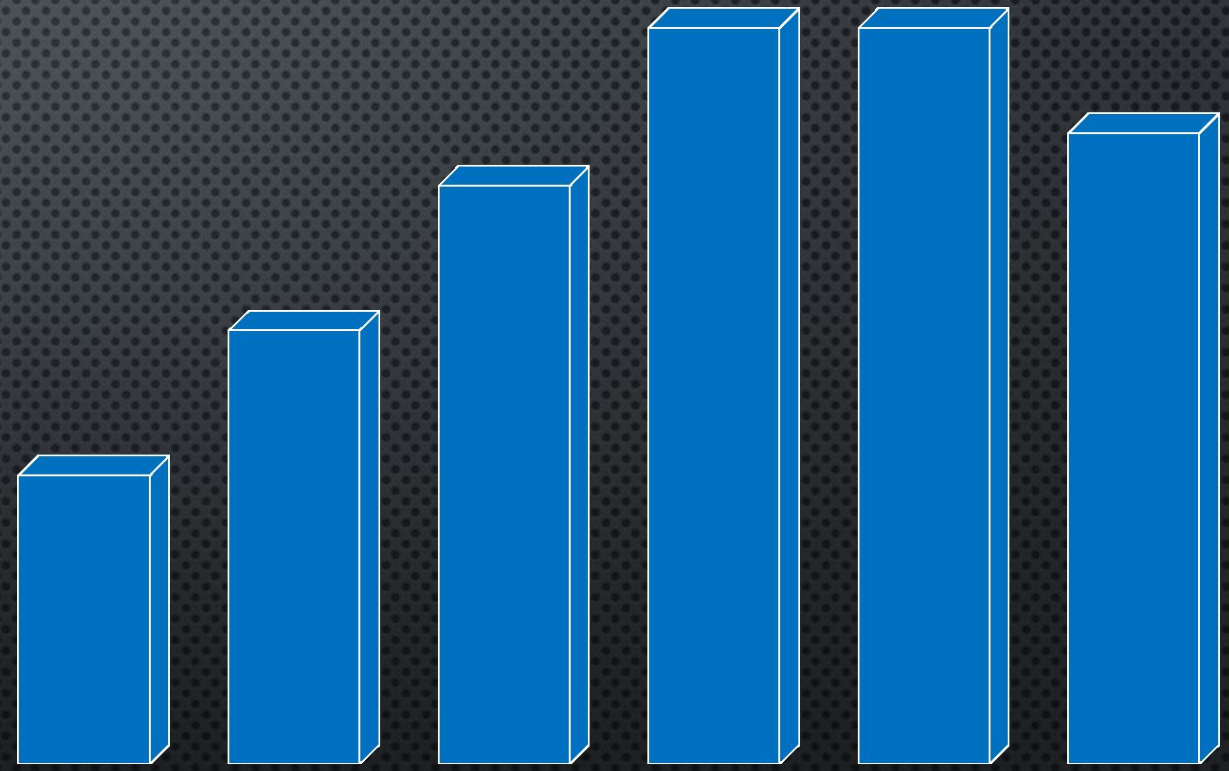
ARCHITECTURE

OF HIGH LOAD APPLICATIONS

ON AZURE CLOUD

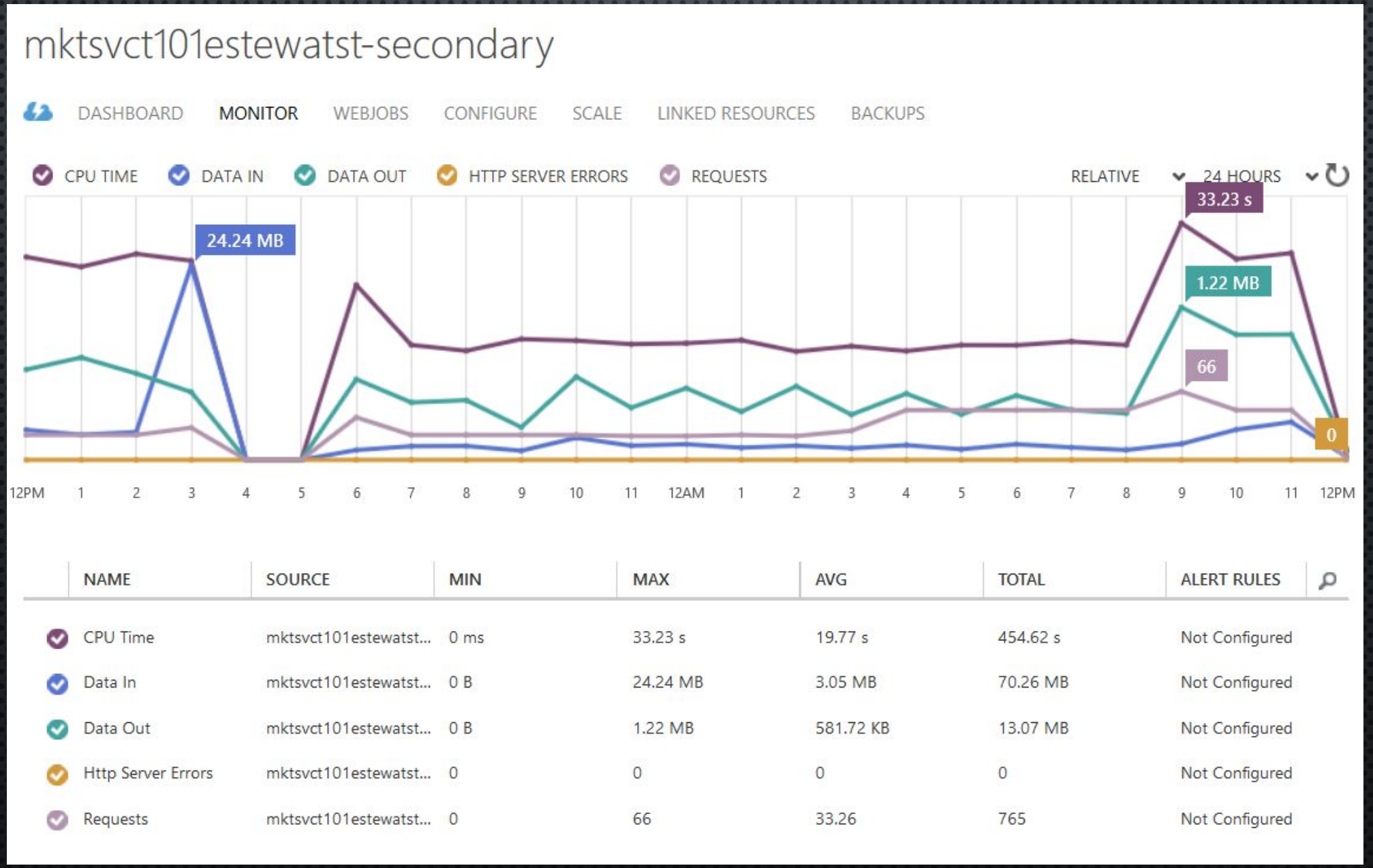
What is high load

You have created an awesome website. Your application is quite popular and users from all over the world love it. Life is great! … **But**, then you hit a speed bump: as your traffic has been growing, so has the load on your application, and it's causing it to run slower and slower and you start to see user attrition…



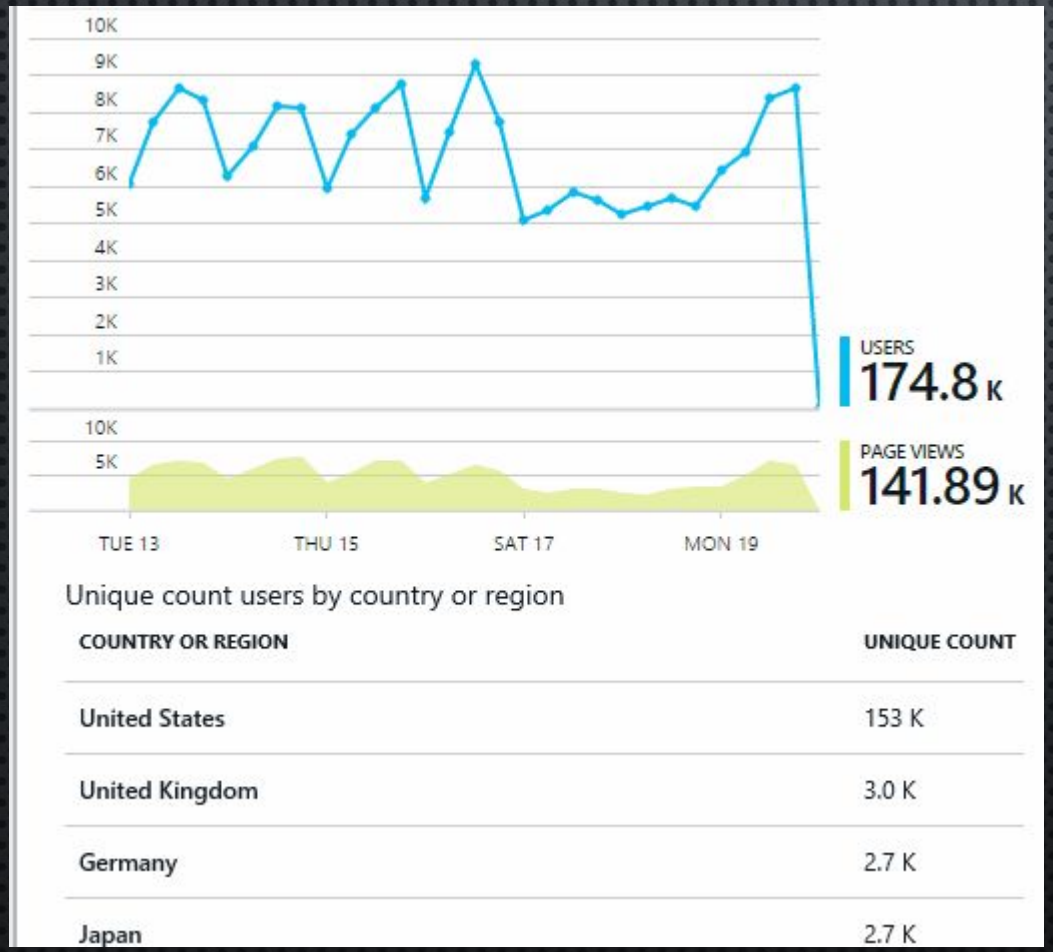
HOW TO MAKE YOUR APPLICATION READY FOR HIGH LOAD

MONITOR EVERYTHING (AZURE PORTAL)



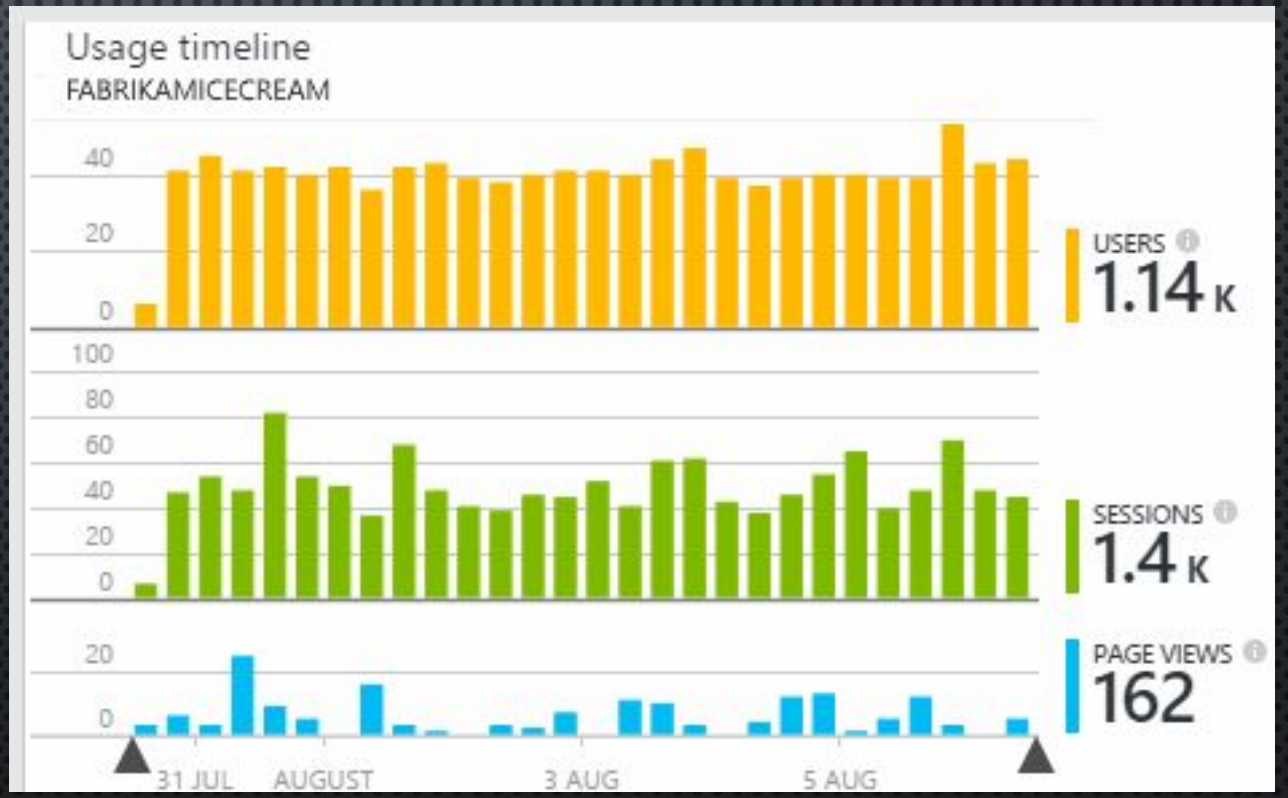
NAME	SOURCE	MIN	MAX	AVG	TOTAL	ALERT RULES
CPU Time	mktsvct101estewatst...	0 ms	33.23 s	19.77 s	454.62 s	Not Configured
Data In	mktsvct101estewatst...	0 B	24.24 MB	3.05 MB	70.26 MB	Not Configured
Data Out	mktsvct101estewatst...	0 B	1.22 MB	581.72 KB	13.07 MB	Not Configured
Http Server Errors	mktsvct101estewatst...	0	0	0	0	Not Configured
Requests	mktsvct101estewatst...	0	66	33.26	765	Not Configured

MONITOR EVERYTHING (APP INSIGHTS)

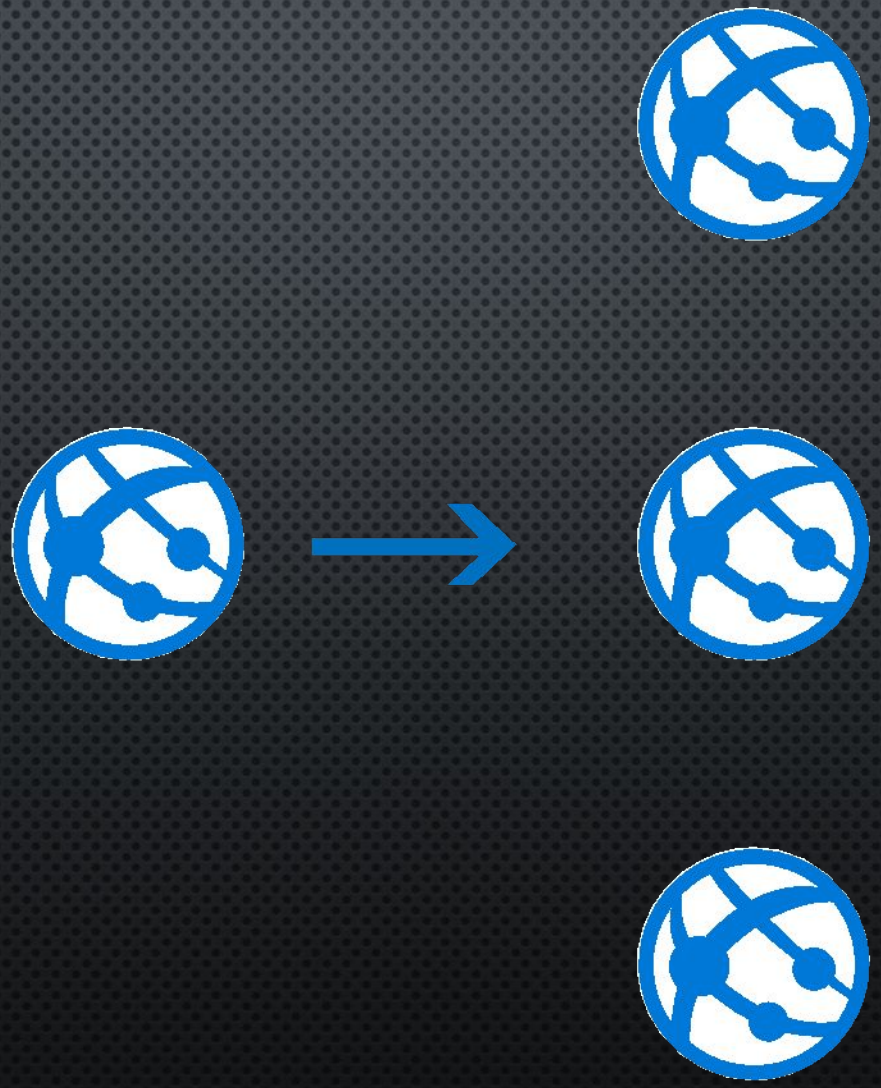


Unique count users by country or region

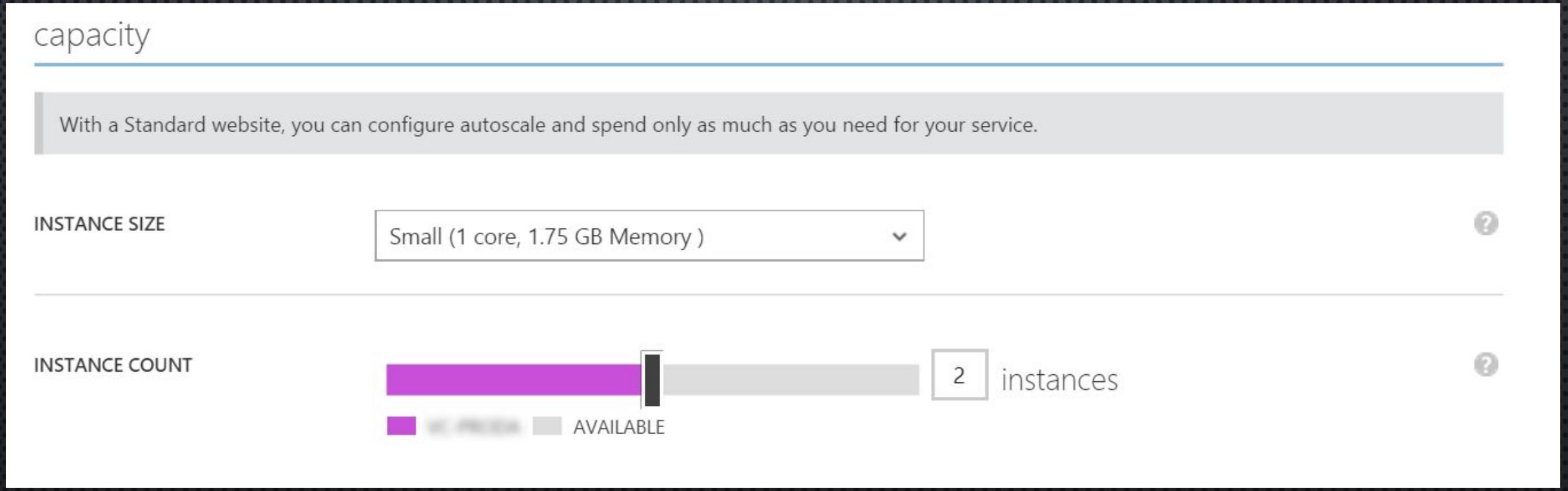
COUNTRY OR REGION	UNIQUE COUNT
United States	153 K
United Kingdom	3.0 K
Germany	2.7 K
Japan	2.7 K



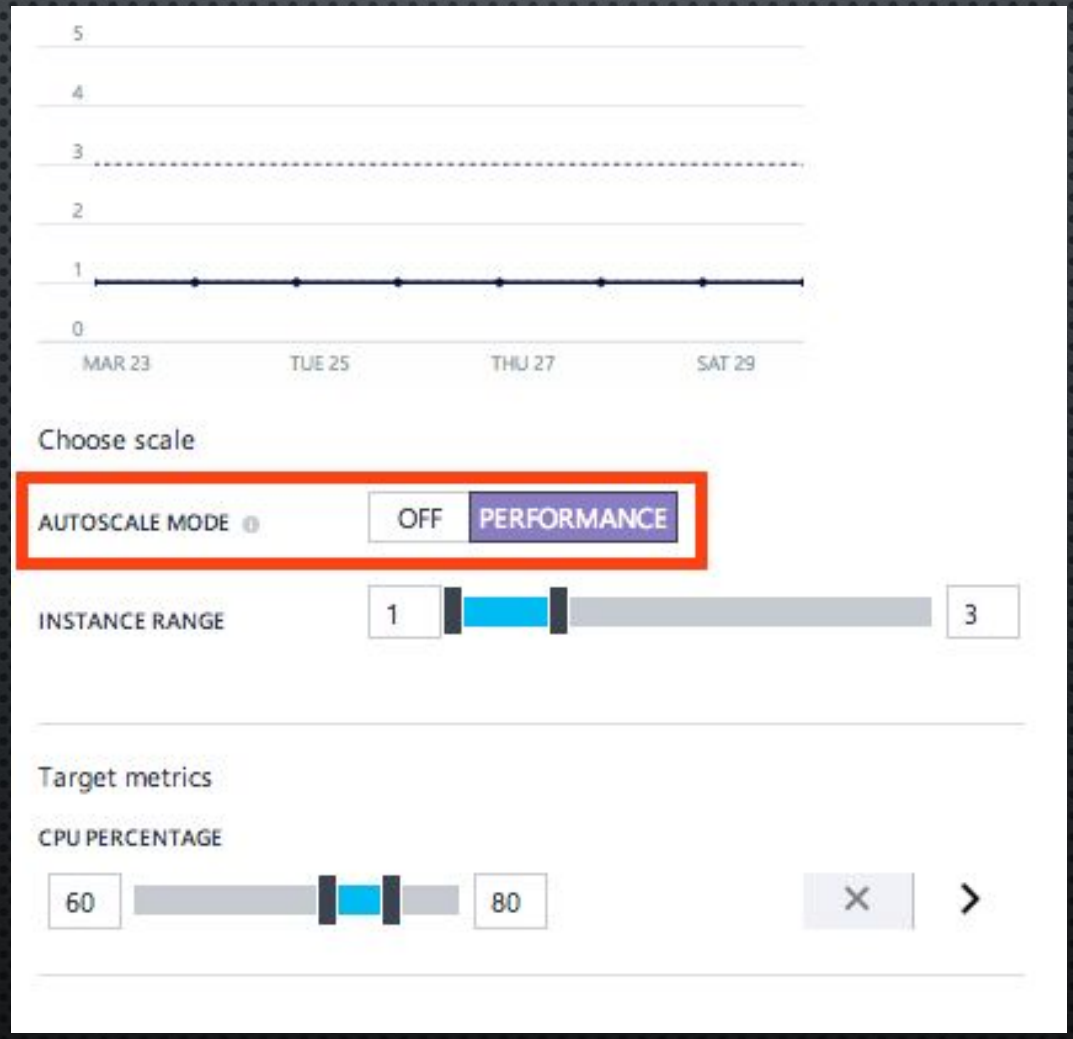
SCALE YOUR APPLICATION TO PROVIDE SERVER RESOURCES FOR EACH OF YOUR USER



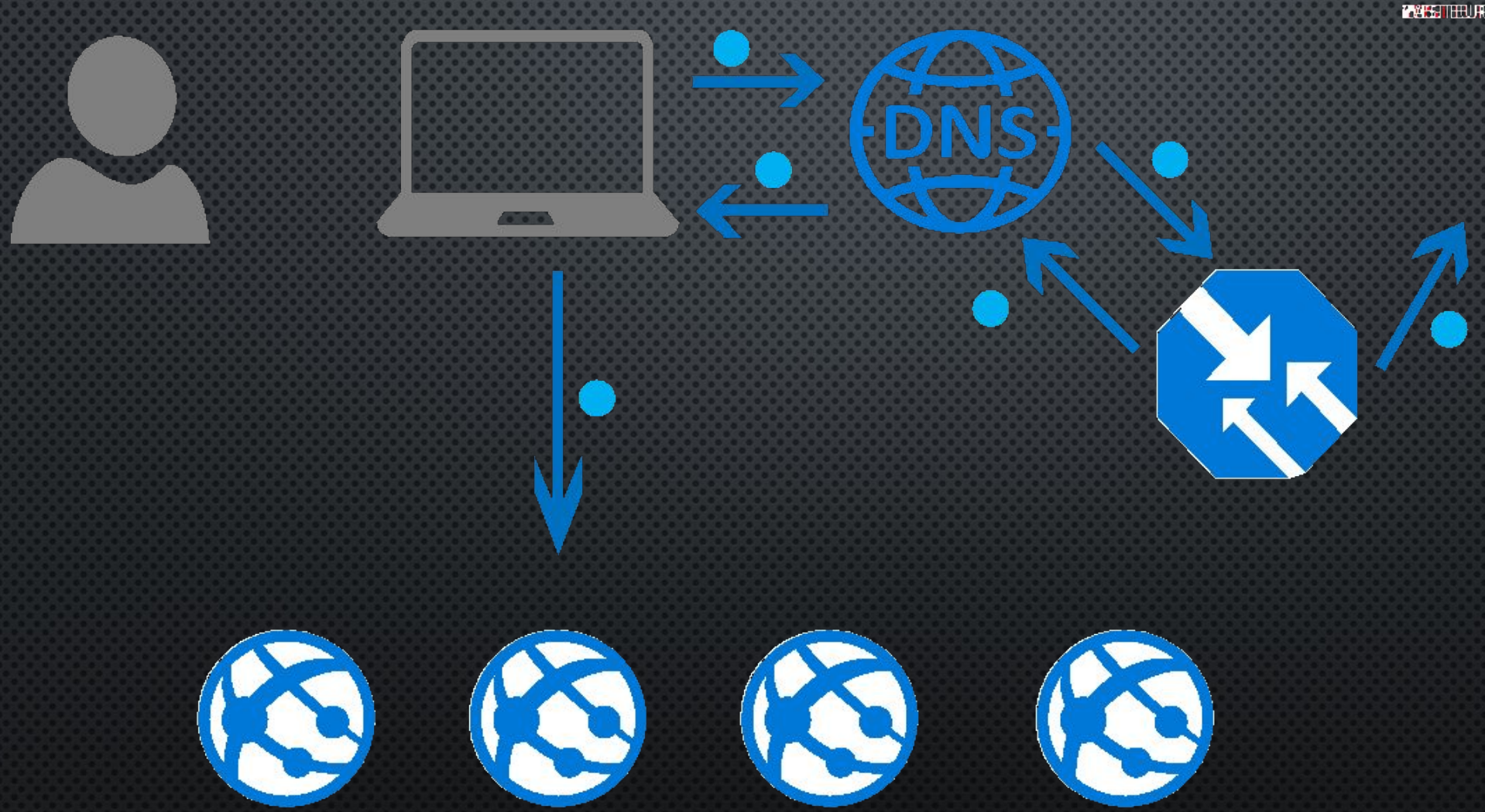
MANUAL SCALING ON AZURE PORTAL



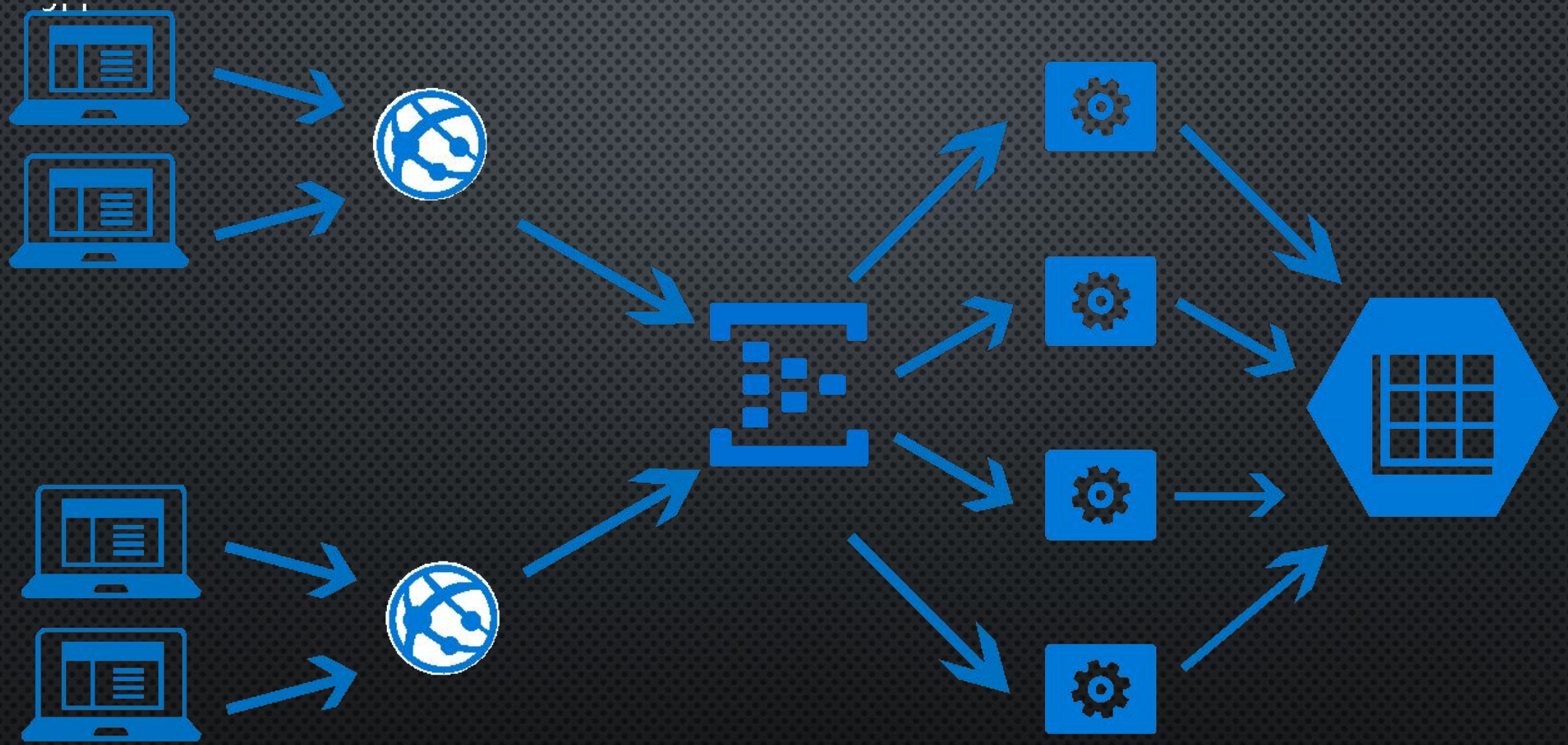
AUTO SCALING ON AZURE PORTAL



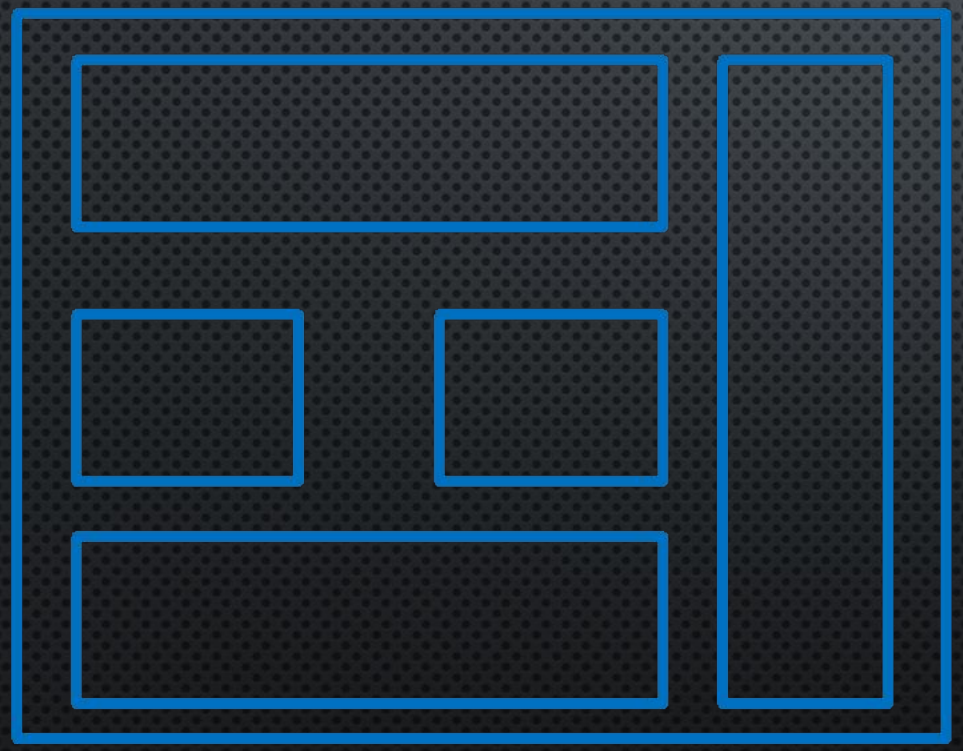
USE TRAFFIC MANAGER TO AUTOMATICALLY DISTRIBUTE USERS ACROSS APPLICATION INSTANCES AND HANDLE FAULT DOMAINS

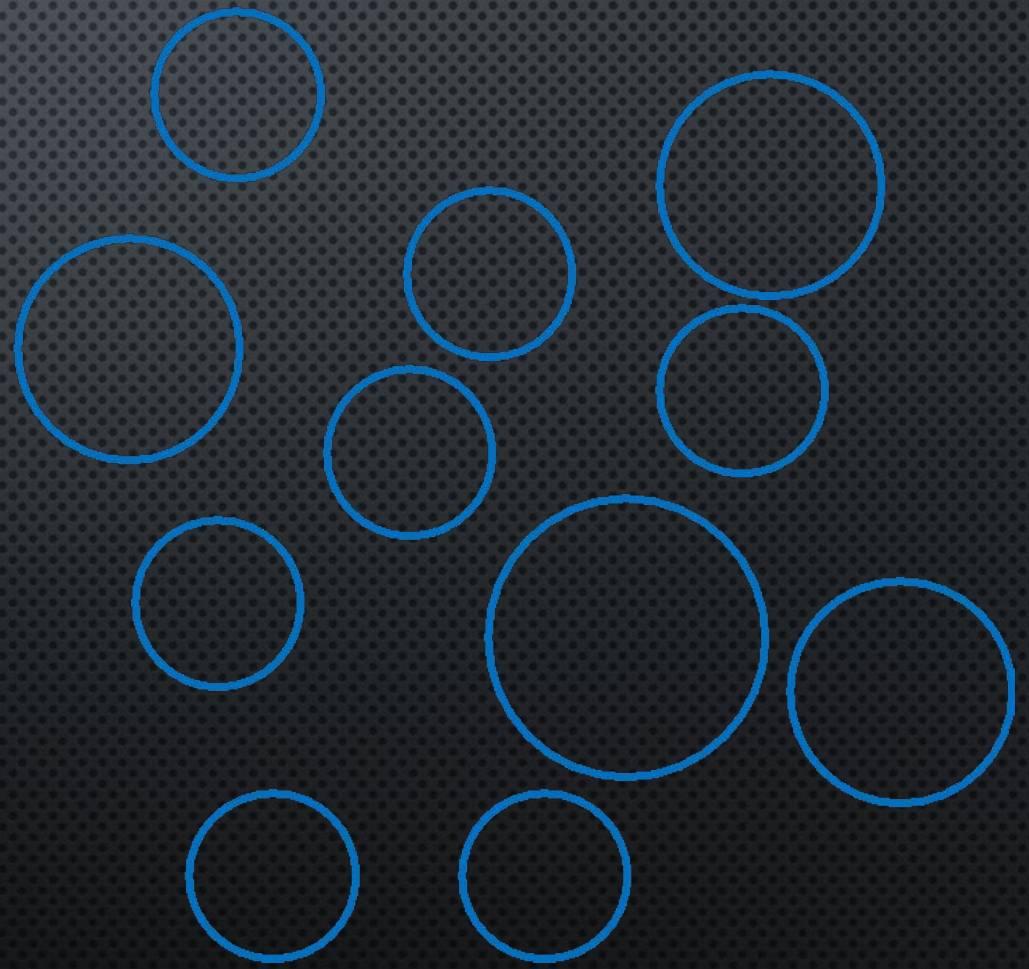


USE ASYNCHRONOUS COMPUTING FOR ALL LONG RUNNING PROCESS

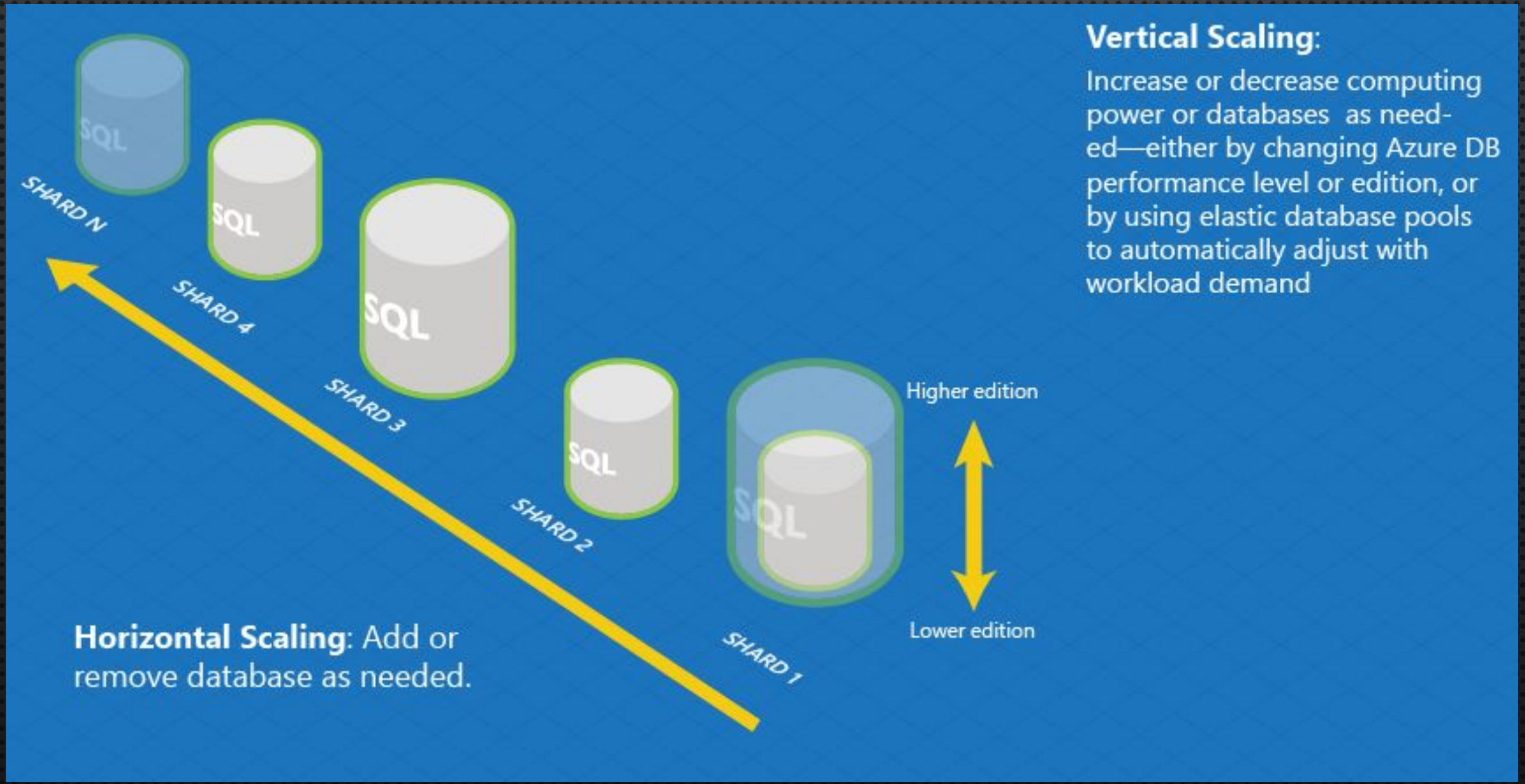


DISTRIBUTE ASYNCHRONOUS COMPUTING USING MICRO SERVICES ARCHITECTURE



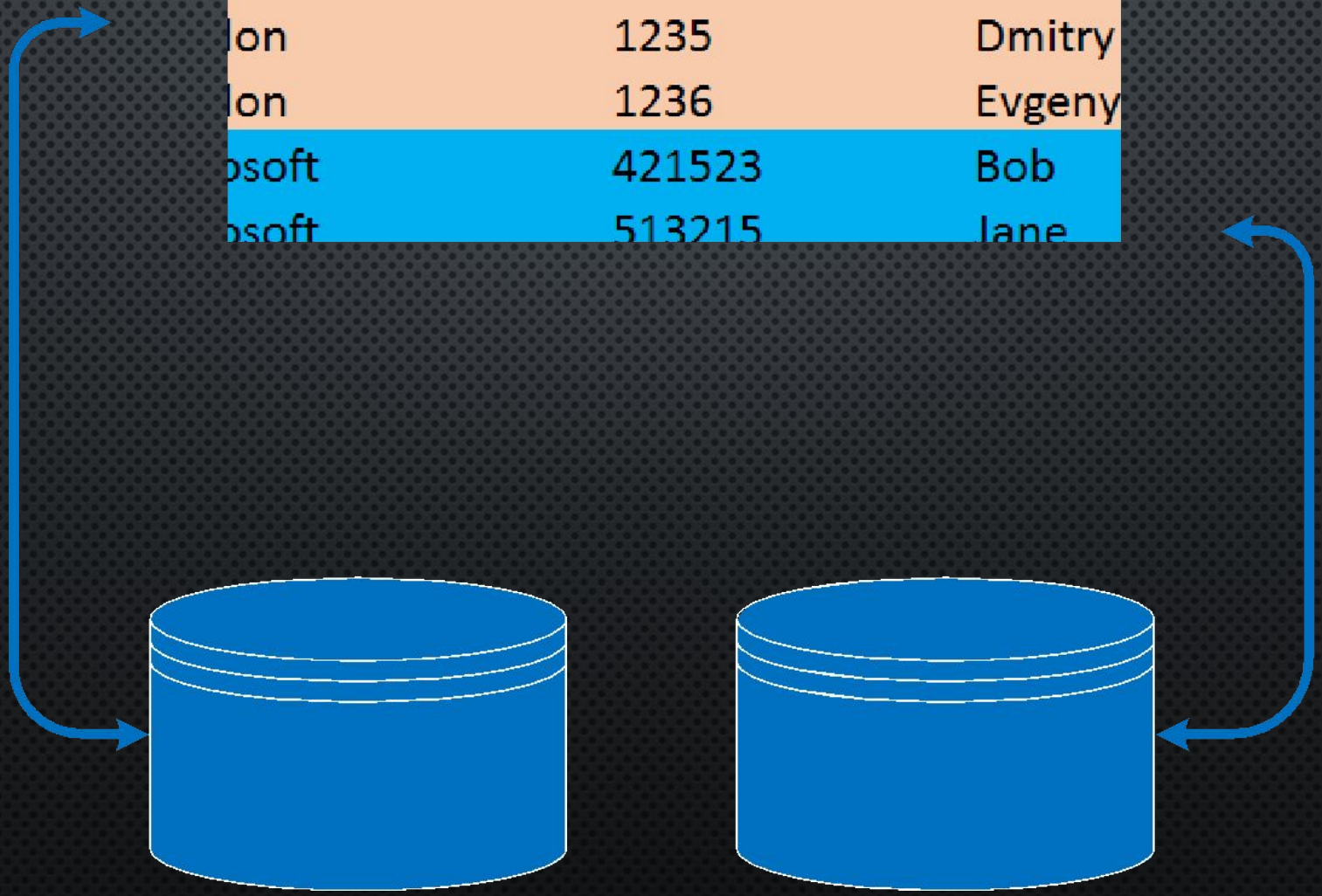


SCALE YOUR SQL DATABASES USING HORIZONTAL AND VERTICAL SCALING

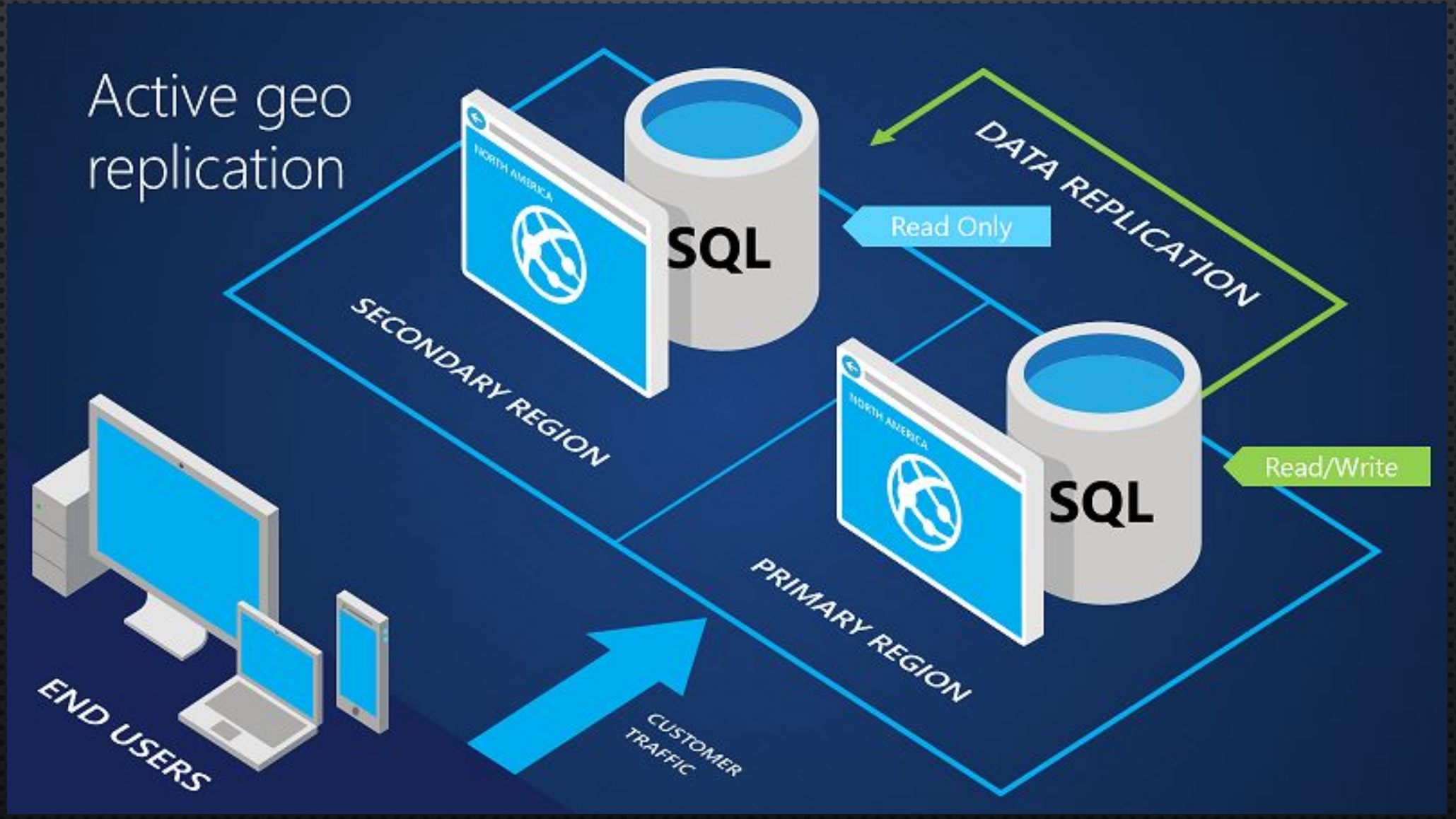


OR USE AZURE TABLE STORAGE

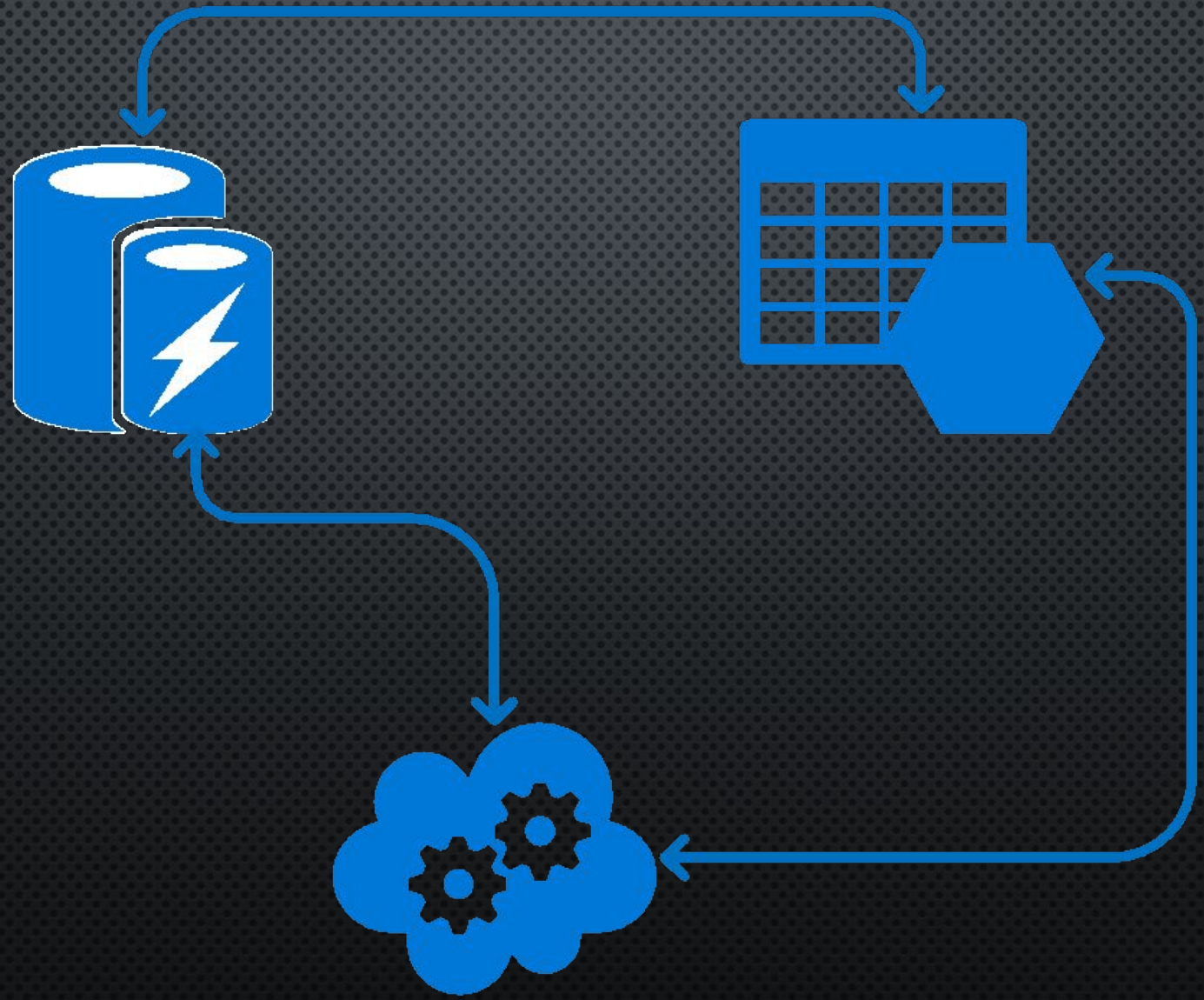
ionKey	RowKey	Membe
lon	1234	Alex
lon	1235	Dmitry
lon	1236	Evgeny
osoft	421523	Bob
osoft	513215	Jane



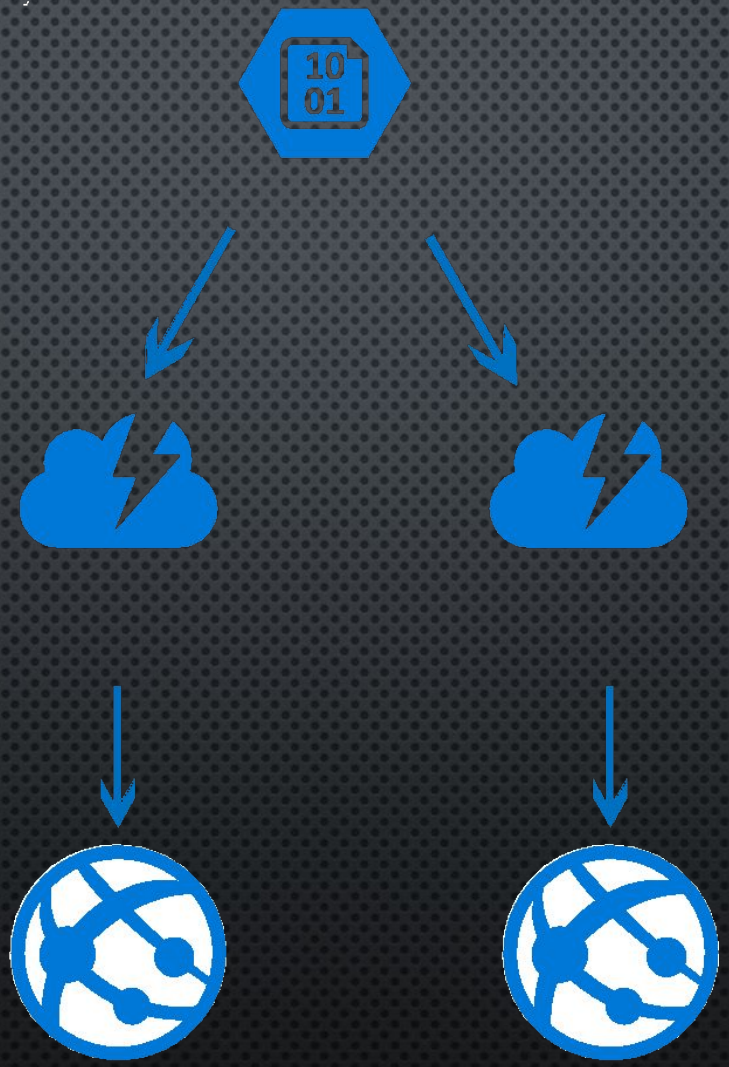
REPLICATE YOUR DATA BETWEEN GEO REGIONS TO PROVIDE GREAT AVAILABILITY AND RESILIENCE



CACHE ALL YOU CAN



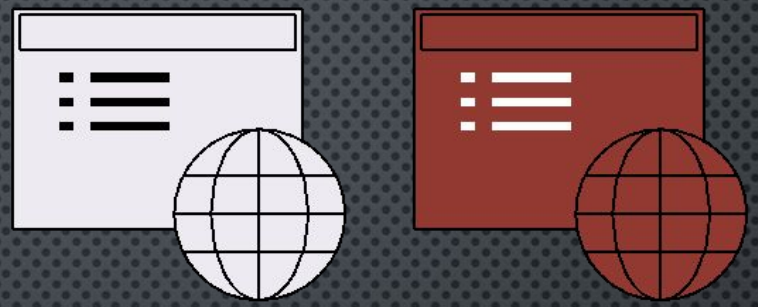
CDN



EXAMPLE

LANDING PAGE A/B TESTING

APPLICATION FUNCTIONALITY



APPLICATION FUNCTIONALITY