Use the crawling skeleton methodology to successfully build microservices
Microservices can be complex and fragile.

The crawling skeleton methodology will help mitigate these risks early.
Your microservices platform

Reduce **complexity** and **fragility** of your system

Maintain **stakeholder confidence** throughout development

Increase speed and **quality** of delivery
Who is MessageMedia?
Number one provider of business messaging solutions

1.8 billion messages
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A methodology based on DevOps principals

Flow
Always seeking to increase flow

Feedback
Shorten & amplify feedback loops

Learning & Experimentation
Repetition & Practice
Three phases of implementation

- Crawling
- Walking
- Running
Step 1: Stack and communication methods

Synchronous – HTTP
Easier to implement
Typically better for maintaining transactional integrity

Asynchronous – Queues
Typically more fault tolerant
Better at dealing with spikes in traffic
Step 2: Create your first bone!

POST /v1/hello_world
Step 3: Add load and analyse

POST /v1/hello_world
Step 4: Wire up your crawling skeleton!
Step 5: Add load and analyse
skb rides the rocket – wtf?!

[31333817.179933] xennet: skb rides the rocket: 19 slots
[31334587.454365] xennet: skb rides the rocket: 21 slots
[31334772.157791] xennet: skb rides the rocket: 20 slots
[31335254.431489] xennet: skb rides the rocket: 19 slots
[31336785.643018] xennet: skb rides the rocket: 19 slots
[31337438.686311] xennet: skb rides the rocket: 21 slots

eth0 Link encap:Ethernet HWaddr 0e:cd:f0:69:b1:29
inet addr:10.0.7.254 Bcast:10.0.7.255 Mask:255.255.255.0
inet6 addr: fe80::ccd:f0ff:fe69:b129/64 Scope:Link
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
RX packets:1913740 errors:0 dropped:0 overruns:0 frame:0
TX packets:1619310 errors:0 dropped:6 overruns:0 carrier:0
collisions:0 txqueue len:1000
RX bytes:1196646593 (1.1 GB) TX bytes:234005040 (234.0 MB)
Interrupt:48
Step 6: Teach your skeleton to walk!
Step 7: Add load and analyse
Step 8: Teach your skeleton how to run!
Key Learnings

- Queues are worth the effort
- Dead letter queues are great for recovery
- Use an event stream
- Unknown unknowns
- Transaction IDs are great for traceability
Mitigate complexity and fragility early
Methodology based on DevOps
Create bone, add meat, make run
Stay in touch!

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