

Why Microservices Fail

Steve Ross-Talbot - CTO, Estafet



We Help Companies with Digital Transformation

Enterprise Integration

- Integration Experts for 15 years
- Specialists in Red Hat Middleware
- OpenShift 3

Agile Delivery

- Experts with Distributed Agile
- Estafet UK & Bulgaria (to scale delivery)

Mobile Development

- Extending Integration Projects
- Apple iOS experts

Big Data & IoT

- IoT Big Data Delivery
- BI Reporting
- Delivering Large IoT Applications

Chief Technology Officer at Estafet

Former chair of Web Services at W3C

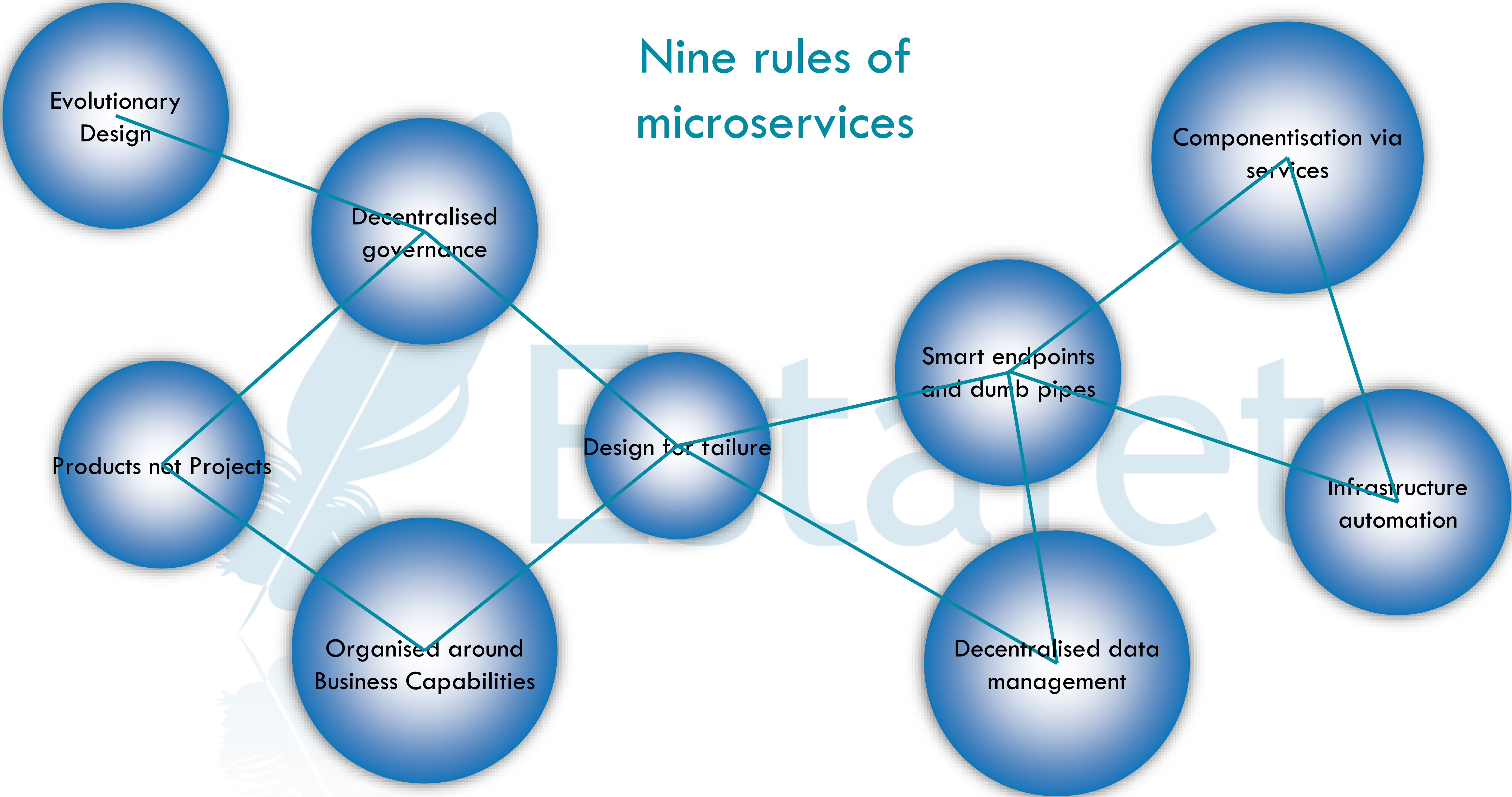
Former chair of W3C's Web Services Choreography WG

Co-author of the SOA Manifesto

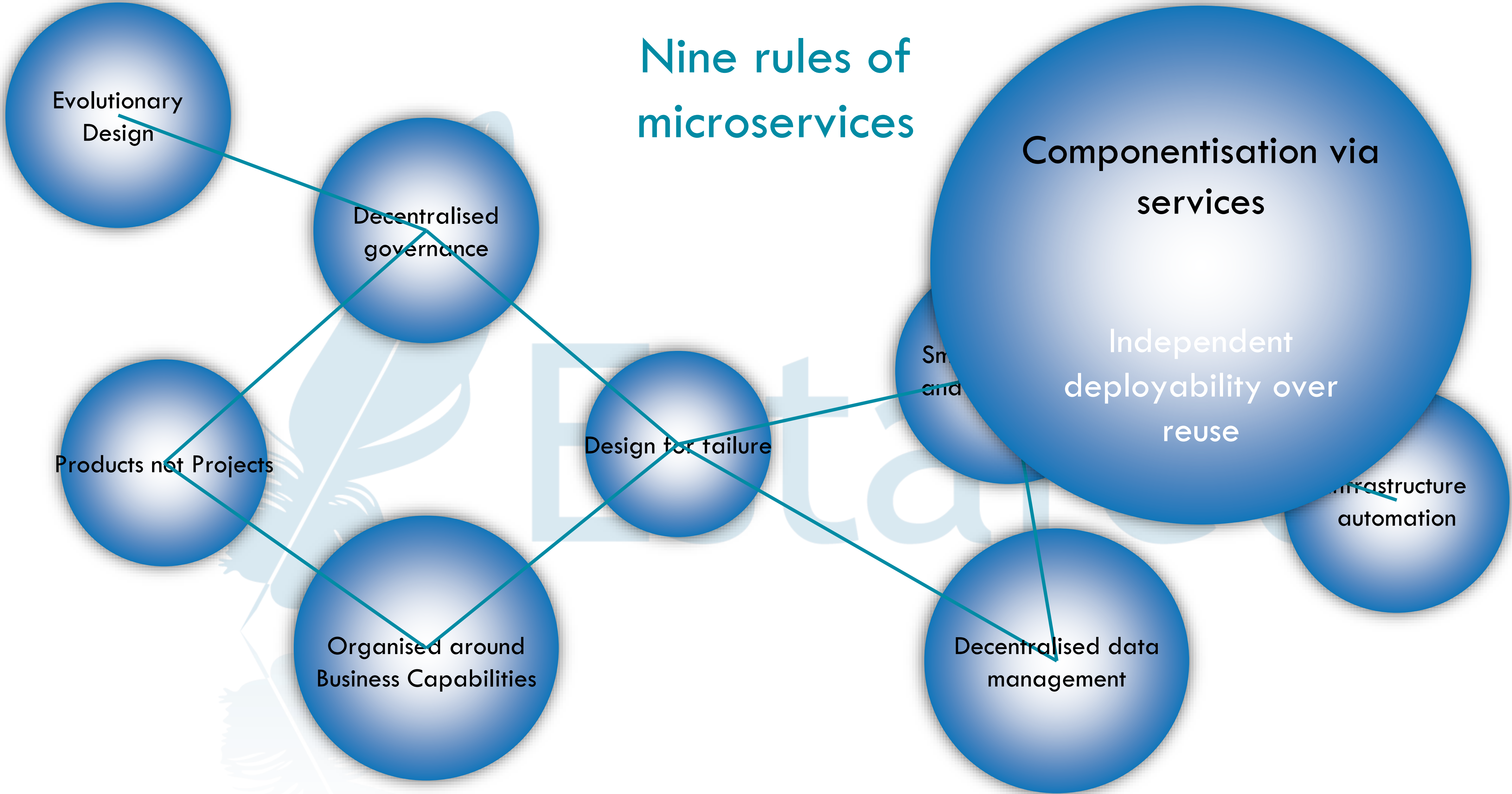
Serial entrepreneur

Professor of Distributed Computing

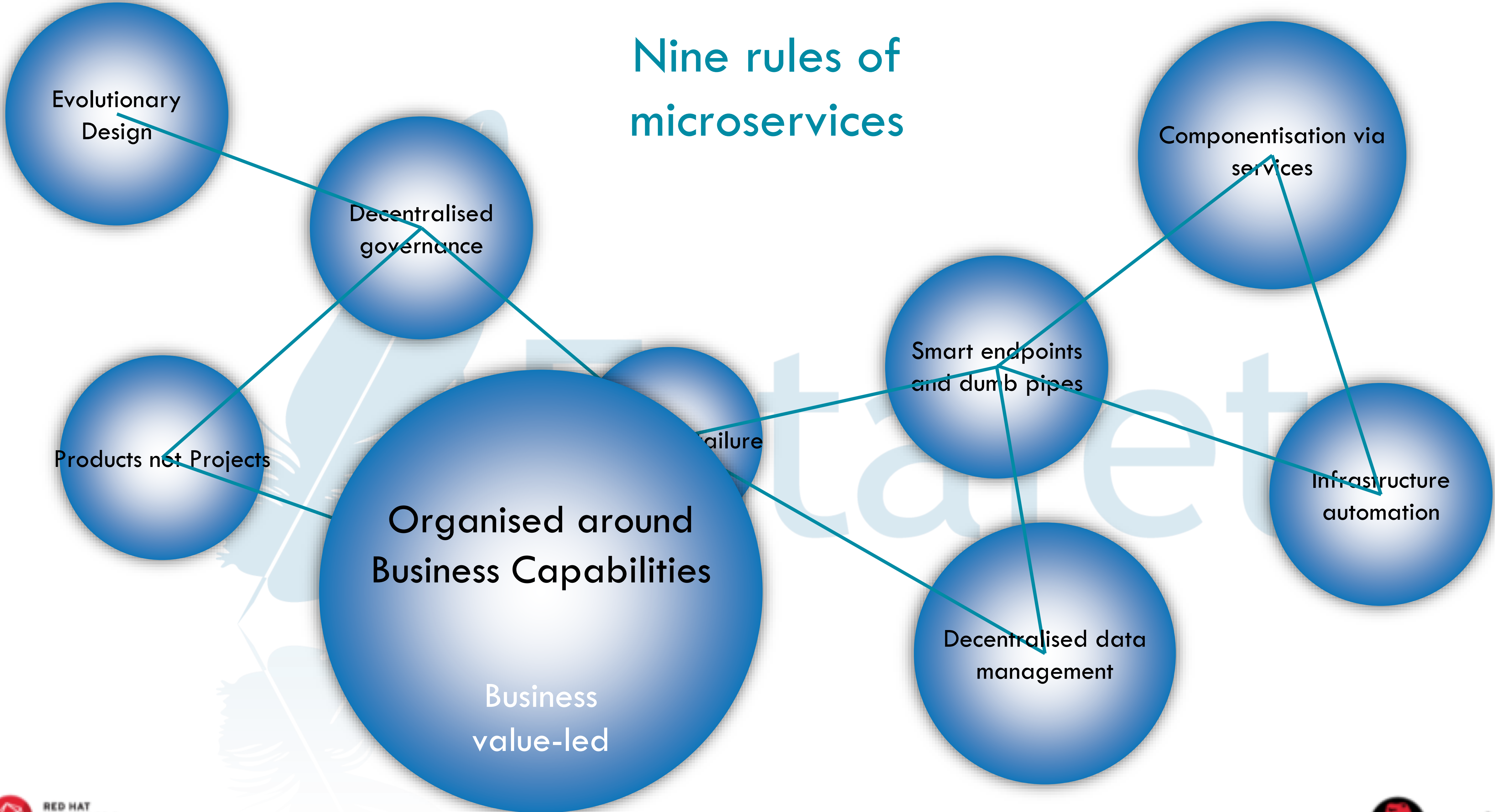
Nine rules of microservices



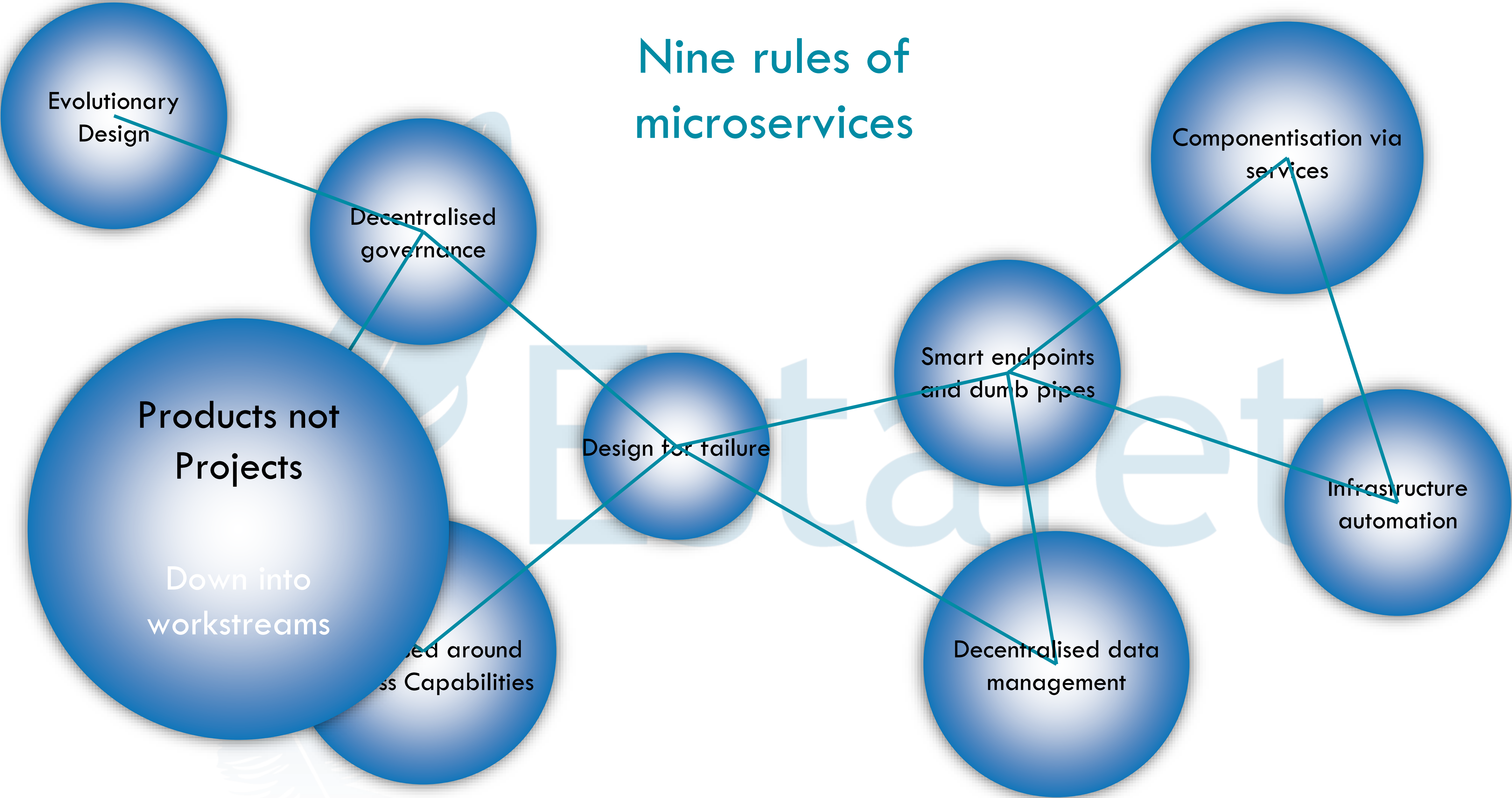
Nine rules of microservices



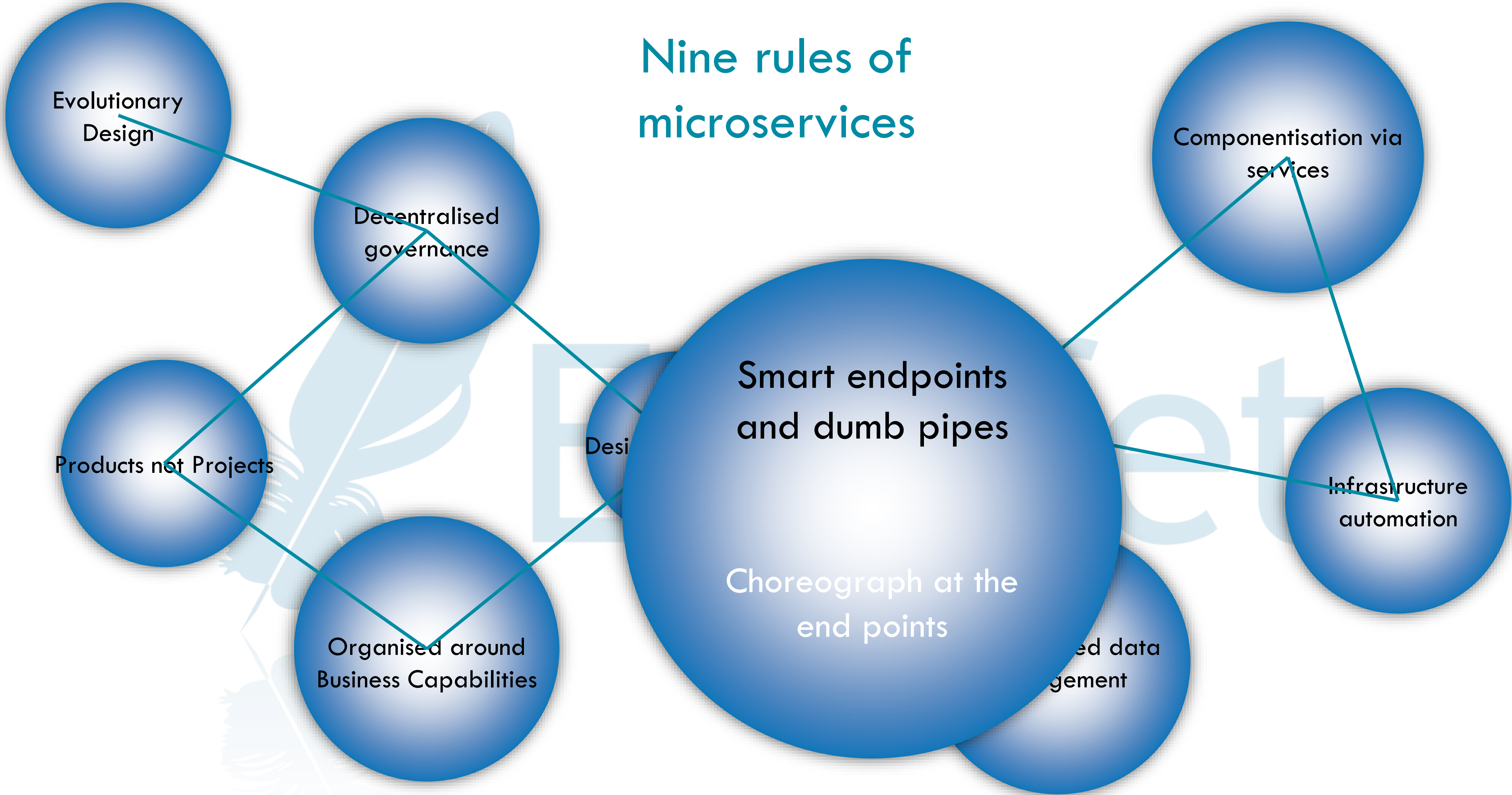
Nine rules of microservices



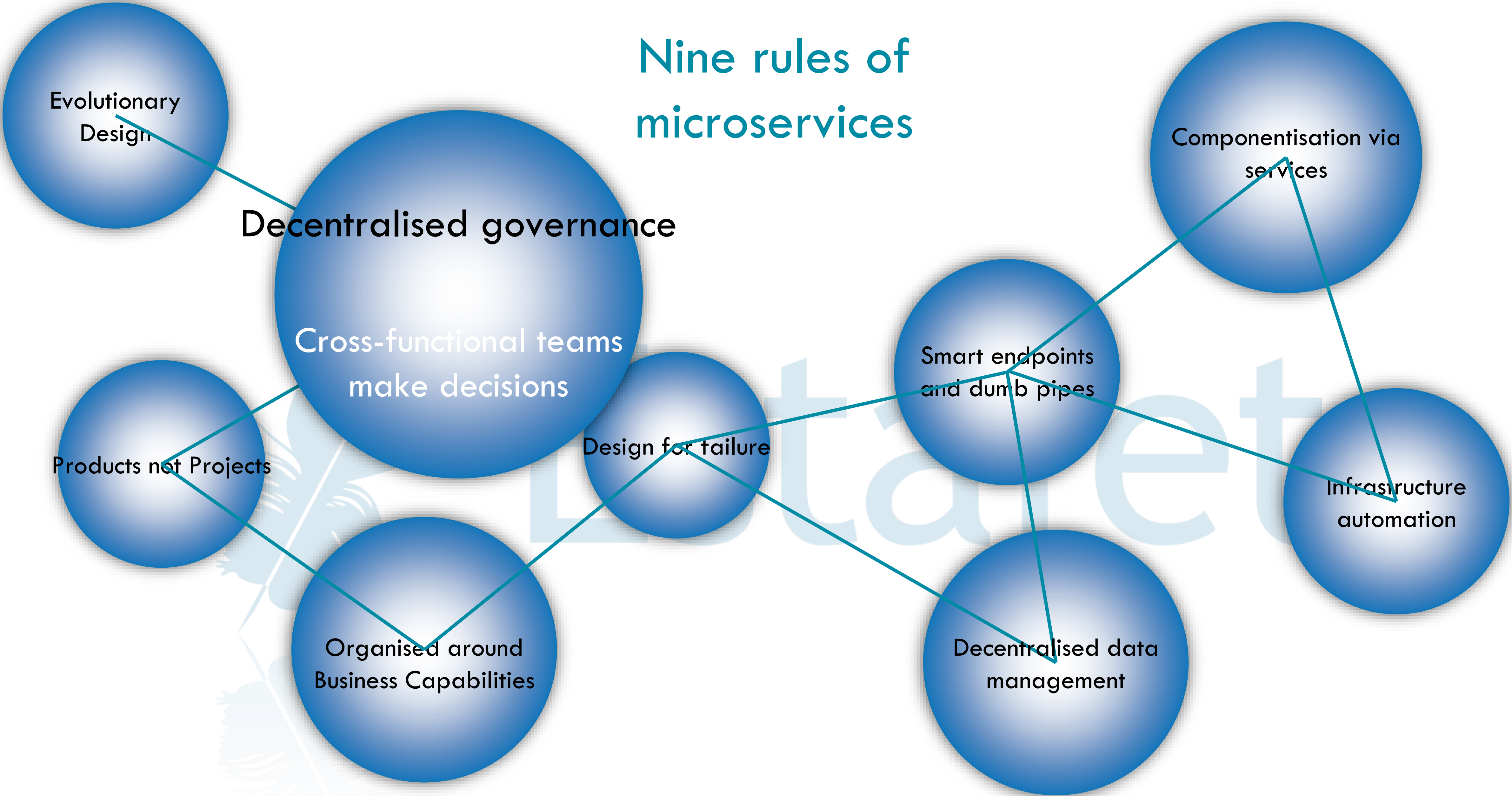
Nine rules of microservices



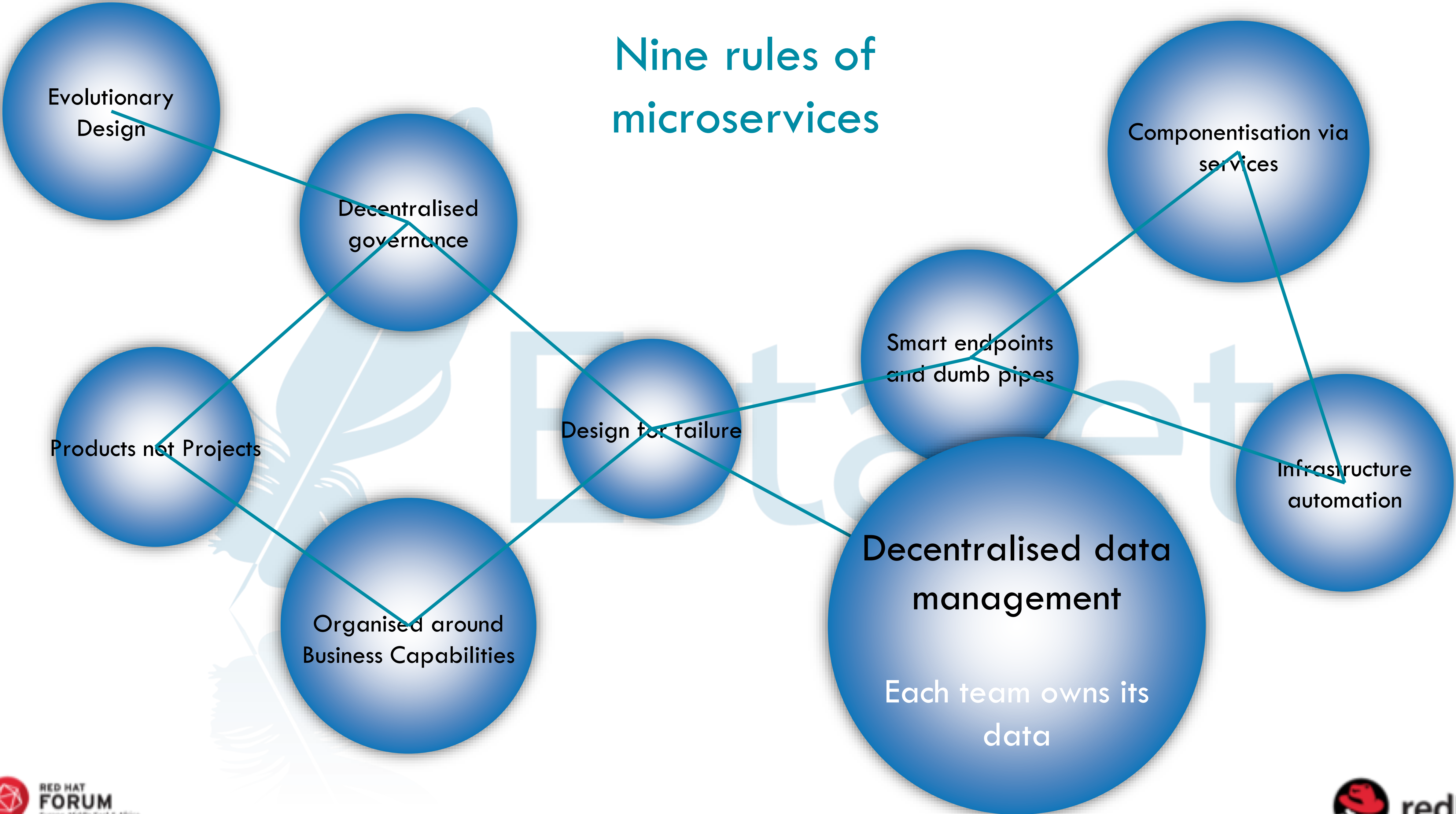
Nine rules of microservices



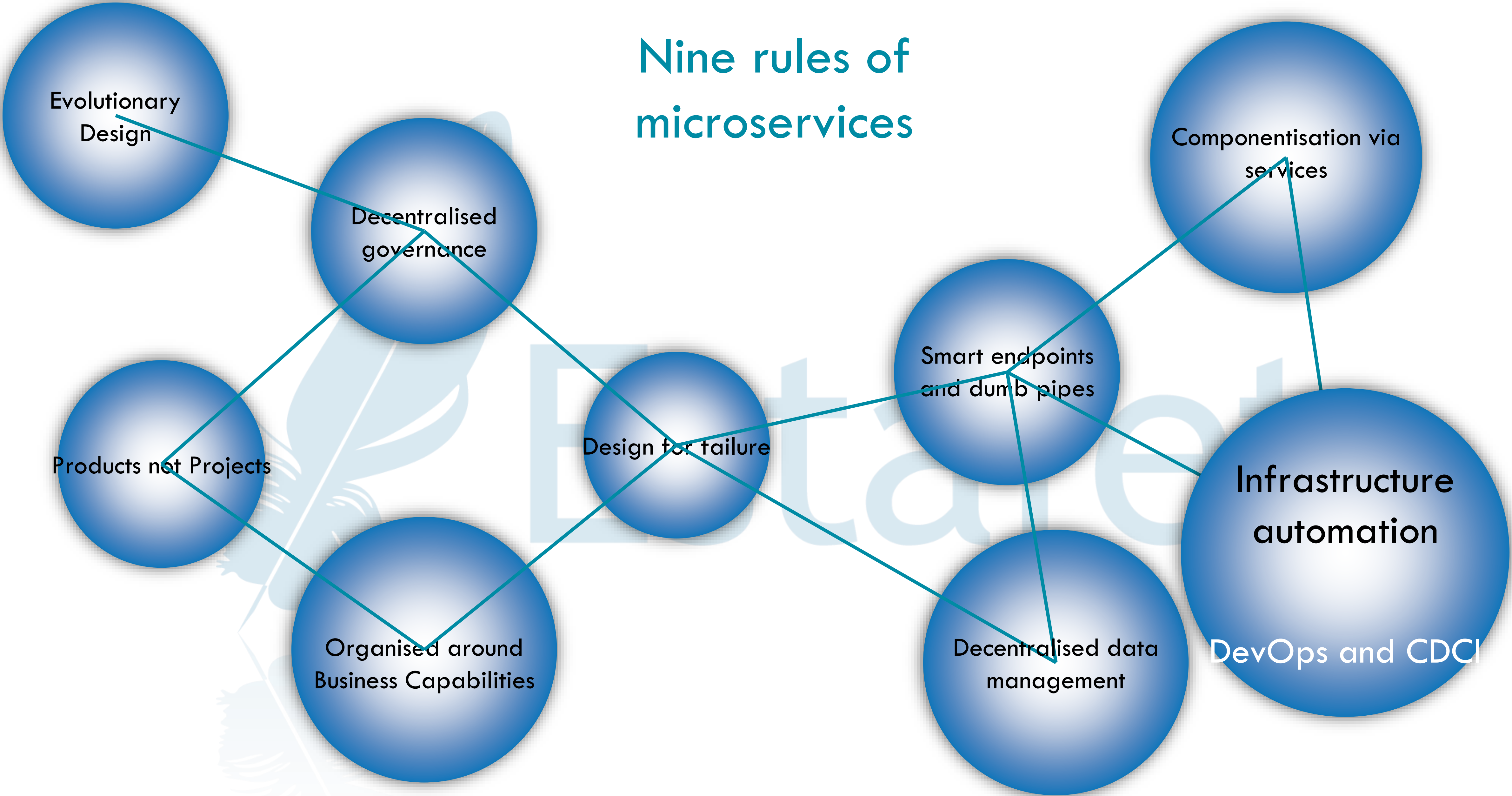
Nine rules of microservices



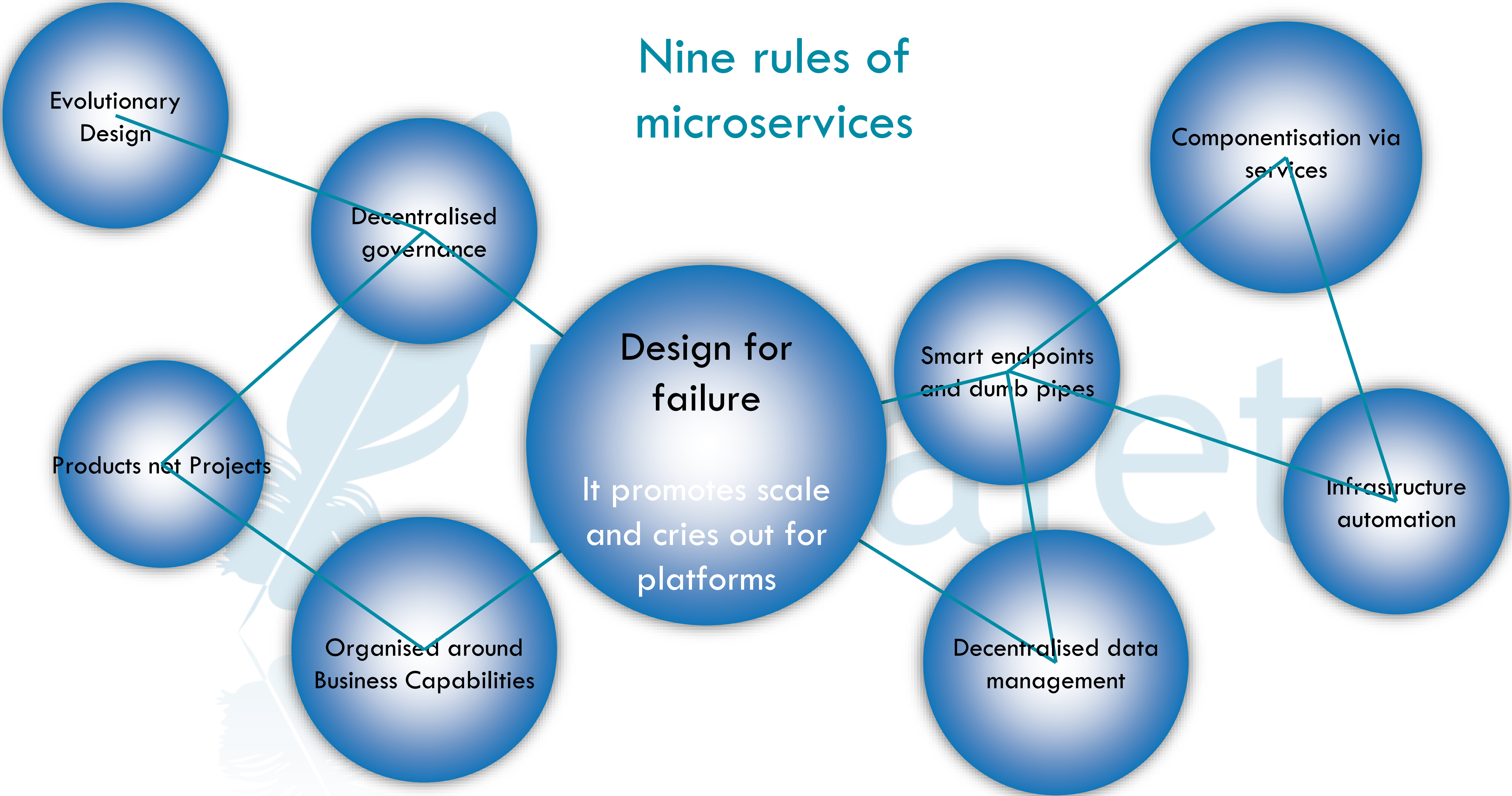
Nine rules of microservices



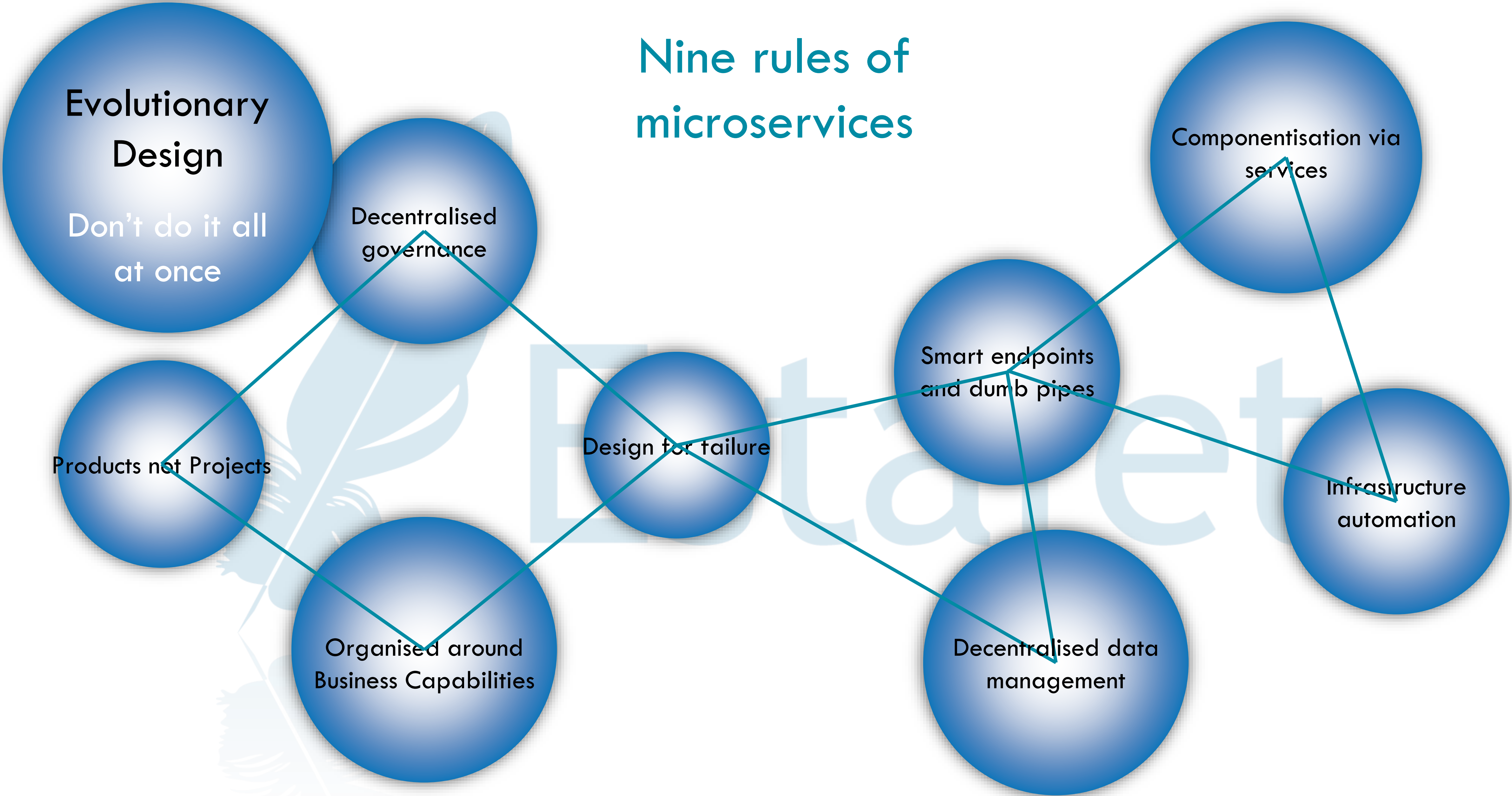
Nine rules of microservices



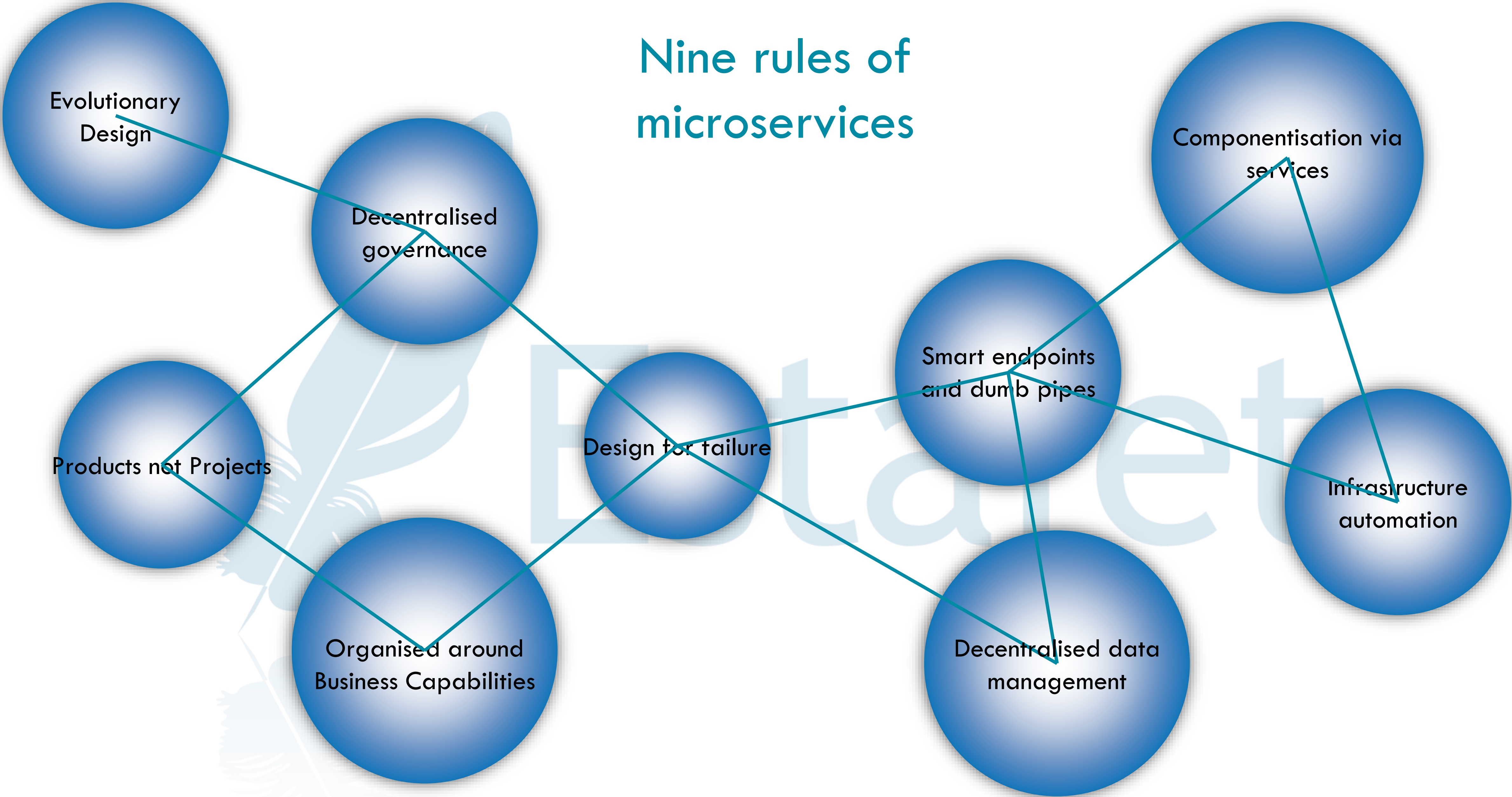
Nine rules of microservices



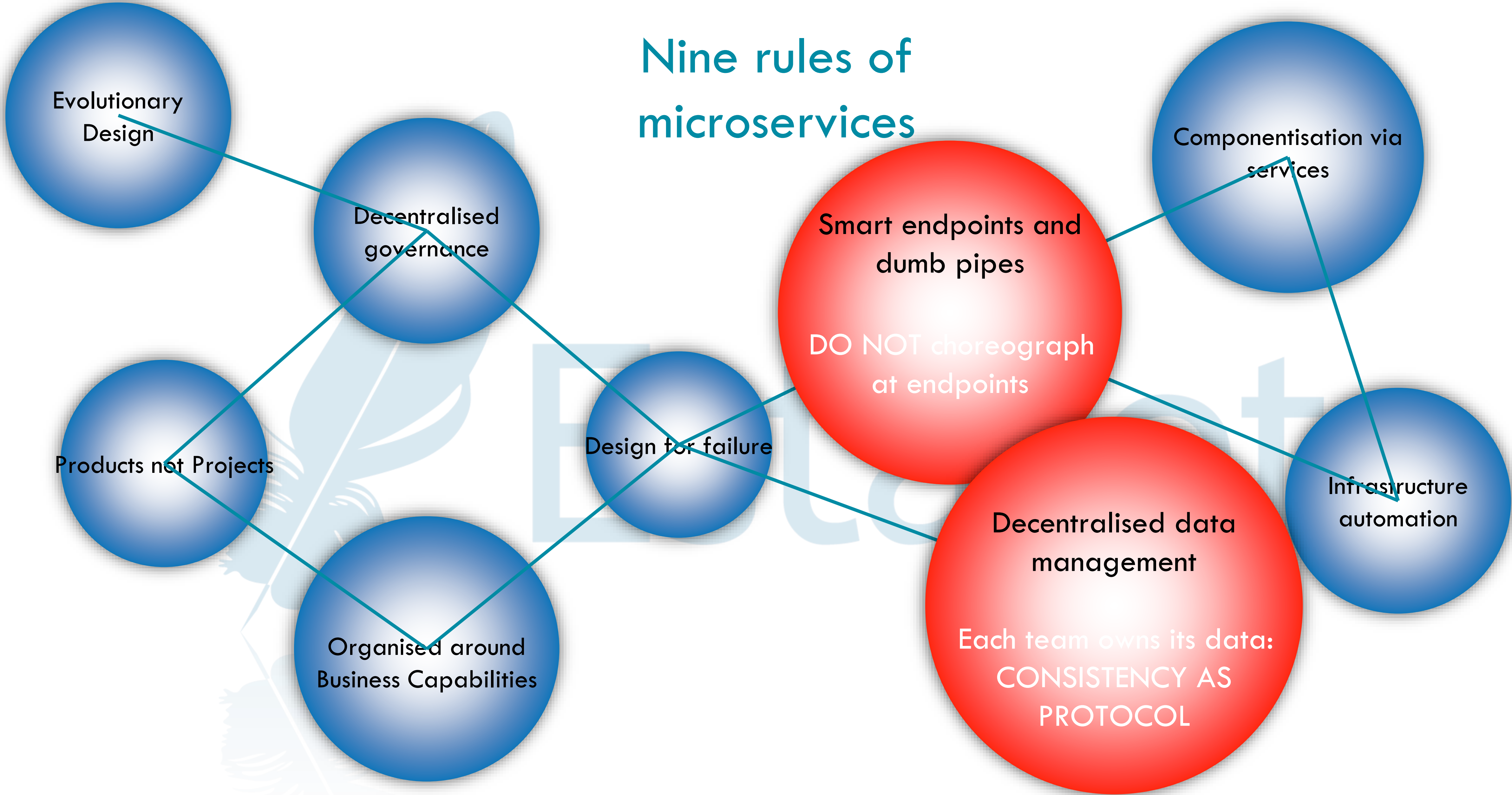
Nine rules of microservices



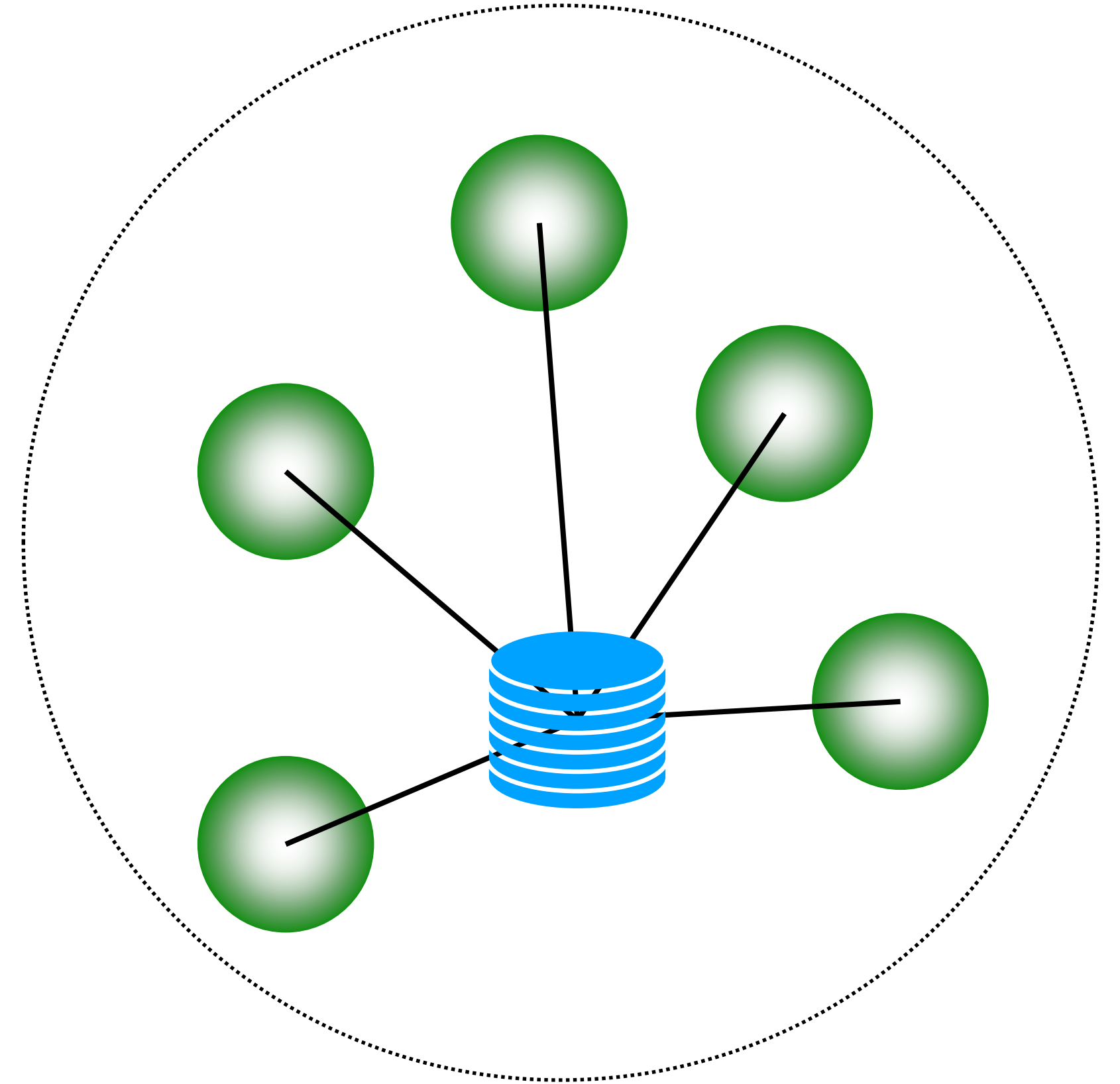
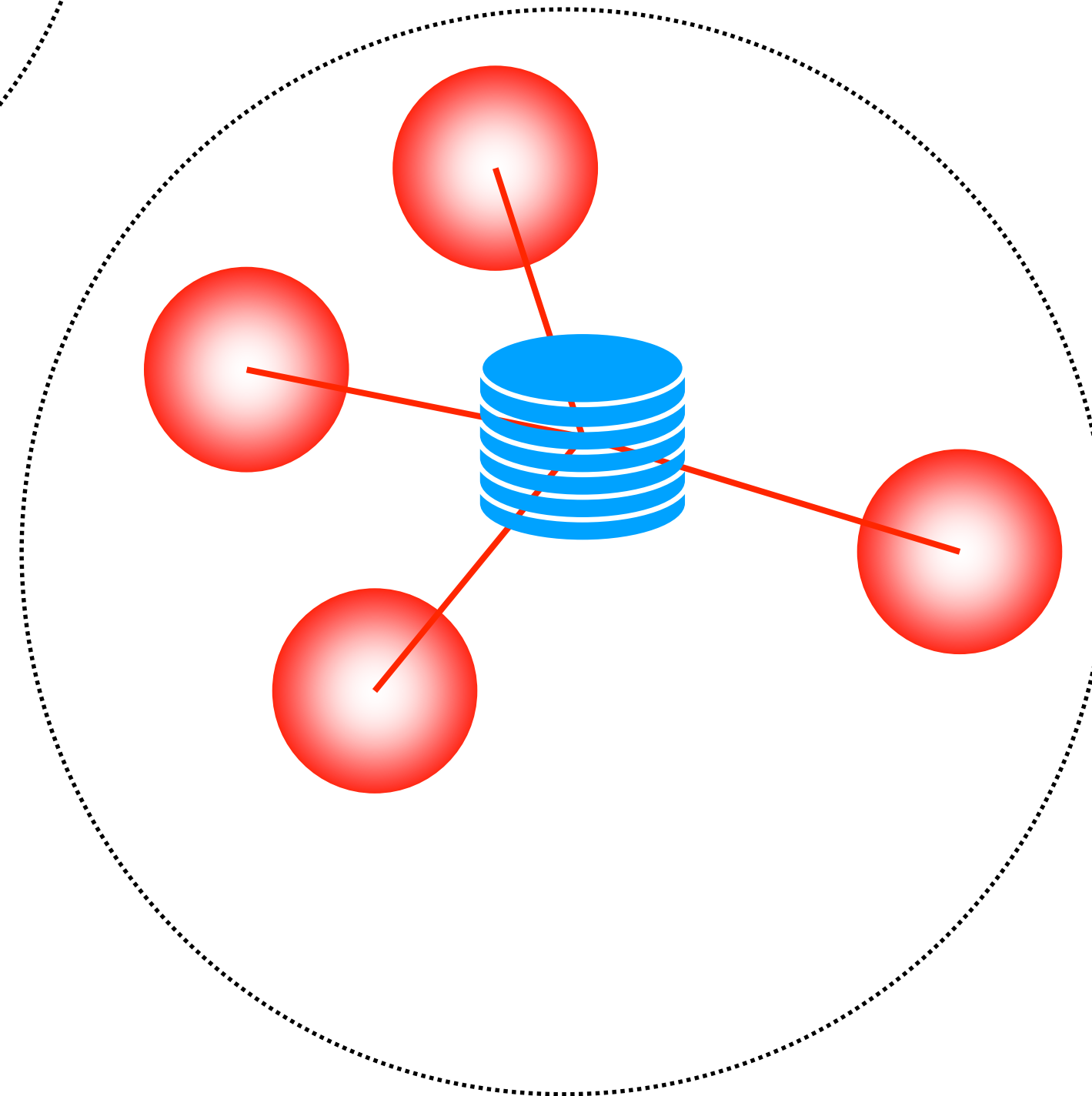
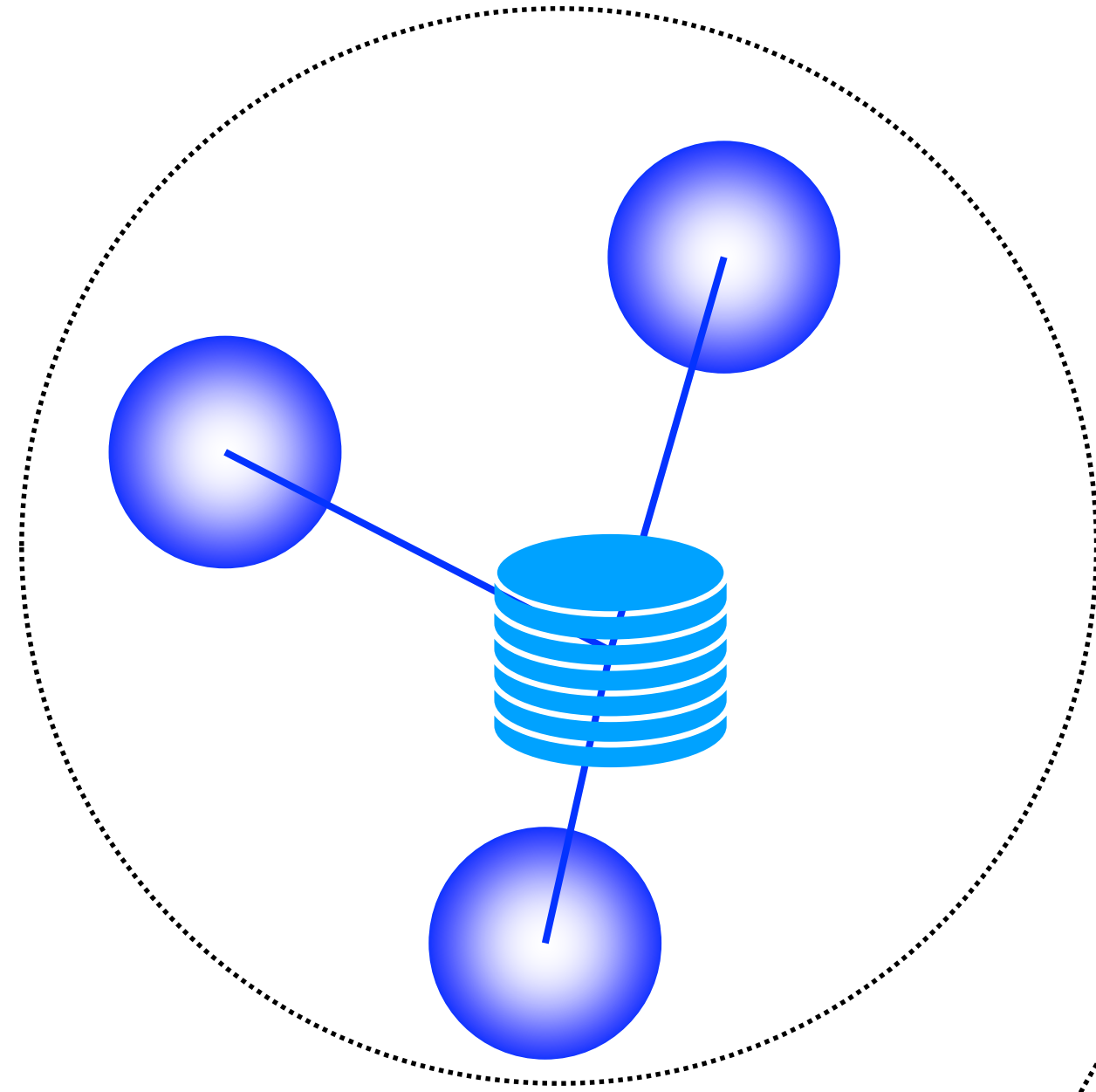
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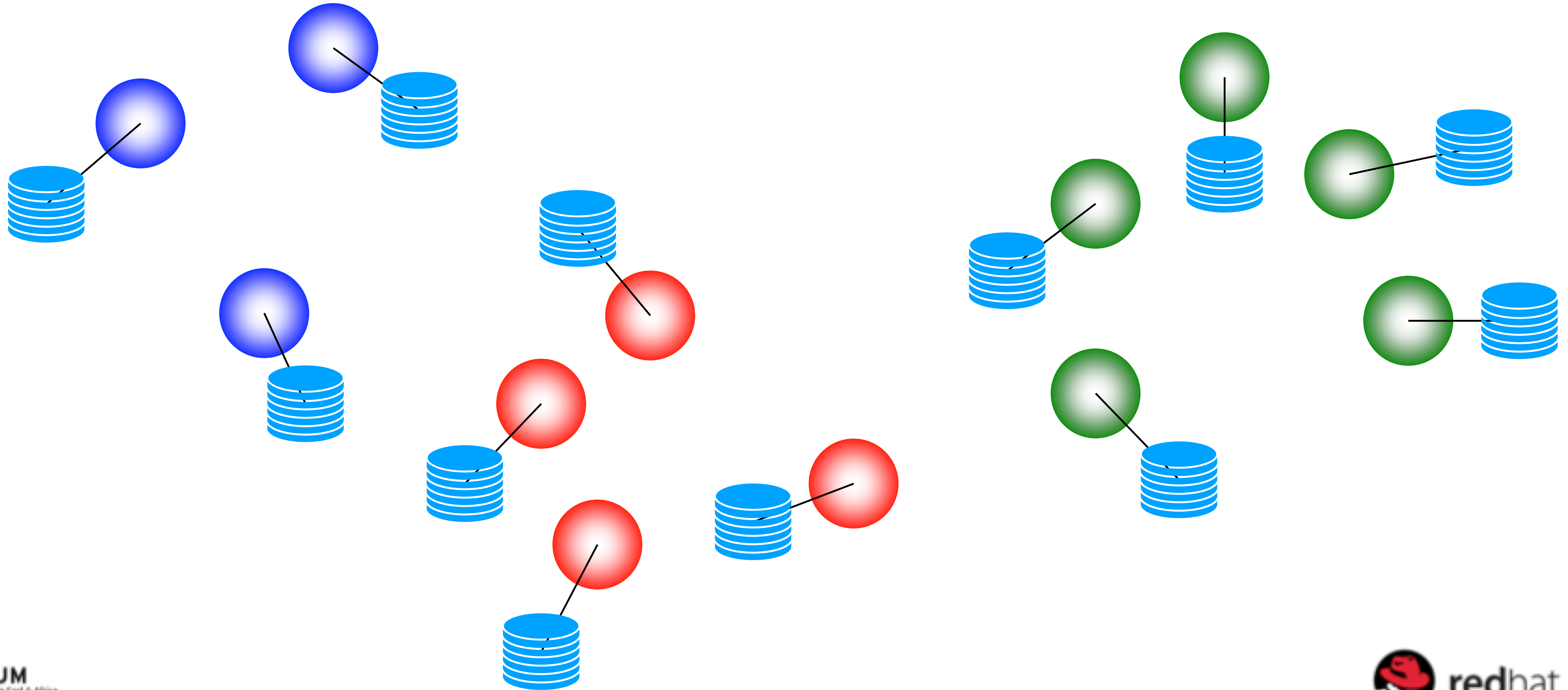
Nine rules of microservices



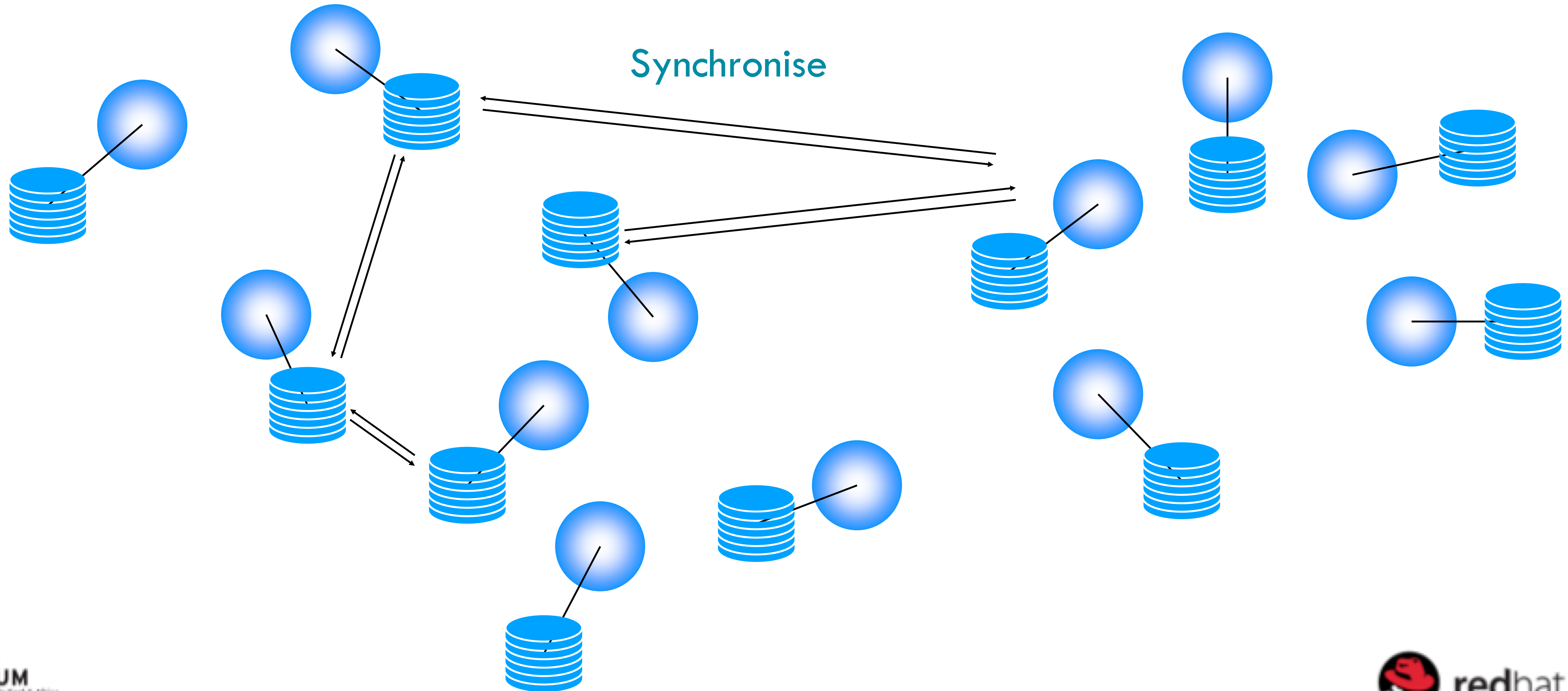
Data-centric



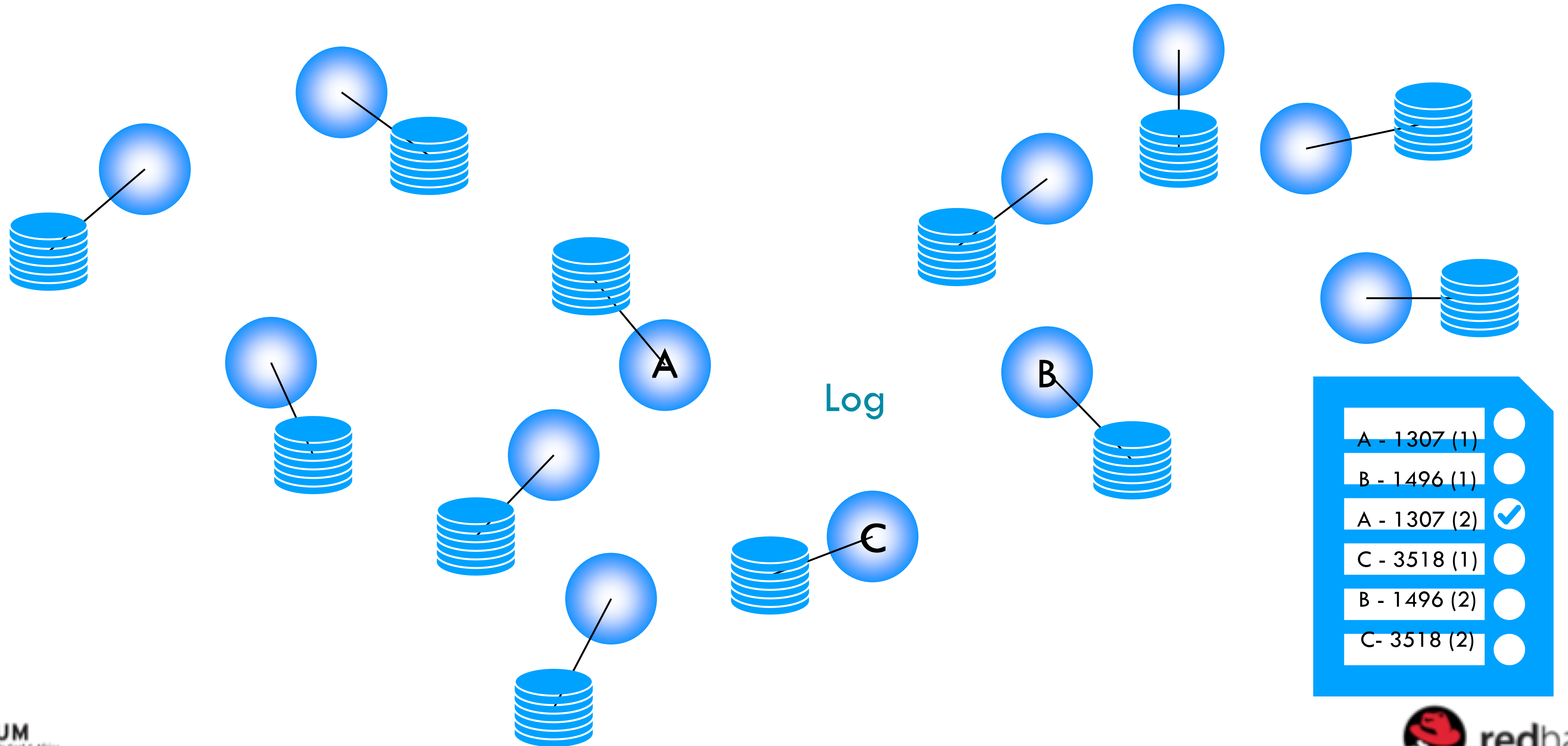
Interaction-centric

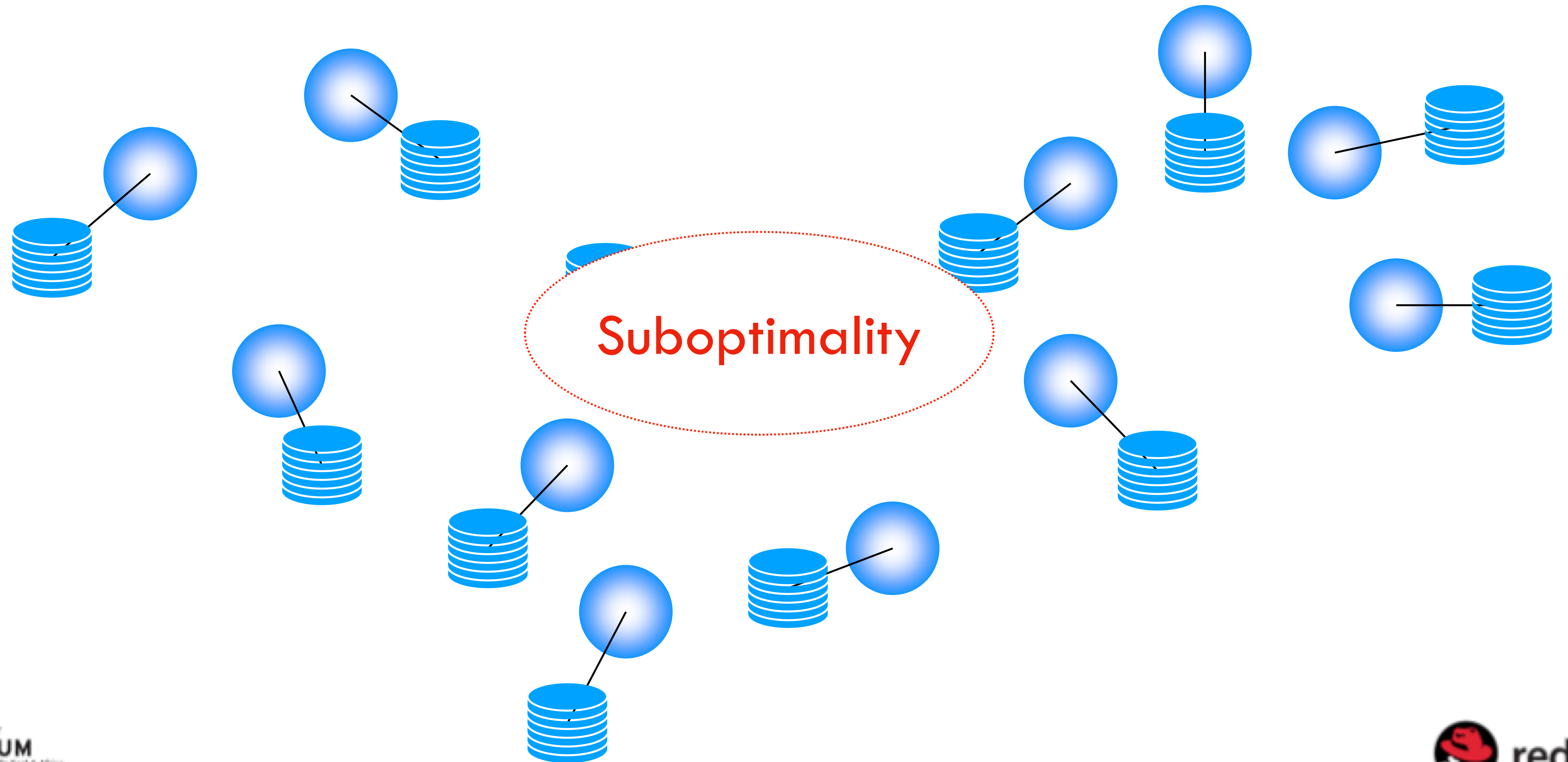


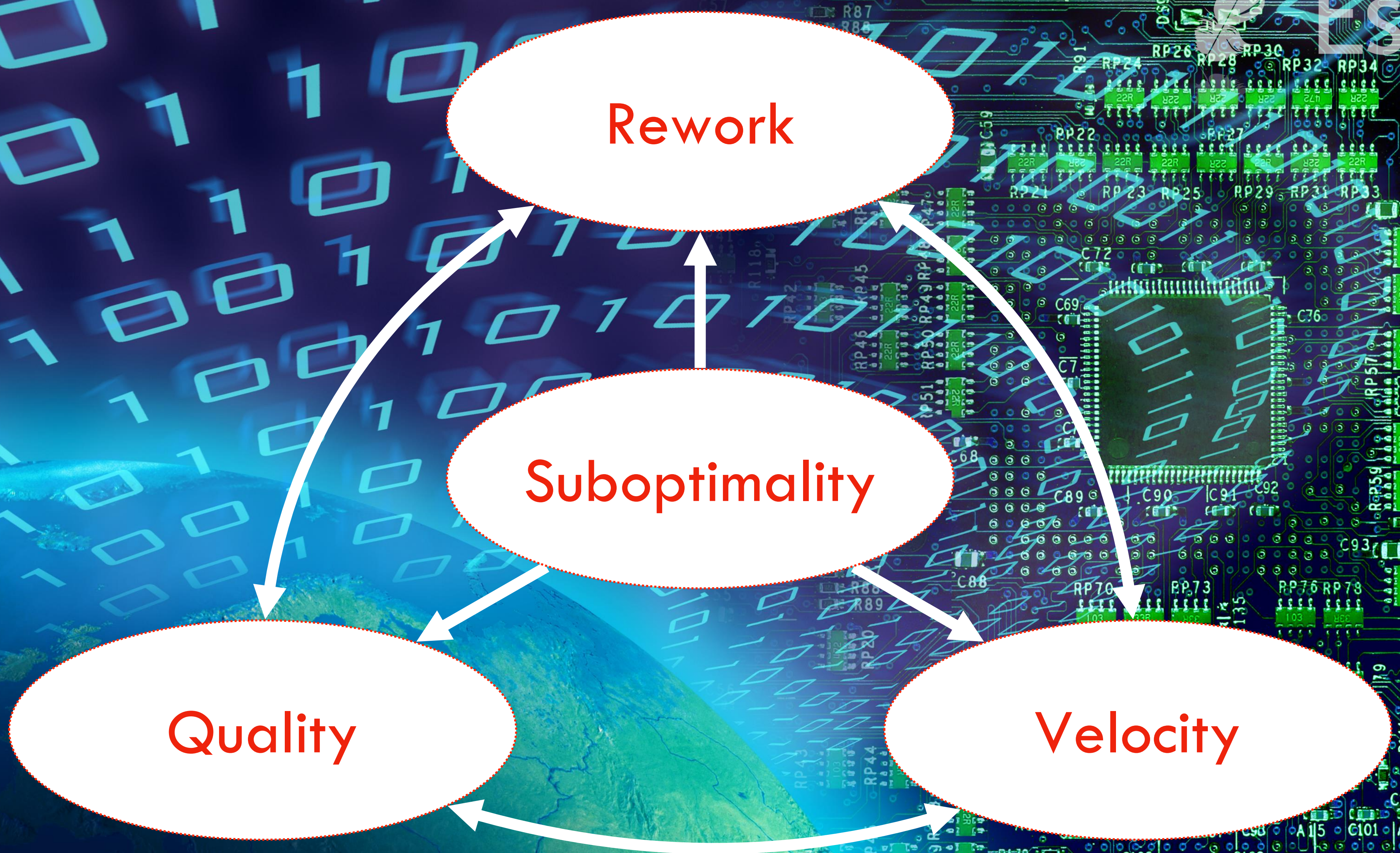
Interaction-centric



Interaction-centric







“Failures”



What can we learn?

Code first - ask questions later?

“Enough” up-front design

Design everything up-front

“Enough” up-front design

1. Write story cards to capture ...

2. Prioritise by ...

3. Plan release schedule

4. Scribble ...



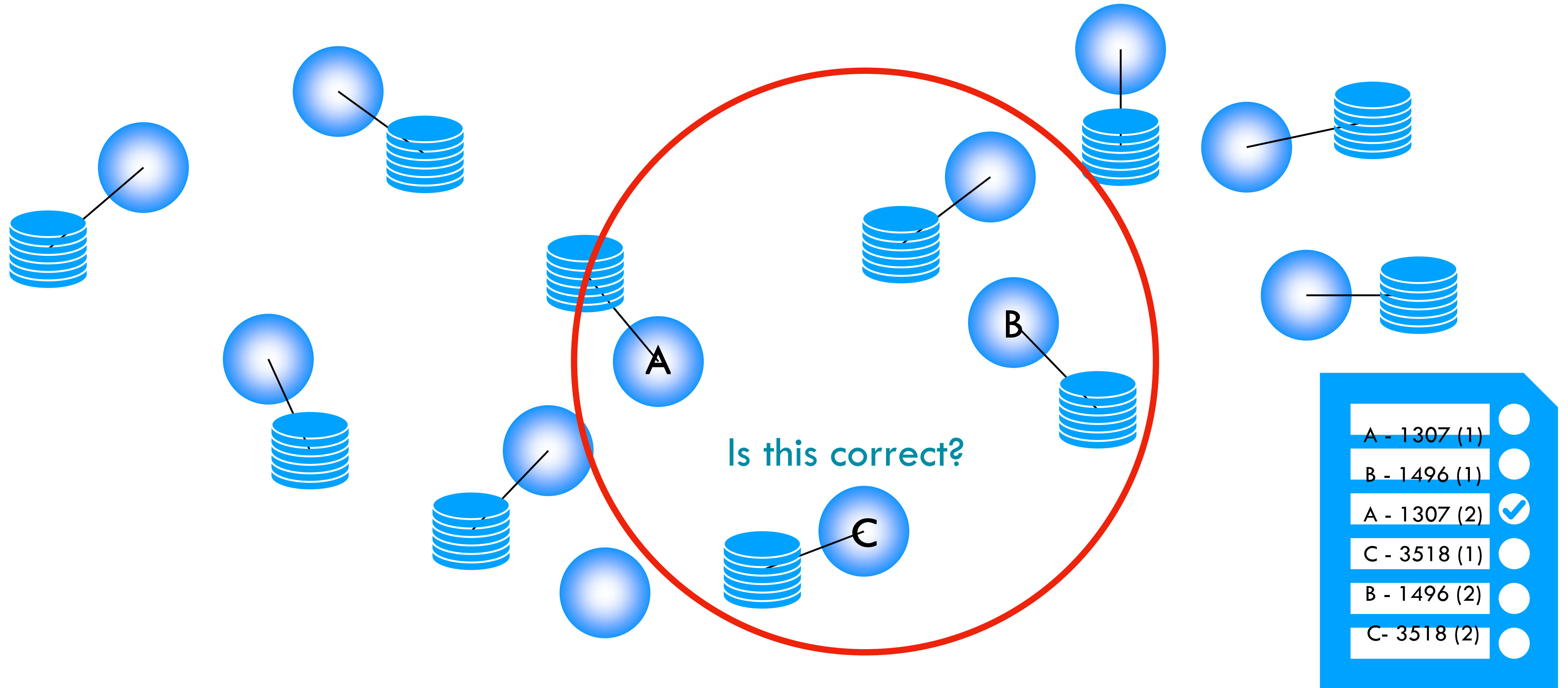
Scribble



Control



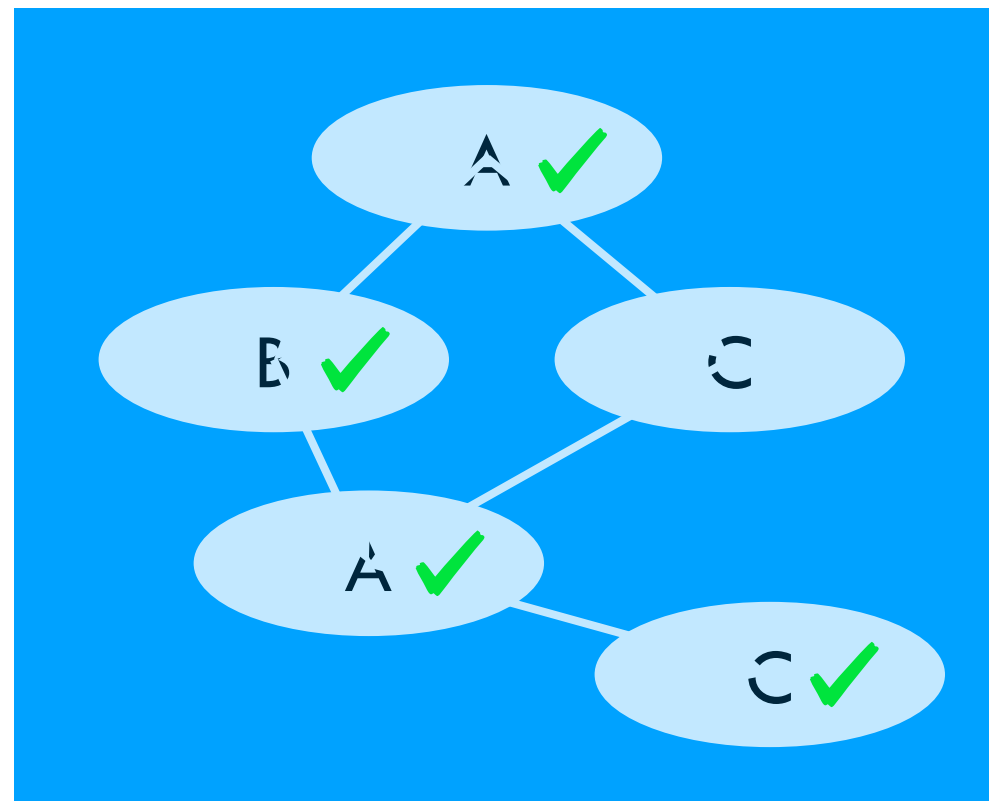
You cannot control what you do not understand



Monitor events to check behaviour



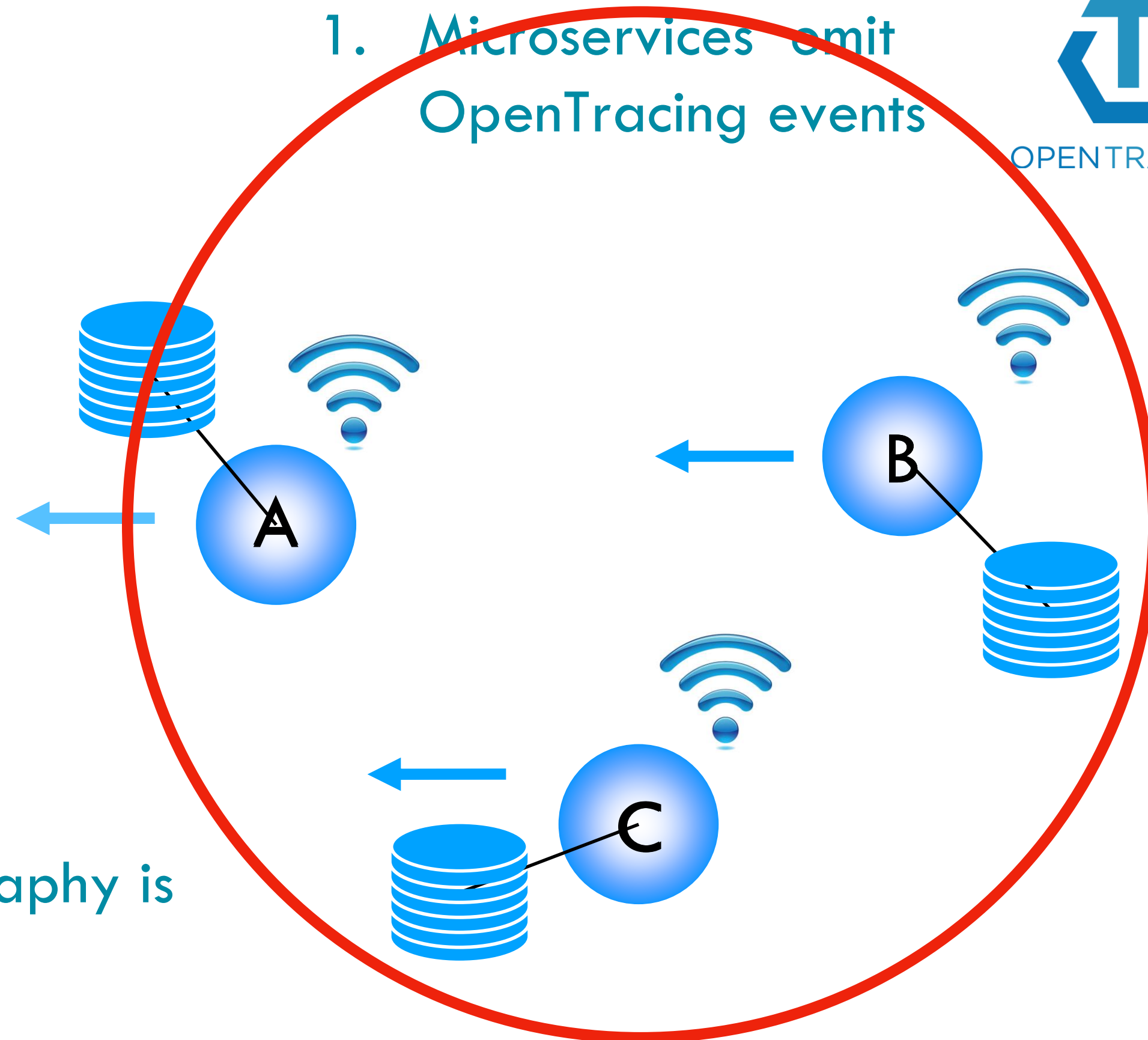
Scribble Model



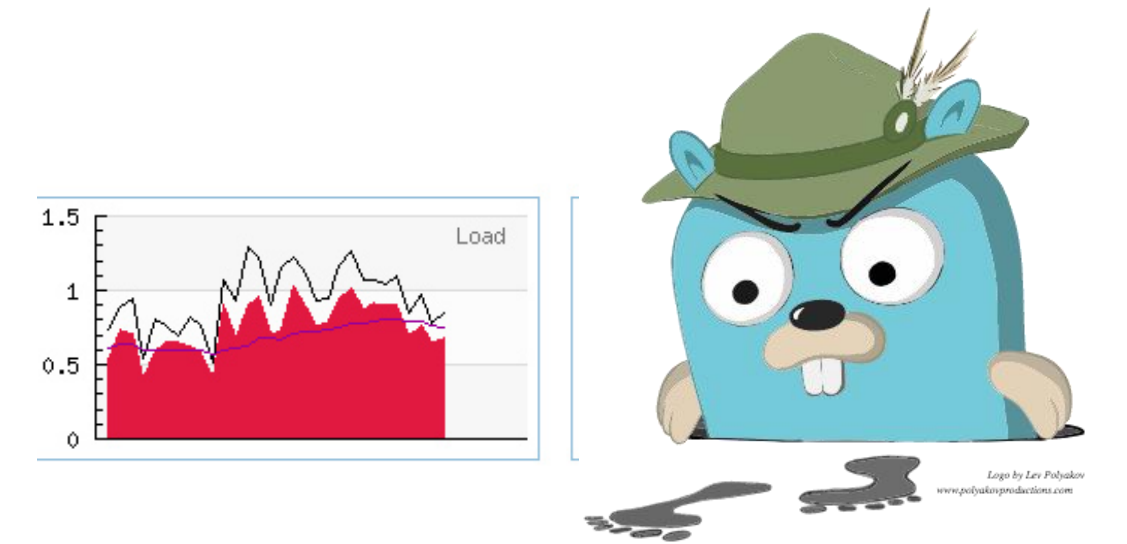
Complete

3. Check choreography is correct

1. Microservices emit OpenTracing events



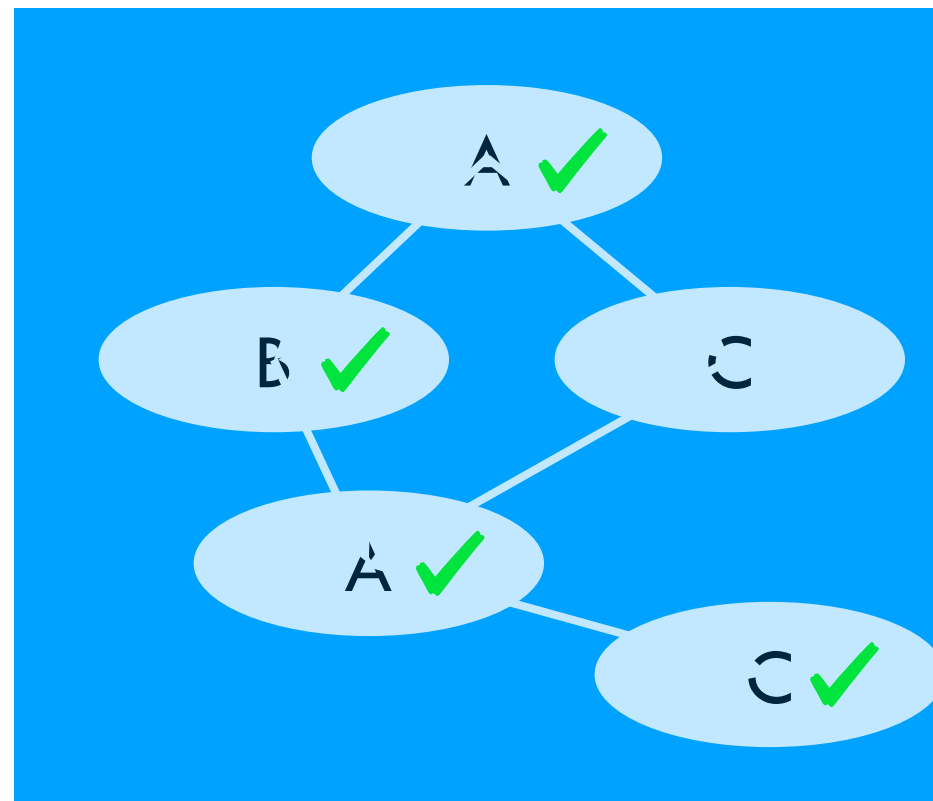
2. Jaeger monitors events and links by transaction ref



Jaeger Platform



Scribble Model



Complete

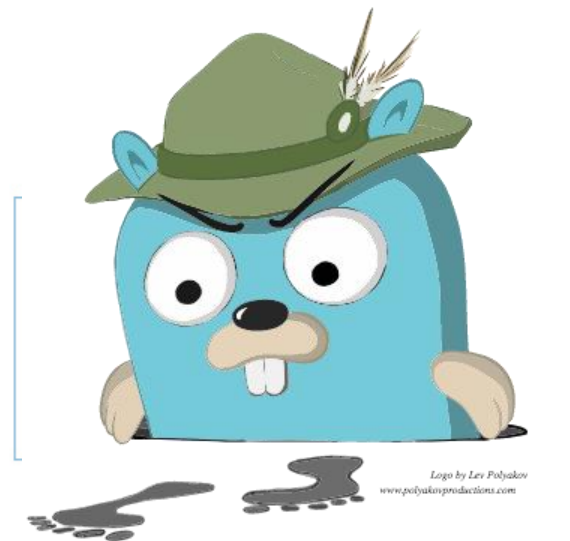
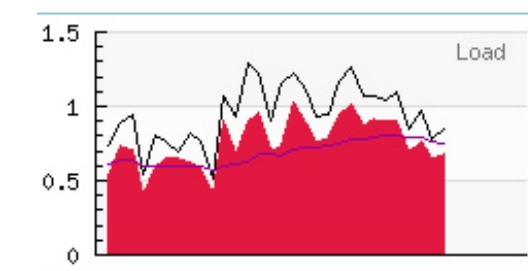
Benefits of OpenTracing and Jaeger

- Faster diagnosis of faults
- Application of policy against goals
- Protection against miscreant microservices

3. Check choreography is correct



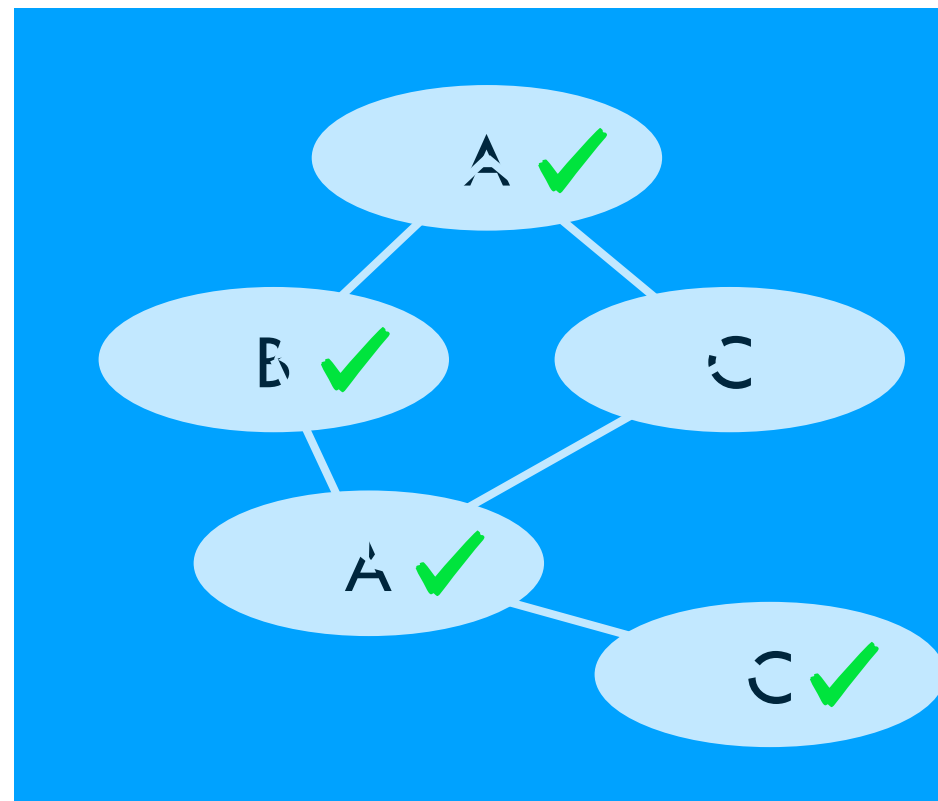
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Jaeger Platform



Scribble Model



Complete

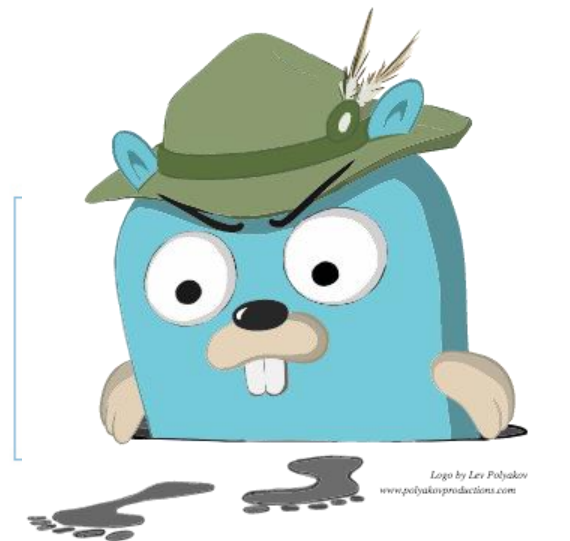
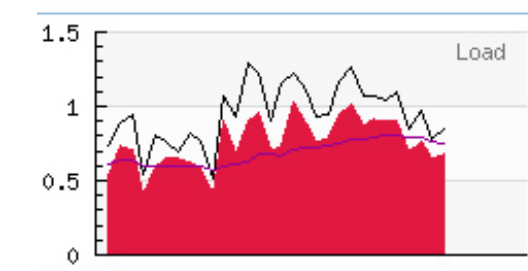
Policy-driven microservice architecture

- What is it?
- What are benefits?
- So what changes?

3. Check choreography is correct

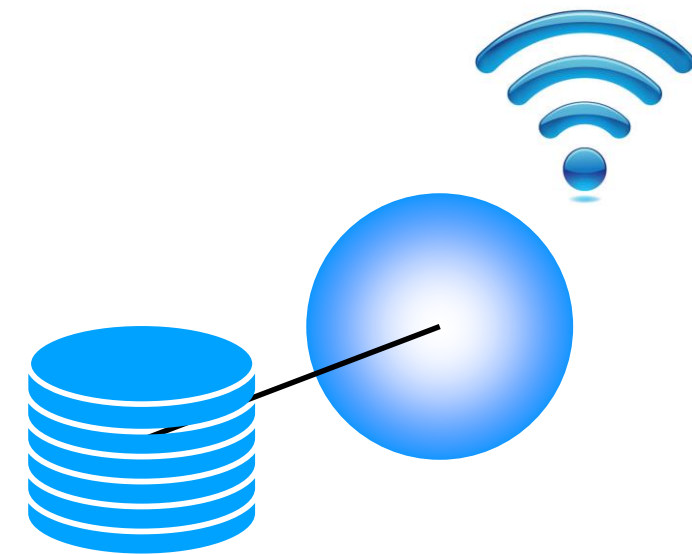
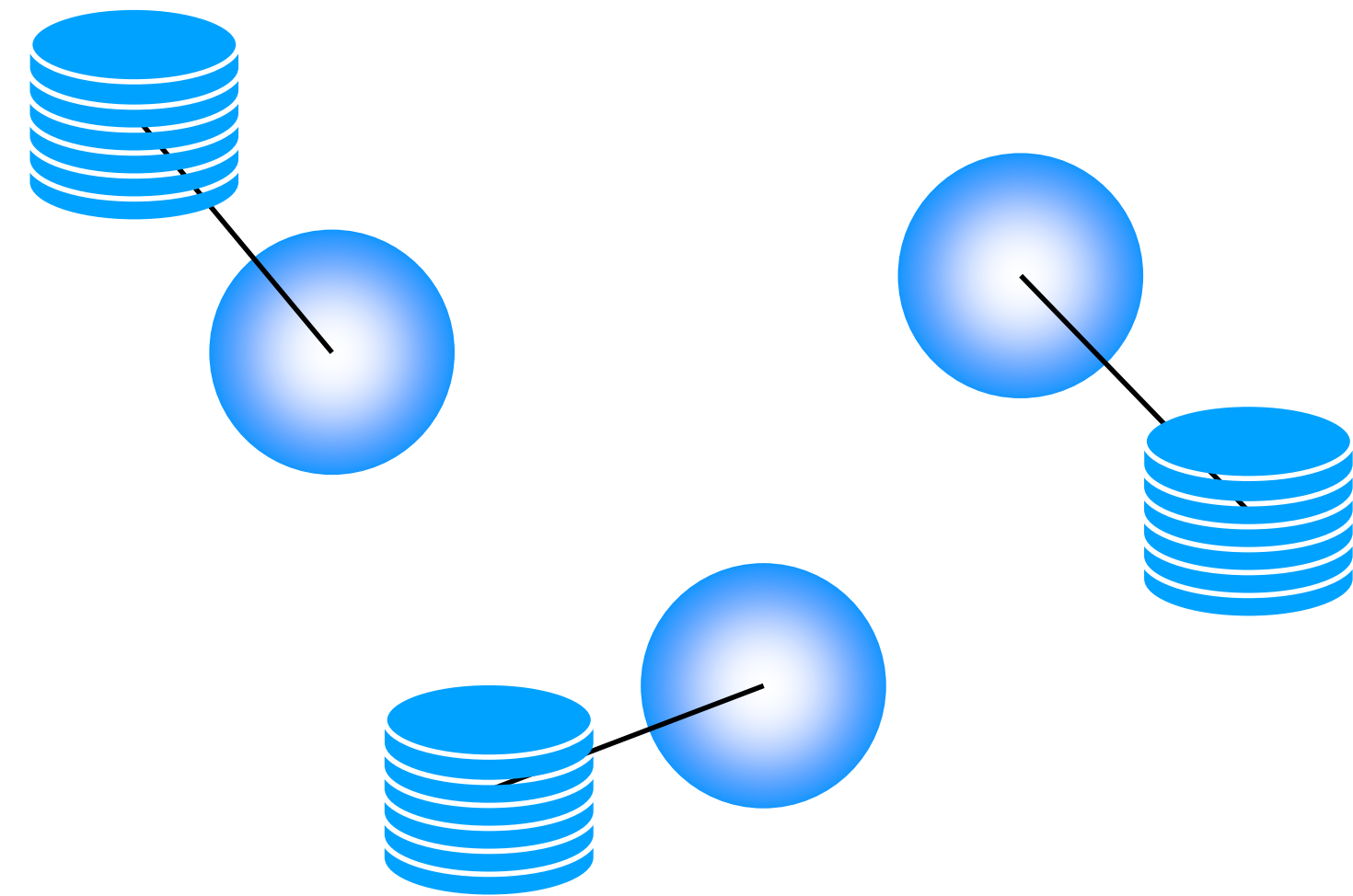


2. Jaeger monitors events and links by transaction ref



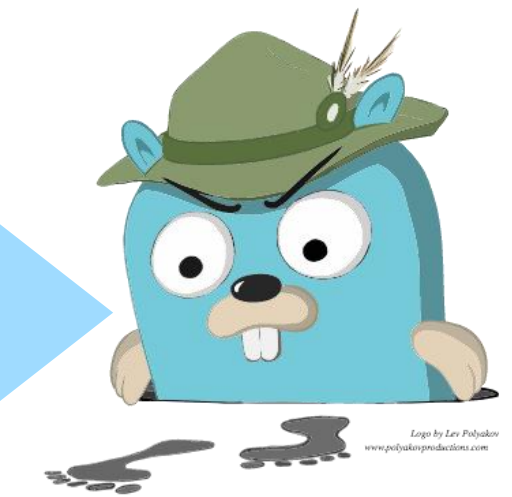
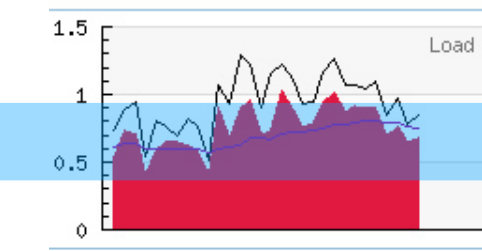
Jaeger Platform

What can I do now?



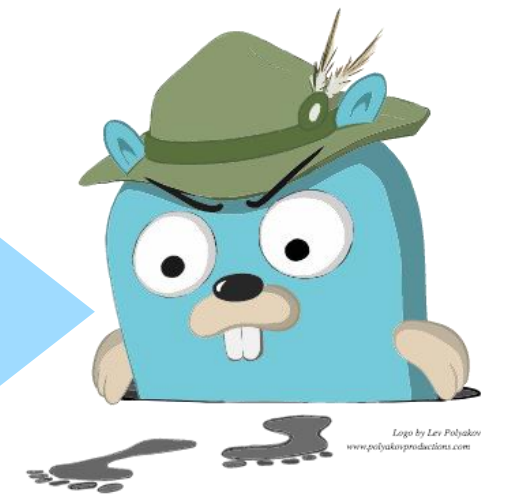
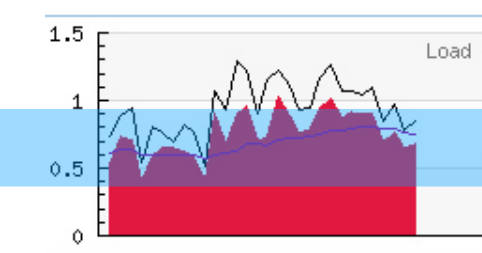
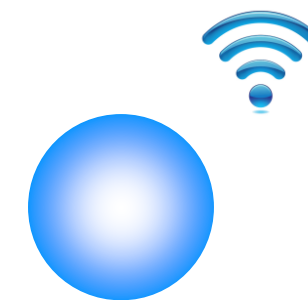
1. Integration of logs into OpenTracing for consumption by Jaeger

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Jaeger Platform

2. New (value-led) opportunities to be OpenTracing complaint from outset



Jaeger Platform

First Steps

- Two-week discovery to understand business flow and compare it with live logs;
- Share initial findings and then cost work required to create automated monitoring with SLA breach alerts;
- Build fast "root cause analysis" capability, leading to higher quality for lower cost.

Contacts

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- alistair.park@estafet.com (COO)

See our videos on

- "[Why microservices fail](https://www.youtube.com/watch?v=GXgkkB)" [goo.gl/GXgkkB](https://www.youtube.com/watch?v=GXgkkB)
- "Managing distributed systems with Scribble" [goo.gl/pzNeyG](https://www.youtube.com/watch?v=pzNeyG)
- Estafet YouTube channel [goo.gl/Vuiaxf](https://www.youtube.com/channel/UCVuiaxf)