

**NAV
TECH
DAYS
2017**

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OFFICE 365 BUSINESS APPS POWERED BY DYNAMICS 365 “TENERIFE” PLATFORM

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MICROSOFT DEVELOPMENT CENTER COPENHAGEN


WHEN YOU ARE PASSIONATE ABOUT MICROSOFT DYNAMICS NAV | www.navtechdays.com

**NAV
TECH
DAYS
2017**
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Microsoft 365 Business Is About to Disrupt a Whole Lot of SMB Apps

BY ROB MARVIN 1 NOV 2017, 5 A.M.

Microsoft's new all-in-one, small business-focused offering combines full admin management and security tools with pared-down apps for email marketing, invoicing, and listings.

55
shares    


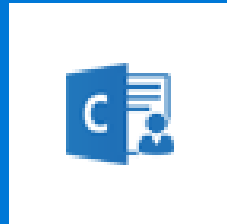
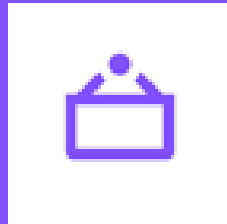

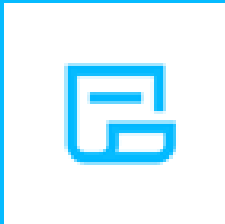



Microsoft 365 Business could become the only platform your small business needs to run daily operations. Generally available worldwide starting today, Microsoft's new holistic cloud solution for small to midsize businesses (SMBs) combines full versions of

Microsoft 365 Business

Please welcome Office 365 Business apps - first time in modern Microsoft history!

Meet the other new business apps from Office 365

					
Microsoft Connections Attract and retain customers with easy-to-use email marketing.	Outlook Customer Manager A simple, smart customer management solution for your business.	Microsoft Listings Easily publish and manage your business information across top websites.	Microsoft Bookings Make scheduling and managing appointments easier for your customers.	Microsoft Invoicing Create great-looking invoices quickly and easily, so you can get paid fast.	MileIQ Report and automatically log your mileage from the palm of your hand.

[One video to rule them all](#)

Agenda - This is an engineering talk (demo/code)!

0365
business apps
& why it
matters?

Dynamics 365
"Tenerife" in
0365 world

Building
modern
Invoicing in
Business Center

Simplified
experience of
invoicing
phone app

New platform
capabilities &
C/AL app
features

Journey from
0365 to D365
"Tenerife"

Q & A



Demo - 0365 business apps and why it matters


Introduction to new business apps

Why MS Invoicing and 0365 Business Center matters?



- Microsoft believes in SMB
- Office 365 helps you effectively and efficiently run and grow your business
- New business apps are part of the biggest Microsoft productivity suite.
- Businesses are small... opportunity is big
- The business apps are powered by the product You KNOW and LOVE

Agenda



0365
business apps
& why it
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“Tenerife” in
0365 world

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modern
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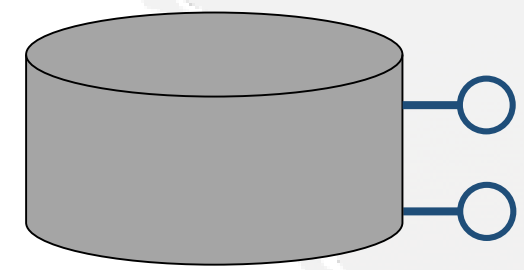
New platform
capabilities &
C/AL app
features

Journey from
0365 to D365
“Tenerife”

Q & A

Welcome Tenerife platform in O365 world

Dynamics 365 “Tenerife” tenant



contoso.financials.dynamics.com
contoso.**invoicing.office.net**

1:1



Requires planet scale

Just in time provisioning and upgrade

Business APIs

And much more capabilities

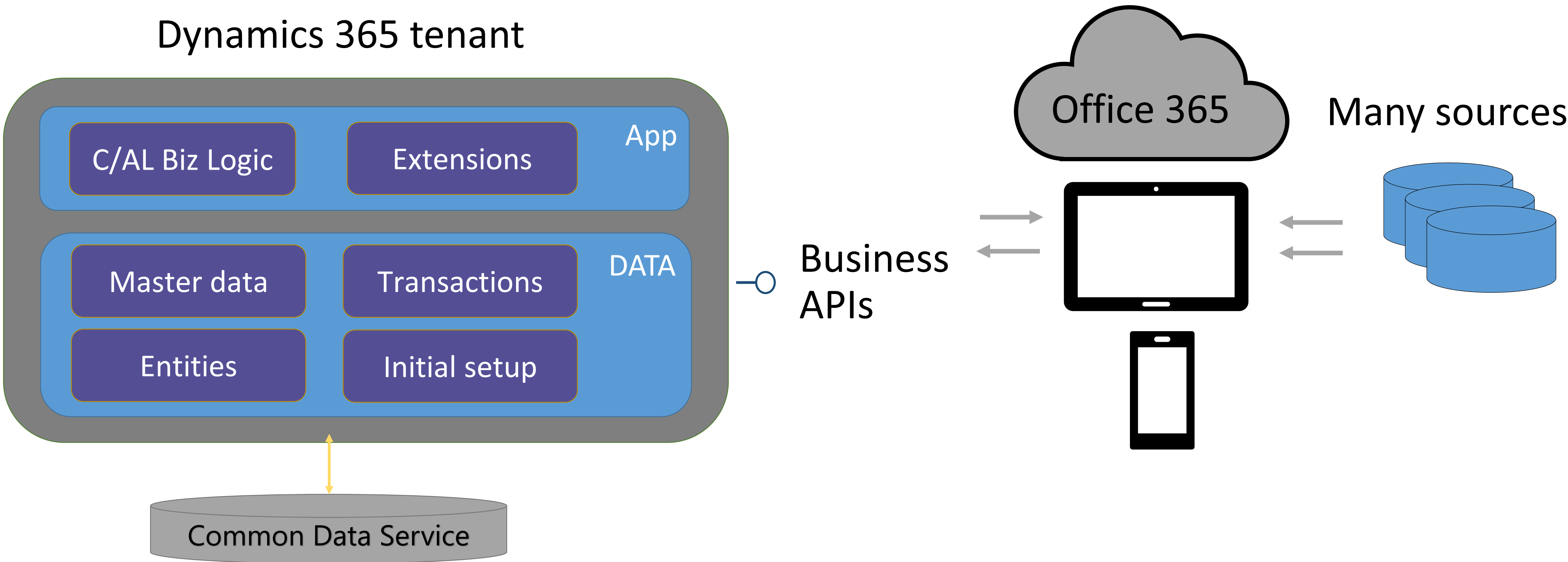
beyond data storage




Demo – “Tenerife” platform in O365 world

Dynamics 365 “Tenerife” platform – we
have the Data


All data flows and stays with Dynamics 365 tenant



Agenda



0365
business apps
& why it
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Dynamics 365
“Tenerife” in
0365 world

Building
modern
Invoicing in
Business Center

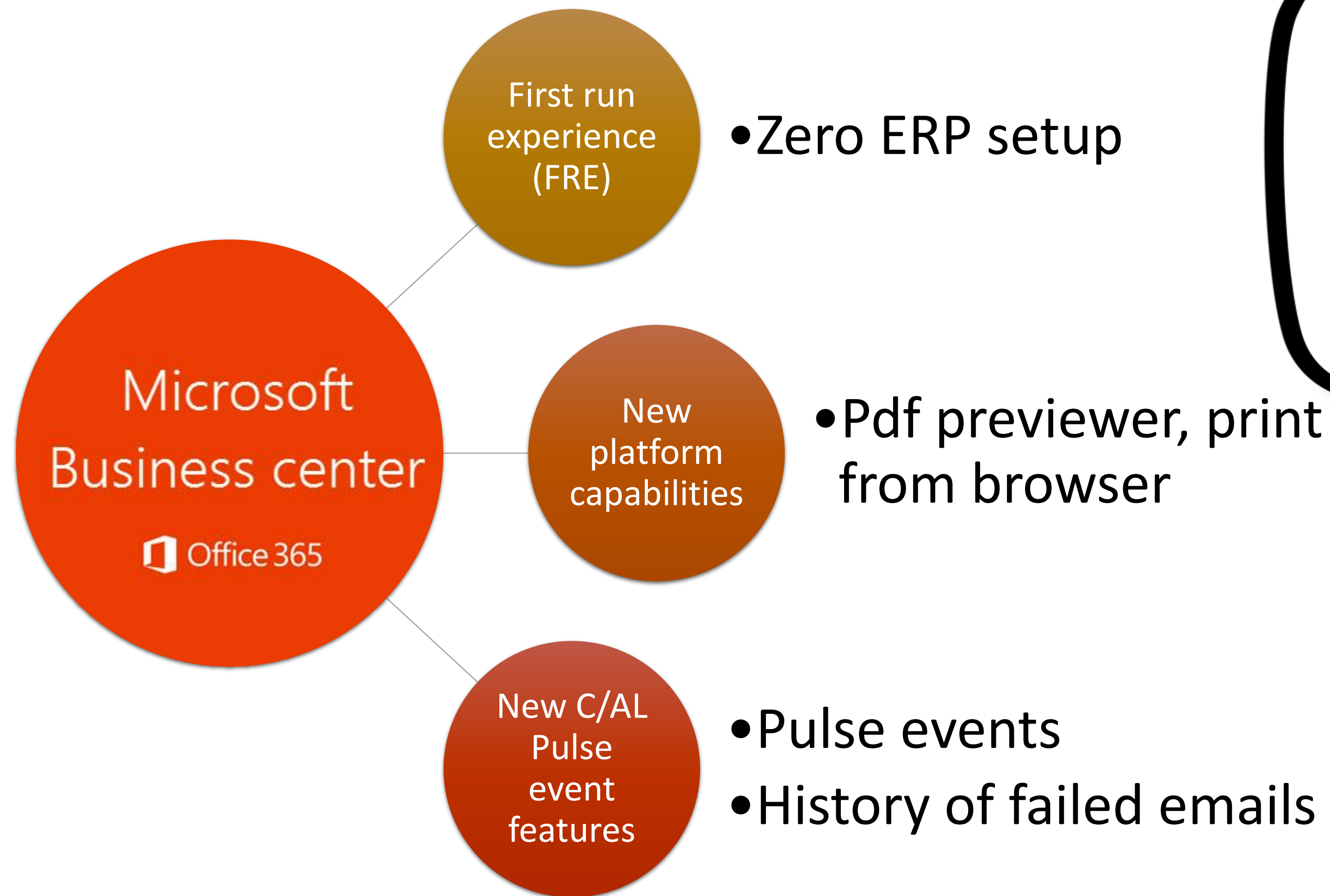
Simplified
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0365 to D365
“Tenerife”

Q & A

Building Office 365 Business Center based on Dynamics 365 “Tenerife”



All of these will be available in Dynamics 365 “Tenerife” platform and next on-premise release 😊



Demo – User's first experience in Business Center

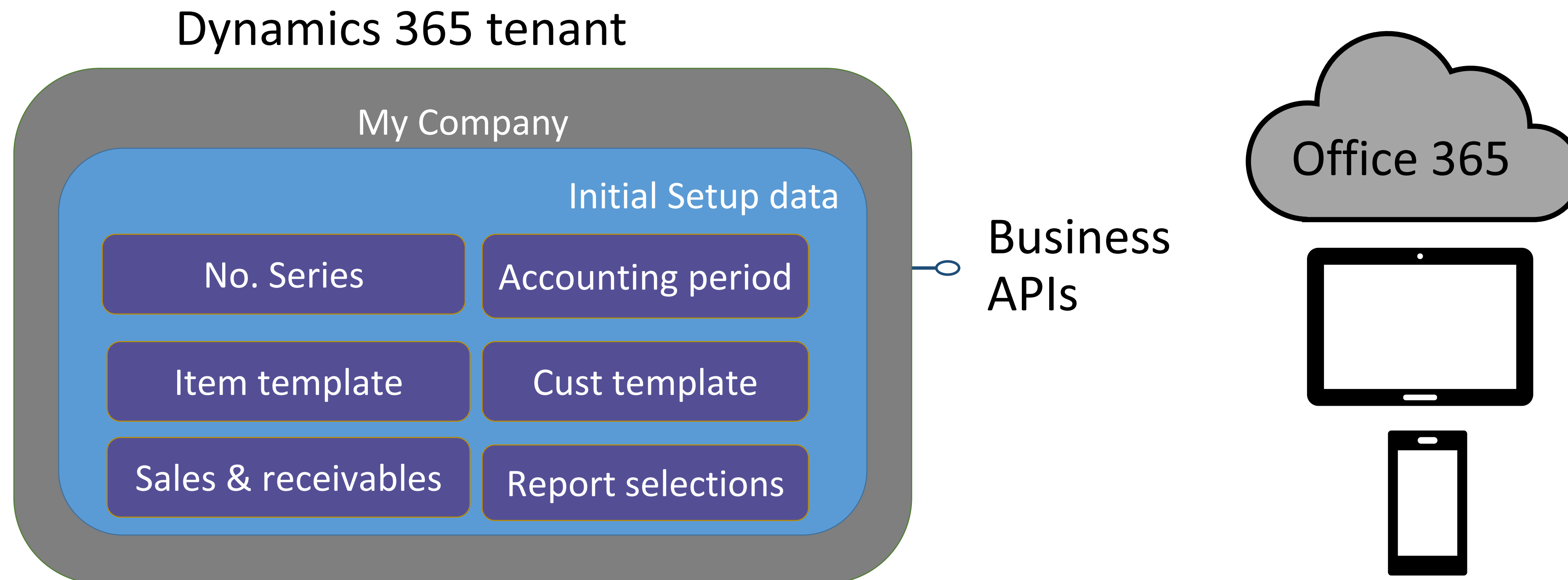
Modern look and feel + new platform capabilities

What just happened?

- **Zero ERP Setup**
 - Enable users to start right away!
- **User's first experience with modern look and feel - Reused Business logic**
 - Just-In-Time and simplified tax setup
 - Just-In-Time email setup
 - Beautiful report layouts
 - Simple payment method (PayPal) setup
- **New platform capabilities**
 - PDF preview of reports
 - Print of reports

Zero ERP setup

- Enable users to start right away!
- Running delta script in *My Company* which runs on top of existing setup data



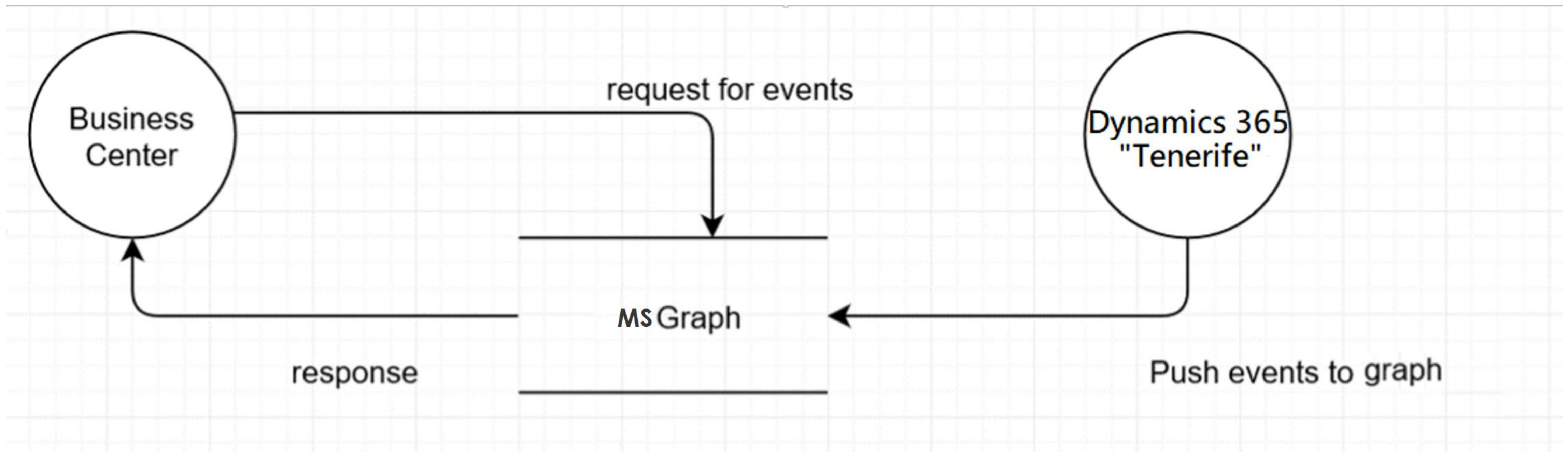
Zero ERP Setup – CodeUnit 2110

```
13 LOCAL Initialize0365SalesCompany()  
14 // Override defaults for 0365 Sales  
15 IF NOT 0365SalesInitialSetup.GET THEN  
16     EXIT;  
17 IF 0365SalesInitialSetup."Is initialized" THEN  
18     EXIT;  
19  
20 0365SalesInitialSetup.LOCKTABLE;  
21 0365SalesInitialSetup.GET;  
22  
23 InitializeBankAccount;  
24 InitializeSalesAndReceivablesSetup;  
25 InitializePaymentRegistrationSetup;  
26 InitializeReportSelections;  
27 InitializeNotifications;  
28 InitializeNoSeries;  
29 InitializeDefaultBCC;  
30 InitializeCustomerTemplate;  
31 InitializeContactToCustomerTemplate;  
32 InitializeItemTemplate;  
33 InitializeBackgroundSetup;  
34 ClearPaymentMethodsBalAccount;  
35  
36 InitializeVAT;  
37 InitializeVATRegService;  
38 InitializeTax;  
39  
40 0365SalesInitialSetup."Is initialized" := TRUE;
```

Zero ERP setup for the first time- lets users start right away 😊

Pulse events

- Pulse events are the actionable notifications on BC dashboard
 - Opens flyouts to show what is actionable today
- Events are generated in the app and pushed into the Microsoft Graph
 - Unified schema and unified APIs to query events





Demo – Pulse events

Instant and Time based events

Instant pulse events

- Simple - hook into invoicing posting/payment functions and trigger events

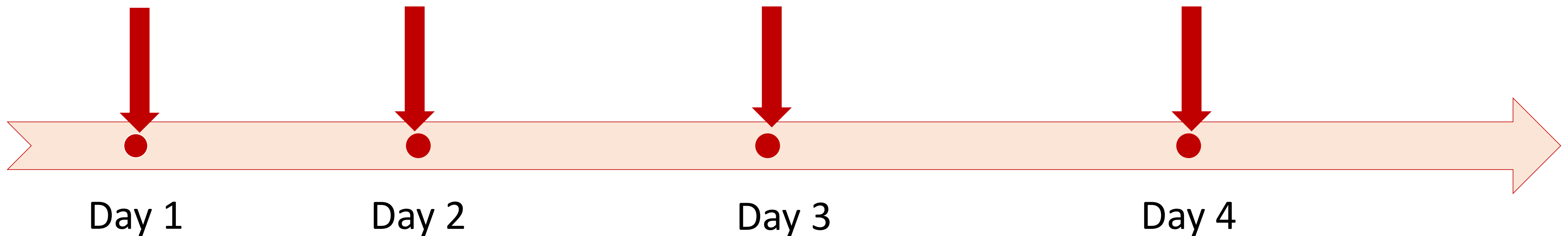
	E..	Field No.	Field Name	Data Type	Length	Description
▶	✓	1	No.	Integer		
	✓	2	Scheduled Date	Date		
	✓	3	Archived	Boolean		
	✓	4	Description	Text	50	
	✓	5	Object ID to Run	Integer		
	✓	6	Record ID to Process	RecordID		
	✓	7	State	Option		
	✓	8	Result	Text	250	
	✓	9	User	Code	50	
	✓	10	Type	Option		

Help

Time based events

Approach 1:

Set up a job queue which runs every day/hour for each tenant to look for time based events



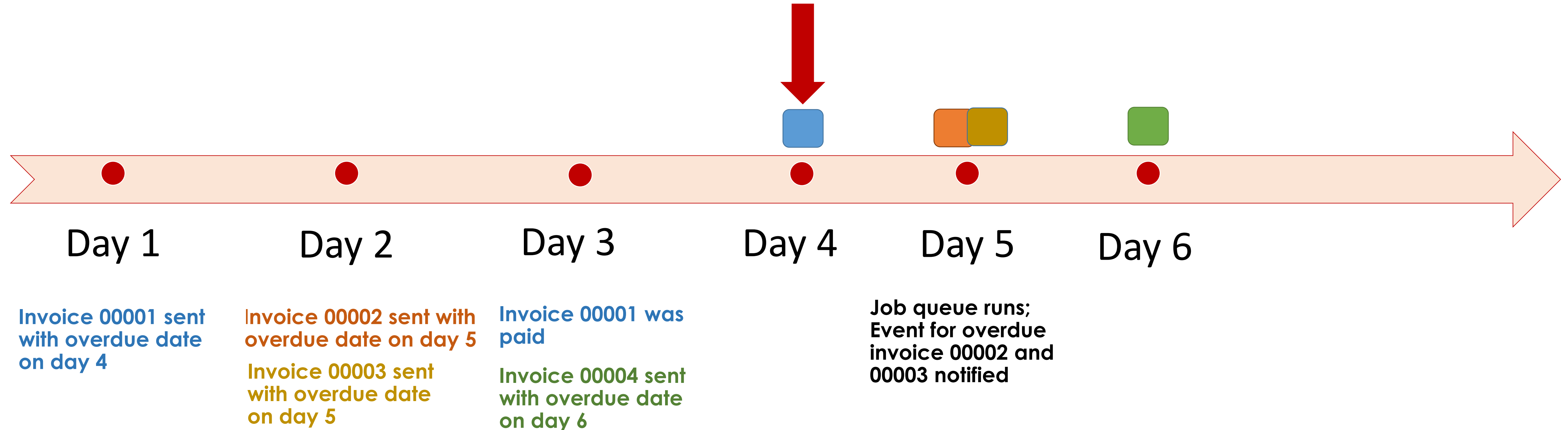
Problem:

This does not scale to thousands of tenants

Time based events

Approach 2 (Our Solution):

Schedule a job queue to run when the next earliest event needs to be triggered



Time based events

```
169 [EventSubscriber] OnAfterPostSalesDoc(VAR SalesHeader : Record
170 IF NOT IsInvoice(SalesHeader) THEN
171     EXIT;
172
173 // Queue/update Events
174 CreateSendEvent(SalesInvHdrNo);
175 CreateOverdueEvent(SalesInvHdrNo,SalesHeader."Due Date");
176 UpdateDraftEvent;
177 UpdateInactivityEvent;
```

Overdue invoice Invoice #100013 of \$1.11 by Anders Moth is overdue OVERDUE ✓

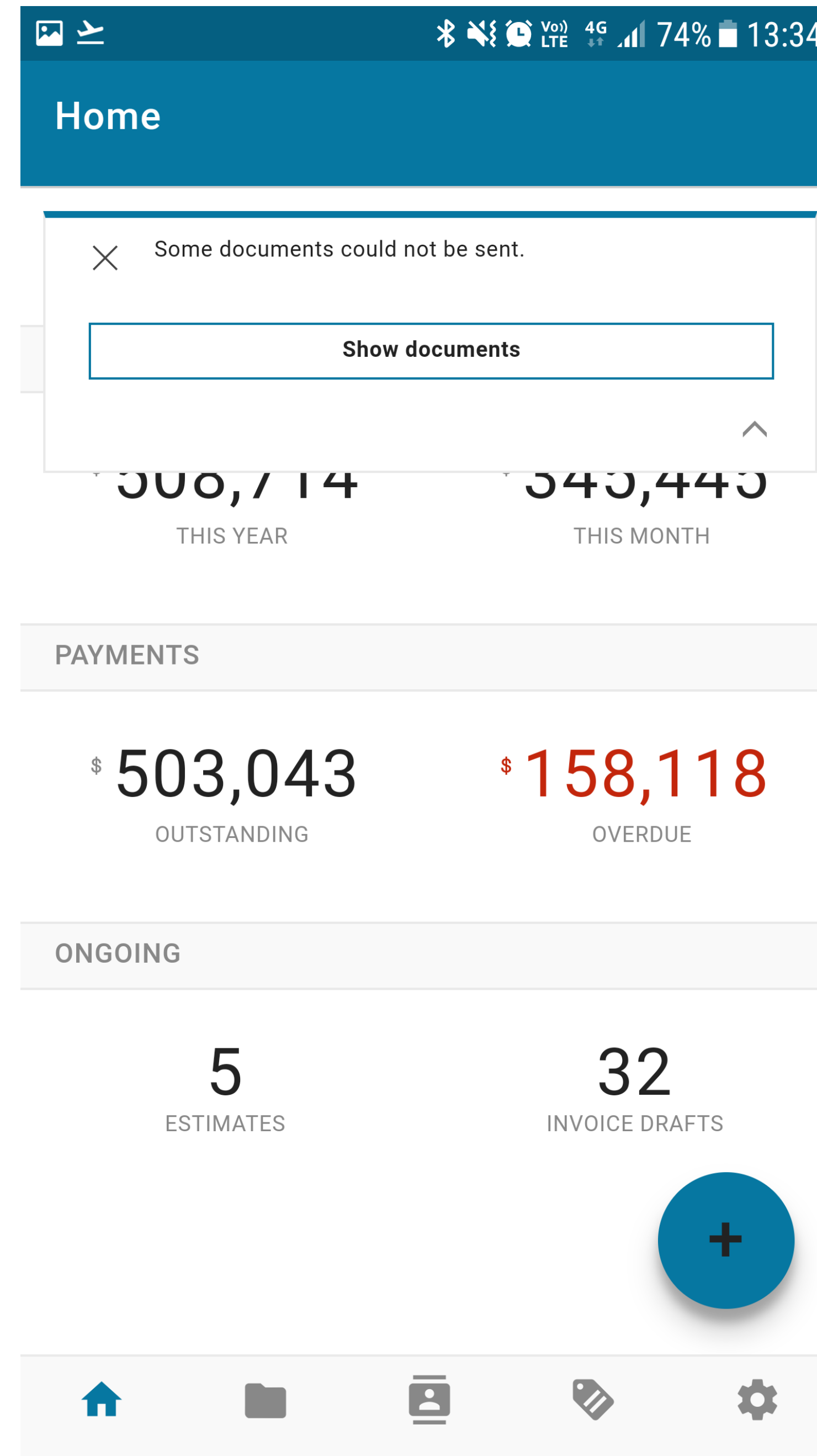
AM	Anders Moth Anders Moth	07/11/2017, 01:00:02	OVERDUE
Description Invoice 100013			
Amount \$1.11			
Employee John Doe			

[View invoice](#) [Resend invoice](#)

```
104 LOCAL CreateOverdueEvent(DocNo : Code[20];DueDate : Date)
105 CreateEvent(0365SalesEvent,0365SalesEvent.Type::"Invoice Overdue",DocNo);
106 CalendarEventManager.CreateCalendarEvent(
107     DueDate,STRSUBSTNO(InvoiceOverdueMsg,DocNo),CODEUNIT::"0365 Sales Invoice Events",0365SalesEvent.RECORDID);
108
```

History of failed emails

- Notify users immediately about failed email of invoices
- Maintain history of failed emails
- **How?** Status of Job queue running Document-Mailing Codeunit





Demo – Failed to send emails

Notifying users about failed invoice email

History of failed emails



```
LOCAL UpdateDocumentSentHistory()  
IF ("Object Type to Run" = "Object Type to Run"::Codeunit) AND ("Object ID to Run" = CODEUNITID) THEN  
    IF (Status = Status::Error) OR (Status = Status::Finished) THEN BEGIN  
        0365DocumentSentHistory.SETRANGE("Job Queue Entry ID",ID);  
        IF NOT 0365DocumentSentHistory.FINDFIRST THEN  
            EXIT;  
  
        IF Status = Status::Error THEN  
            0365DocumentSentHistory.SetStatusAsFailed  
        ELSE  
            0365DocumentSentHistory.SetStatusAsSuccessfullyFinished;  
    END;  
END;
```

Table 2158 O365 Document Sent History - Table Designer						
	E...	Field No.	Field Name	Data Type	Length	Description
	✓	1	Document Type	Option		
	✓	2	Document No.	Code	20	
	✓	3	Posted	Boolean		
	✓	4	Created Date-Time	DateTime		
	✓	7	Source Type	Option		
	✓	8	Source No.	Code	20	
	✓	11	Job Queue Entry ID	GUID		
	✓	12	Job Last Status	Option		
	✓	13	Job Completed	DateTime		
	✓	14	Notified	Boolean		
	✓	15	Notification Cleared	Boolean		

Documents not sent			
Clear all			
Search			
11/10/2017	Bardur Knudsen	Failed to send	
	200017		\$109.50
11/10/2017	Oliver	Failed to send	
	No. 100032		\$374.49
11/8/2017	Oliver	Failed to send	
	No. 100031		\$109.50
10/31/2017	Ben Nawaz	Failed to send	
	No. 100018		\$135.20

What's in for you?

First run
experience
(FRE)

- Zero ERP setup

New NAV
platform
capabilities


- Pdf previewer, print from browser

New C/AL
Pulse
event
features


- Pulse events
- History of failed emails

All of these will be available in Dynamics 365 “Tenerife” platform and next on-premise release 😊

Agenda



O365
business apps
& why it
matters?



Dynamics 365
“Tenerife” in
O365 world



Building
modern
Invoicing in
Business Center

Simplified
experience of
invoicing
phone app

New platform
capabilities &
C/AL app
features

Journey from
O365 to D365
“Tenerife”

Q & A

Phone Experience – Office 365 Business Apps

Create O365 Business App experience in Tenerife

Our users:

- Users with **no financial experience**
- No IT support
- Not even IT Knowledge or interest
- Our users have very small companies and very **basic needs**

Phone Experience – Office 365 Business Apps

How do we simplify Tenerife?

- Avoid financial wordings
 - Post Sales document
- Simple and understandable error messages
 - « The <table name> does not exist. Identification fields and values: ...»
- Simple actions
 - Send invoice, register/unregister payment, Create tax area
- Bring O365 aligned experience to the phone
 - Android/IOS experience
 - Contact picker
 - Swipe and more

Phone experience for O365 Business Apps

- Align phone experience to O365 Business Apps

Home

INVOICED

£ 0
THIS YEAR

£ 0
THIS MONTH

PAYMENTS


£ 0
OUTSTANDING






£ 0
OVERDUE

ONGOING

0
ESTIMATES

1
INVOICE DRAFTS





Done Draft Invoice Next

Sell to

Greg Capham >

greg.chapman@contoso.com

Invoice Details MORE ▾

Line Items +

Nothing here yet. [Add new](#)

£0,00
Net Total

£0,00
Total Including VAT

[Add discount](#)

[Add attachment](#)

NOTE FOR CUSTOMER

Home

INVOICED

£ 0
THIS YEAR

£ 0
THIS MONTH

PAYMENTS


£ 0
OUTSTANDING






£ 0
OVERDUE

ONGOING

0
ESTIMATES

1
INVOICE DRAFTS





< Draft Invoice NEXT

Sell to

Greg Capham >

greg.chapman@contoso.com

INVOICE DETAILS MORE ▾

LINE ITEMS +

Nothing here yet. [Add new](#)

£0,00
NET TOTAL

£0,00
TOTAL INCLUDING VAT

[Add discount](#)

[Add attachment](#)



Demo – Phone Exp.

O365 Business Apps Experience +
Platform features

Phone Experience – What's in it for you?

Contact picker

- Same implementation as other client device capabilities

```

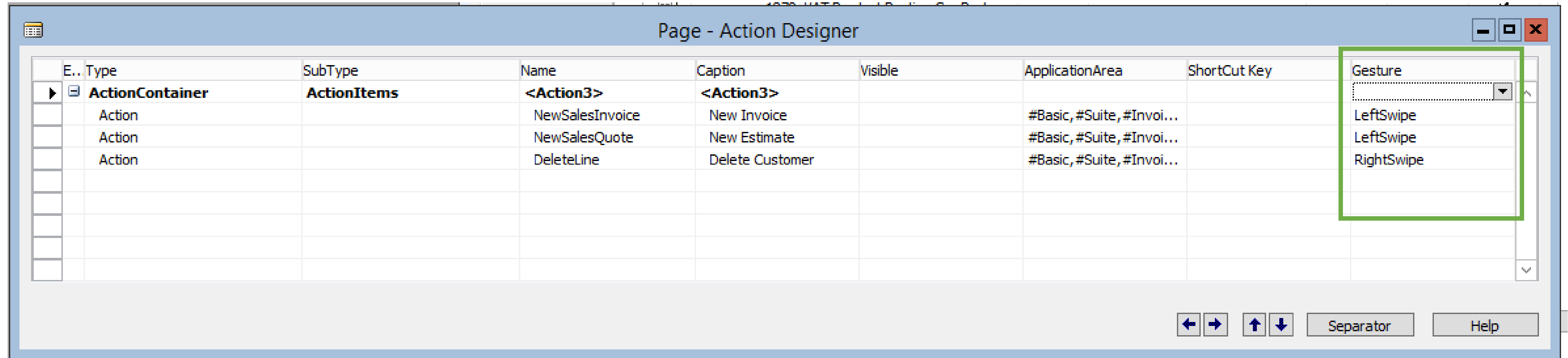
/ |
8  | OnOpenPage()
9  | DeviceContactProviderIsAvailable := DeviceContactProvider.IsAvailable;
12 |
13 | ImportDeviceContact - OnAction()
14 | IF DeviceContactProviderIsAvailable THEN BEGIN
15 |     IF ISNULL(DeviceContactProvider) THEN
16 |         DeviceContactProvider := DeviceContactProvider.Create;
17 |     DeviceContactProvider.RequestDeviceContactAsync;
18 | END
74 |
75 | DeviceContactProvider::DeviceContactRetrieved(deviceContact : DotNet "Microsoft.Dynamics.Nav.Client.Capabilities.DeviceContact")
76 | IF deviceContact.Status <> 0 THEN
77 |     EXIT;
78 |
79 | CreateCustomerFromTemplate;
80 |
81 | Name := COPYSTR(deviceContact.PreferredName,1,MAXSTRLEN(Name));
82 | "E-Mail" := COPYSTR(deviceContact.PreferredEmail,1,MAXSTRLEN("E-Mail"));
83 | "Phone No." := COPYSTR(deviceContact.PreferredPhoneNumber,1,MAXSTRLEN("Phone No.));
84 | Address := COPYSTR(deviceContact.PreferredAddress.StreetAddress,1,MAXSTRLEN(Address));
85 | City := COPYSTR(deviceContact.PreferredAddress.Locality,1,MAXSTRLEN(City));
86 | County := COPYSTR(deviceContact.PreferredAddress.Region,1,MAXSTRLEN(County));
87 |

```

Phone Experience – What's in it for you?

Swipe

- Simply add Gesture to your actions
 - LeftSwipe / RightSwipe

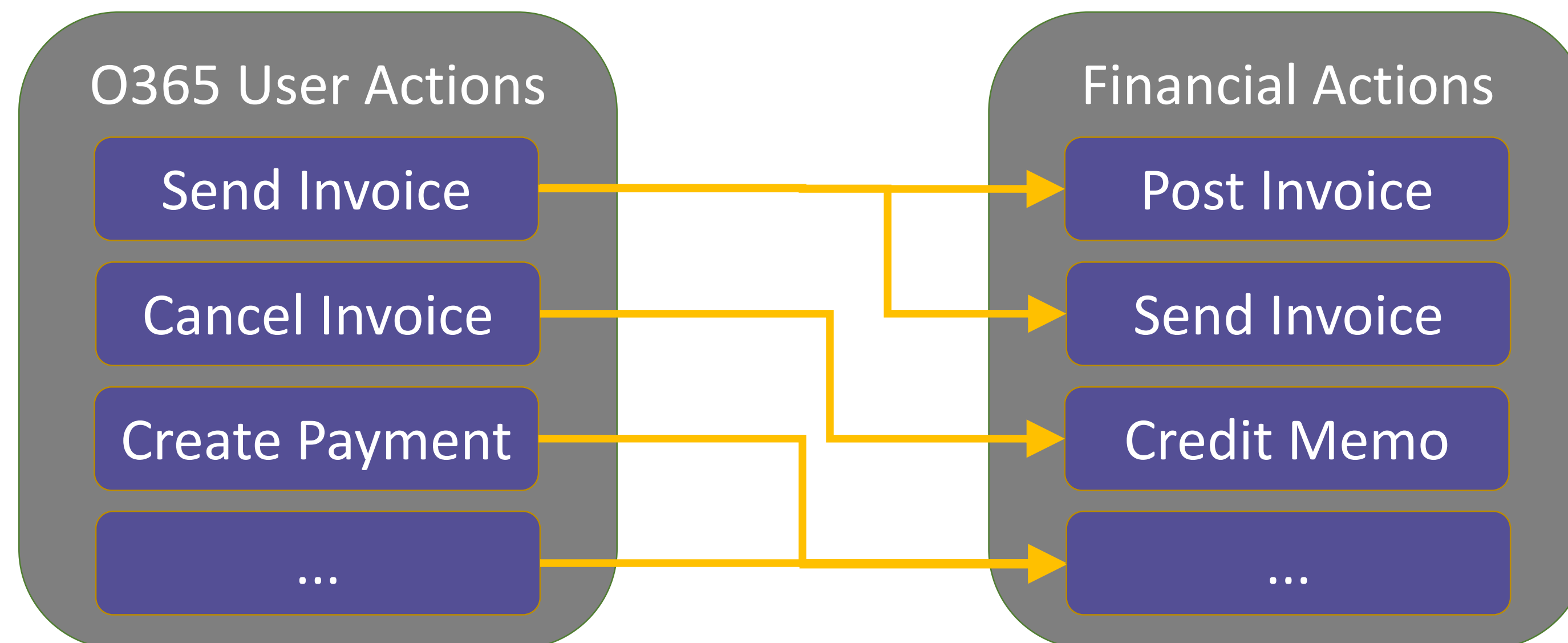


Simplified business scenarios

Our users have no financial experience

How do we simplify the experience?

- Focus on actions our users will perform
 - Translate these to financial actions behind the scenes






Demo – Simplified business scenarios


Reaching the user


Simplified business scenarios – What happened?


- Send invoice
 - Post & Send

DoneDraft InvoiceNext

 Send invoice

 Preview invoice

 Save for later

 Discard draft

Invoice DetailsMORE ▾

Line Items+

Flying elephant
x2 (\$151,551.00/elephant)

\$303,102.00

\$303,102.00
Net Total

\$342,505.26
Total Including Tax

Add discount

Add attachment

Simplified business scenarios – What happened?


- Cancel payment
 - Find and show existing payment
 - Find cancelled payment cust. ledger entry
 - Unapply entry from document
 - Reversed payment transaction
 - Auto roll-back in case of error
 - No intermident commits

✕ Payment History	
11/12/2017 Invoice	\$342,505.26
11/12/2017 Payment CHECK	\$100,000.00
11/12/2017 Payment CHECK	\$200,000.00
	\$30,000.00
Cancel payment registration	


Simplified business scenarios – What happened?

And more...

- Tax setup
 - City and state as tax jurisdictions
 - Set up entire tax engine
 - Update Customer amounts
 - Update Invoice amounts
- Register payment
 - Show existing payments
 - Avoid loose money
 - Post payment for this invoice
- Cancel invoice
 - Create credit memo
 - Apply credit memo to invoice
 - Send cancellation to customer
- Export invoices to your accountant
- Simple PayPal setup




*Simple
actions you
can use in
Tenerife*




*Valid
financial
actions*

*See Object
range 2100-
2199 for more*

Agenda



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Dynamics 365
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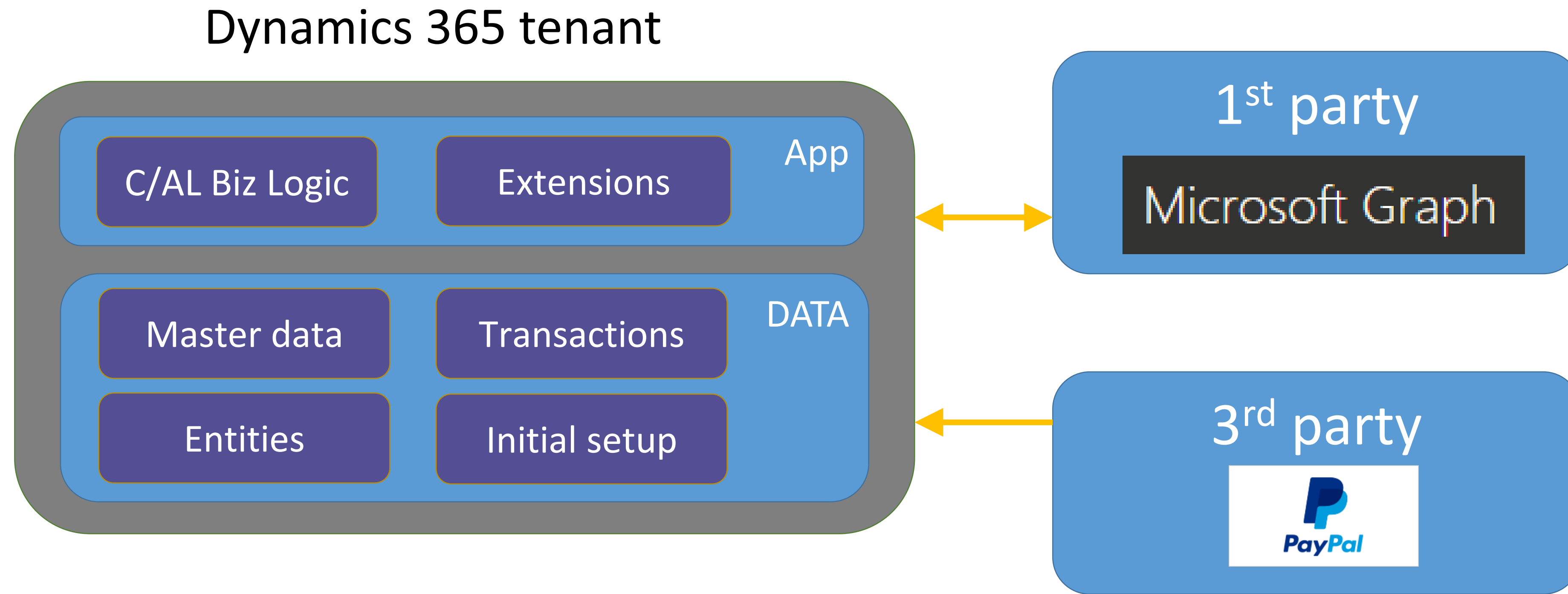
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Q & A

Integration to 1st and 3rd party services

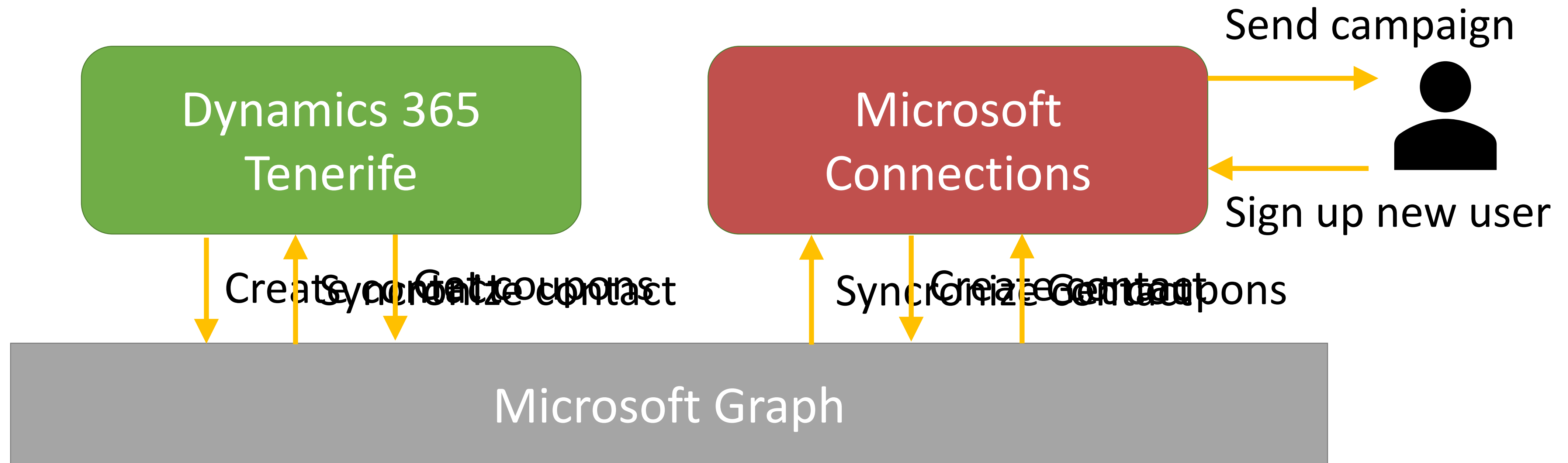




Demo – Integration to external services

Interacting with external services

1st Party Microsoft Graph – What happened?



1st Party Microsoft Graph – Integration

1. Create graph table
2. REGISTERTABLECONNECTION
3. Set up field mapping
4. [Optional] Register webhook

1st Party Microsoft Graph – Integration

1. Create graph table

- Table of type MicrosoftGraph and an ExternalName
- For each field, set ExternalName and ExternalType to map these

LinkedObject	<No>
TableType	MicrosoftGraph
ExternalName	Contact

ValuesAllowed	<>
ExternalName	Id
ExternalType	Edm.String
TableRelation	<Undefined>

Table 5450 Graph Contact - Table Design					
	E...	Field No.	Field Name	Data Type	Length
▶	✓	1	Id	Text	250
	✓	2	CreatedDateTime	DateTime	
	✓	3	LastModifiedDateTime	DateTime	
	✓	4	ChangeKey	Text	250
	✓	5	Categories	BLOB	
	✓	6	ParentFolderId	Text	250
	✓	7	Birthday	DateTime	
	✓	8	FileAs	Text	250
	✓	9	DisplayName	Text	250
	✓	10	GivenName	Text	250
	✓	11	Initials	Text	250

1st Party Microsoft Graph – Integration

2. REGISTERTABLECONNECTION

- Same setup as for CRM
- This enables lookup in graph through the table
- [Automatic sync] Subscribe to OnRegisterConnections in COD5456 "Graph Connection Setup"

```
66 |  
67 | LOCAL RegisterConnectionWithName(ConnectionName : Text;ConnectionString : Text)  
68 | IF '' IN [ConnectionName,ConnectionString] THEN  
69 |     EXIT;  
70 |  
71 | IF NOT HASTABLECONNECTION(TABLECONNECTIONTYPE::MicrosoftGraph,ConnectionName) THEN  
72 |     REGISTERTABLECONNECTION(TABLECONNECTIONTYPE::MicrosoftGraph,ConnectionName,ConnectionString);  
73 |
```


1st Party Microsoft Graph – Integration

3. Set up field mapping (TAB5336 Integration Field Mapping)

- Specifies 1-1 mapping between graph and NAV table
- For complex behaviour, use events in COD5345 "Integration Rec. Synch."
- Example see COD5461 "Graph Int. - Contact"

```
47 LOCAL [EventSubscriber] OnAddContactIntegrationMapping(MappingCode : Code[20])
48 // Add Graph Contact <=> Contact table mapping
49 GraphDataSetup.AddIntegrationTableMapping(MappingCode,DATABASE::Contact,DATABASE::"Graph Contact",
50     TempGraphContact.FIELDNO(Id),TempGraphContact.FIELDNO(LastModifiedDate),'',TempGraphContact.FIELDNO(DeltaToken),
51     TempGraphContact.FIELDNO(ChangeKey),TempGraphContact.FIELDNO(IsNavCreated));
52
53 // Add Graph Contact <=> Contact field mapping
54 GraphDataSetup.AddIntgrationFieldMapping(MappingCode>Contact.FIELDNO("First Name"),TempGraphContact.FIELDNO(GivenName),FALSE);
55 GraphDataSetup.AddIntgrationFieldMapping(MappingCode>Contact.FIELDNO("Middle Name"),TempGraphContact.FIELDNO(MiddleName),FALSE);
56 GraphDataSetup.AddIntgrationFieldMapping(MappingCode>Contact.FIELDNO(Surname),TempGraphContact.FIELDNO(Surname),FALSE);
57 GraphDataSetup.AddIntgrationFieldMapping(MappingCode>Contact.FIELDNO(Initials),TempGraphContact.FIELDNO(Initials),FALSE);
58 GraphDataSetup.AddIntgrationFieldMapping(MappingCode>Contact.FIELDNO("Job Title"),TempGraphContact.FIELDNO(JobTitle),FALSE);
59 GraphDataSetup.AddIntgrationFieldMapping(MappingCode>Contact.FIELDNO("Company Name"),
60     TempGraphContact.FIELDNO(CompanyName),FALSE);
61 --
```

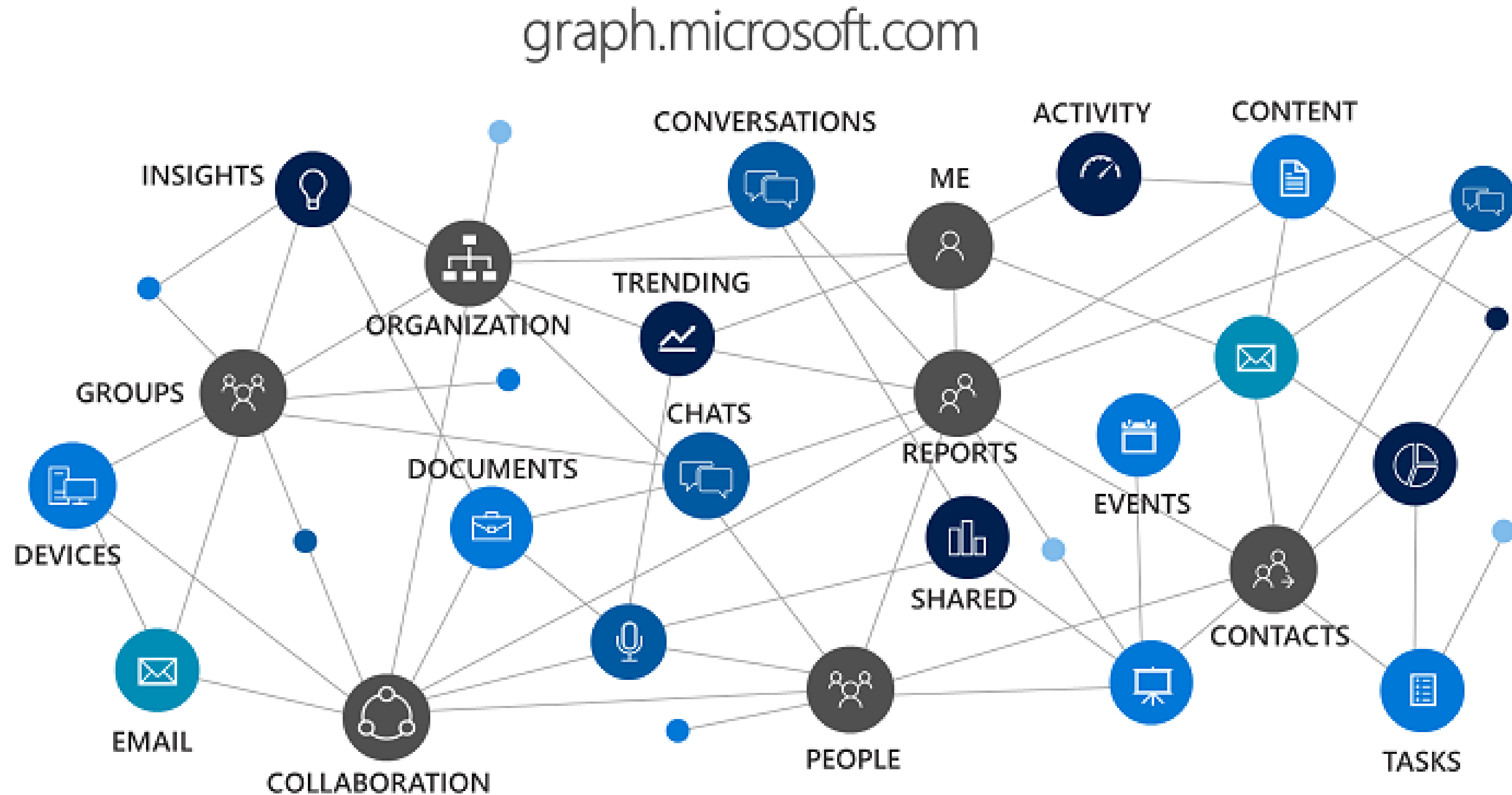
1st Party Microsoft Graph – Integration

4. [Optional] Register webhook

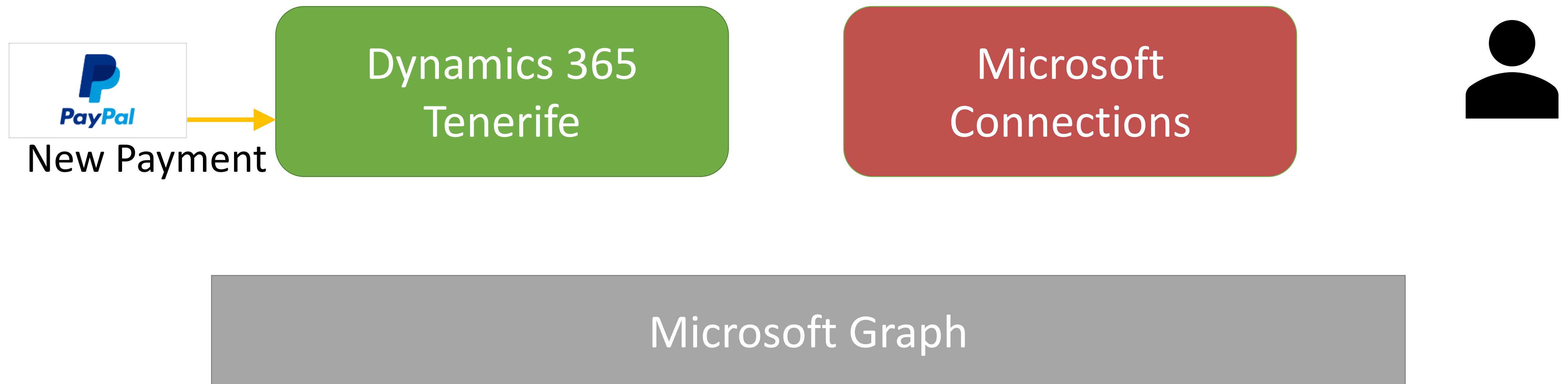
- For instant updates
- Otherwise updated on login

```
-- L
50 [External] CreateWebhookSubscription(VAR WebhookSubscription : Record "Webhook Subscription") : Boolean
51 GraphSubscriptionMgt.CleanExistingWebhookSubscription(Resource,COMPANYNAME);
52 CLEAR(WebhookSubscription);
53 WebhookSubscription."Subscription ID" := Id;
54 WebhookSubscription.Endpoint := Resource;
55 WebhookSubscription."Client State" := ClientState;
56 WebhookSubscription."Company Name" := COMPANYNAME;
57 WebhookSubscription."Run Notification As" := MarketingSetup.TrySetWebhookSubscriptionUserAsCurrentUser;
58 EXIT(WebhookSubscription.INSERT);
--
```

1st Party Microsoft Graph – Overview



3rd Party PayPal – What happened?



3rd Party PayPal™ – Integration

How is it implemented?

1. Register webhook


```
106 LOCAL RegisterWebhookListener(AccountID : Text[250])
107 AccountID := LOWERCASE(AccountID);
108 WebhookSubscription.SETRANGE("Subscription ID",AccountID);
109
110 WebHooksAdapterUri := LOWERCASE(WebhookManagement.GetNotificationUrl);
111 EndpointUri := EndpointUri.Uri(WebHooksAdapterUri);
112
113 IF WebhookManagement.FindWebhookSubscriptionMatchingEndPoint(WebhookSubscription,EndpointUri,0,0) THEN
114     EXIT; // subscription already exists
115
116 WebhookSubscription."Subscription ID" :=
117     COPYSTR(AccountID,1,MAXSTRLEN(WebhookSubscription."Subscription ID"));
118 WebhookSubscription.Endpoint := WebHooksAdapterUri;
119 WebhookSubscription."Created By" := GetBaseUrl;
120 WebhookSubscription."Company Name" := COMPANYNAME;
121 WebhookSubscription."Run Notification As" := MarketingSetup.TrySetWebhookSubscriptionUserAsCurrentUser;
122 IF WebhookSubscription.INSERT THEN;
```

2. Subscribe to webhook notifications


- Register payments

```
9 LOCAL [EventSubscriber] SyncToNavOnWebhookNotificationInsert(VAR Rec : Record "Webhook Notification";RunTrigger : Boolean)
10 AccountID := LOWERCASE(Rec."Subscription ID");
11 WebHooksAdapterUri := LOWERCASE(WebhookManagement.GetNotificationUrl);
12 IF NOT WebhookSubscription.GET(AccountID,WebHooksAdapterUri) THEN
13     EXIT;
14
15 IF STRPOS(WebhookSubscription."Created By",PayPalCreatedByTok) = 0 THEN
16     EXIT;
17
18 CODEUNIT.RUN(CODEUNIT::"MS - PayPal Webhook Management",Rec);
19
```

Agenda



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“Tenerife” in
O365 world



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Q & A

Journey from O365 to Dynamics 365 eco system

No data migration

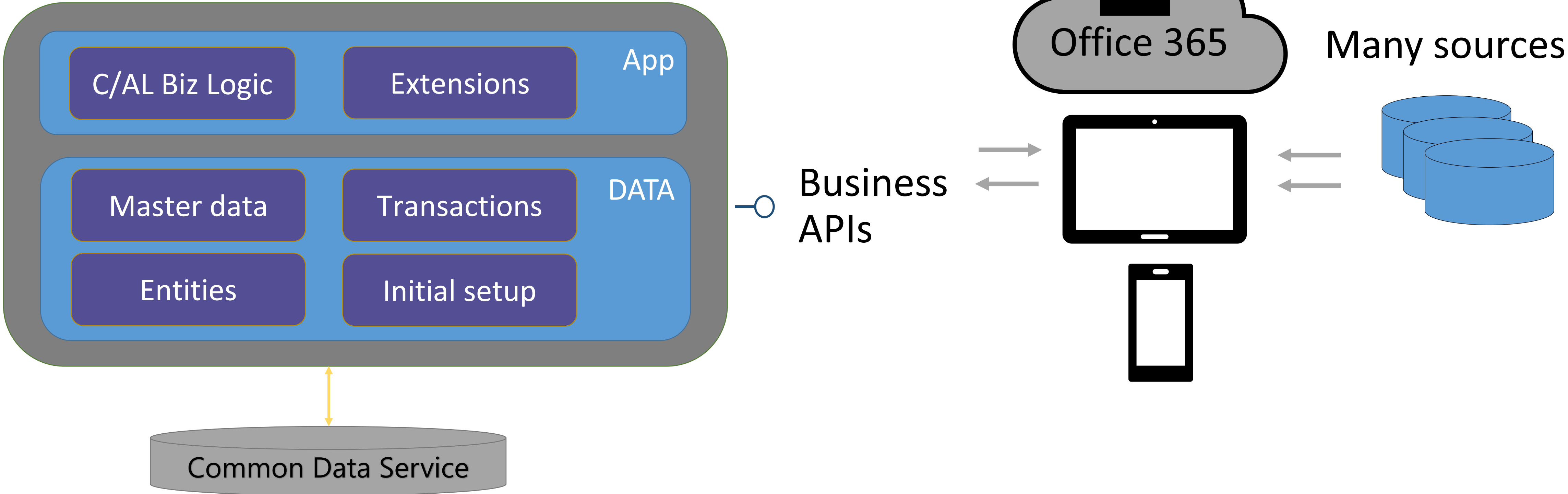
Data powers Dynamics 365 “Tenerife” eco-system

Grow out of its segment?

Partner led transition



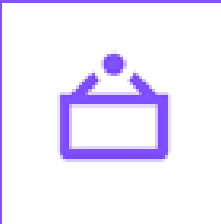



Or simply needs more in addition to SMB apps

Dynamics 365 tenant
You are the key ✓



Call to action. Available in USA, CA and UK now!

Meet the other new business apps from Office 365

					
Microsoft Connections Attract and retain customers with easy-to-use email marketing.	Outlook Customer Manager A simple, smart customer management solution for your business.	Microsoft Listings Easily publish and manage your business information across top websites.	Microsoft Bookings Make scheduling and managing appointments easier for your customers.	Microsoft Invoicing Create great-looking invoices quickly and easily, so you can get paid fast.	MileIQ Report and automatically log your mileage from the palm of your hand.

Provide your feedback at:

<https://office365.uservoice.com/forums/600781-microsoft-invoicing>

[One video to rule them all](#)

Call to action. Learn Dynamics 365, stay curious!

 Microsoft Dynamics 365 for
Finance and Operations, Business edition

Order, sell, invoice, and report—from day one

Grow your small to medium-sized business by connecting people and processes with a single system that has intelligence built in—making financial management, sales, service, and operations easier.


GET STARTED >

▶ WATCH HOW




<https://www.microsoft.com/en-us/dynamics365/financials>

Agenda



0365
business apps
& why it
matters?




Dynamics 365
“Tenerife” in
0365 world




Building
modern
Invoicing in
Business Center



Simplified
experience of
invoicing
phone app



New platform
capabilities &
C/AL app
features



Journey from
0365 to D365
“Tenerife”

Q & A