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Azure Serverless systems integrations

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- PwC IT Services – Ctech (Outbox)
- 5 years overall experience
- 3,5 years Dynamics CRM Experience
- Developer, Architect, Team Leader, Technical Consultant,

- Sport, Photography, Filmmaking

Poll Time!

http://bit.ly/serverlesswdi

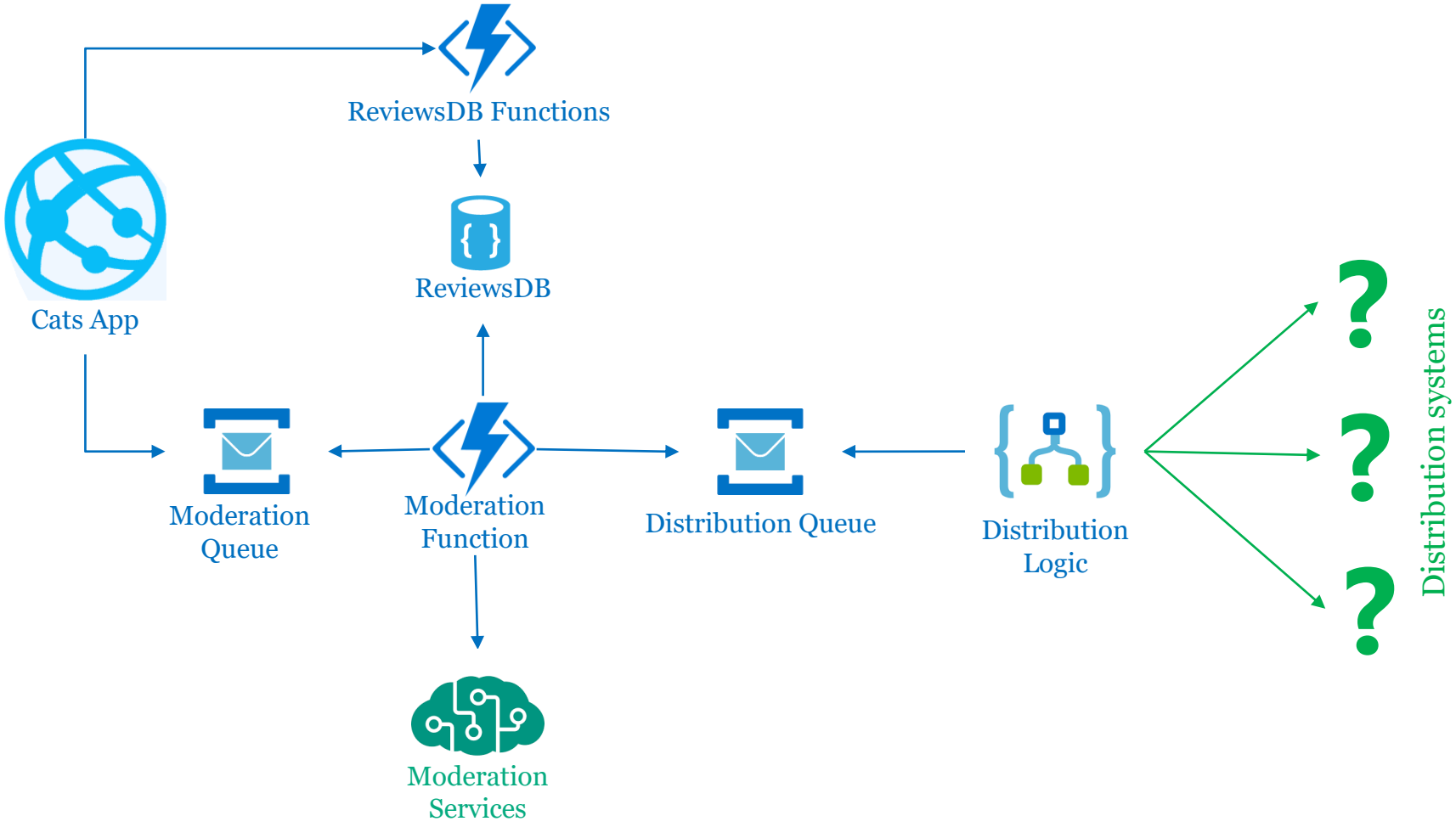
Serverless architecture - definition

Serverless computing is the abstraction of servers, infrastructure, and operating systems. When you build serverless apps you don't need to provision and manage any servers, so you can take your mind off infrastructure concerns.

Pros serverless architecture:

- Benefit from a fully managed service
- Gain flexible scaling
- Only pay for resources you use

Todays sample – What a Cat!

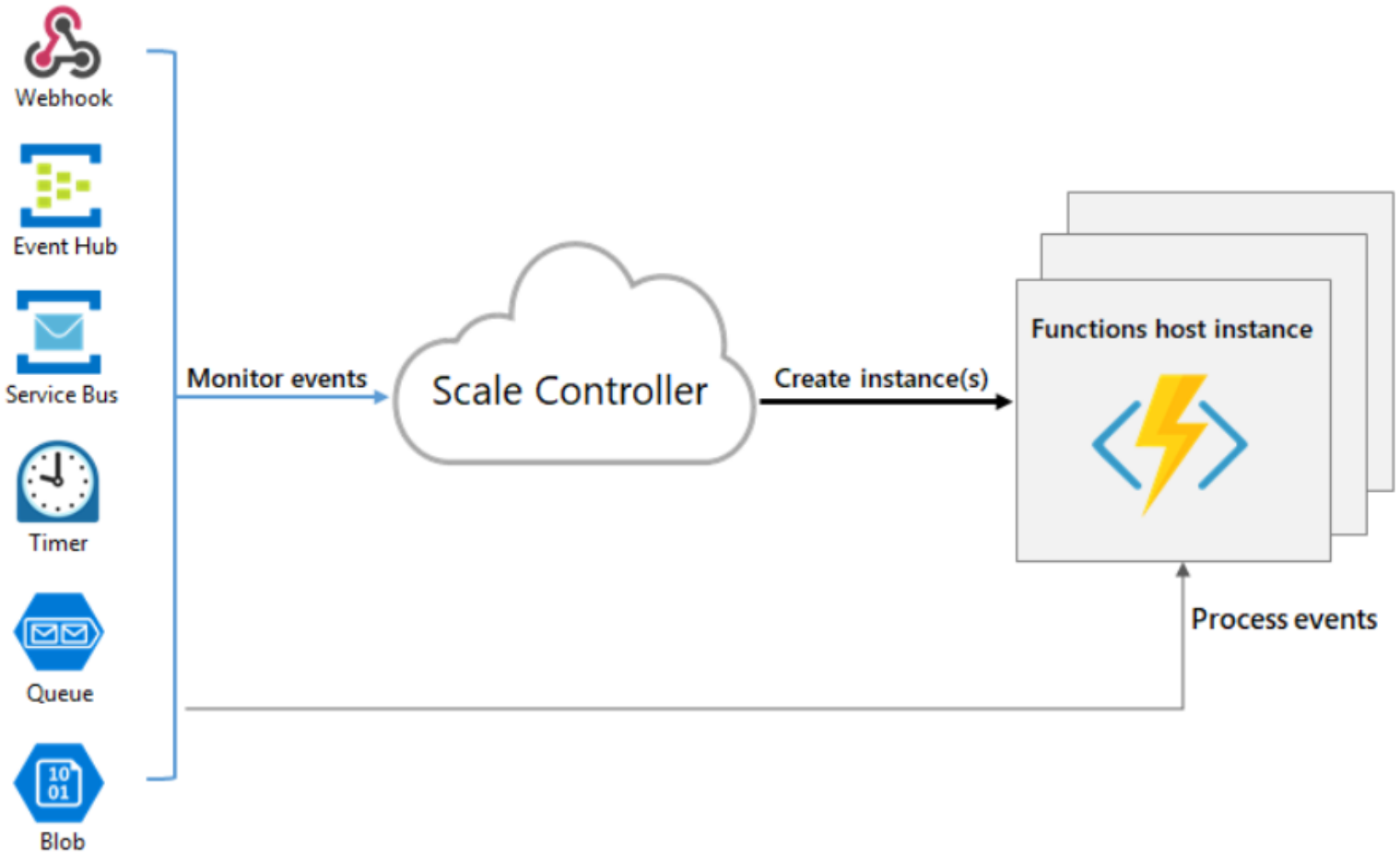


Cats App - Demo

Azure Functions - Overview

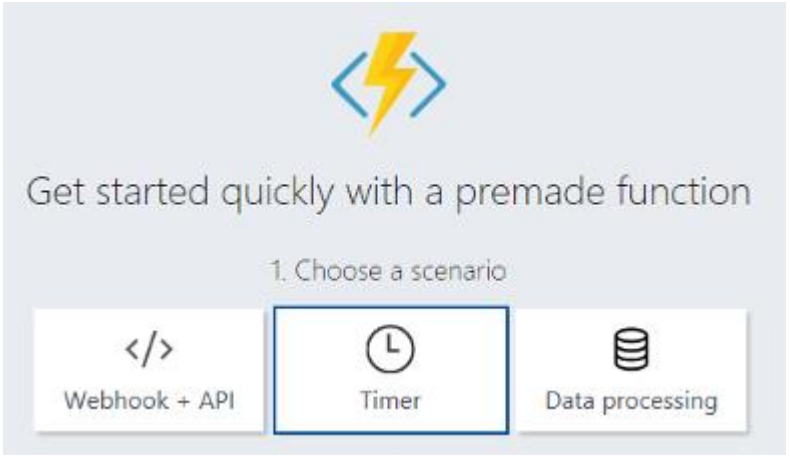
- Timer-based processing
- Azure service event processing
- SaaS event processing
- Serverless web application architectures
- Serverless mobile back ends
- Real-time stream processing
- Real-time bot messaging

Azure Functions - Scaling



Azure Functions - Trigerring

- Timer
- WebHook
- DataProcessing
  - Document created
  - Message on queue
  - …



Detailed:

https://docs.microsoft.com/en-us/azure/azure-functions/functions-triggers-bindings

Azure Functions - Why to use them

- Creation of microservices
- Lightweight API
- Serverless infrastructure
- Triggering mechanisms
- Authentication
- Loose coupling
- Pay as You use
- Multiplatform

Case Study – Processing 100,000 Events Per Second on Azure Functions

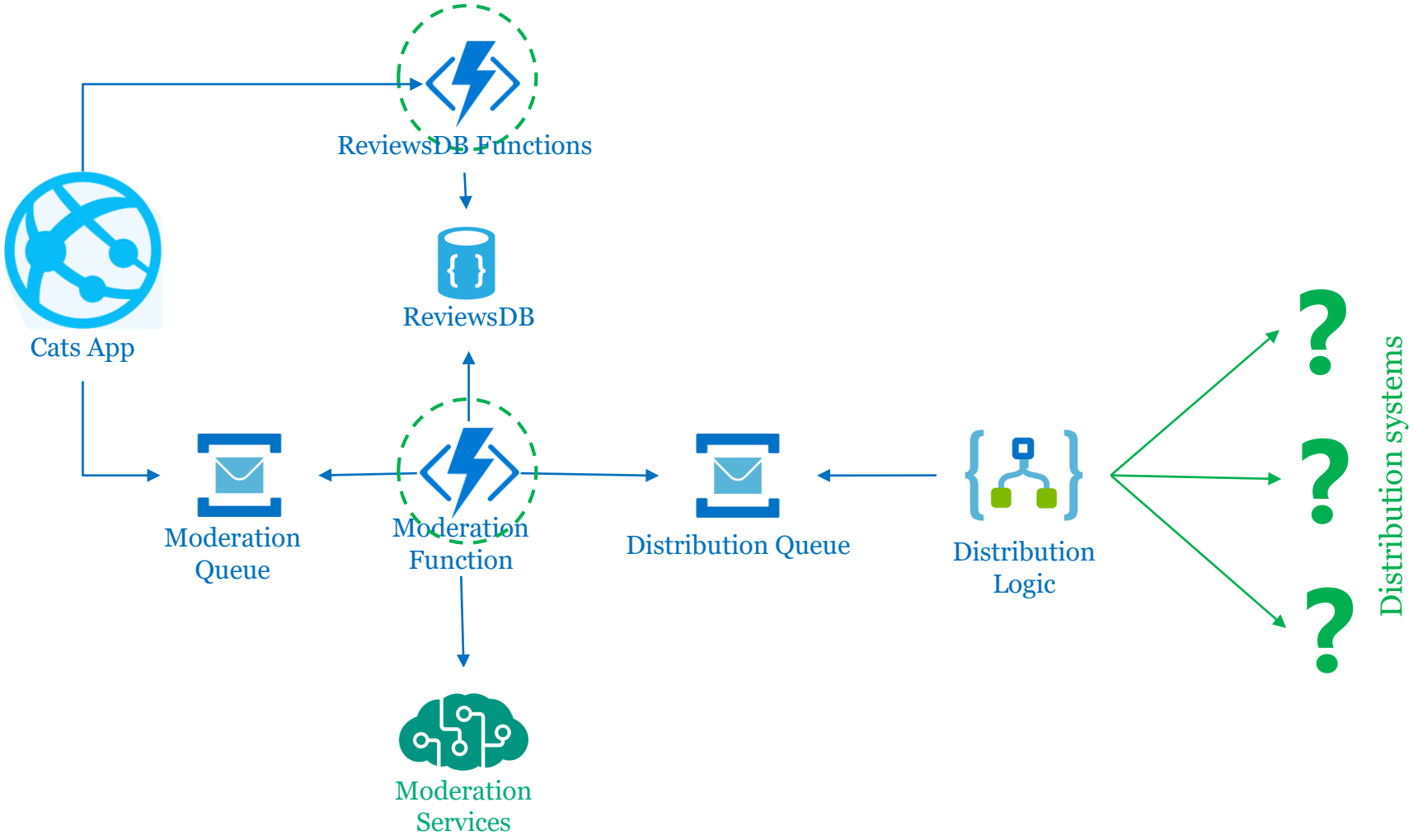
Azure Functions - Pricing

1. Consumption plan:

    - Resource consumption in gigabyte-seconds (GB-s)
    - Executions

2. App Service plan

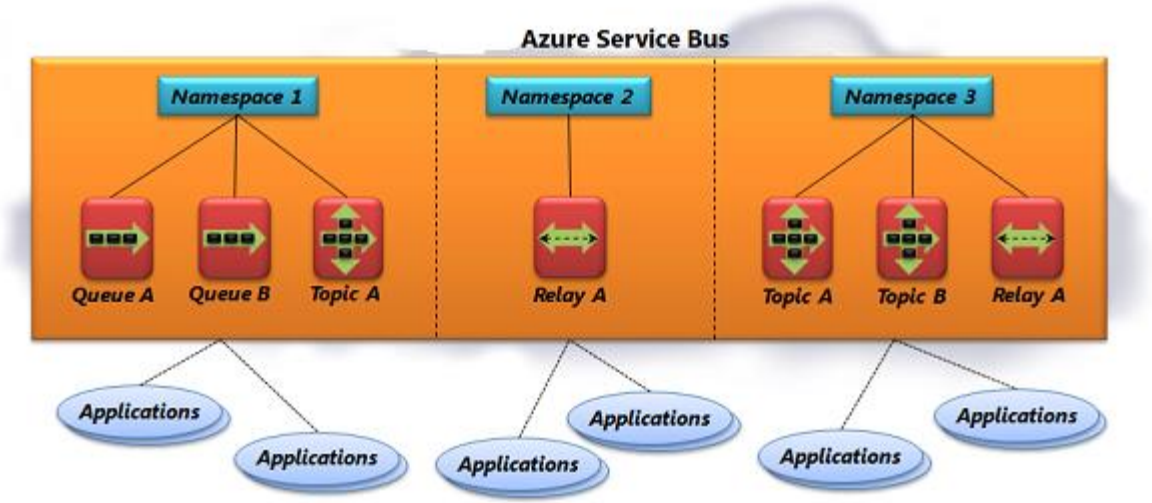
Azure Functions – Sample



Azure Functions - Demo

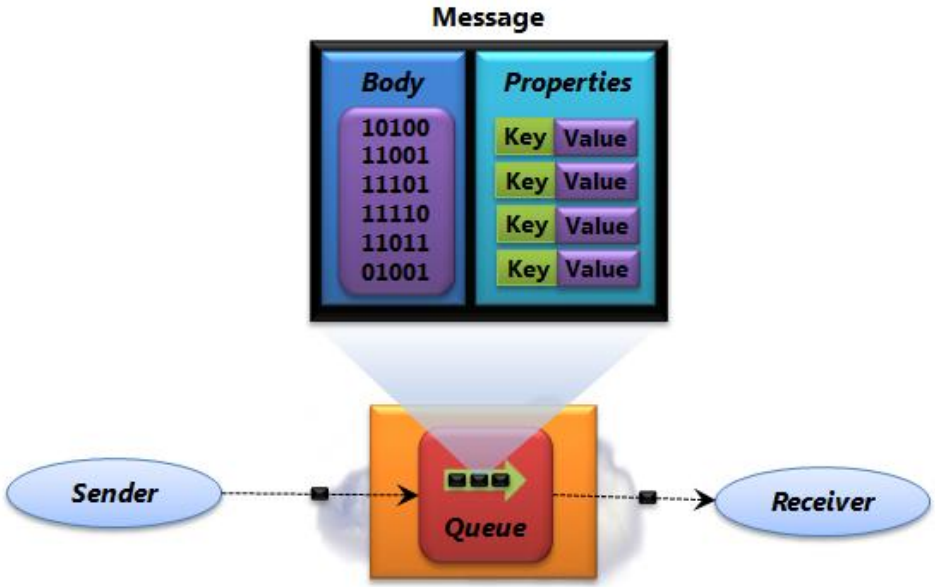
Azure Service Bus - Overview

- Integration service for messages exchange. Enables multiple applications to integrate data among each other.
- Can work in different modes:
  - Basic Queue
  - Relay
  - Topic



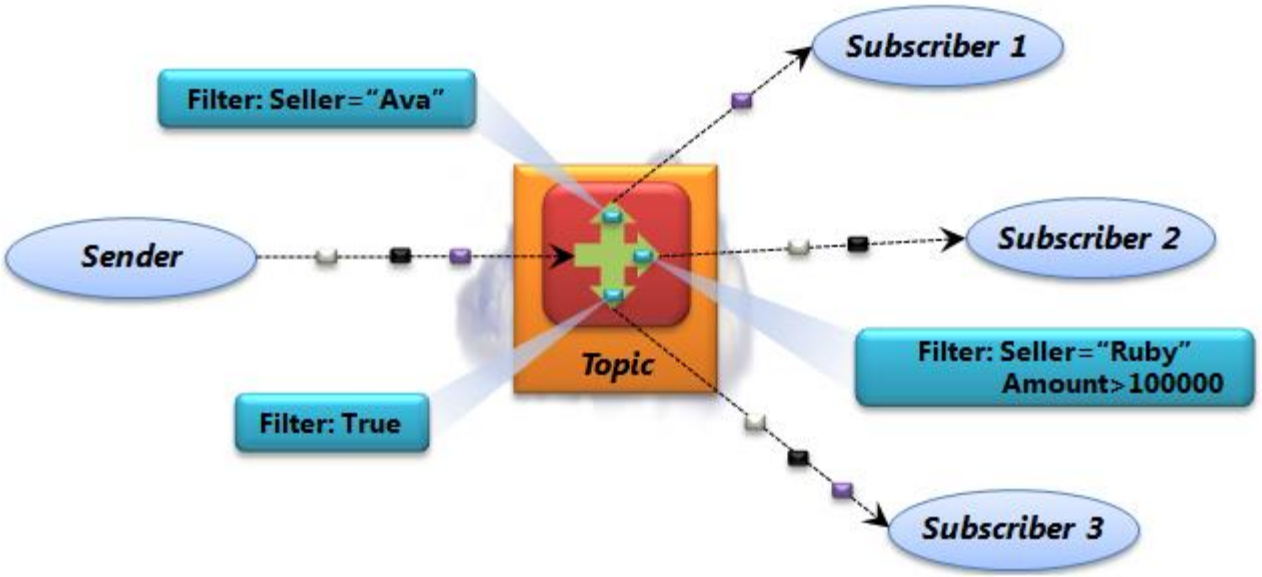
Azure Service Bus - Queue

- Each send message is readed by a single reveiver
- After receiving or processing message it is beeing removed from the queue and no other receiver can proces it
- Single message contains body (binary data, text data, XML file) and proeprties with key-value pairs
- One-directional broker based communication
- FIFO based



Azure Service Bus - Topic

- Messages are received and processed based on defined filter. Those can define only a narrov messages set or all messages that are sended.
- The same message format as in queue scenario
- Single message can be processed by multiple subscribers (usualy this approach is called publish-subscribe mechanism)
- One-directional broker based communication



Azure Service Bus - Relay

- Synchronous bi-directional communication between applications
- ‚RealTime' messages exchange

Why to use Service bus?

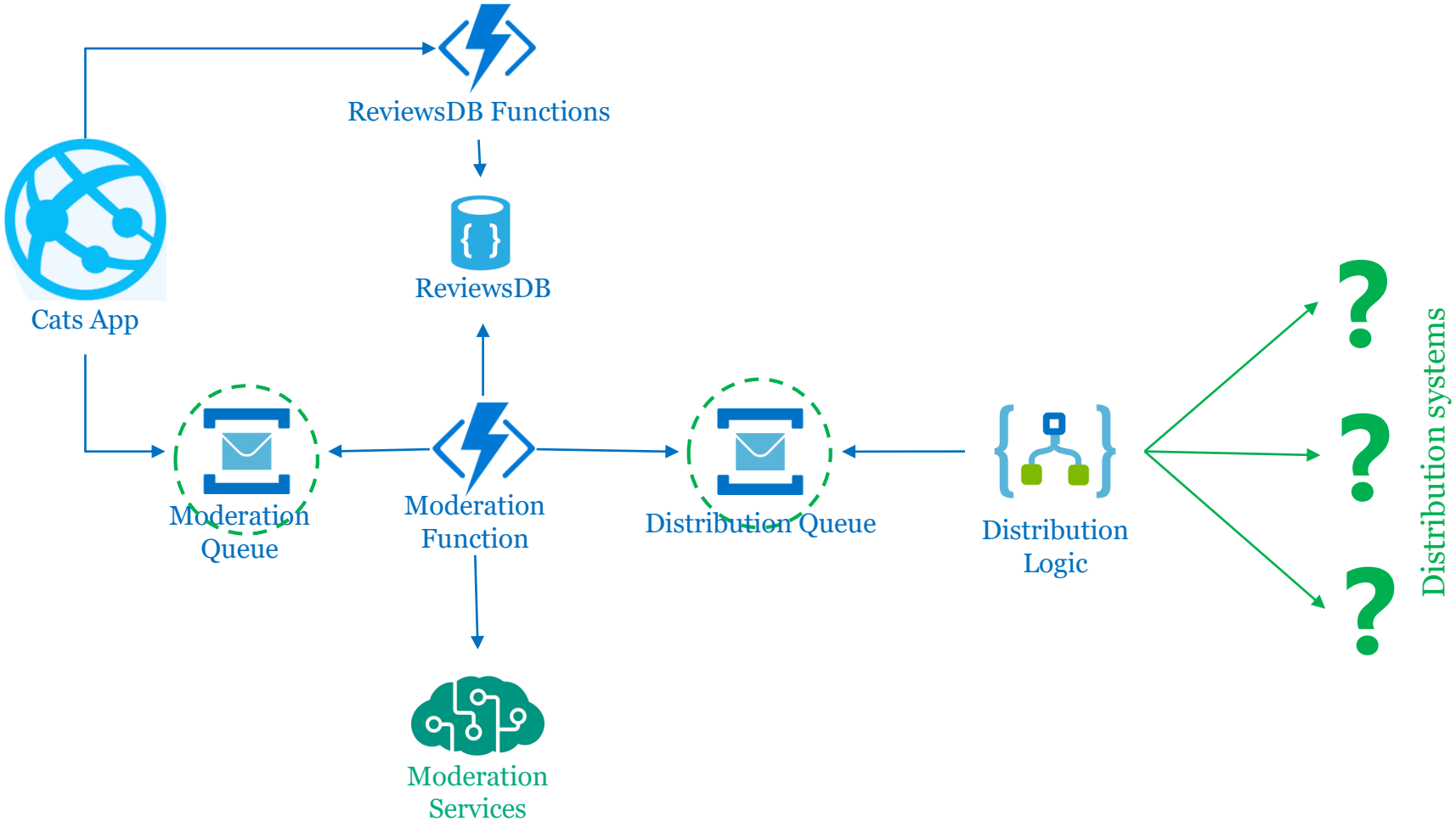
- Maintain messagess passed in a system
- Messages tracking
- Messages sizing
- Error handling
- Scaling of communication
- Queuing messages in the communication
- Technology independent

Azure Service Bus - Pricing

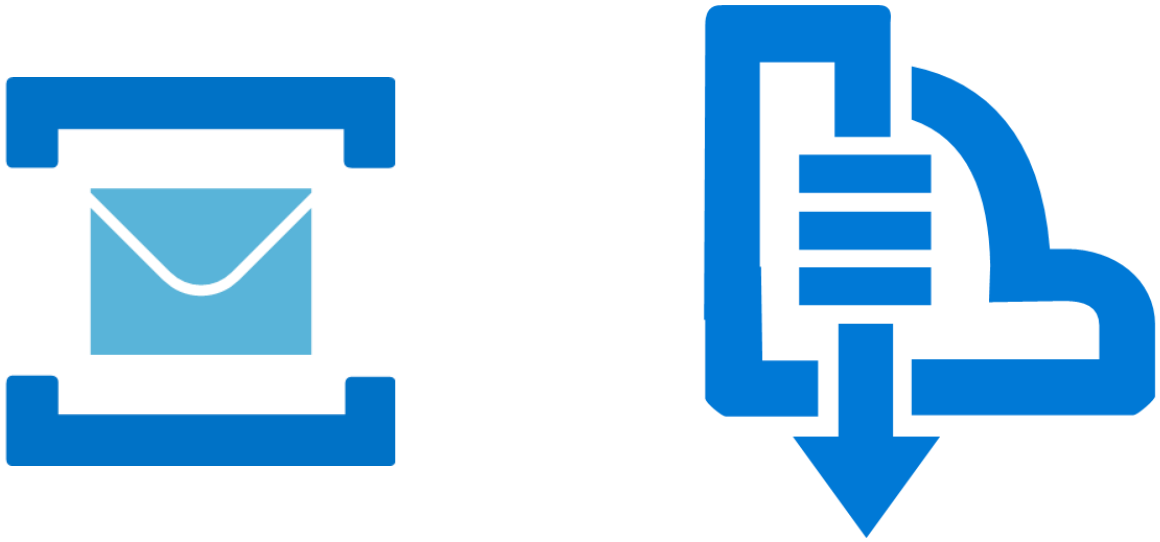
https://azure.microsoft.com/pl-pl/pricing/details/service-bus/

FUNKCJA	BASIC	STANDARDOWA	PREMIUM
Kolejki	✔	✔	✔
Zaplanowane komunikaty	✔	✔	✔
Tematy	–	✔	✔
Transakcje	–	✔	✔
Deduplikacja	–	✔	✔
Sesje	–	✔	✔
Prześlij dalej/Wyślij za pomocą	–	✔	✔
Rozmiar komunikatu	256 KB	256 KB	1 MB
Uwzględnione połączenia obsługiwane przez brokera	100	1 000[1]	1 000 za jednostkę MU
Połączenia obsługiwane przez brokera (użycie nadwyżkowe dozwolone)	–	(płatne)	Do 1 000 za jednostkę MU
Izolacja zasobów	–	–	✔

Azure Service Bus – Sample

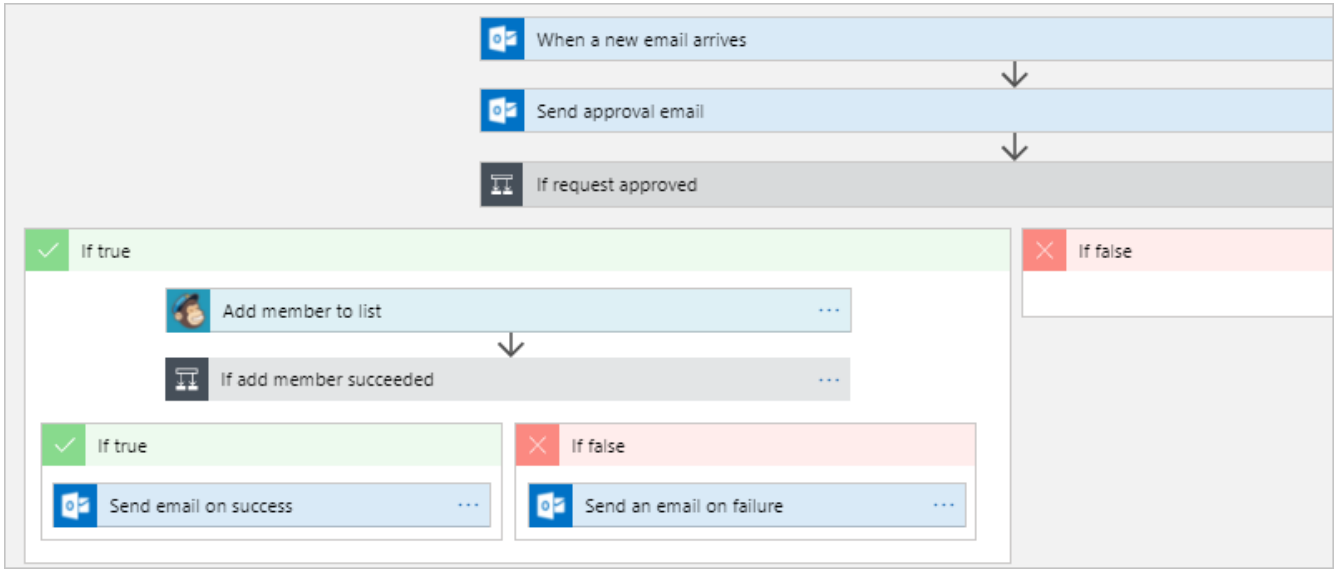


Azure Service Bus - Demo



Logc Apps

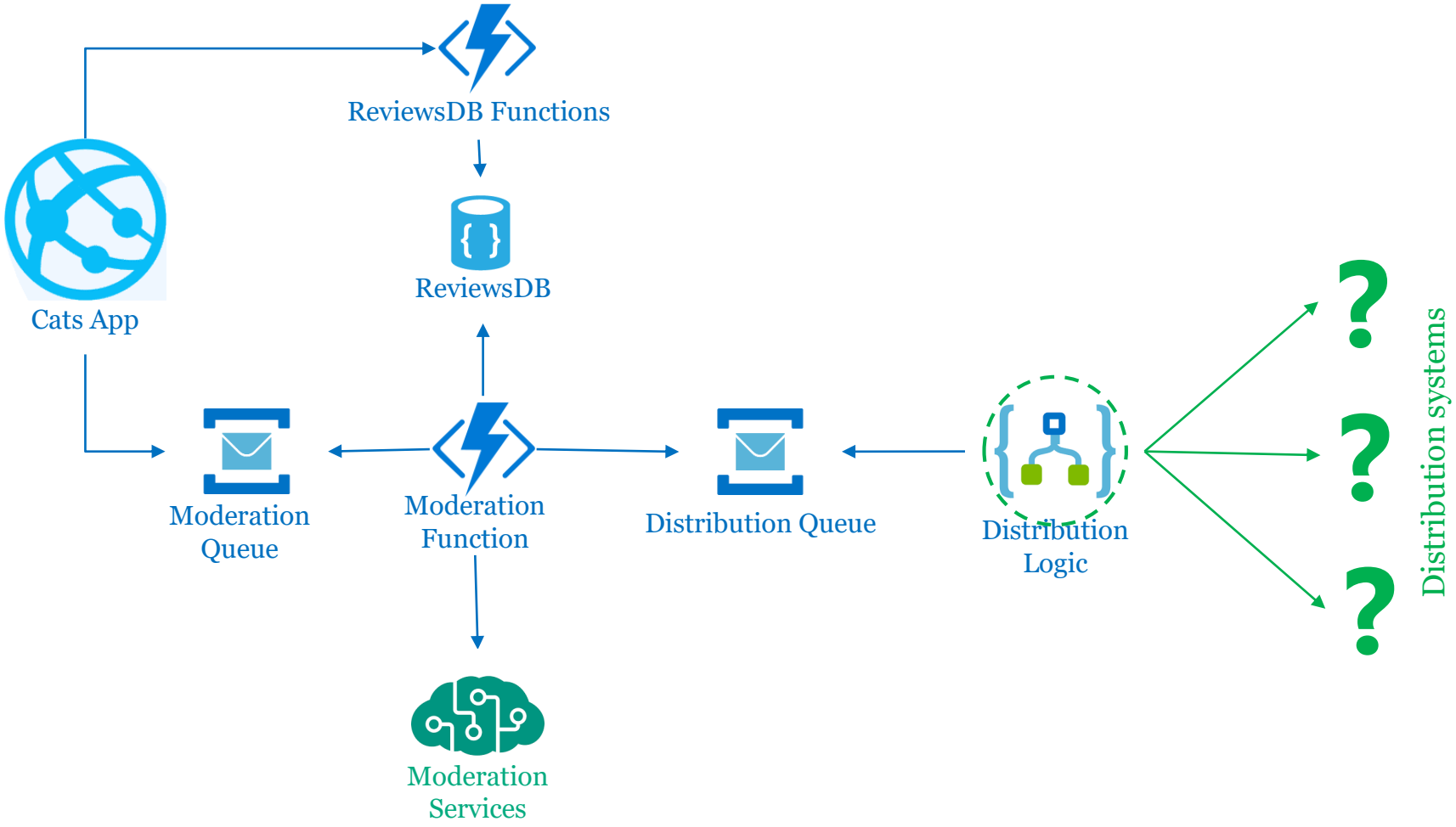
- Previously BizTalk Services from Microsoft
- Visual Orchestration Builder
- Connect adapters with each other



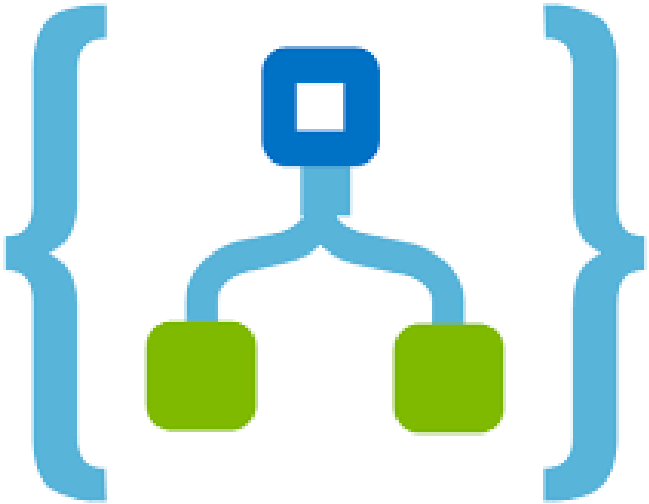
Why to use LogicApps

- Simple integrations building
- Easy to Extend
- Integrating multiple elements into one integration
- Many Out of the Box adapters
- Connecting systems across different environments
- Transferable behind XML code

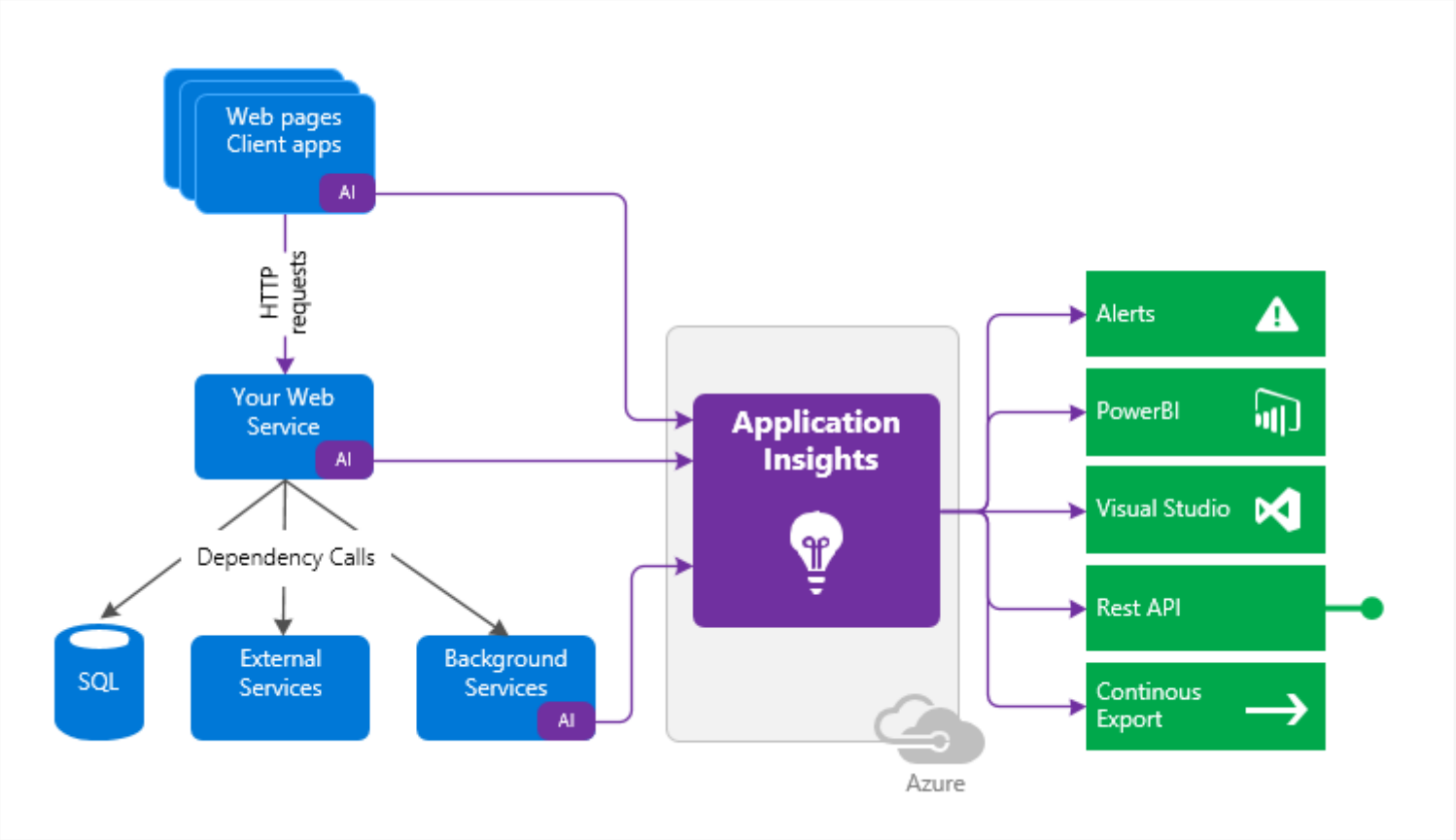
Logic Apps – Sample



Logic Apps - Demo



Application Insights



Application Insights - Monitoring

- Request rates, response times, and failure rates
- Dependency rates, response Times, adn failure rates
- Exceptions
- Page views and load performance
- Ajax calls
- User and session counts
- Performance counters
- Host diagnostics
- Diagnostic trace logs
- Custom events and metrics

Application Insights - Demo

Hands On

http://azure.Microsoft.com/en-us/free

$200 credit + 12 months + Always free

to explore services for 30 days | of popular free services | 25+ services

Contact

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https://github.com/MariuszPwC/whatacat

- Presentation
- Source Code

Questions

Thank You!