



Custom Cloud-based Integration Platform for IPCO

Development of a tailored integration platform powered by Microsoft Azure for a Global Manufacturing Company

Industry: Manufacturing

Location: Sweden

Employees: 800+

Website: www.ipco.com



Client Background

IPCO is a global industrial process solution group with 35+ sales offices, service centers, and production sites across Asia, Europe, and North America. The company is dedicated to enhancing the processing productivity of more than 1200 types of products across Construction, Food, Transportation, Chemical, and other industries. IPCO's service portfolio encompasses the development, installation, and maintenance of custom industrial solutions and equipment, such as conveyors, steel belts, press machines, coolers, granulation systems, and spare parts.

Business Challenge

The collaboration between Infopulse and IPCO began in 2018, soon after the client demerged from a multinational industrial engineering company and began operating as a stand-alone business. The client aimed to move away from the legacy on-premise infrastructure and leverage the capabilities of modern technologies to foster innovation and accelerate business growth. Bearing this in mind, IPCO developed an ambitious digital transformation strategy, with a primary focus on Microsoft tech stack and Azure products.

IPCO's key business challenge was to save the time and efforts of its internal IT teams and shift their focus to valuable strategic tasks by enabling end-to-end automation of routine IT tasks, HR operations, and other business processes. To achieve this, the client requested to design and develop an innovative integration platform based on Microsoft Azure, which had to:

- Seamlessly integrate IPCO's CRM and ERP systems to streamline sales operations
- Automate on/offboarding of employees and consultants to reduce manual work and facilitate compliance during audits
- Host integration flows and enable reliable connectivity across various applications within the customer's environment.
- Adhere to the secure-by-design approach and ensure the robust protection of application secrets, such as API keys, certificates, and other sensitive data.
- Provide a modern operational setup, including issue monitoring, alerting, and self-healing capabilities

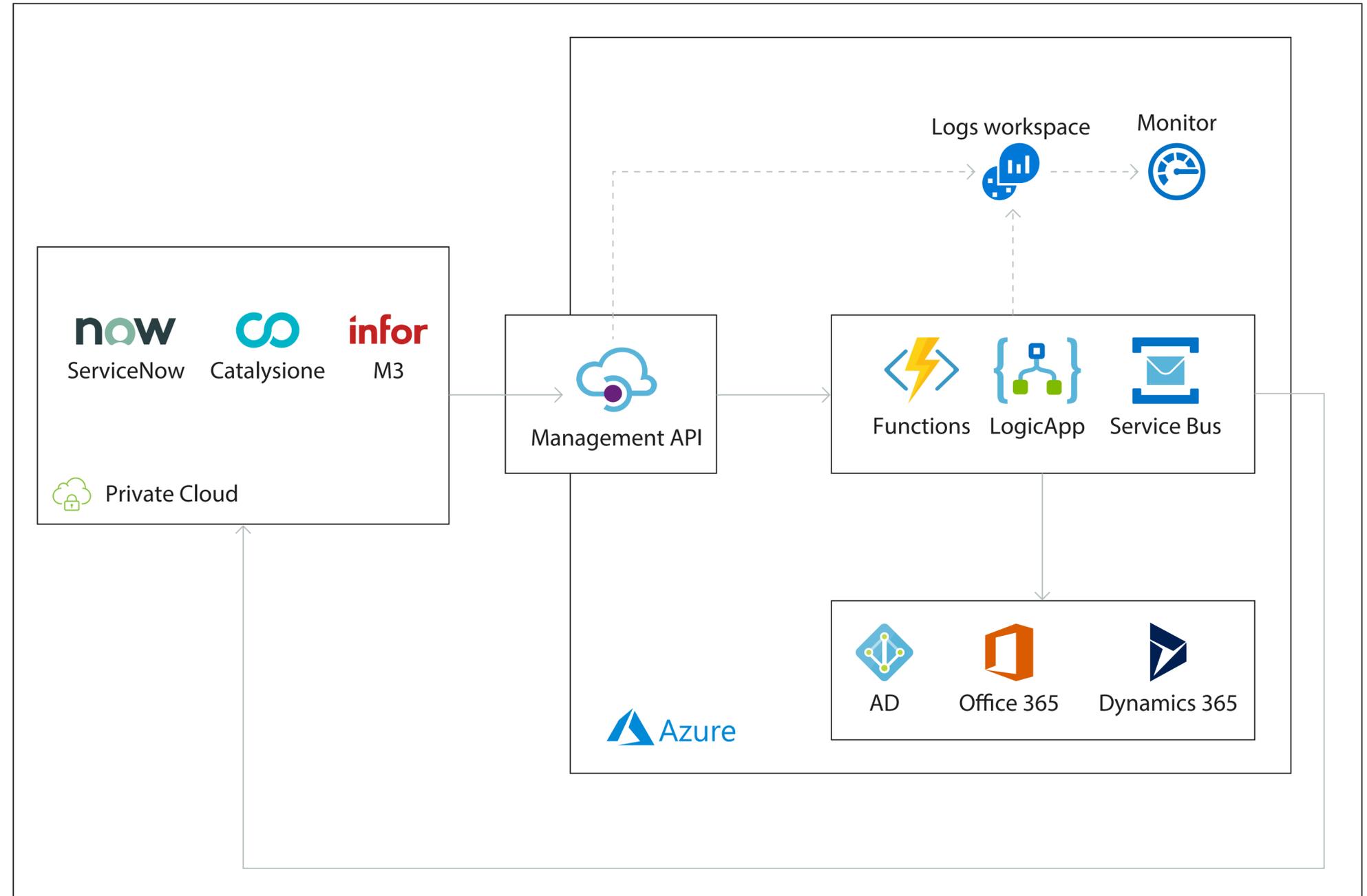
Solution

As a long-standing Microsoft Gold Partner with an [Azure Expert MSP status](#) and numerous Azure Advanced Specializations, Infopulse had the required knowledge and expertise to help IPCO build an innovative integration platform based on Azure Integration Services.

The initial stage of the project involved a series of workshops to analyze IPCO's business processes and IT landscape, elicit the key technical and business requirements, plan the scope of the work, and prepare a project implementation roadmap. Once the assessment and planning were complete and confirmed with the client, Infopulse proceeded with the end-to-end engineering of a custom integration platform, applying Agile and DevOps methodologies.

The integration platform is based on a message-oriented architecture, which eliminates silos in communication between applications by utilizing a message queue system. The platform seamlessly integrates CatalystOne (HCM software), Infor M3 (ERP system), and ServiceNow (front-end for user inquiries).

High-level Architecture of the Integration Platform



The Integration Platform architecture is based on the following components:

- API Management – serves as an entry point that initiates the workflows
- Logic Apps – responsible for the business logic and execution of the workflows
- Azure Functions – hosts custom code solutions that are used when Logic Apps are not able to cover the required functionality
- Service Bus – an intermediary layer that splits complex flows into multiple steps
- Active Directory – identity and access management tool
- Key Vault – used as secure storage of API keys and certificates

- Log Workspace – stores all integration logs and metrics
- Azure Monitor – used to monitor the platform's performance and rapidly alert the support team on API errors, lost messages, or any other issues.

As a result, the platform enables the end-to-end automation of IPCO's operations, such as IT onboarding and offboarding of employees and consultants; synchronization of employees' data between HR, business, and IT systems; transfer of IPCO's customer data from CRM to the ERP system; delivery of invoices from the Invoice Management system to the ERP system, as well as sending of invoice metadata back to the ERP. In addition, the architecture is designed to ensure the effective troubleshooting of potential errors and incidents within the workflows.

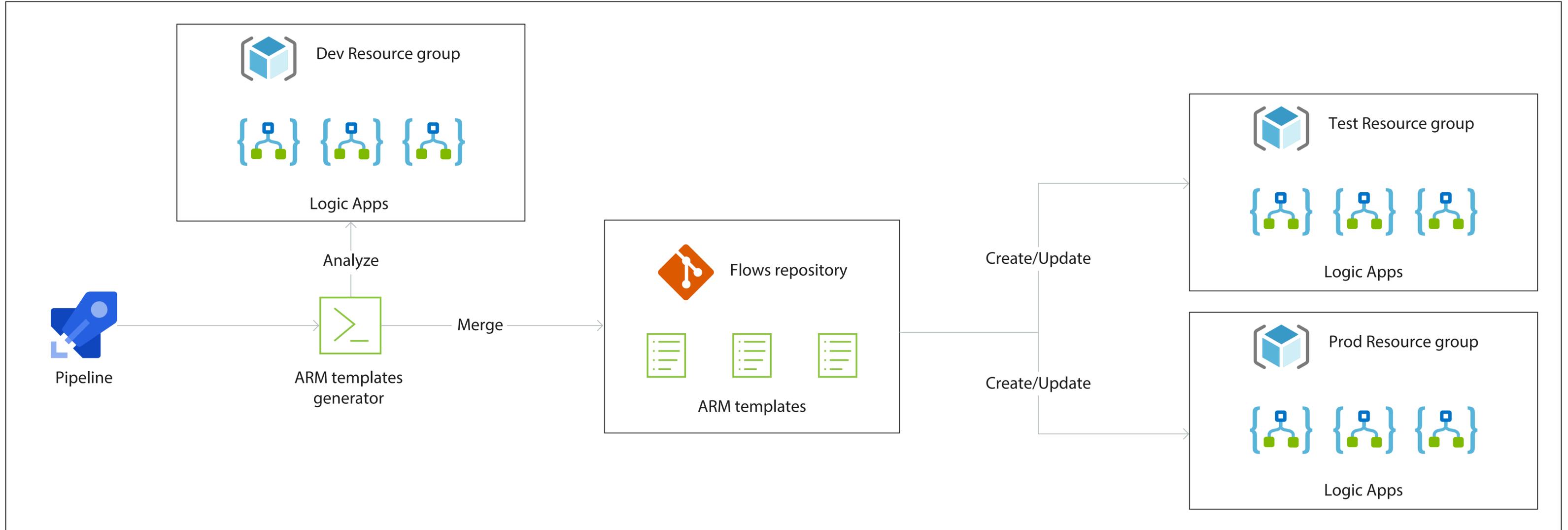
DevOps Lifecycle Overview

According to the project requirements, the integration platform had to rapidly address IPCO's change requests and ensure swift deployment of integration flows to the production environment. To achieve this, Infopulse formed a dedicated DevOps team that utilized the capabilities of Azure to build tailored CI/CD pipelines.

The setup included a build and release pipeline across the development, test, and production environments. The CI/CD lifecycle is composed of the following stages:

1. An integration flow is created in the development environment
2. The build pipeline transfers the flow into a GIT repository, from which the flow is released into the test environment
3. Within the test environment, the flows are verified and validated
4. If issues are absent, the flow is automatically deployed to the production environment.

Illustration of the Established DevOps Lifecycle



This approach facilitates the development of new integration flows and allows to continuously modify them with new custom features upon IPCO's request, as well

as rapidly test and deploy the flows to the production environment.

Technologies

 Azure API Management

 Azure Logic Apps

 Azure Key Vault

 Azure DevOps

 Azure Functions

 Azure Service Bus

 Azure Monitor



Business Value

Infopulse developed a tailored enterprise integration platform that enables seamless interoperability and smart workflow automation across IPCO's IT, HR, and business systems. The client's IT teams are now relieved from tedious routine tasks and can focus their efforts on innovation and business growth. Moreover, the platform can be easily scaled horizontally, which allows adding new integration flows and connecting more systems without affecting the existing functionality.

To summarize, the integration platform has provided the following business benefits for IPCO:

- The time required for onboarding/offboarding employees or consultants was reduced to minutes instead of days
- Swift transition of IPCO's customers from sales to operations due to integration of the CRM and ERP systems

- Optimized costs for hiring additional in-house IT specialists and performing software maintenance
- Dynamic scalability to rapidly address ad-hoc needs for performance boosts
- A stable, secure, and resilient platform that ensures rapid response to potential incidents across all integrated systems
- Streamlined development, testing, and deployment of new integration flows and custom features
- The solution architecture eliminates possible vendor lock-in scenarios and provides freedom in choosing IT service suppliers

Most importantly, the platform is ultimately flexible, which facilitates its further modernization. As of today, Infopulse continues to deliver full-scale platform support and ongoing development of new custom integrations for IPCO.



About Infopulse

Infopulse, part of the leading Nordic digital services company Tietoevry, is an international vendor of services in the areas of Software R&D, Application Management, Cloud & IT Operations, and Cybersecurity to SMEs and Fortune 100 companies across the globe. Founded in 1991, the company has a team of over 2,300 professionals and is represented in 7 countries across Europe and the Americas.

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