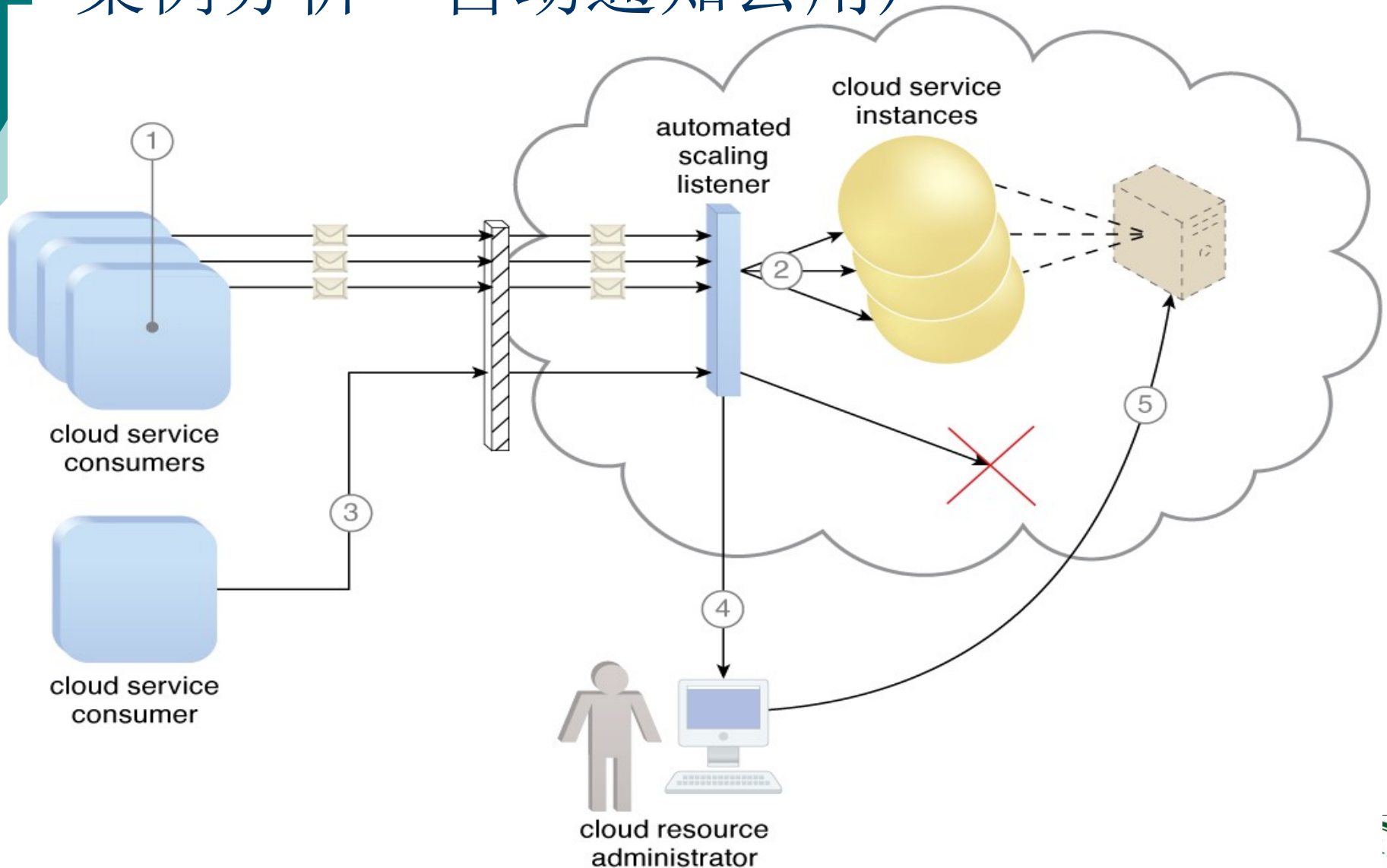


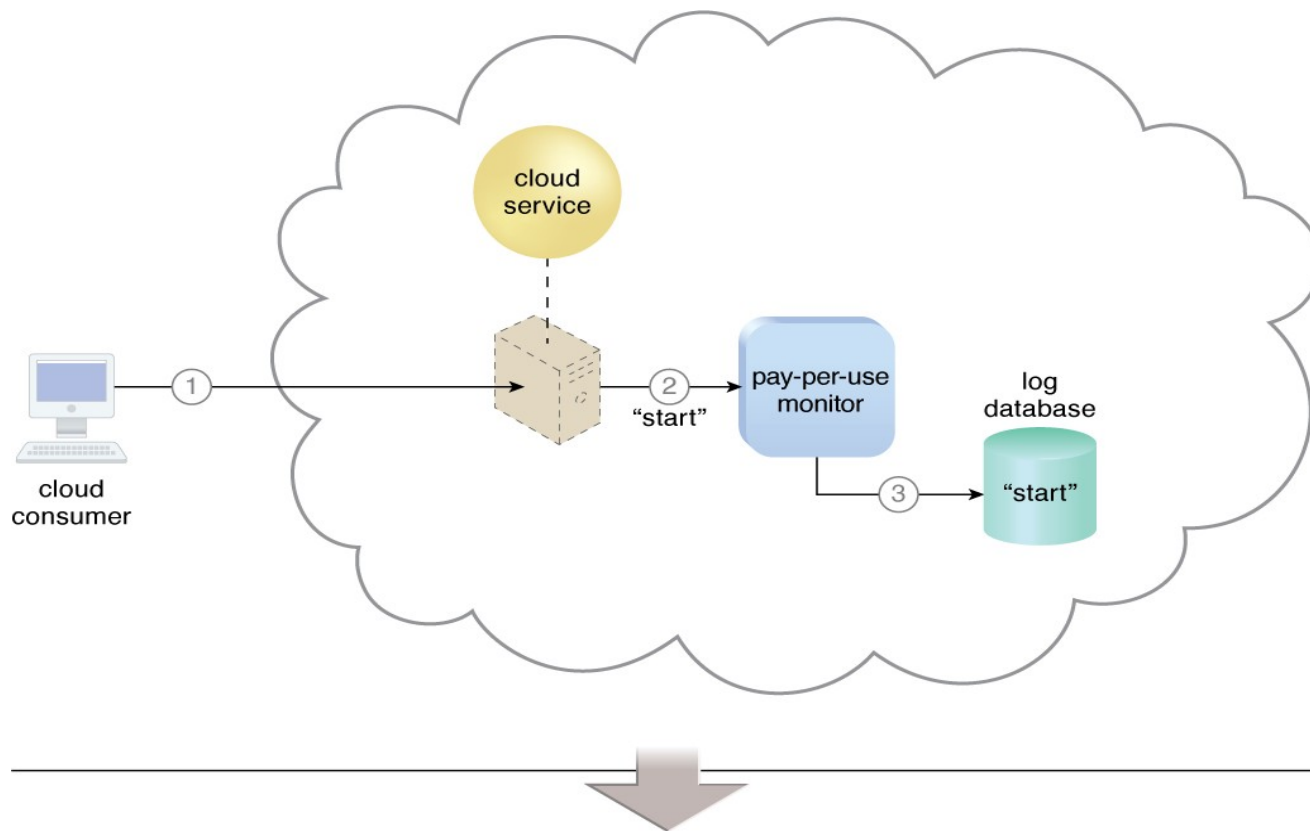
案例分析---自动通知云用户



The fourth cloud service consumer is rejected due to workload constraints; Administrator can change the constraint upon notification.

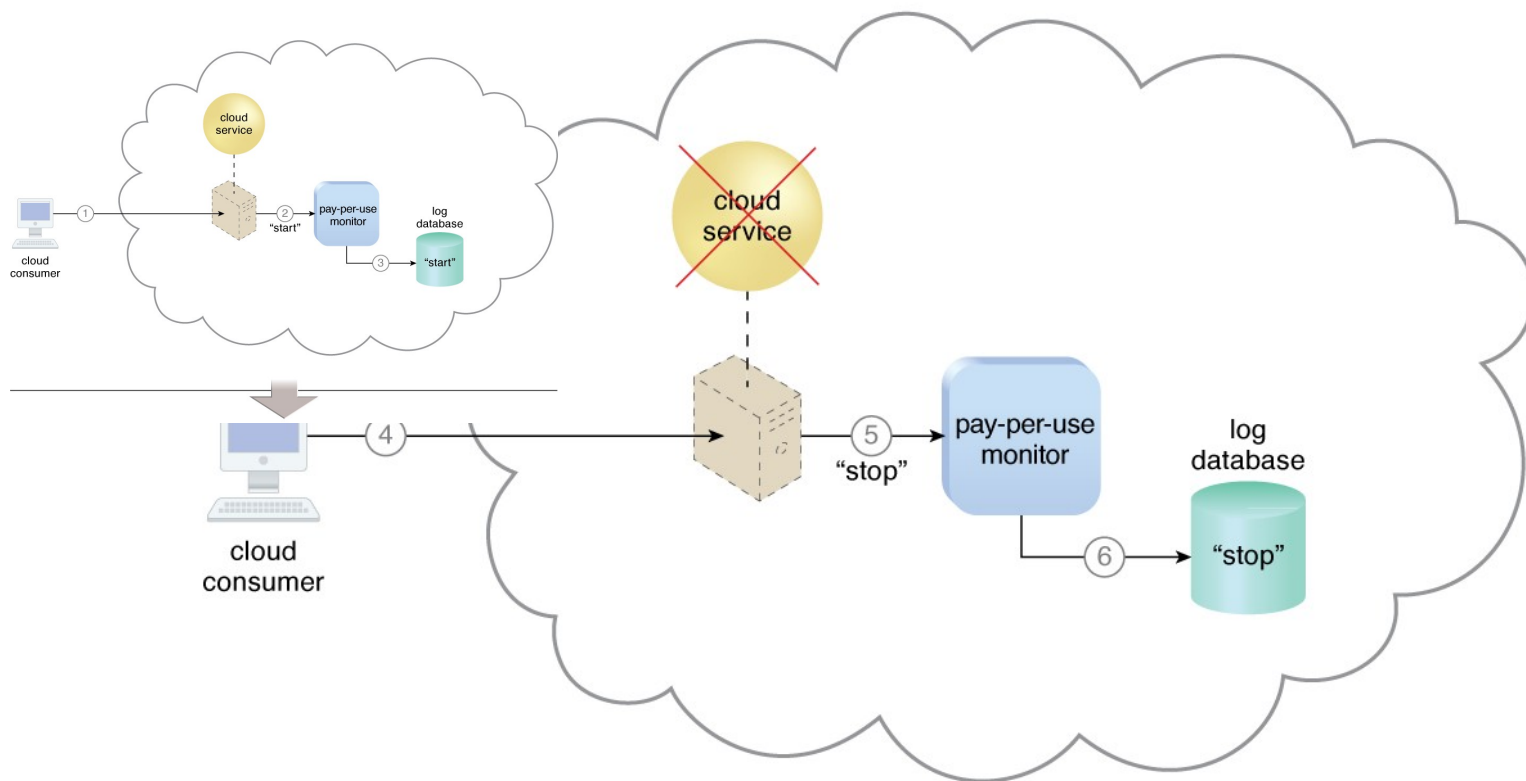
使用付费监控器作为资源代理

- A cloud consumer requests a new instance of a cloud service (1).
- The pay-per-use monitor receives a “start” event notification from the resource software (2).
- The pay-per-use monitor stores the value “start” timestamp in the log database (3).



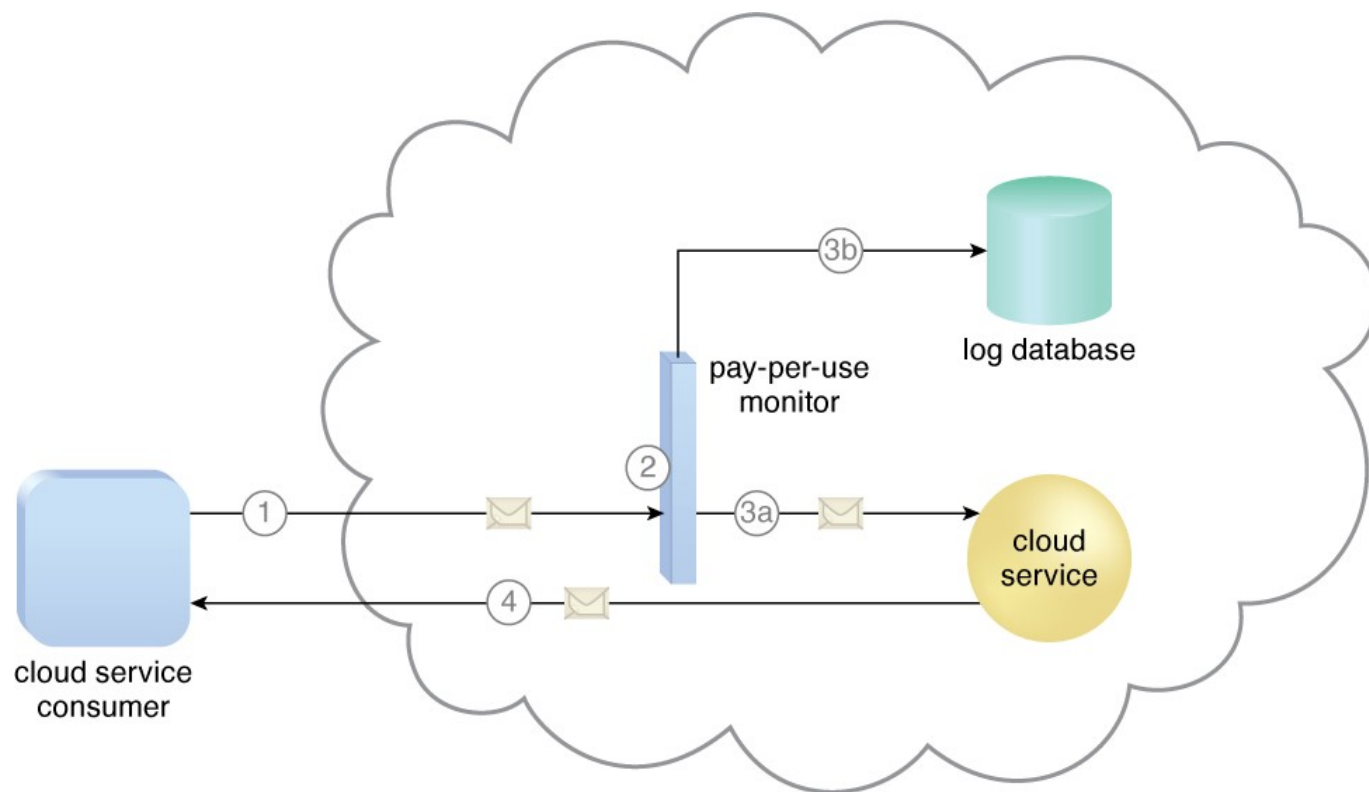
使用付费监控器作为资源代理

- The cloud consumer later requests that the cloud service instance be stopped (4).
- The pay-per-use monitor receives a “stop” event notification from the resource software (5) and stores the value “stop” timestamp in the log database (6).



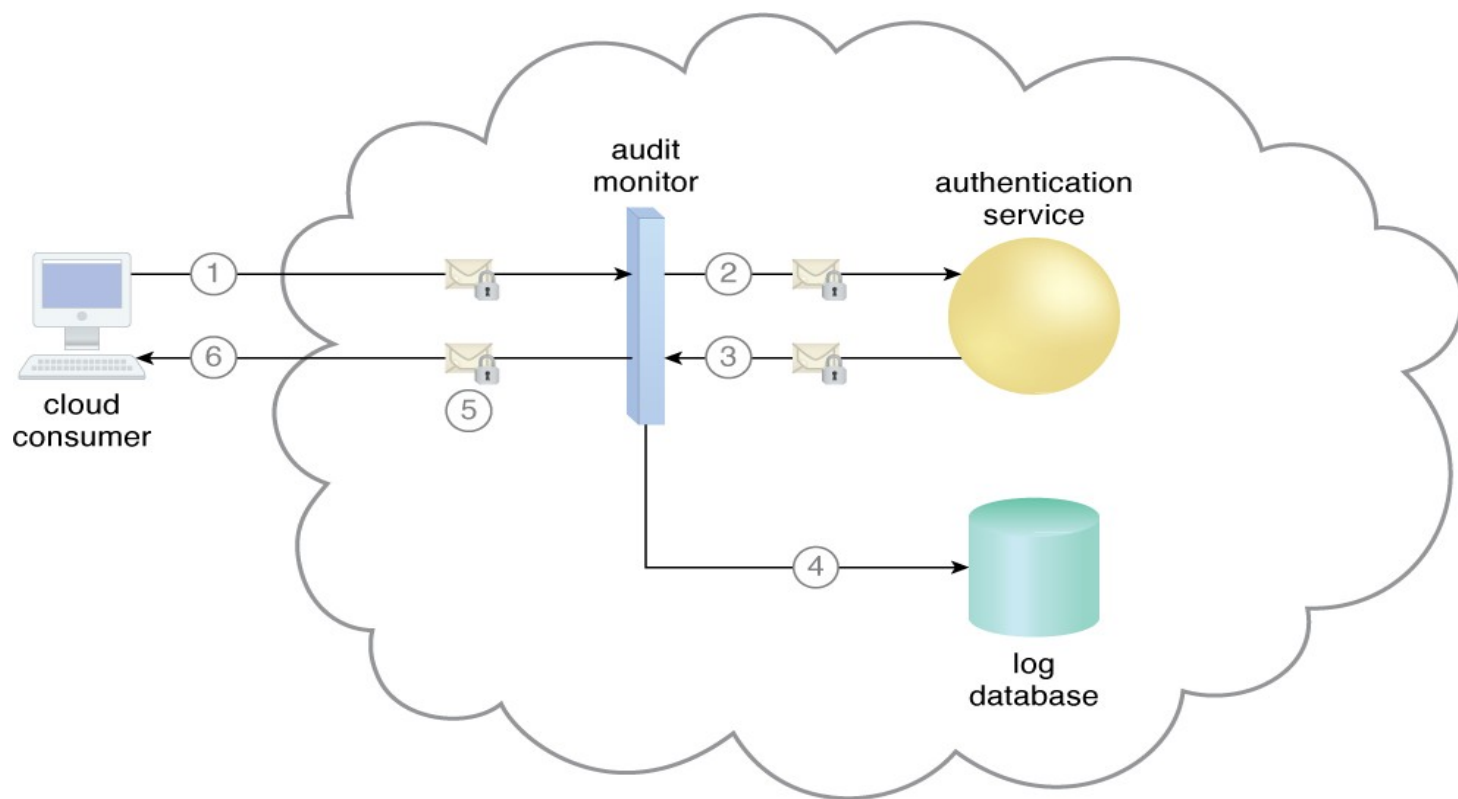
使用付费监控器作为**监控代理**

- 云服务用户向云服务发送请求消息（1）
- 按使用付费监控器截获该消息（2），将他转发给云服务（3a），按照监控指标把使用信息存储起来（3b）
- 云服务将响应消息转发回云服务用户，提供所请求的服务

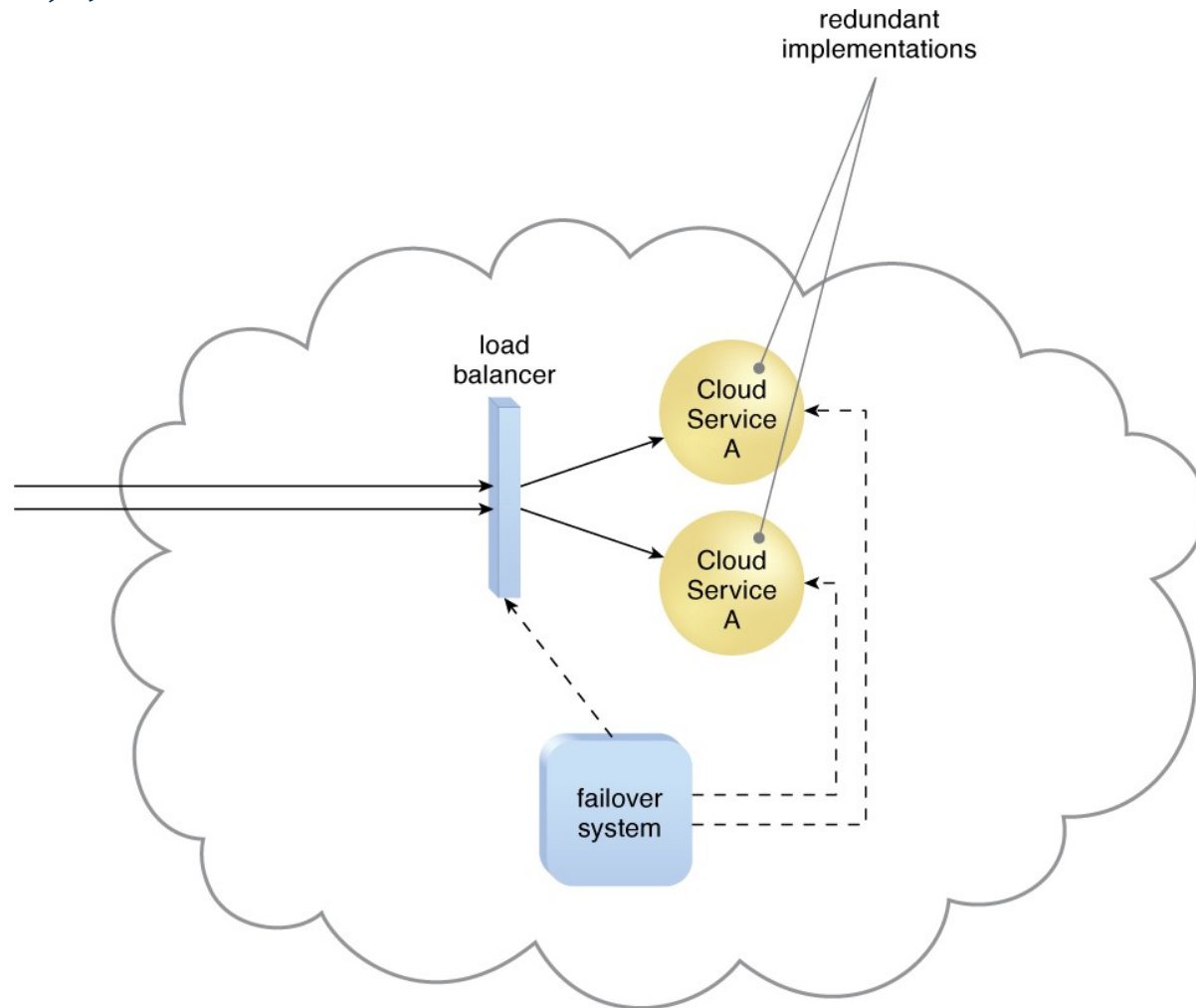


一个实现为**监控代理**的审计监控器

它截获“登录”请求，在日志数据库中存储请求者的安全证书，以及成功和失败的登录尝试，以供今后审计报告用



主动-主动

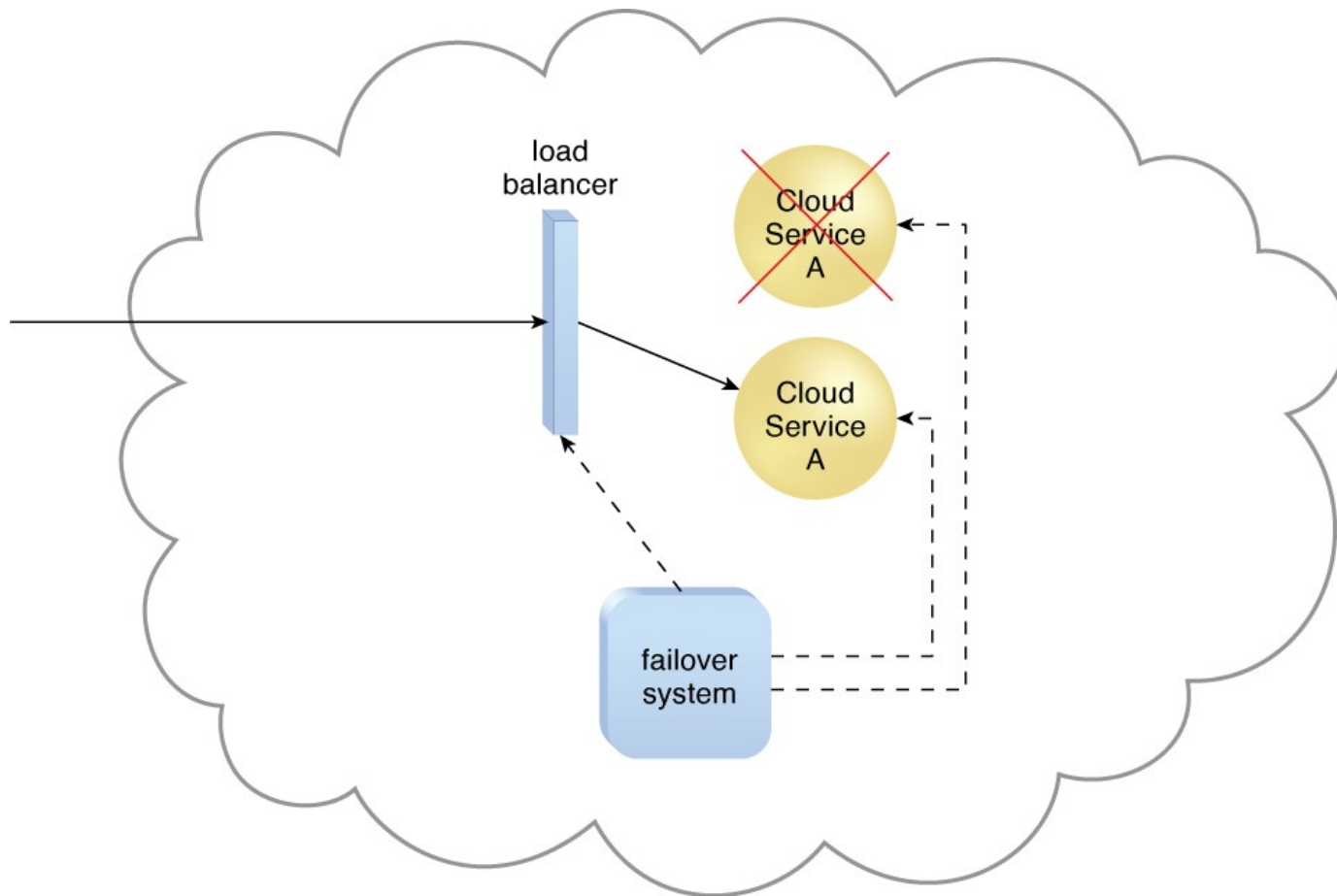


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Figure 8.17 – The failover system monitors the operational status of Cloud Service A.



主动-主动

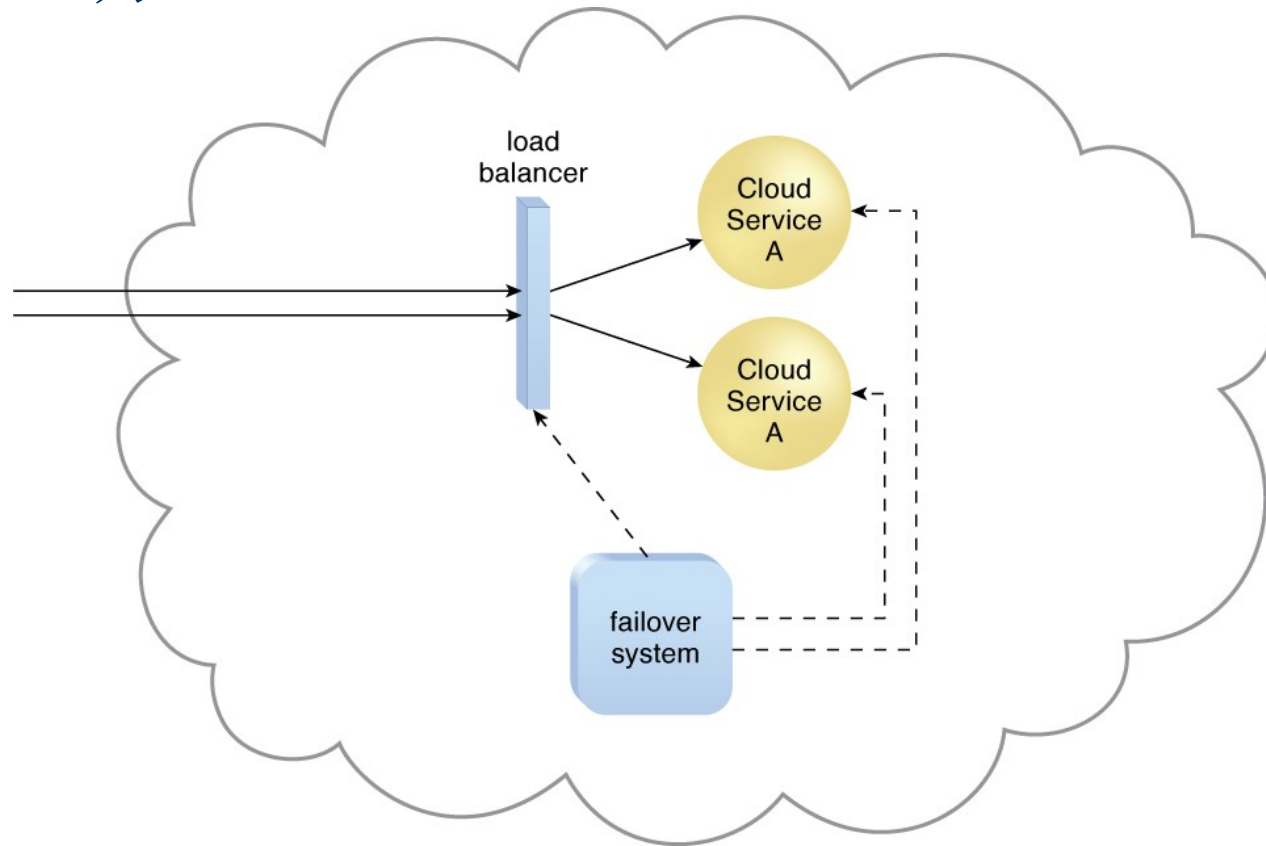


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Figure 8.18 – When a *failure* is detected, the failover system commands the load balancer to switch over the workload to the *redundant* Cloud Service A implementation.



主动-主动

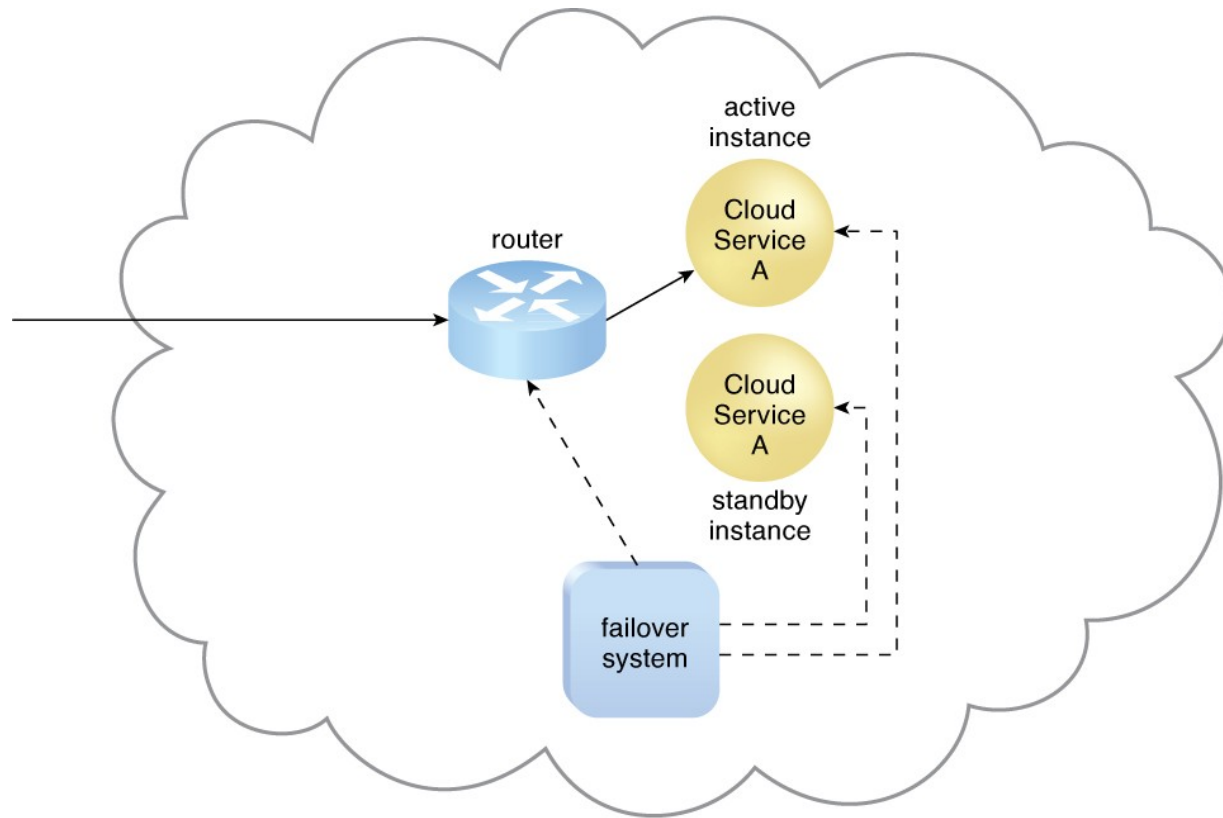


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Figure 8.19 – The failed Cloud Service A implementation is *recovered* or replicated into another operational resource. The failover system now commands the load balancer to distribute the workload again.



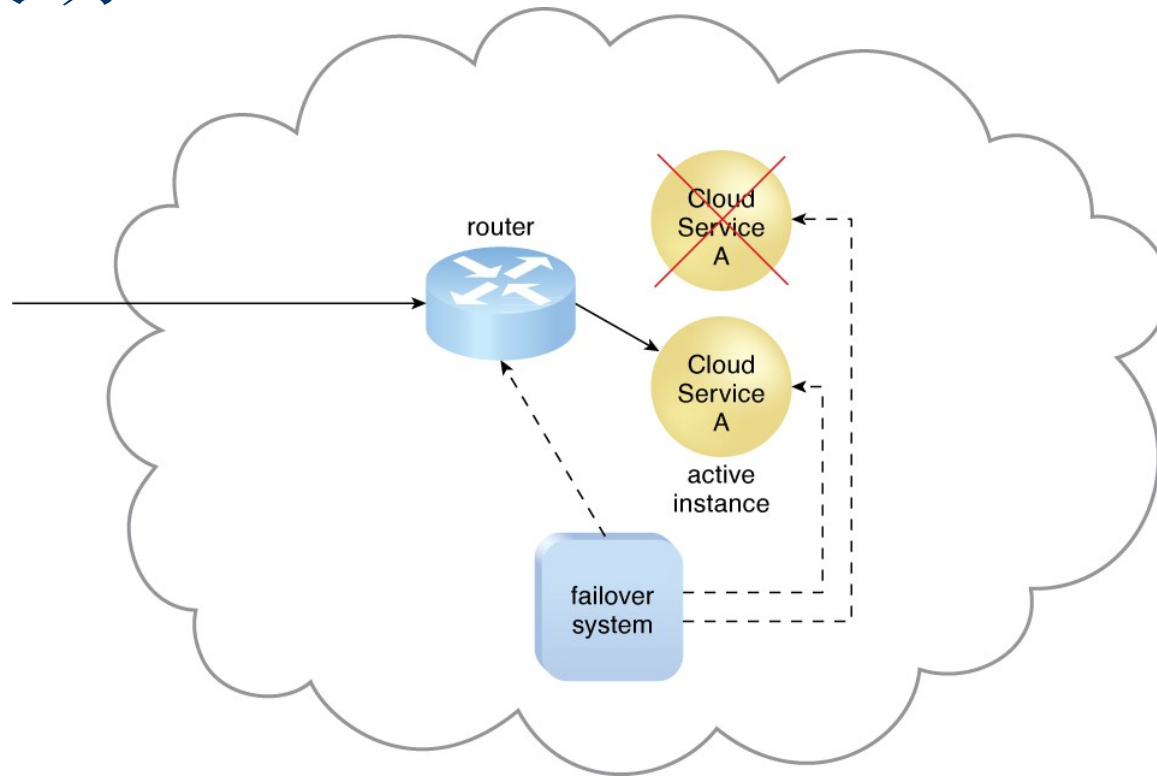
主动-被动



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Figure 8.20 – The failover system monitors the operational status of Cloud Service A. The Cloud Service A implementation acting as the active instance is receiving cloud service consumer requests.

主动-被动

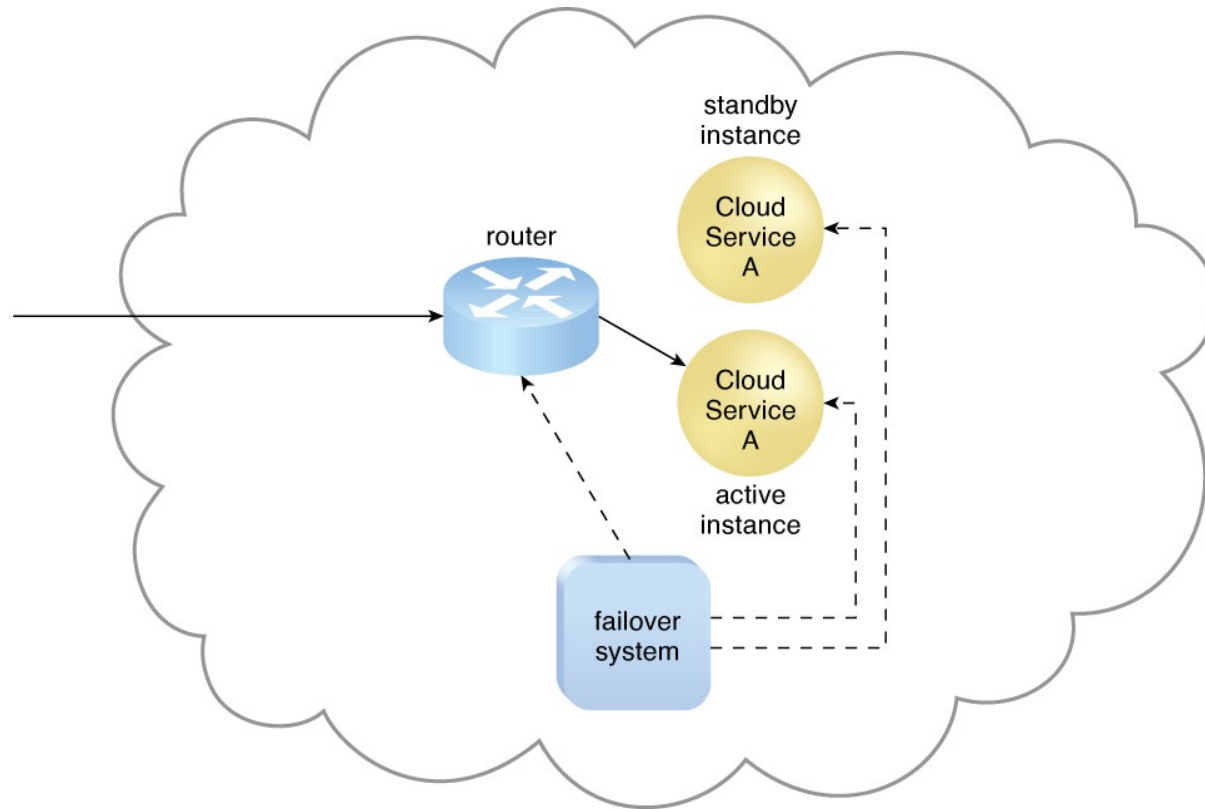


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Figure 8.21 – The Cloud Service A implementation acting as the active instance encounters a **failure** that is detected by the failover system, which subsequently **activates** the inactive Cloud Service A implementation and redirects the workload toward it. The newly invoked Cloud Service A implementation now assumes the role of active instance.



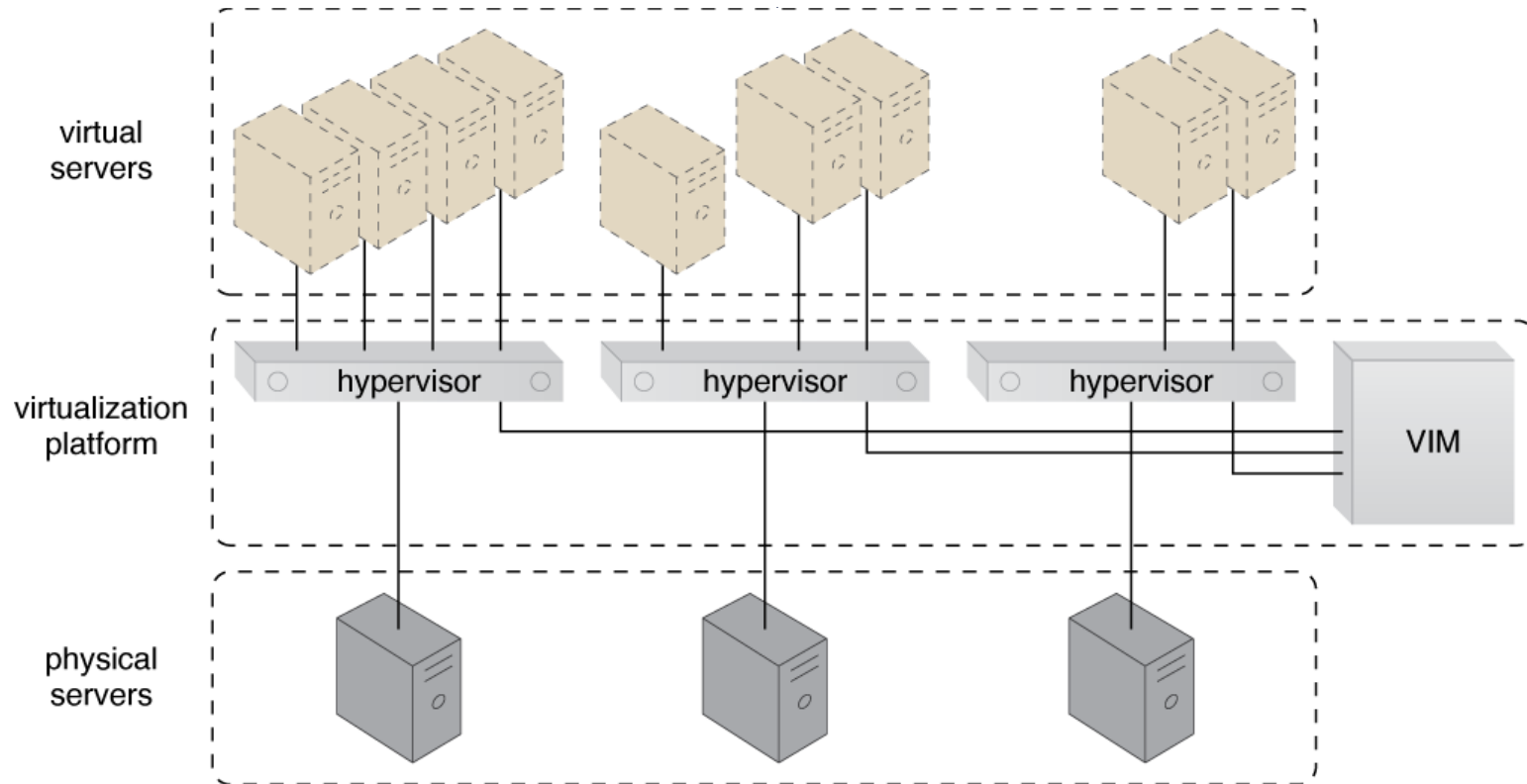
主动-被动



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Figure 8.22 – The failed Cloud Service A implementation is *recovered* or replicated into another operational resource, and is now positioned as the standby instance while the previously invoked Cloud Service A continues to serve as the active instance.



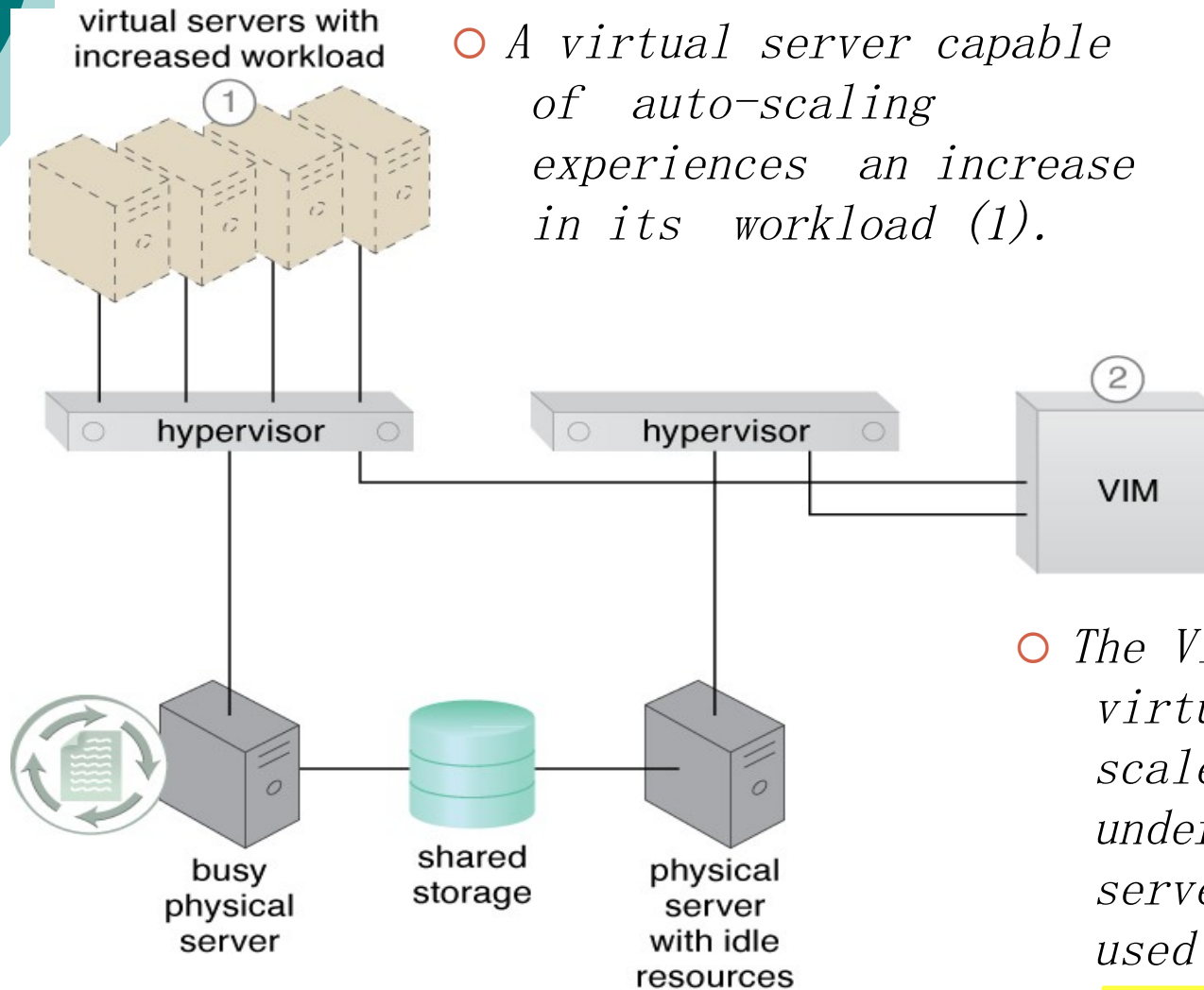


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Figure 8.27 – Virtual servers are created via individual hypervisor on individual physical servers. All three hypervisors are jointly controlled by the same VIM.



An Example of VM Imigration



○ A virtual server capable of auto-scaling experiences an increase in its workload (1).

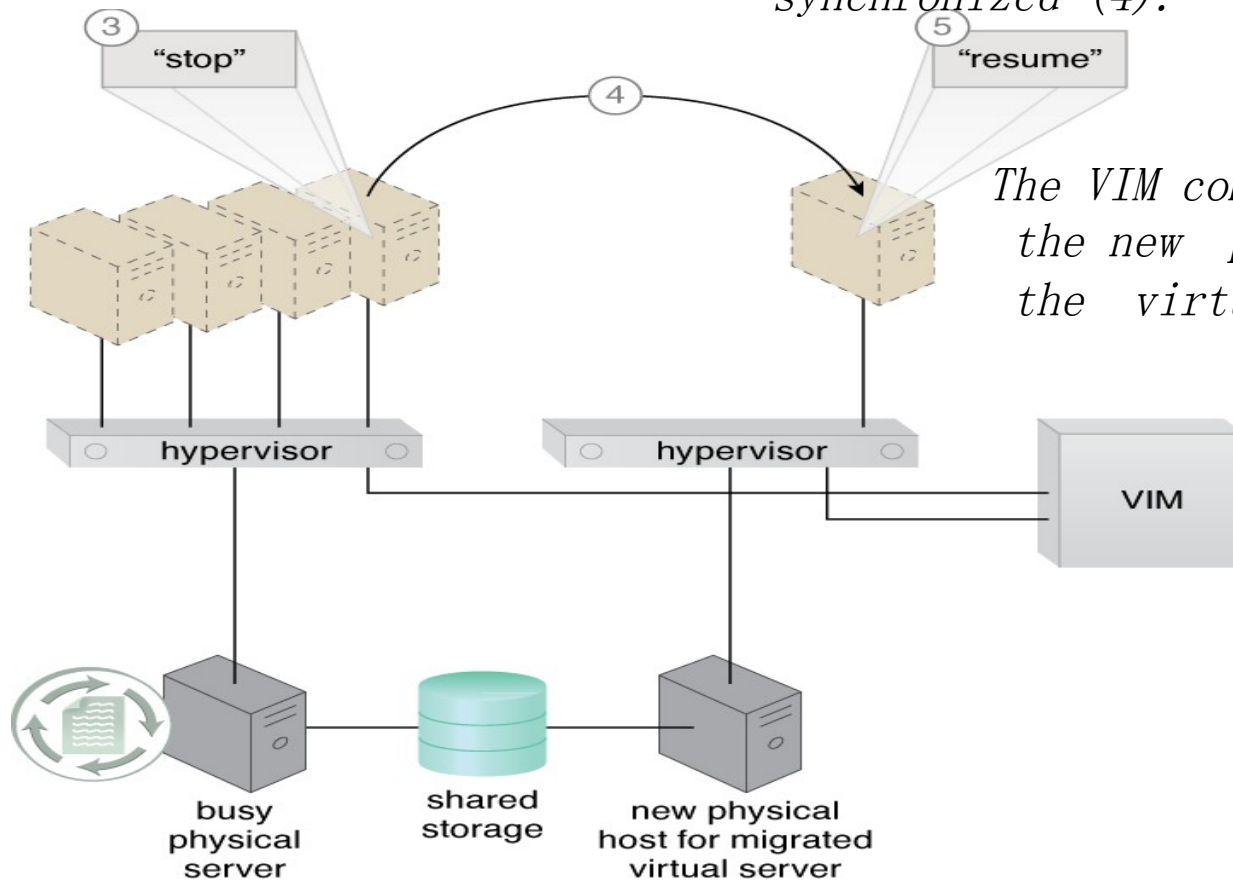
○ The VIM decides that the virtual server cannot scale up because its underlying physical server host is being used by other virtual servers (2).

The VIM commands the hypervisor on the busy physical server to suspend execution of the virtual server (3).

The VIM then commands the instantiation of the virtual server on the idle physical server.

State information (such as dirty memory pages and processor registers) is synchronized (4).

The VIM commands the hypervisor at the new physical server to resume the virtual server processing (5).



课后题

- 1、讨论分析可以用于自动伸缩的判定条件和机制。
- 2、分析讨论按使用付费监控器的两种实现方式的优缺点。

