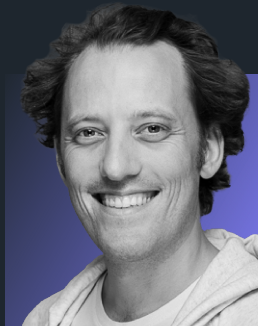




Piggyback unleashed

May 20, 2025 - Live from Paulaner am Nockherberg, Munich



Moritz Kiemer

Team Lead Development
Checkmk GmbH

237
votes

Support PiggyBack data from remote hosts

Implement a feature to leverage piggyback data, which are shared by a product integrated way from remote sites

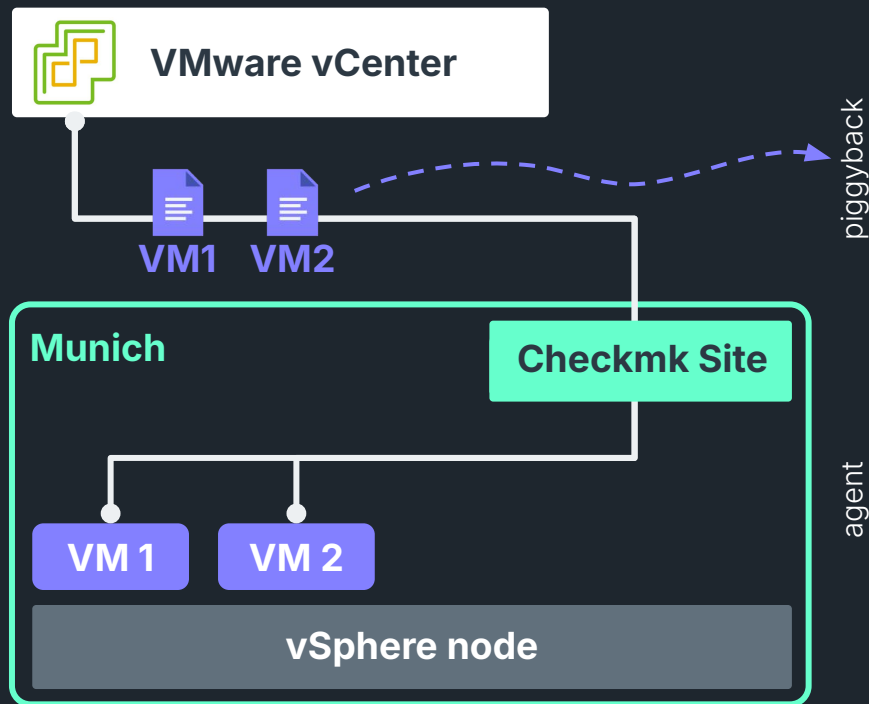
Suggested by: **Thomas** (02 May, '22) • Upvoted: 06 Mar • [Comments: 15](#)

Implemented

#Checks&Agents

Distributed piggyback has arrived!

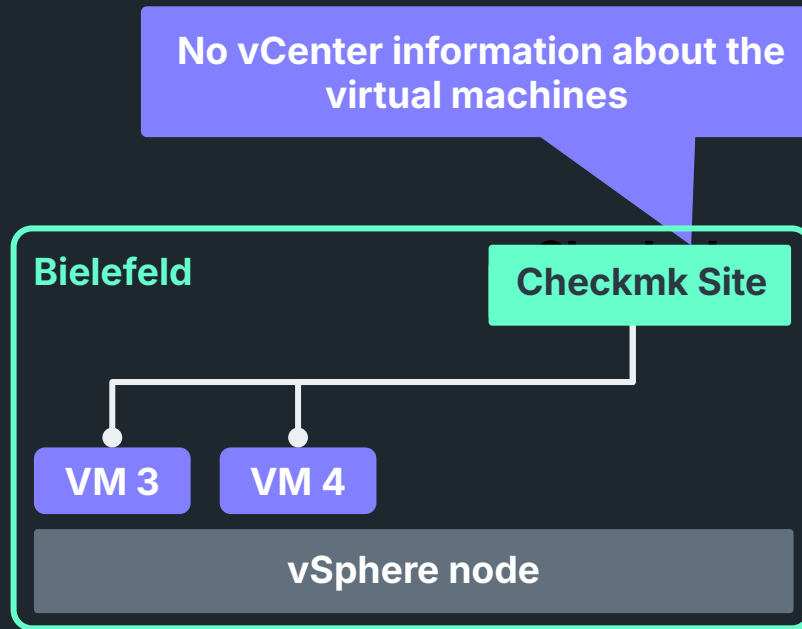
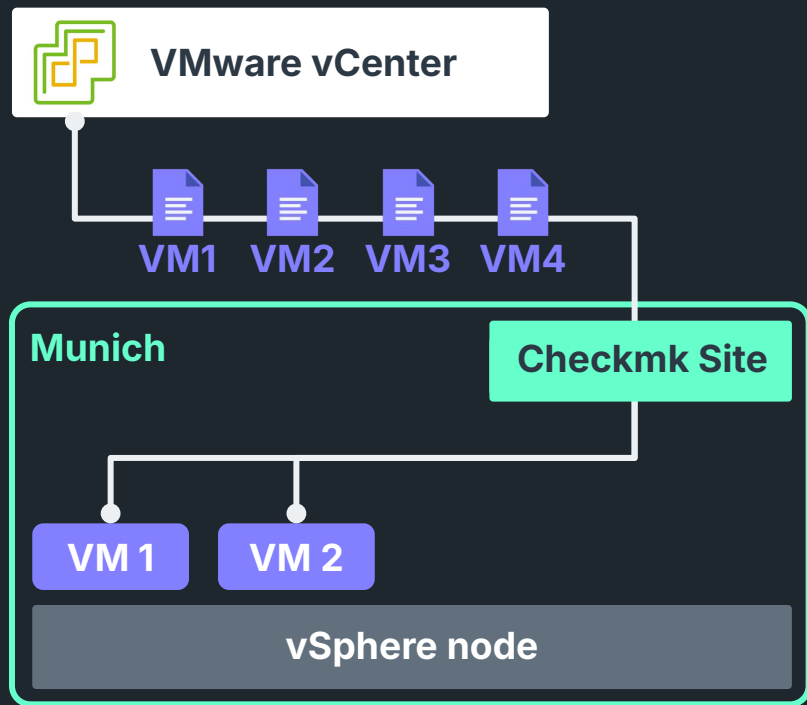
Joining data sources together with piggyback



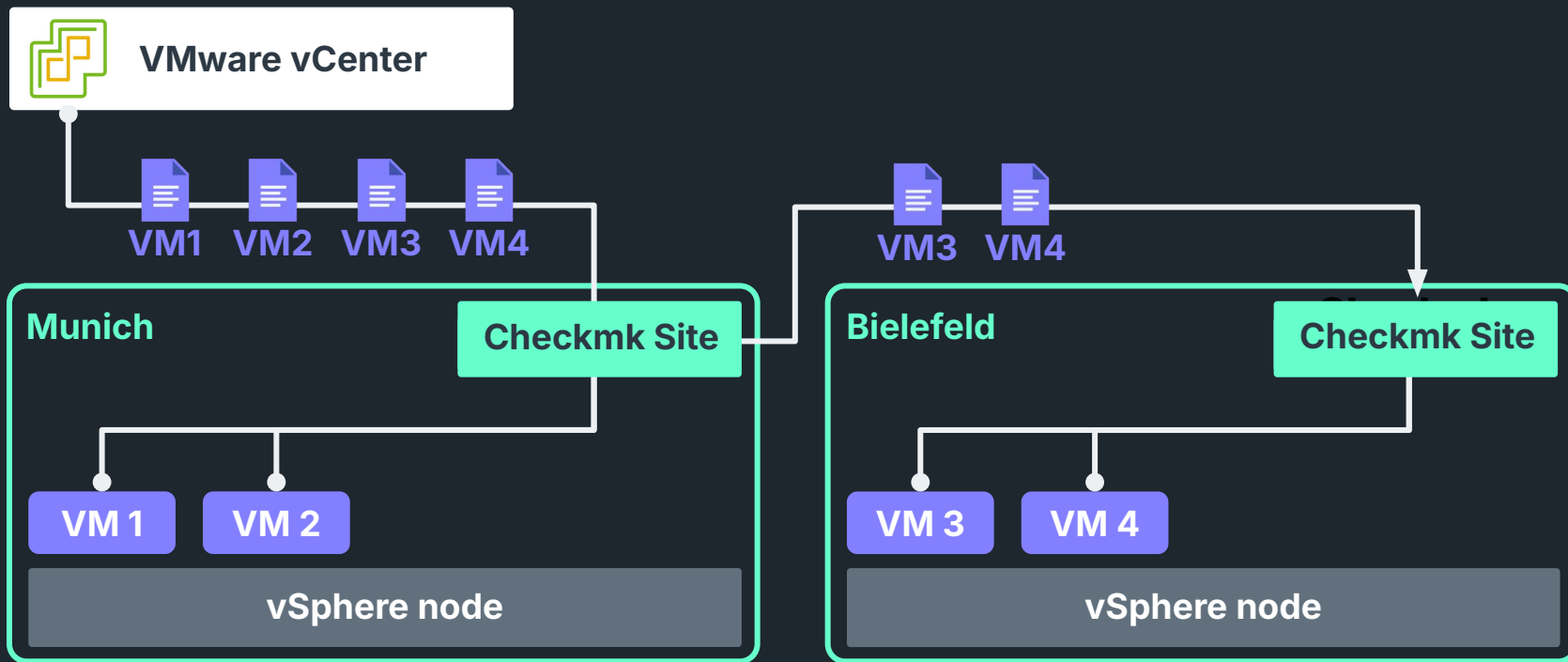
VM 1

piggyback	OK	ESX CPU	≡	demand is 0.234 Ghz, 4 virtual CPUs
	OK	ESX Datastores	≡	Stored on datastore02 (3.00 TiB/80.2% free)
	OK	ESX Guest Tools	≡	VMware Tools are installed, but are not managed by VMware
	OK	ESX Heartbeat	≡	Heartbeat status is green
	OK	ESX Hostsystem	≡	Running on esxi-02.demo.checkmk.com
	OK	ESX Memory	≡	Host: 10.1 GiB, Guest: 1.90 GiB, Ballooned: 0 B, Private: 10.0 GiB, Shared: 0 B
agent	OK	Bonding Interface bond0	≡	Status: up, Mode: fault-tolerance (active-backup), Primary: eth0, eth0/9C:8E:99:28:A1:B0 up, eth1/9C:8E:99:28:A1:B4 up
	OK	CIFS mount /opt/filesshare/projects	≡	Used: 82.42% - 371 GB of 450 GB (warn/crit at 89.12%/94.56% used), trend per 1 day 0 hours: -0 B, trend per 1 day 0 hours: -0.00%
	OK	CPU load	≡	15 min load: 1.50 (predicted reference: 6.61), 15 min load per core: 0.25 (6 cores)
	OK	CPU utilization	≡	Total CPU: 24.48%

Piggyback data is not shared between sites



Let's build a piggyback 'sync'



How do we solve this?



```
Starting agent-receiver...OK
Starting mkeventd...OK
Starting liveproxyd...OK
Starting mknotifyd...OK
Starting rrdcached...OK
Starting redis...OK
Starting cmc...OK
Starting apache...OK
Starting dcd...OK
Starting rabbitmq...OK
Starting piggyback-hub...OK
```

A new component?

And another?

New inter-site communication tunnel

(not only main-remote, but also remote-remote)

Problems to solve

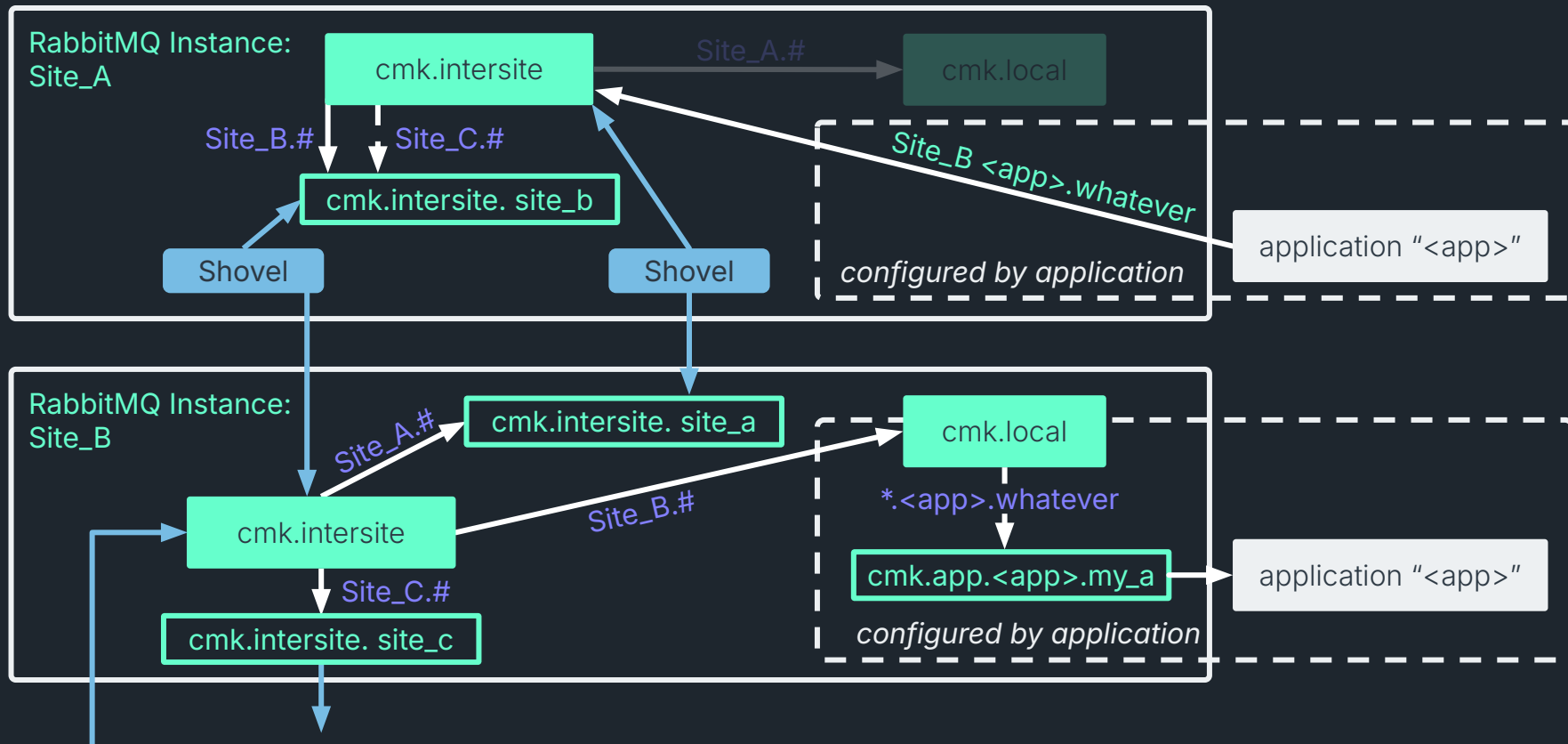
- ❖ Encryption / authorization
- ❖ Routing (not all sites can connect to one another)
- ❖ Direction of connection build up and sending is not the same
- ❖ Data separation (CME)

Solution

- ❖ RabbitMQ, a “reliable and mature messaging and streaming broker” (rabbitmq.com)
-

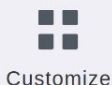
The nasty details ...

... that you don't want to know





Configured via 'Monitored on site'



Add host

Setup > Hosts > Main > Add host

No pending changes

Host Display Help

Basic settings

show less

Host name (required) esxi-2.dorfen

Alias empty (Default value)

Monitored on site cloud - faraway

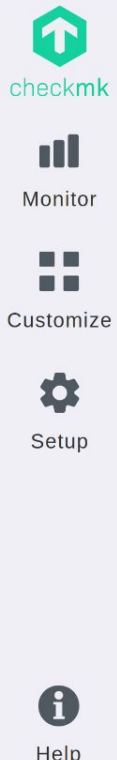
Permissions empty (Default value)

Parents empty (Default value)

> Network address

> Monitoring agents




Create & discover hosts directly on another site now!



Add connection


Setup > Hosts > Dynamic host management > Add connection


No pending changes

Connection Display Help   

Connection properties

Connector type

Piggyback data 


☐ Restrict source hosts 

Sync interval (required)


0 d 0 h 1 min 0 s

Piggyback creation options (required)


  Create hosts in

Main 

Host attributes to set

Basic settings: Monitored on site 

cloud - faraway 

 Add attribute


And it works!


(waits for data to arrive remotely)


Doesn't crash anymore...


How to configure remote-remote connection?




checkmk


Monitor




Customize


Setup


Distributed monitoring


Setup > General > Distributed monitoring

No pending changes





Connections **Display** **Help** Find on this page ...  

Connections

 Add connection

 Add peer-to-peer message broker connection

Connections

Actions	ID	Alias	Status connection	Configuration connection	Remote message broker
	 heute	Local site heute	Connect to the local site	 Online	Not enabled
			▼ Connect via TCP (IPv4)	 Online	



checkmk



Monitor



Customize



Setup

Add message broker connection

Setup > General > Distributed monitoring > Add message broker connection

Connection Display Help ^

✓ Save

ⓘ Distributed monitoring




▼ Connection

Unique ID (required) cloud-dorfen

Initiating peer weitweg ▼

Accepting peer faraway ▼

Peer-to-peer message broker connections

Actions	ID	Initiating peer	Accepting peer
  	weitweg-faraway	dorfen	cloud



Queues should be empty



Service OMD heute message broker, localhost

Monitor > Overview > All hosts > localhost > Services of host > Service

Commands Service Host Export Display Help

Service state

OK

Summary

Memory: 148 MiB, Queues: 0, Messages in queue: 0

Details

Memory: 148 MiB
Queues: 0
Messages in queue: 0

Service Perf-O-Meter

148.19 MiB

RAM used

2025-04-28 @ 30m

128 MiB
96 MiB
64 MiB
32 MiB
0

14:40 15:00 15:20 15:40 16:00 16:20 16:40 17:00 17:20 17:40



RAM used

Minimum Maximum Average Last

150.42 MiB 151.08 MiB 150.69 MiB 150.73 MiB

Messages

2025-04-28 @ 30m

1.5
1
0.5
0

14:40 15:00 15:20 15:40 16:00 16:20 16:40 17:00 17:20 17:40



Messages

Minimum Maximum Average Last

0 1.67 0.29 0

Service graphs

Queues should be empty



Service OMD heute message broker, localhost

Monitor > Overview > All hosts > localhost > Services of host > Service

Commands

Service state

Summary

Details

Service Perf-O-Meter

Service graphs



Monitor



Customize



Setup

Service OMD heute piggyback-hub, localhost

Monitor > Overview > All hosts > localhost > Services of host > Service

Commands Service Host Export Display Help

Service state

Summary

Details

Service Perf-O-Meter

Queued messages: 0, Messages in queue 'config': 0, Messages in queue 'payload': 0

Queued messages: 0
Messages in queue 'config': 0
Messages in queue 'payload': 0

Service graphs

Messages

2025-04-28 @ 30m



Messages

Minimum

Maximum

Average

Last

0

0

0

0

Deactivated by default



> **Message broker requires
>150MB memory**

Rabbitmq

> **Only use case currently:
Piggyback-hub**



Piggyback-hub

> **Piggyback hub not
relevant for all users**

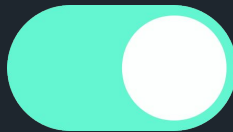
Deactivated by default



> **Message broker requires
>150MB memory**

Rabbitmq

> **Only use case currently:
Piggyback-hub**



Piggyback-hub

> **Piggyback hub not
relevant for all users**

Deactivated by default (subject to change)



Message broker will eventually be on by default

> Message broker requires
>150MB memory

Rabbitmq

> Only use case currently:
Piggyback-hub



Piggyback-hub

> Piggyback hub not
relevant for all users

A lot of potential ahead

