



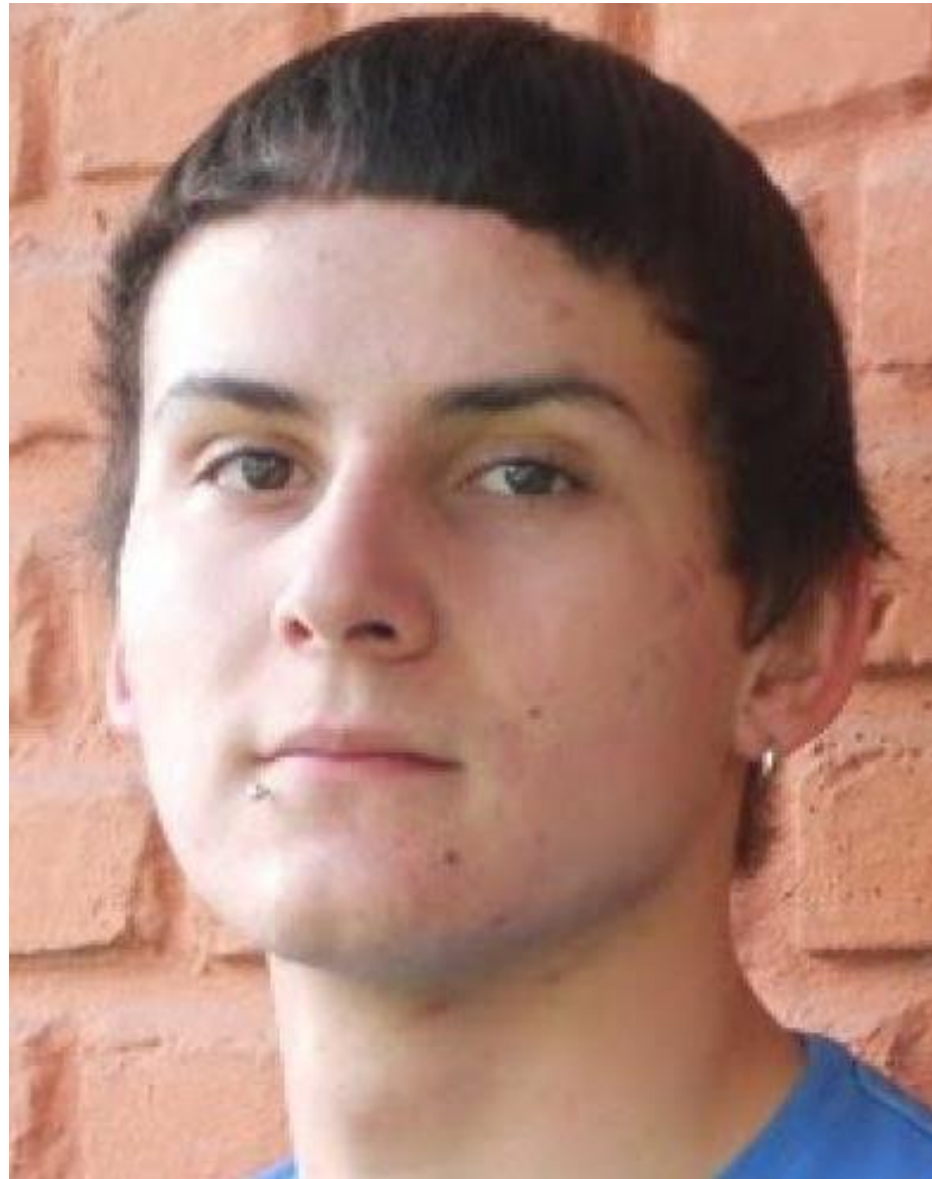
mibuso.com

Migrate your customers to the cloud, and manage them there

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

Speakers



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Audience

- You are a **VAR**
- You have **on-prem customers** on either NAV or BC
- You want to **migrate these customers to BC SaaS**

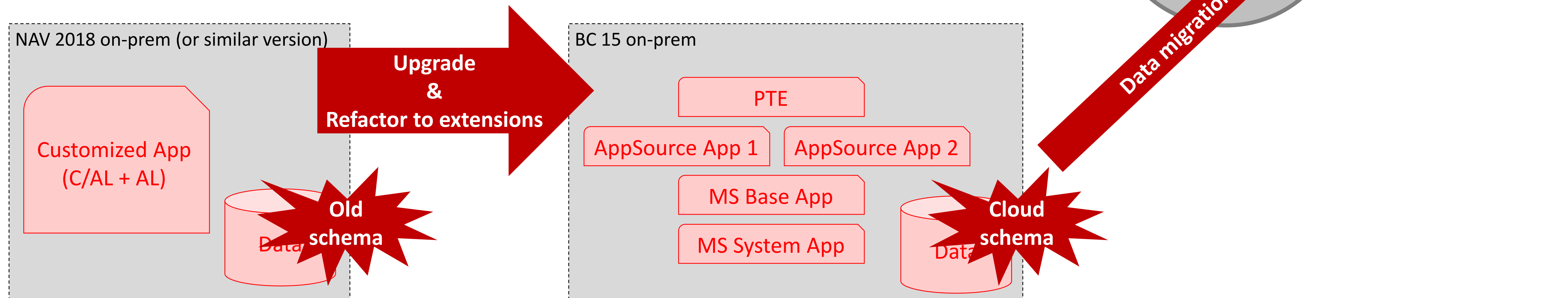
Goals

- Convince you that the cloud is ready for you and your customers!
(many of them at least)
- By showing:
 - How to migrate to the cloud
 - How to manage things in the cloud
- And then you can decide if you are ready

Plan

1. Migrating customizations to the cloud
2. Migrating data to the cloud
3. Managing environments and apps in the cloud
4. Managing at scale

Path to the BC cloud



Steps to migrate customizations

1. While on the old NAV/BC version

- Refactor: Extract into separate objects (as much as possible)

2. Upgrade to BC 15

- C/AL to AL conversion
- Data upgrade

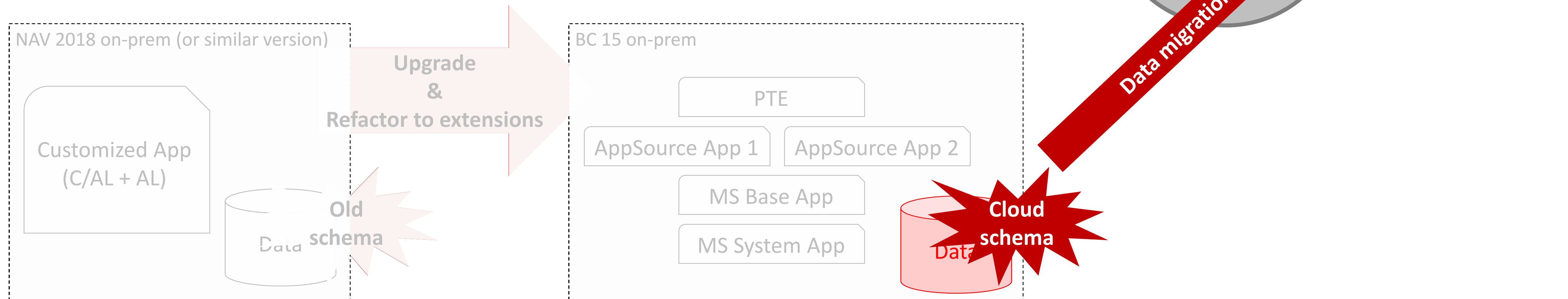
3. While on BC 15

- Extract final pieces to extensions
- Incl. migrate added fields to table extensions

Demo: Migrate to BC 15

(not really a demo; everything has already been done)

Code migrated! Next up data migration!



Migrating Data

Requirements

Cloud Environment Requirements:

- Intelligent Cloud Base extension must be installed.
- User must have 'SUPER' permissions.

On-Premises Requirements:

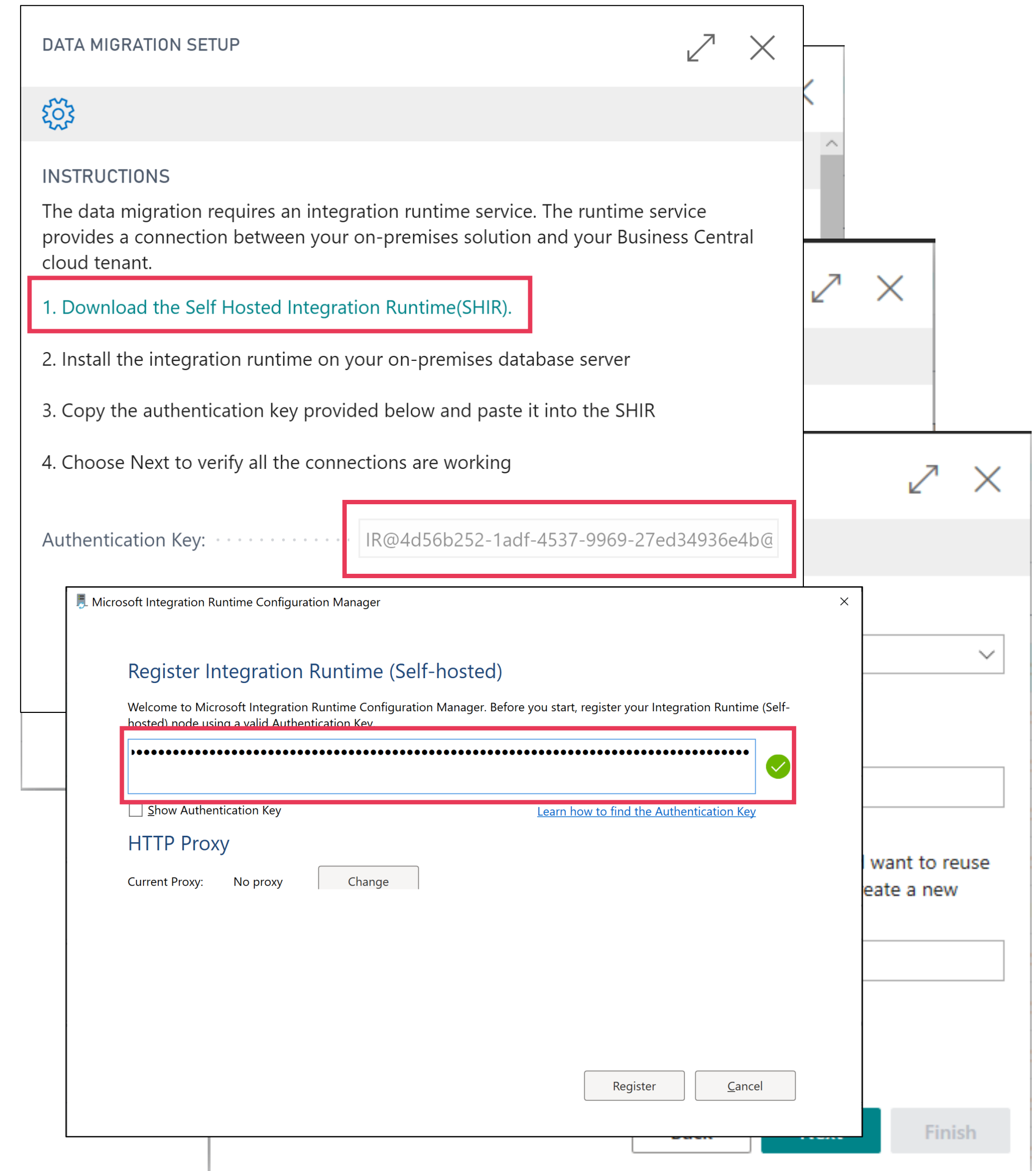
- Business Central Version 15.
- Database compatibility level ≥ 130 (SQL Server 2016+).
- Database size < 150 GB (< 80 GB recommended).

1. Verify Extensions

- Verify extensions are installed. Migrated data is determined by the extensions installed in the Business Central cloud environment.
- If an extension is installed in the cloud but not on-premises, you will get a warning.
- Per-table replication can be defined using the *ReplicateData* property.

2. Run the assisted setup wizard

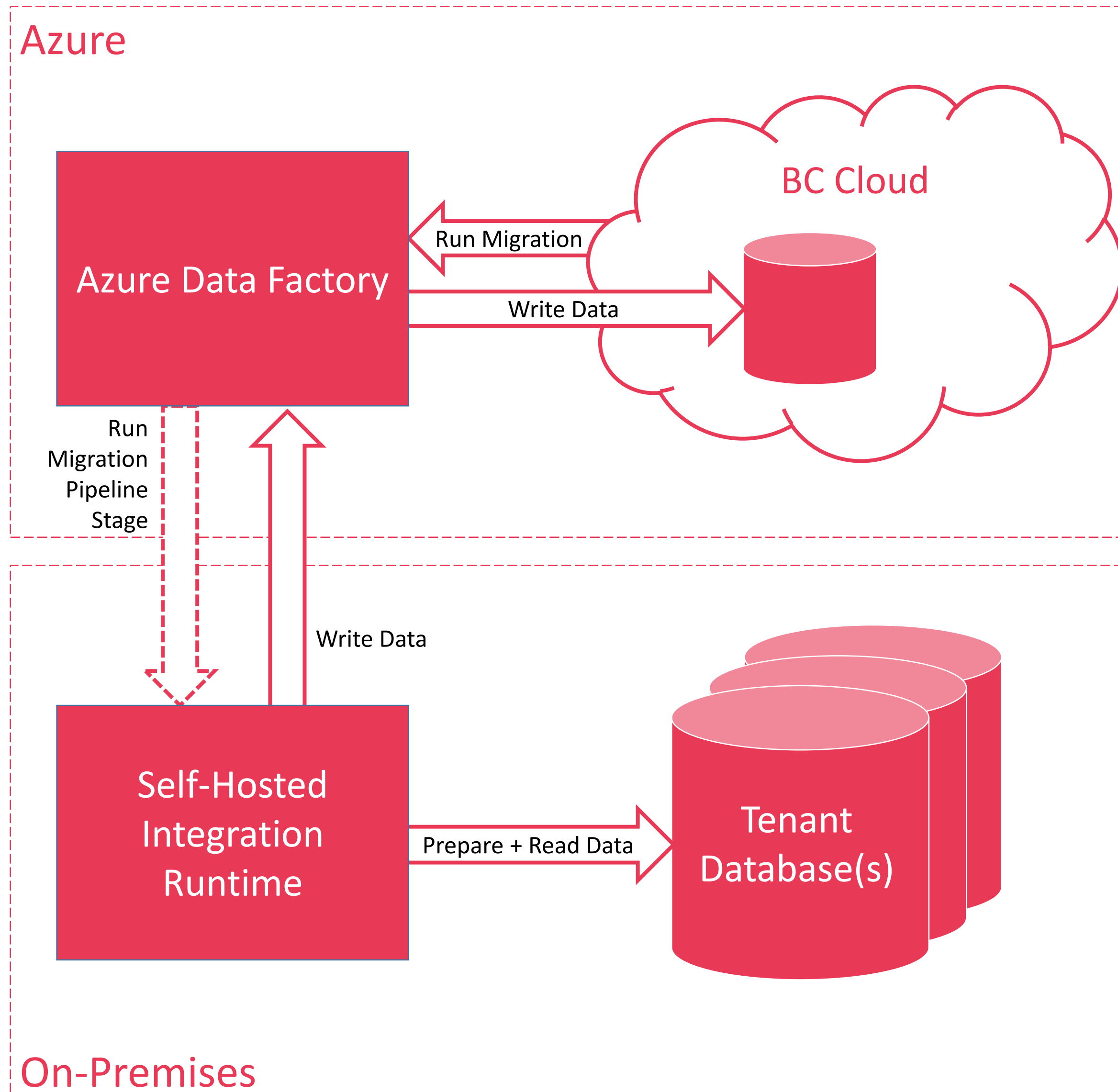
1. Set SQL connection information.
2. Configure new self-hosted Integration Runtime (on-premises).
 - Or use an existing Integration Runtime.
3. Select companies to migrate.
4. Set a recurring schedule (optional).



Demo

Cloud Migration Assisted Setup

Integration Runtime Service - Data Flow



- Secure pipeline to migrate data.
- No data is stored in the pipeline.
- No on-premises data is modified.
- SQL to SQL data migration.
- Single integration runtime supports multiple data pipelines.

If you already have an integration runtime service instance installed and want to reuse it, specify the Integration Runtime; otherwise leave the field empty to create a new Integration Runtime.

Integration Runtime Name

Cloud Migration Management

3. Run migration(s)

- Data migration can be run on-demand or be scheduled with daily/weekly recurrences.
 - Recommended that migration be set to run during off hours.
- First run will migrate all existing data.
- Subsequent runs use SQL change tracking to only sync changes since last run.
- Migration status can be reset via 'Reset Cloud Data' action.

3. Run migration(s)

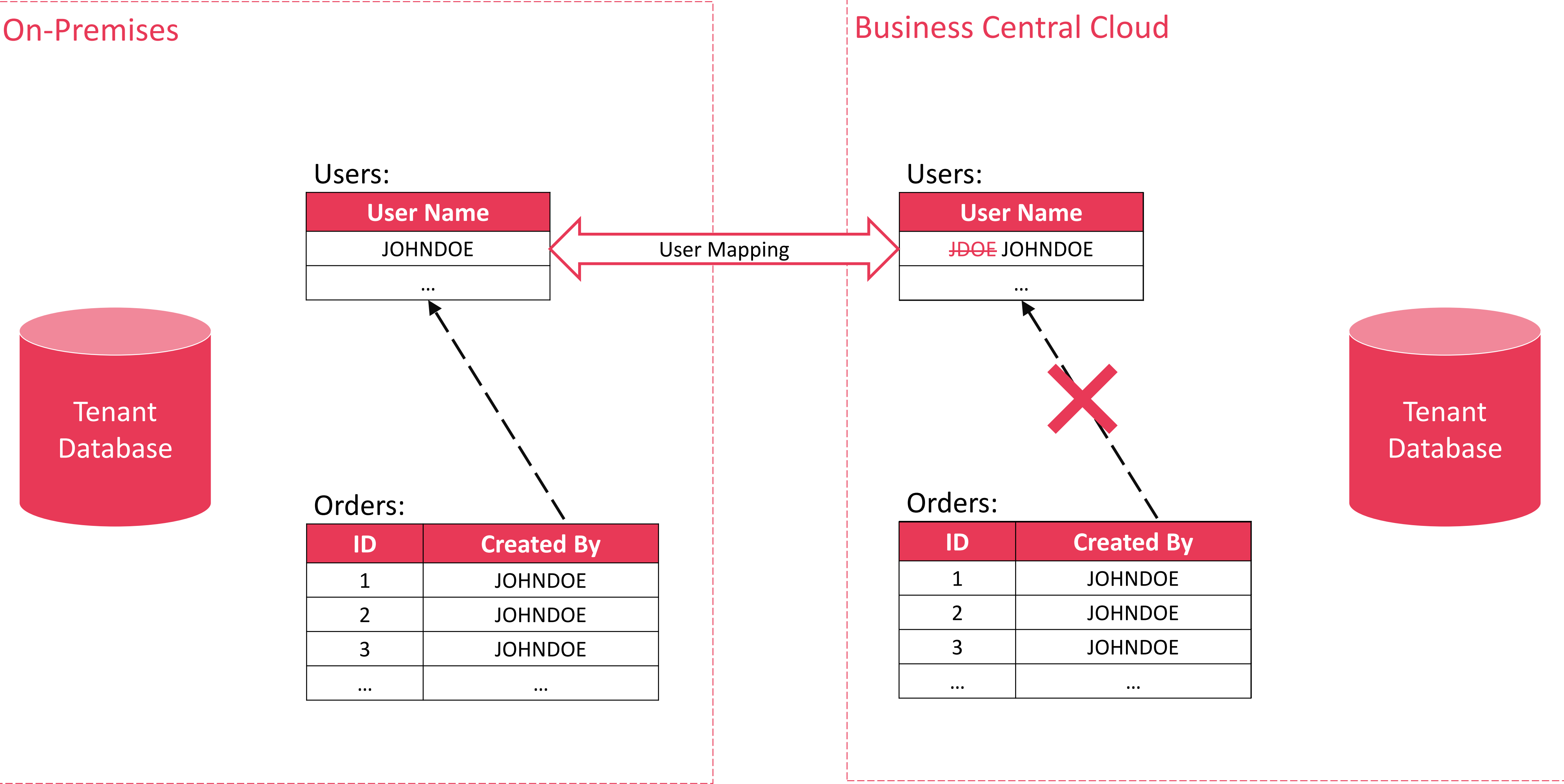
Important

- Data migration will overwrite your cloud data.
- Business processes must still be done in the primary (on-premises) solution until migration is finalized.
- Remember to disable cloud migration when you are ready.

4. Setup cloud users and permissions

- On-premises users & permissions are not migrated.
 - Permission sets need to be re-assigned/re-created.
- Non-SUPER cloud users:
 - Intelligent Cloud permission set (read access to ALL tables) & user group.
 - Action/action groups that users no longer have permissions to will be hidden.

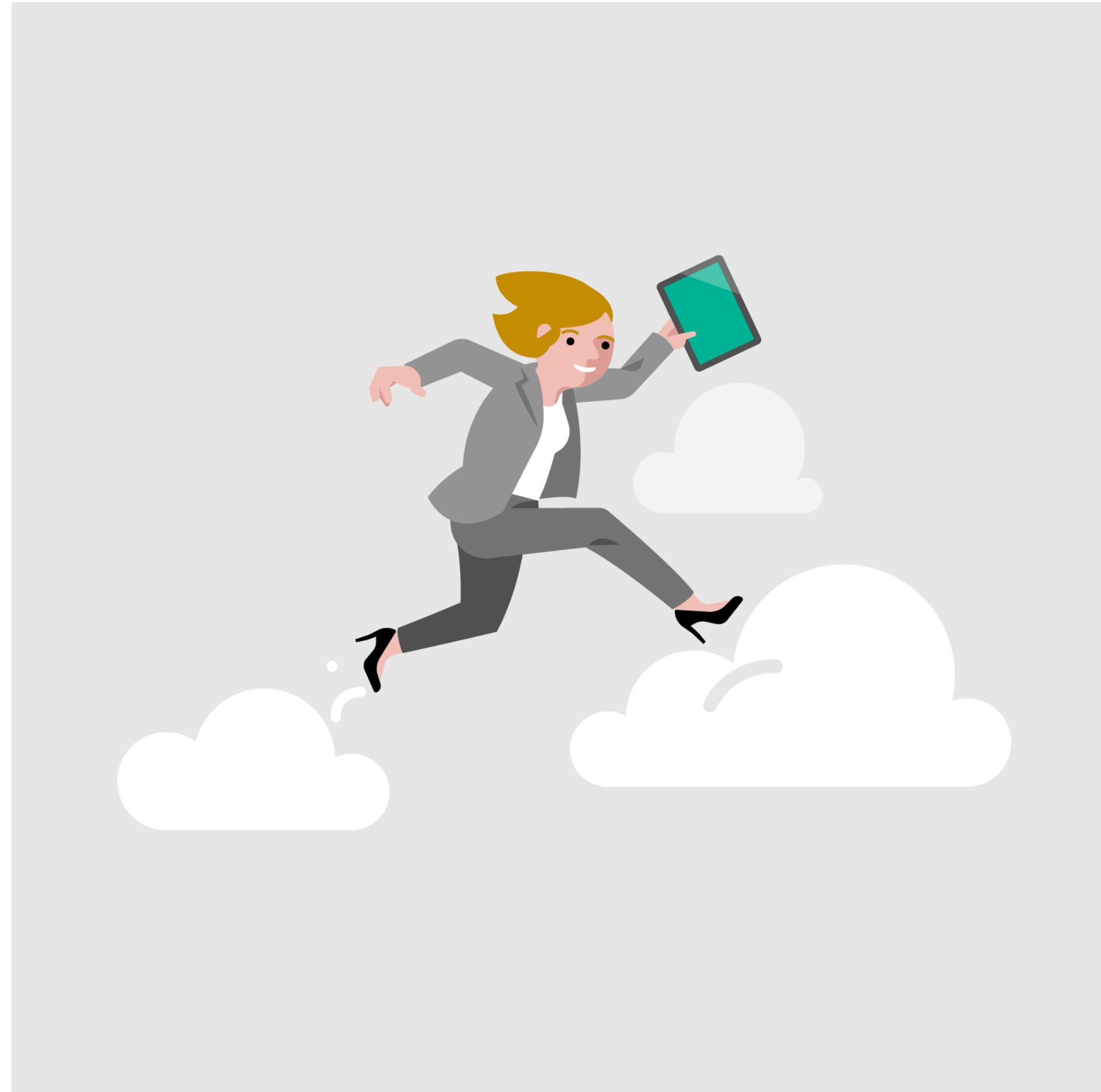
5. Define user mappings



Test in a sandbox environment

- Sandbox environments can be created from existing production data (copy).
- Any changes to data made in a sandbox environment do not affect the original production environment.

Yes! You're in the cloud!



But how do you ... in the cloud?

Business Central Admin Center

https://businesscentral.dynamics.com/<tenant_id>/admin

- Create and delete environments
 - Production
 - Sandbox
- Copy production environment to sandbox
- Support for environments in multiple countries

Set up notification recipients

- Notification recipients will receive information about their environments:
 - Environment scheduled for update
 - Date changes
 - Update succeeded
 - Update failures and reasons
 - PTE compilation failed

Set update window


- The update window determines when updates and maintenance operations will be done on the environment.
- Fast forward... things are running smoothly. Microsoft is releasing a new version!

Managing updates

Your Microsoft Dynamics 365 Business Central environment has been scheduled for an ...

Reply Reply All Forward ...

Tue 11/19/2019 5:43 PM

 Microsoft

Dynamics 365 Business Central

Your Business Central is about to get more exciting!

An update is ready for Business Central, and will soon be coming your way. We have scheduled the update to take place in our datacenter at the time specified below.

Scheduled date: On or after 11/24/2019 (UTC)
Scheduled time: Between 12:00:00 AM and 11:59:59 PM (UTC)

When the update takes place, the Business Central service will be unavailable. If the scheduled date or time is inconvenient for your business, you can easily [reschedule the update](#).

Thank you!
The Business Central Team

Here are your Business Central service details, just for your information.

Your service identifier (Tenant): contosomig
Environment: Production
Version before update: 15.0.36560.0
Version after update: 15.1.37881.0


- There is an update available and the environment has been scheduled to be updated.
- If the date or time is inconvenient, you can reschedule.

Troubleshooting

- What if the environment running in the cloud has some problems?
- How do you investigate?
- Get telemetry from the environment to your Application Insights!
- Application Insights
 - Feature of Azure Monitor
 - Very powerful monitoring and telemetry solution
 - Provides monitoring, alerting, and analytics tools to help diagnose issues and understand what users do with your app

Troubleshooting (2)

- Long running queries logs show context and details of the query.
- You can set up flexible alerts.
- You can debug your apps in the cloud.

	TRACE Warning	
Company name	CRONUS USA, Inc.	...
AL Object Id	50100	...
AL Object name	CustomerListExt	...
AL Stack trace	AppObjectType: PageExtension AppObjectId: 50100 AL CallStack: CustomerListExt(PageExtension 50100).OnAction(Trigger) line 8 - Ext1 by Default publisher	...
AL Object type	PageExtension	...
SQL statement	SELECT TOP (@0) ISNULL("Customer"."Name",@1) AS "Name",ISNULL("Customer"."No_",@2) AS "No",ISNULL("Customer"."Country_Region Code",@2) AS "Country_Region_Code",ISNULL("Customer"."City",@1) AS "City",l... [show more]	...
Client type	WebClient	...
Execution time (ms)	1411	...
Telemetry schema version	0.1	...

Database Export

- Offline troubleshooting
 - You can export your production databases to a storage account!
-
- One of the top asks from partners
 - Useful as backup

Help and Support

- If your customer needs help
 - Set up support contact in the Business Central Admin Center
 - Shows up in the Help and Support page in the application with the direct email address and environment context information so that customers can reach out to you.
- If *you* need help
 - Create support request
 - RED BUTTON

Managing at scale

From **1** to **10** to **100** customers

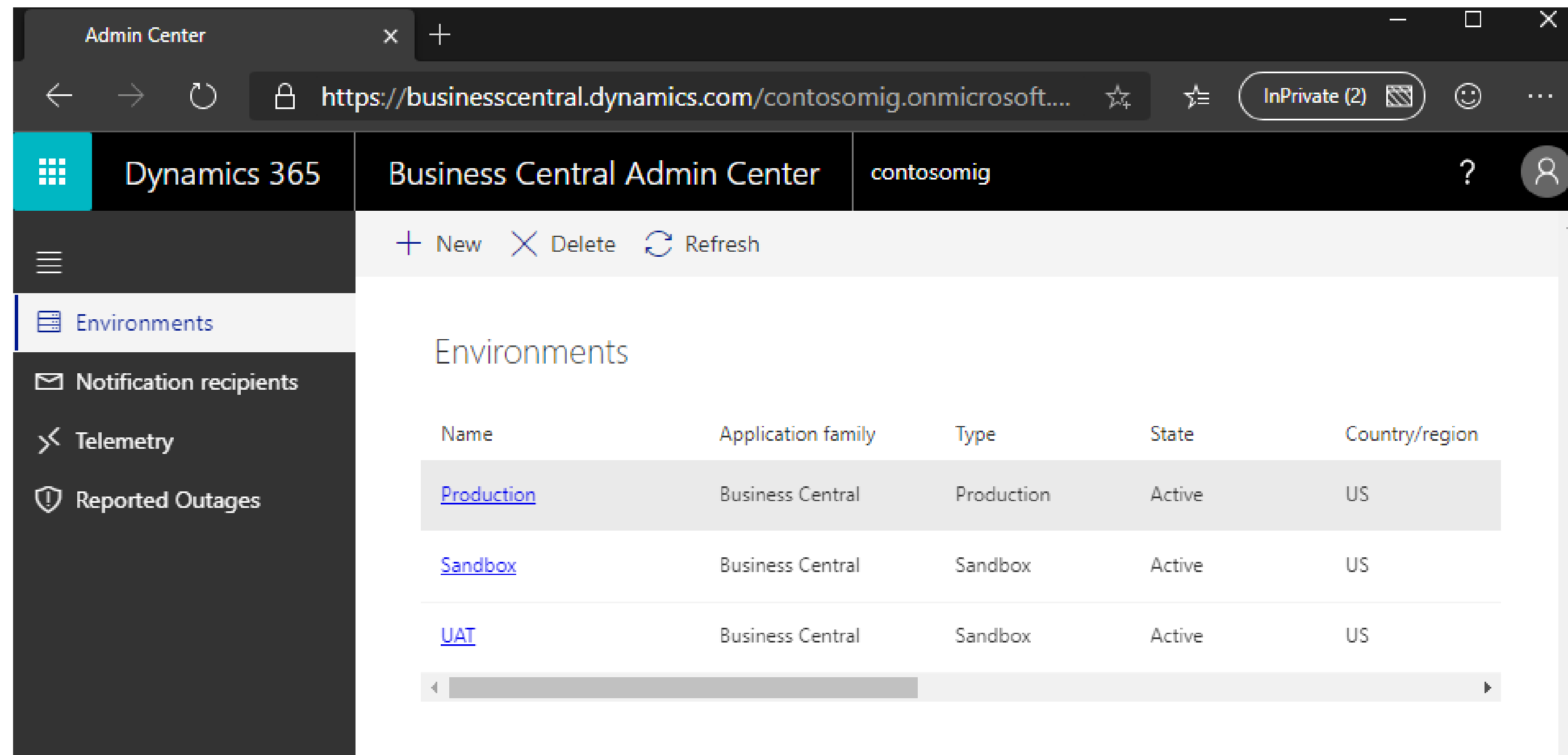
Each customer having **2-4** environments

How to manage?



Automation!

All operations in the Admin Center...



... can also be done programmatically!

Demo!

Call the Admin Center API

Admin Center API documentation

The screenshot shows a web browser window with the URL `https://docs.microsoft.com/en-us/dynamics365/business-central/dev-itpro/administration/administration-center-api`. The page title is "Start Environment Database Export". The left sidebar contains a navigation menu with the following items: "Welcome to the Developer and IT-Pro Help for Dynamics 365 Business Central", "Deployment", "Administration", "Online", "Administration of Business Central Online", "Managing Technical Support", "Administration Center", "Administration Center Overview", "Managing Environments", "Updating Environments", "Exporting Databases", and "Tenant Notifications". The main content area describes the API endpoint: "Initiates the export of an environment's database to a provided Azure storage account". The HTTP method and path are highlighted with a red box: `[200] POST /admin/v2.0/exports/applications/{applicationFamily}/environments/{environmentName}`. Below this, the "Route Parameters" section lists:

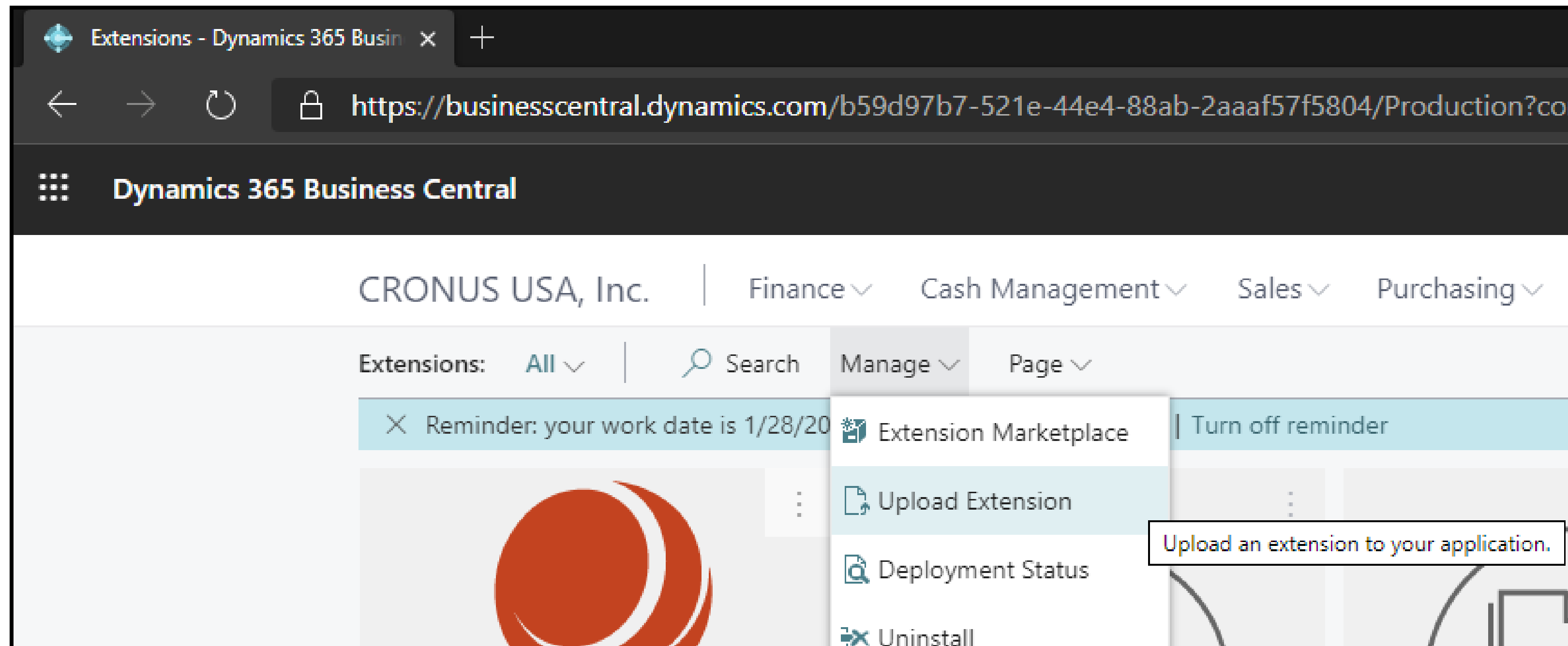
- **applicationFamily**: Family of the environment's application as is. (e.g. "BusinessCentral")
- **environmentName**: Name of the targeted environment

 The "Body" section shows a JSON object with a red box highlighting the first three properties:

```
{  "storageAccountSasUri": string, // An Azure SAS uri pointing at the Azure storage account wh  "container": string, // The name of the container that will be created by the process to sto  "blob": string, // The name of the blob within the container that the database will be expor  }
```

Automated deployment

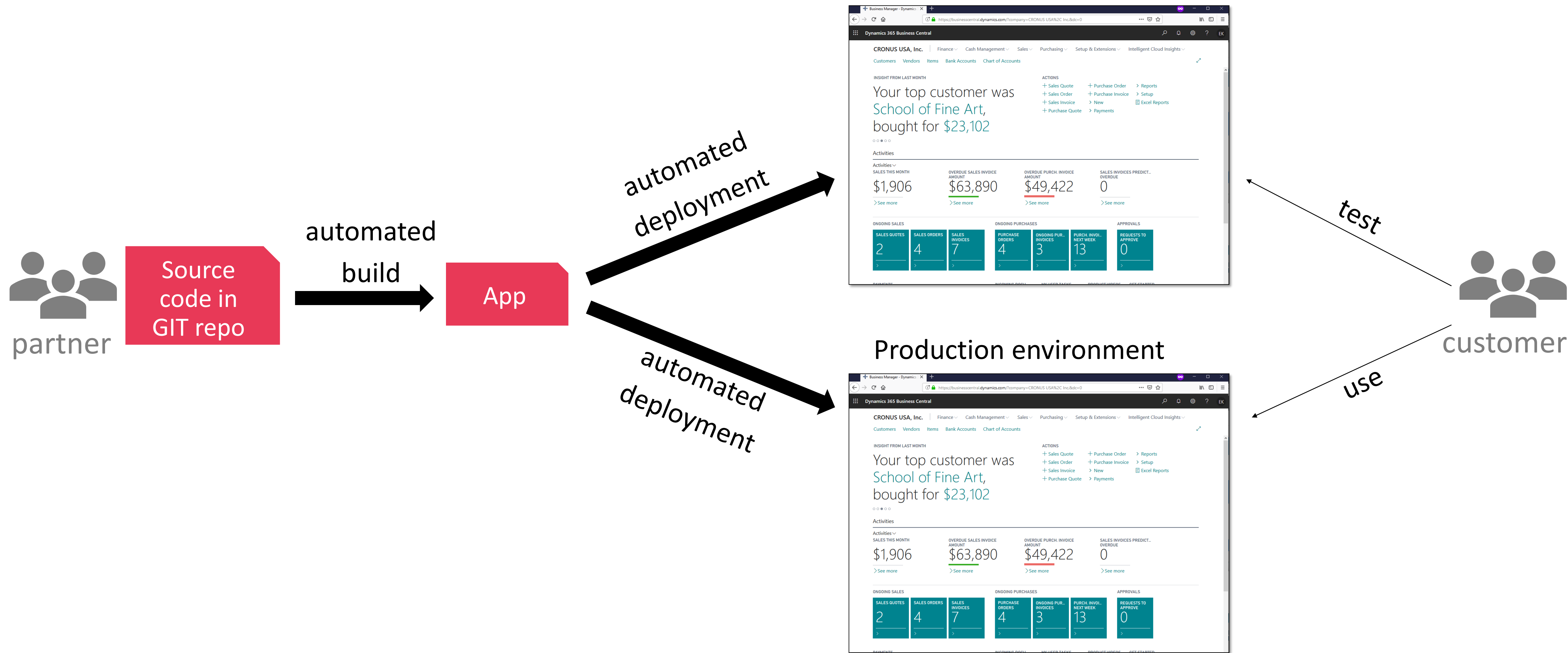
- As we iterate on the PTE, we want to upload it to all the environments



- But it's a pain (and error-prone) to do this manually!

Automated build and deployment process

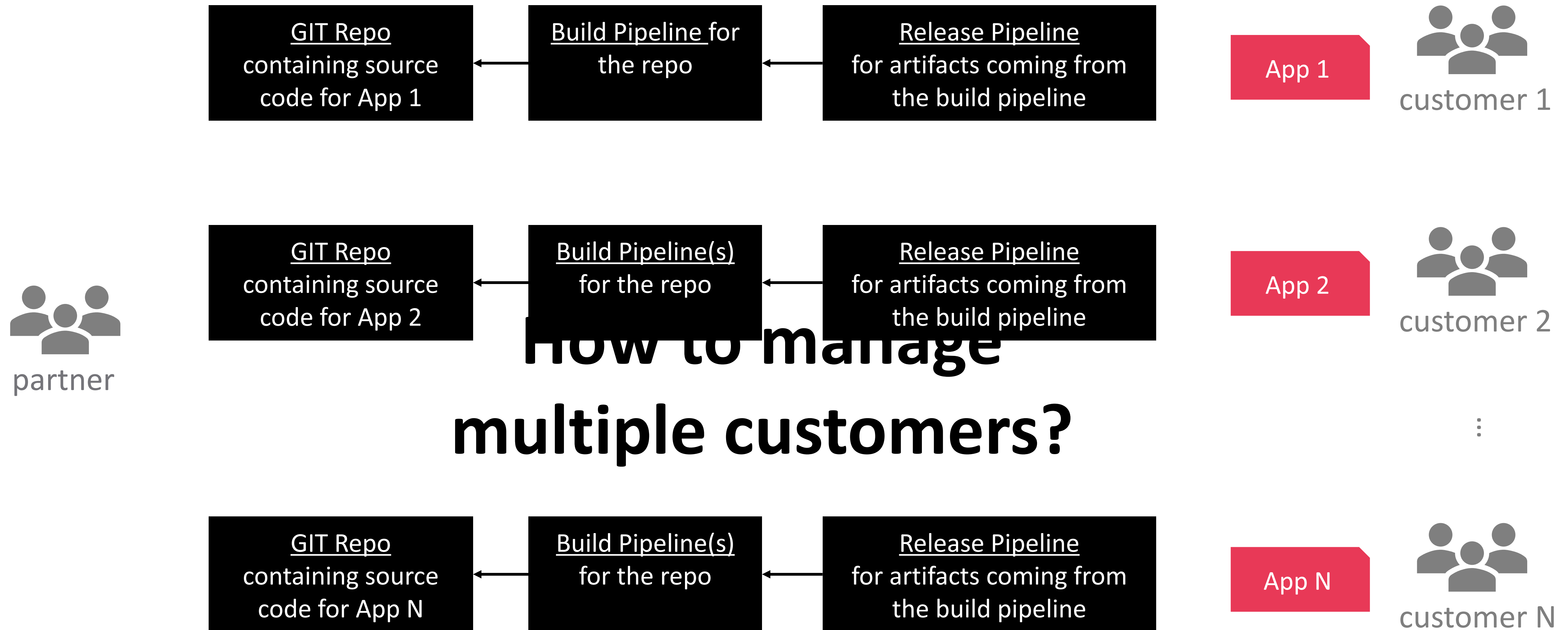
UAT environment (User Acceptance Test)



Demo!

**Automated Build and Deployment
with Azure DevOps**

Managing PTEs for multiple customers



Summary

1. Migrate customizations to the cloud

- Upgrade to BC 15
- Extract customizations to extensions

2. Migrate data to the cloud

- Initial full migration + incremental migrations
- User and permission setup
- Copy to sandbox environment and test

3. Manage environments and extensions in the cloud

- Troubleshoot using App Insights and VSCode debugging
- Support tickets
- Upgrade scheduling
- Notifications
- Database Export
- Multiple environments for each customer
- Multiple countries for each customer

4. Manage scale

- Automation of “everything” to handle many customers and many environments

Q&A

Any Questions?