WHY SHOULD BUSINESS LEADERS CARE ABOUT MICROSERVICES?

WEBINAR, AUGUST 2020

About Me

- 26 years in software engineering

- Currently lead the Cloud Engineering practice at OCI (Object Computing, Inc.)

- A split career:

    corporate roles vs. consulting roles

MICROSERVICES ARE NOT A NEW CONCEPT OR TREND

objectcomputing.com

LET'S TALK ABOUT WHO YOU ARE

PERCEPTION MATTERS

objectcomputing.com

YOUR WORLD …

YOU GOTTA'
DELIVER
TO CUSTOMERS

PERCEPTION MATTERS

objectcomputing.com

YOU − A BUSINESS LEADER

- Perhaps you have a firm grasp of technology; perhaps you don't

- Perhaps you are in charge of important products or services in your organization

- Perhaps you work closely with technologists

- Maybe you work with engineers, testers, etc.

- Or maybe you interface with technical leadership and stay out of the details

- Perhaps you lead an entire organization

- The final burden is on you

- It's your investment − your baby

YOU KNOW …

SOFTWARE
IS A KEY BUSINESS
DIFFERENTIATOR

(No qualifiers here. This is the world we live in.)

objectcomputing.com

YOUR TIME IS VALUABLE.
SO, LET'S GET TO IT!

objectcomputing.com

MICROSERVICES
WHAT ARE THEY?

(I'm busy ... the really short version, please)

objectcomputing.com

MONOLITH vs. MICROSERVICES
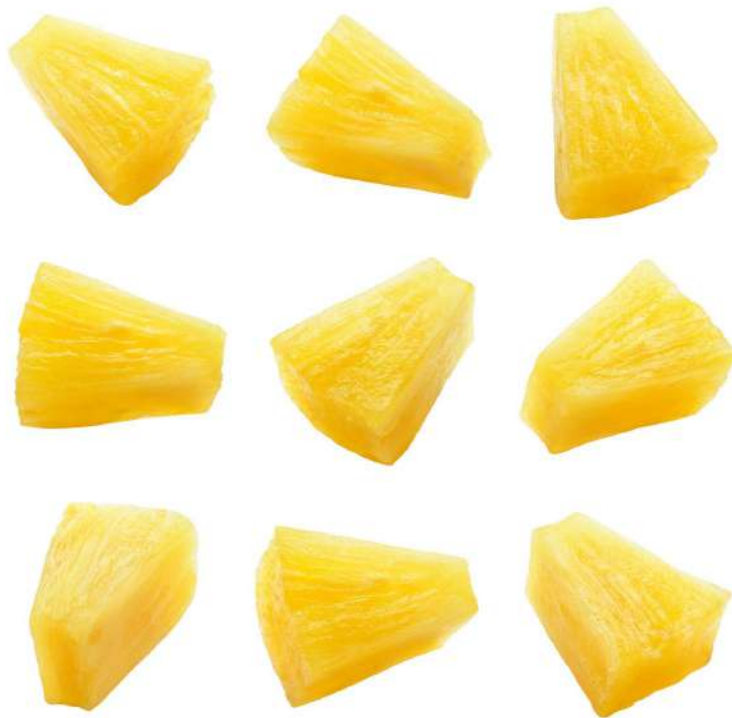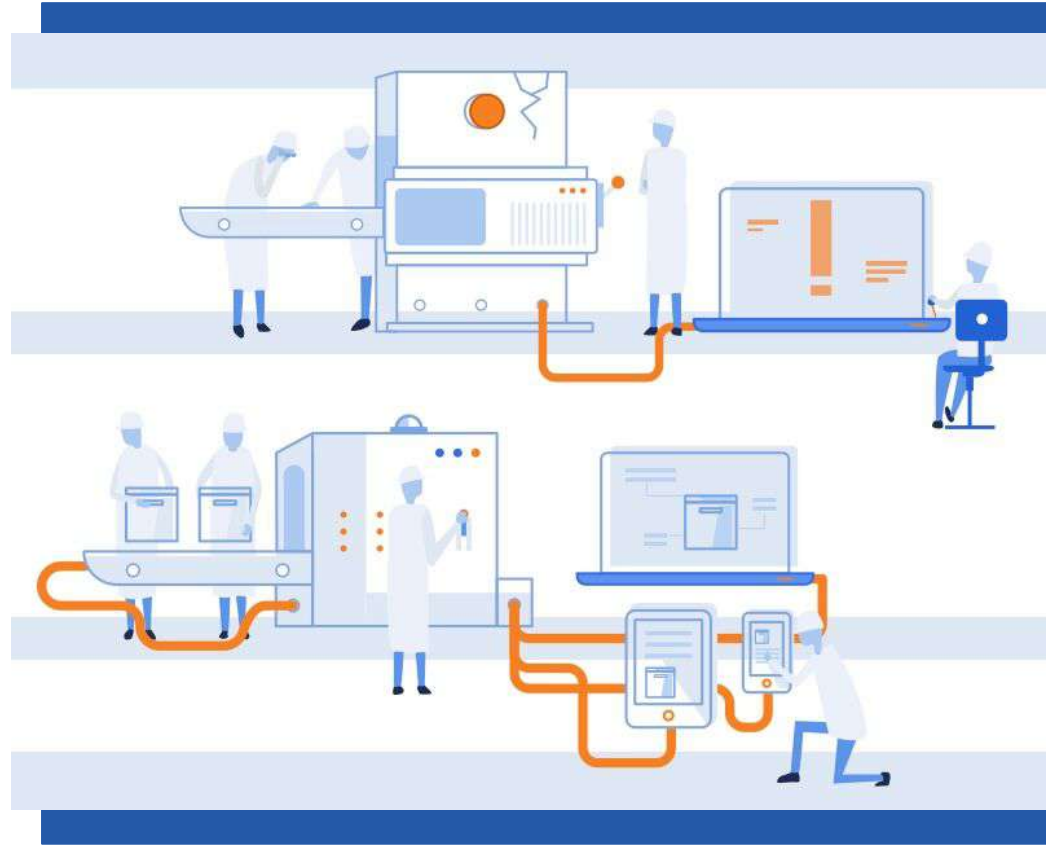
wow!

THERE'S A LOT MORE GOING ON WITH MICROSERVICES.

WHY ALL THE ADDITIONAL PIECES?

MICROSERVICES ...

DISTRIBUTING THE WORK

objectcomputing.com
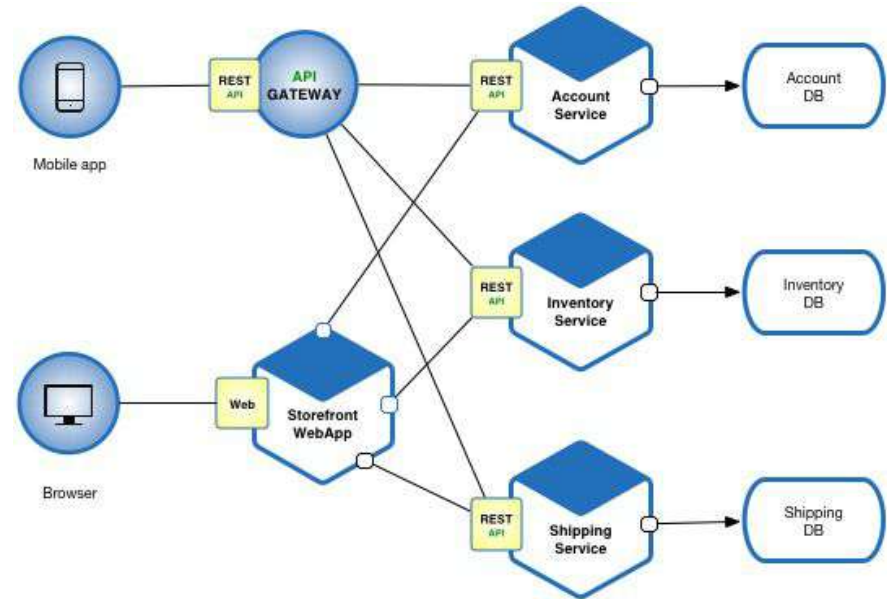
MICROSERVICE ARCHITECTURE − 7 ATTRIBUTES

1. A suite of small services

2. Communicating with lightweight mechanisms

3. Built around business capabilities

4. Independently deployable

5. Bare minimum of centralized management

6. May be written in different programming languages

7. May use different data storage technologies

objectcomputing.com

OK.

WHAT ARE <u>NOT</u> MICROSERVICES?

objectcomputing.com

1. Not a layer in a monolithic application

2. Not a "mini monolith"

3. Not all the same size

4. Not all deployed in the same way

5. Not all used (or consumed) in the same way

objectcomputing.com

WHY ARE MICROSERVICES TALKED ABOUT SO MUCH IN THE MARKETPLACE?

objectcomputing.com
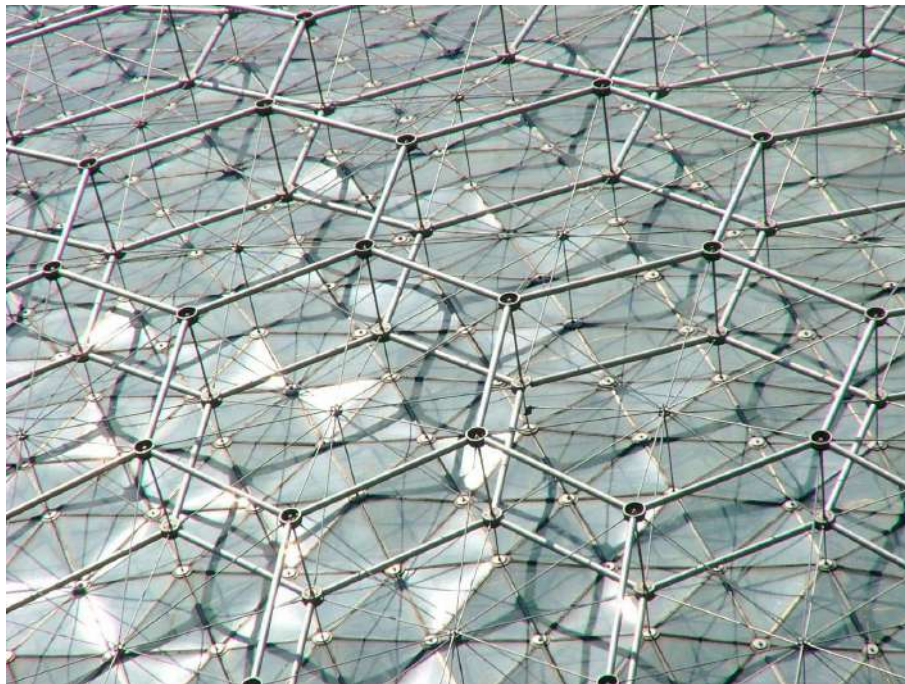
MICROSERVICES – THE PROMISE OF BETTER FUTURE

Sustainable software delivery and platforms

Faster time to market

Flexible deployment characteristics

Scaling options

Technical debt management

objectcomputing.com

WHAT ARE THE ACTUAL PROBLEMS MICROSERVICES ARE SUPPOSED TO SOLVE?

objectcomputing.com

THE GORDIAN KNOT

- Untangle monolithic systems

- Compartmentalize complex business processes

- Remove/prevent spaghetti code
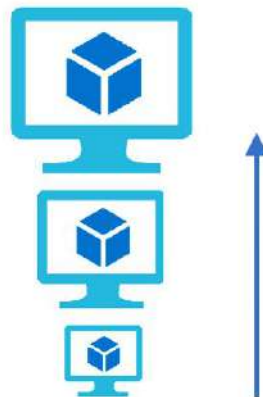
- Reduce code complexity

SCALING SYSTEM RESOURCES

- Add resources where they're needed

- Tackle the "idle time" problem

- Simplify "on-demand" scaling

- Use what you pay for

- Prevent the dreaded "resource ceiling"

www.abhijitkakade.com

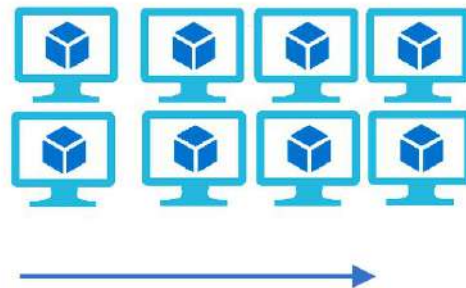Vertical Scaling
(Increase size of instance (RAM , CPU etc.))

Horizontal Scaling
(Add more instances)

objectcomputing.com

SCALING PEOPLE

Better organizational alignment

Work in smaller groups

Faster communication

Quicker problem resolution

VELOCITY – A.K.A. DOING STUFF FASTER

Deploy when ready; don't wait for a huge deployment window

Predict or respond to demand and market conditions

Build new services quickly; less chance of conflict or unintended behavior

objectcomputing.com

🔥

WHY NOW?

WHY ARE MICROSERVICES SO HOT RIGHT NOW?

objectcomputing.com

MICROSERVICES – TOOLS HAVE IMPROVED

1. Microservice-specific development frameworks
2. Containerization
3. PaaS offerings (cloud and on-prem)
4. Monitoring tools
5. Build tools
6. Deployment/orchestration tools

SOME PEOPLE SAY THAT

MICROSERVICES AREN'T A GOOD STRATEGY.

WHY DO THEY SAY THAT?

objectcomputing.com

MICROSERVICES – THE BAD and THE UGLY

STOP!! You don't need Microservices.

Ebin John Follow
Feb 7 · 8 min read ★

6 Reasons **Not** to Adopt Microservices

Why You Should Not Switch to Microservices

Microservices are all the rage, but should you switch to making use of it? Here are some reasons why you may not want to just yet.

by Vladimir Fedak 粂 MVB · Jan. 18, 19 · Microservices Zone · Opinion

5 Reasons Not to Use Microservices

By Michael Churchman on October 25, 2018.

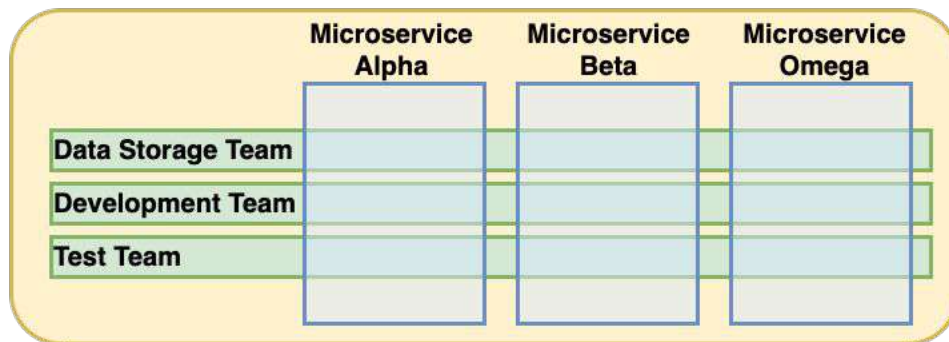5 Ways You're Probably Messing Up Your Microservices

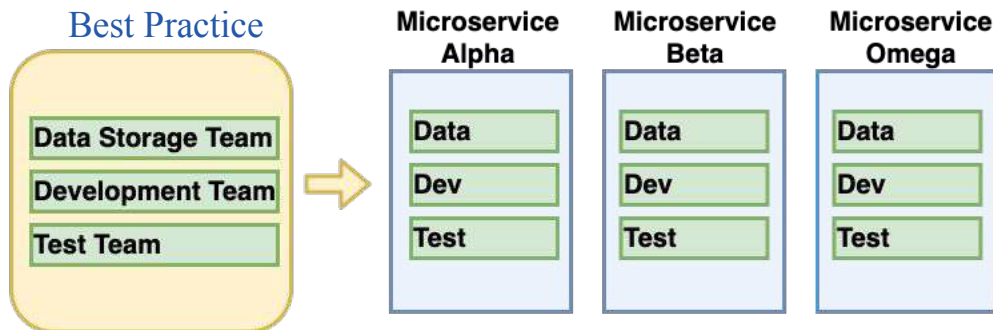By Alex Zhitnitsky · May 7, 2019
8 min read   6 Comments

objectcomputing.com

MICROSERVICES − TOP 8 CONCERNS

1. Incompatible company culture

This is a Bad Idea

	Microservice Alpha	Microservice Beta	Microservice Omega
Data Storage Team			
Development Team			
Test Team			

Follow Conway's' Law

Best Practice

Data Storage Team
Development Team
Test Team

→

Microservice Alpha
Data
Dev
Test

Microservice Beta
Data
Dev
Test

Microservice Omega
Data
Dev
Test

objectcomputing.com

MICROSERVICES – TOP 8 CONCERNS

1. Incompatible company culture

2. Organizational processes that don't adapt

objectcomputing.com

MICROSERVICES – TOP 8 CONCERNS

1. Incompatible company culture

2. Organizational processes that don't adapt

3. Inadequate support tools and infrastructure

objectcomputing.com
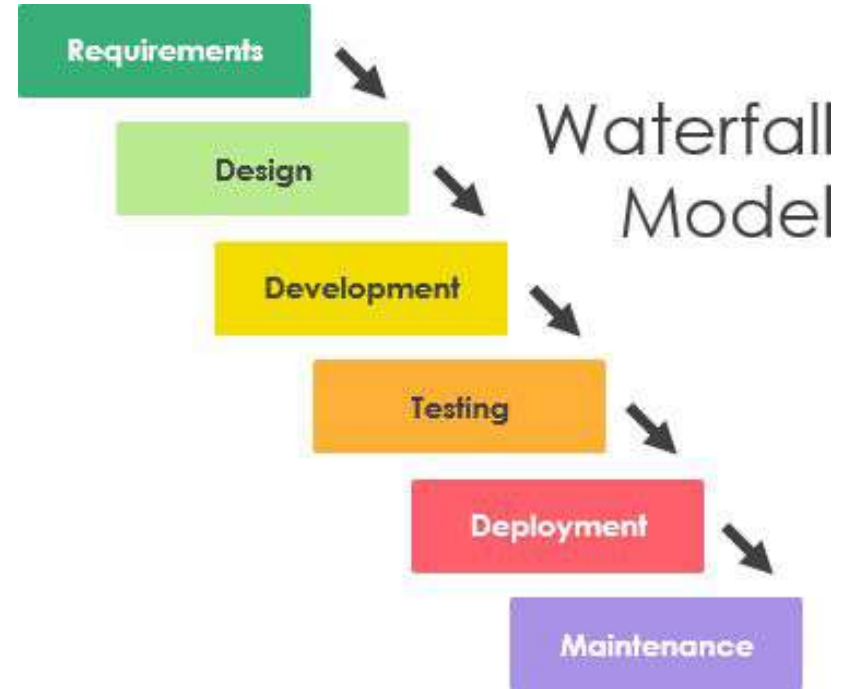
MICROSERVICES – TOP 8 CONCERNS

1. Incompatible company culture

2. Organizational processes that don't adapt

3. Inadequate support tools and infrastructure

4. SDLC is waterfall (or mini waterfall)

Requirements

Design

Development

Testing

Deployment

Maintenance

Waterfall Model

objectcomputing.com

MICROSERVICES − TOP 8 CONCERNS

1. Incompatible company culture

2. Organizational processes that don't adapt

3. Inadequate support tools and infrastructure

4. SDLC is waterfall (or mini waterfall)

5. Lack of CI/CD pipelines

Code   Build   Store   Configure   Run

objectcomputing.com

MICROSERVICES − TOP 8 CONCERNS

1. Incompatible company culture

2. Organizational processes that don't adapt

3. Inadequate support tools and infrastructure

4. SDLC is waterfall (or mini waterfall)

5. Lack of CI/CD pipelines

6. Lack of quality testing practices

objectcomputing.com

MICROSERVICES − TOP 8 CONCERNS

1. Incompatible company culture

2. Organizational processes that don't adapt

3. Inadequate support tools and infrastructure

4. SDLC is waterfall (or mini waterfall)

5. Lack of CI/CD pipelines

6. Lack of quality testing practices

7. Incomplete or missing automation

objectcomputing.com

MICROSERVICES – TOP 8 CONCERNS

1. Incompatible company culture

2. Organizational processes that don't adapt

3. Inadequate support tools and infrastructure

4. SDLC is waterfall (or mini waterfall)

5. Lack of CI/CD pipelines

6. Lack of quality testing practices

7. Incomplete or missing automation

8. The curse of the mini monolith
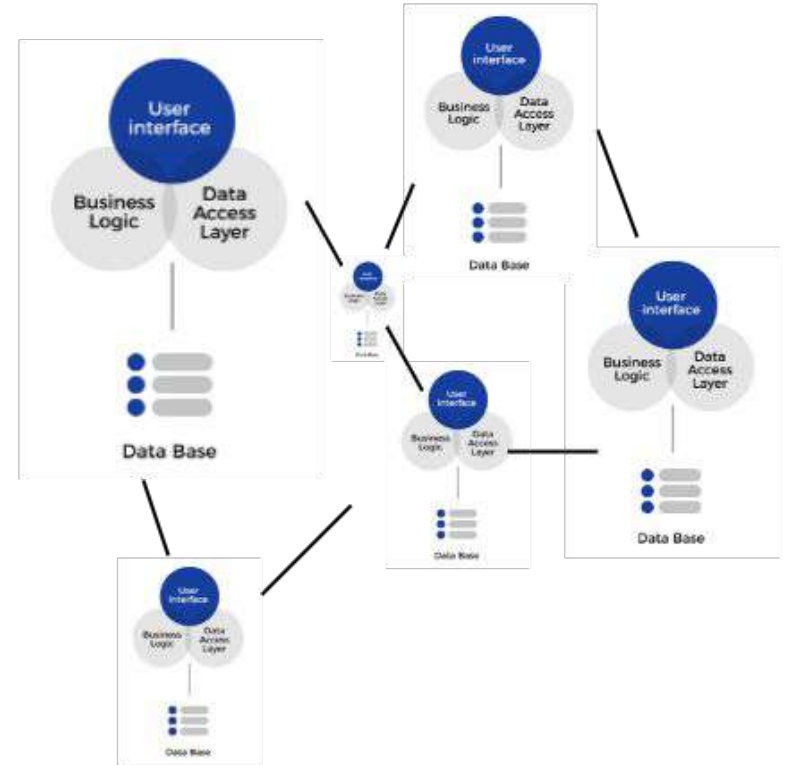
WOW.

I WORRY ABOUT THOSE DOWNSIDES THAT WERE DISCUSSED EARLIER.

IS THIS REALLY WORTH DOING?

objectcomputing.com

YES!

(and sometimes, no)

objectcomputing.com

WHAT DO I NEED TO DO THIS?

objectcomputing.com

❑ **TOOLS**

❑ **CULTURE**

❑ **COURAGE**

WHAT TOOLS
ARE THERE THAT CAN HELP?

objectcomputing.com

USING THE RIGHT TOOLS

Checklist of tools you need:

1. Cloud-native microservices framework – Micronaut!

2. CI/CD pipeline tools

3. Test automation

4. Monitoring/logging/alerts

5. Orchestration tools

WHAT KIND OF CULTURE DO I NEED

A CULTURE FOR SUCCESS

1. Organizational processes that work for you – not against you
2. Agile SDLC
3. Small(ish), integrated, empowered teams
4. Emphasis on automation
5. A testing culture

objectcomputing.com

COURAGE?

objectcomputing.com

YES!

COURAGE TO CHANGE

objectcomputing.com

LET'S CONNECT

📞   +1 (314) 579.0066

✉   info@objectcomputing.com

🔍   objectcomputing.com

objectcomputing.com