



Serverless Architecture Shootout



VS



aws



***Brian McKeiver, Co-Owner,
Solution Architect***



***Bryan Soltis, Azure MVP
Kentico Technical Evangelists***



The first rule

The first rule of Serverless is,
you talk about Serverless



Functions as a Service

Run code without ever thinking about a server

DON'T
THINK



The Challengers

Resource Groups

myTimeSheet

ARN - arn:aws:lambda:us-east-1:770460065111:function:myTimeSheet

Qualifiers Actions ListMyProjects Test

Monitoring

myTimeSheet

Alexa Skills Kit

Add triggers from the list on the left

Amazon CloudWatch Logs

Resources the function's role has access to will be shown here

run.csx

Save Run </> Get function URL

```
1 using System.Net;
2 using KenticoCloud.Delivery;
3 using System.Configuration;
4
5 public static async Task<HttpResponseMessage> Run(HttpRequestMessage request)
6 {
7     System.Net.ServicePointManager.SecurityProtocol = SecurityProtocolType.Tls12;
8     string strEvents = "";
9
10    // Get the Kentico Cloud content
11    DeliveryClient client = new DeliveryClient(ConfigurationManager.AppSettings["KenticoCloudUrl"]);
12
13    // Get the fact items from Kentico Cloud
14    var response = await client.GetItemAsync(
15        new EqualsFilter("system.type", "speakingengagement"),
16        new GreaterThanFilter("elements.date", DateTime.Now.ToString("MM/dd/yyyy")),
17        new LimitParameter(1),
18        new OrderParameter("elements.date", SortOrder.Ascending)
19    );
20
21    if(response.Items != null)
22    {
23        foreach(var item in response.Items)
24        {
25            DateTime date = DateTimeOffset.Parse(item.GetString("date")).ToDateTimeUtc();
26            strEvents += "On " + date.ToString("MMMM d, yyyy") + ", ";
27        }
28    }
29    else
30    {
31        strEvents = "Bryan does not have any upcoming speaking engagements";
32    }
33
34    log.Info(strEvents.ToString());
35
36    // Create the JSON response to send to the Alexa Skill
37    return new HttpResponseMessage()
38    {
39        Content = new StringContent(strEvents, Encoding.UTF8, "application/json"),
40        StatusCode = HttpStatusCode.OK
41    };
42 }
```

View files Test

+ Add Upload Delete

SolitisWebEventsFunction

- function.json
- project.json
- project.lock.json
- run.csx

Logs Errors and warnings

Demos

Developer Experience

- Developer tools
- Debugging
- Execution

```
c:\>func
```

```
Azure Functions Core Tools (2.0.1-beta.22)
```

```
Function Runtime Version: 2.0.11415.0
```

```
Usage: func [context] [context] <action> [-/--options]
```

Contexts:

```
azure      Commands to log in to Azure and manage resources
```

extensions

Commands for installing extensions

```
function    Commands for creating and running functions locally
```

host

Commands for running the Functions host locally

settings Commands for managing environment settings for the local Function

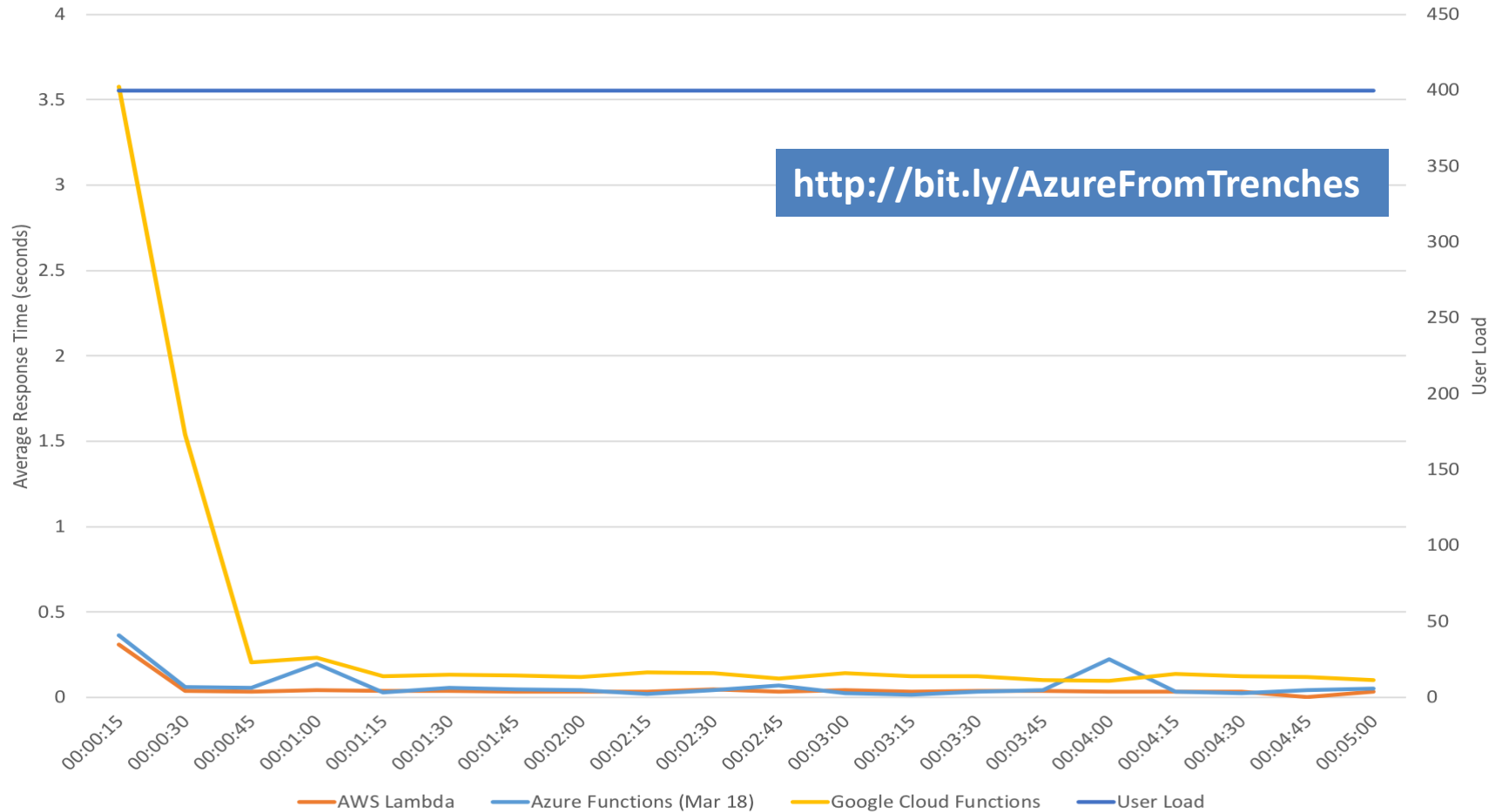
templates Commands for listing available function templates

Actions:

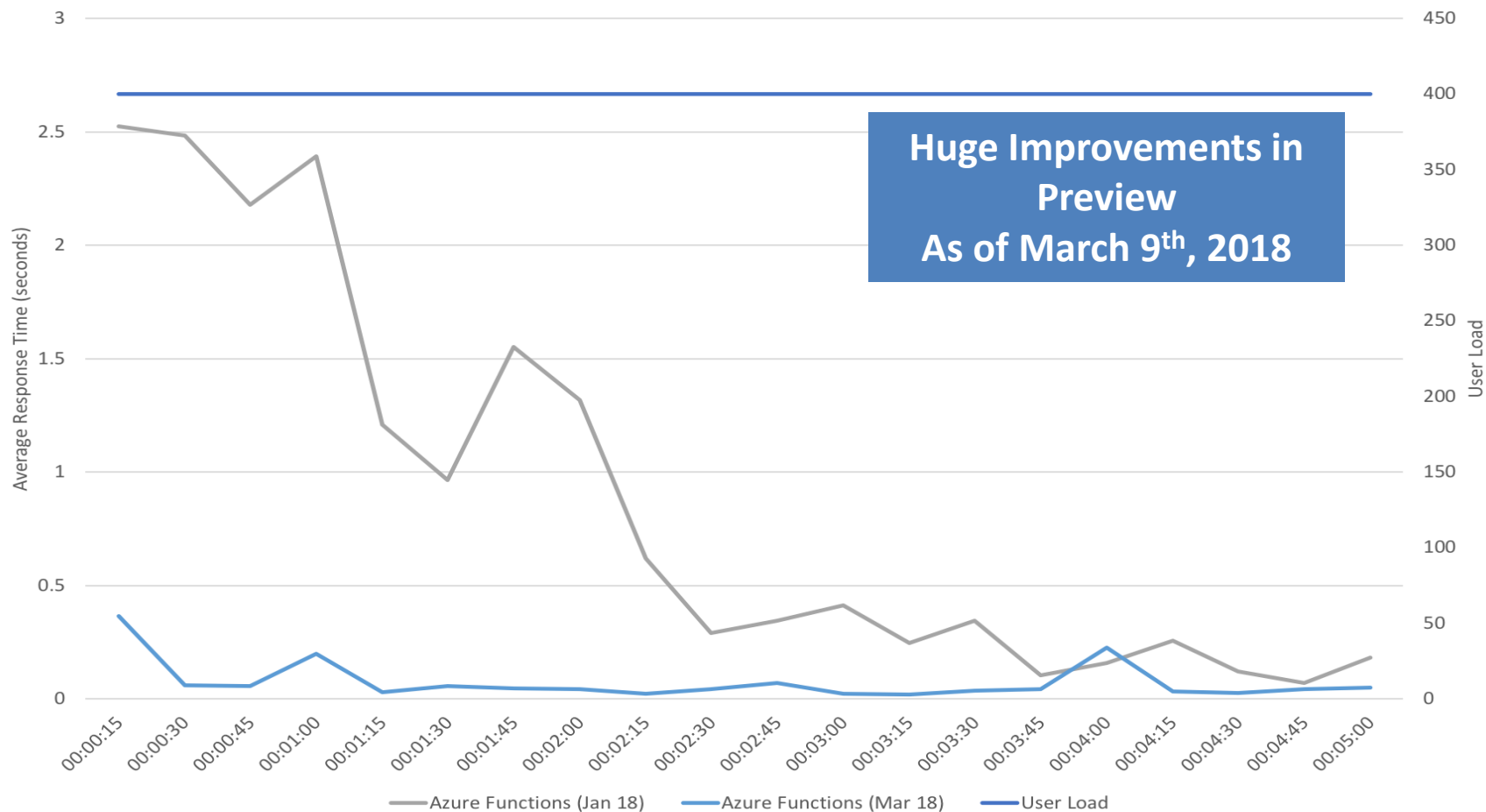
new Create a new function from a template. Aliases: new, create

```
--language [-l] Template programming language, such as C#, F#, JavaScript
```

Performance



Azure Functions - Performance - January 2018 vs March 2018





Your vote?

API Proxies / Gateways

Create, publish, maintain, monitor,
and secure APIs at scale





The Challenges



Services ▾

Resource Groups ▾



Amazon API Gateway

APIs > PetStore (k6e9sgsepi) > Resources > / (99wpt19kbj)

APIs

PetStore

Resources

Stages

Authorizers

Resources

Actions ▾

 / Methods



/

GET



/pets

GET

OPTIONS

POST



/petId



GET

Mock Endpoint

Authorization None

API Key Not required

Demo

Azure API Management Pricing

	DEVELOPER	BASIC
Purpose	Non-production use cases and evaluations	Entry-level production use cases
Price (per unit)	~\$48.04/month	~\$147.17/month
Cache (per unit)	10 MB	50 MB
Scale-out (units)	1	2
SLA	No	99.9%
Azure Active Directory integration	Yes	No
Virtual Network support	Yes	No
Multi-region deployment	No	No
Estimated Maximum Throughput ² (per unit)	500 requests/sec	1,000 requests/sec

AWS pricing for API Gateway

Free Tier

The Amazon API Gateway free tier includes one million API calls received per month for up to 100 API calls per month, you will be charged the API Gateway rates.

Pricing Examples

An API that receives five million API calls per month, with each API call returning responses of 3 kilobytes (KB) in size with no caching.

Example below reflects pricing for US East, US West, EU (Ireland)

Amazon API Gateway API call charges	5 million * \$3.50/million = \$17.50
Total size of data transfers	3 KB * 5 million = 15 million/KB = 14.3 GB
Amazon API Gateway data transfer charges	14.3 GB * \$0.09 = \$1.29
Total Amazon API Gateway charges	\$17.50 + \$1.29 = \$18.79

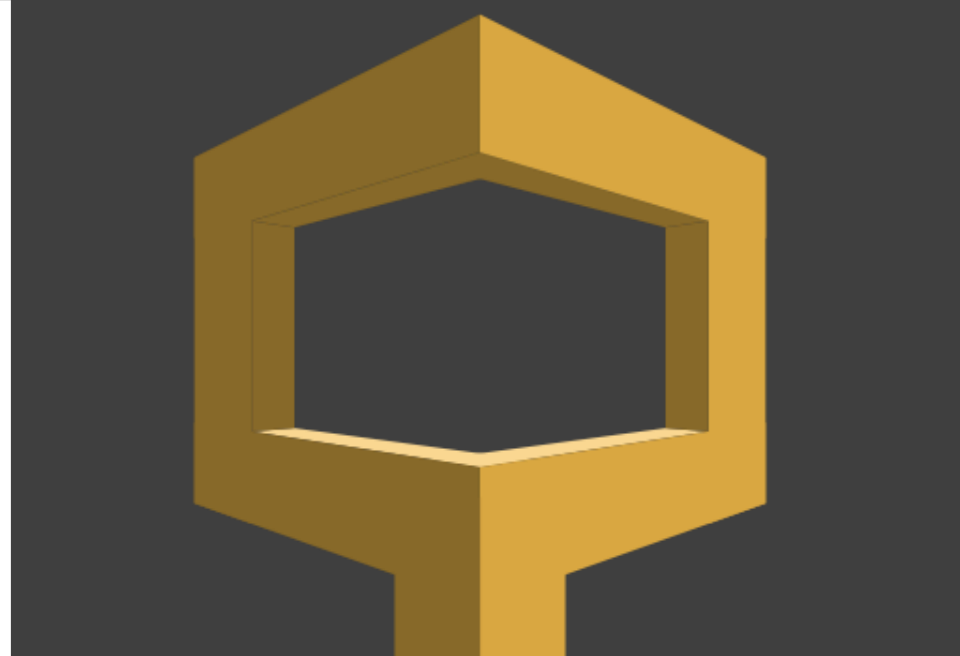


Your vote?

Search as a Service

Tired of search slowing you down?





The Challenges

+

 Create a resource

☰

 All services

★

 FAVORITES

🏠

 Dashboard

📦

 Resource groups

📊

 All resources

<<

Home > bizstream > quotesindex

quotesindex

Indexes

+

 Add/Edit Fields

+

 Add scoring profile

✎

 Edit CORS options

🗑

 Delete


Usage

Document count

Index	99
Service	118

Storage size

0.13%



Search explorer

Demo



Your Vote ?

Content as a Service

Model: Tesla S

Price: \$120,000

Maker: Tesla, Inc.

Variant: P100D

Description: The model S is...

Photo:



How much is Tesla?

Model P100 D is \$120,000





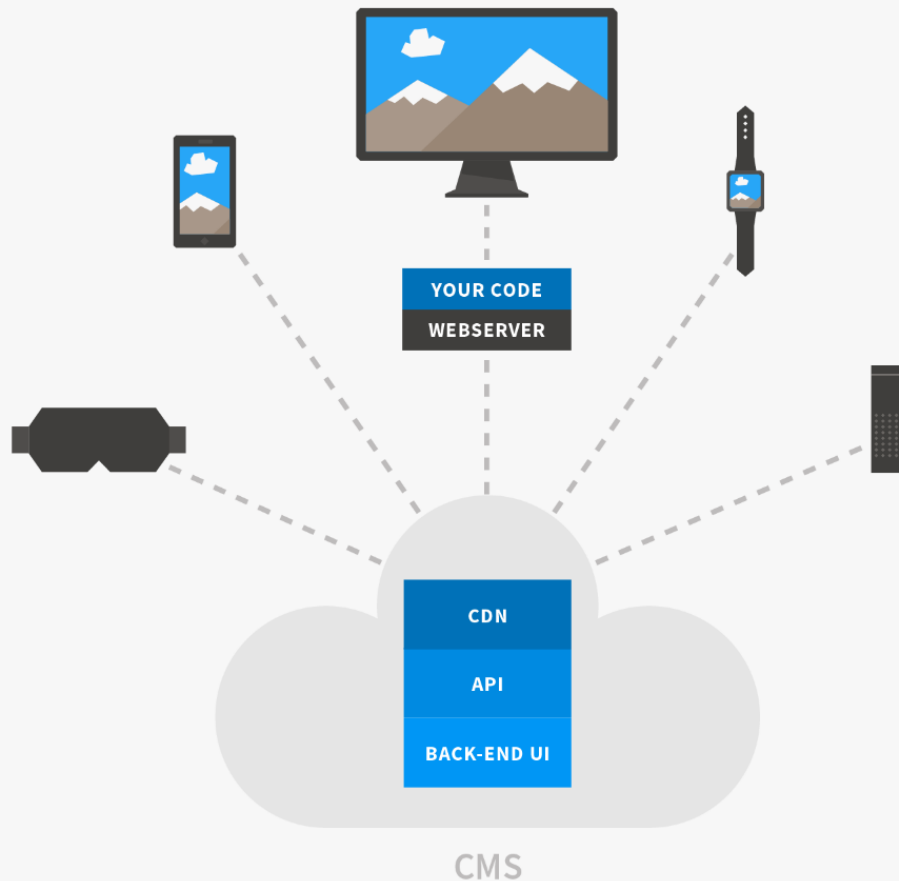
Headless CMS Challengers



API first approach

Cloud-hosted

Choose any programming
language you like



GET

https://deliver.kenticocloud.com/project_id/items

 Try It

cURL .NET

```
using KenticoCloud.Delivery;

DeliveryClient client = new DeliveryClient("975bf280-fd91-488c-994c-2f04416e5
ee3");

DeliveryItemListingResponse response = await client.GetItemsAsync(
    new EqualsFilter("system.type", "article"),
    new ElementsParameter("title", "summary", "post_date", "teaser_image"),
    new ContainsFilter("elements.personas", "coffee_lover"),
    new OrderParameter("elements.post_date", SortOrder.Descending),
    new DepthParameter(0),
    new LimitParameter(3)
);

var items = response.Items;
```

Clone the repo and install the dependencies.

```
git clone https://github.com/contentful/the-example-app.csharp.git
```

```
dotnet restore
```

Steps for read-only access

To start the server, run the following

```
dotnet run
```

Open <http://localhost:3000> and take a look around.

<http://github.com/contentful/the-example-app.csharp>



The .NET
example app

HOME

COURSES

Home > Courses > Hello Contentful

Table of contents

- ✓ Course overview
 - APIs
 - Content model
 - Content management
 - Summary

Hello Contentful

OVERVIEW

Content inventory

Filter content

▼ WORKFLOW STEP

- ☐ Draft
- ☐ Review
- ☐ Ready to publish
- ☐ Scheduled
- ☐ Published

▼ PUBLISHING STATE

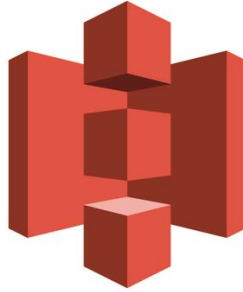
- ☐ Published

38 Content items

<input type="checkbox"/>	Name	Workflow s...	Type	Status
<input type="checkbox"/>	Request a Demo (Page)	Published	Contact / Request Dem...	✓ All done
<input type="checkbox"/>	About Us	Published	Full Width Content (Page)	✓ All done
<input type="checkbox"/>	Master	Published	Master (Layout)	✓ All done

Demo

Who Reigns Supreme?



Amazon CloudSearch



Our Winner





Questions



Brian McKeiver
Co-Owner & Kentico MVP, BizStream

@mcbeev
www.linkedin.com/in/brianmckeiver
www.mcbeev.com
www.github.com/mcbeev
www.bizstream.com



Bryan Soltis
Kentico Tech Evangelist & Azure MVP

@bryan_soltis
www.linkedin.com/in/bryansoltis
www.soltisweb.com
www.github.com/bryansoltis
www.kentico.com