaptionRef,1,80)));
38     '3':
39       EXIT(CaptionRef);
40     '101':
41       EXIT(CurCaptionClassTranslate(CaptionRef));
42   END;
43 END;
44 EXIT(CaptionExpr);
```

```
Codeunit 42 CaptionManagement - C/AL Editor
118 '2': // Code Caption - Shortcut Dimension using No. as Reference
119 CASE DimCaptionRef OF
120   '1':
121     EXIT(
122       DimCodeCaption(
123         Language,DimOptionalParam1,DimOptionalParam2,
124         GLSetup."Shortcut Dimension 1 Code",
125         GLSetup.FIELDCAPTION("Shortcut Dimension 1 Code"));
126   '2':
127     EXIT(
128       DimCodeCaption(
129         Language,DimOptionalParam1,DimOptionalParam2,
130         GLSetup."Shortcut Dimension 2 Code",
131         GLSetup.FIELDCAPTION("Shortcut Dimension 2 Code"));
132   '3':
133     EXIT(
134       DimCodeCaption(
135         Language,DimOptionalParam1,DimOptionalParam2,
```

CaptionClass – Custom caption

E..	Field No.	Field Name	Data Type	Length	Description
✓	7601	Copy Sell-to Addr. to Qte From	Option		
✓	7602	Validate EU Vat Reg. No.	Boolean		
✓	8000	Id	GUID		
✓	8001	Currency Id	GUID		
✓	8002	Payment Terms Id	GUID		
✓	8003	Shipment Method Id	GUID		
✓	8004	Payment Method Id	GUID		
✓	9003	Tax Area ID	GUID		
✓	9004	Tax Area Display Name	Text	50	
✓	9005	Contact ID	GUID		
✓	9006	Contact Graph Id	Text	250	
✓	50000	My Generic Field	Integer		

Property	Value
InitValue	<Undefined>
FieldClass	<Normal>
BlankNumbers	<DontBlank>
BlankZero	<No>
SignDisplacement	<0>
AutoFormatType	<0>
AutoFormatExpr	<>
CaptionClass	GetCustomCaption
Editable	<Yes>
MinValue	<>
MaxValue	<>
NotBlank	<No>
ValuesAllowed	<>

```
1695  
1696 LOCAL GetCustomCaption() : Text[80]  
1697 EXIT(STRSUBSTNO('3,Mycaption %1',RANDOM(99)));  
1698
```

General

Name

Progressive Home Furnishings

Mycaption 41

0

Balance (LCY)

1,499.03

AutoFormatExpr

Table 18 Customer - Table Designer

E.. Field No.	Field Name	Data Type	Length	Description
✓ 47	Payment Method Code	Code	10	
✓ 53	Last Modified Date Time	DateTime		
✓ 54	Last Date Modified	Date		
✓ 55	Date Filter	Date		
✓ 56	Global Dimension 1 Filter	Code	20	
✓ 57	Global Dimension 2 Filter	Code	20	
✓ 58	Balance	Decimal		
✓ 59	Balance (LCY)	Decimal		

Help

Balance (LCY) - Properties

Property	Value
InitValue	<Undefined>
FieldClass	FlowField
CalcFormula	Sum("Detailed Cust. Ledg. Entry"."Amount (LCY)" W...
DecimalPlaces	<Undefined>
BlankNumbers	<DontBlank>
BlankZero	<No>
SignDisplacement	<0>
AutoFormatType	
AutoFormatExpr	GetCustomFormatExpr

11

Table 18 Customer - C/AL Editor

General

Name	Progressive Home Furnishings
Mycaption 54	0
Balance (LCY)	Hey! £1,499.03
Balance Due (LCY)	0.00

Item Charge

SALES ORDER

101023

Process Posti

Customer Name

Contact

Posting Date

Order Date

Lines

Functions

Manage

Item Charge

Actions

Less options

Get Shipment Lines

Suggest Item Charge Assignment

EDIT - ITEM CHARGE ASSIGNMENT (SALES) - S-FREIGHT MISC. FREIGHT CHARGES (SALES)

APPLIES-TO DOC. TYPE	APPLIES-TO DOC. NO.	APPLIES-TO DOC. LINE NO.	ITEM NO.	DESCRIPTION	QTY. TO ASSIGN	QTY. ASSIGNED	AMOUNT TO ASSIGN
Order	101023						0.00
Order	101023						0.00
REM. TO ASSIGN							
2							
0							

Total (Qty.)

Total (Amount)

TYPE	Item	1920-S	ANTWERP Confe				420.40	1,597.52
Item	1936-S	BERLIN Guest Chair, yellow	GREEN	23	-	PCS	143.90	3,144.21
Charge (Item	S-FREIGHT	Misc. Freight Charges (Sales)		2	-		*	*

Select how to distribute the assigned item charge when the document has more than one line of type Item.

☐ Equally

☒ By Amount

☐ By Weight

☐ By Volume

OK

Cancel

Close

Suggest Item Charge Assignment from a sales line
the Item Charges test codeunit is 134350

Item Charge

Codeunit 5807 "Item Charge Assgnt. (Sales)"

```

SuggestAssignment(SalesLine : Record "Sales Line";TotalQtyToAssign : Decimal;TotalAmtToAssign : Decimal)
// ... <removed code>
Selection := 1;
SuggestItemChargeMenuTxt :=
    STRSUBSTNO('%1,%2,%3,%4',AssignEquallyMenuText,AssignByAmountMenuText,AssignByWeightMenuText,AssignByVolumeMenuText);
IF ItemChargeAssgntSales.COUNT > 1 THEN BEGIN
    Selection := 2;
    SuggestItemChargeMessageTxt := SuggestItemChargeMsg;
    OnBeforeShowSuggestItemChargeAssignStrMenu(SalesLine,SuggestItemChargeMenuTxt,SuggestItemChargeMessageTxt,Selection);
    IF SuggestItemChargeMenuTxt = '' THEN
        EXIT;
    IF STRLEN(DELCHR(SuggestItemChargeMenuTxt,'=',DELCHR(SuggestItemChargeMenuTxt,'=',','))) > 1 THEN
        Selection := STRMENU(SuggestItemChargeMenuTxt,Selection,SuggestItemChargeMessageTxt)
    ELSE
        Selection := 1;
END;
IF Selection = 0 THEN
    EXIT;

SelectionTxt := SELECTSTR(Selection,SuggestItemChargeMenuTxt);

AssignItemCharges(SalesLine,TotalQtyToAssign,TotalAmtToAssign,SelectionTxt);

```

String Menu

Item Charge

```
[External] AssignItemCharges(SalesLine : Record "Sales Line";TotalQtyToAssign : Decimal;TotalAmtToAssign : Decimal;SelectionTxt : Text)
// <removed code>
IF ItemChargeAssgntSales.FINDFIRST THEN
CASE SelectionTxt OF
AssignEquallyMenuText:
AssignEqually(ItemChargeAssgntSales,Currency,TotalQtyToAssign,TotalAmtToAssign);
AssignByAmountMenuText:
AssignByAmount(ItemChargeAssgntSales,Currency,SalesHeader,TotalQtyToAssign,TotalAmtToAssign);
AssignByWeightMenuText:
AssignByWeight(ItemChargeAssgntSales,Currency,TotalQtyToAssign);
AssignByVolumeMenuText:
AssignByVolume(ItemChargeAssgntSales,Currency,TotalQtyToAssign);
ELSE BEGIN
OnAssignItemCharges(
SelectionTxt,ItemChargeAssgntSales,Currency,SalesHeader,TotalQtyToAssign,TotalAmtToAssign,ItemChargesAssigned);
IF NOT ItemChargesAssigned THEN
ERROR(ItemChargesNotAssignedErr);
END;
END;
```

Building Blocks

- Basic common building blocks
 - General Ledger
 - Debtor / Creditor Ledger
 - Inventory
- Functional Areas
 - Service Management
 - Manufacturing
 - Warehouse Management
 - Distribution

Horizontal

Vertical



Example: Subscriptions

- Service Contracts
- Magazines, News
- Rentals
- Housing
- Utilities
 - Electricity
 - Water
 - Internet
- Insurance
- Memberships
 - Gyms
 - Sports clubs
- Manage Subscriptions
- Create periodic invoices (batch job)
- Adjust subscription price
- Print/send customer advice about change in price or conditions
- Direct Debit
 - SEPA
 - Credit cards



Subscriptions



mibuso.com

Subscriptions

OFFICE · Basic office package

General

Code

OFFICE

Currency Code

Description

Basic office package

Lines

GYM-BASIC · Basic Gym Membership

General

Type

Code

GYM-BASIC

Currency Code

Description

Basic Gym Membership

Item

Lines

Item

Item

Type

No.

Description

Quantity

Item

Resource

70061

basic membership

1

Item

Resource

MARK

1/2 hour monthly guidance

0.5

Customer

01121212 · Spotsmeyer's Furnishings

General

Vis mere

Name	Spotsmeyer's Furnishings	Blocked	<div></div>
Balance (LCY)	0.00	Total Sales	0.00
Balance Due (LCY)	0.00	Costs (LCY)	0.00
Credit Limit (LCY)	0.00		


Address & Contact >

US-FL 37125Mr. Mike Nash

Invoicing >

EXPORTFOREIGN

Customer Picture v



Attachments
Documents

Customer Subscription

GYM-BASIC · Basic Gym Membership

[General](#)

Code	GYM-BASIC	Currency Code	
Description	Basic gym Membership		

[Lines](#)

Type	No.	Description	Quantity
Item	70061	basic membership	1
Resource	MABK	1/2 hour monthly guidance	0.5

Recurrence

Appointment Recurrence

Appointment time

Start: 08:00

End: 08:30

Duration: 30 minutes

Recurrence pattern

☐ Daily

☐ Every 5 day(s) of every 1 month(s)

☒ Monthly

☐ The 1st of every 1 month(s)

Range of recurrence

Start: 13-11-2018

End: 30-05-2019

Occurrences: 10

☒ No end date

OK Cancel Remove recurrence

Adjust Prices

Edit - Adjust Item Costs/Prices

Options

Adjust	Item Card
Adjust Field	Unit Price
Adjustment Factor	1.00
Rounding Method	SUPERMARKET

Items

Show results:

Where:	NO.	IS	
And:	Vendor No.	IS	
And:	Inventory Posting Group	IS	
And:	Costing Method	IS	

Schedule... OK Cancel

Advice on change

John Doe
123 Main Street
City, State 12345

John Doe
123 Main Street
City, State 12345

John Doe
123 Main Street
City, State 12345

December 31, 2023

Dear Mr. Johnson,

I am pleased to inform you that your application for the position of Software Engineer at our company has been reviewed. We were impressed by your qualifications and experience, and we believe you would be a valuable addition to our team.

We have decided to offer you the position of Software Engineer at a salary of \$75,000 per year, plus benefits. The position is full-time, and the start date is flexible. We would like to schedule an interview with you to discuss the details of the position and to meet the other members of our team.

Please contact me at your earliest convenience to discuss the next steps in the hiring process. We are excited to hear from you and to welcome you to our company.

Sincerely,
John Doe
Hiring Manager

Attachment: Employment Offer Letter

Terms and conditions

[illegible]

Test Report

Customer - Order Detail															
<div> <div>Customer Name: JALUS</div> <div>Customer Address: 10000,0000</div> <div>Customer No: 10000,0000</div> </div>															
Signature	Date	Type	No.	Description	Quantity	Ordering Quantity	Quantity on Stock	Unit Price	Unit VAT	Line Discount Amount	Ex. Discount Amount	VAT	Ordering Price		
10000 The Camon Group P.C.															
01/12/20	10/12/20	101516	1512020	101516 1512020	1	1	1	20.00	0.00	0.00	0.00	20.00			
01/12/20	10/12/20	101516	1512020	101516 1512020	1	1	1	20.00	0.00	0.00	0.00	20.00			
01/12/20	10/12/20	101516	1512020	101516 1512020	4	4	4	0.00	0.00	0.00	0.00	0.00			
01/12/20	10/12/20	101516	1512020	101516 1512020	10	10	10	1.00	0.00	0.00	0.00	10.00			
01/12/20	10/12/20	101516	1512020	101516 1512020	10	10	10	1.00	0.00	0.00	0.00	10.00			
												150.00			
10000 The Camon Group P.C.															
10000 The Camon Group P.C.															
01/12/20	10/12/20	101517	1512020	101517 1512020	2	2	2	340.00	0.00	0.00	0.00	680.00			
01/12/20	10/12/20	101517	1512020	101517 1512020	2	2	2	340.00	0.00	0.00	0.00	680.00			
01/12/20	10/12/20	101517	1512020	101517 1512020	1	1	1	20.00	0.00	0.00	0.00	20.00			
01/12/20	10/12/20	101517	1512020	101517 1512020	1	1	1	250.00	0.00	0.00	0.00	250.00			
01/12/20	10/12/20	101517	1512020	101517 1512020	10	10	10	75.00	0.00	0.00	0.00	750.00			
01/12/20	10/12/20	101517	1512020	101517 1512020	6	6	6	60.00	0.00	0.00	0.00	360.00			
01/12/20	10/12/20	101517	1512020	101517 1512020	10	10	10	50.00	0.00	0.00	0.00	500.00			
01/12/20	10/12/20	101517	1512020	101517 1512020	20	20	20	21.00	0.00	0.00	0.00	420.00			
01/12/20	10/12/20	101517	1512020	101517 1512020	10	10	10	1.00	0.00	0.00	0.00	10.00			
01/12/20	10/12/20	101517	1512020	101517 1512020	30	30	30	1.00	0.00	0.00	0.00	30.00			
01/12/20	10/12/20	101517	1512020	101517 1512020	10	10	10	75.00	0.00	0.00	0.00	750.00			
01/12/20	10/12/20	101517	1512020	101517 1512020	8	8	8	120.00	0.00	0.00	0.00	960.00			
01/12/20	10/12/20	101517	1512020	101517 1512020	10	10	10	1.00	0.00	0.00	0.00	10.00			
01/12/20	10/12/20	101517	1512020	101517 1512020	10	10	10	21.00	0.00	0.00	0.00	210.00			
01/12/20	10/12/20	101517	1512020	101517 1512020	10	10	10	1.00	0.00	0.00	0.00	10.00			

Bank – Direct Debit



Subscriptions

This is almost what we have today as “Recurring Sales Lines”
...but we need more. ...and our customers need even more...

Subscriptions

OFFICE - Basic office package

General

tableextension "Insurance extension" extends "Standard Sales Line"

```
{
  field "my new field" text(1000) {}
}

function myFunction(input integer)
{
  // my code
}
```

Item Lines

Item	Type	No.	Description	Quantity
Item		70061	basic membership	1
Resource		MARK	1/2 hour monthly guidance	0.5

Customer

01121212 - Spotsmeyer's Furnishings

General

Name Spotsmeyer's Furnishings Blocked

Balance (LCY) 0.00 Total Sales 0.00

Balance Due (LCY) 0.00 Costs (LCY) 0.00

Credit Limit (LCY) 0.00

Address & Contact

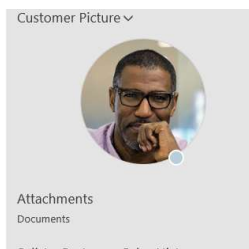
US-FL 37125 Mr. Mike Nash

Invoicing

EXPORT FOREIGN

Customer Picture

Attachments Documents



```
codeunit 10000 "My extension event handlers"
{
    // Do my own calculations instead of the standard calculations
    LOCAL [EventSubscriber] OnBeforeInvoiceSend : Report "Adjust Item Costs/Prices" (001 Item : Record Item;001 Handled : Boolean)
    {
        IF Handled THEN
            EXIT;
        // Do my stuff here
        Handled := TRUE;
    }

    // Post processing of the item
    LOCAL [EventSubscriber] OnAfterInvoiceSend : Report "Adjust Item Costs/Prices" (001 Item : Record Item;001 Handled : Boolean)
    {
        IF Handled THEN
            EXIT;
        // Do my stuff here
        Handled := TRUE;
    }
}
```

Events

Edit - Create Recurring Sales

Order Date

Posting Date

Standard Customer Sales Code

Show results

Where Customer No. No.

And Code No. CRM-BASIC

OK Cancel

Report selections

Report selections

Test Report

Customer - Order Detail

Reported Date: 2018-11-15 10:15:00 Page: 1

Customer No: 0000000000

Report Date	Type	No.	Description	Quantity	Outstanding Quantity	Quantity on Back Order	Unit Price Excl. VAT	Line Discount Amount	Inv. Discount Amount Excl. VAT	Outstanding Amount
The Cannon Group PLC										
01/10/2019	Item	10000	10000 10000	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10001	10001 10001	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10002	10002 10002	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10003	10003 10003	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10004	10004 10004	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10005	10005 10005	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10006	10006 10006	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10007	10007 10007	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10008	10008 10008	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10009	10009 10009	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10010	10010 10010	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10011	10011 10011	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10012	10012 10012	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10013	10013 10013	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10014	10014 10014	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10015	10015 10015	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10016	10016 10016	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10017	10017 10017	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10018	10018 10018	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10019	10019 10019	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10020	10020 10020	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10021	10021 10021	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10022	10022 10022	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10023	10023 10023	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10024	10024 10024	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10025	10025 10025	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10026	10026 10026	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10027	10027 10027	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10028	10028 10028	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10029	10029 10029	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10030	10030 10030	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10031	10031 10031	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10032	10032 10032	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10033	10033 10033	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10034	10034 10034	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10035	10035 10035	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10036	10036 10036	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10037	10037 10037	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10038	10038 10038	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10039	10039 10039	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10040	10040 10040	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10041	10041 10041	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10042	10042 10042	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10043	10043 10043	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10044	10044 10044	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10045	10045 10045	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10046	10046 10046	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10047	10047 10047	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10048	10048 10048	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10049	10049 10049	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10050	10050 10050	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10051	10051 10051	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10052	10052 10052	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10053	10053 10053	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10054	10054 10054	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10055	10055 10055	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10056	10056 10056	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10057	10057 10057	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10058	10058 10058	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10059	10059 10059	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10060	10060 10060	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10061	10061 10061	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10062	10062 10062	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10063	10063 10063	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10064	10064 10064	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10065	10065 10065	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10066	10066 10066	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10067	10067 10067	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10068	10068 10068	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10069	10069 10069	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10070	10070 10070	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10071	10071 10071	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10072	10072 10072	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10073	10073 10073	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10074	10074 10074	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10075	10075 10075	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10076	10076 10076	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10077	10077 10077	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10078	10078 10078	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10079	10079 10079	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10080	10080 10080	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10081	10081 10081	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10082	10082 10082	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10083	10083 10083	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10084	10084 10084	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10085	10085 10085	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10086	10086 10086	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10087	10087 10087	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10088	10088 10088	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10089	10089 10089	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10090	10090 10090	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10091	10091 10091	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10092	10092 10092	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10093	10093 10093	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10094	10094 10094	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10095	10095 10095	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10096	10096 10096	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10097	10097 10097	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10098	10098 10098	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10099	10099 10099	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item	10100	10100 10100	1	1	1	250.00	0.00	0.00	250.00
01/10/2019	Item									

Customer No: 0000.00000

2018

01/10/2019

01/10/2019

01/10/2019

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01/10/2019

01/10/2019

01/10/2019

Subscriptions

Subscriptions

OFFICE · Basic office package

```
General
tableextension "Insurance extension" extends "Standard Sales Line"
Code
{
    field "my new field" text(1000) {}
Description
{
    function myFunction(input integer)
    {
        // my code
    }
}
Line
Currency Code
Description Basic type Membership
Item
Item Lines
Item
Item Type No. Description Quantity
Item 70061 basic membership
Resource MARK % hour monthly guidance
```

Customer


01121212 · Spotsmeyer's Furnishings

General		Visiting	
Name:	Spotsmeyer's Furnishings	Blocked	<input type="text"/>
Balance (LCY)	0.00	Total Sales	0.00
Balance Due (LCY)	0.00	Costs (LCY)	0.00
Credit Limit (LCY)	0.00		

[Address & Contact >](#)
US-FL 37125
Mr. Mike Nash

[Invoicing >](#)
EXPORT
FOREIGN

Customer Picture ▾



Attachments

Documents

Customer Subscription

GYM-BASIC · Basic Gym Membership

```
General 1 tableextension "Insurance extension" extends "Standard Sales Line"
Code 2 {
Description 3     field "my new field" text(1000) {}
4
5     function myFunction(input integer)
6     {
7         // my code
8     }
9 }
```

Recurrence

Appointment Recurrence

Appointment time

Start: 09:00

End: 09:30

Duration: 30 minutes

Recurrence pattern

☐ Daily ☐ Day ☐ 5 of every 1 month(s)

☐ Weekly ☒ the last of every 1 month(s) on Friday

☒ Monthly ☐ Yearly

Range of recurrence

Start: 1/10/11-2018

☐ End by: 30-09-2019

☐ End after: 10 occurrences

☒ No end date

OK Cancel Remove recurrence

Adjust Prices

[Edit - Adjust Item Costs/Prices](#)

Options

Adjust	Item Card
Adjust field	Unit Price
Adjustment Factor	
Rounding Method	SUPERMARKET

Items

Show results:

Where:	No.	IS	
And:	Vendor No.	IS	
And:	Inventory Posting Group	IS	
And:	Costing Method	IS	

Events

[illegible]

Terms and conditions

[illegible]

Advice on change

[illegible]

Report selections

Custom Word Layouts

Test Report

[illegible]

Bank – Direct Debit



This is almost what we have today as “Recurring Sales Lines”

...but we need more. ...and our customers need even more...

Replaced logig – e.g. no document creation

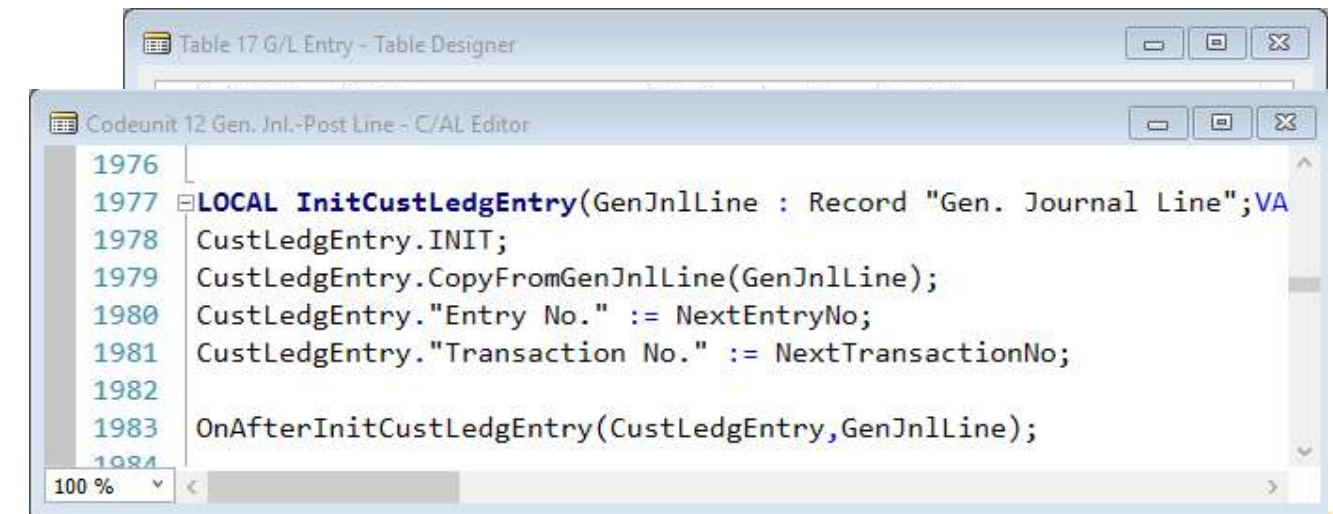
Customer Ledger Entries

Search	Edit List	Process	Show Attached	Open in Excel	Actions	Nav
POSTING DATE	DOCUMENT TYPE	DOCUMENT NO.	CUSTOMER NO.	MESSAGE TO RECIPIENT	DESCRIPTION	
1/4/2020	Invoice	2802	49525252		Beef House 2020	
1/3/2020	Invoice	2801	49525252		Beef House 2020	
1/2/2020	Invoice	103014	49858585		Invoice 103014	
1/2/2020	Invoice	103013	43687129		Invoice 103013	
1/2/2020	Invoice	103012	43687129		Invoice 103012	
1/2/2020	Invoice	103011	43687129		Invoice 103011	
1/2/2020	Invoice	103010	49633663		Invoice 103010	
1/2/2020	Invoice	103009	49858585		Invoice 103009	
1/2/2020	Invoice	103008	49858585		Invoice 103008	
1/2/2020	Invoice	103007	49858585		Invoice 103007	
1/2/2020	Invoice	103006	49525252		Invoice 103006	
1/2/2020	Invoice	103005	49525252		Invoice 103005	

Report selections

When separating the G/L from the rest...

- Remove dependencies
- ..also the hidden ones



The screenshot displays two overlapping windows from the Microsoft Dynamics NAV application. The top window, titled 'Table 17 G/L Entry - Table Designer', is partially obscured by the bottom window. The bottom window, titled 'Codeunit 12 Gen. Jnl.-Post Line - C/AL Editor', shows a list of lines on the left and a corresponding C/AL code block on the right. The code block contains the following lines:

```
1976  
1977 LOCAL InitCustLedgEntry(GenJnlLine : Record "Gen. Journal Line"; VA  
1978 CustLedgEntry.INIT;  
1979 CustLedgEntry.CopyFromGenJnlLine(GenJnlLine);  
1980 CustLedgEntry."Entry No." := NextEntryNo;  
1981 CustLedgEntry."Transaction No." := NextTransactionNo;  
1982  
1983 OnAfterInitCustLedgEntry(CustLedgEntry, GenJnlLine);  
1984
```

The bottom window also features a zoom level of '100 %' and a horizontal scrollbar.

Example: General Journal

- General Journal needs to be "General", i.e.
 - Also post to Inventory and other sub-ledgers
 - Must be extendable to other (yet unknown) sub-ledgers
- When posting a General Journal that consists of a mix of types,
 - The batch will be passed on to all subscribers of the posting function
 - The sub-ledger posting function will handle "its own" journal lines and replace "their" records with G/L journal lines or any other type known to them, if applicable
 - Finally batch is processed by the G/L module, at which time it should only contain G/L lines

Upgrade



Upgrade Code

```
codeunit 50100 MyUpgradeCodeunit
{
    Subtype = Upgrade;

    trigger OnCheckPreconditionsPerDatabase(); begin end;

    trigger OnUpgradePerDatabase();
    begin
        // your upgrade logic goes here
    end;

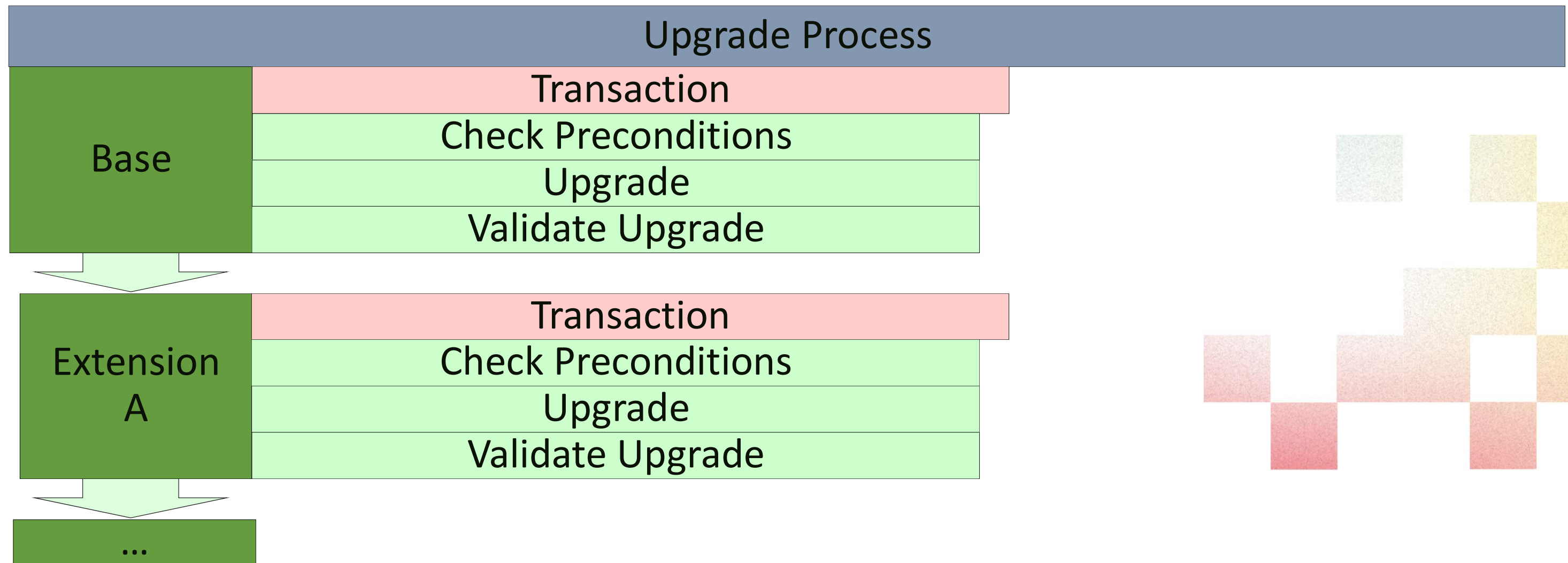
    trigger OnValidateUpgradePerDatabase(); begin end;
}
```

* PerCompany triggers omitted for brevity



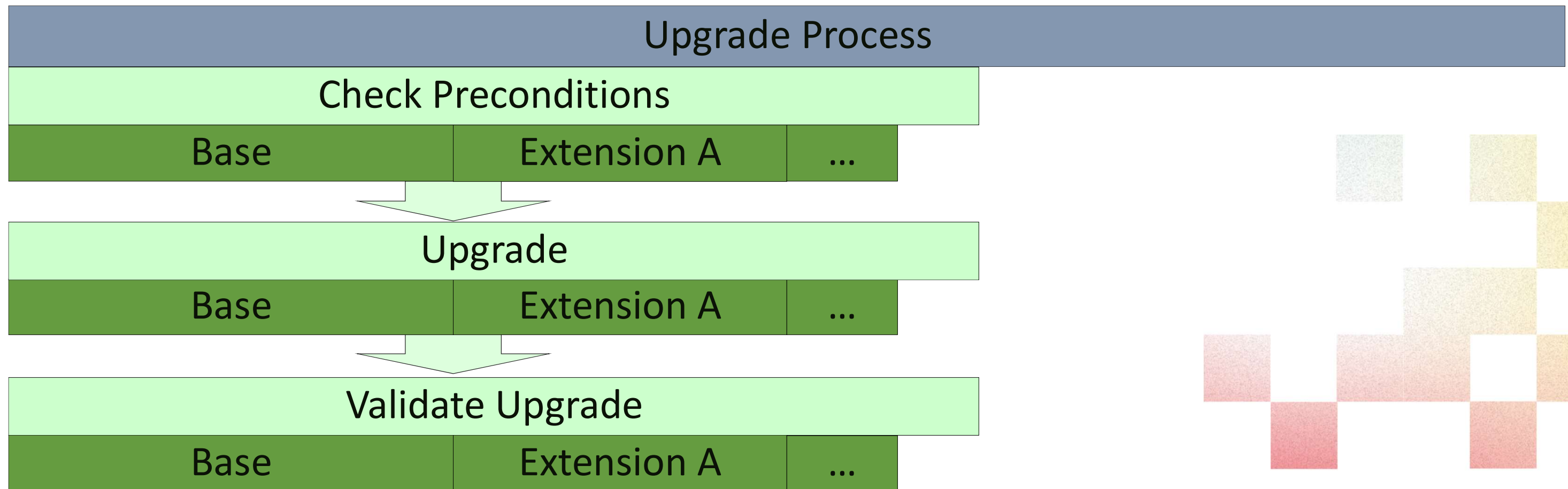
Joint Upgrade – Serial

Extension Upgrades are performed in sequence



Joint Upgrade – Single Transaction

Extension Upgrades are woven into process



Module API – Execution Context

Option Values

Normal – Code is executing under standard circumstances

Install – Code is executing in the context of an install

Upgrade – Code is executing in the context of an upgrade

Usage

`SESSION.ExecutionContext` // Get the general execution context of the current session

`SESSION.GetCurrentModuleExecutionContext` // Get the context of the currently executing module

`SESSION.GetModuleExecutionContext(ModuleID : GUID)` // Get the context of a specific module

Module API – ModuleInfo Type

Type Members

Id – The GUID of the module

Name – The name of the module

Publisher – The publisher of the module

App Version – The current version of the module

Data Version – The current version of the stored data for this module

Dependencies – List of the direct dependencies of the module

Usage

`NAVAPP.GetCurrentModuleInfo(var info : ModuleInfo) // Get the info of the currently executing module`

`NAVAPP.GetModuleInfo(ModuleID : GUID, var info : ModuleInfo) // Get the info of a specific module`

Check if upgrade on events example



Extensions Upgrade Considerations

- Versions do not need to be applied in sequence
 - ie. Can go 1 -> 2 -> 3 or 1 -> 3
- Extensions can be uninstalled prior to an upgrade being invoked
- COMMIT is ignored during upgrade



Extension Schema Changes

- Only additive changes allowed to existing tables
- No destructive changes:
 - Removing fields/keys
 - Renaming fields/keys
 - Changing datatypes
- Use 'ObsoleteState' property to signal deprecated fields
 - Recommended to use 'Pending' for a period of time to give

```
field(1;MyField; Integer)
{
    ObsoleteState = Pending;
}
```


What does this mean for you (partner)?

- Learn about writing extensible code
- Learn about writing safe upgrade code
- Give us feedback!
- Contribute to our GitHub repositories



Resources

- GitHub: **Microsoft AL**
<https://www.github.com/Microsoft/AL>
 - Any issue you may have with our new development tools
- GitHub: **Microsoft Open C/AL Library**
<https://www.github.com/Microsoft/cal-open-library>
 - Addition of library functions
- GitHub: **AL Application Extensions**
<https://www.github.com/Microsoft/alappextensions>
 - Request for external
 - Request for integration events
 - Light request for application enhancements
 - Open sourced Microsoft Dynamics Business Central extensions
- **The “Ready2Go!” Program**
<https://aka.ms/Ready2Go>
 - Anything else, really



Any Questions?

Thank
THANK YOU
you