TO FLOW OR NOT TO FLOW? ALM CONSIDERATIONS & APPROACHES (POWER AUTOMATE / LOGIC APPS)

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AGENDA

- About Me
- The What, Why's and When's
  - Power Automate Cloud Flows
  - Logic Apps
- ALM
  - What are we talking about here?
  - The Good, The Bad, The Ugly
    - Power Automate Cloud Flows
    - Logic Apps
- Demo
- Closing Thoughts
- Q&A / Discussion

ABOUT ME

- Business Applications MVP & MCT

- Managing Director @ SOLO Cloud Solutions, Microsoft Gold Partner

- Hold 40+ certifications covering Dynamics 365 Customer Engagement, Power Platform and Microsoft Azure

- D365 / Power Platform User Group Committee Member

- 5+ years experience working with these products, and the following technologies:
  - Dynamics CRM / CE / Power Platform
  - Microsoft 365
  - SQL Server / T-SQL
  - C# / .NET

- Industry experience:
  - Print/Direct Mail
  - Energy & Utilities
  - Housing Associations
  - Retail
 - Managed Services
  - Construction

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POWER AUTOMATE CLOUD FLOWS OVERVIEW

- Automate and model business processes across your apps and services

- From simple automations to advanced scenarios with branches, loops, and more

- Trigger actions, grant approvals, and get notifications right where you work

- Automate legacy, on-prem and cloud-based applications and services
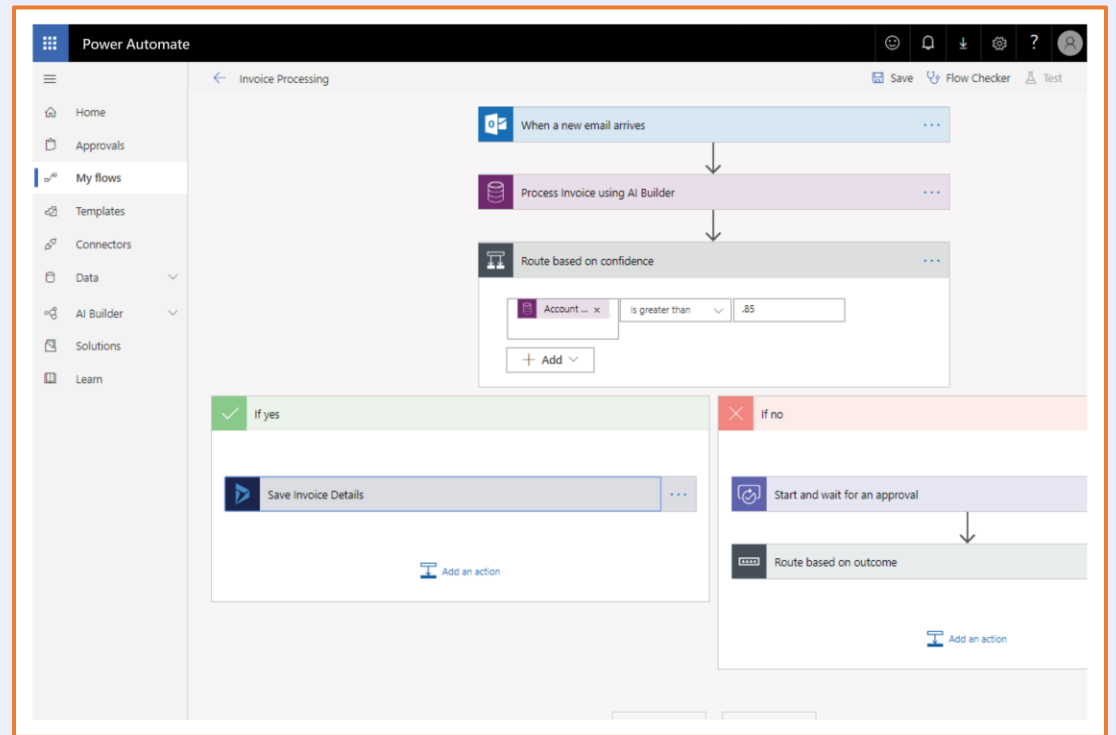
LOGIC APPS OVERVIEW
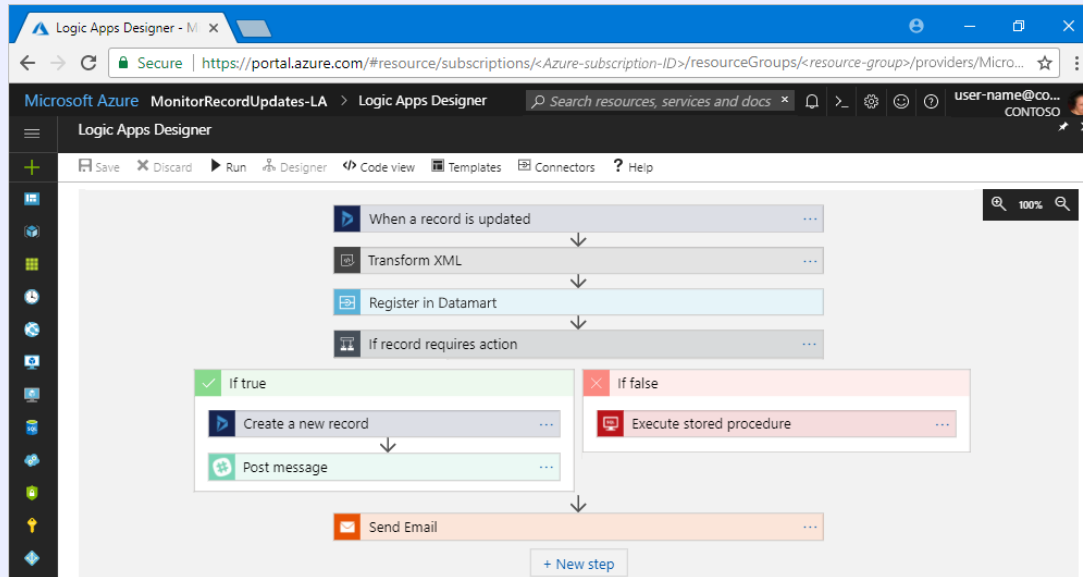
- Automation workflow solution:
  - No-code designer for rapid creation of integration solutions
  - Prebuilt templates to simplify getting started
  - Out-of-box support for popular software as a service (SaaS) and on-premises integrations
  - BizTalk APIs available to advanced integration solutions
- JSON-based workflow definition:
  - Can be deployed by using Azure Resource Manager templates

POWER AUTOMATE VS LOGIC APPS

Power Automate	Logic Apps
Software as a Service ("SaaS")	Platform as a Service ("PaaS")
Can only be built within the Power Automate / Maker Portal	Can be built via Visual Studio or using the online designer
Includes Current Environment connector for Dataverse	No current environment connector – developers must explicitly state their targeted Dataverse environment
Includes "out of the box" approval automation engine	No in-built approval automation
Billable as part of a monthly subscription, based on the number of flows executed or dedicated flows required.	Chargeable at both the consumption and dedicated capacity level
Supports Connection References and Environment Variables for runtime parametrisation	Via Azure RM templates / Bicep, rich array of parameterisation capabilities

FUN FACTS

- Cloud flows are just SaaS Logic Apps:
  - Same connectors*
  - Same authoring experience via the portal
  - Both support on-premise gateway
- Cloud flows can be "promoted" to Logic Apps by migrating the base definition:
  - https://docs.microsoft.com/en-us/azure/logic-apps/export-from-microsoft-flow-logic-app-template
- Logic Apps can be called via Cloud Flows / Power Apps, and vice-versa:
  - https://docs.microsoft.com/en-us/azure/logic-apps/call-from-power-automate-power-apps

* For the most part

I'M SEEING DOUBLE HERE, FOUR CLOUD AUTOMATION TOOLS

SO WHICH ONE SHOULD WE USE?

- The "official" guidance 😄
- Use cloud flows:
  - For citizen developer scenarios
  - For automations targeting personal productivity or simplistic integration scenarios
  - For implement asynchronous workflows targeting Microsoft Dataverse
- Use Logic Apps:
  - For pro-code extensibility scenarios
  - For when you workflow executions exceed certain thresholds
  - For when you need to leverage more advanced enterprise features

ONE BIG ISSUE THOUGH...
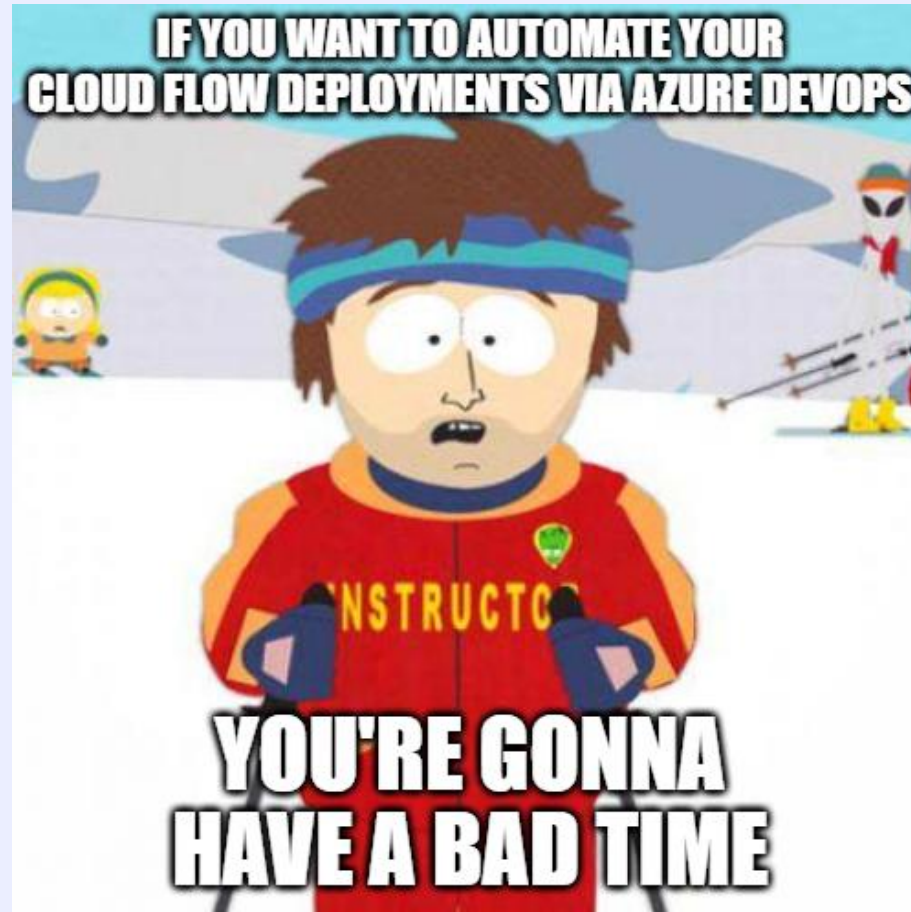
WHAT IS ALM?

- Application Lifecycle Management
- Helps to ensure:
  - Consistency
  - Repeatability
  - Assurance
  - Maturity
- Not a one size fits all
- Can be complex, but don't forget to KISS 😘

ALM, DEVOPS AND THE POWER PLATFORM – IN THEORY (1)

- **Quick Start**: Enable app builders to get set up with an environment with the latest build and connected to source control and make a change quickly

- **Build:** Simplify tooling, consolidate portals and speed up inner loop

- **Deploy**: Enable an automated repeatable (predictable) deployment methodology

- **Manage:** Invest in additional environment management capabilities to offer more flexibility for app builders to use and dispose preconfigured environments as needed

- **Monitor**: Application telemetry and feedback loop by design

ALM, DEVOPS AND THE POWER PLATFORM – IN THEORY (2)
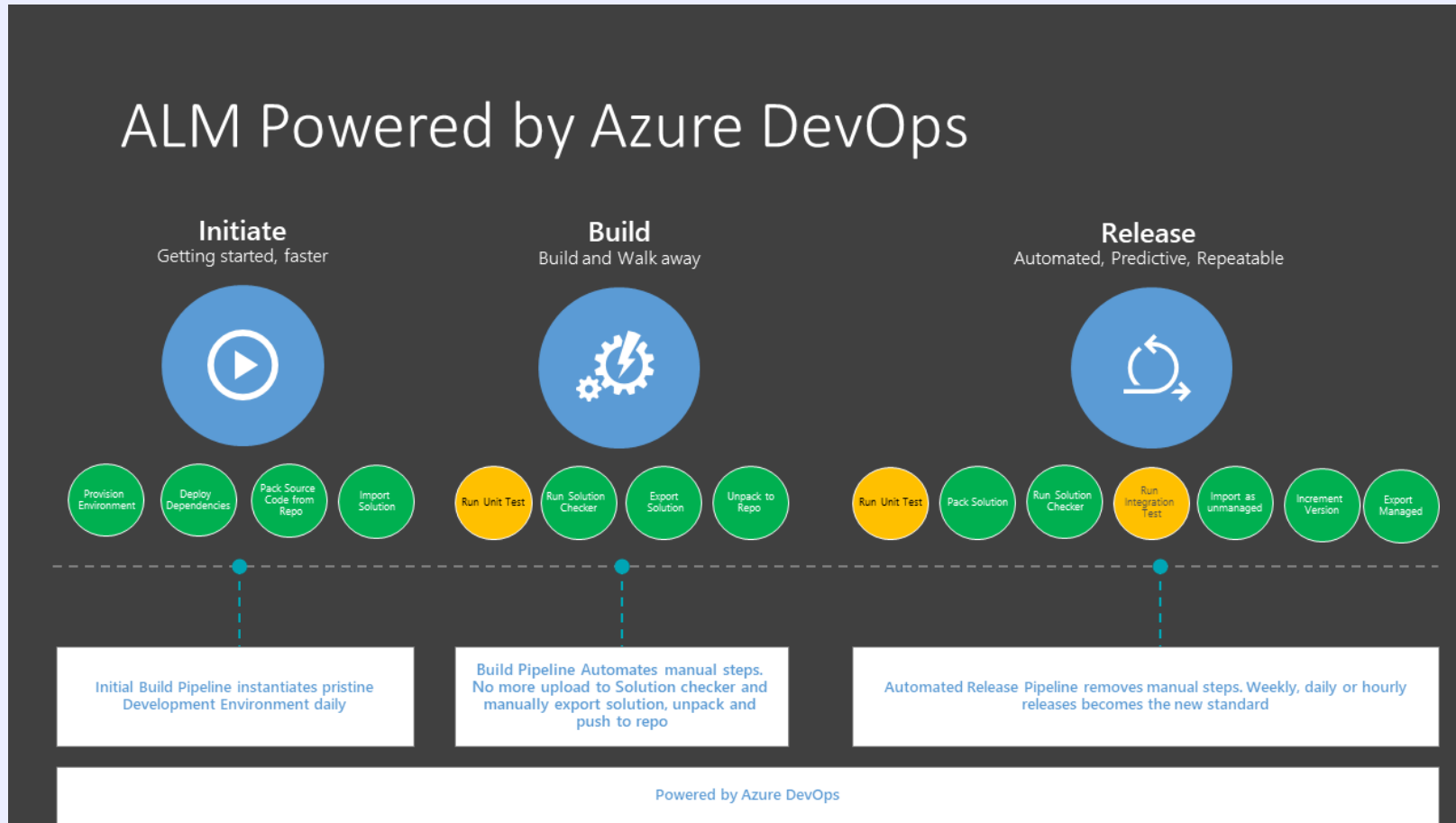
ALM, DEVOPS AND THE POWER PLATFORM – IN PRACTICE

- "An area of significant investment by Microsoft"
  - Translation: Maybe not quite up to scratch 😊
- Frequent issues encountered "in the field":
  - Could be stupidity on my side – let me know your thoughts in the chat!
- Impossible currently to deploy Flows cleanly, without writing custom scripting:
  - https://www.develop1.net/public/post/2021/04/01/connection-references-with-alm-mind-the-gap

WHY THIS IS ALL SO IMPORTANT

- Automation is king
- Adopting a "source control centric" approach will be critical for the Power Platform in future; ALM gets us there faster
- 99.99% certainty that the deployment will succeed
- To give our weekends / evenings back to us 😄

LET'S BREAK IT DOWN NOW...

- ...and see how Cloud Flows & Logic Apps compare.
- We'll evaluate:
  - What's good 👍
  - What's not so good 👎
  - What's frustrating and horrible 💀
- Demo to follow

POWER AUTOMATE CLOUD FLOWS

POWER AUTOMATE – THE GOOD

- Full support for Environment Variables
- Current Environment Connector for Dataverse
- Full compatibility with Solutions

POWER AUTOMATE – THE BAD

WOULD ANYONE LIKE TO SEE A SNEAK PREVIEW?

- No IDE Support
  - Expanded flow contents JSON *could* be edited, at your own peril 😄
- Basic Logging/Monitoring Capability
  - 30 day retention of previous runs
- Some vital components still in public preview:
  - Settings:
    - https://docs.microsoft.com/en-us/powerapps/maker/data-platform/create-edit-configure-settings
  - Azure Key Vault Integration
    - https://docs.microsoft.com/en-us/powerapps/maker/data-platform/environmentvariables#use-azure-key-vault-secrets-preview

POWER AUTOMATE – THE UGLY

- **User-Owned Connections**
  - Can't be shared
  - If importing as a different user, the Flow will typically break post-import
- **Big Brother is watching…**
- **Confusing licensing**
- **Unmanaged Layer Hell**
  - Fix a Flow in Production? That's an unmanaged layer
  - Need to deploy a new version? Oops, unmanaged layer.
  - Flow breaks following deployment? OK, let's fix and…oops, unmanaged layer.

LOGIC APPS

LOGIC APPS – THE GOOD

- Easy Migration from cloud flows to Logic Apps
- Support for advanced features:
  - Liquid Operations (XML -> Text, JSON -> Text etc.)
  - Flat File Decoding / Encoding
  - XML Validation and Transformation
- Full control of the underlying workflow definition code
- Enhanced Logging Capability
- Managed Identity Support

LOGIC APPS – THE BAD

- Not a citizen developer tool
  - Good awareness of JSON, general structure of Logic Apps and how Azure RM templates work is vital when automating.

- No Current Environment Connector

- Lots of parameterisation / variables typically required

THIS IS HARD!

LOGIC APPS – THE UGLY

WHAT'S THE MATTER? CAN'T YOU READ IT ALL?

NO, I CAN'T!

- Azure Deployment Errors
  - Can range from simple JSON formatting errors through to bizarre Azure API errors; grab a coffee and get buckled in.
- JSON templates
  - Can be THOUSANDS of lines of code 🤯

DEMO

CLOSING THOUGHTS

- Specific scenario will dictate your best approach
  - Small project with manual deployments = Cloud Flows
  - Complex projects, where regular automation is necessary = Logic Apps
- ALM story with Power Platform **will** improve greatly over time.
- 100% automation is an impossible goal to achieve
- Leverage native capabilities as much as possible

Q&A

THANK YOU FOR LISTENING!

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