

# IBM Integration Bus on Cloud and App Connect Enterprise on Bluemix

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Hybrid Integration Development

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# Integration Bus on Cloud (IIBoC) 1 Slide Summary

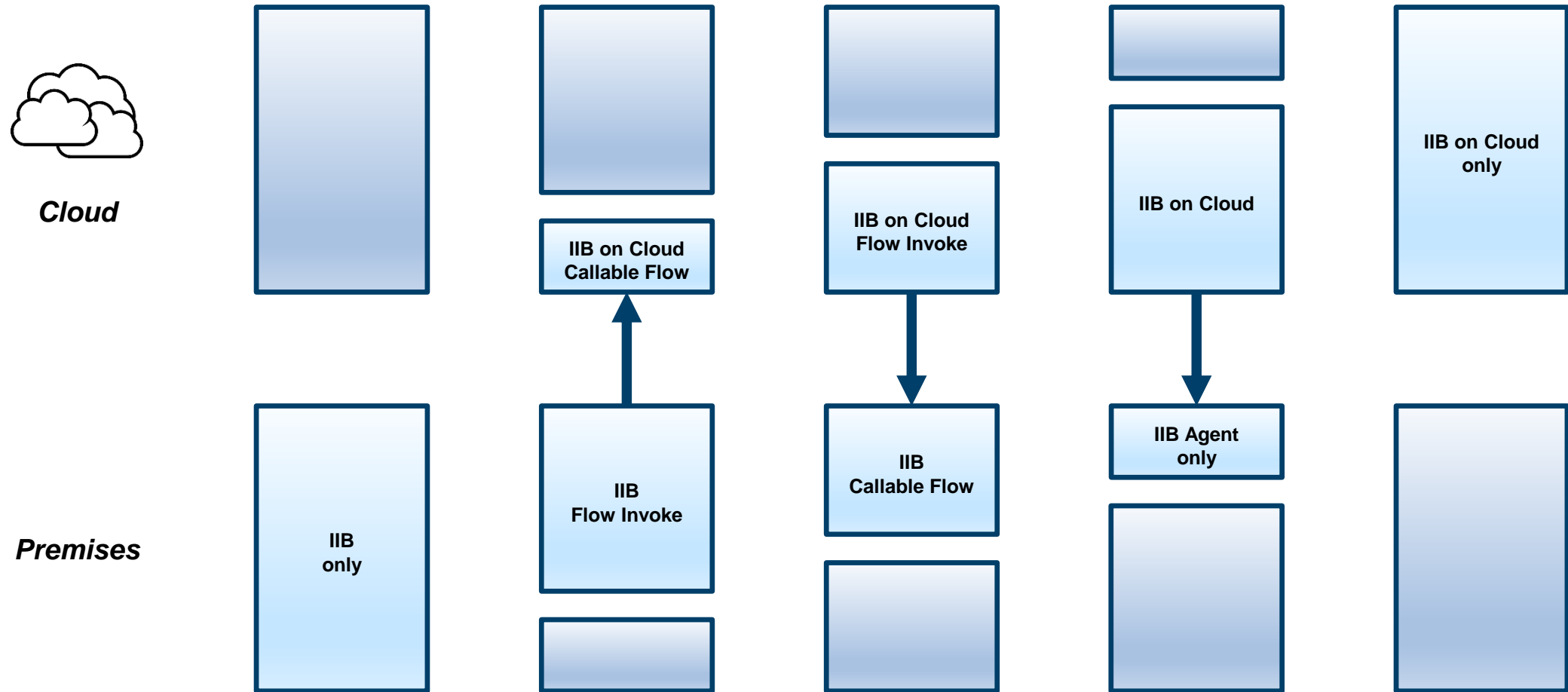
- Fully Managed Integration Bus Cloud Offering
- Based off Bluemix Container Service (in Dallas)
- Supports subset of the nodes available in IIB
- PAYG and Subscription based around 4GB Containers
- Integration runs as a DataFlowEngine in a standalone mode
- Stateless Integrations
- Free 30 Day Trial



# Supported nodes

- CallableFlowAsyncInvoke
- CallableFlowAsyncResponse
- CallableFlowInvoke
- CallableInput
- CallableReply
- Compute
- Database
- DatabaseInput
- Filter
- FlowOrder
- HTTPAsyncRequest
- HTTPAsyncResponse
- HTTPHeader
- HTTPInput<sup>1</sup>
- HTTPReply
- HTTPRequest
- Input
- JavaCompute
- Label
- Mapping
- MQGet
- MQInput
- MQOutput
- MQReply
- Output
- Passthrough
- ResetContentDescriptor
- RESTAsyncRequest
- RESTAsyncResponse
- RESTRequest
- Route
- RouteToLabel
- SOAPAsyncRequest
- SOAPAsyncResponse
- SOAPEnvelope
- SOAPExtract
- SOAPInput
- SOAPReply
- SOAPRequest
- Throw
- Trace
- TryCatch
- Validate
- XSLTransform

# Moving IIB to the Hybrid Cloud



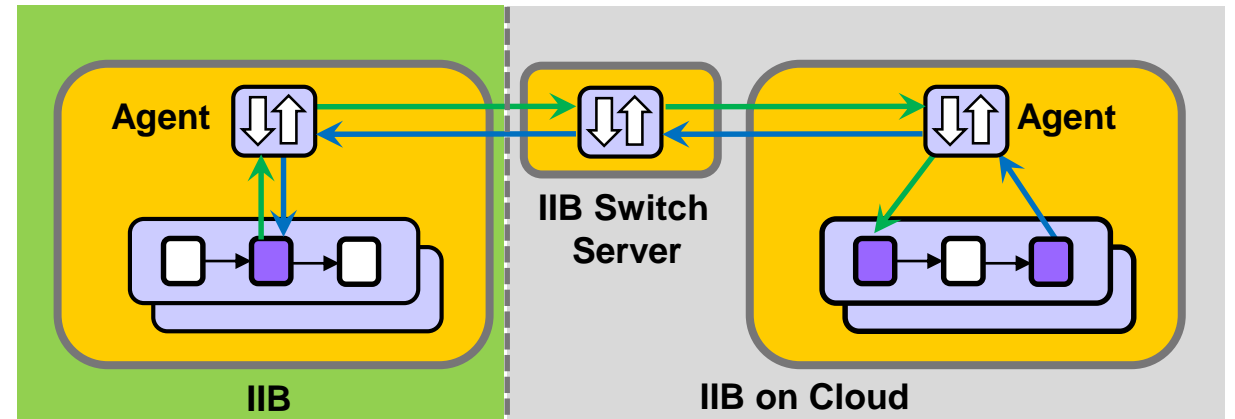
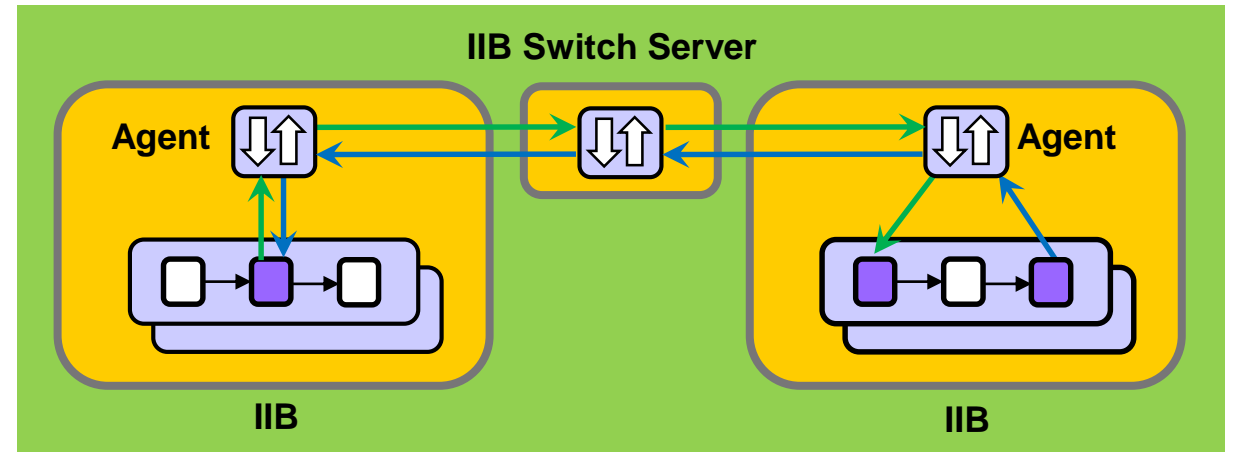
**“Cloud  
Bursting”**

**“Callable  
Flows”**

**“Port  
Forwarding”**

# Hybrid Integration using the IIB Switch component

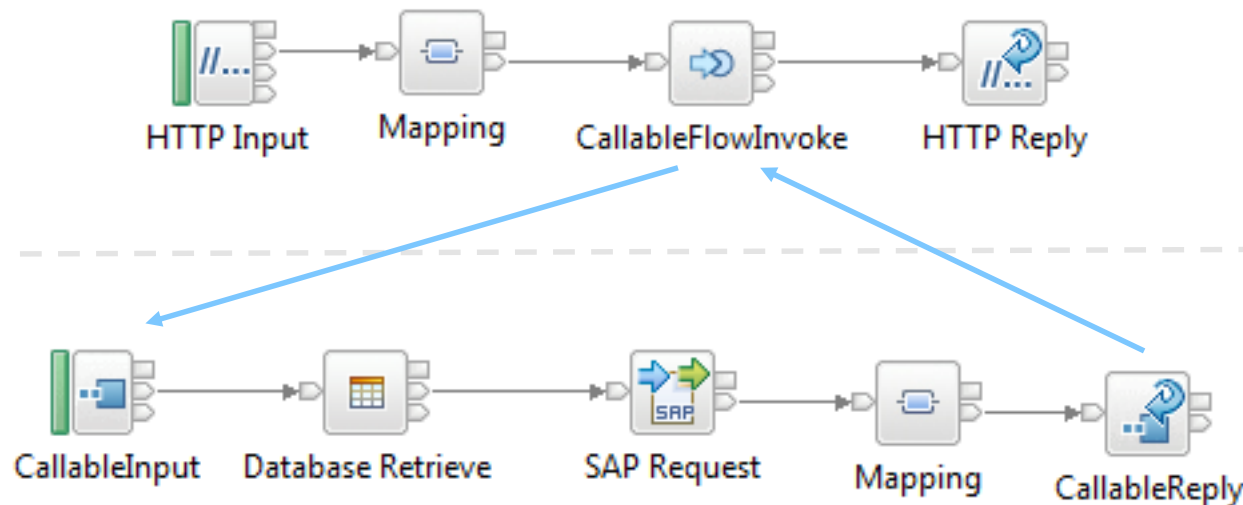
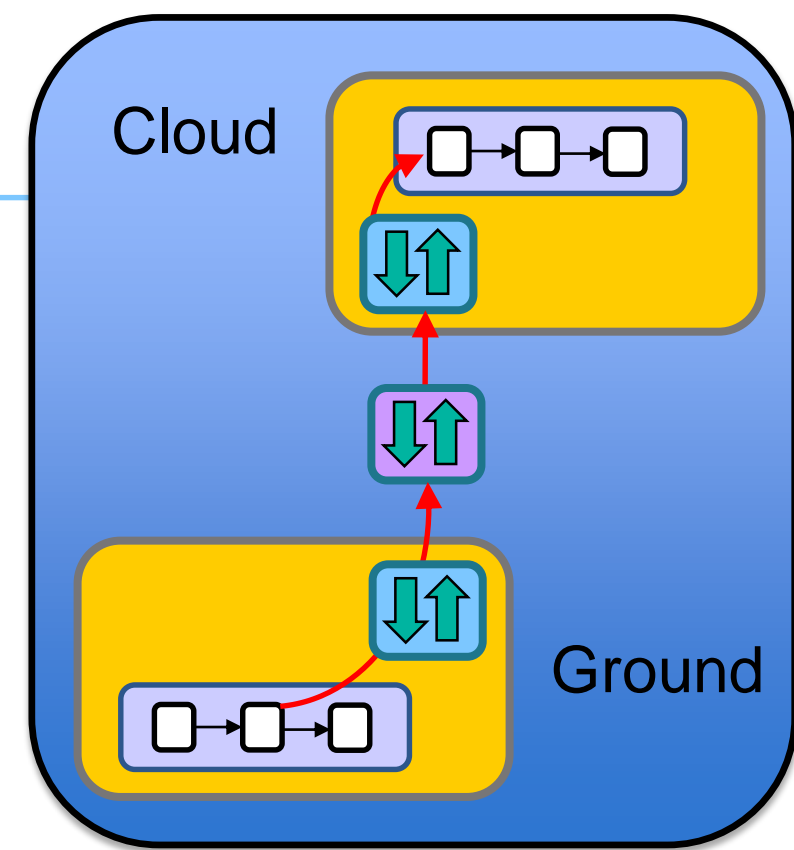
- Simpler to run IIB in a cloud architecture due to deployment processing and flow runtime all coordinated using a single OS process
- Split processing between different Integration Servers
- Flows communicate using a Switch server and connectivity agents
- If callable flows are deployed in IIB (on-prem, in Docker, or in another vendor's IaaS such as AWS or Azure) then the agent contains certificates to secure the web socket connections to the Switch server
- If splitting work between IIB and IIB on Cloud, the Switch server is created and managed for you in the cloud





# Callable Flows

- True Hybrid integration is achievable right now!
- Cloud burst workload when needed!
- Easily connect IIB running on ground with IIB on Cloud, and in Docker, pure application, other IaaS vendors etc.
- Dynamically control the CallableFlowInvoke node to route to different message flows for specific message traffic
- Dynamic behaviour is also useful for on-premise use cases



**CallableFlowInvoke Node Properties - CallableFlowInvoke**

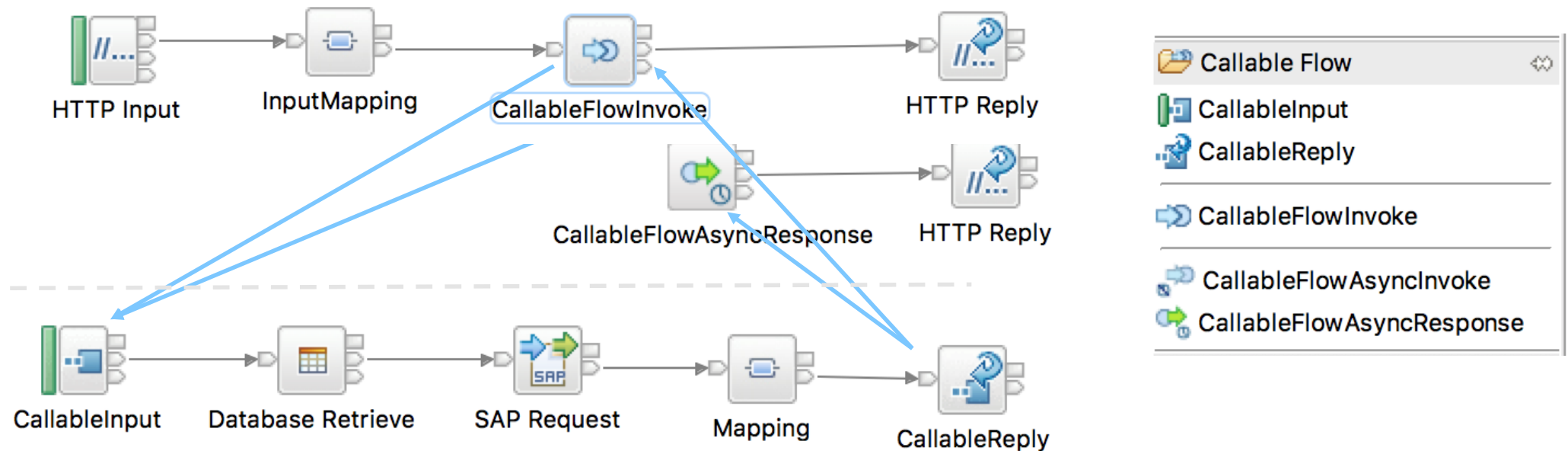
Description	
Basic	Target Application* App2
Monitoring	Target Endpoint Name* UniqueEndpoint
	Request timeout (sec) 120
	Call Preference
	<input type="checkbox"/> Prefer local calls
	<input checked="" type="checkbox"/> Prefer local calls
	<input type="checkbox"/> Remote calls only

**Callable Flow**

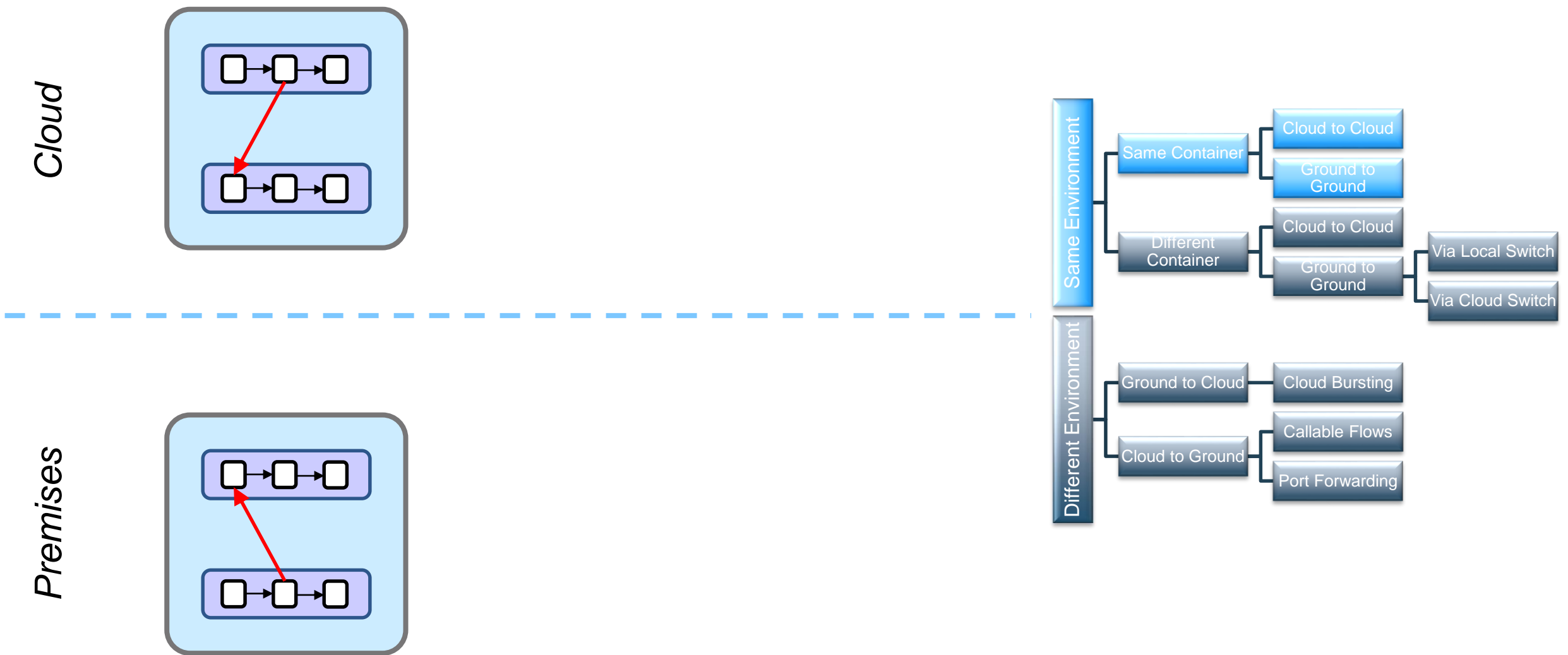
- CallableInput
- CallableReply
- CallableFlowInvoke

# Callable Async Flows

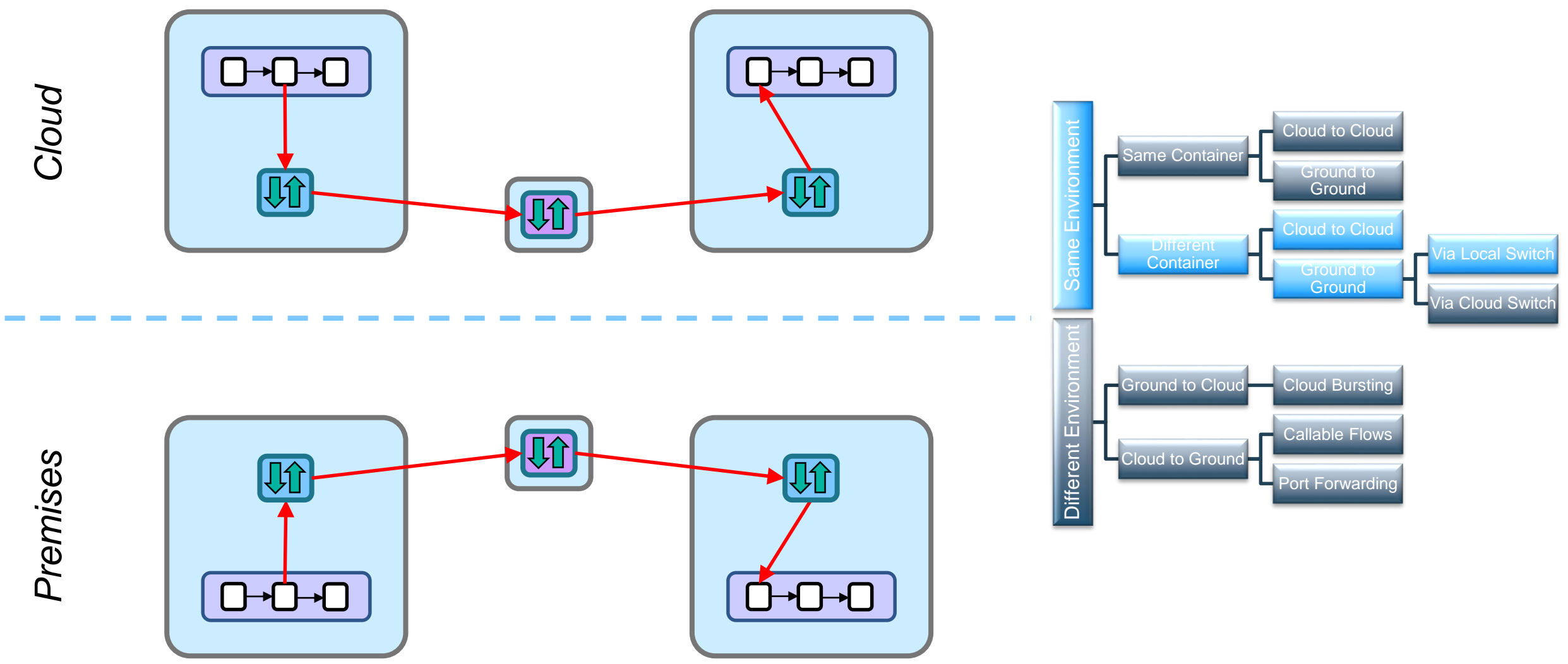
- Releases invoking threads
- More efficient when working with high latency or high duration callable flows
- Improve utilisation of machine running Invoking flows



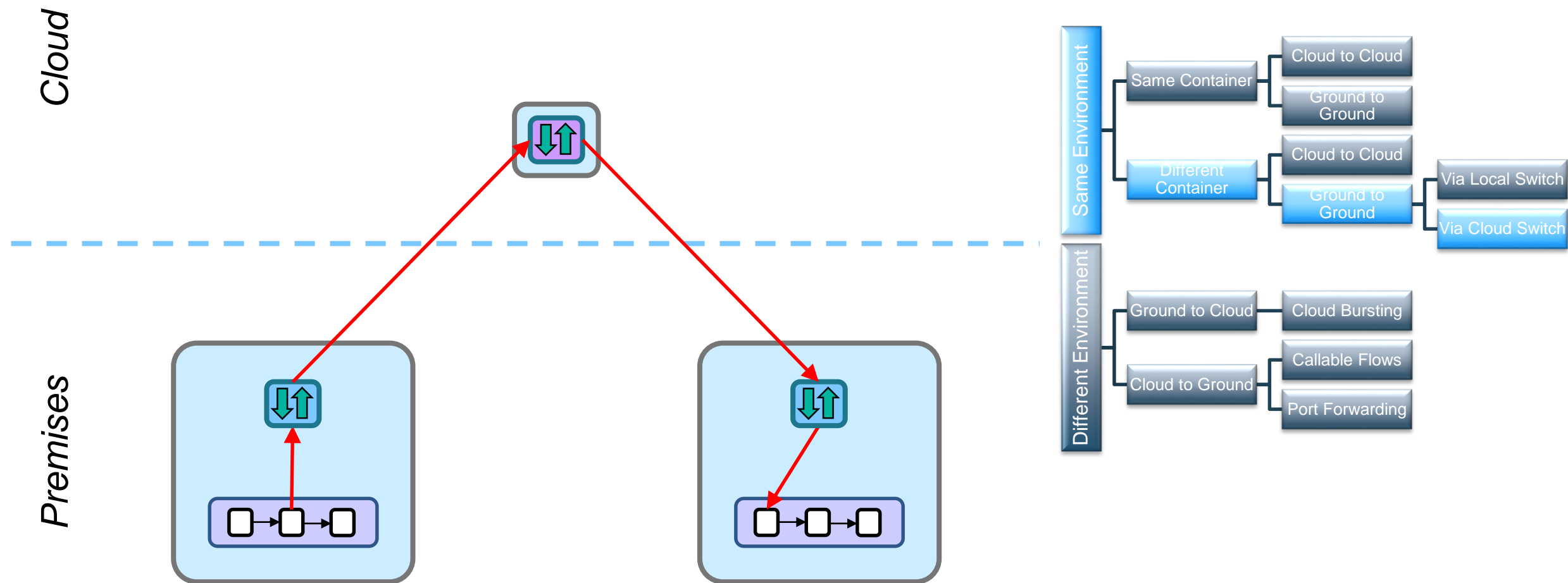
# Connectivity Between Cloud and Premise



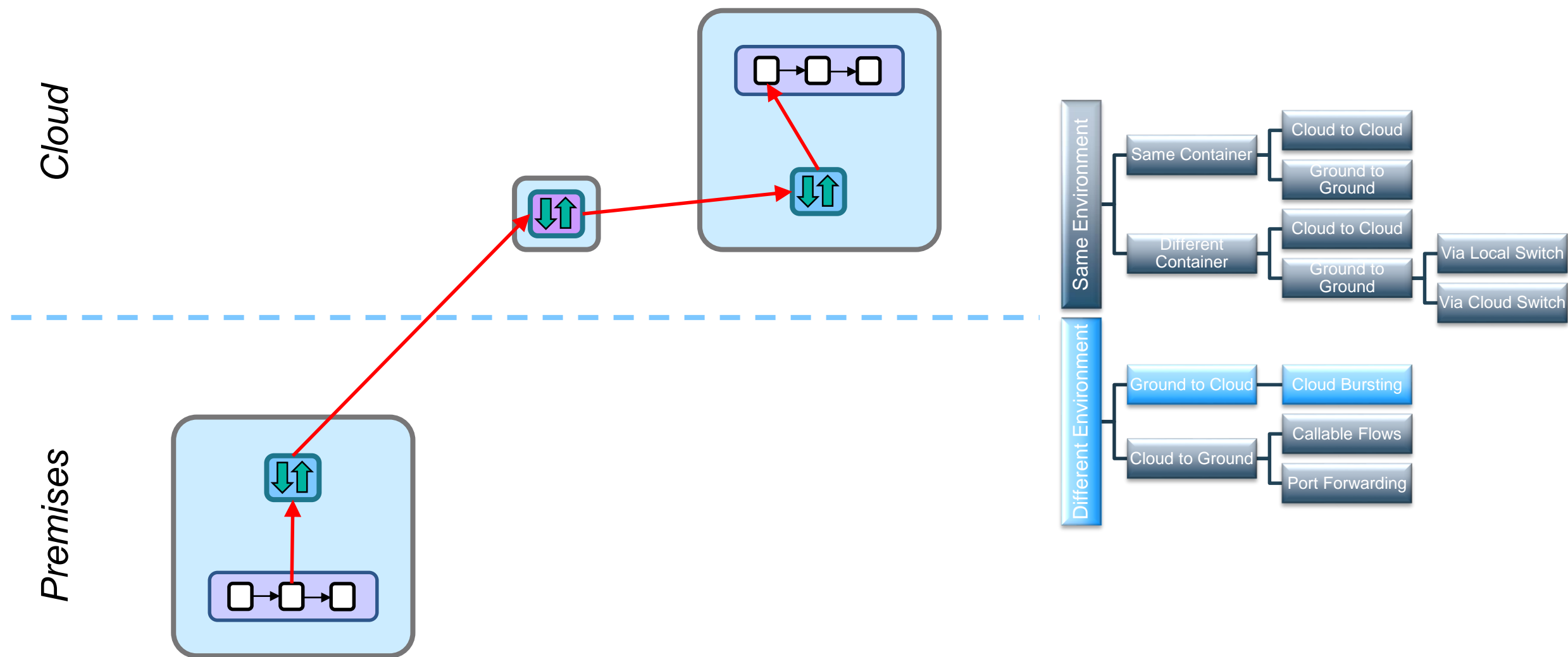
# Connectivity Between Cloud and Premise



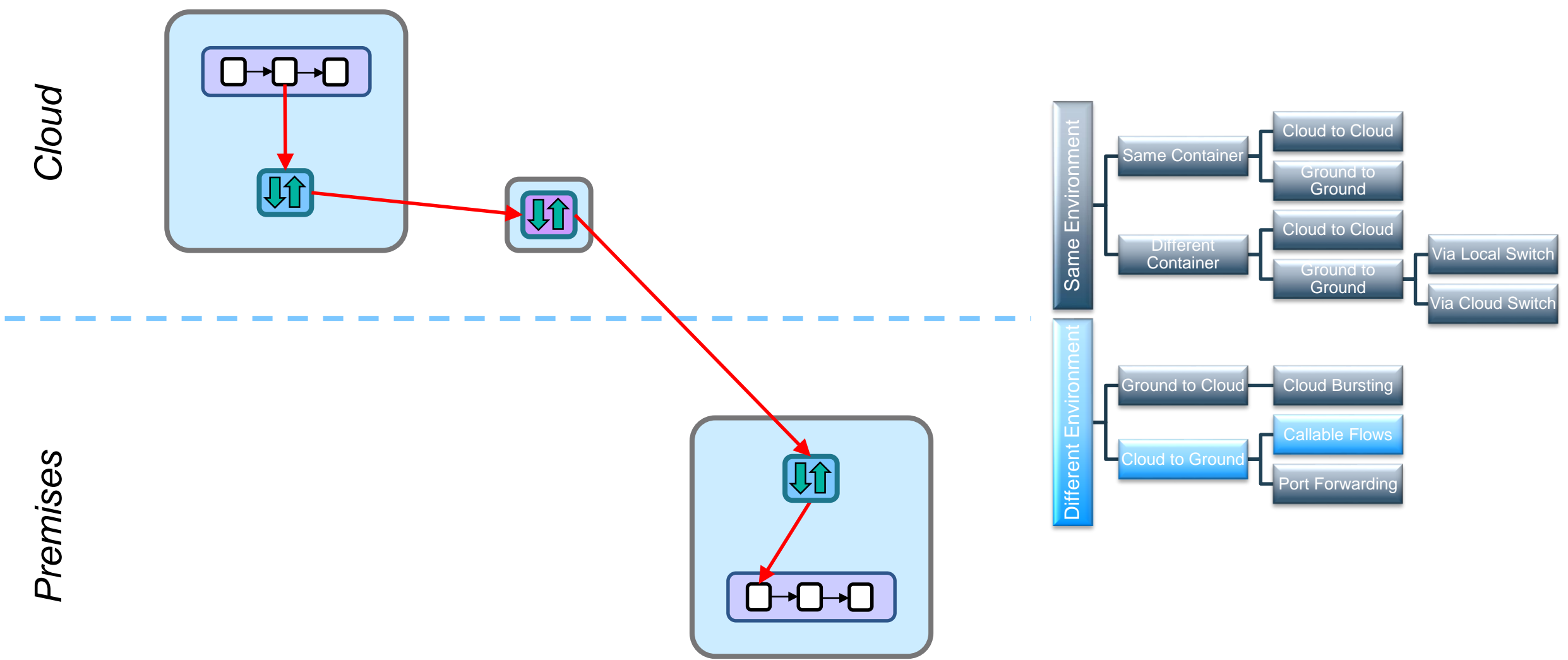
# Connectivity Between Cloud and Premise



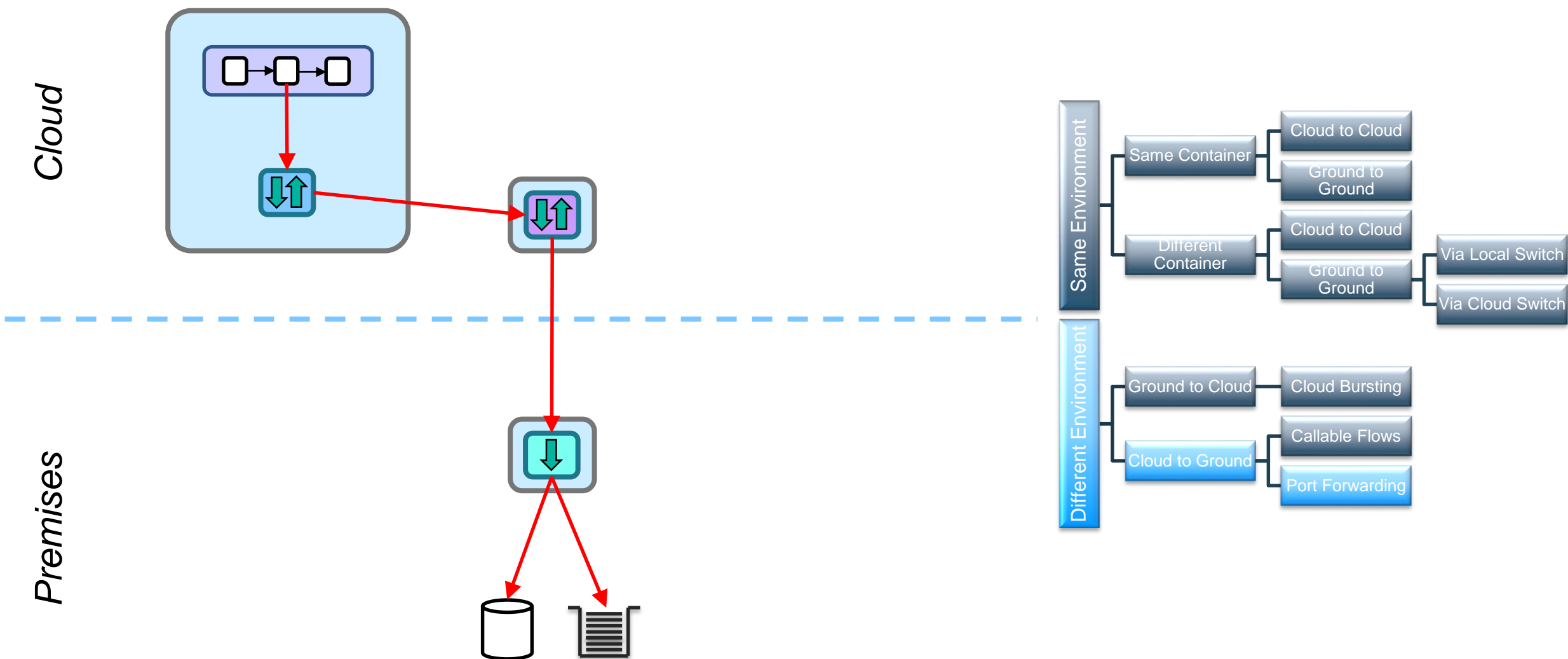
# Connectivity Between Cloud and Premise



# Connectivity Between Cloud and Premise



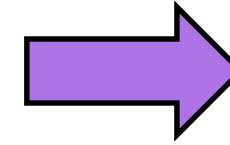
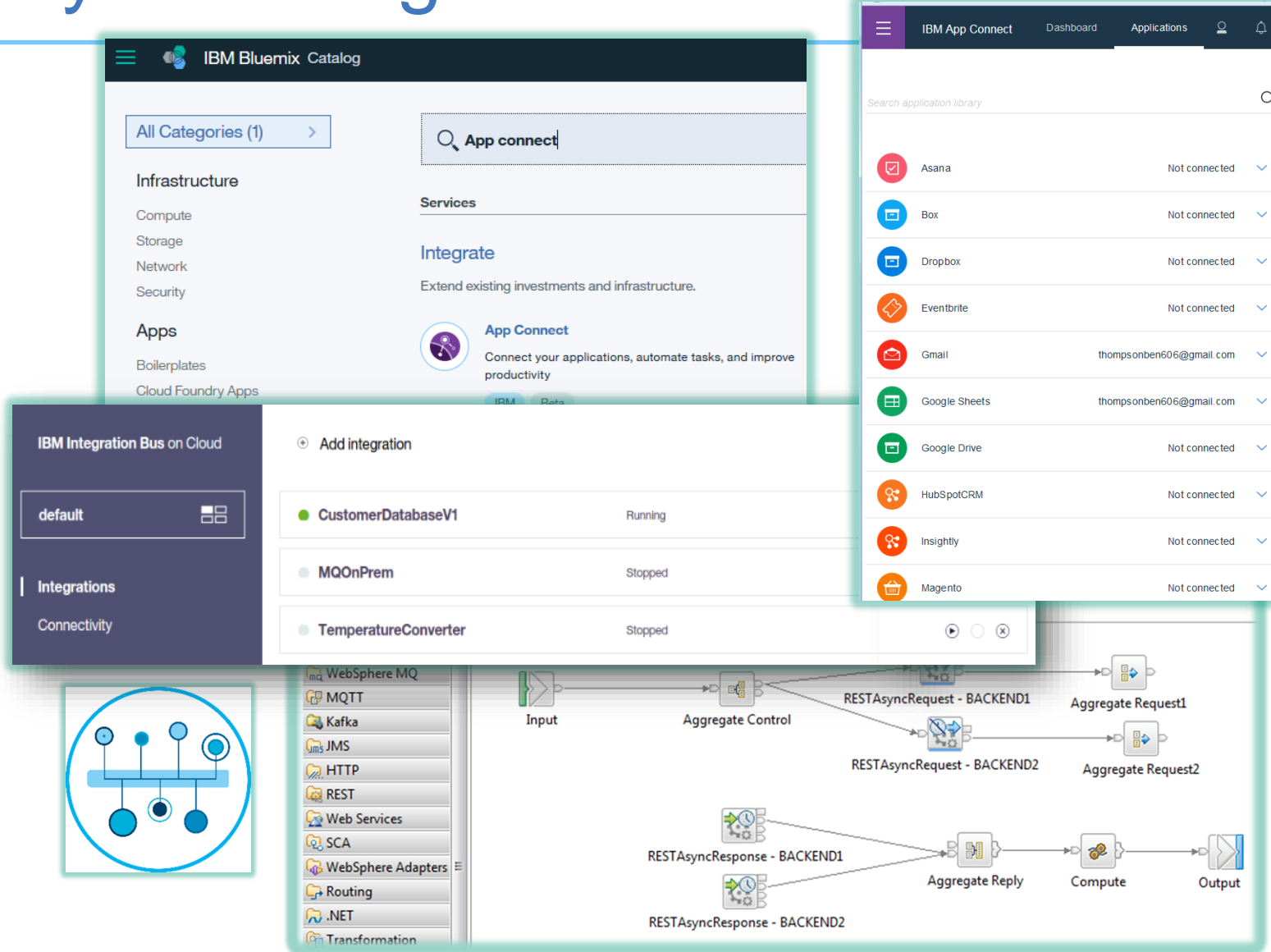
# Connectivity Between Cloud and Premise



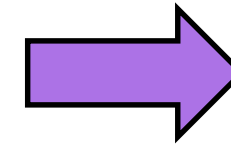


# App Connect on Bluemix Enterprise Plan

# Hybrid Integration Platform Convergence



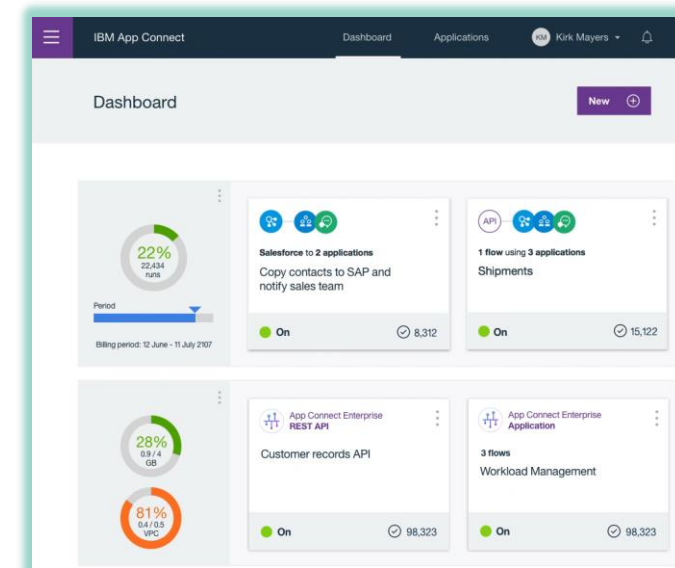
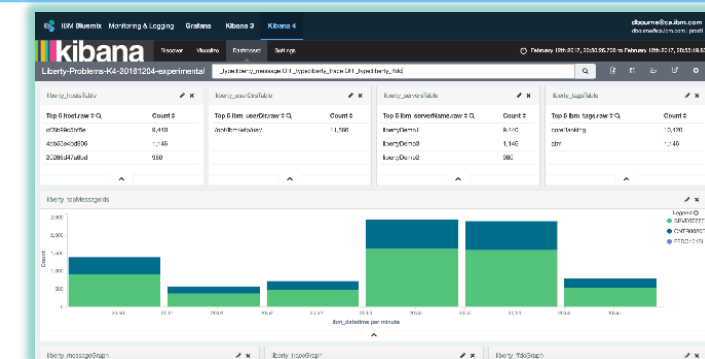
*App Connect Enterprise  
(managed cloud service)*



*App Connect Enterprise  
(software on-premise)*

# App Connect Enterprise (managed cloud service on Bluemix)

- IIB on Cloud Dashboard and App Connect Professional Designer will merge to become the **App Connect Enterprise** plan underneath the App Connect Bluemix tile
- From the Bluemix catalog you will create a Service instance for the App Connect Enterprise plan which will allow you to run (side by side):
  - IIB artifacts (deployed as IIB BAR files) containing Apps, Libs, REST APIs, Flows etc.
  - App Connect artifacts (Flows and REST APIs)
- A single monitoring dashboard (Bluemix logging and metrics)
- A single administration dashboard to start and stop
- A common management CLI and API
- At initial launch, development experience is likely to be a mixture of Eclipse based Toolkit and App Connect Designer (more on this in the next session!)
- Licensing and charging paths are still to be decided
  - Likely to include both PAYG and Subscription options
  - Likely to be a mixed charging model based on both number of invocations and container size



# Dashboard

☰

IBM App Connect

Dashboard

Applications

Notifications

ROBERT CONVERY

🔔

Dashboard

Search

New +

📄

Share Tracker

1 application

● Stopped

▼

📄

Authorised Payments

1 application

● Stopped

▼

📄

Card Payments

1 application

● Stopped

▼

📄

CustomerDatabase

1 application

🔄 Preparing

⬆

APP CustomerDatabaseV1.appzip

📄 getAllCustomers.subflow

📄 addCustomer.subflow

📄 getCustomer.subflow

📄 deleteCustomer.subflow

Open →

🔗

Untitled flow 1

⚠ Incomplete

● Stopped

🔗

New Lead Slack Post

⚠ Incomplete

● Stopped

📧🌐

Gmail to HTTP


Test



● Running

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# Integration Details

 IBM App Connect


DashboardApplicationsNotifications ROBERT CONVERY

Dashboard/ CustomerDatabase


● Stopped


description







OVERVIEW

 CustomerDatabaseV1.appzip

Endpoint

 <https://58ds1que.demo.ace.ibm.com/customerdb/v1/customers/{customerId}> [Copy to clipboard](#)

 <https://58ds1que.demo.ace.ibm.com/customerdb/v1/customers>

Flow	Inputs
 getAllCustomers.subflow	-
 addCustomer.subflow	-
 getCustomer.subflow	-
 deleteCustomer.subflow	-
 gen\CustomerDatabaseV1.msgflow	HTTP Input: <a href="https://58ds1que.demo.ace.ibm.com/customerdb/v1">https://58ds1que.demo.ace.ibm.com/customerdb/v1</a> <a href="#">Copy to clipboard</a> <a href="#">Credentials</a>
 updateCustomer.subflow	-

Basic Authentication Credentials

Host:  
<https://58ds1que.demo.ace.ibm.com>

User: Password:  
iib ai8ids<u [Copy to clipboard](#)

HTTPS BasicAuth header:  
Basic aWliOmFpOGlkczx1 [Copy to clipboard](#)

 gen\CustomerDatabaseV1.msgflow HTTP Input: <https://58ds1que.demo.ace.ibm.com/customerdb/v1> [Copy to clipboard](#) [Credentials](#)

# Callable Flows

IBM App Connect

DashboardApplicationsROBERT CONVERY

Callable Flows ⓘ 5 agents found Setup

Providers *Flows including a CallableInput node*

TransformationCallableFlow.TransformMessage

TransformationCallableFlow.TransformMessage

TransformationCallableFlow.TransformMessage

TransformationCallableFlow.TransformMessage

Callers *Flows including a CallableInvoke node*

TransformationCallableFlow.TransformMessage

Switch server status: Started

Search callable flows

Registered

Sep 25, 2017 7:28:53 PM

Sep 25, 2017 7:28:54 PM

Sep 25, 2017 7:29:24 PM

Sep 25, 2017 7:29:30 PM

Registered

Sep 25, 2017 7:29:17 PM

Let's set up an agent

Install the on-premises agent in your network

The agent, which enables secure network connectivity, is included in IBM Integration Bus v10.0.0.4 or later. Install Integration Bus if you do not already have it installed.

[Get It Here](#)

Download agent configuration ⓘ

You'll need to make the agent configuration available on the machine where you installed Integration Bus.

Download Configuration

Start agent in an existing integration server ⓘ

The agent needs to run in the integration server where you've deployed your split flow. Start a command environment and run the following command:

Linux:  
  
mqsichangeproperties <NODE\_NAME> -e <SERVER\_NAME> -o  
ComIbmIIBSwitchManager -n agentXConfigFile -p  
filepath/agentx.json  
  
Windows:  
  
mqsichangeproperties <NODE\_NAME> -e <SERVER\_NAME> -o  
ComIbmIIBSwitchManager -n agentXConfigFile -p  
filepath\agentx.json

Close

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# Policies

The screenshot shows the IBM App Connect interface. At the top, the header includes a menu icon, 'IBM App Connect', and navigation links for 'Dashboard', 'Applications', and a user profile 'ROBERT CONVERY'. A status bar indicates 'Switch server status: Not initialized' with an 'Initialize' button. The main content area is titled 'Policies' and features a search bar and a 'New +' button. A table lists policies: 'Fred', 'Gone', 'RobsDevSpace', and 'RobsPolicy' (marked 'Not connected to agent'). A modal window titled 'Logmet Endpoint Policy' is open, containing the following fields:

- Policy Name: RobsDevSpace
- Logmet Host: logging.ng.ibm.com
- Bluemix Space Identifier: 0c2f0eca-e168-47ec-9d8a-c0e70e03d60b
- Policy Bluemix Logging Token: (masked with dots and an eye icon)

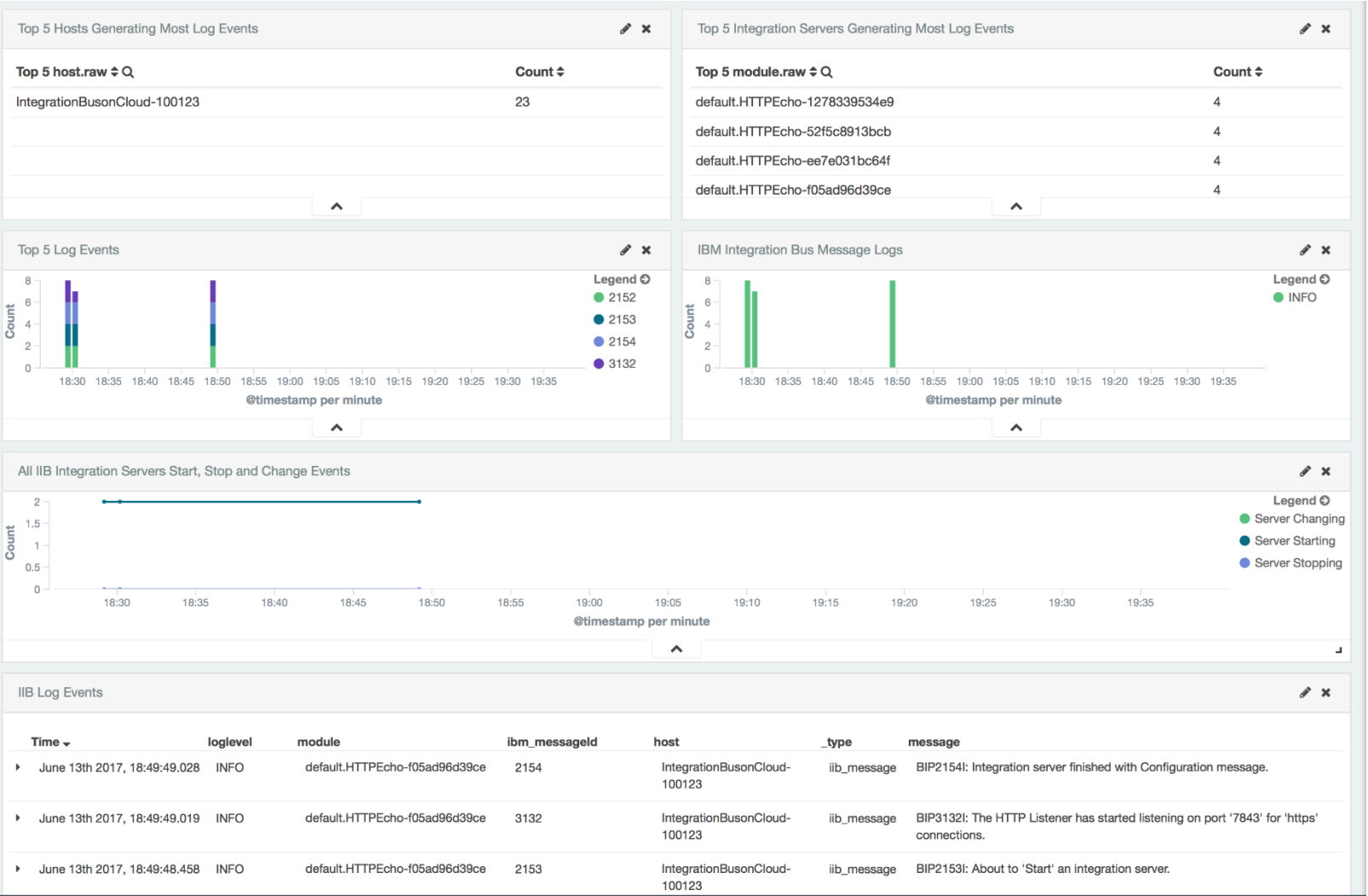
At the bottom of the modal are 'Cancel' and 'Save' buttons.

# Policies - Logmet

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- Centralised Logging for all IIBoC & IIB & App Connect
- Uses BlueMix Logmet - Kibana
- Configured using Policies
- Sends all syslog messages into Logmet
- Credentials Required to push to Logmet
  - `space_id`
  - `Logging_host`
  - `logging_token` (specific to logmet)





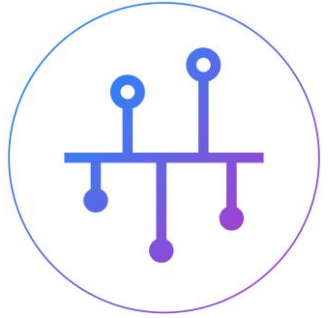
# Demo / Walkthrough

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- Upload a simple HTTP integration
- Attach a logmet policy
- Start Integration
- Launch Logging Kibana Dashboard

# Blogs, Communities and Useful links

- App Connect - <https://appconnect.ibmcloud.com/>
- Integration Bus on Cloud - <http://www-03.ibm.com/software/products/en/ibm-integration-bus-on-cloud>
- Integration community: <https://developer.ibm.com/integration/>
  - Blogs, resources, support and more for IBM Integration Bus
- dW Answers: <https://developer.ibm.com/answers/index.html>
  - Your direct portal to ask questions about IBM products from the support and development teams



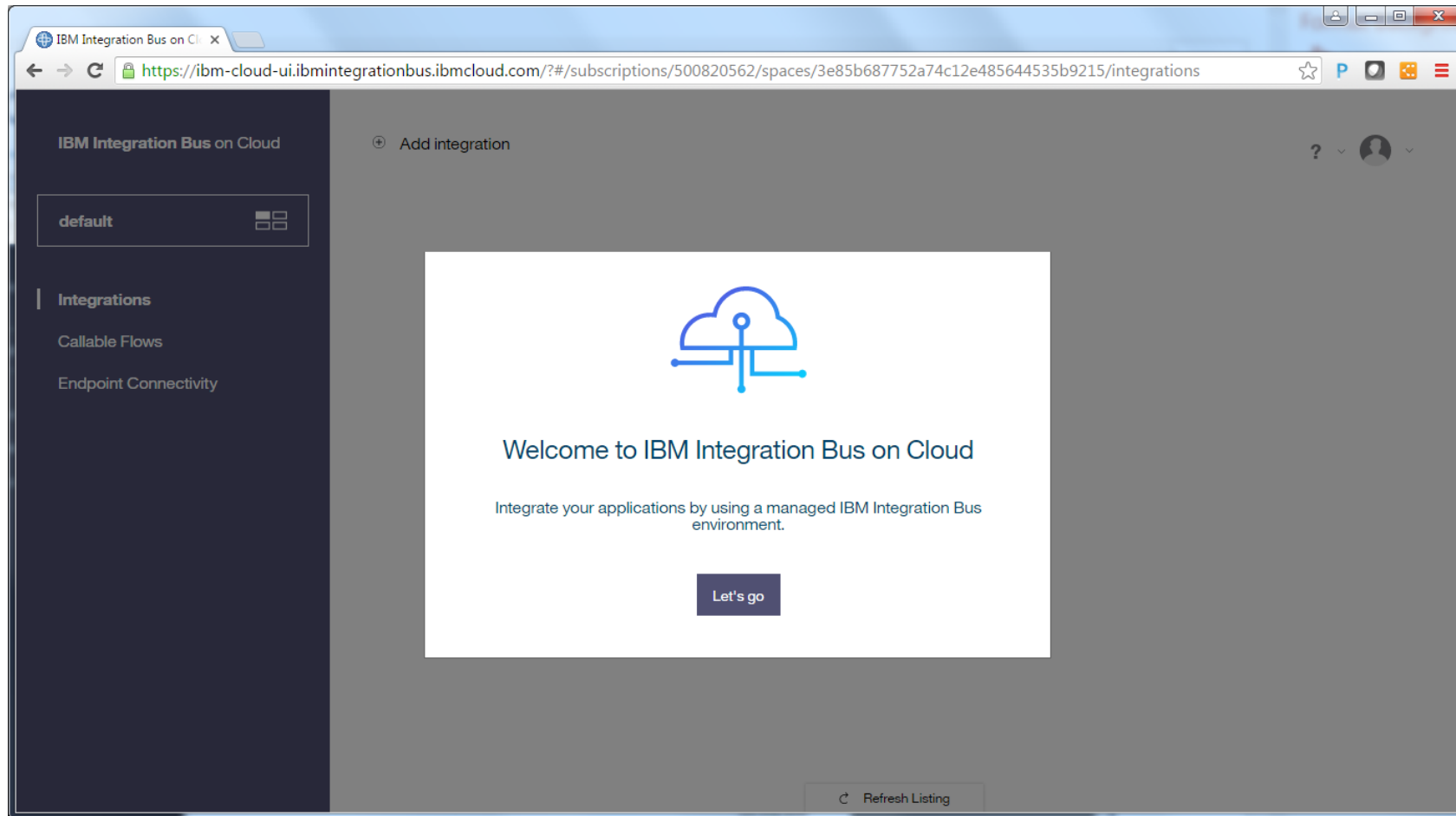
**dW Answers**



Thank you and  
Questions?

# IIBoC Walk through

# Introducing IBoC



# Welcome

IBM Integration Bus on Cloud

default



Integrations

Callable Flows

Endpoint Connectivity

+ Add integration



## Let's set up your first integration

An integration is a collection of resources that run together to solve a particular business integration problem. These resources are packaged together in a BAR file.

Explore sample integrations

Upload your own BAR file

# Samples

IBM Integration Bus on Cloud

default

Integrations

Callable Flows

Endpoint Connectivity

< Back



## Explore samples

Download the sample BAR file.

### Manage a customer registry with IBM Integration Bus REST services

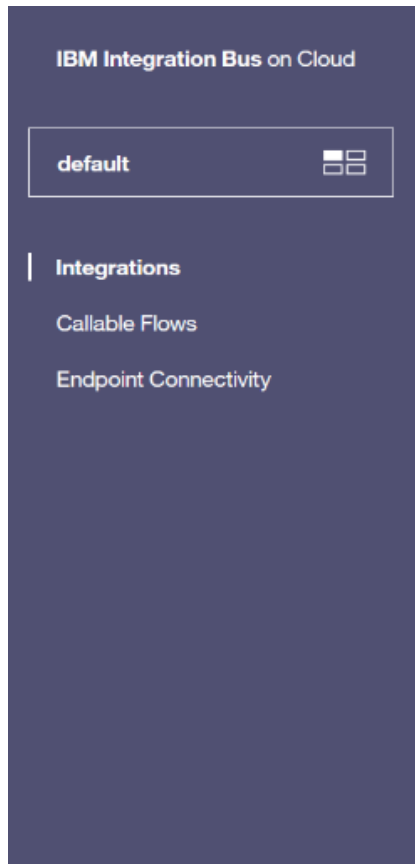
Deploy and run a REST-service-based integration for IBM Integration Bus so that you can manage customers by using the REST API. The sample integration implements subflows that use Mapping, JavaCompute and Compute nodes.

Download

How do I use this sample?



# Uploading a BAR file



< Back



## Let's upload your BAR file

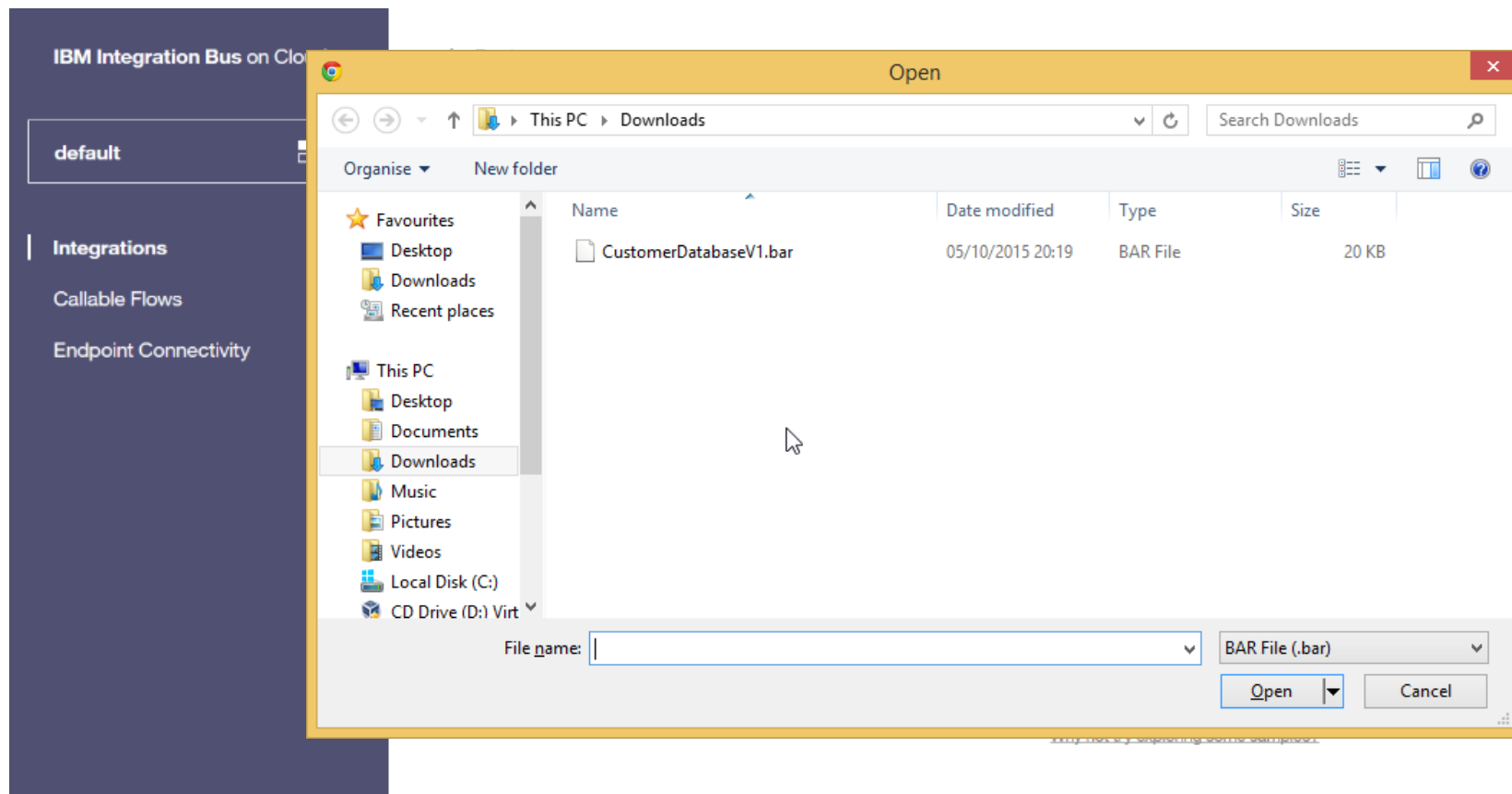
Upload your BAR file

A BAR file contains the resources that are required by your integration, such as applications, libraries, and message flows.

You can use an existing BAR file, or create a new one by using the IBM Integration Toolkit

[Why not try exploring some samples?](#)

# Uploading a BAR file



# Uploading a BAR file

The screenshot displays the IBM Integration Bus on Cloud console. On the left is a dark blue sidebar with the title 'IBM Integration Bus on Cloud'. Below the title is a 'default' button with a grid icon. Further down, under a vertical line, are the menu items 'Integrations', 'Callable Flows', and 'Endpoint Connectivity'. The main content area has a header with a question mark icon, a user profile icon, and the title 'CustomerDatabaseV1' with a subtitle 'Enter a description for your integration here'. Below the header are two expandable sections. The first section, 'Contents', shows a file named 'CustomerDatabaseV1.bar'. The second section, 'Public Endpoints', shows a toggle for 'Basic Authentication' set to 'ON' (with 'OFF' also visible). Below the toggle is a note: 'If basic authentication is enabled, any request to an HTTP endpoint in this integration must include an HTTP BasicAuth header.' and a link 'Find out more about basic authentication'. At the bottom right of the console are 'Cancel' and 'Save' buttons.

IBM Integration Bus on Cloud

default

Integrations

Callable Flows

Endpoint Connectivity

**CustomerDatabaseV1**  
*Enter a description for your integration here*

**Contents**  
CustomerDatabaseV1.bar

**Public Endpoints**  
View how to invoke this integration

Basic Authentication OFF **ON**

If basic authentication is enabled, any request to an HTTP endpoint in this integration must include an HTTP BasicAuth header.

[Find out more about basic authentication](#)

Cancel Save

# Integration status page

IBM Integration Bus on Cloud

default

Integrations

Callable Flows

Endpoint Connectivity

+ Add integration

CustomerDatabaseV1

Running

Integration status:

- Preparing
- Stopped
- Starting
- Running
- Stopping

Refresh Listing

# Configure Basic Auth for HTTP flows

The screenshot displays the IBM Integration Bus on Cloud console. On the left is a dark blue sidebar with the title "IBM Integration Bus on Cloud" and a "default" environment selector. Below the title are links for "Integrations", "Callable Flows", and "Endpoint Connectivity". The main content area shows the configuration for an integration named "CustomerDatabaseV1", which is currently "Stopped". Below the integration name are sections for "Contents" (showing "CustomerDatabaseV1.bar") and "Public Endpoints" (with a link to "View how to invoke this integration"). The "Basic Authentication" section is active, with a toggle switch set to "ON". It includes fields for "User: iib" and "Password: .....", where the password field has an eye icon circled in red. A red line points from this icon to a text box that says "Click to show password". Below the password field is the "HTTP BasicAuth header: ....." field. To the right of the "Basic Authentication" section is a "Regenerate Credentials" link. The "Service URLs" section shows the "Host: https://gvf554jk.ibmintegrationbus.ibmcloud.com" and a link to expand the "CustomerDatabaseV1" configuration.

IBM Integration Bus on Cloud

default

Integrations

Callable Flows

Endpoint Connectivity

< Back

CustomerDatabaseV1

Stopped | Actions


My first integration

Contents  
CustomerDatabaseV1.bar

Public Endpoints  
View how to invoke this integration

Basic Authentication OFF ON

Regenerate Credentials

User: iib Password: ..... 

Click to show password

HTTP BasicAuth header: .....

Service URLs

Host: https://gvf554jk.ibmintegrationbus.ibmcloud.com

> CustomerDatabaseV1

# Discover URL for HTTP flows

