Acorel Technology - #TheATeam

"We create healthy data flows"

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ACOREL

We Create #HealthyDataFlows

"In this session with SAP Event Mesh"

#HealthyDataFlows

The 8 challenges that organizations encounter when it comes to IT in general

1. Business Agility

2. Implementation Done Right

3. Operational Stability

4. Right Data at the Right Time

5. Consistent Processes

6. Reference Architecture

7. Security

8. Innovation

These challenges are known for causing:

#UnHealthyDataFlows

Challenges
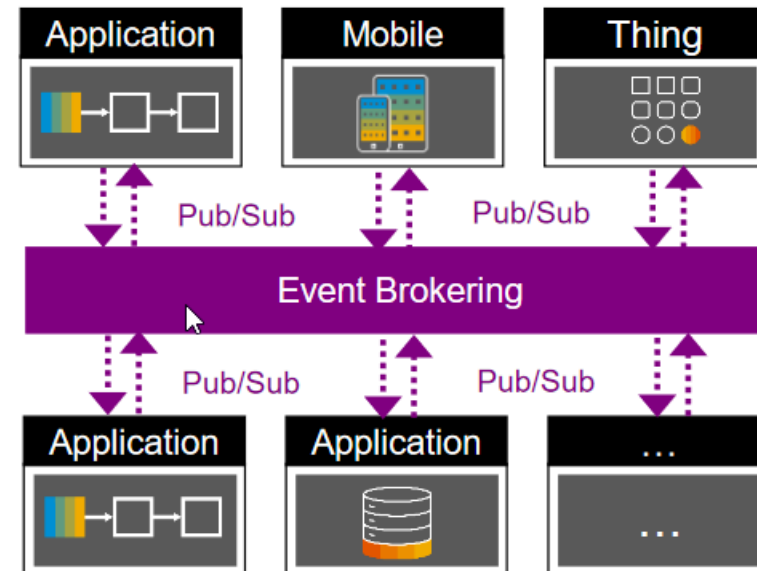
Cure The Unhealthy Data Flows

- Reduce amount of Point to Point Interfaces
- Reliability
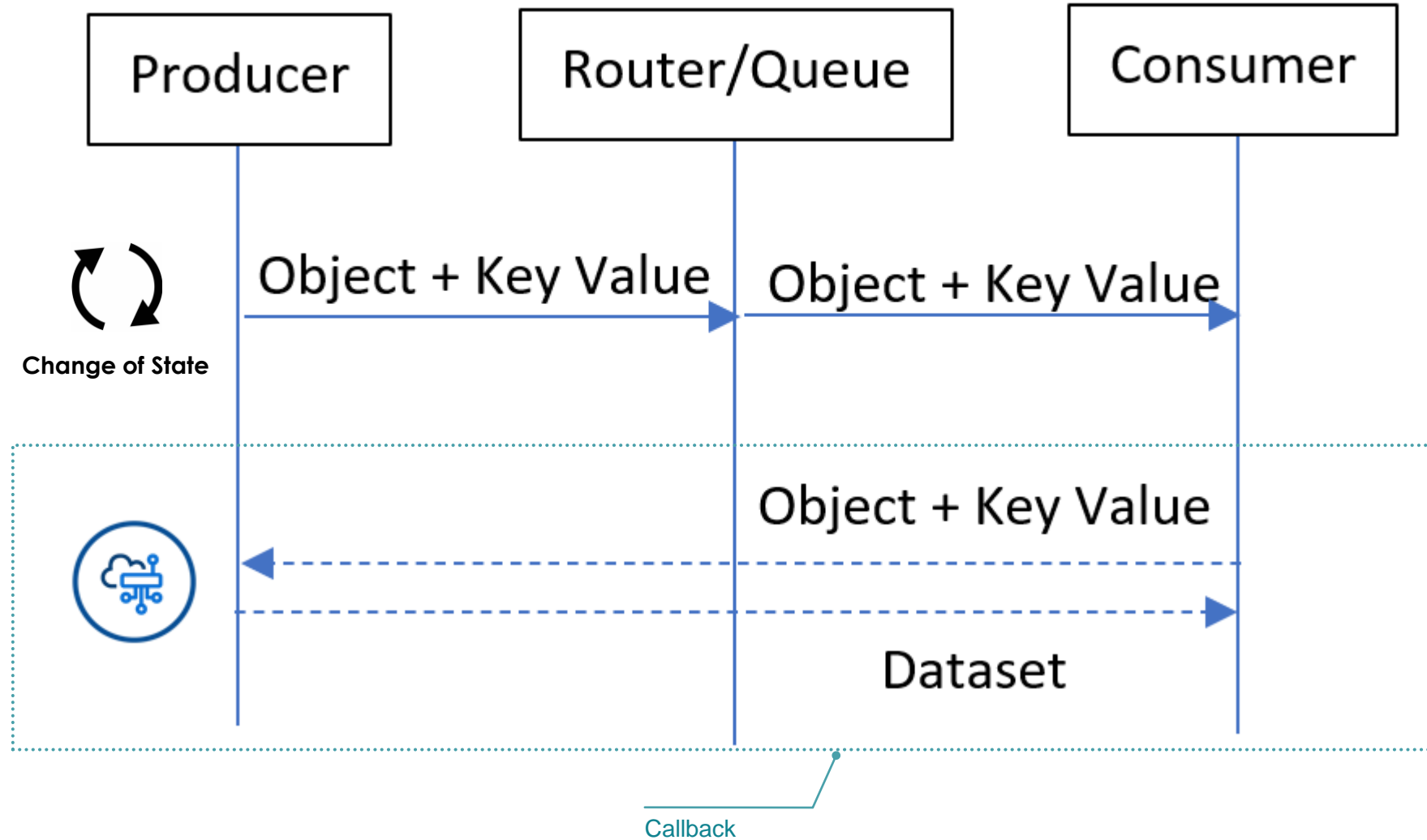- Processing Time
- Events

Solution

Cure The Unhealthy Data Flows

- Reference Architecture
- Event Mesh Together With SAP CPI
- Decouple Data from Source Systems and Applications
- (Near) Realtime Data Flows
- Reliability

Event-Based

General Concept

Producer | Router/Queue | Consumer

Change of State

Object + Key Value — Object + Key Value

Object + Key Value
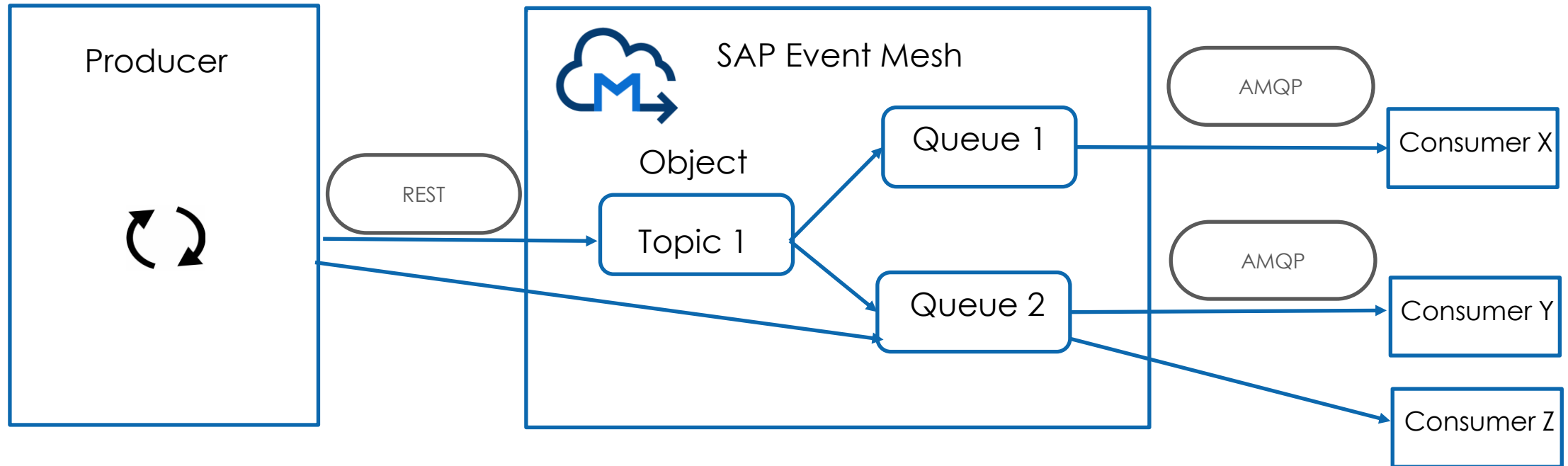
Dataset

Callback

Event-Based
SAP Event Mesh in theory

Important options

- **Queue's and topics**
- Webhook
- Testing
- Monitoring of resources

Event-Based

SAP Event Mesh Queue's and topics

SAP Event Mesh

Message Clients

SAP Event Mesh

Message Clients details

Subdomain :

s4hana ⌄

Namespace	Type	Management	Messaging	Messaging REST
/s4hana/	Instance	ENABLED	ENABLED	ENABLED

Overview   Rules   Queues   Webhooks   Events   Service Descriptor   Test

Number of Queues: 15

Number of Webhooks: 5

SAP Event Mesh

Queues

Subdomain :

s4hana ⌄

Namespace	Type	Management	Messaging	Messaging REST
s4hana/	Instance	ENABLED	ENABLED	ENABLED

Overview   Rules   Queues   Webhooks   Events   Service Descriptor   Test

⟲ Create Queue					⟳ Refresh Search 🔍
Queue Name	Messages	Unacknowledged Messages	Queue Size (bytes)	Access Type	Actions
s4hana/delivery/outbound	0	0	0	NON_EXCLUSIVE	⎙ ⌄
s4hana/delivery/outbound/dlq	0	0	0	NON_EXCLUSIVE	⎙ ⌄

Create a New Queue

Queue Name:* | Enter a queue name |

Access Type: | NON_EXCLUSIVE ⌄ |

Max Queue Size in bytes: | 1572864000 |

Max Message Size in bytes: | 10000000 |

Max Unacknowledged Messages per Consumer: | 10000 |

Max Redelivery Count: | 0 |

Respect Time to Live: ⬤ NO

ℹ Final Queue Name would be appended with the Namespace

Create   Cancel

✎ Edit Queue

🗑 Delete Queue

🔗 Queue Subscriptions

🔍 View Details

✎ Purge Queue

SAP Event Mesh

Edit/Add Queue definition

Edit Queue

Queue Name: s4hana/delivery/outbound

Access Type:	EXCLUSIVE ⌄
Max Queue Size in bytes:	1572864000
Max Message Size in bytes:	10000000
Max Unacknowledged Messages per Consumer:	10000
Max Redelivery Count:	3
Respect Time to Live in seconds:	YES ⬤
Max Time to Live:	0
Dead Message Queue:	s4hana/delivery/outbound/dlq ⌄

Save   Cancel

✎ Edit Queue

🗑 Delete Queue

🔗 Queue Subscriptions

▣ View Details

✎ Purge Queue

SAP Event Mesh

Queue Subscriptions

Queue Subscriptions

ℹ This queue can only subscribe to topics which follow the rules defined in the service descriptor

Queue Name: 's4hana/delivery/outbound/dlq

Topic:* *Enter a topic or topic pattern*

Add

Subscribed Topic Name	Actions
s4hana/delivery	🗑

Queue Subscriptions

ℹ This queue can only subscribe to topics which follow the rules defined in the service descriptor

Queue Name: s4hana/delivery/outbound

Topic:* *Enter a topic or topic pattern*

Add

Subscribed Topic Name	Actions
s4hana/delivery	🗑
s4hana/shipment	🗑

✏ Edit Queue

🗑 Delete Queue

🔗 Queue Subscriptions

🔖 View Details

✏ Purge Queue

Different Queue name

Same Topic name

TOPIC — 1 — Many → Queue

Event-Based

SAP Event Mesh in theory

Important options
- Queue's and topics
- **Webhook**
- Testing
- Monitoring of resources

Event-Based
SAP Event Mesh Webhook
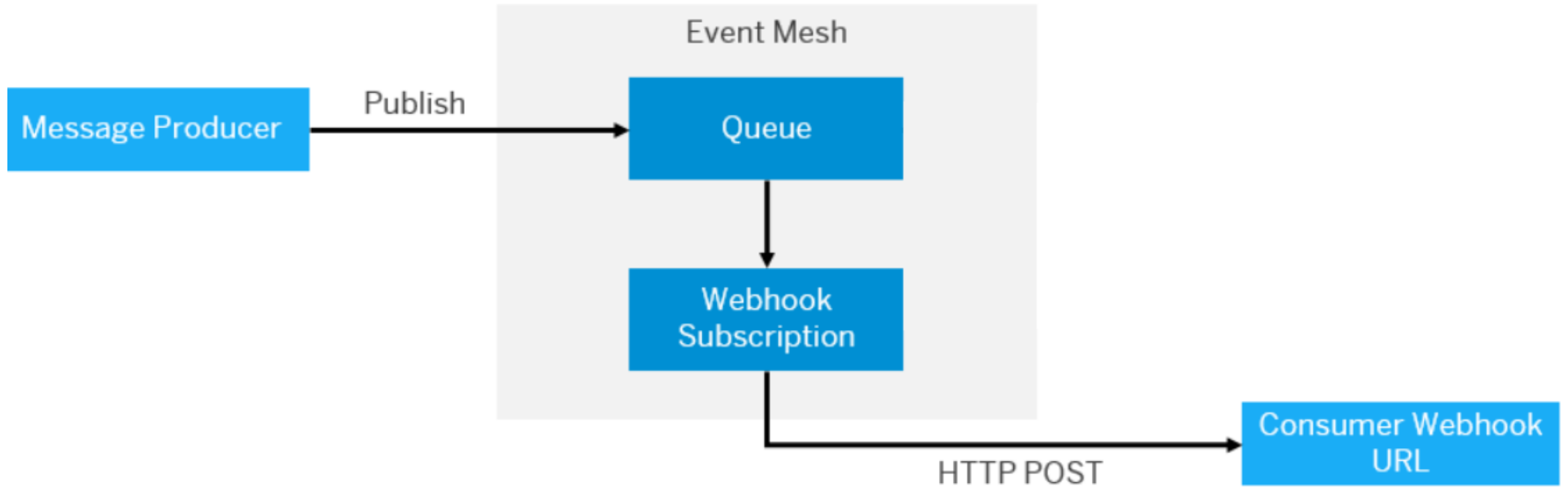
SAP Event Mesh

Webhook

Subdomain :

s4hana ⌄

Namespace	Type	Management	Messaging	Messaging REST
s4hana	Instance	ENABLED	ENABLED	ENABLED

Overview   Rules   Queues   **Webhooks**   Events   Service Descriptor   Test

⎙ **Create Webhook**   ↻ Refresh   Search 🔍

Subscription Name	Queue Name	Quality of Service	Subscription Status	Handshake Status	Actions
CPI_Webhook_Delivery_Outbound	s4hana/delivery/outbound	1	PAUSED	NOT INITIATED	⎘ ⌄

SAP Event Mesh

Webhook

Create New Webhook Subscription

Subscription Name:*	CPI_Webhook_Delivery_Outbound
Queue Name:*	's4hana/delivery/outbound ⌄
Quality of Service:*	1 ⌄
Exempt Handshake:*	YES ●
On Premise:*	○ NO
Webhook URL:*	https://<tenant_id>-iflmap.hcisbp.eu1.hana.ondemand.com/http/s4/event/delivery/in/
Default Content-Type:	application/json ⓘ
Authentication:*	OAuth2ClientCredentials ⌄
Client ID:*	|Enter a client ID

Create   Cancel

Event-Based
SAP Event Mesh in theory

Important options
- Queue's and topics
- Webhook
- **Testing**
- Monitoring of resources

Event-Based

**Sample Message**

Sample message

object ▶ data ▶

▼ object {7}

    type : sap.s4.beh.devlivery.v1.delivery.Created.v1   **Object**

    specversion : 1.0

    source : S4HANA

    id   : AA06I7UPHtu1gTSbkoYLzz==

    time : 2021-06-21T09:53:05Z

    datacontenttype : application/json

▼ data {1}

    Delivery : 90000152   **Key value**

Event-Based

Test Publish Message - Queue

s4hana ⌄

Namespace	Type	Management	Messaging	Messaging REST
s4hana	Instance	ENABLED	ENABLED	ENABLED

Overview   Rules   Queues   Webhooks   Events   Service Descriptor   Test

Publish Messages

⦿ Queue   ◯ Topic

's4hana/delivery/outbound   ⌄

Queue Name	Messages	Unacknowledged Messages
s4hana/delivery/outbound	0	0

Refresh   **Publish Message**

Message Data   Message Properties

Content-Type: * `application/json`

```
{
    "type":"sap.s4.beh.devlivery.v1.delivery.Created.v1",
    "specversion":"1.0",
    "source":"S4HANA",
    "id":"AA06I7UPHtu1gTSbkoYLzz==",
    "time":"2021-06-21T09:53:05Z",
    "datacontenttype":"application/json",
    "data":{
        "Delivery":"90000152"
        }
}
```

Consume Messages

⦿ Queue

Select a queue   ⌄

Event-Based

Test Publish Message - Queue

Subdomain : rsfb-dev

s4hana ⌄

Namespace	Type	Management	Messaging	Messaging REST
s4hana/	Instance	ENABLED	ENABLED	ENABLED

Overview   Rules   Queues   Webhooks   Events   Service Descriptor   **Test**

Publish Messages

○ Queue   ● Topic

's4hana/delivery

Publish Message

Message Data   Message Properties

Content-Type: *   application/json

```
{
    "type":"sap.s4.beh.devlivery.v1.delivery.Created.v1",
    "specversion":"1.0",
    "source":"S4HANA",
    "id":"AA06I7UPHtu1gTSbkoYLzz==",
    "time":"2021-06-21T09:53:05Z",
    "datacontenttype":"application/json",
    "data":{
        "Delivery":"90000152"
        }
}
```

☑ 1

Before Test

Overview   Rules   **Queues**   Webhooks   Events   Service Descriptor   Test

⬧ Create Queue

Queue Name	Messages	Unacknowledged Messages	Queue Size (bytes)
s4hana/delivery/outbound ⌄	3	3	1.143
s4hana/delivery/outbound/dlq	1	0	375

After Test

Overview   Rules   **Queues**   Webhooks   Events   Service Descriptor   Test

⬧ Create Queue

Queue Name	Messages	Unacknowledged Messages	Queue Size (bytes)
s4hana/delivery/outbound	4	4	1.518
s4hana/delivery/outbound/dlq	2	0	750

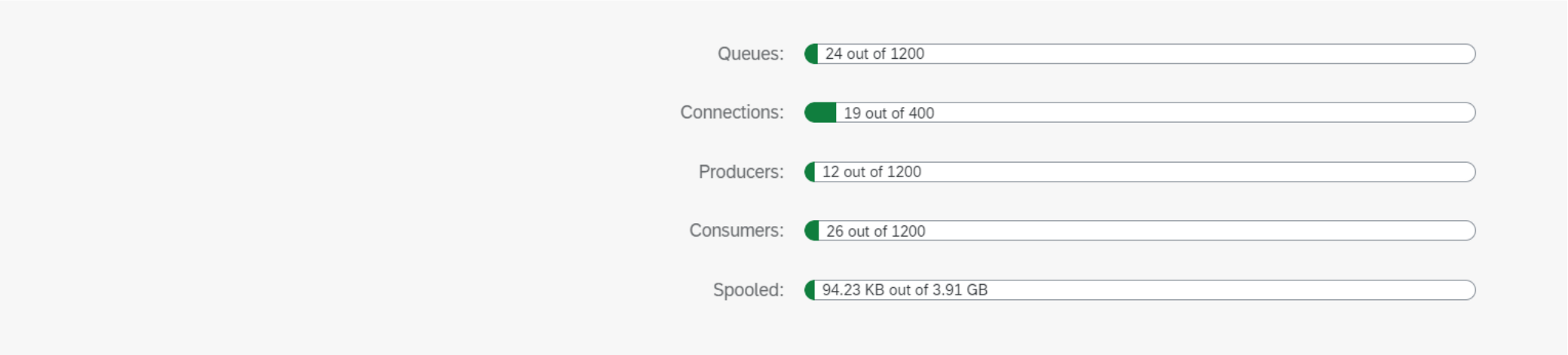# Event-Based
SAP Event Mesh in theory

Important options
- Queue's and topics
- Webhook
- Testing
- **Monitoring of resources**

Event-Based

SAP Event Mesh in theory

Monitor Resources

Queues: 24 out of 1200

Connections: 19 out of 400

Producers: 12 out of 1200

Consumers: 26 out of 1200

Spooled: 94.23 KB out of 3.91 GB

Resource Units Allocation

[Refresh]

Search

Message Client	Allocated Resource Units	Resource	Limit
s4hana	50	Queues	150
		Queue Subscriptions	750
		Connections	50
		Consumers	150
		Producers	150
		Webhooks*	50

Systems

Event Enabled Backend Systems

- SAP ECC With Event Enablement AddOn
- S/4HANA Enterprise Events
- SAP SuccessFactors
- SAP Marketing Cloud

Results

Healthy Data Flows

- Business Agility
- Efficient Development and Data
- Lower Running Costs

Event-Based

General Concept

Loose coupling

Fault tolerance

Scalable, Reliable and Resilient

Duplicated events

Error handling, Monitoring and troubleshooting

Not always compatible

Not all objects / applications

Thank you!

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