Preparing For a Future Microservices Journey

Susanne Kaiser

Independent Tech Consultant

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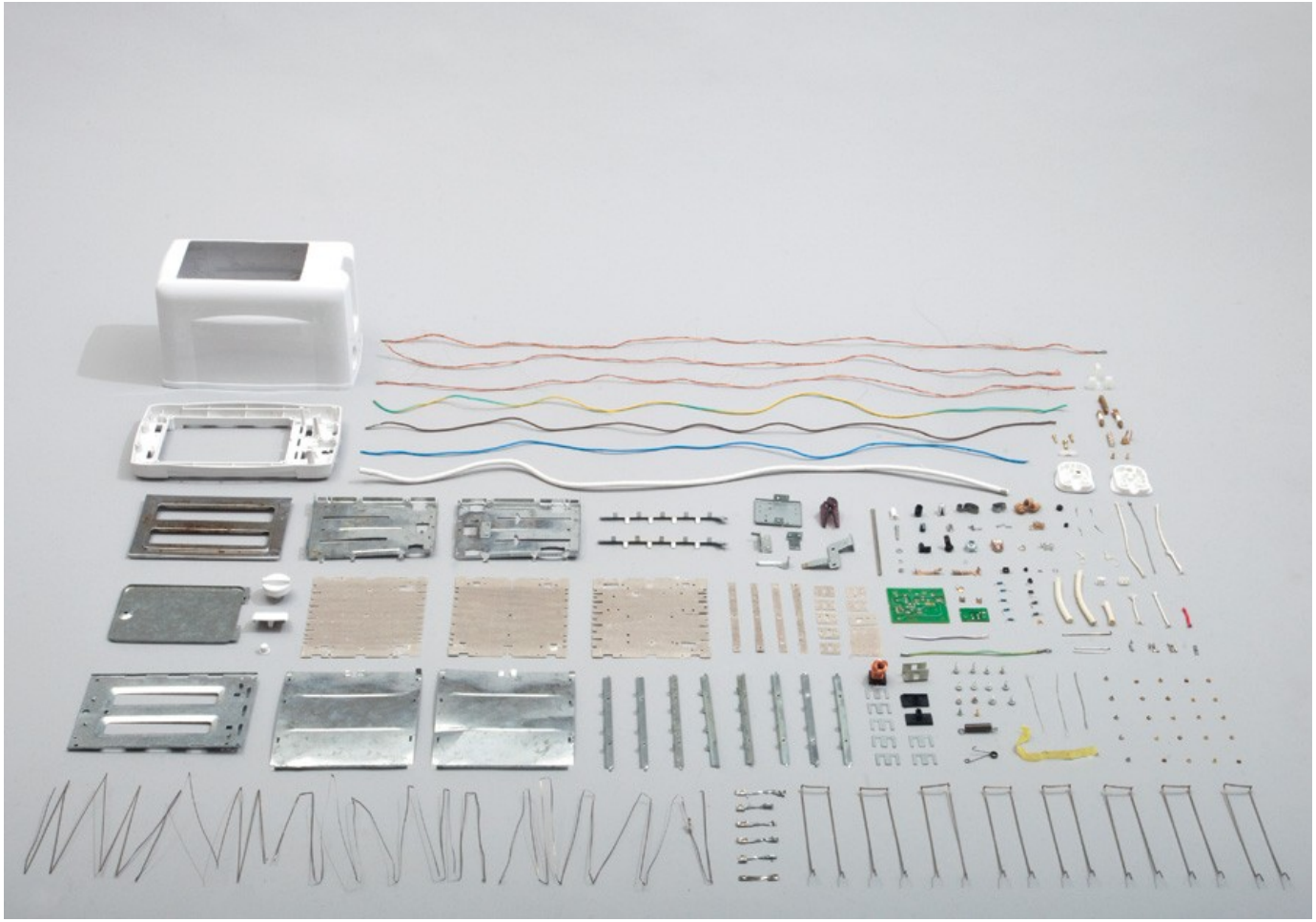

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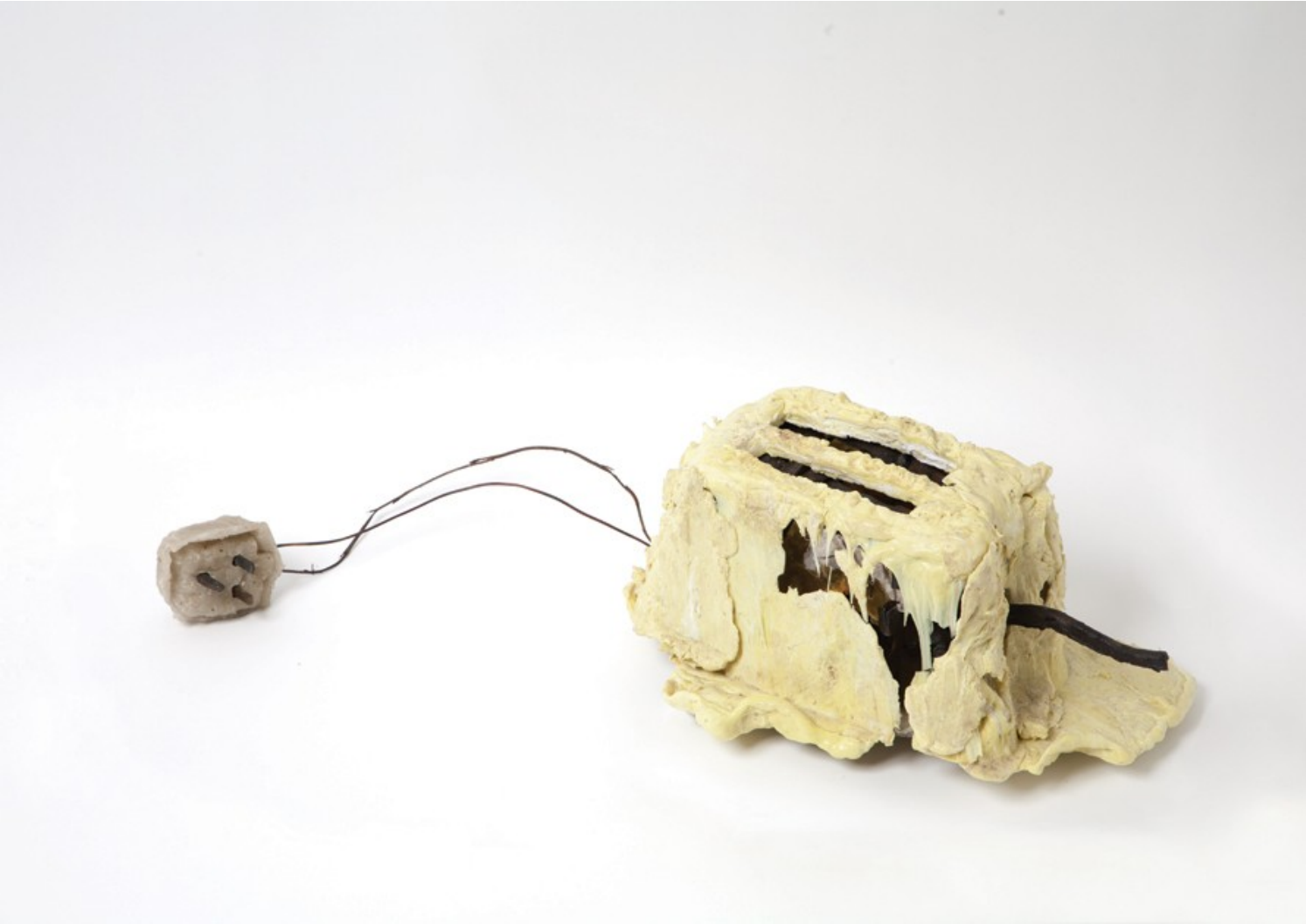

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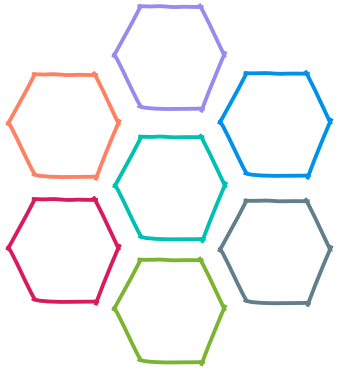

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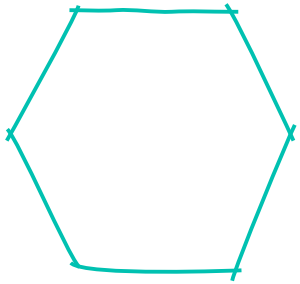

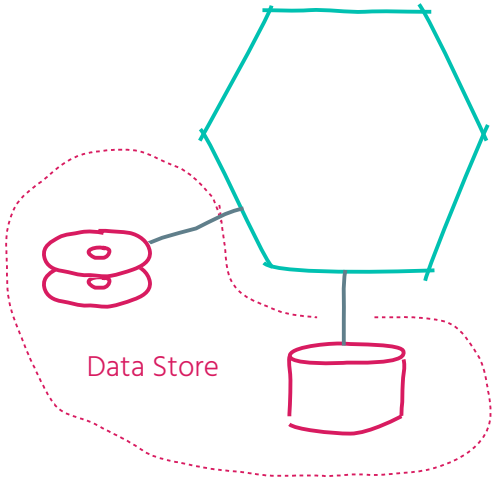
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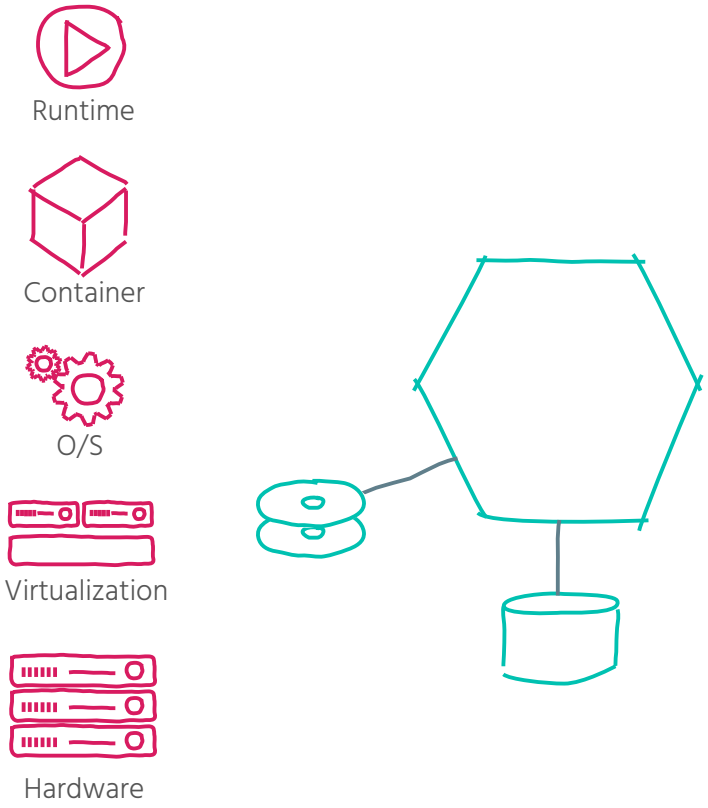

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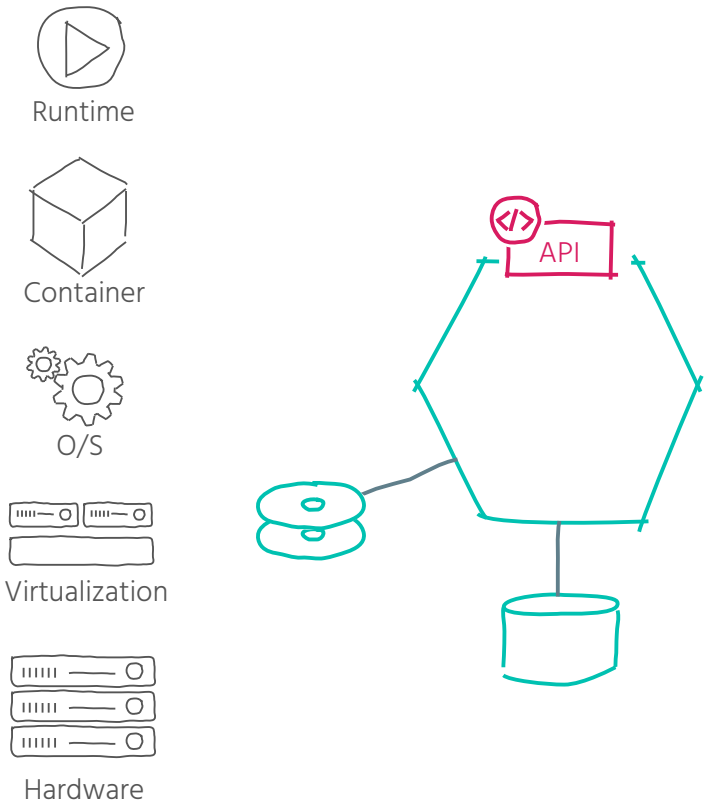

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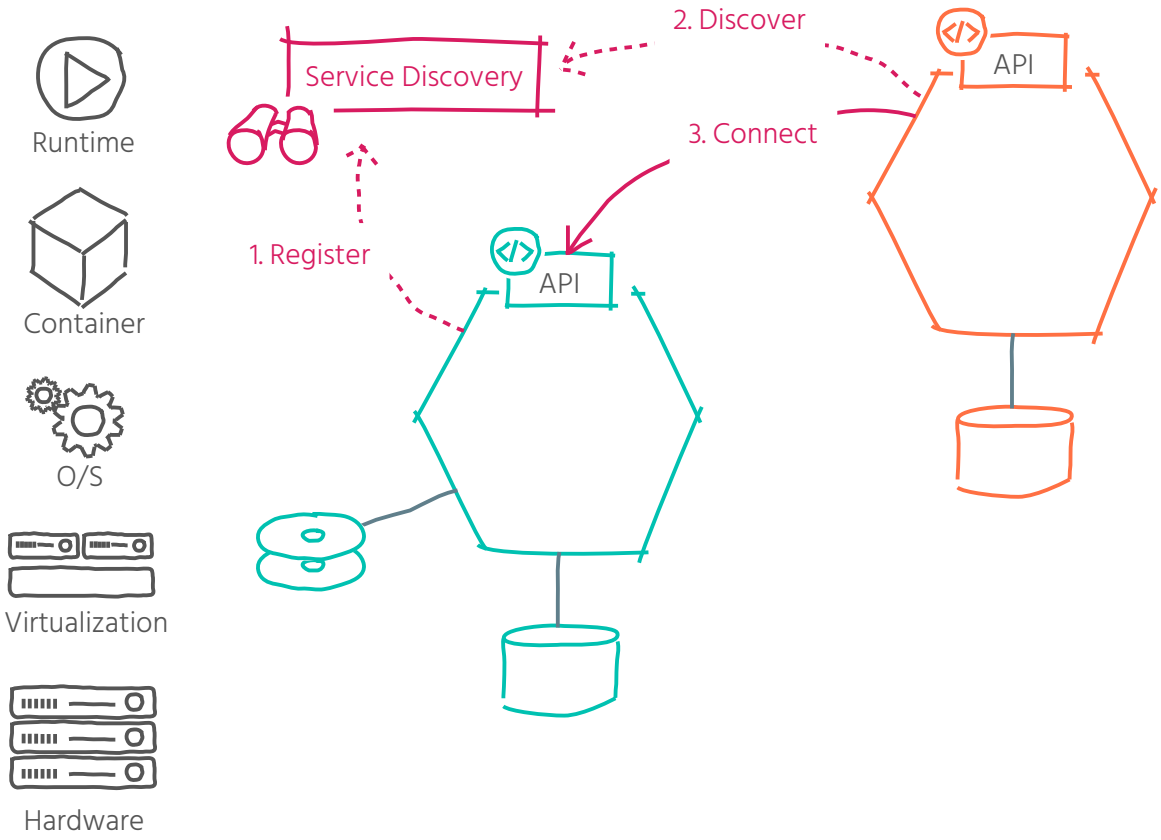
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Container
O/S
Virtualization
Hardware
Service Discovery
2. Discover
3. Connect
1. Register
API
API

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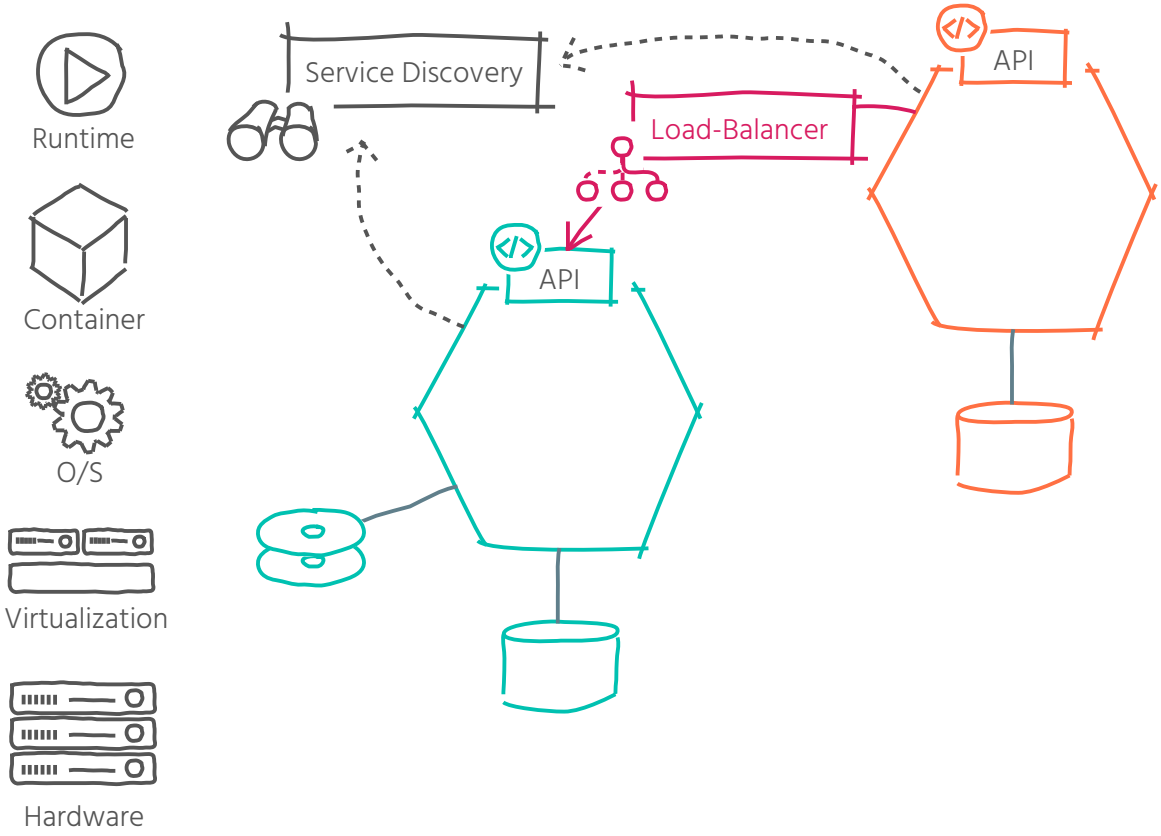
Runtime
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Hardware
Service Discovery
Load-Balancer
API
API

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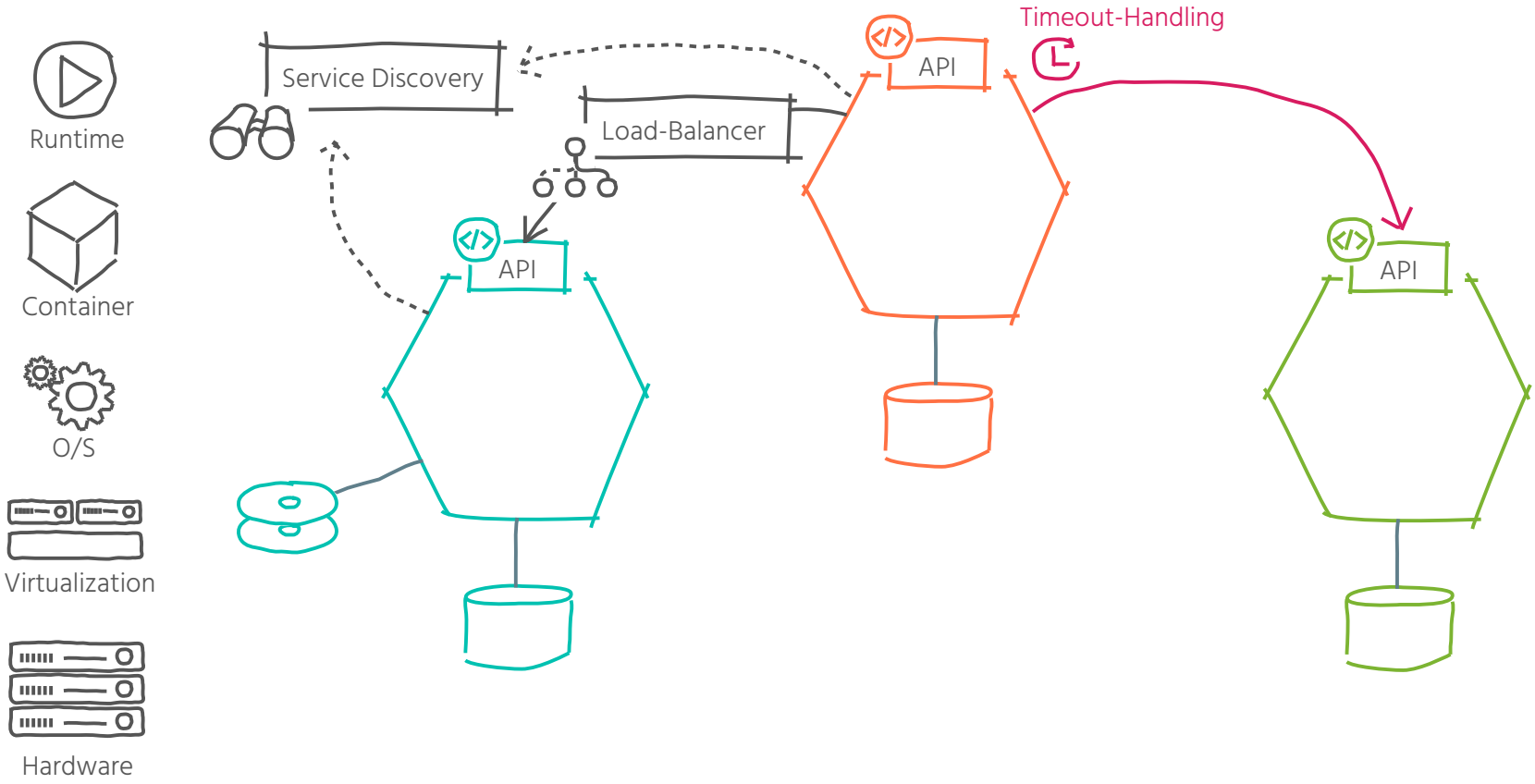
Runtime
Container
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Load-Balancer
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Timeout-Handling

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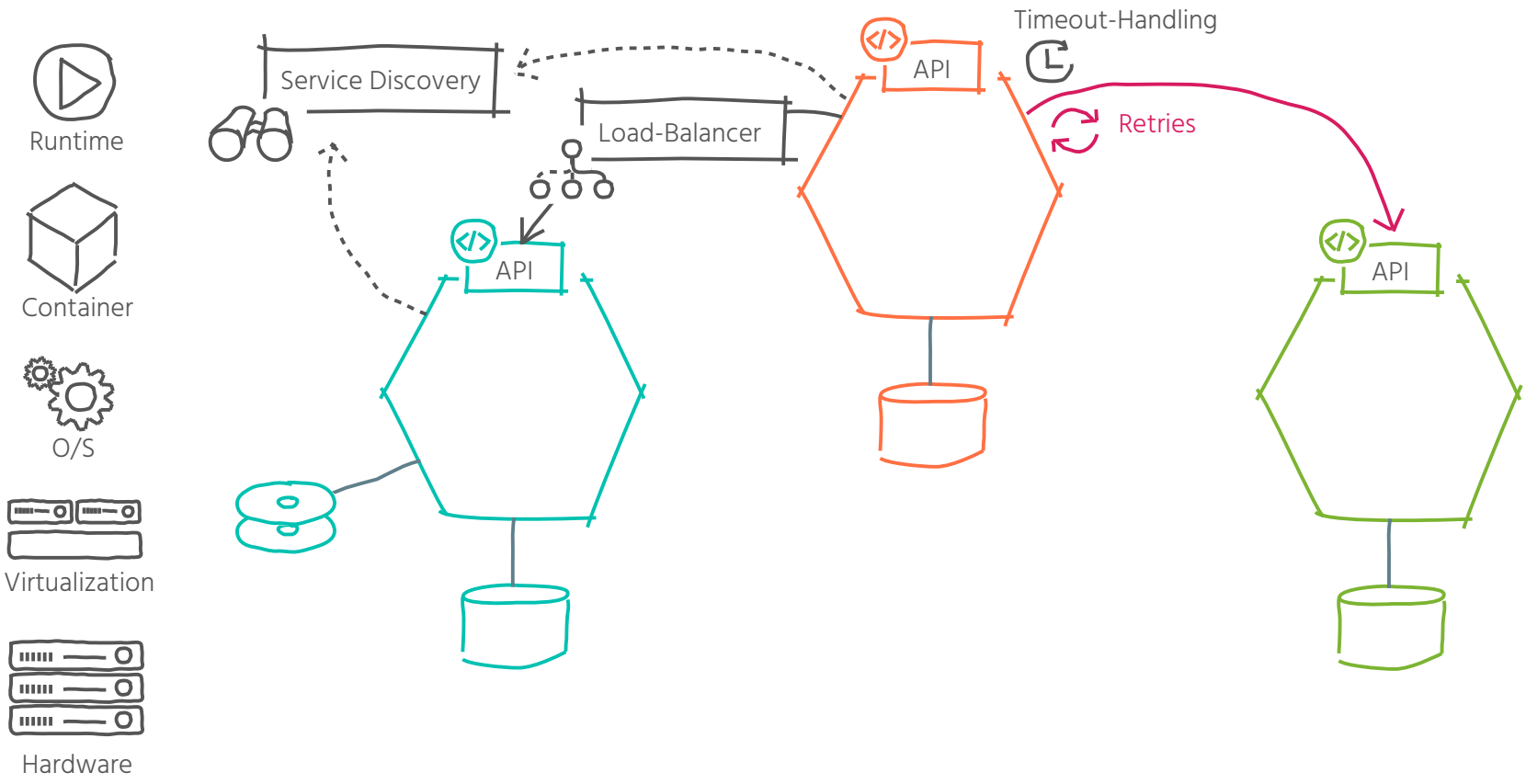
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API
Timeout-Handling
Retries

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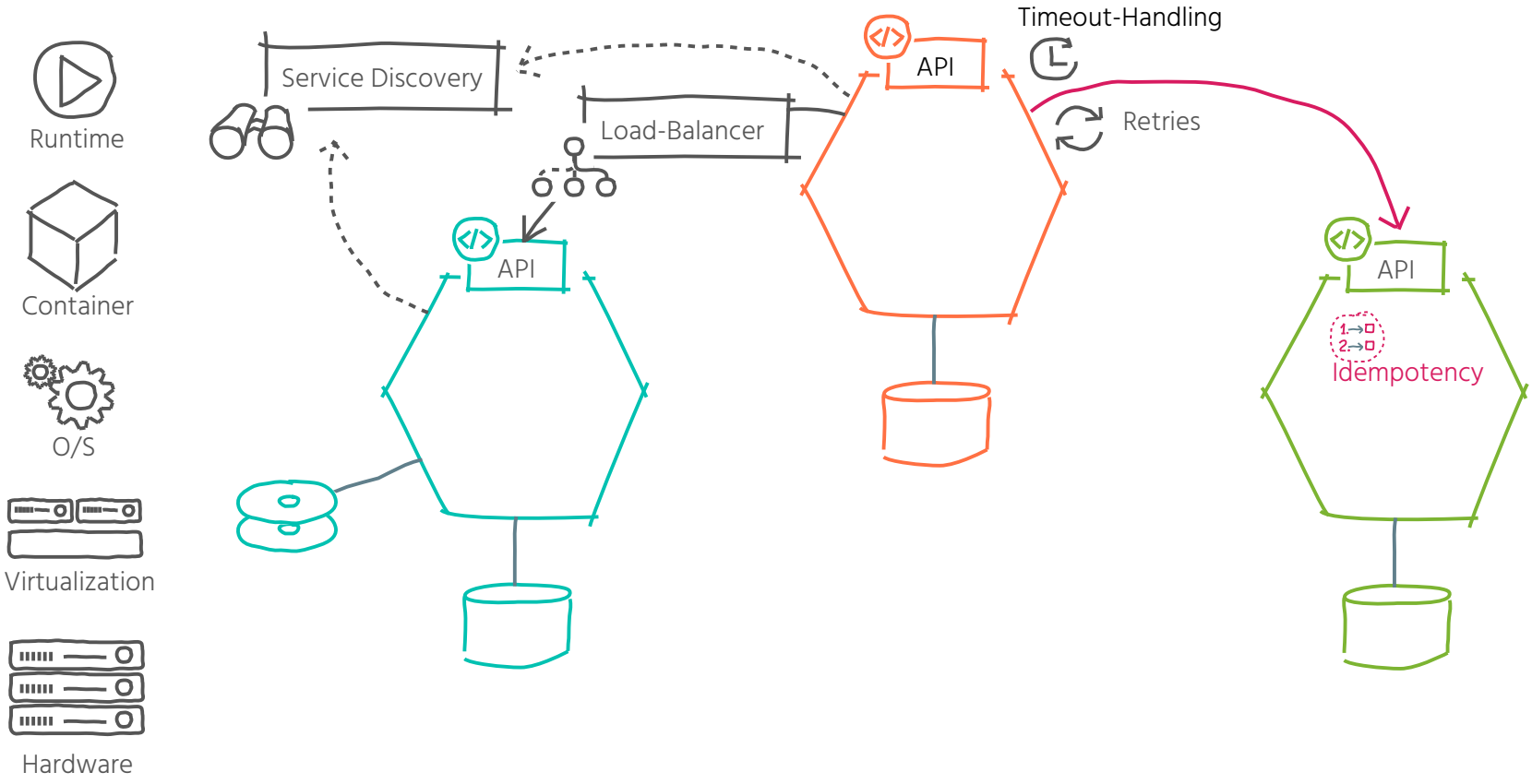
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Idempotency

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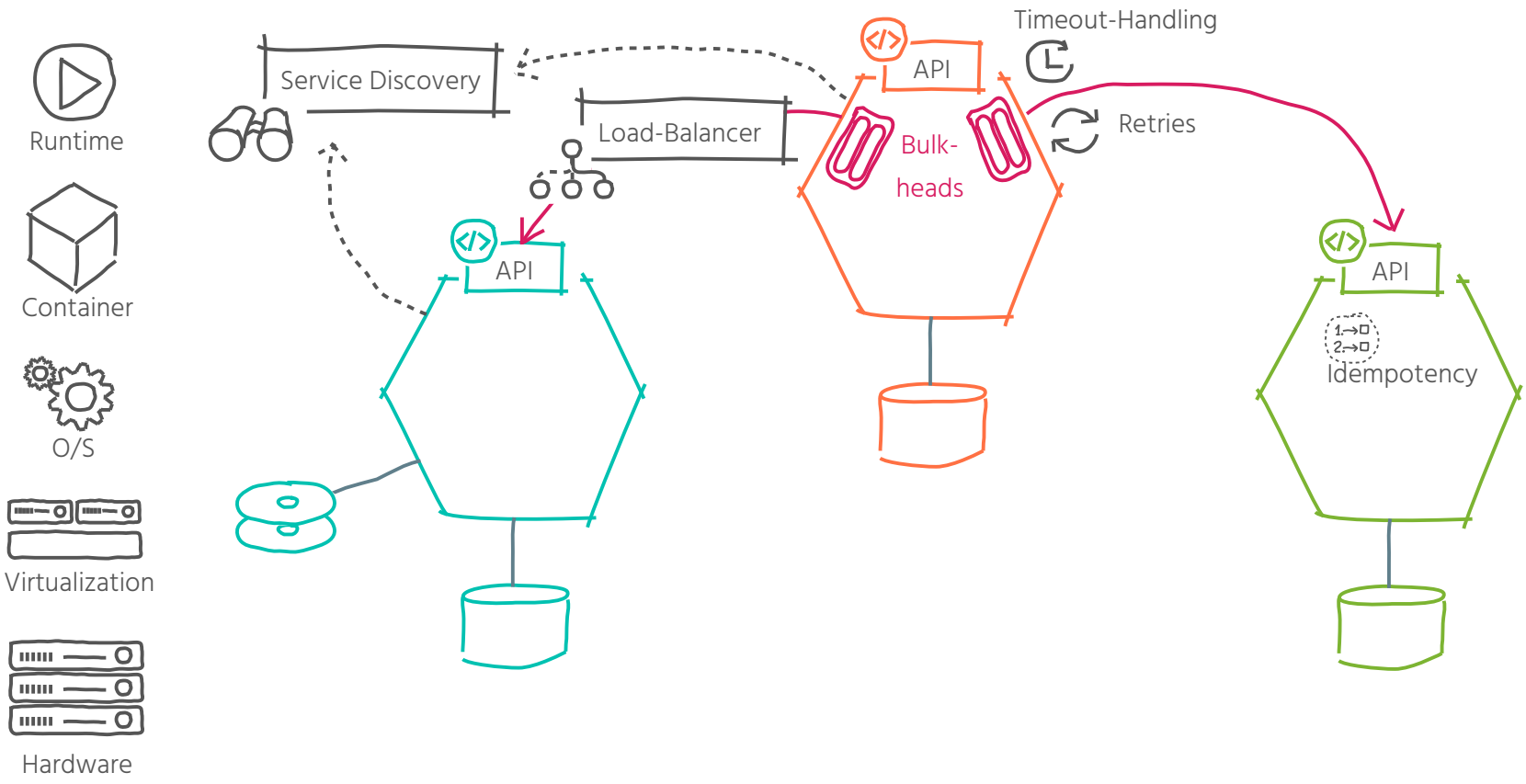
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Bulk-
heads
Timeout-Handling
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Idempotency

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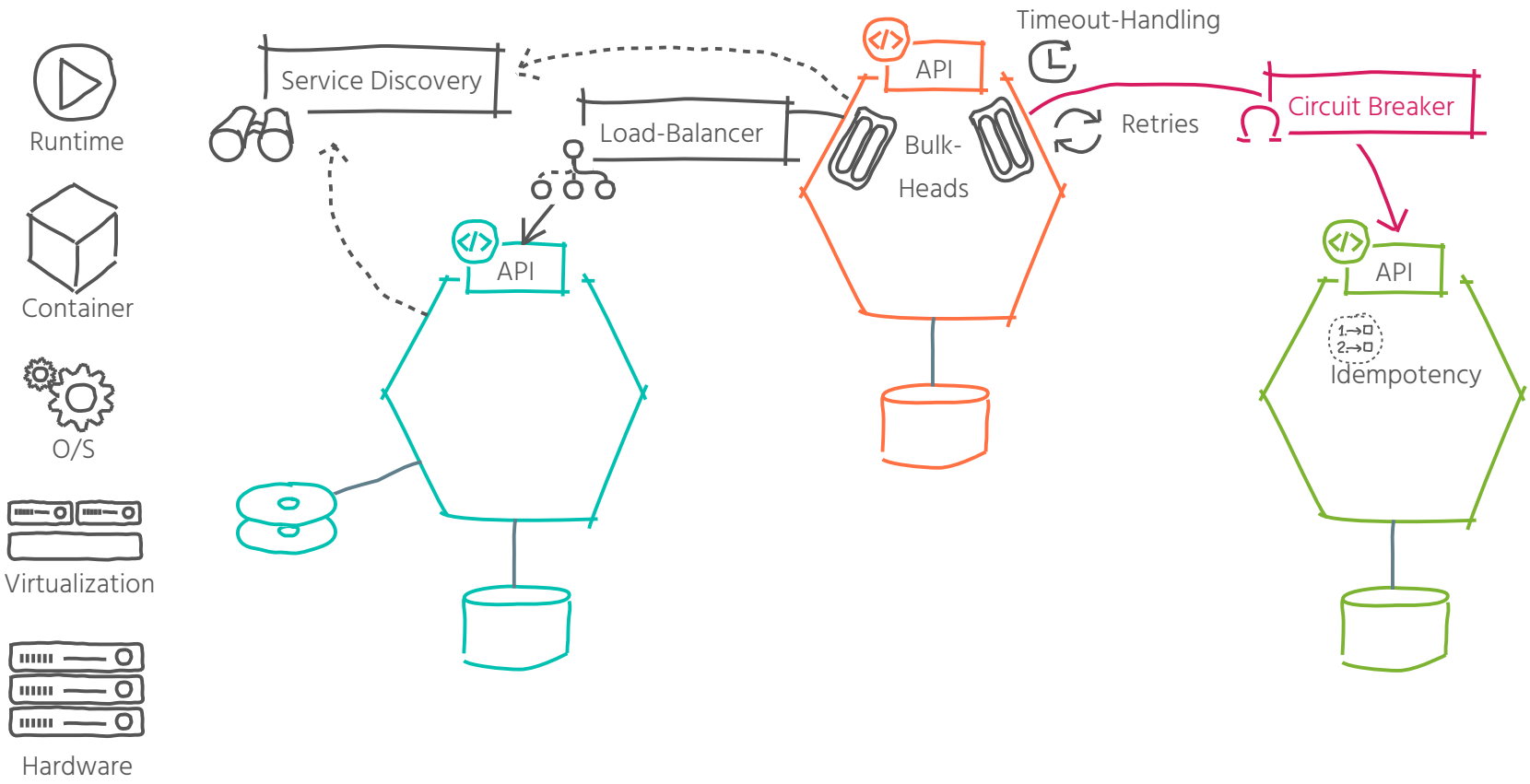
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API
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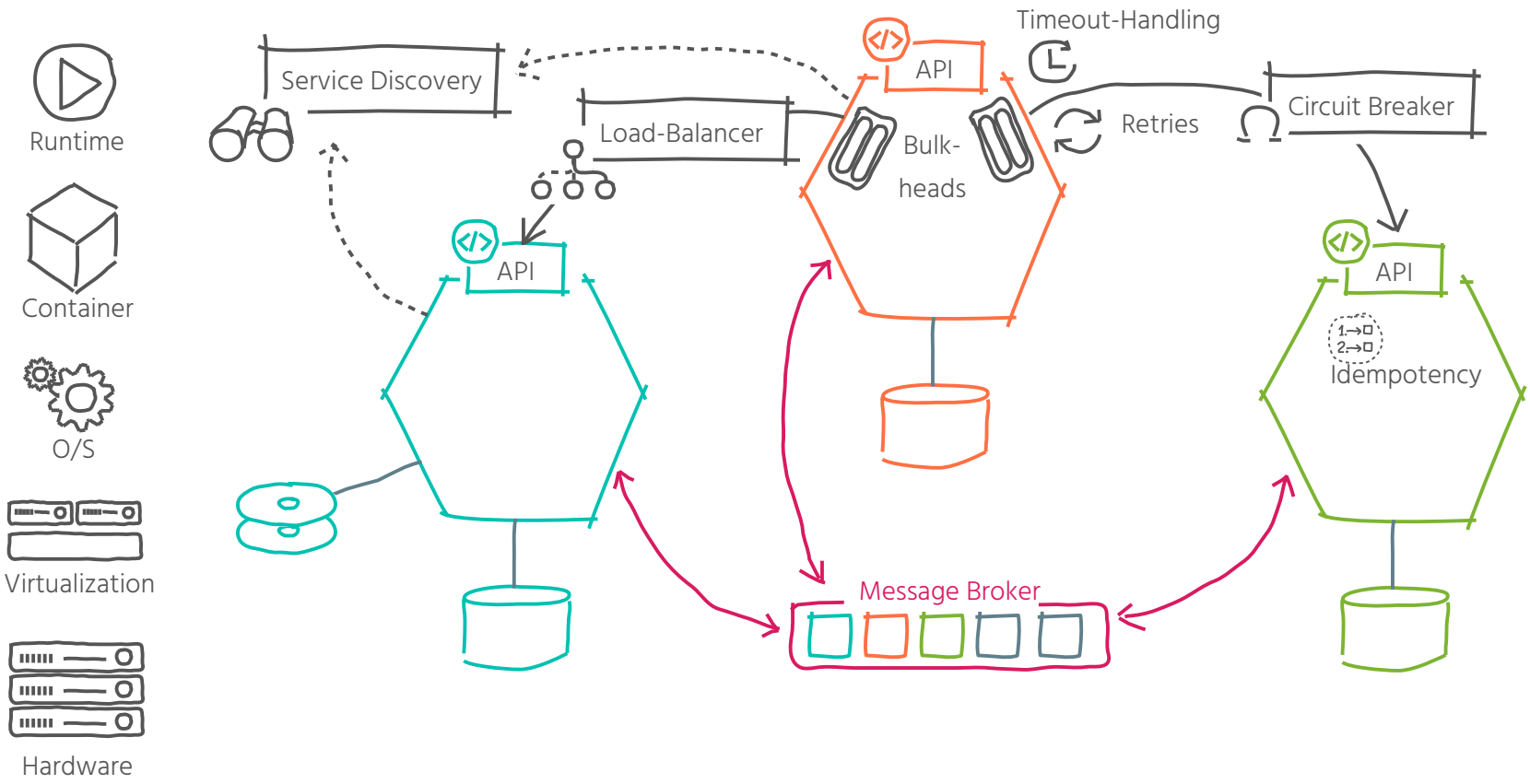
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API
Idempotency
API
Message Broker

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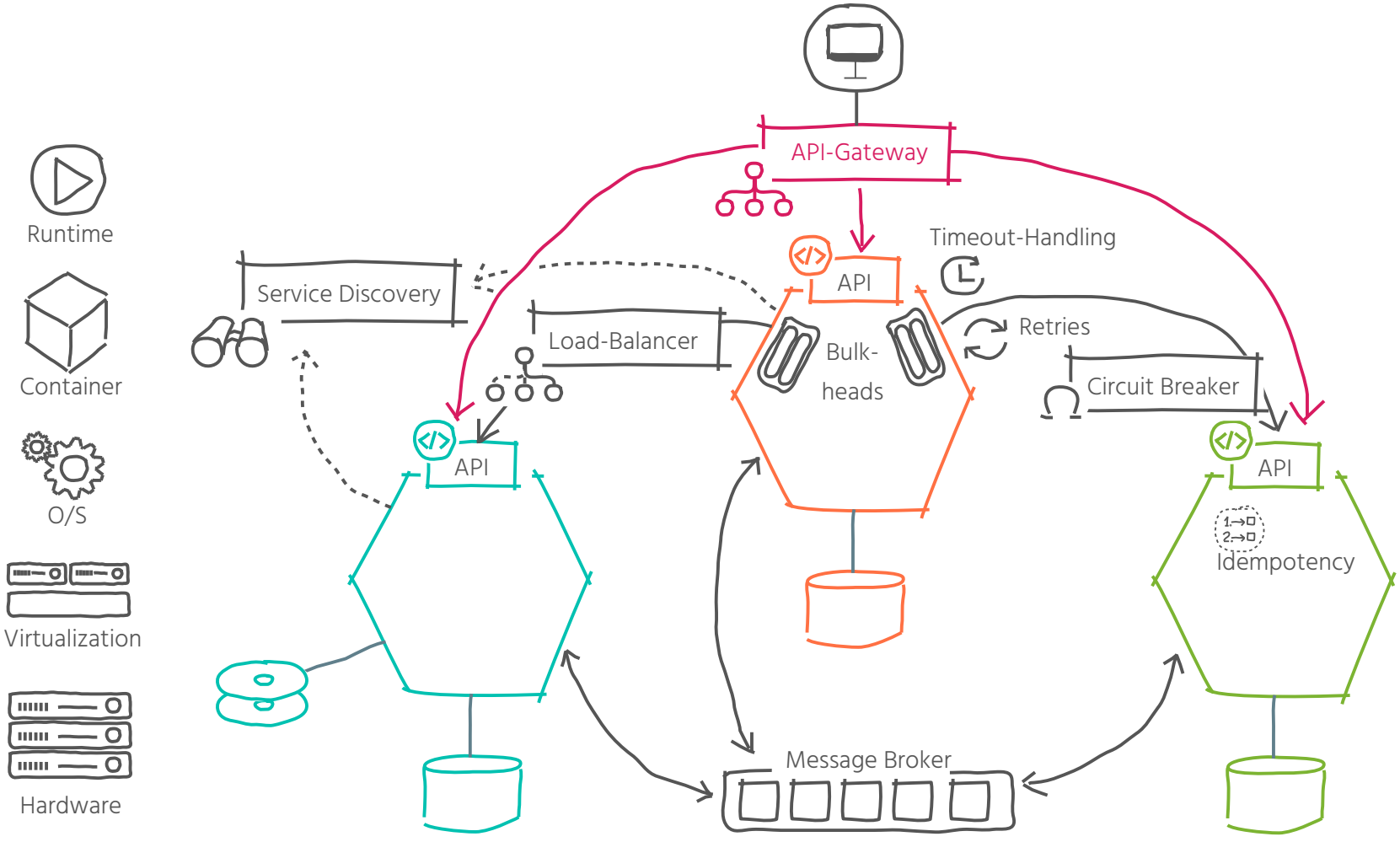
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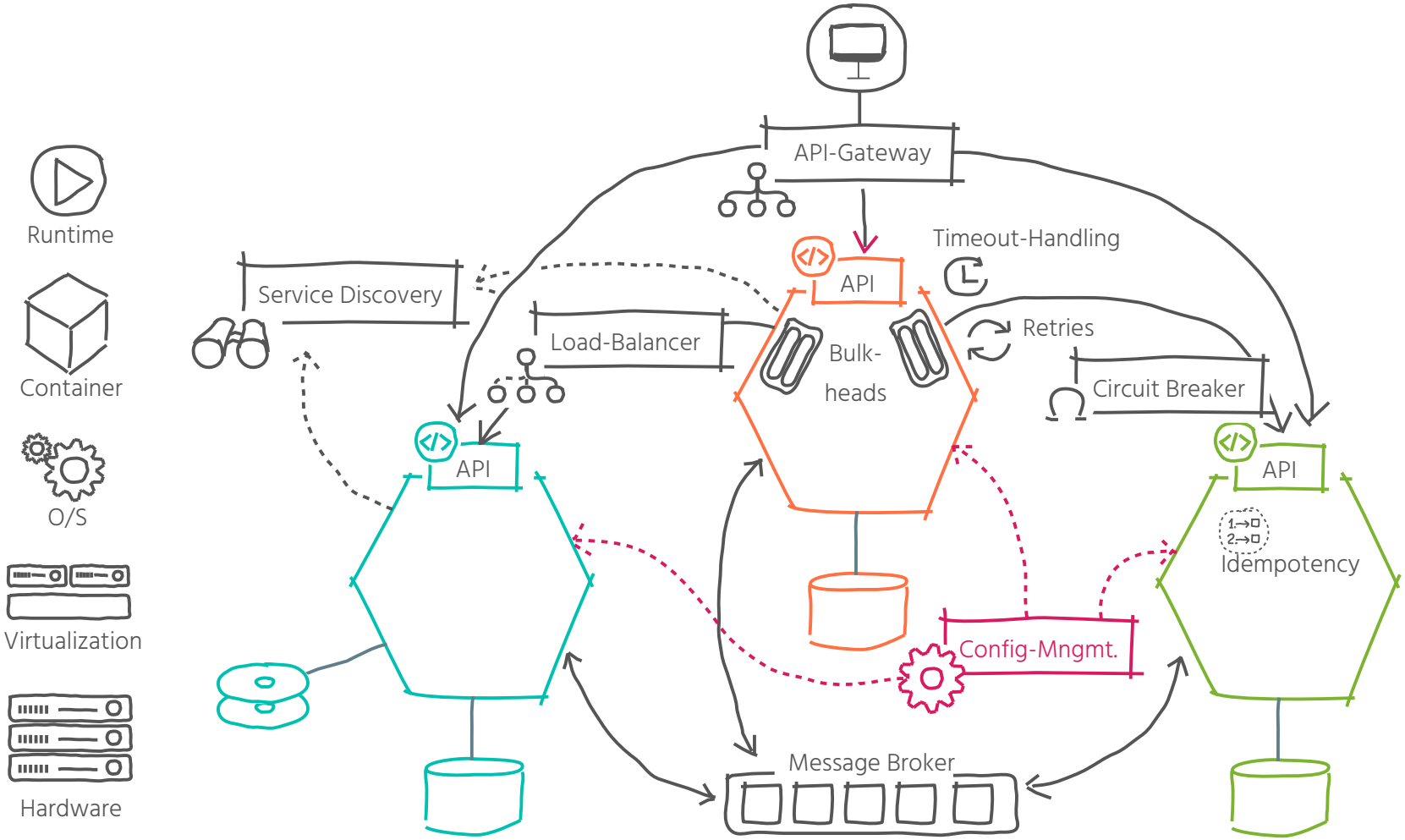
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Message Broker

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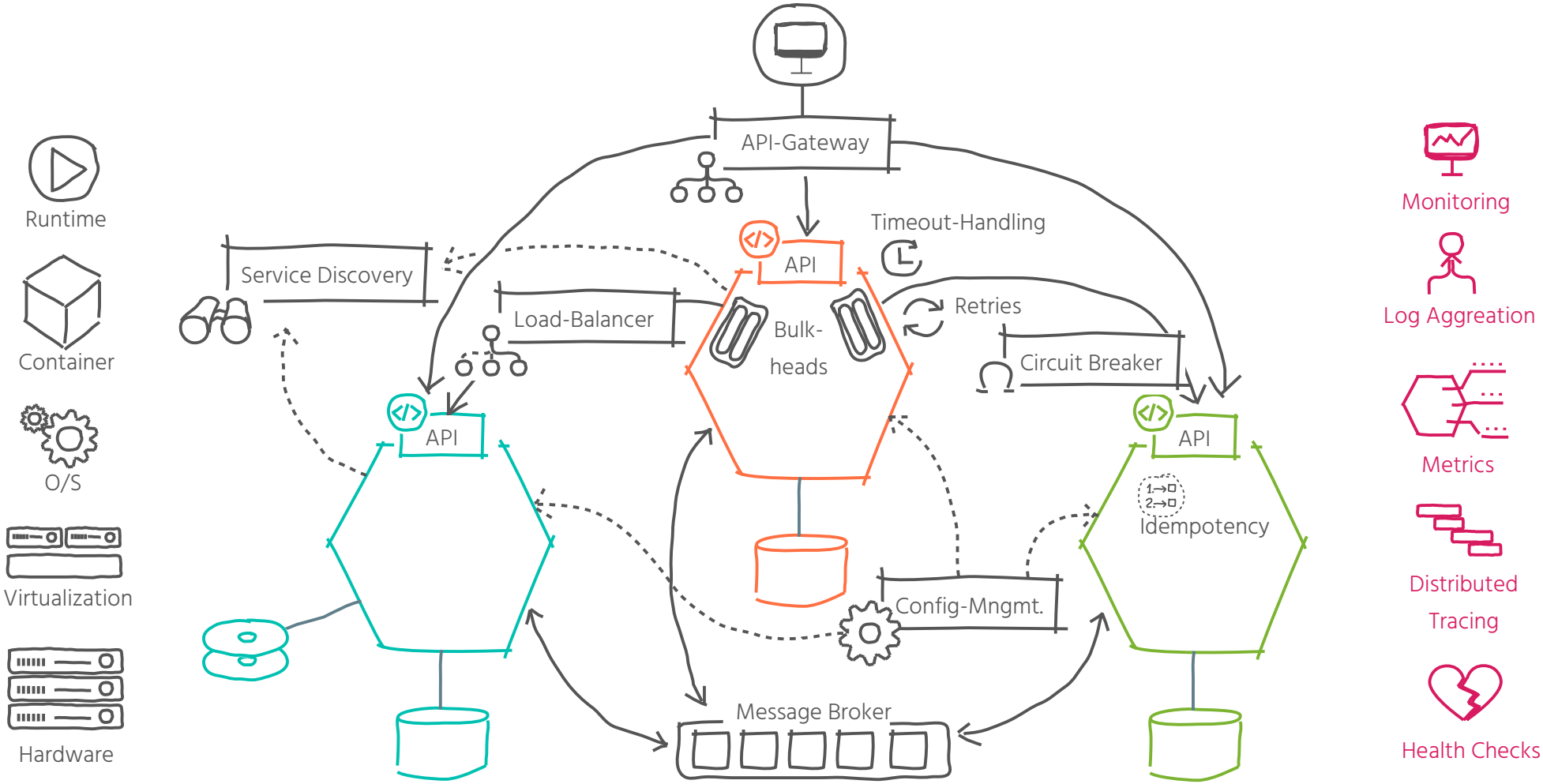
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API
Idempotency
Config-Mngmt.
Message Broker
Monitoring
Log Aggreation
Metrics
Distributed
Tracing
Health Checks

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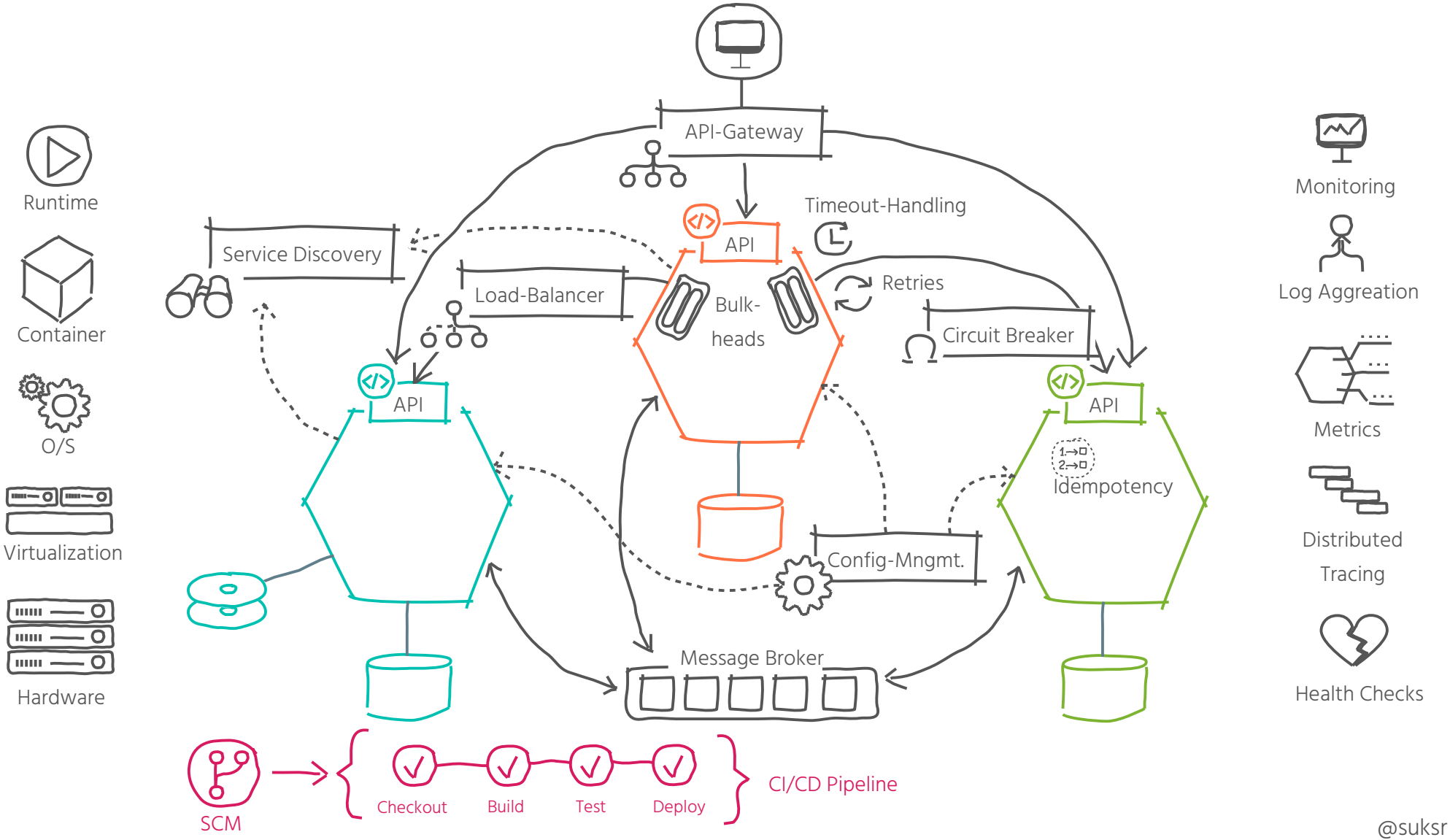
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Message Broker
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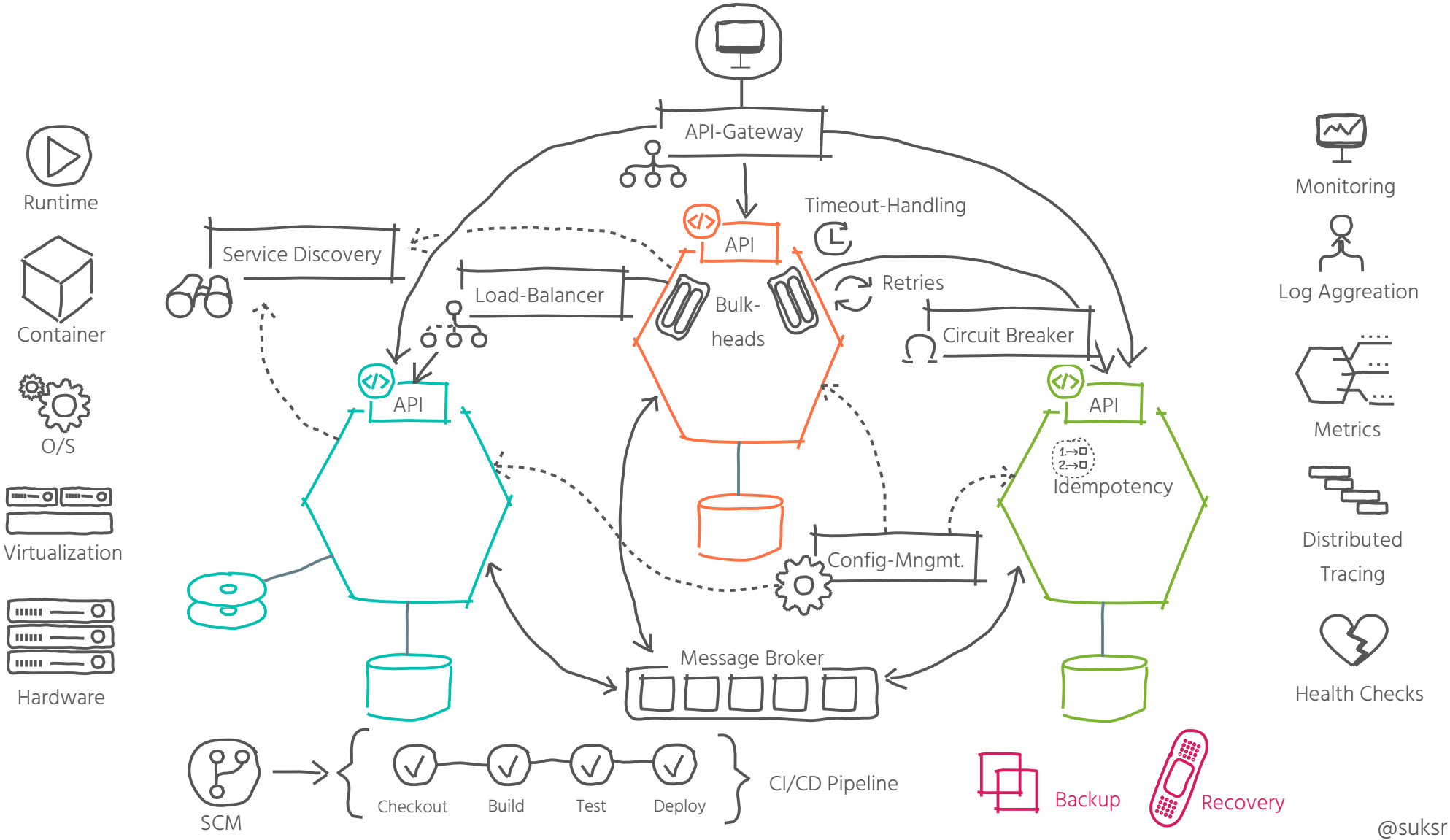
Metrics
Distributed
Tracing
Health Checks
SCM
Checkout
Build
Test
Deploy
CI/CD Pipeline
@suksr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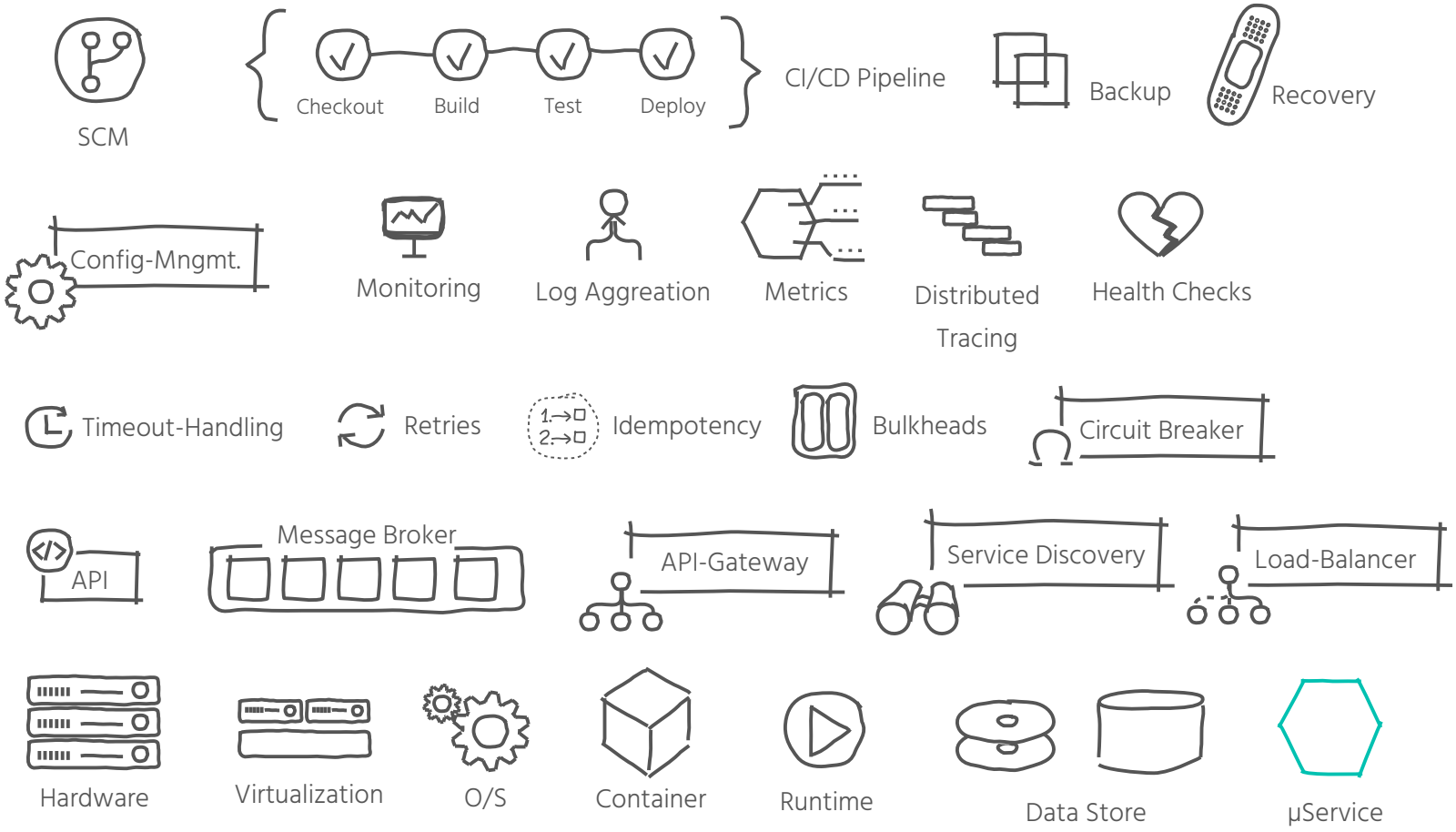
CI/CD Pipeline
Backup
Recovery
@suksr

µService


SCM
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Circuit Breaker
API
Message Broker
API-Gateway
Service Discovery
Load-Balancer
Hardware
Virtualization
O/S
Container
Runtime
Data Store
µService

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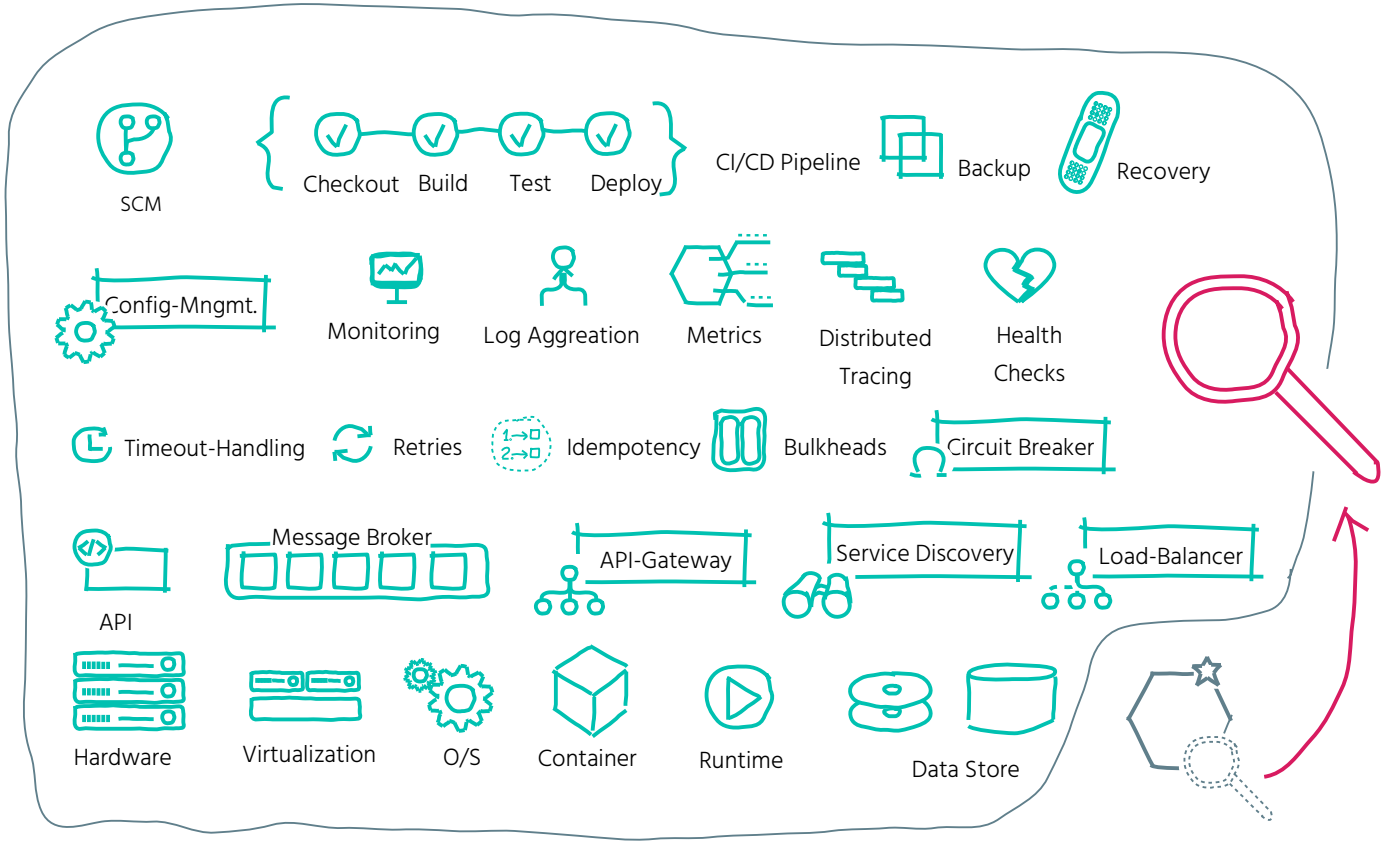
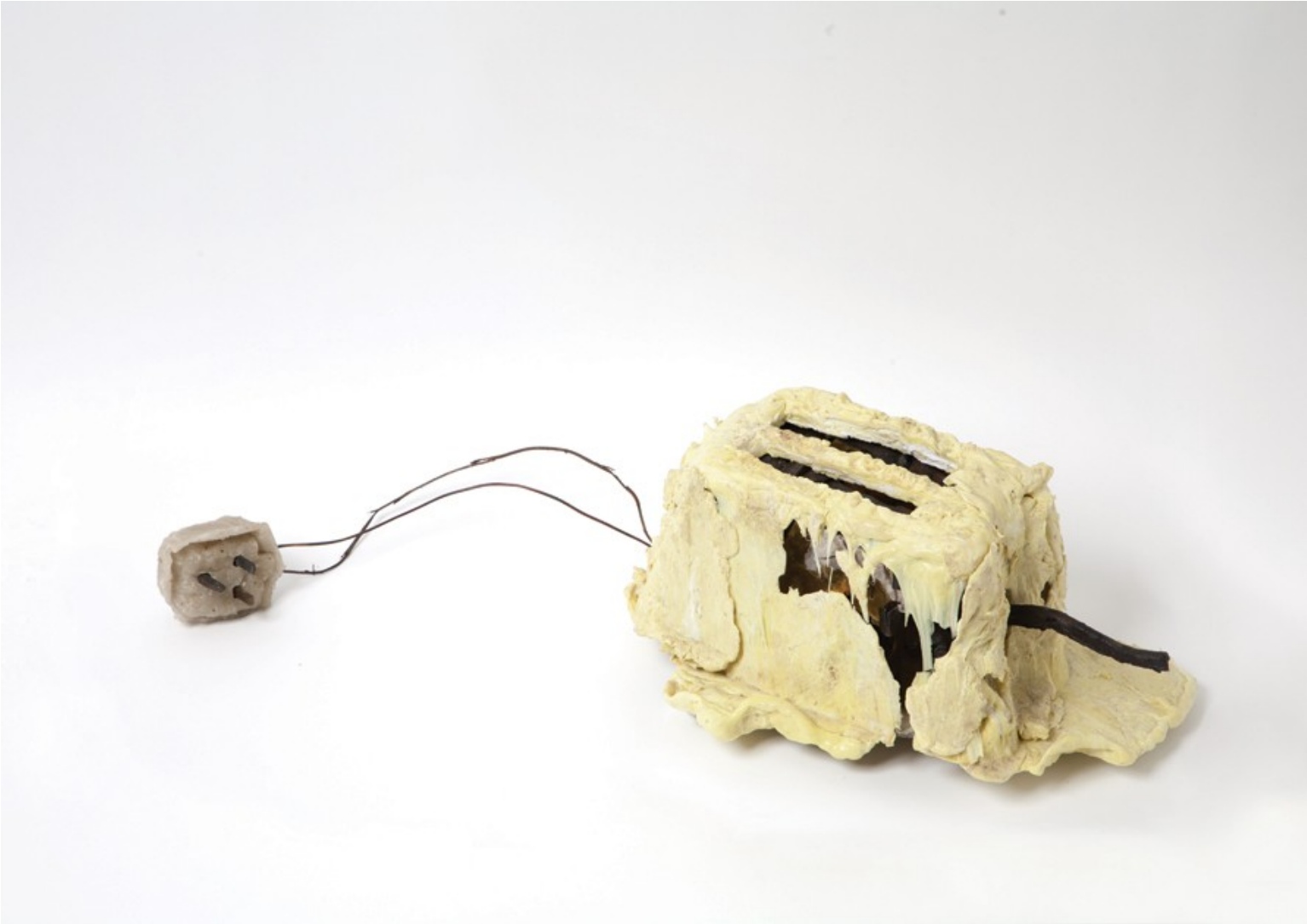
Complexities





Source: http://www.thomasthwaites.com

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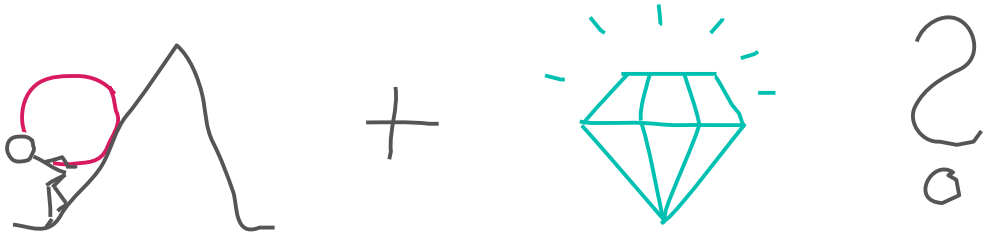
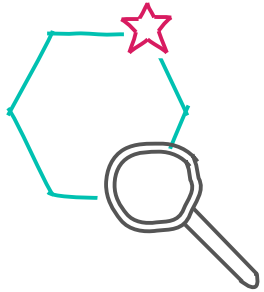
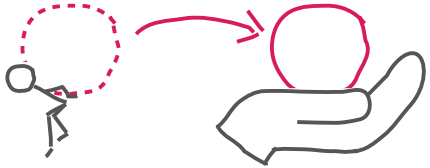
How can a small team handle infrastructure complexities

and deliver user & business value?





Focus on Core Domain



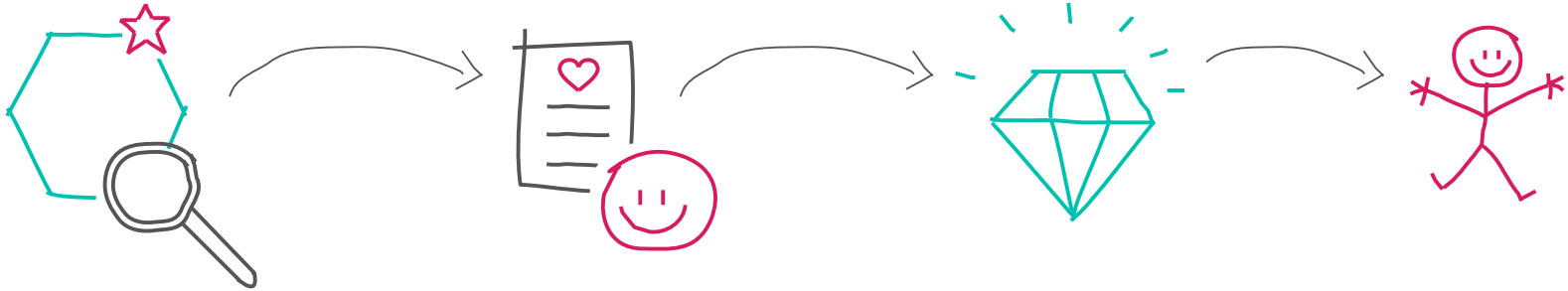
Offload commodities

Build in-house

Core Domain Focus

User Needs

User Value



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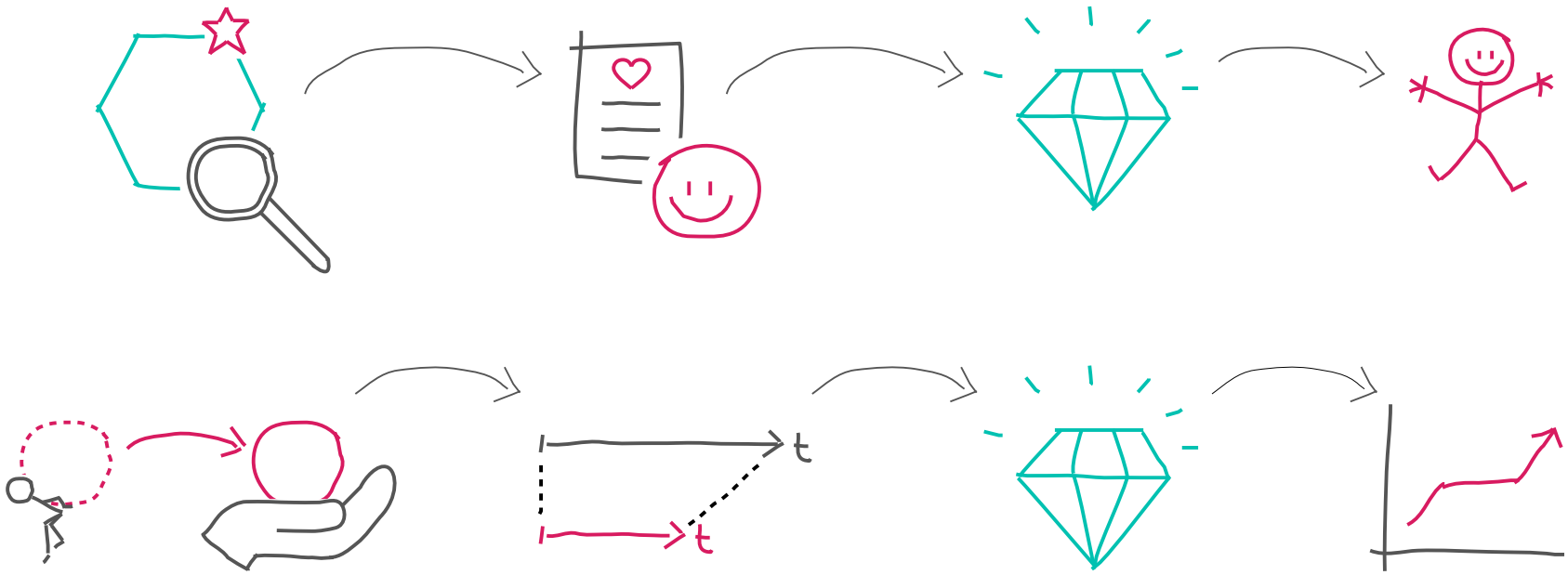
Build in-house

Core Domain Focus

User Needs

User Value



Offloading commodities

Business Needs

Business Value

Outsource to utility suppliers

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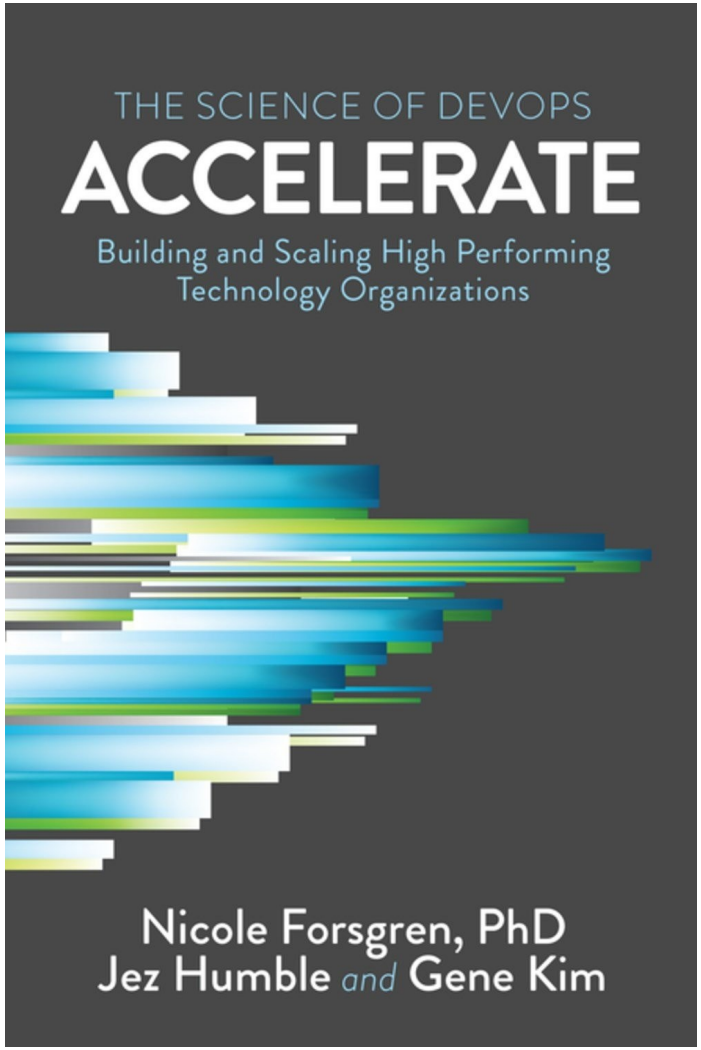

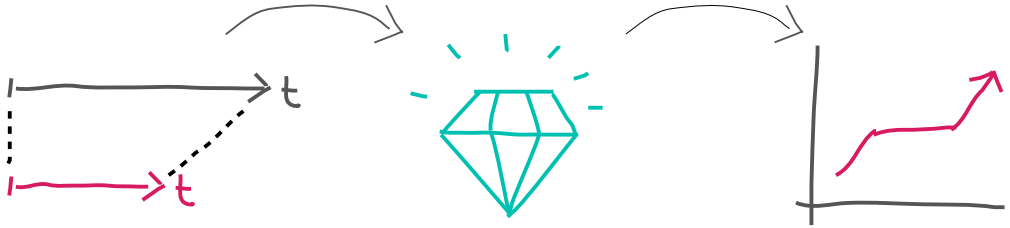

Software Delivery
Performance

Productivity
Profitability
Market Share

Susanne Kaiser ... who?

Independent Tech Consultant

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Co-Organizer @microXchg, Berlin

EX- CTO

at Just Software

@JustSocialApps

Program committee &

track host

QCon, New York

@qconnewyork

Program committee

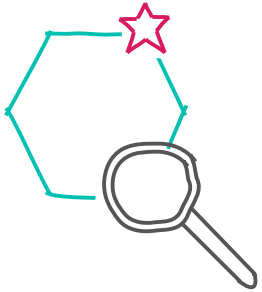
MicroCPH, Copenhagen

@MicroCPH

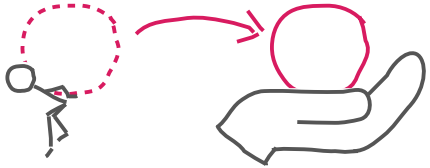
Program committee

ServerlessDays, Hamburg

@ServerlessHAM



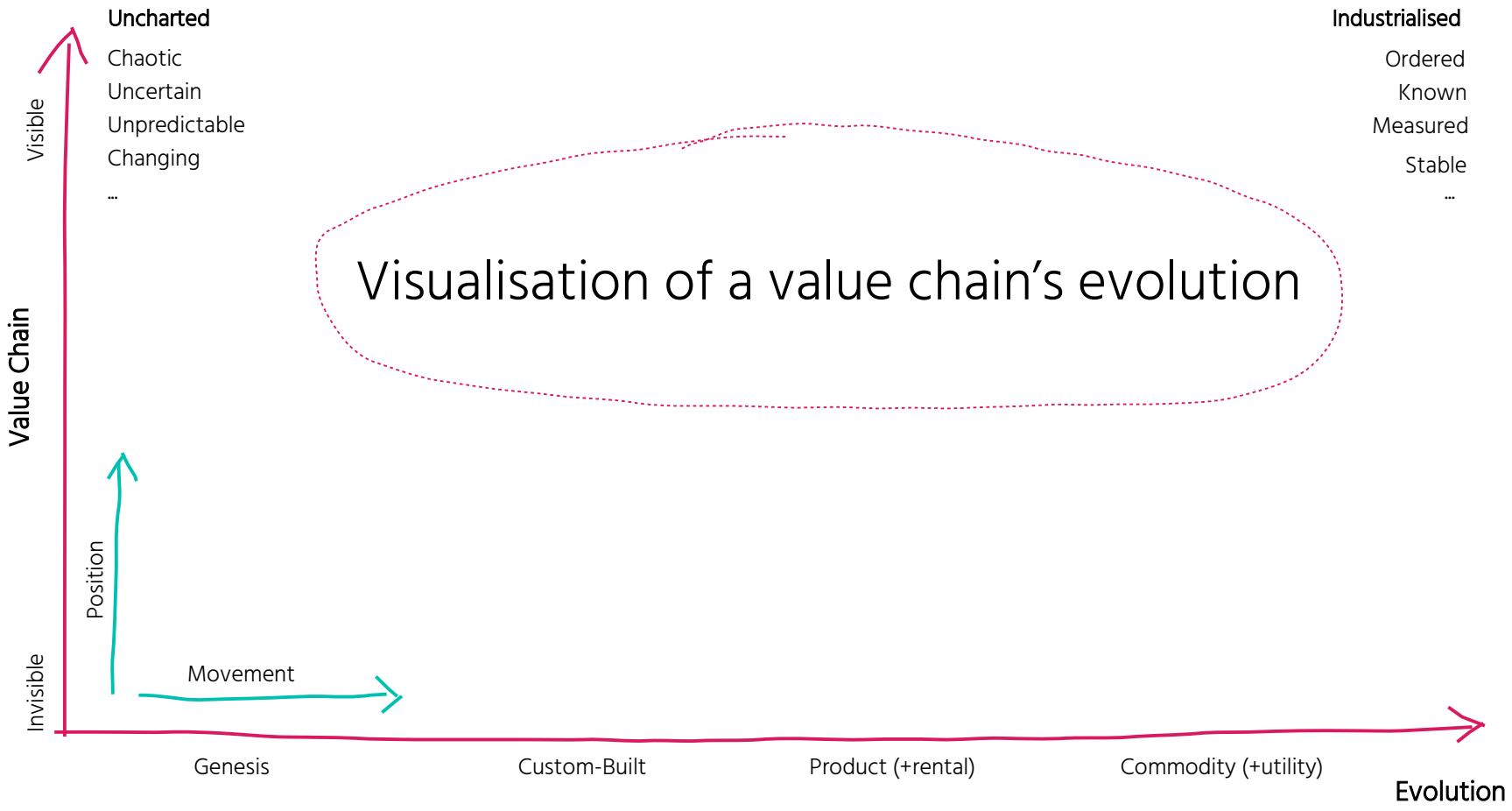
What to build in-house?



What to outsource?

Wardley Maps

By Simon Wardley



Visualisation of a value chain's evolution

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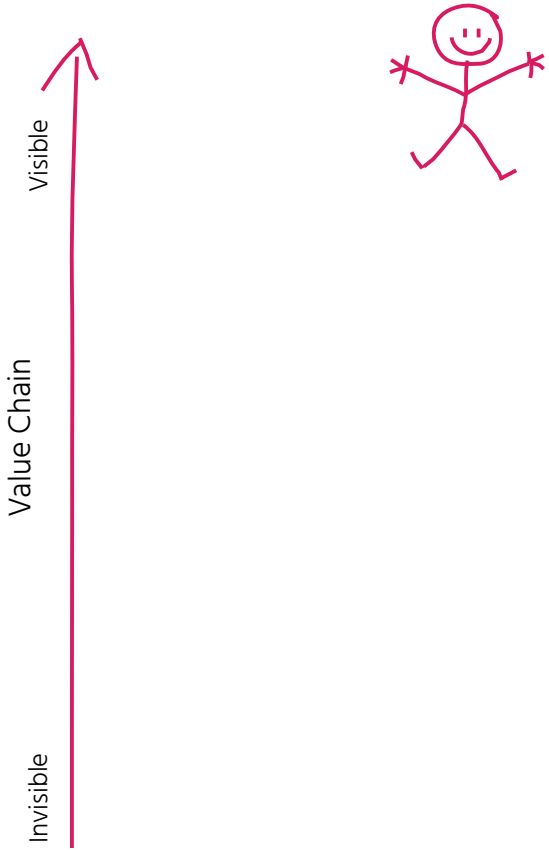
Wardley Maps

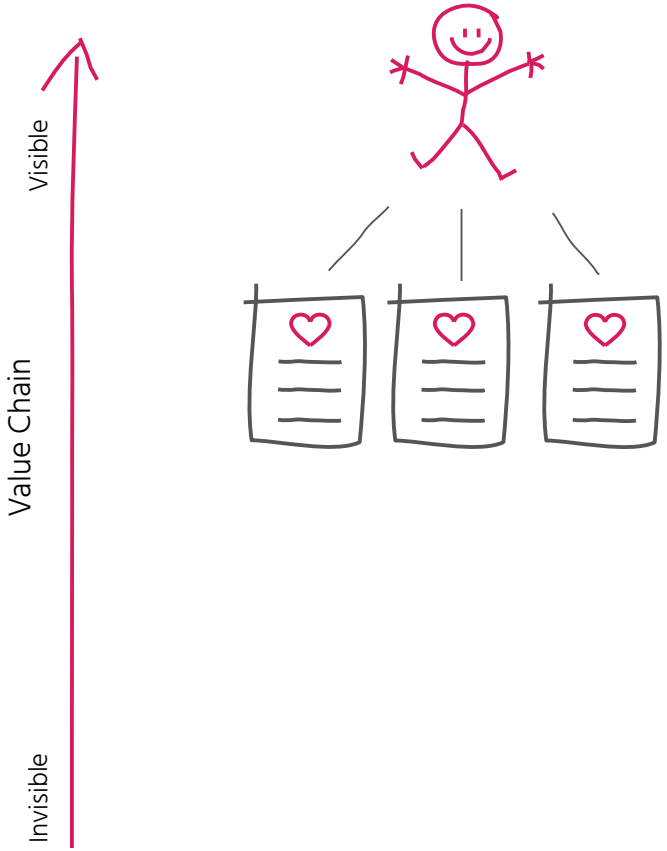
Value Chain



Who are your users?

Wardley Maps

Value Chain

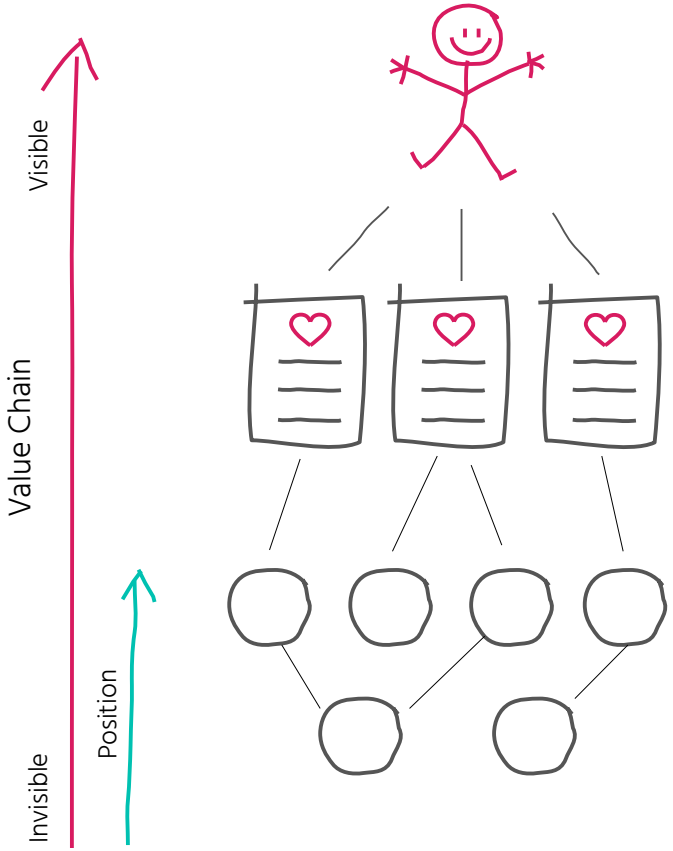


Who are your users?

What are your users' needs?

Wardley Maps

Value Chain



Who are your users?

What are your users' needs?

What are the components/activities to fulfil your users' needs incl. dependencies?

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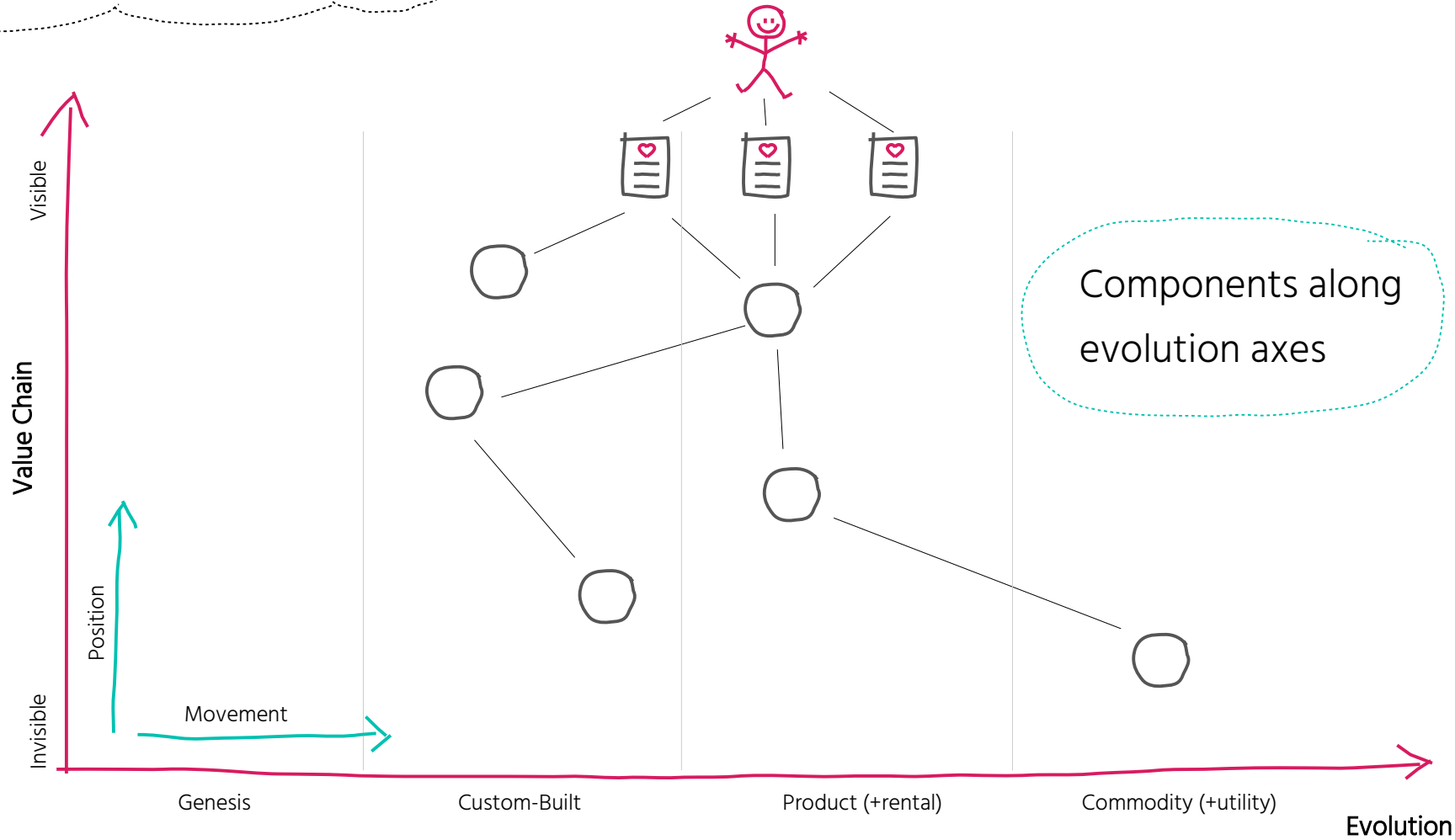
Wardley Maps

Landscape



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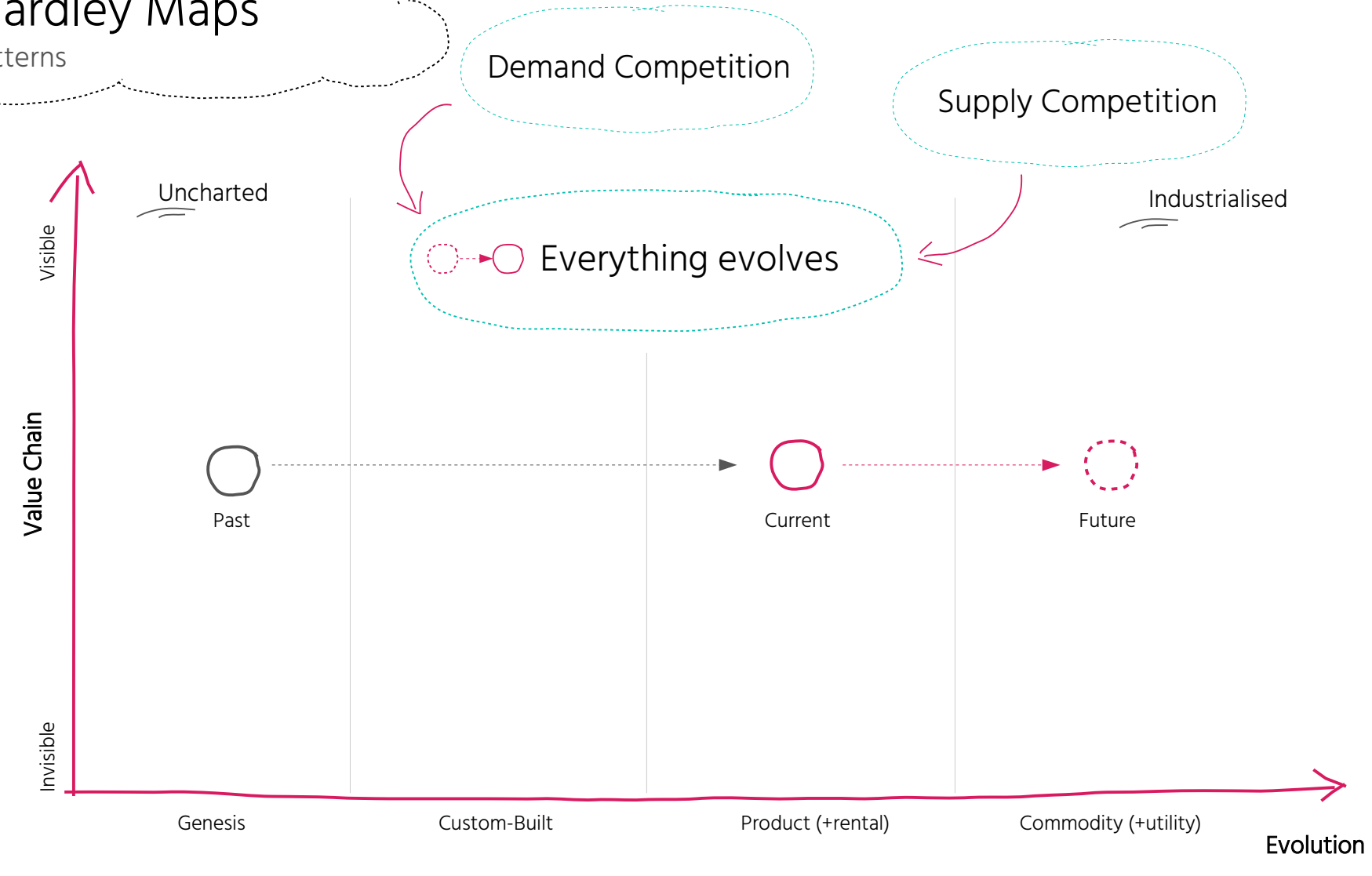
Wardley Maps

Patterns



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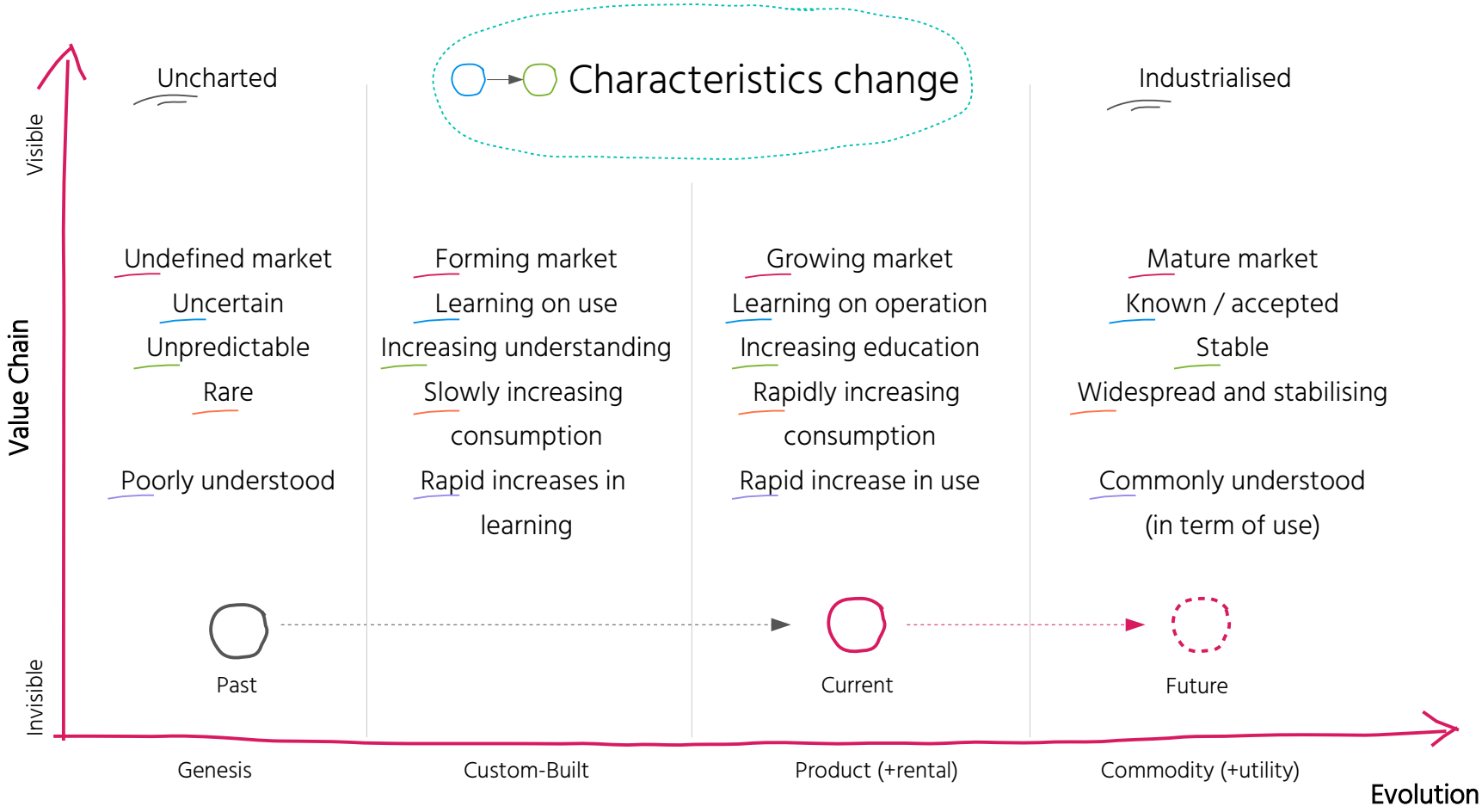

Wardley Maps

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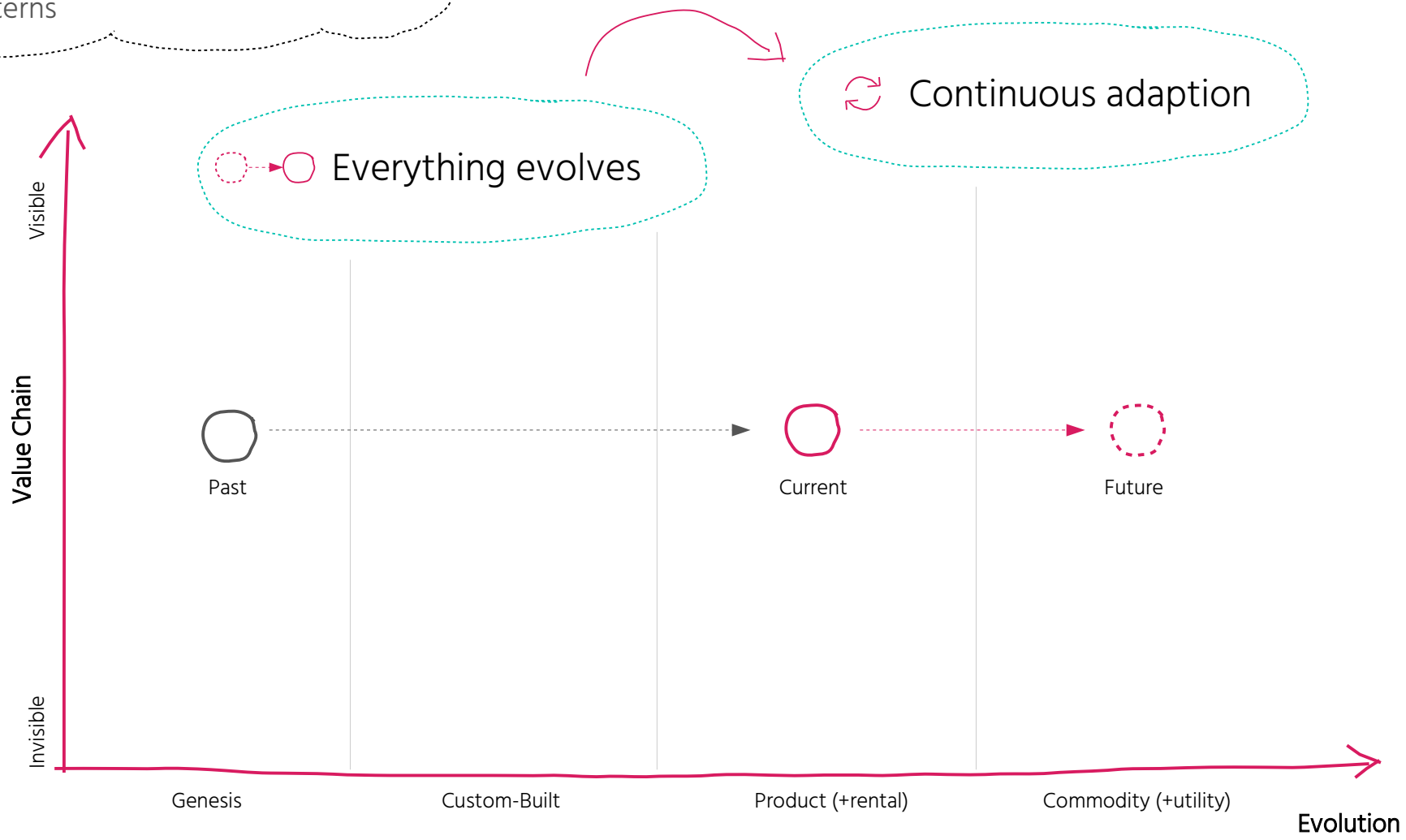

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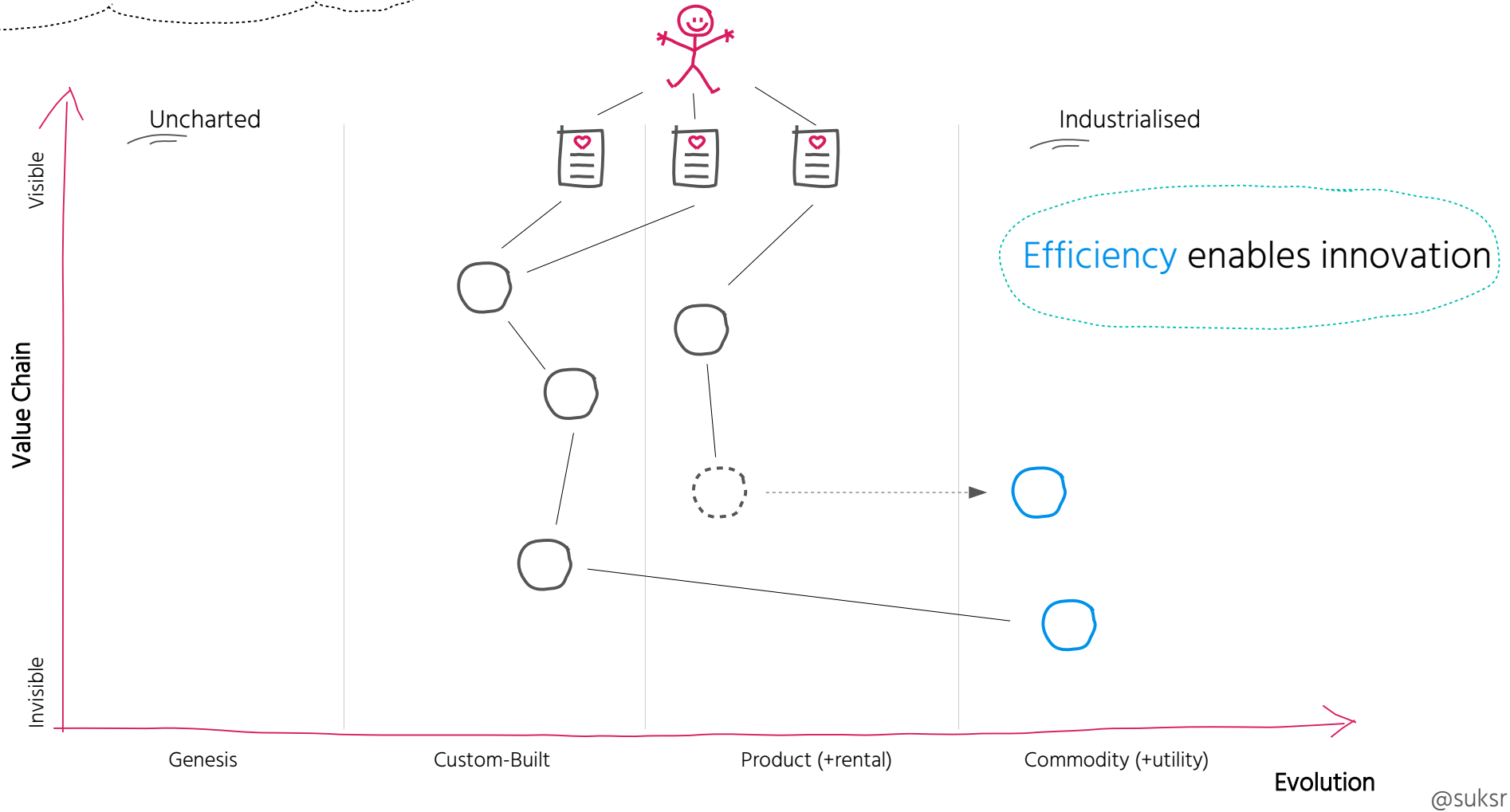

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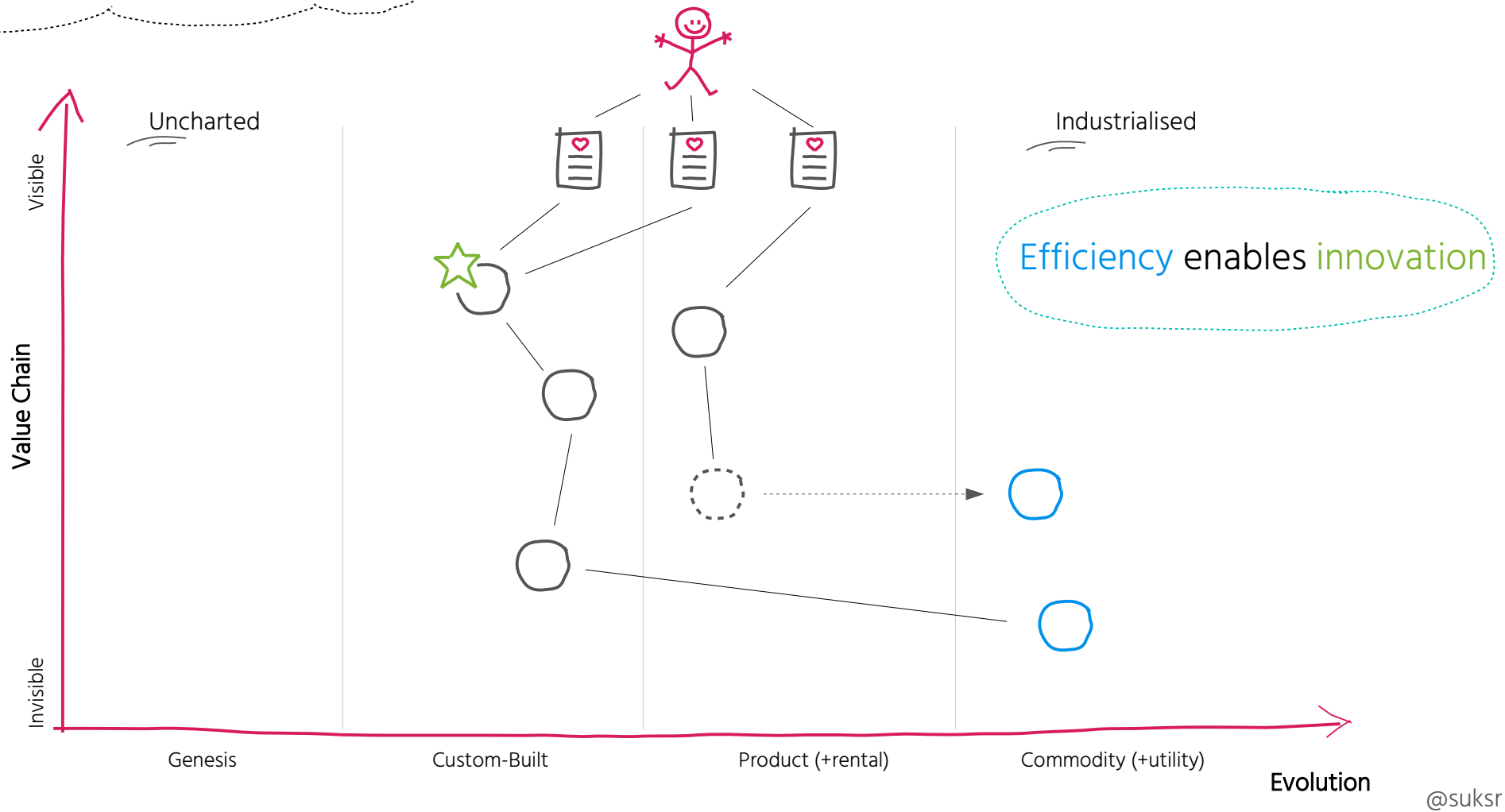

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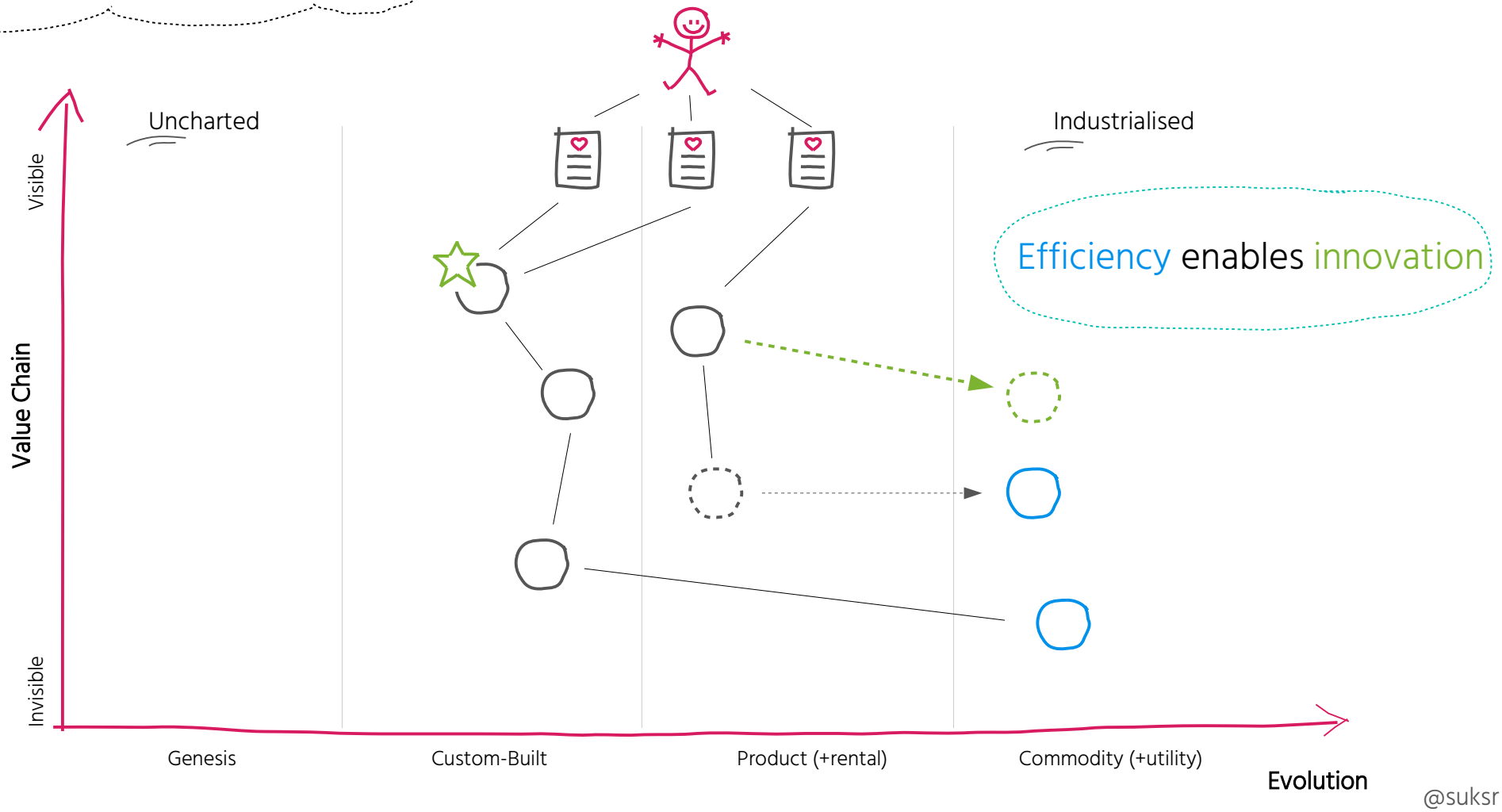

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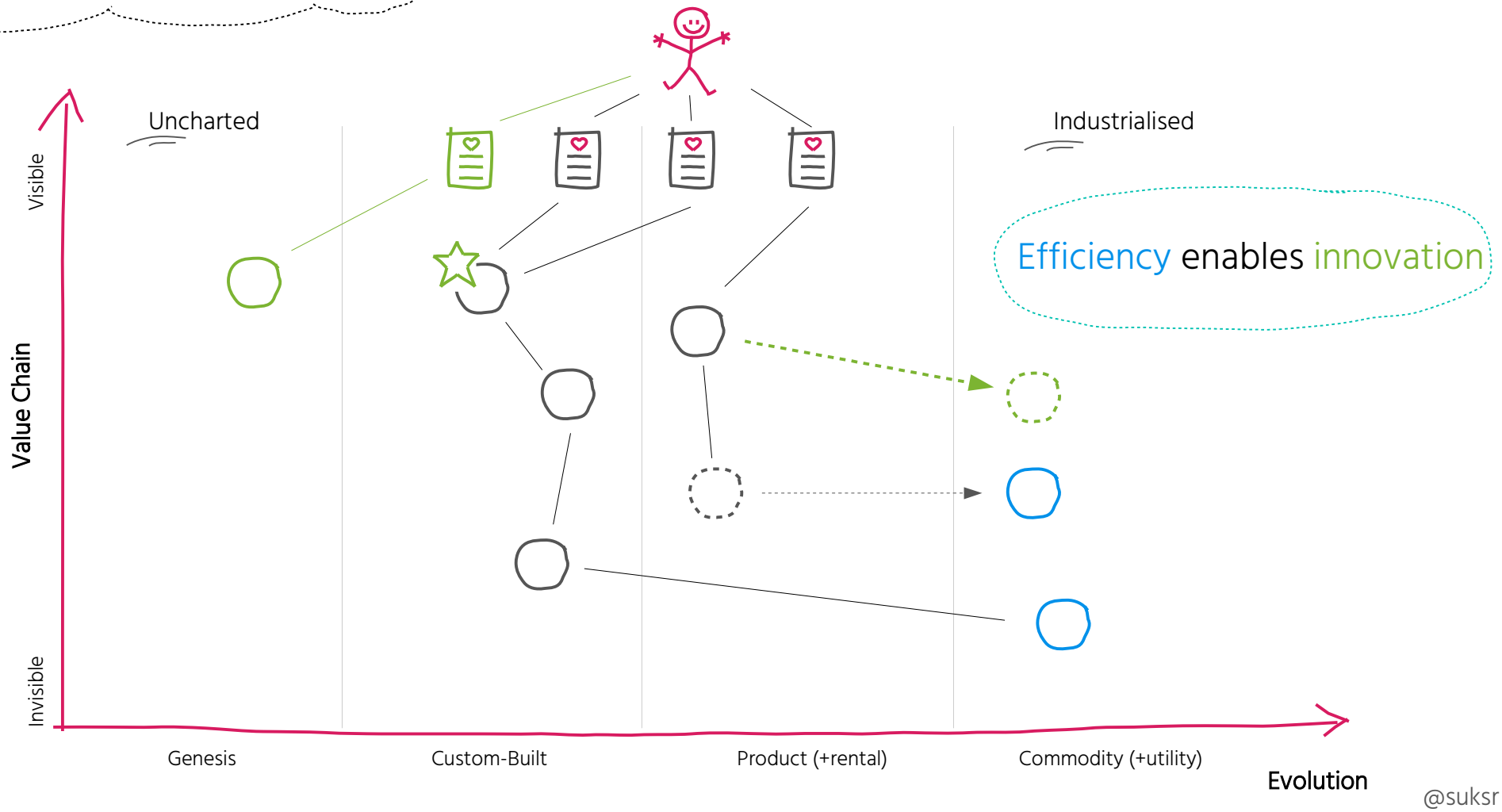

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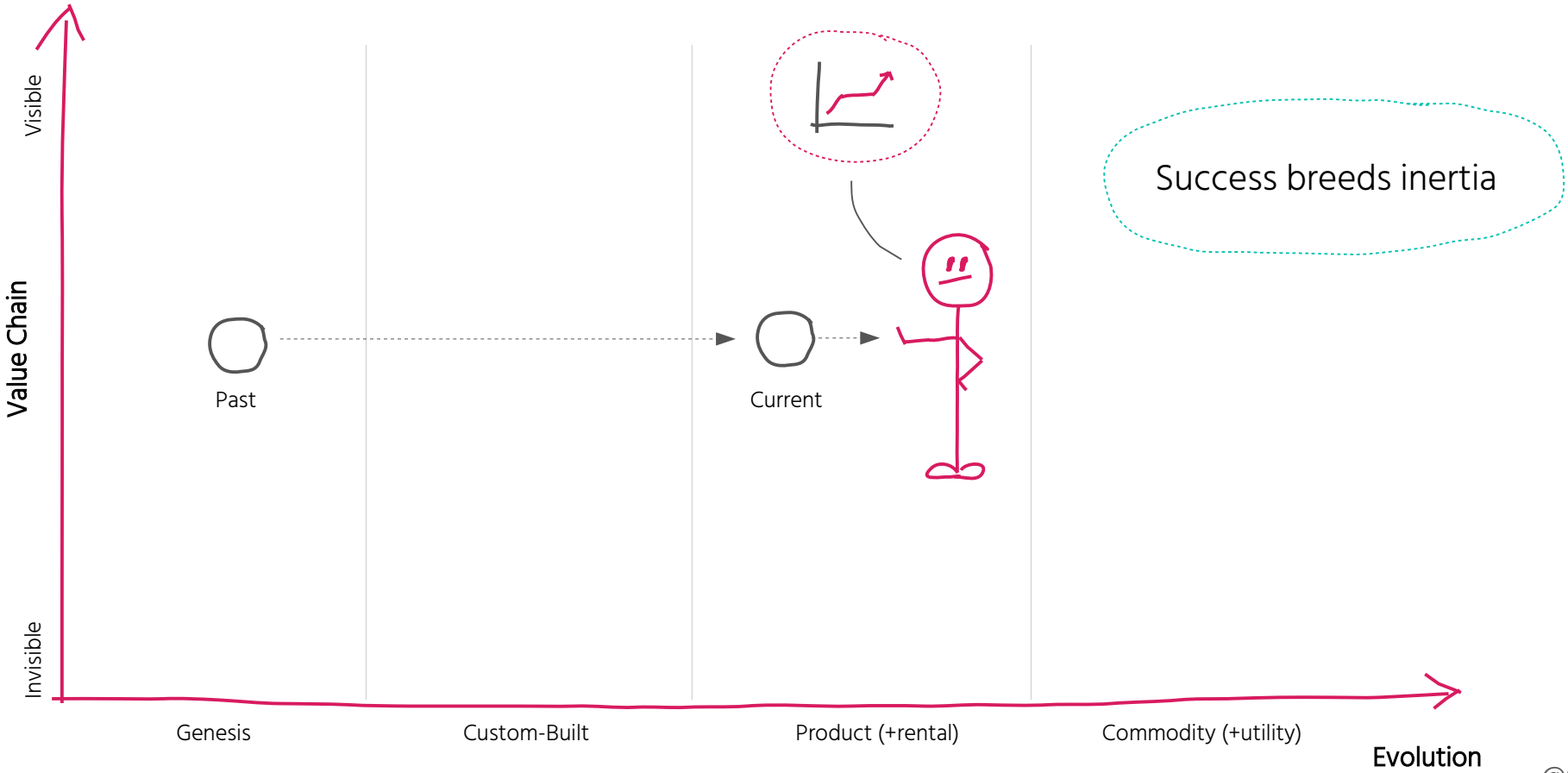
Wardley Maps

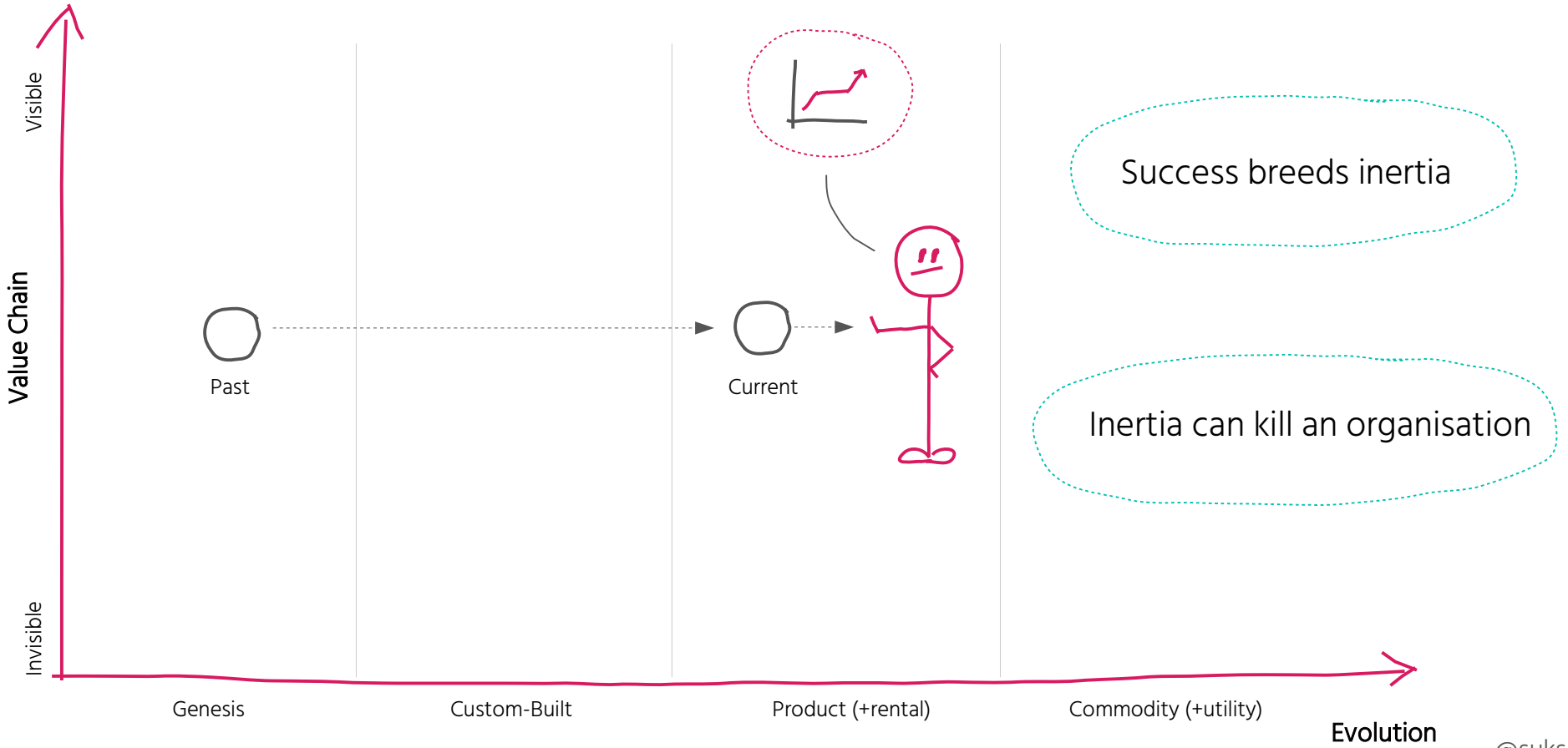
Patterns



@suksr

Wardley Maps

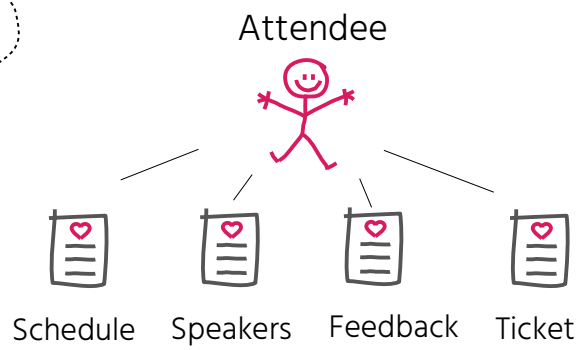
Patterns



@suksr

Wardley Maps

Example Conference Solution

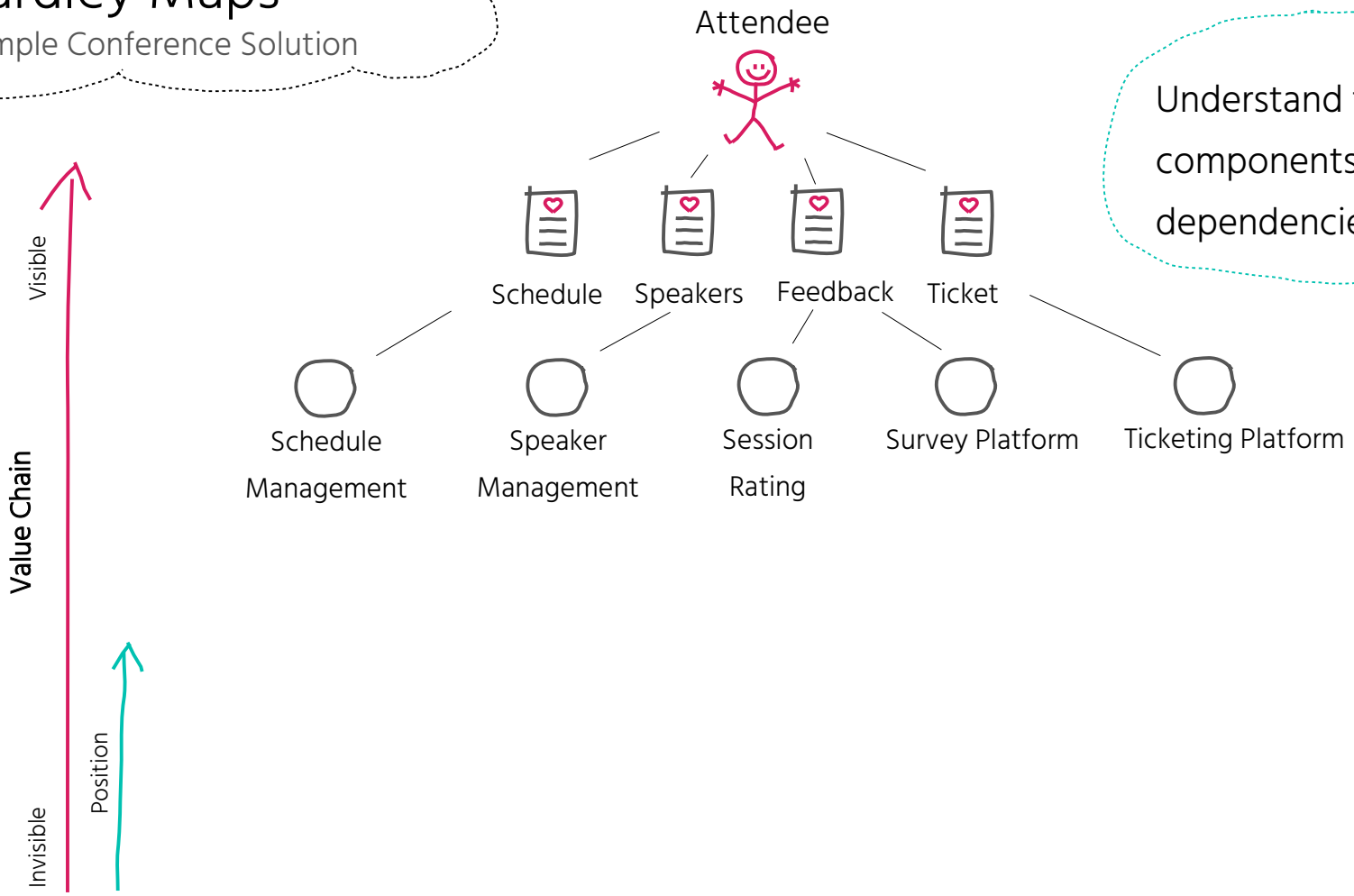


Focus on user needs

@suksr

Wardley Maps

Example Conference Solution

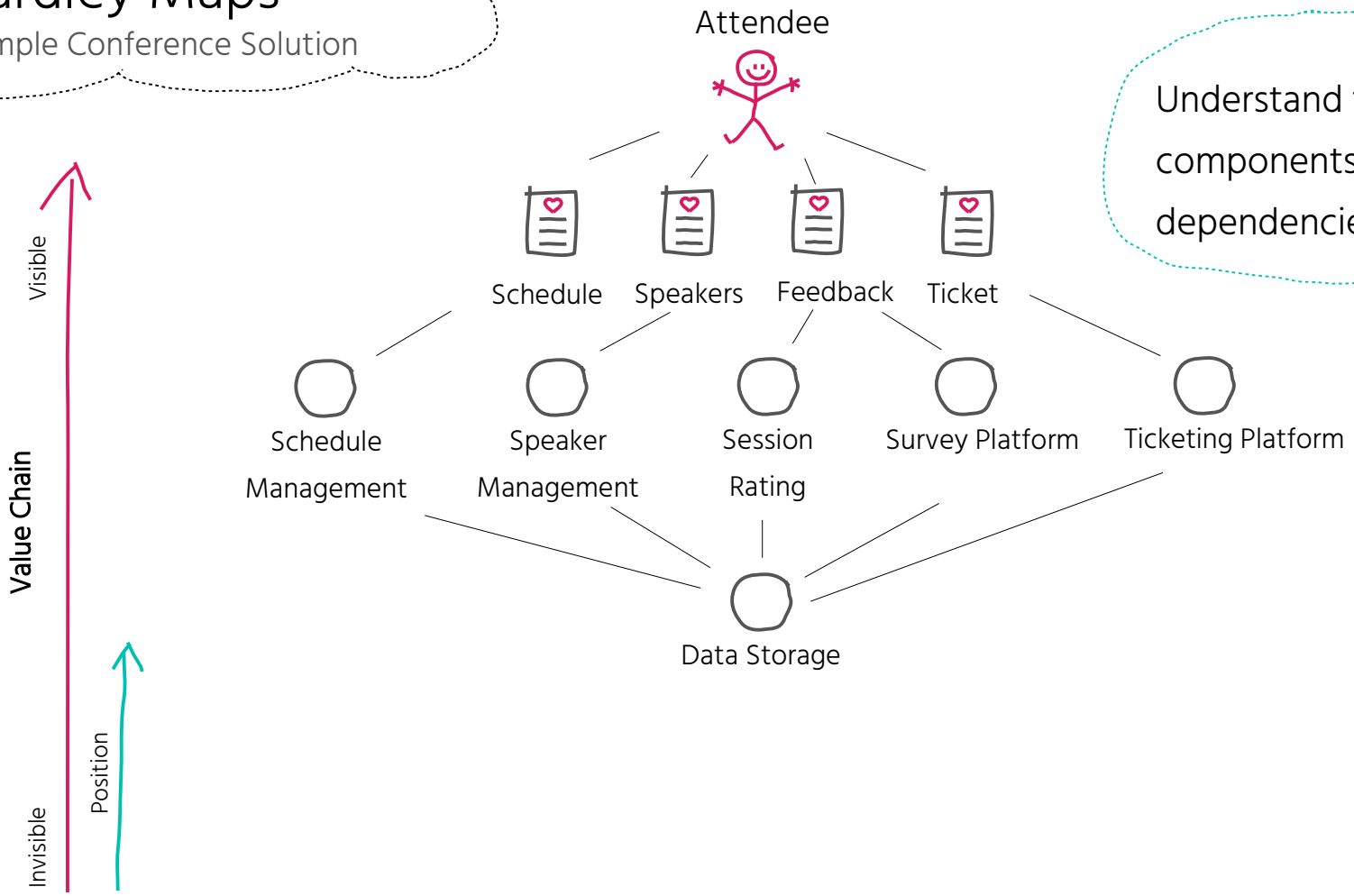


Understand the involved components and their dependencies (position)

@suksr

Wardley Maps

Example Conference Solution

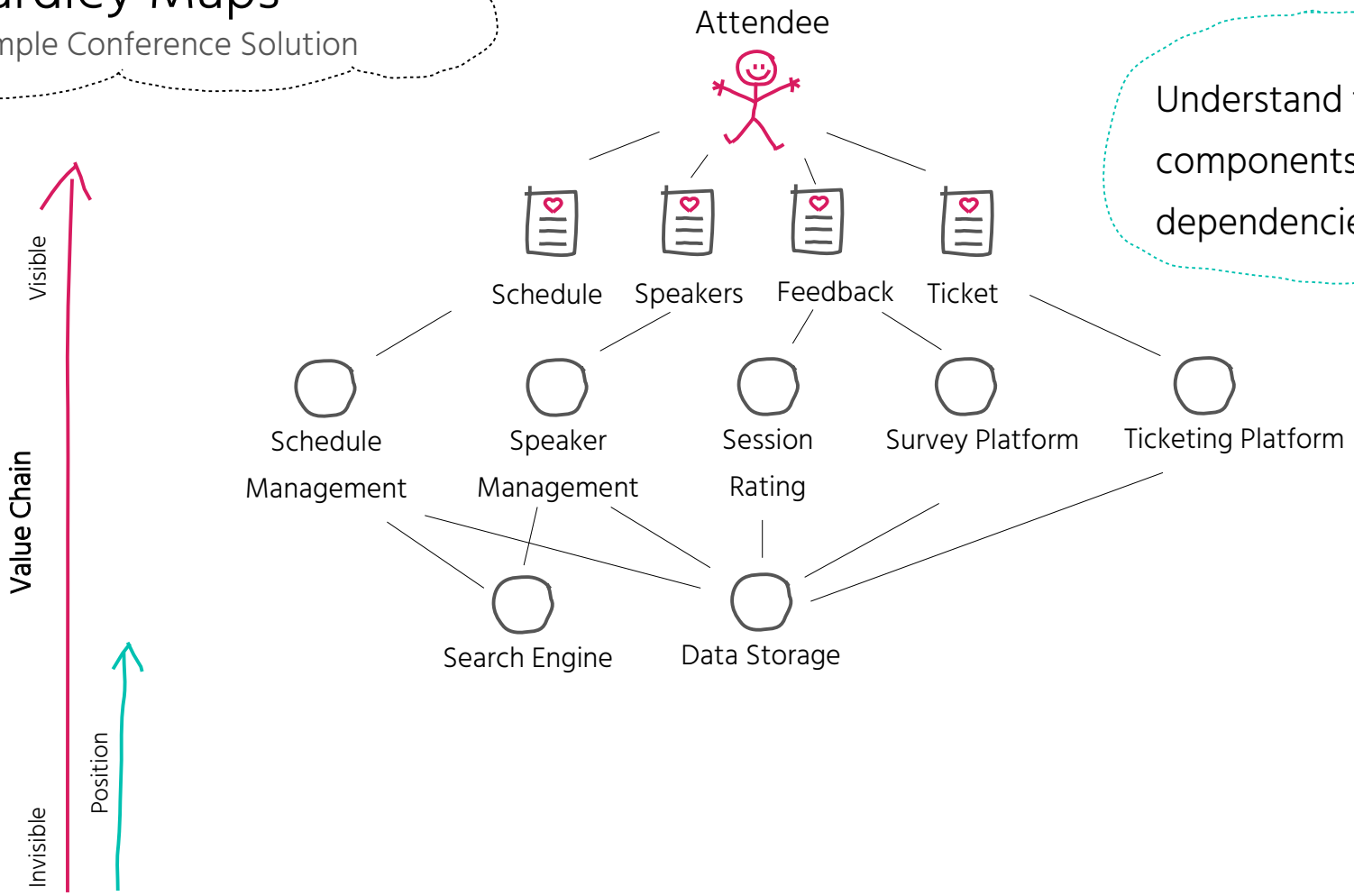


Understand the involved components and their dependencies (position)

@suksr

Wardley Maps

Example Conference Solution



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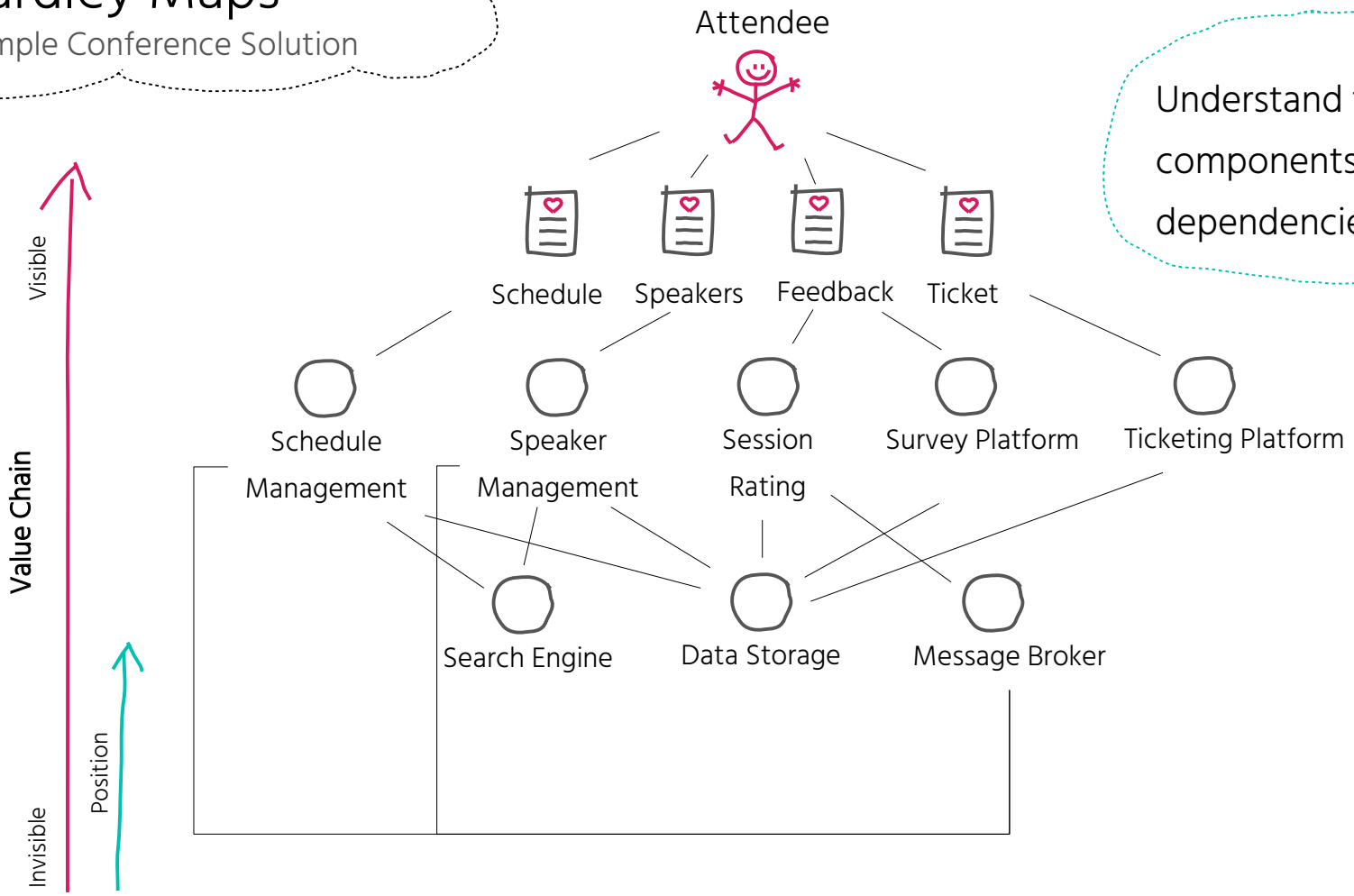
@suksr

Wardley Maps

Example Conference Solution



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@suksr

Wardley Maps

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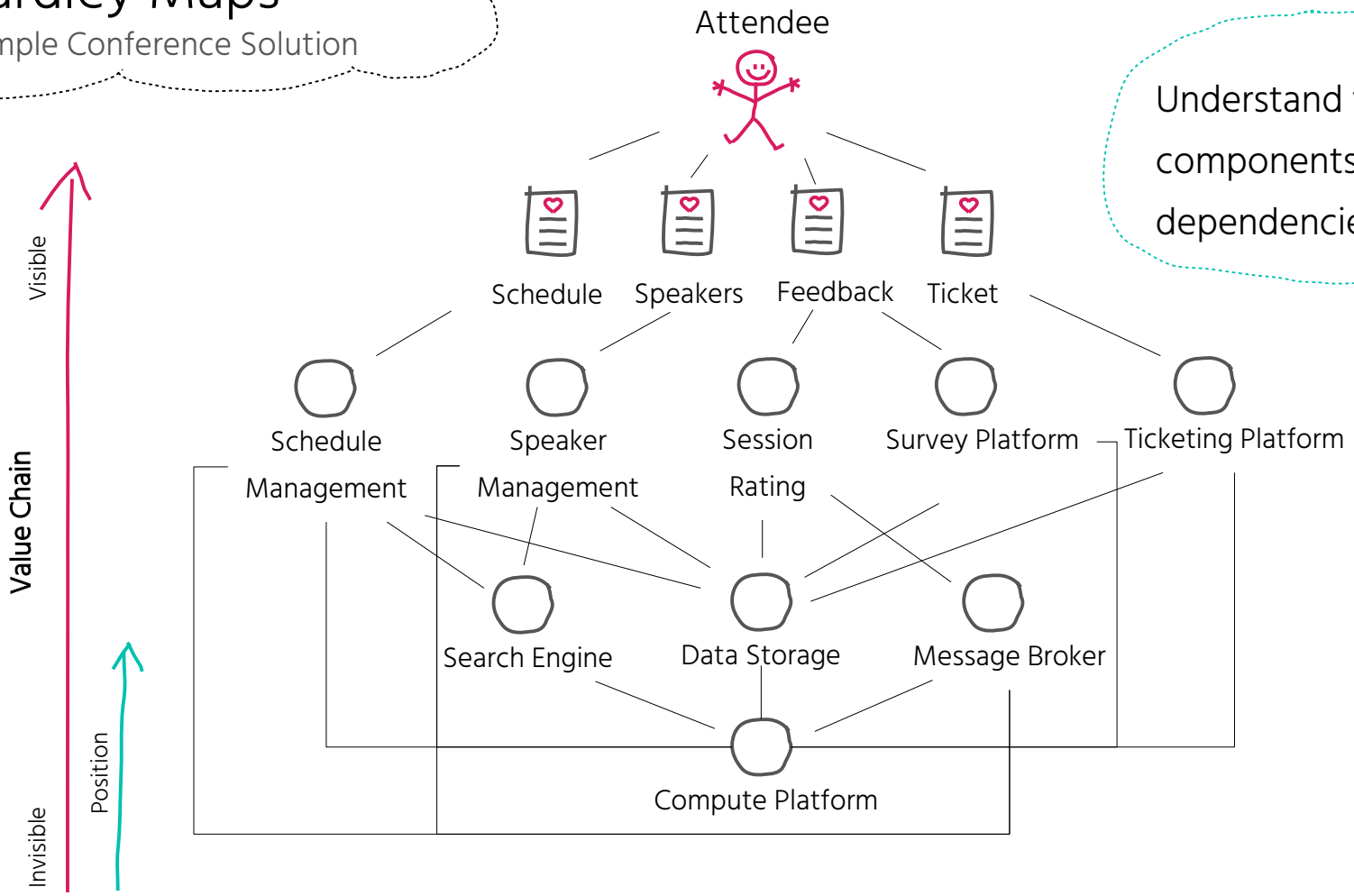

Understand the involved components and their dependencies (position)

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Wardley Maps

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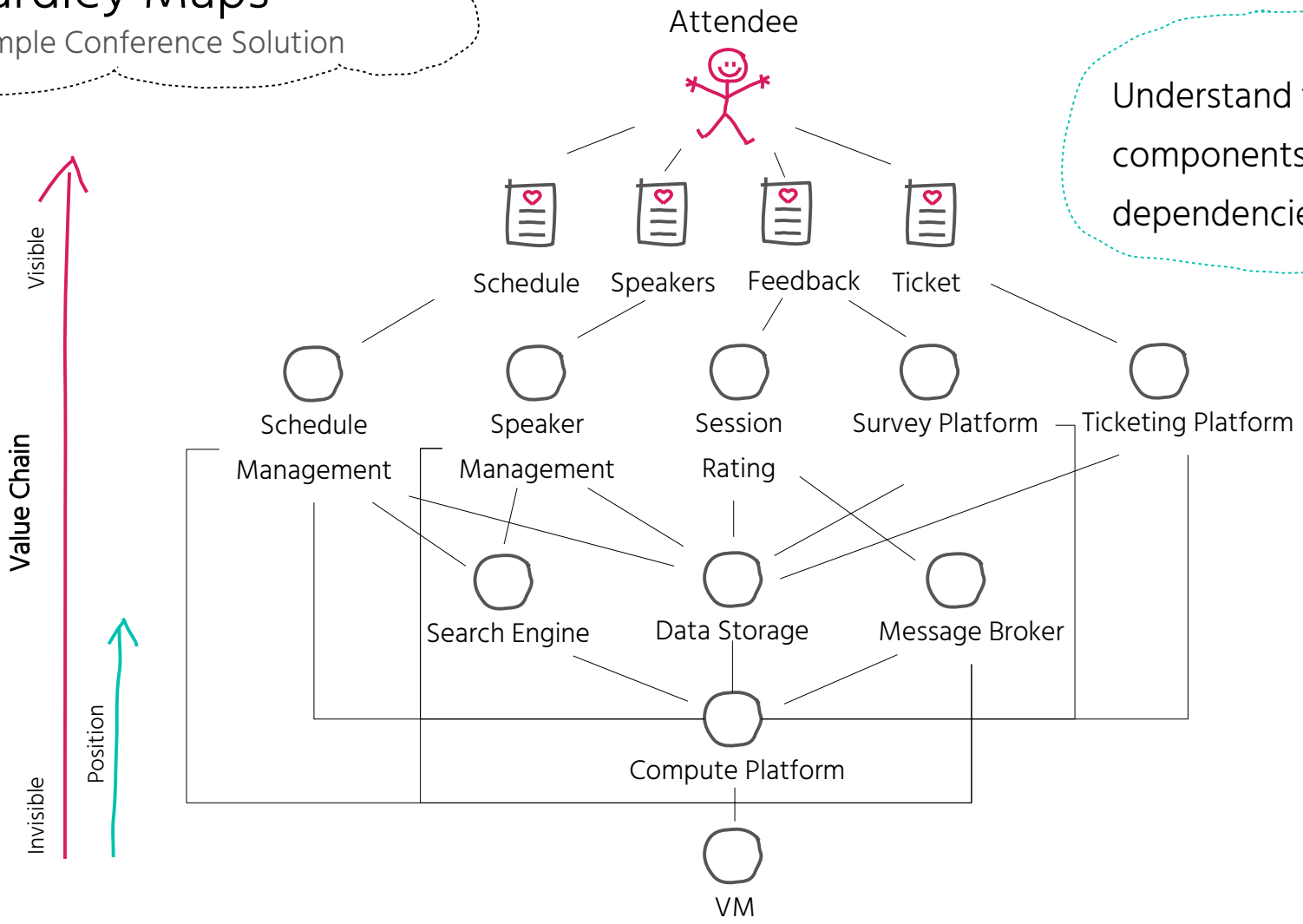

Understand the involved components and their dependencies (position)

@suksr

Wardley Maps

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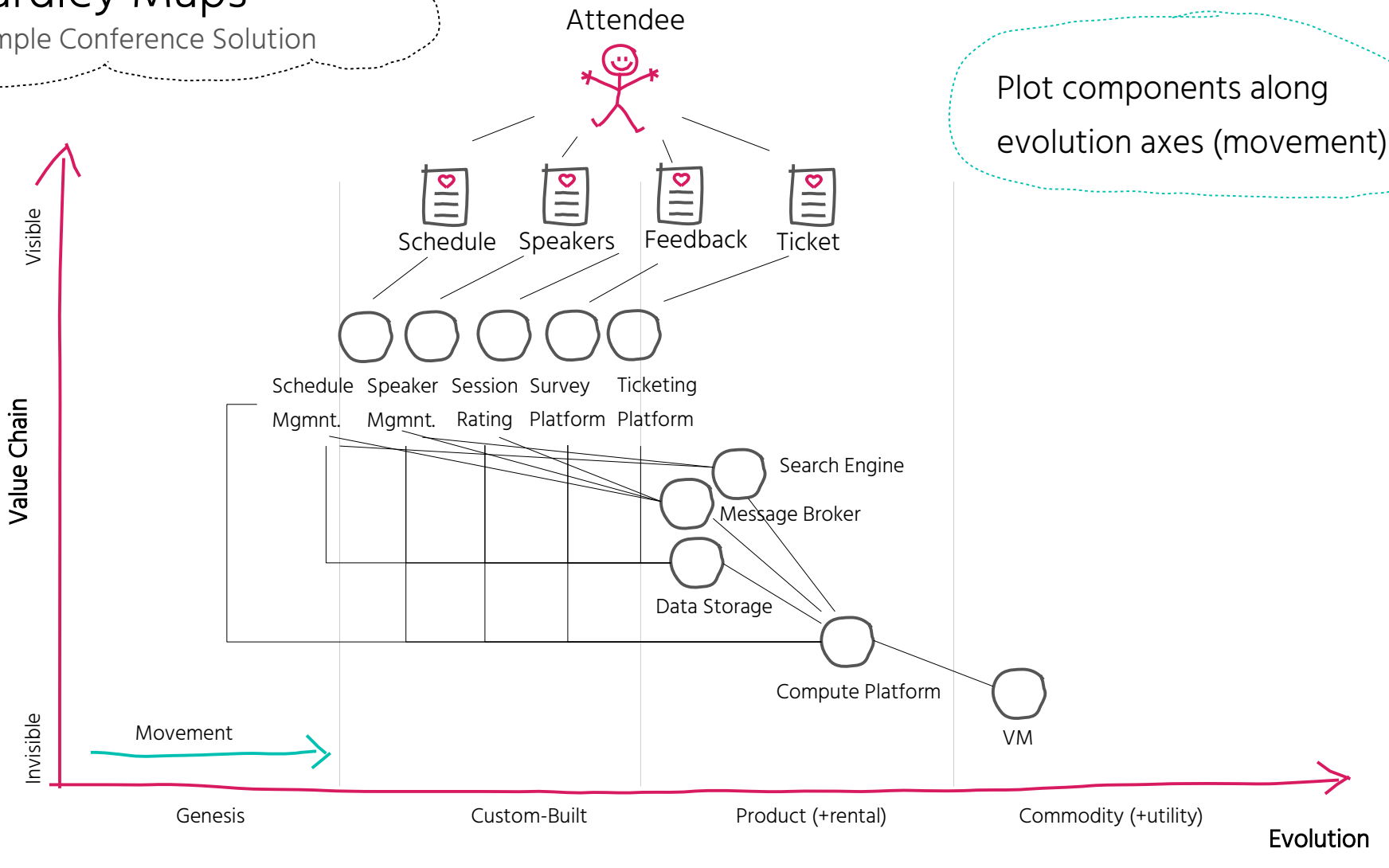
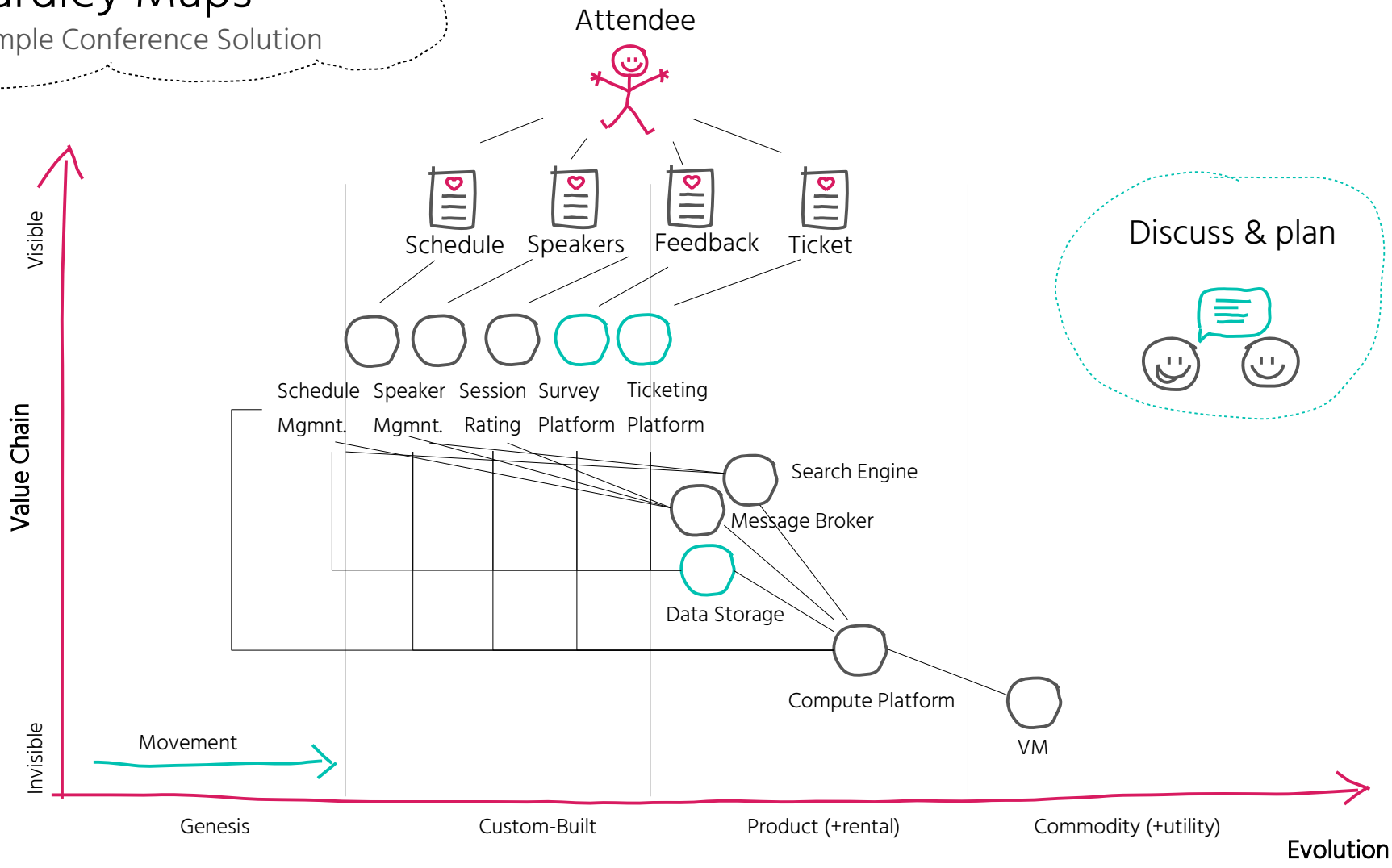


Plot components along evolution axes (movement)

@suksr

Wardley Maps

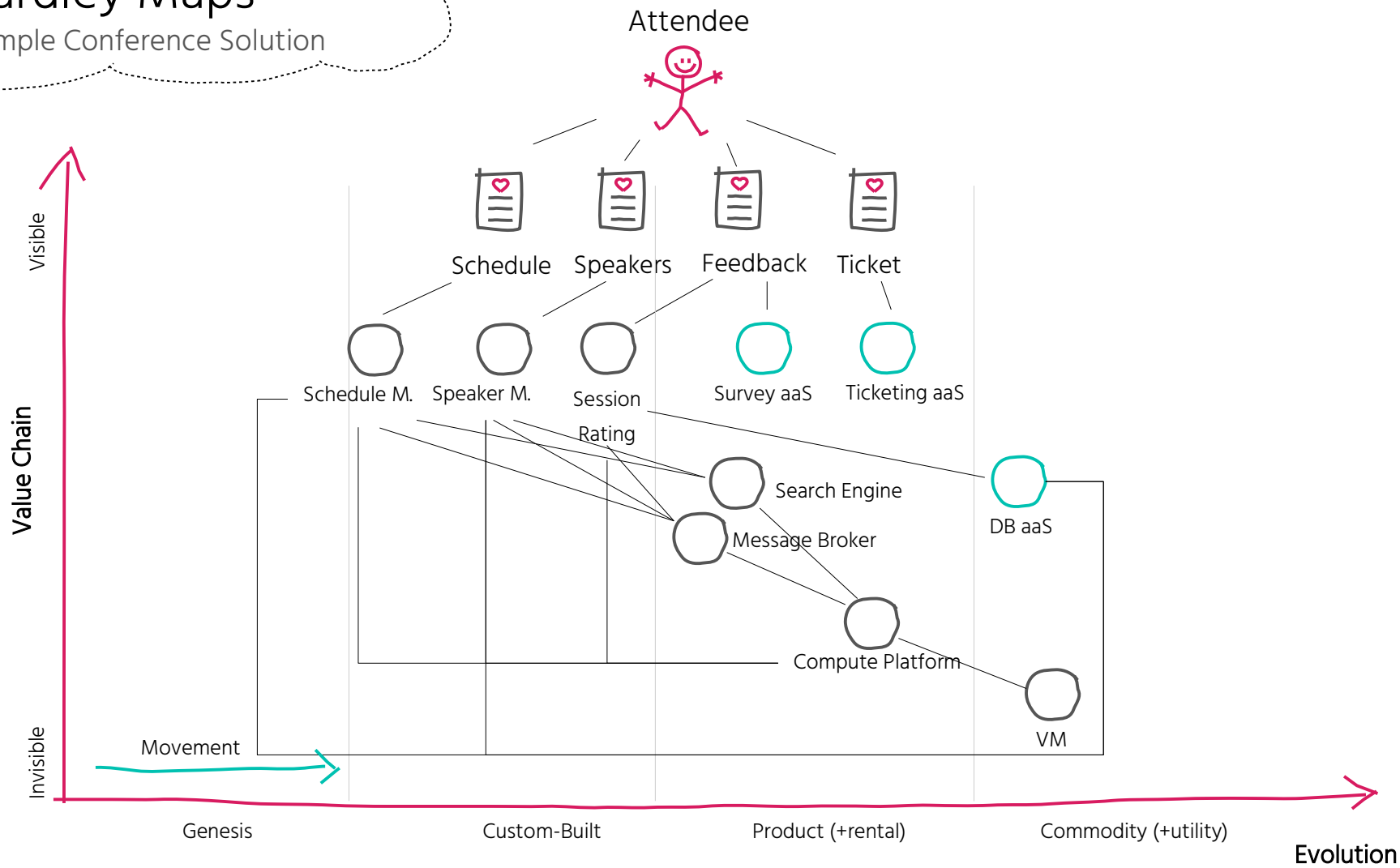
Example Conference Solution



@suksr

Wardley Maps

Example Conference Solution



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Wardley Maps

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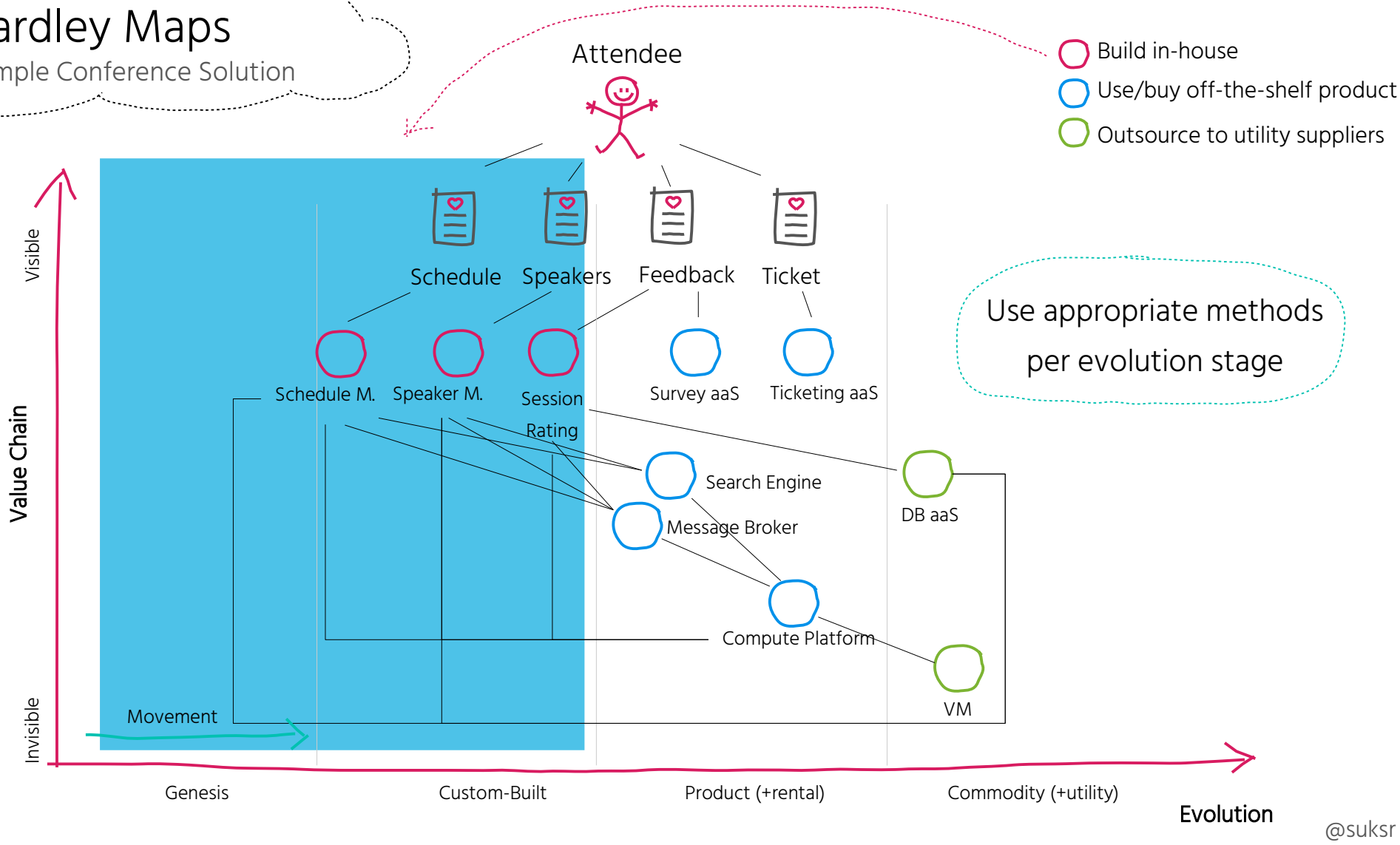

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Wardley Maps

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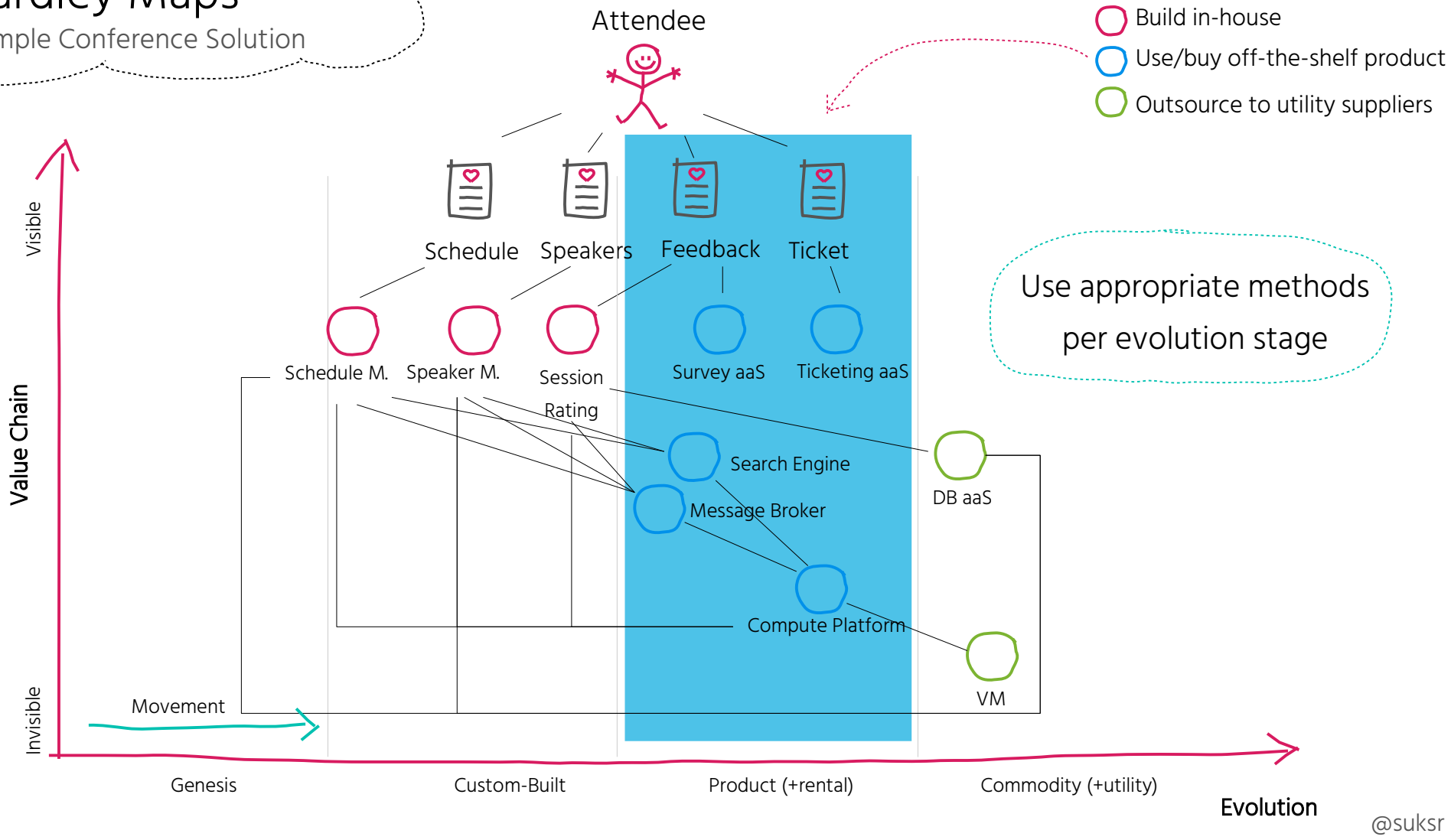

@suksr

Wardley Maps

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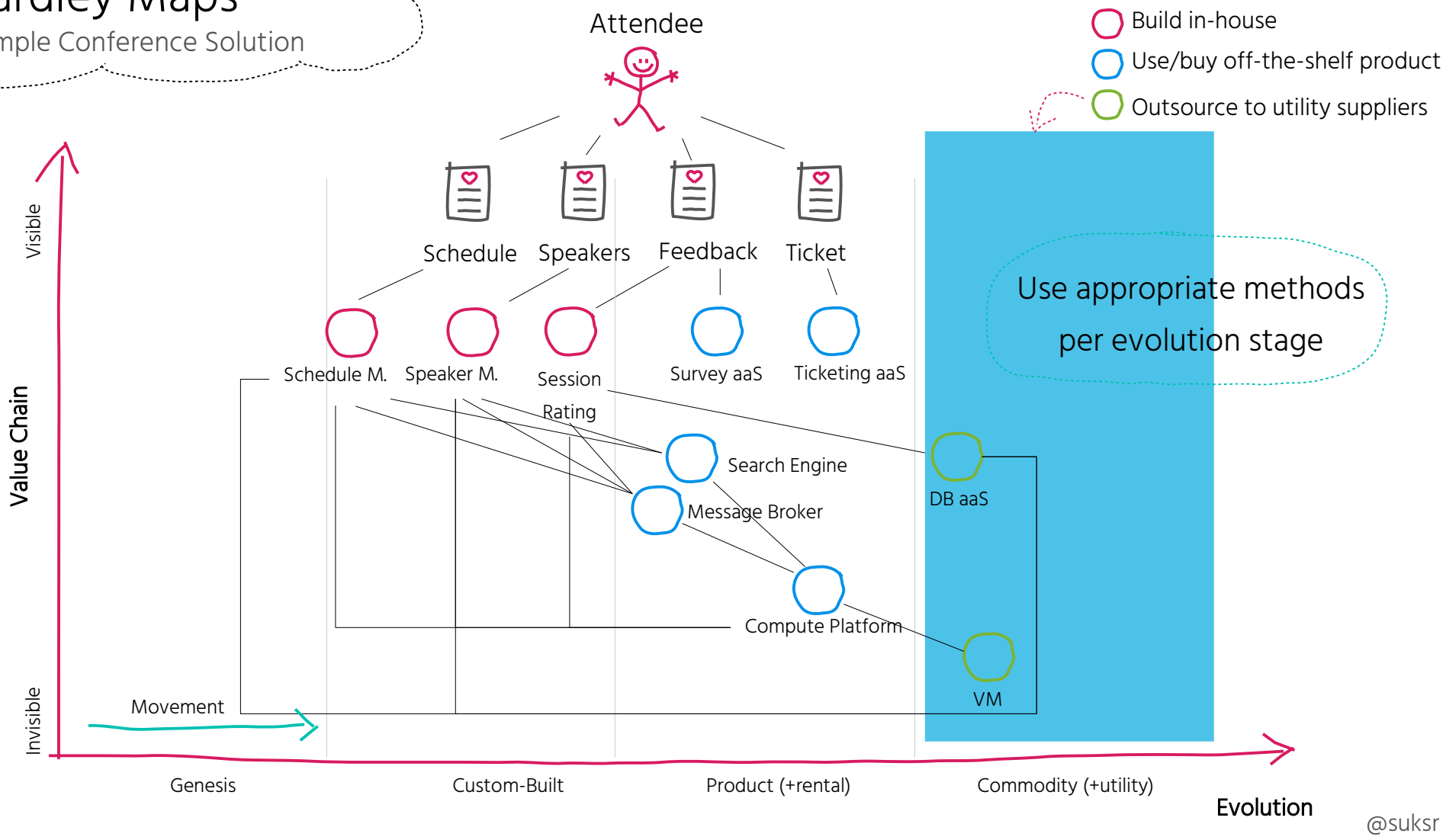

@suksr

Wardley Maps

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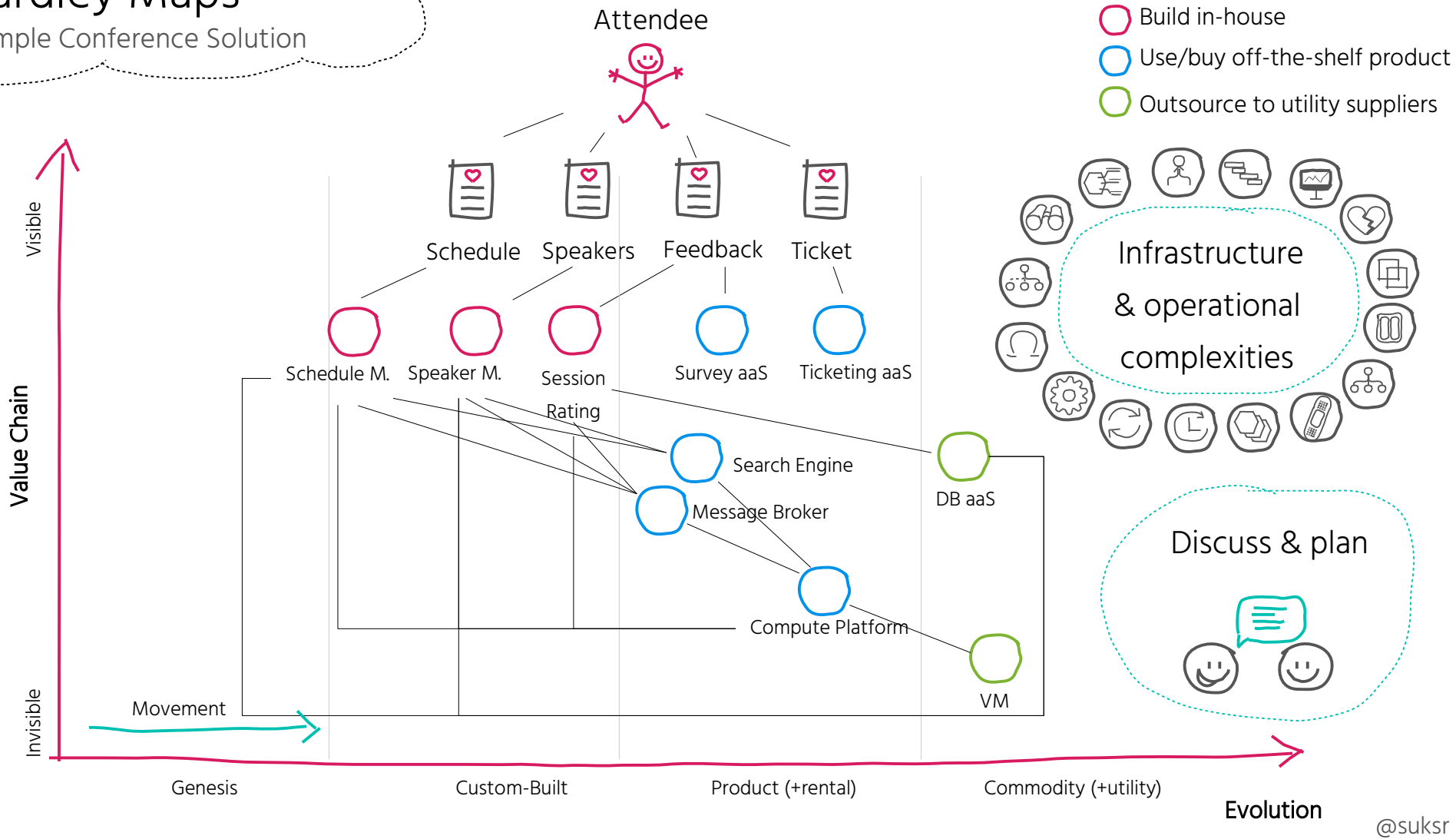

@suksr

Wardley Maps

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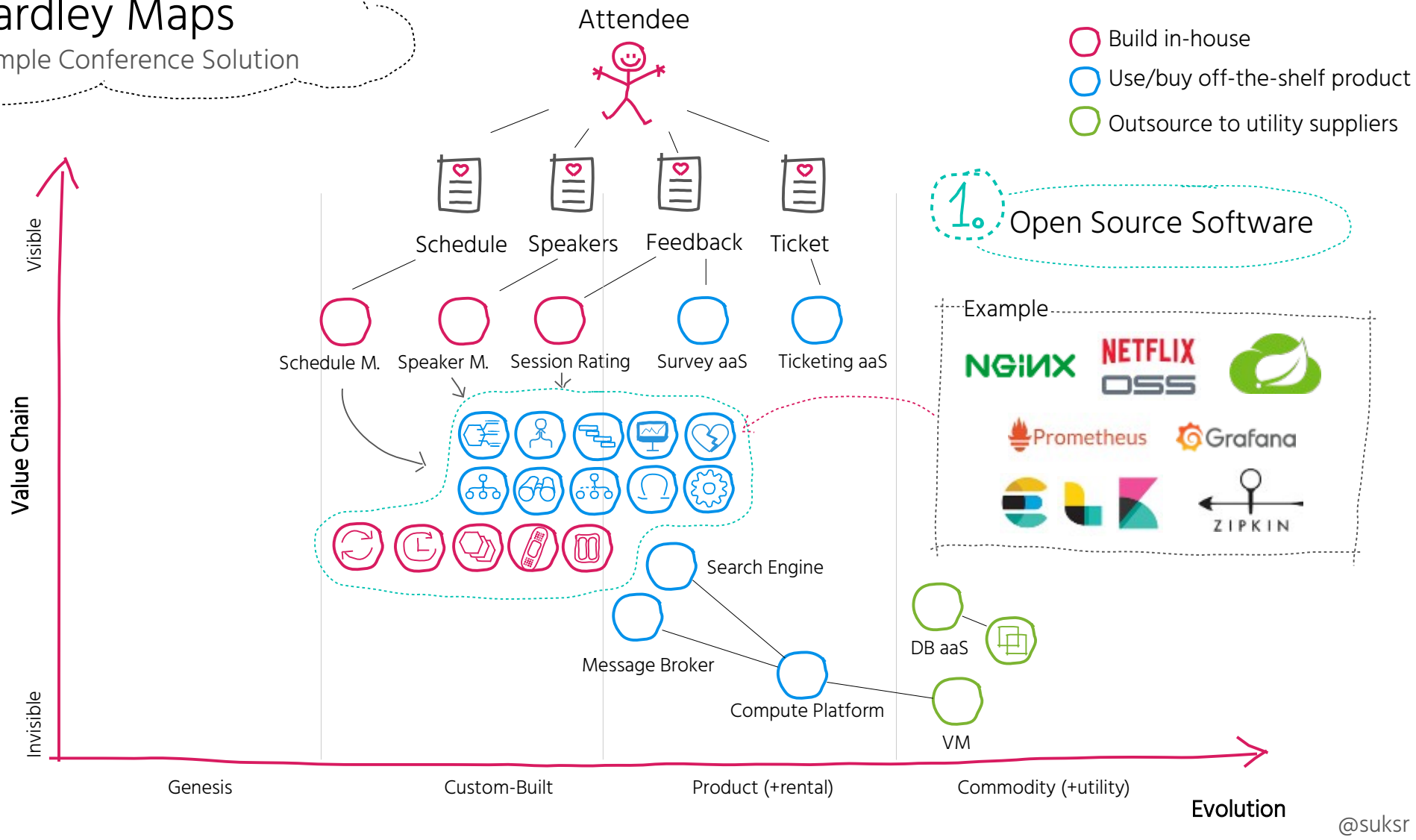

@suksr

Wardley Maps

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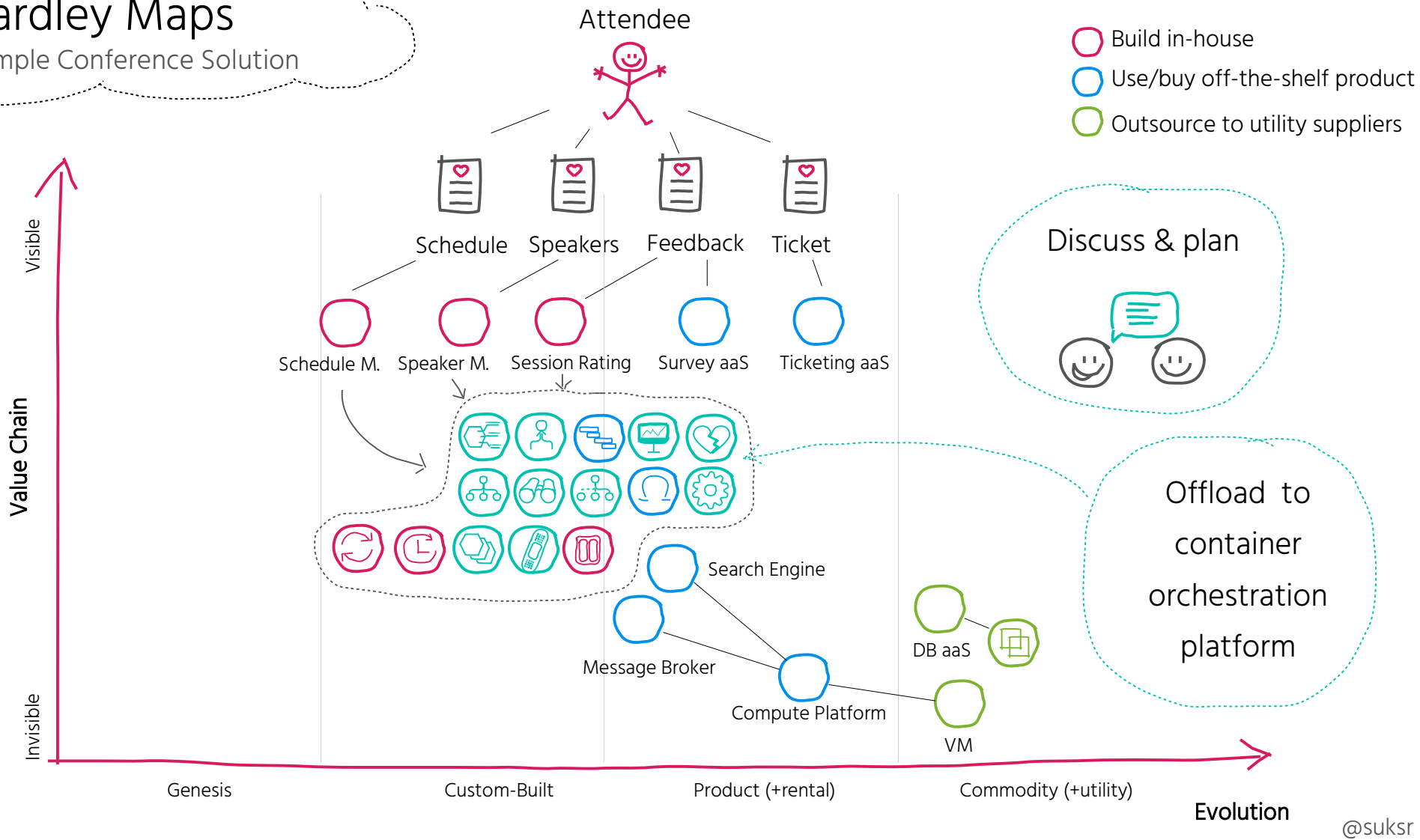
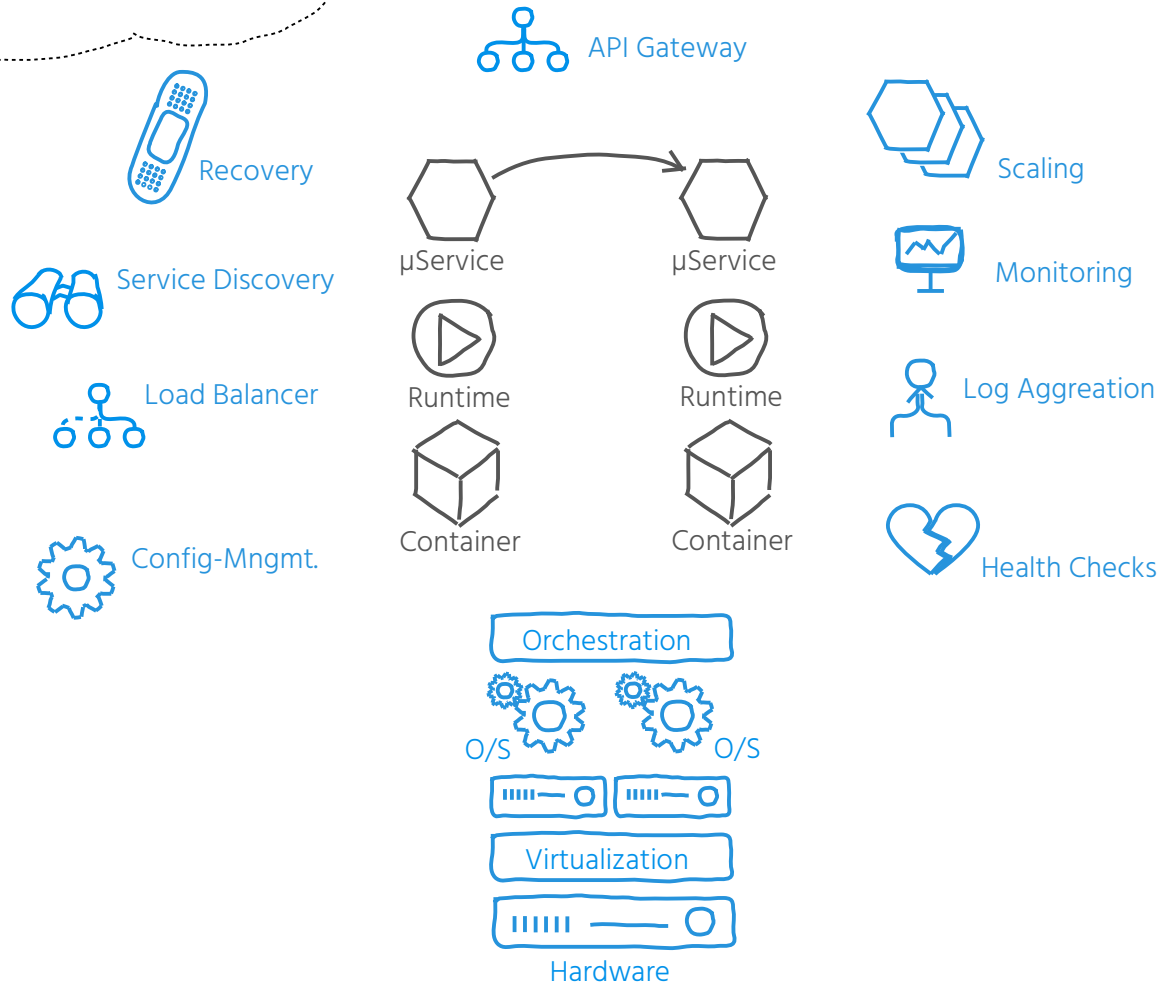


@suksr

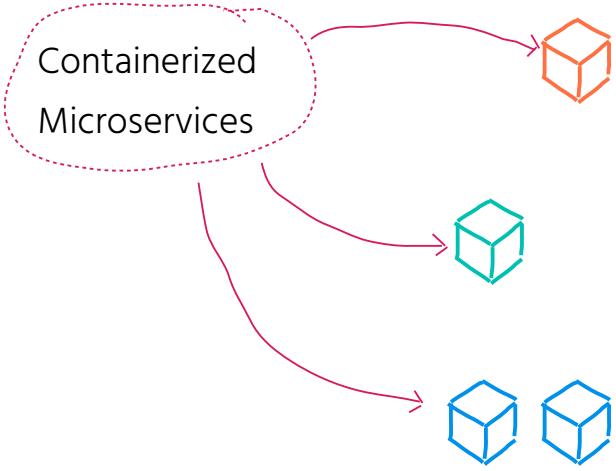
Container Orchestration



@suksr

Container Orchestration

Basic components of Kubernetes



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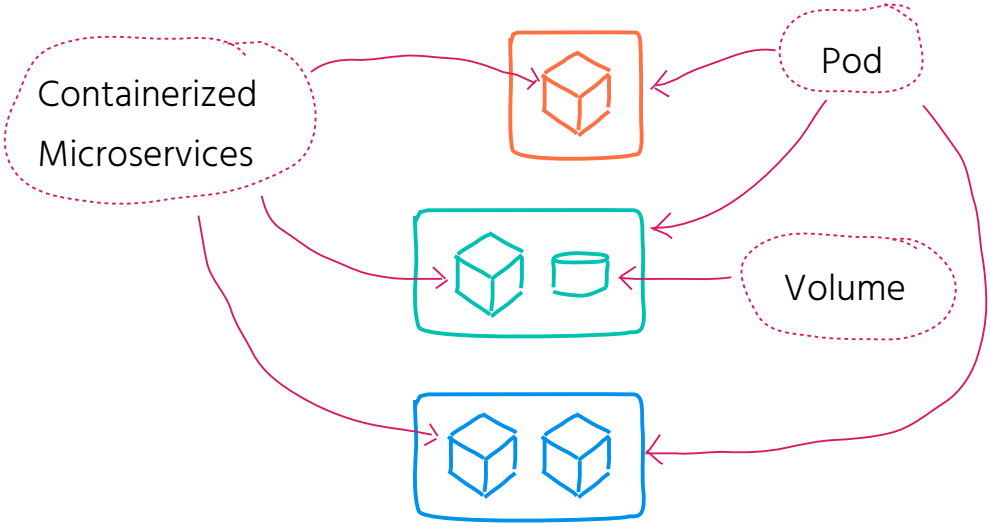
Basic components of Kubernetes



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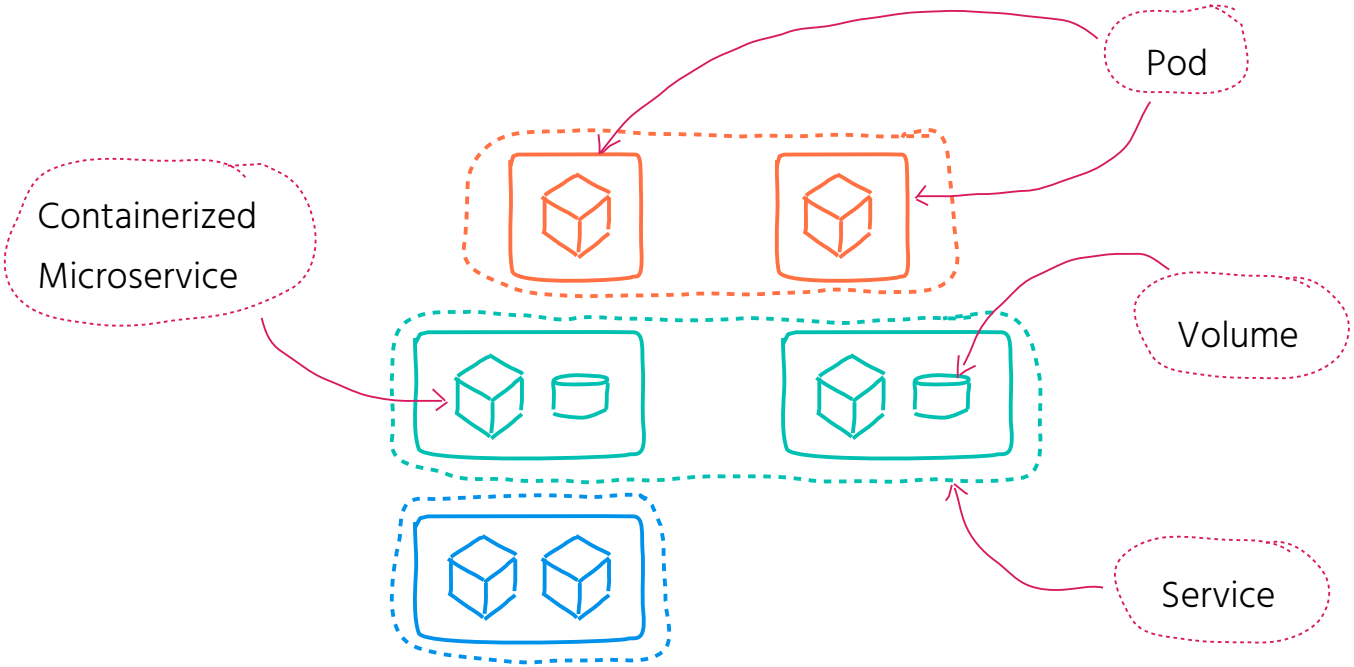

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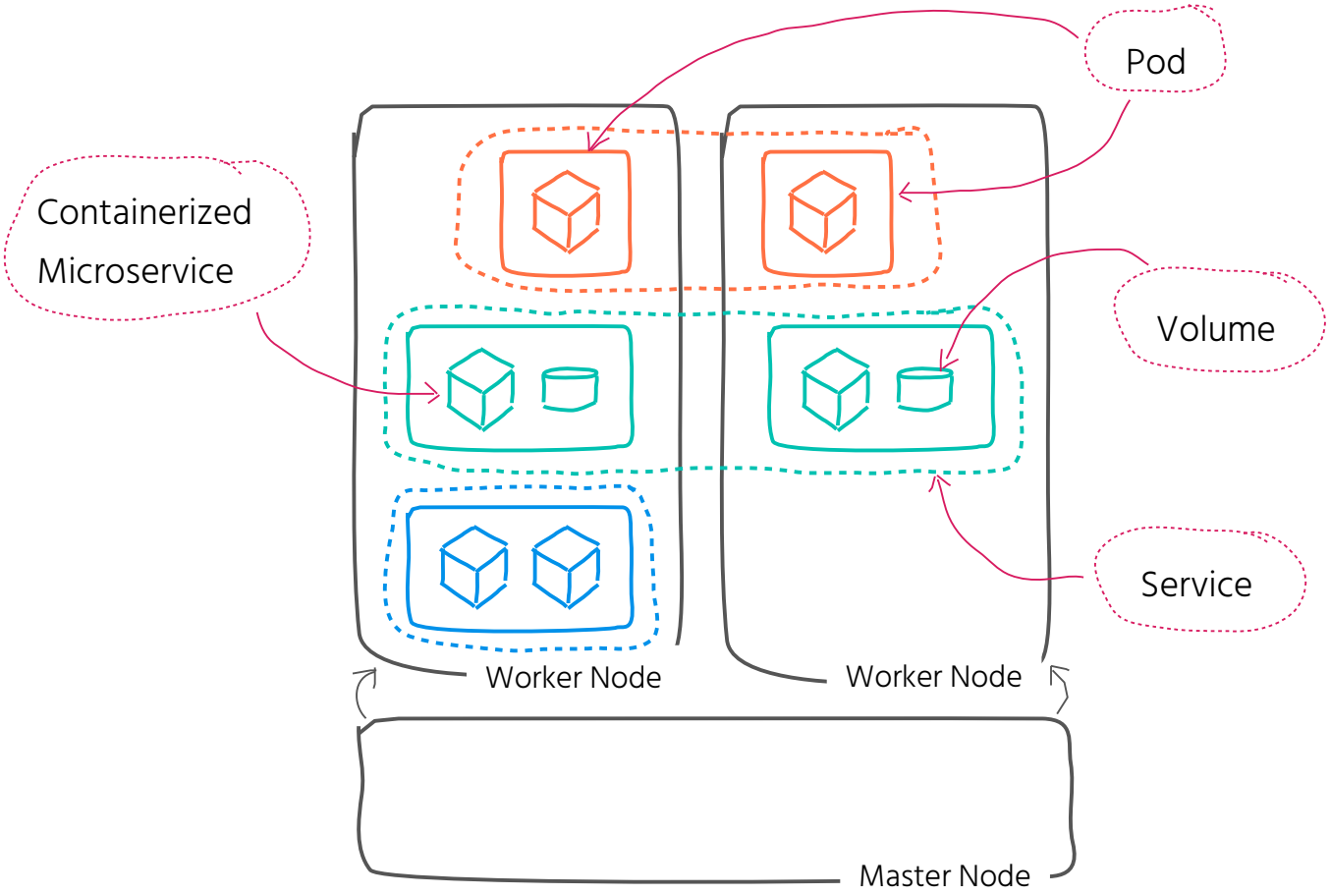
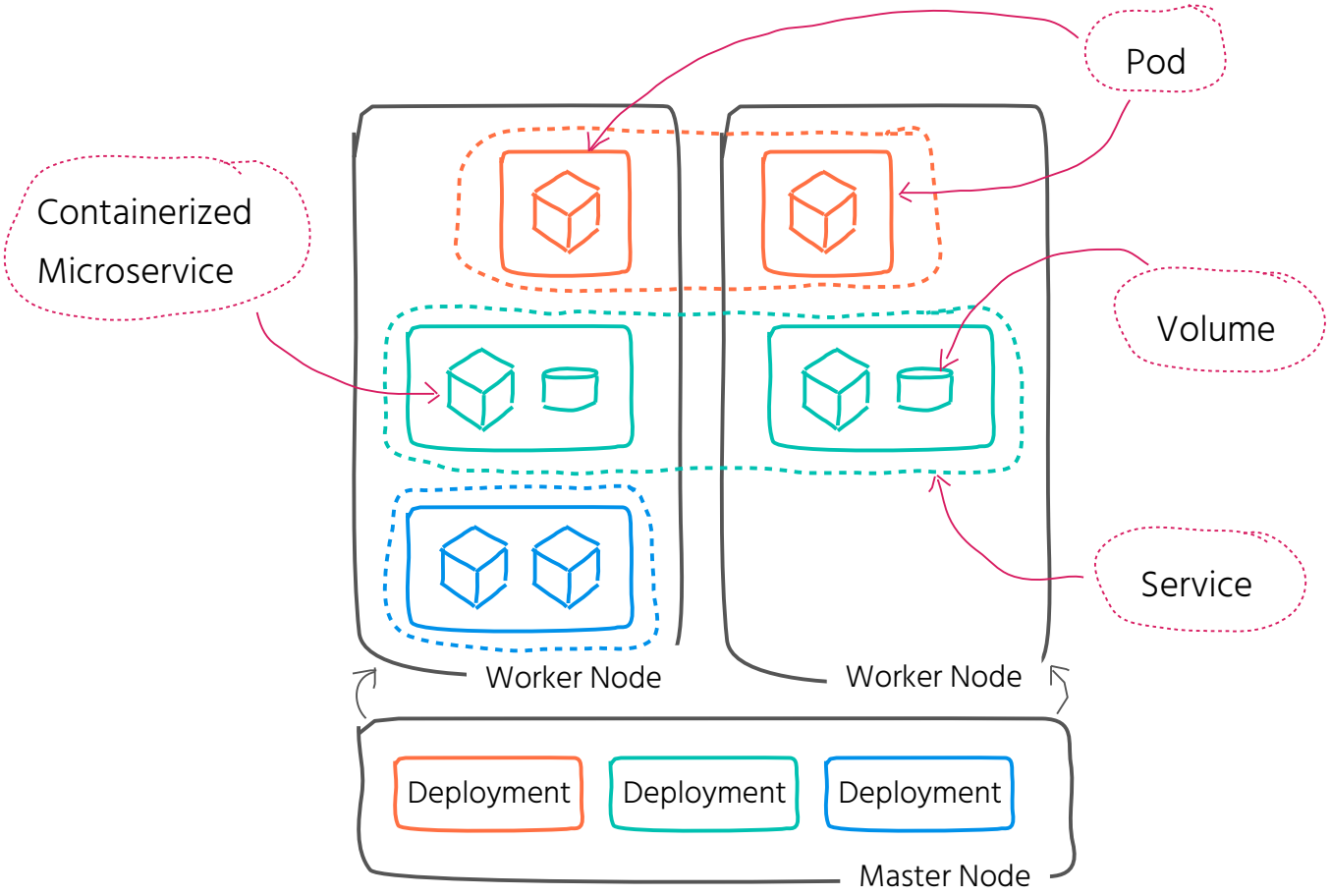


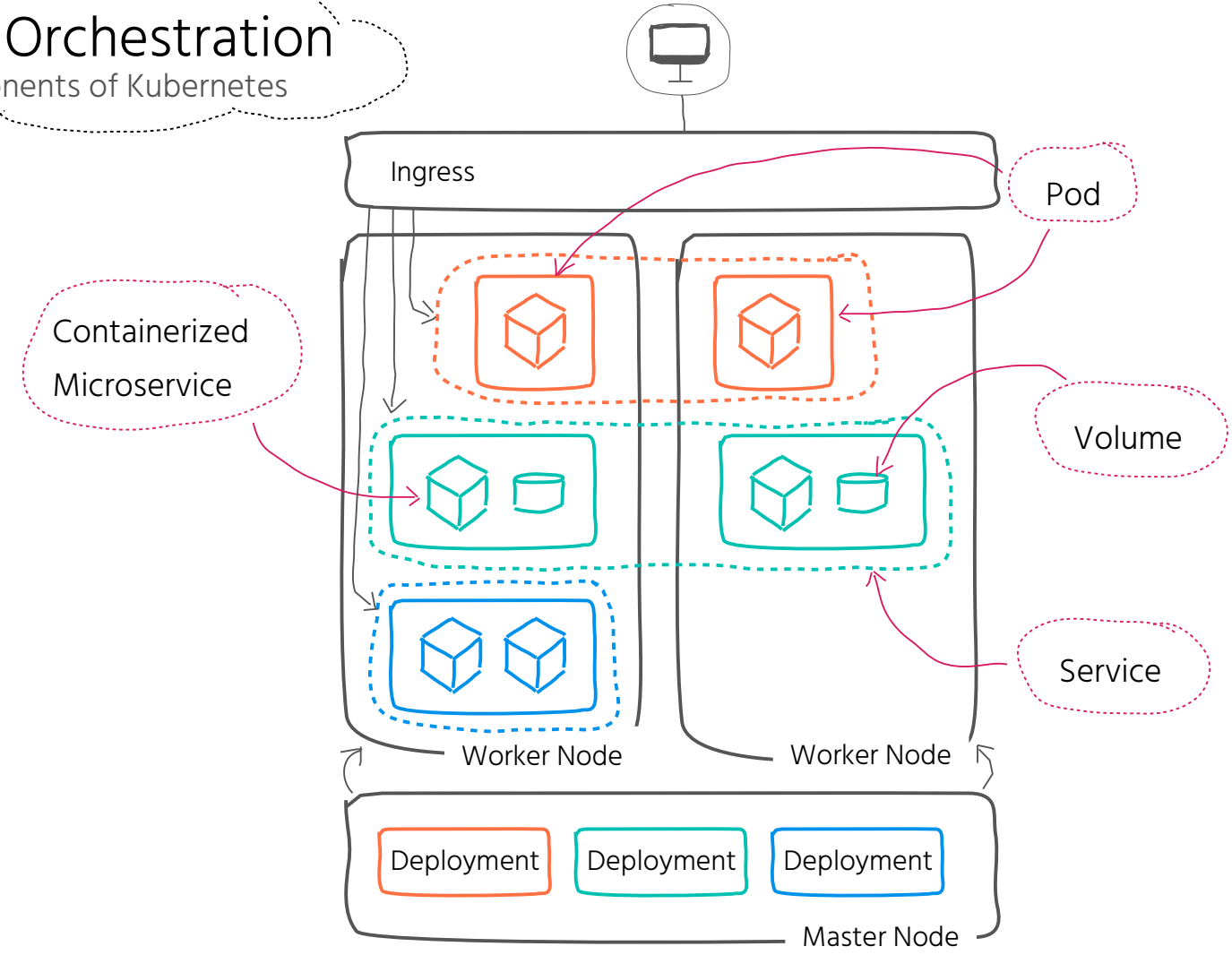
Container Orchestration

Basic components of Kubernetes



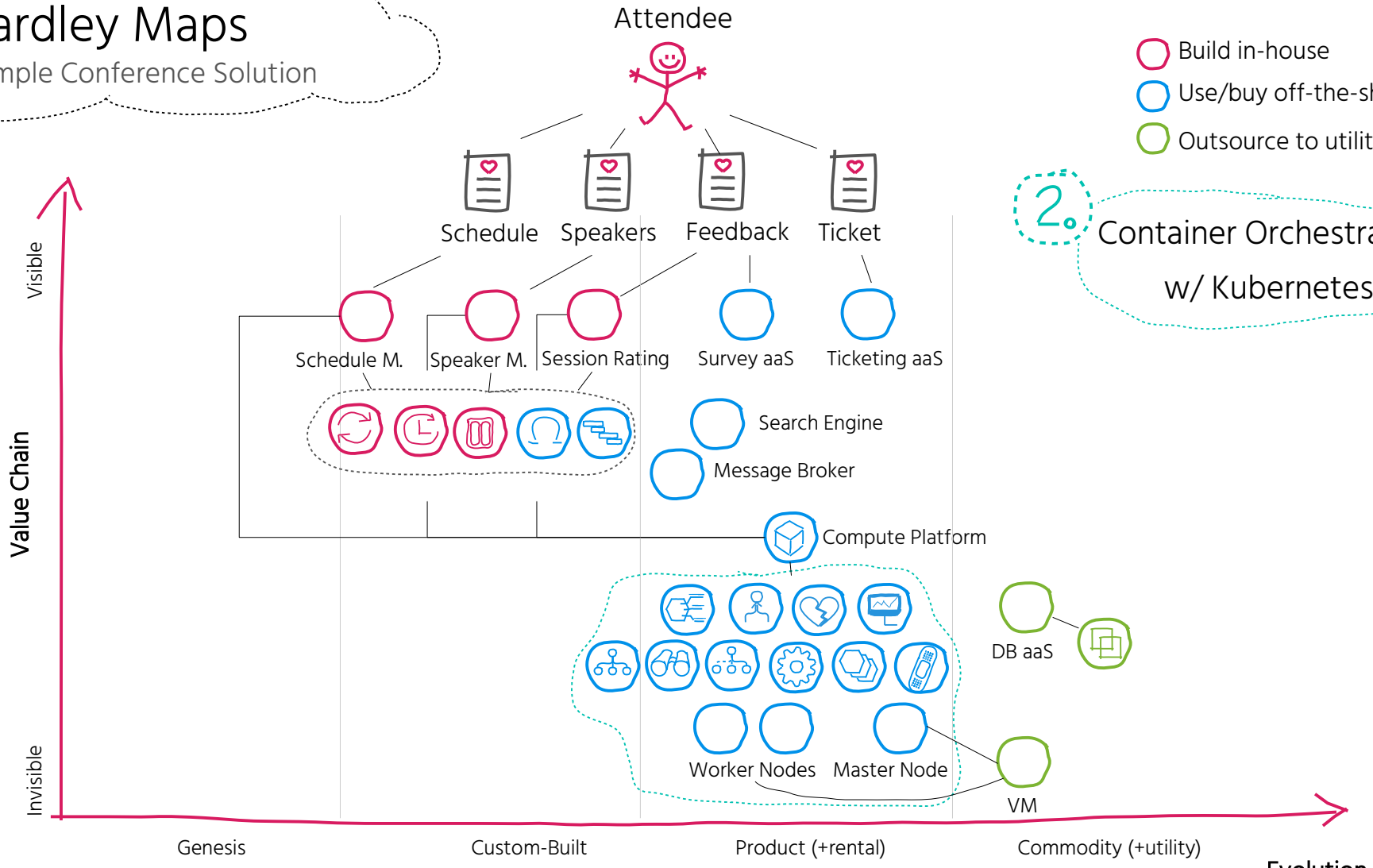
Container Orchestration

Basic components of Kubernetes



Wardley Maps

Example Conference Solution



Build in-house

Use/buy off-the-shelf product

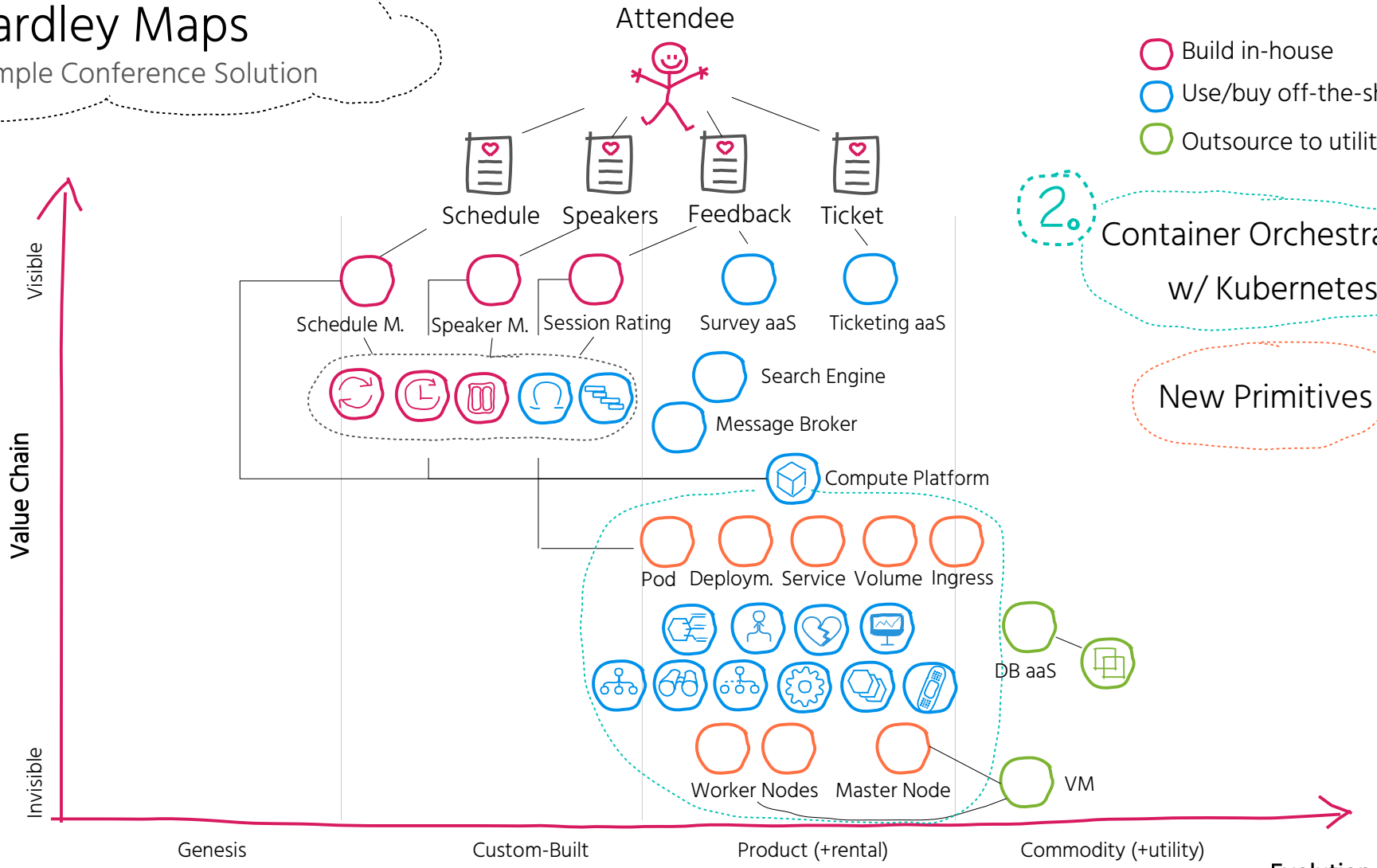
Outsource to utility suppliers

2. Container Orchestration w/ Kubernetes

@suksr

Wardley Maps

Example Conference Solution



Build in-house

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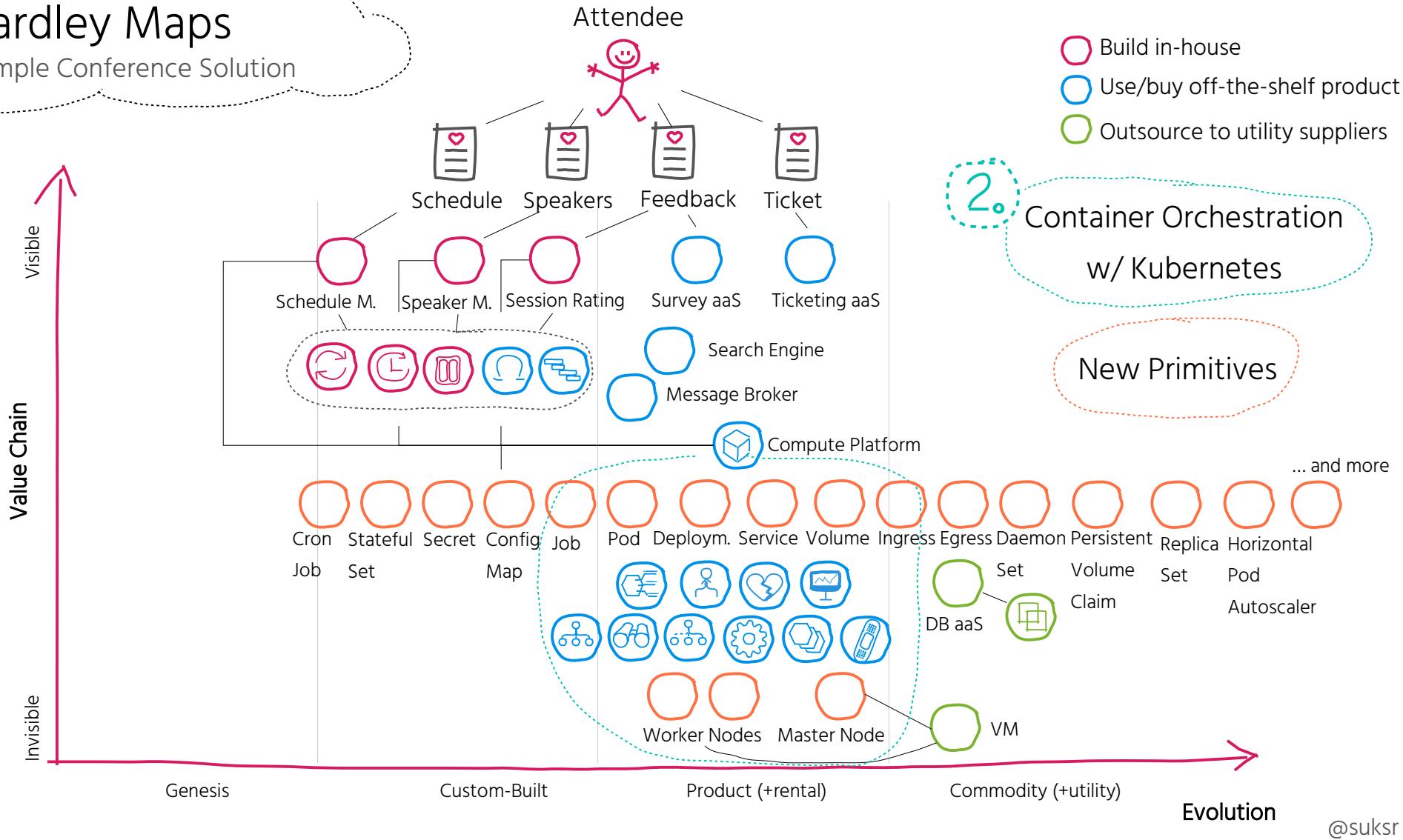
2. Container Orchestration w/ Kubernetes

New Primitives

@suksr

Wardley Maps

Example Conference Solution



@suksr

Wardley Maps

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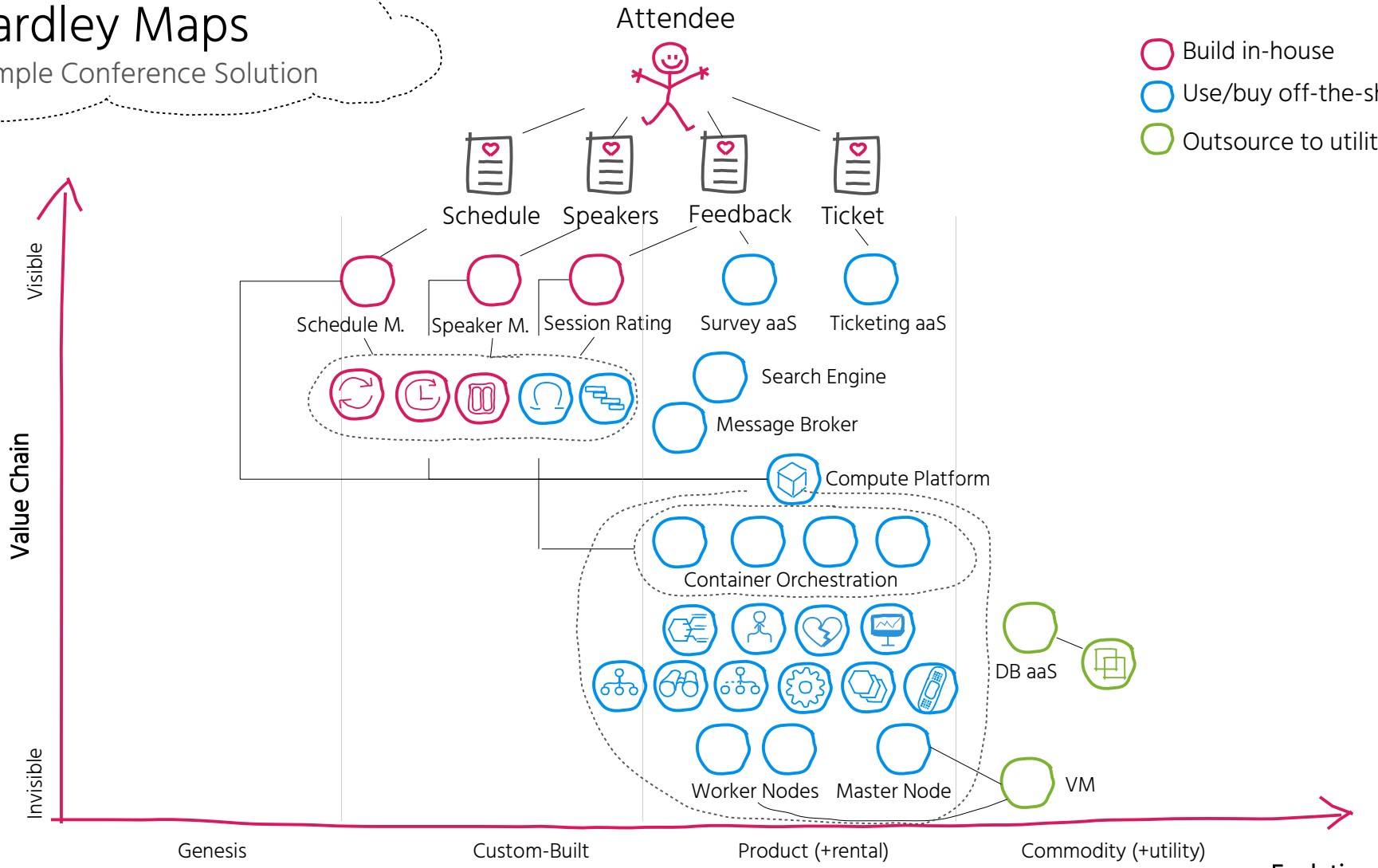

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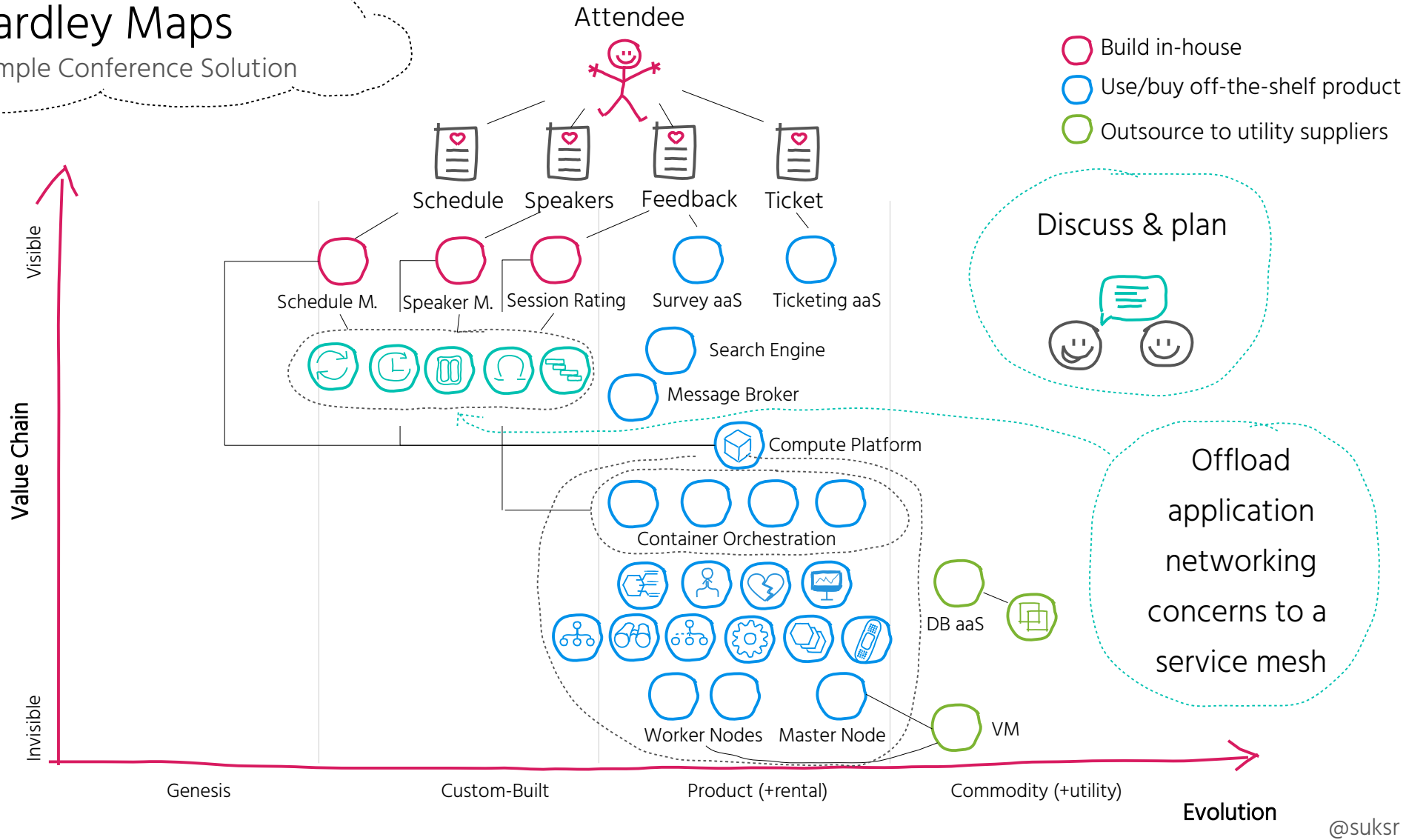
@suksr

Wardley Maps

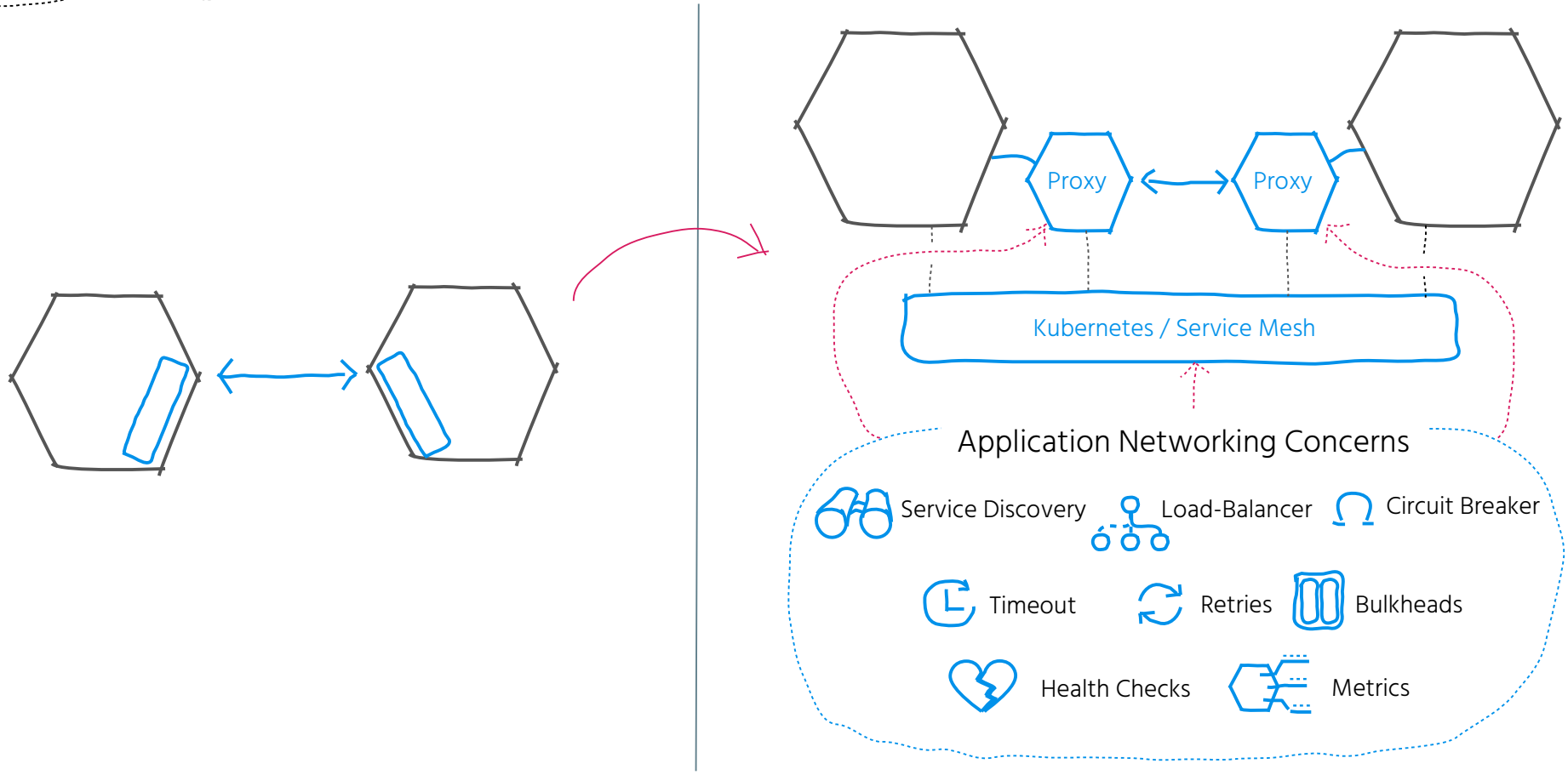
Example Conference Solution



@suksr

Separation Of Concerns

Service Mesh



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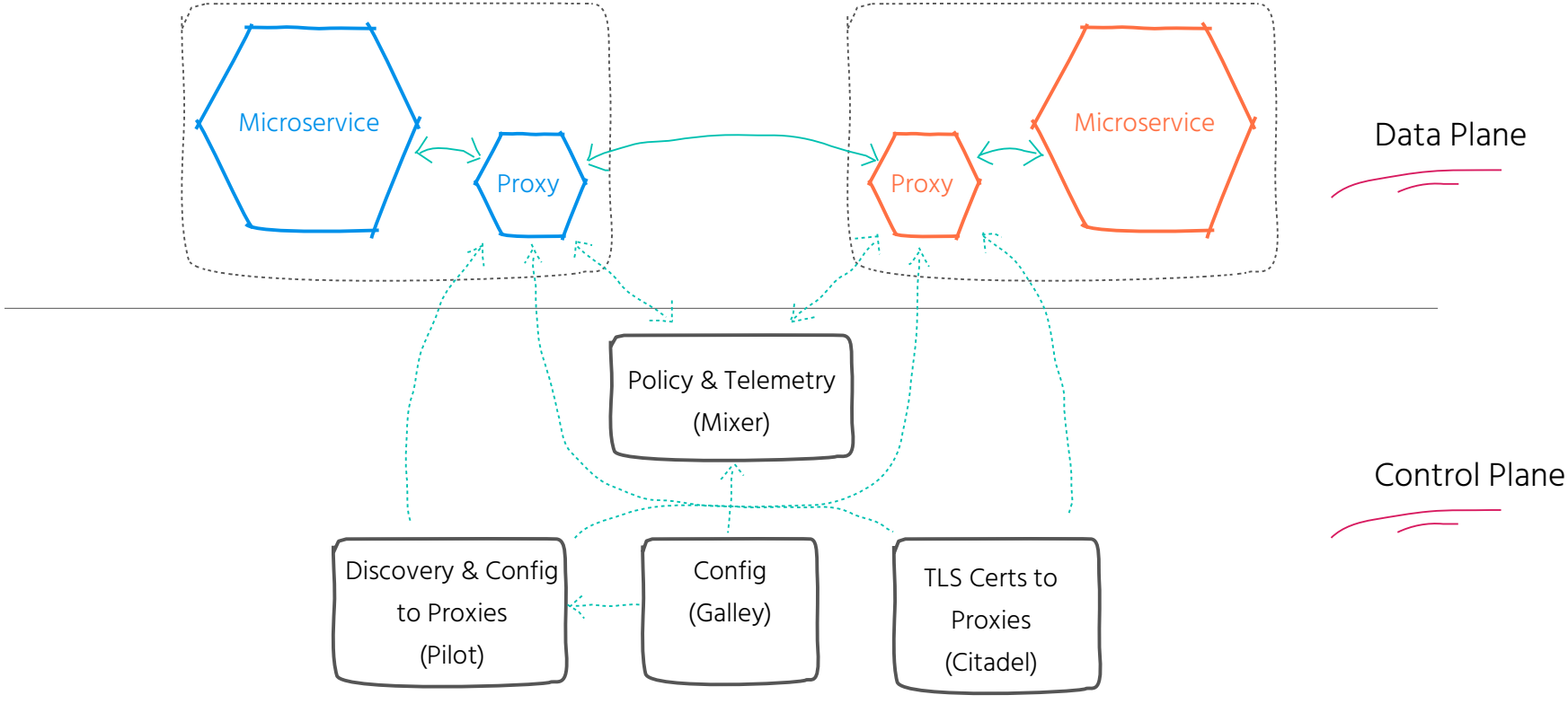
Service Mesh

Components of Istio



Wardley Maps

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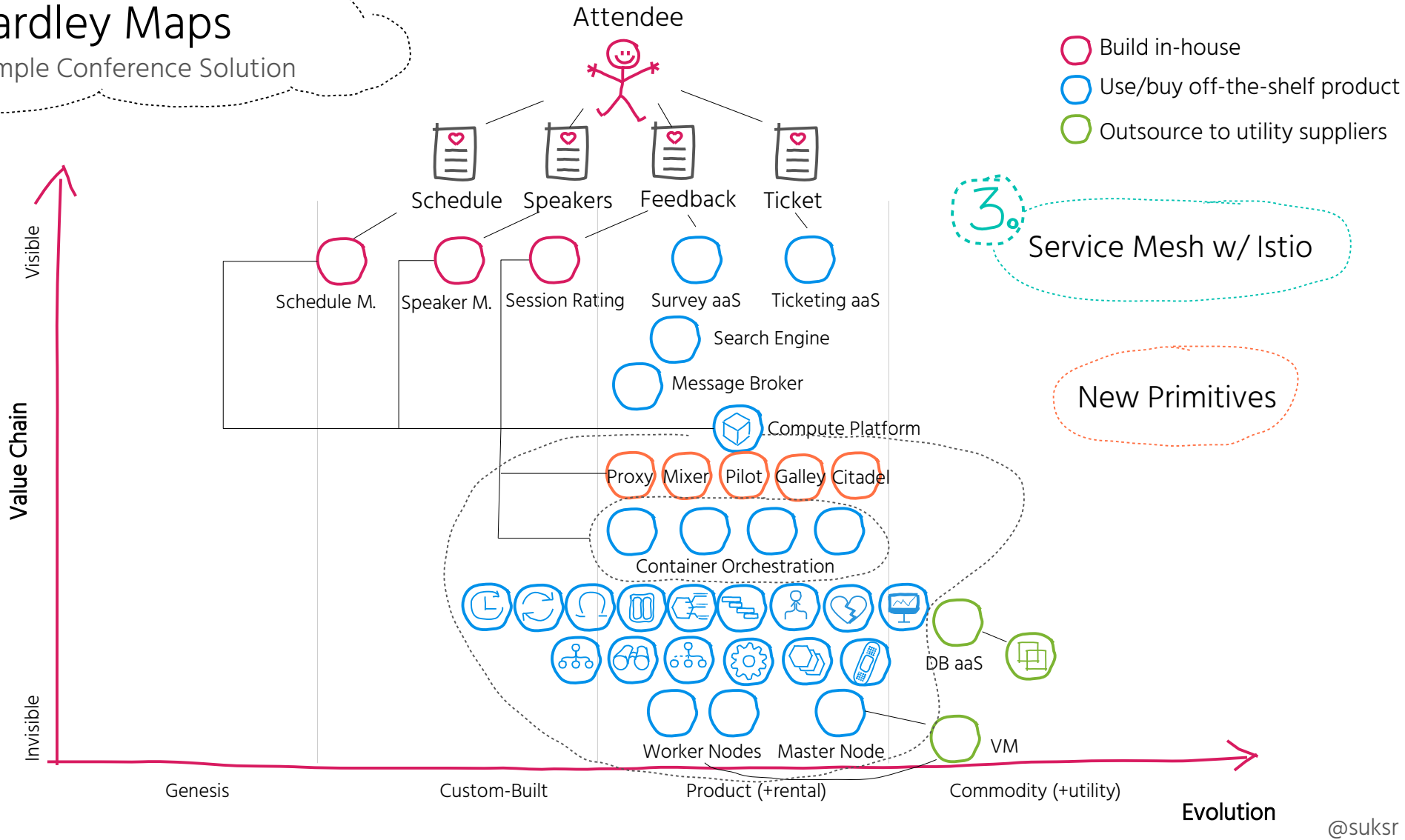

@suksr

Wardley Maps

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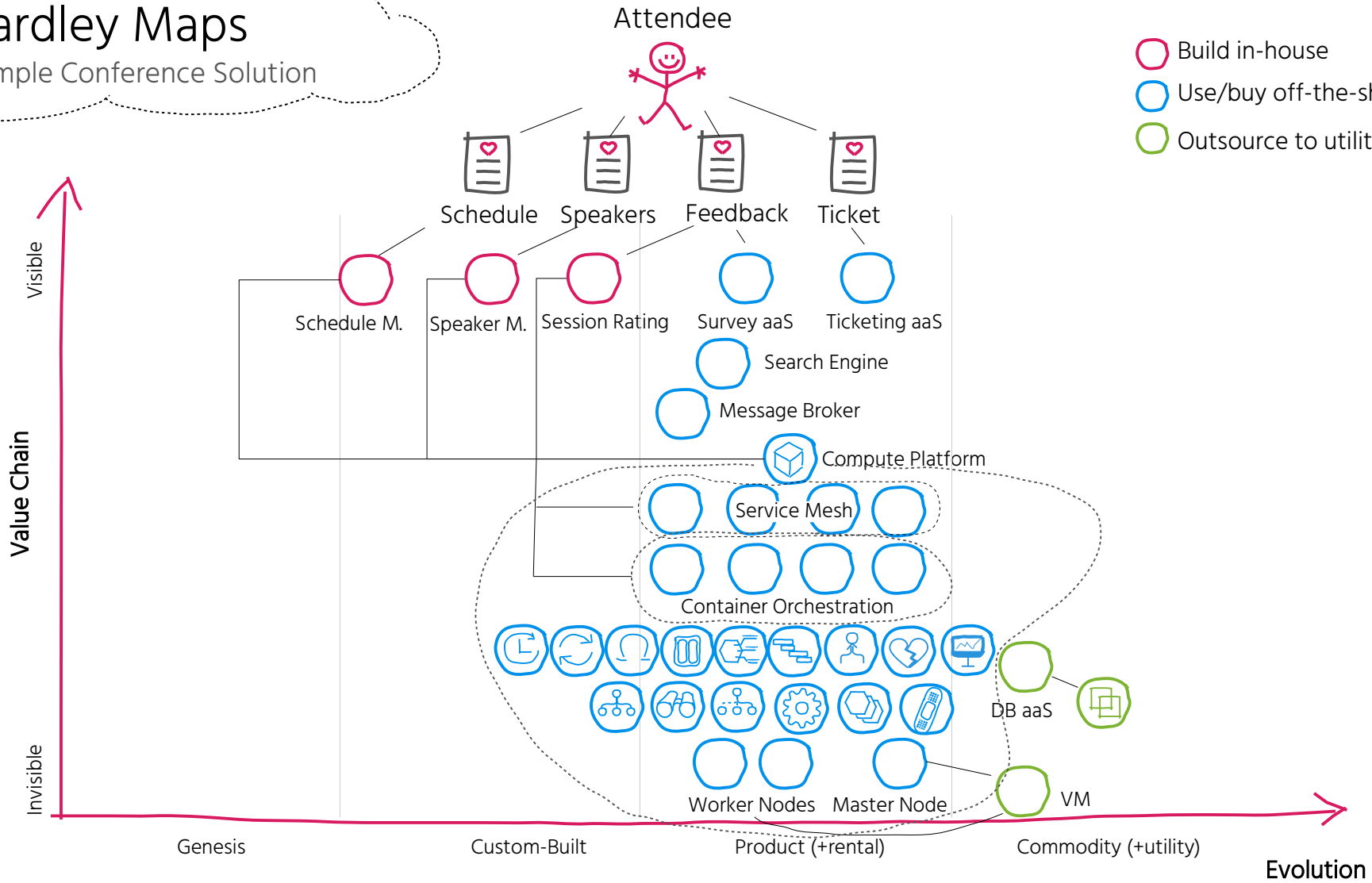

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Wardley Maps

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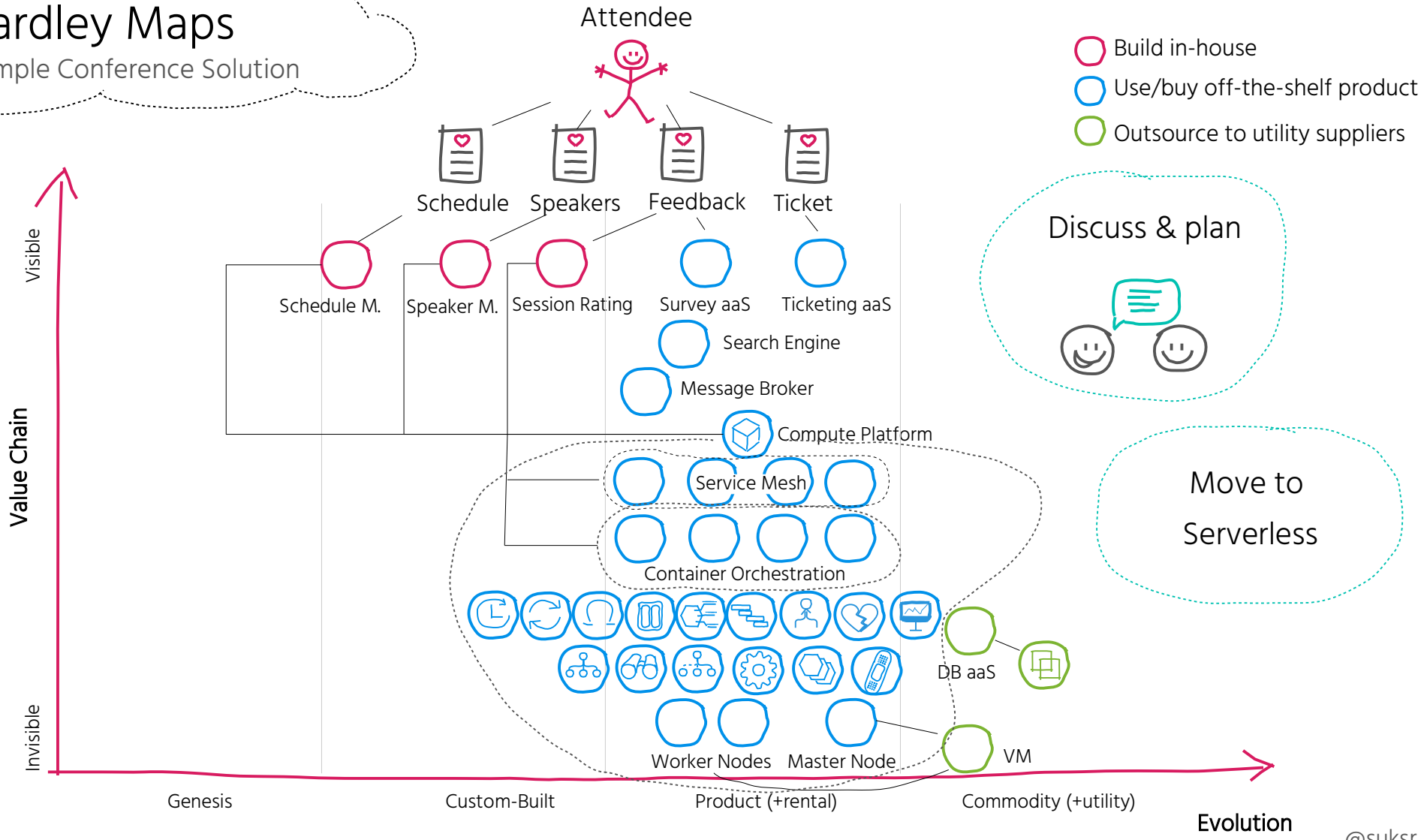

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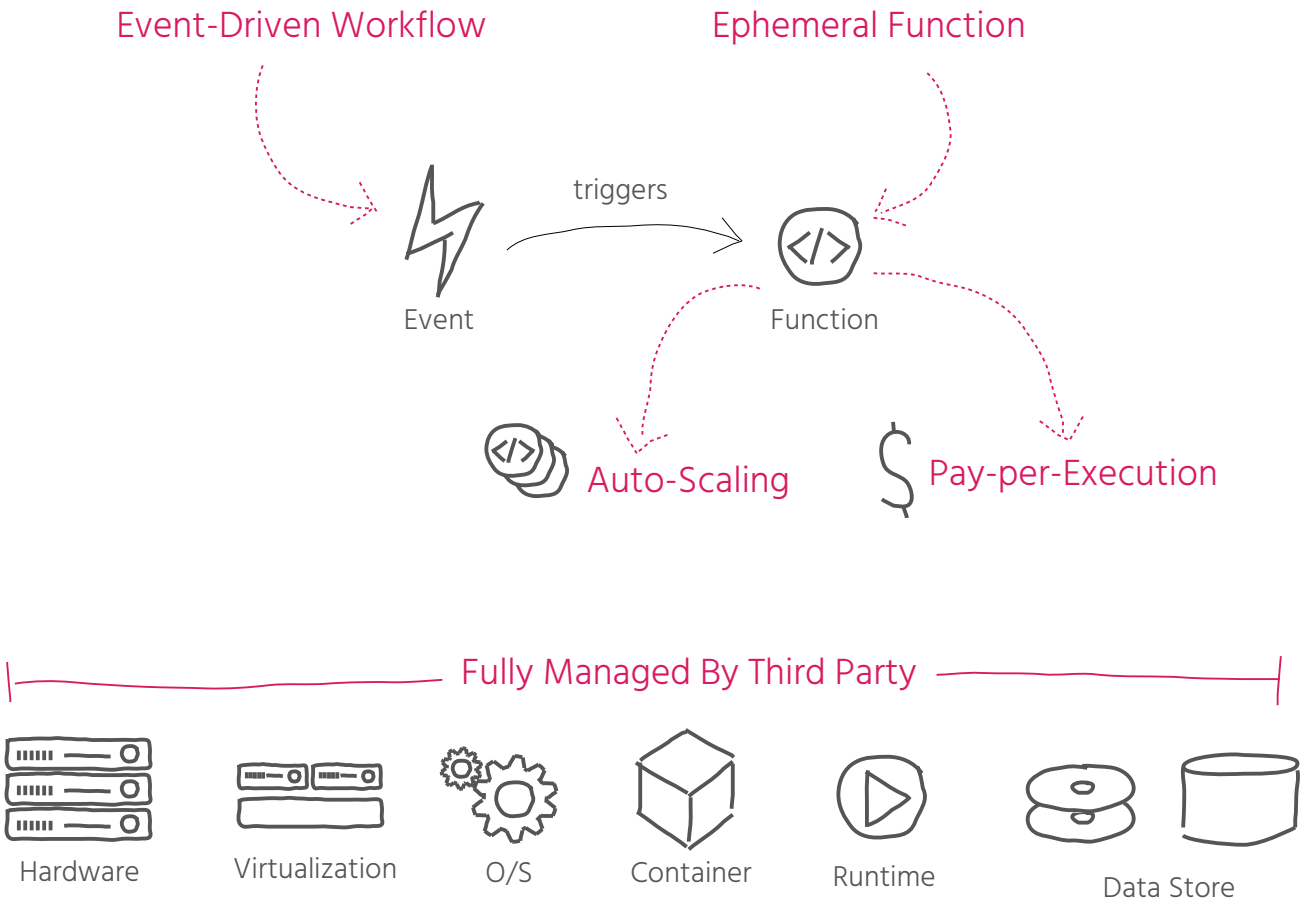
Serverless

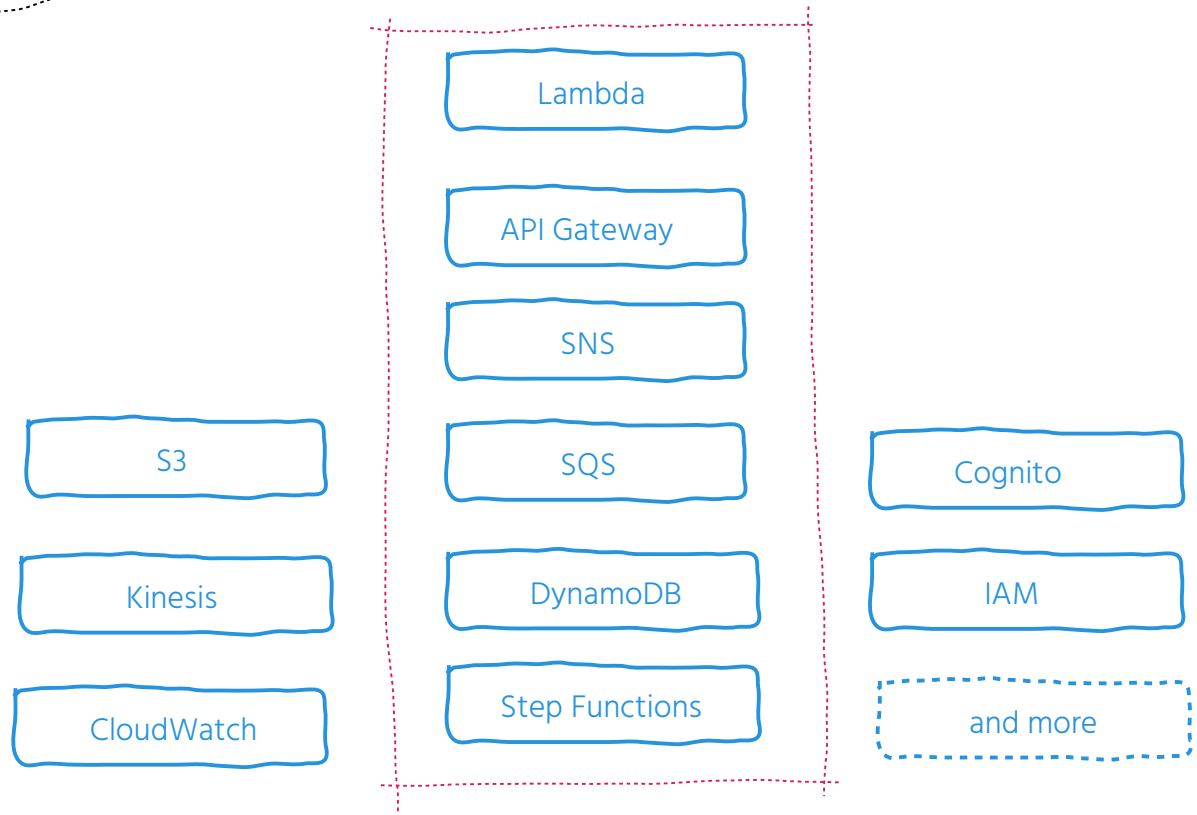
Characteristics



@suksr

Serverless

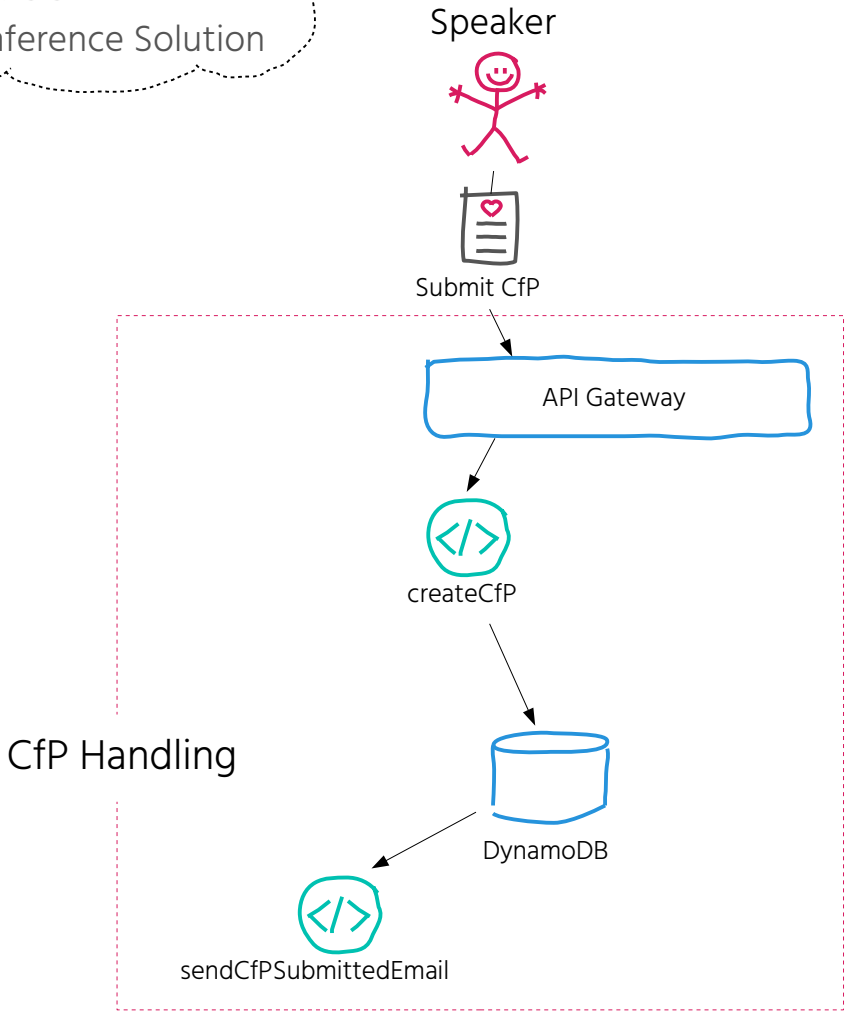
AWS Building Blocks



Core AWS Serverless Building Blocks

Serverless

Example Conference Solution



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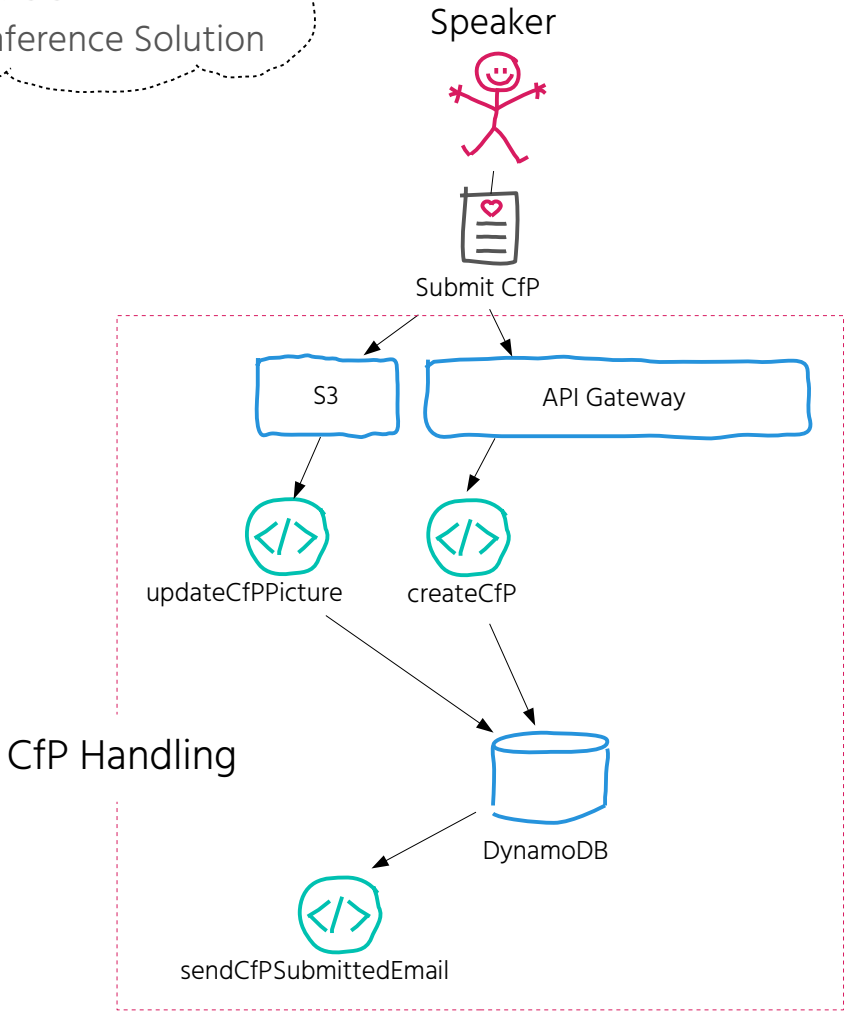

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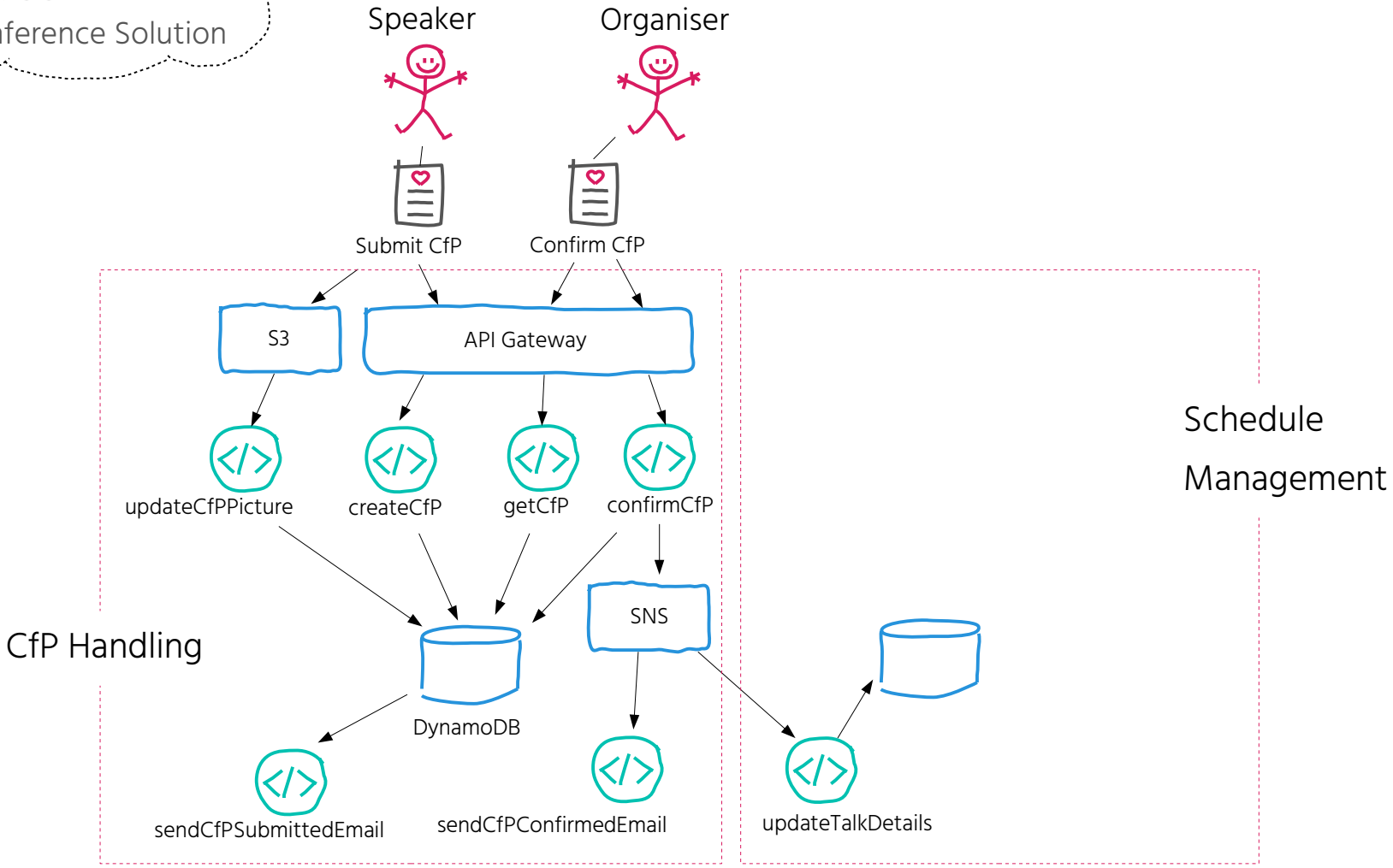

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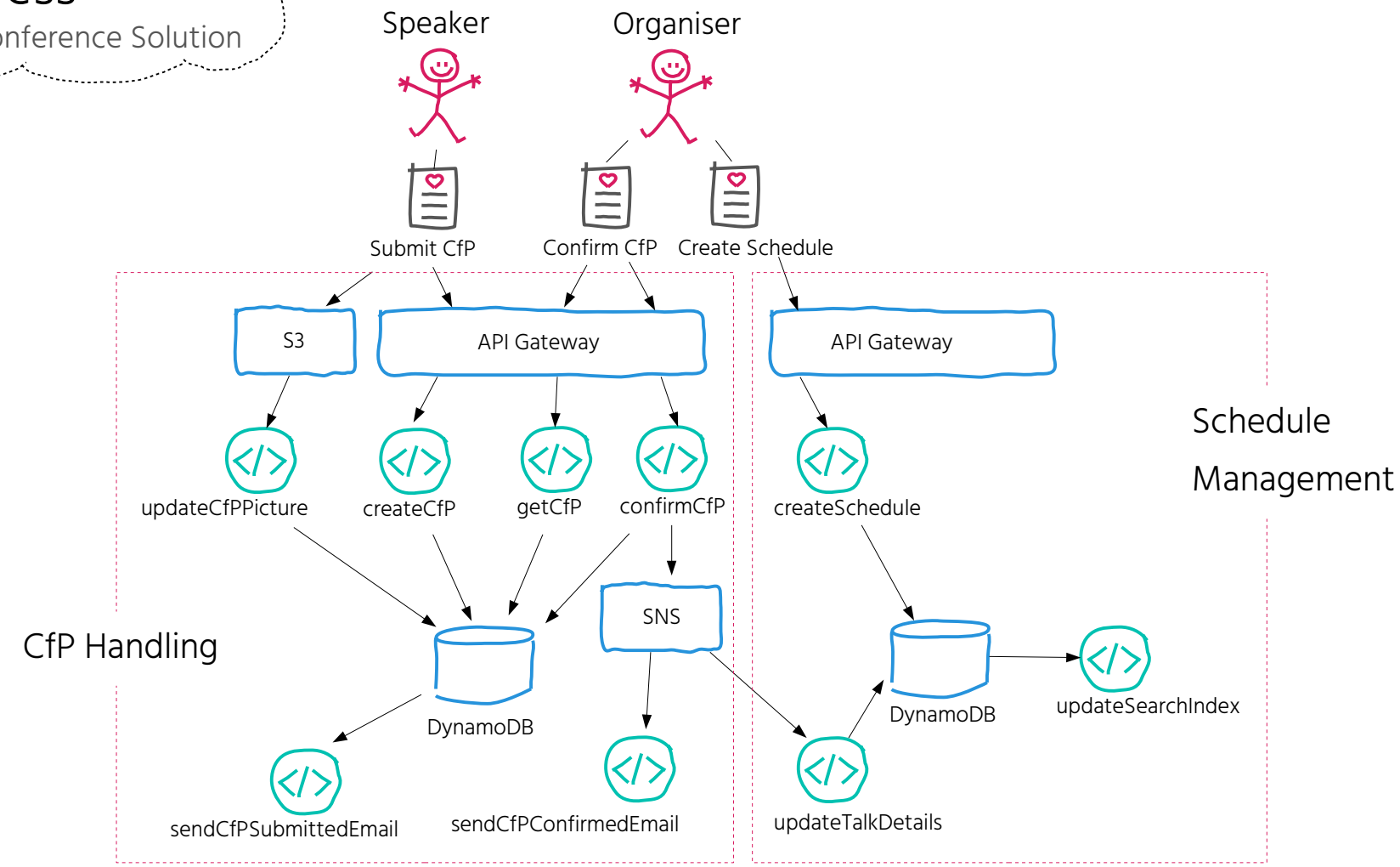

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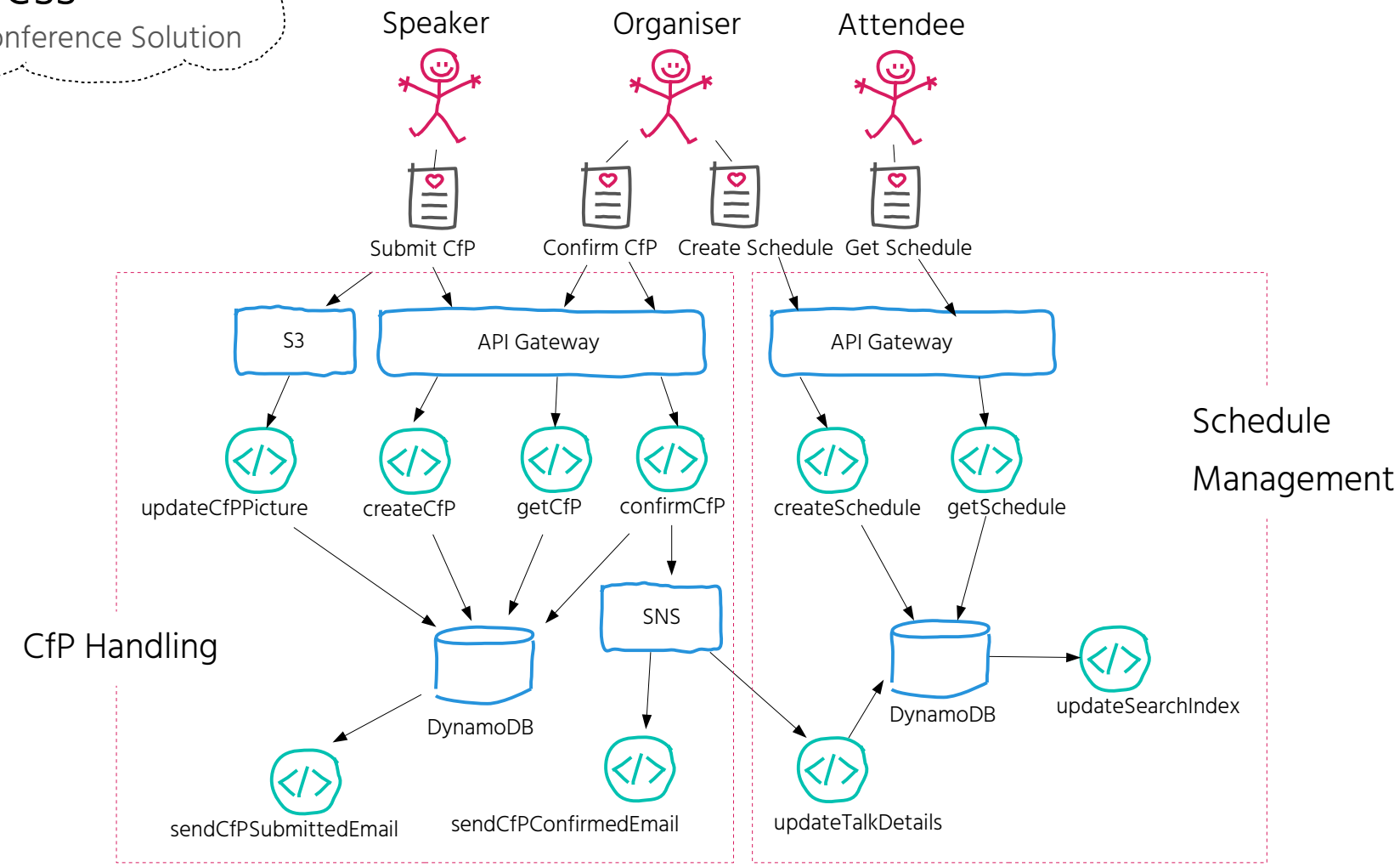

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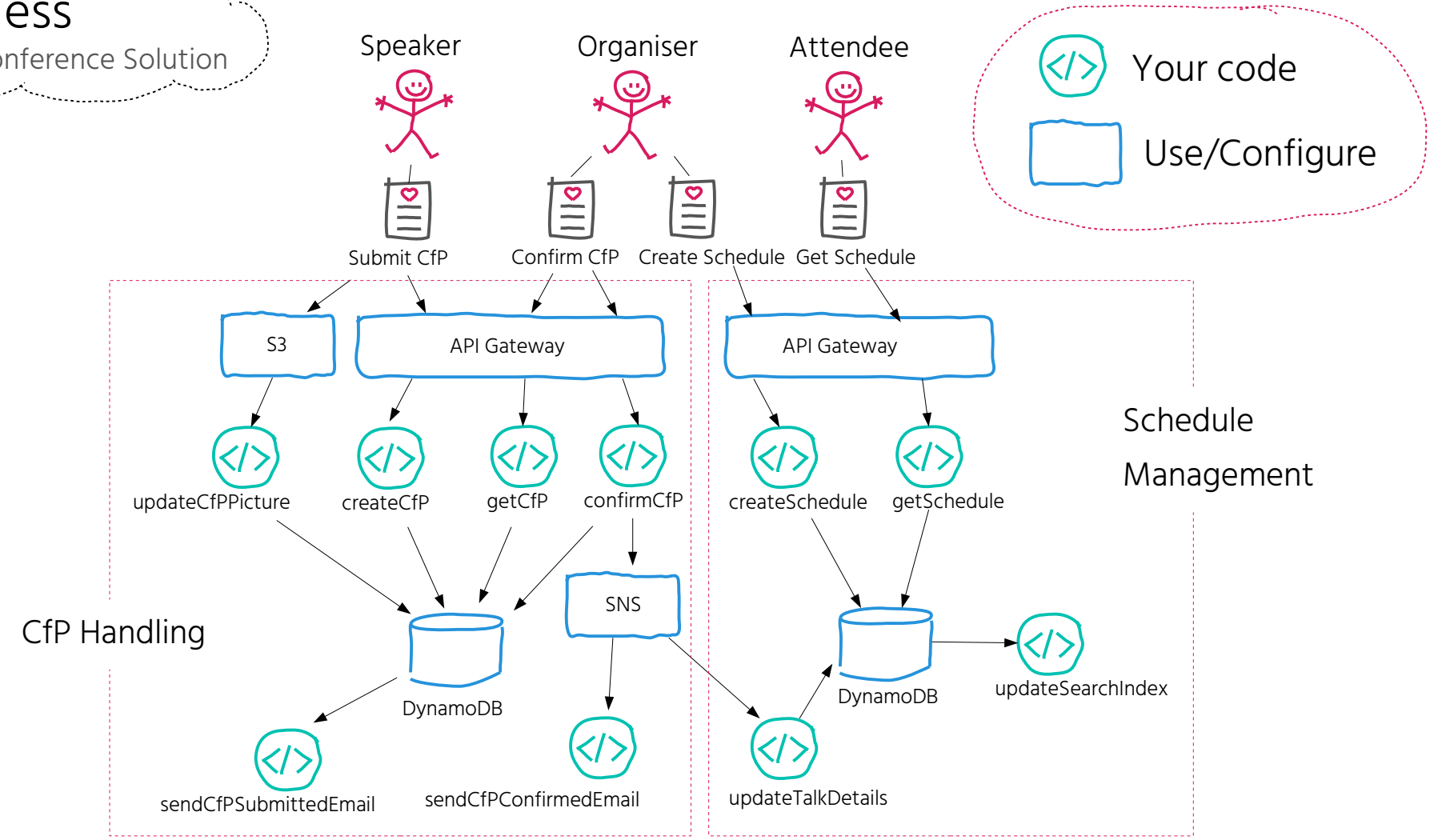

Wardley Maps

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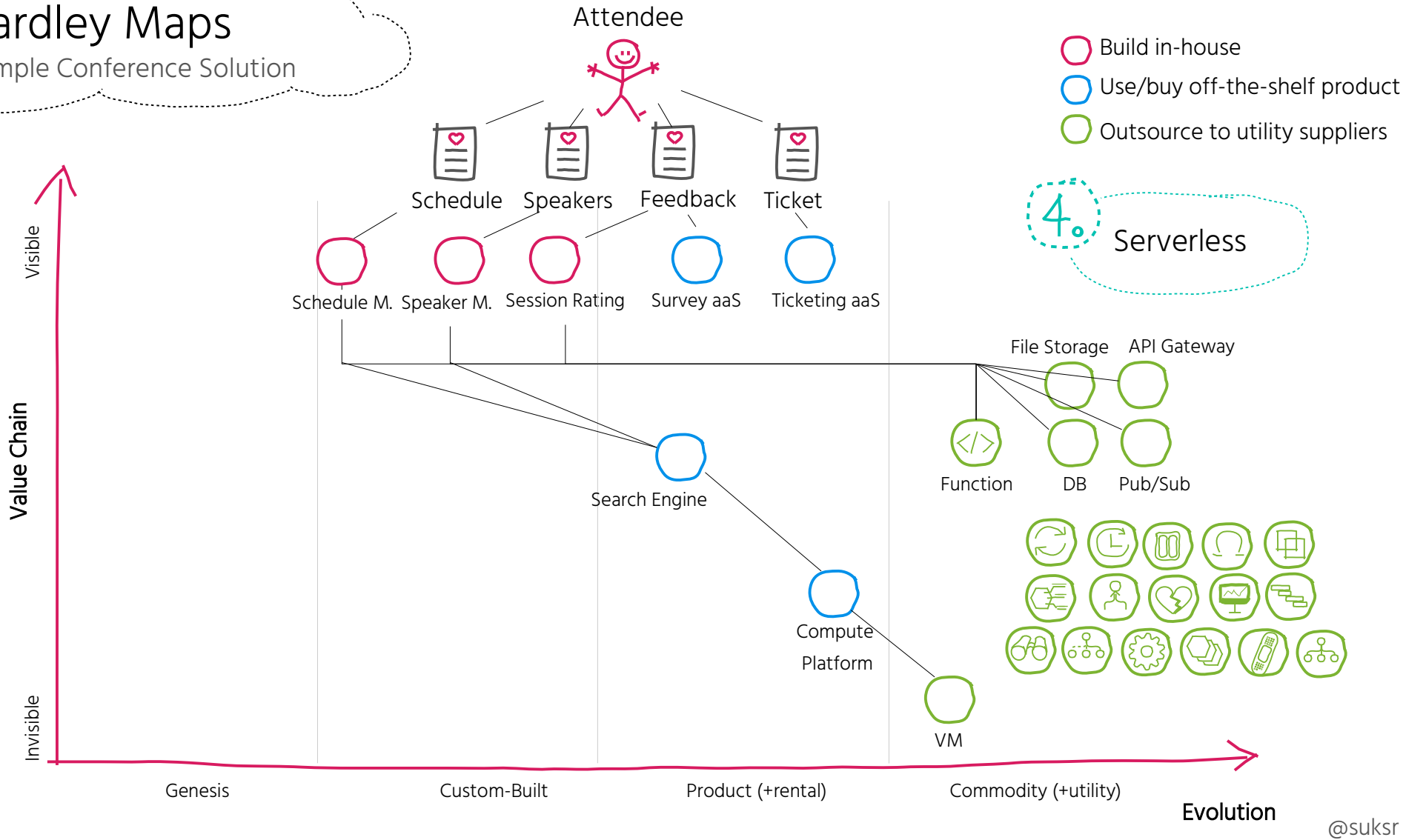

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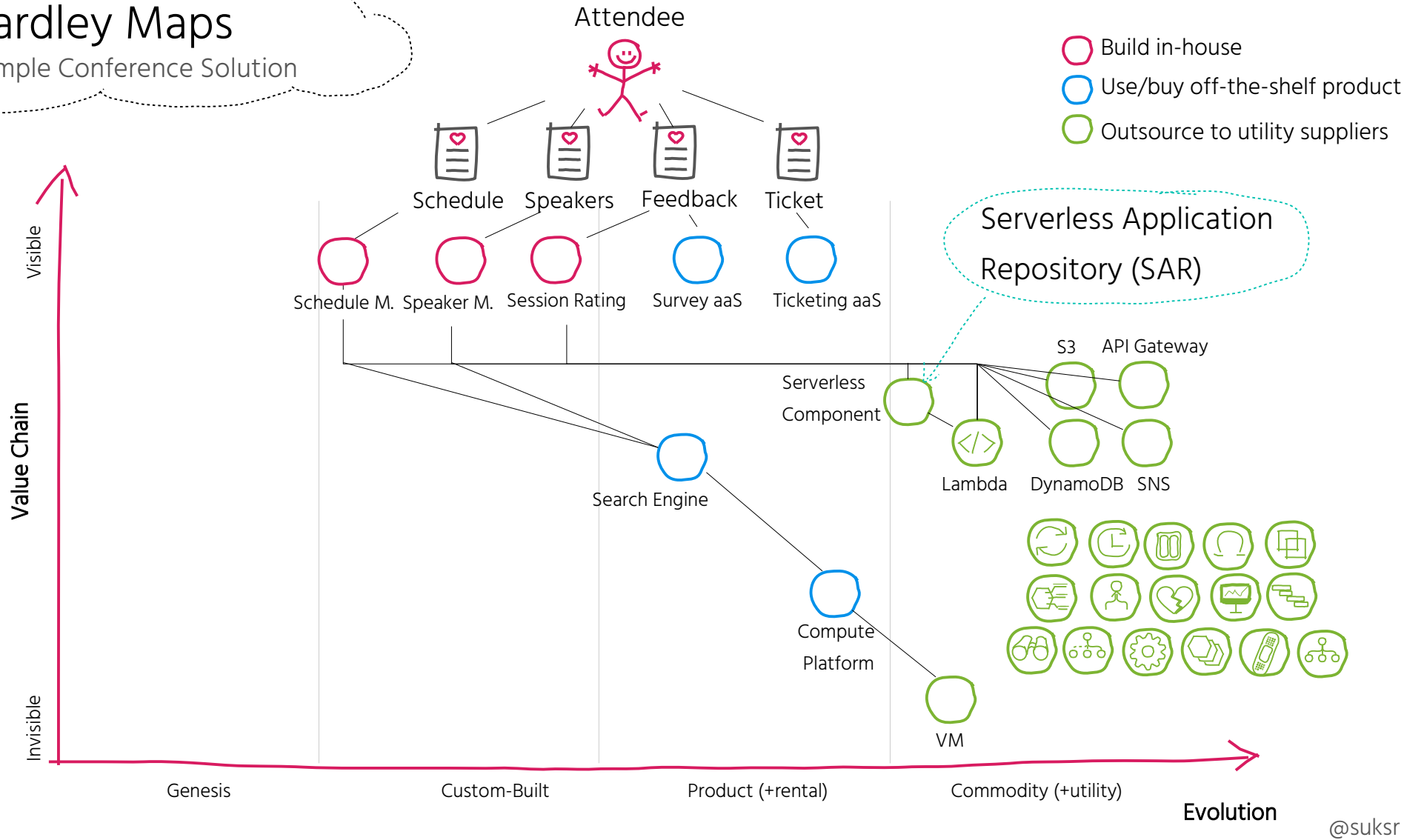

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Wardley Maps

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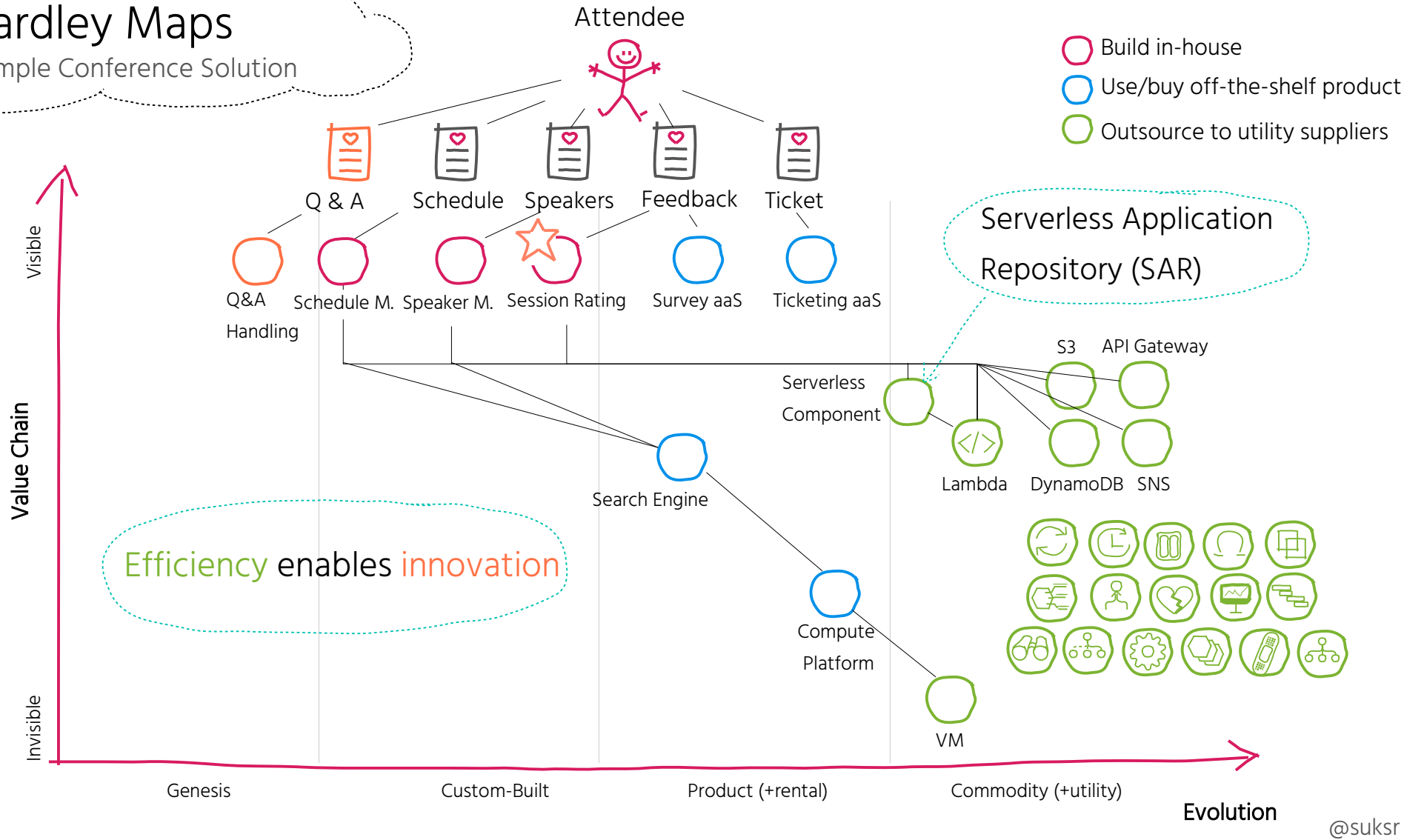

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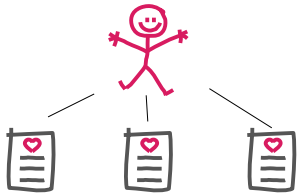
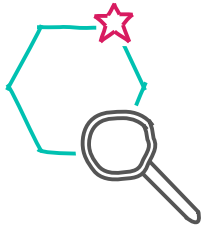


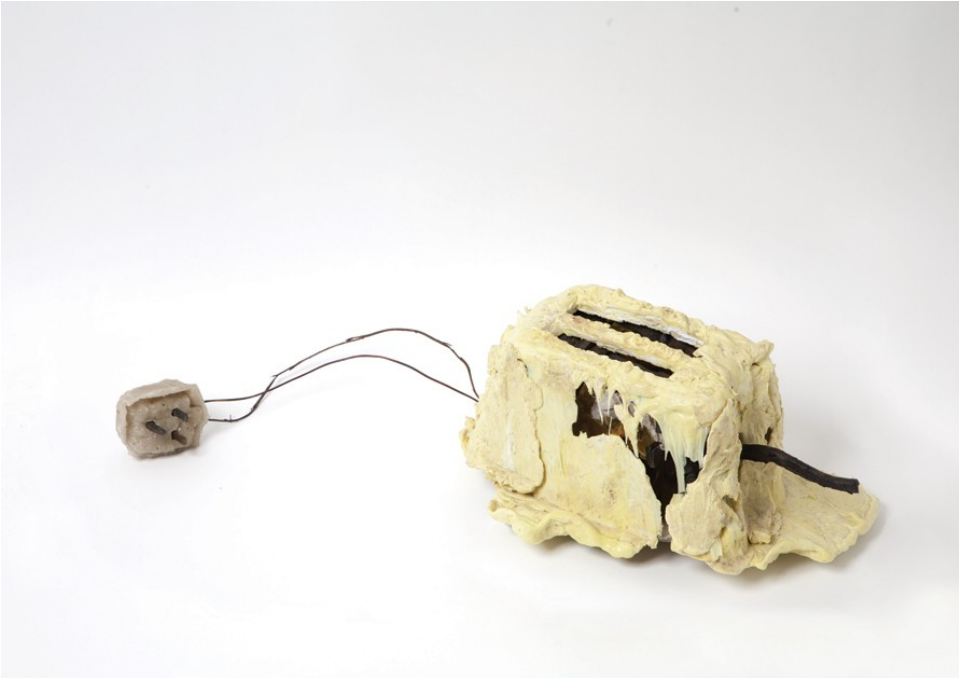
Fulfil user & business needs



Focus on core domain & build in-house

Identify & outsource commodities

Continuously adapt



@suksr

THANK YOU

Susanne Kaiser

Independent Tech Consultant

@suksr

susanne@kaiser-consulting.net