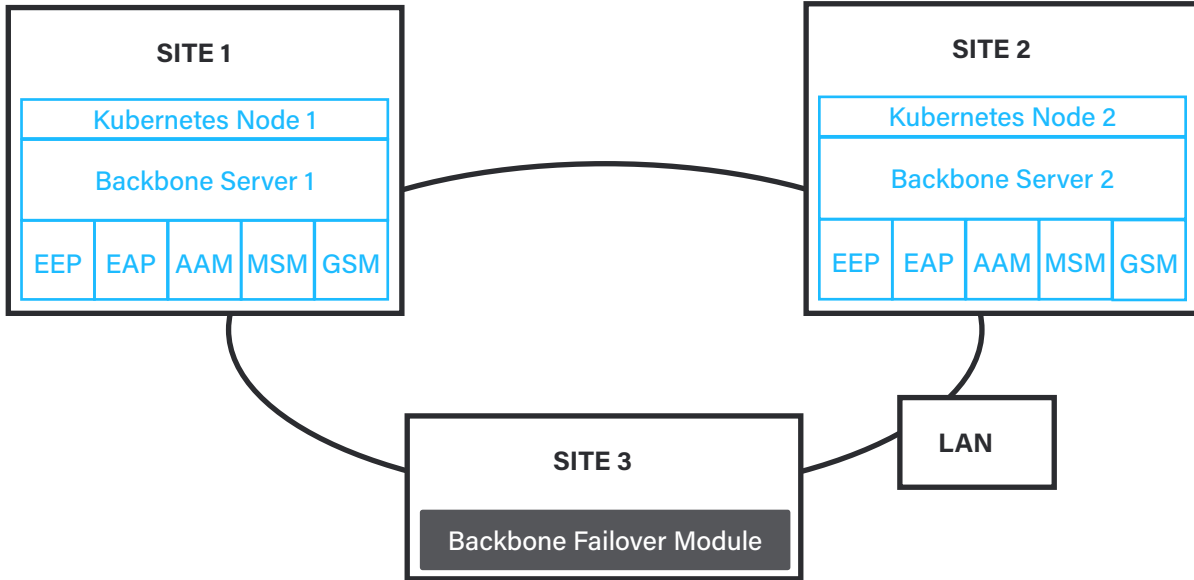


Backbone Failover Module

HEMISPHERE® BFM Module for high availability of the Backbone Server using Kubernetes as a distributed control instance



The HEMISPHERE® Backbone Server Software is the central and extremely powerful system for the efficient and rule-based distribution of data as alarm messages, status messages, event messages or authorization information between all components of a HEMISPHERE® Security and Business Management System.



The HEMISPHERE® Backbone Failover Module is designed for high availability of the HEMISPHERE® Backbone Server and the integrated modules:

- Enterprise Event Processing Module (EEP)
- Enterprise Alarm Processing Module (EAP)
- Advanced Authentication Module (AAM)
- Media Storage Module (MSM)
- Geo Service Module (GSM)

Using **Kubernetes** as a distributed control instance, there is **no single point of failure** and **no downtime** when rolling out updates of the single components (server software, module software, operating system).

Solution Concept

The HEMISPHERE® Backbone Server Redundancy solution is based on **two active primary data centers**. Here the backbone server is operated with the integrated modules and a **slave node of Kubernetes**. The third site hosts only the HEMISPHERE® Backbone Failover Module as the **Kubernetes master node**, that acts as the control instance of the cluster for **maintaining data integrity in the event of partial failures**. All sites are connected by a low-latency LAN without connection to the internet.

High Availability

The HEMISPHERE® Backbone Server Redundancy solution is designed to tolerate the failure of a component or an entire site. The system **recognizes the failure** and switches **all data flow and work load** to the corresponding component on the remaining site. In case of a software component failure, full service of the system is regained after a couple of seconds. This period can take some minutes in case of a hardware failure. Once the failed site is functional again, the system automatically distributes all data and work load evenly on both sites again.

Update Rollout

The HEMISPHERE® Backbone Server Redundancy solution supports the **rollout of updates without service interruptions**. The HEMISPHERE® Backbone Failover Module takes the relevant component offline on one site while the service is still online on the second site. After the update is applied, the component is automatically taken online again and the data and work load is distributed evenly on both sites. This procedure can be repeated for **all system components**, such as server software, all integrated modules, all cluster components and the operating systems.

Unified Logging

The HEMISPHERE® Backbone Failover Module supports options for easy troubleshooting and analysis with **centralized logging for all components**. Graphical user interfaces can give a comprehensive overview and can include a **powerful and very fast search engine**. And some options even allow the **correlation of logs across different components and layers**.

Unified Monitoring

The HEMISPHERE® Backbone Failover Module supports options for the collection of **telemetric data of all software components** and the infrastructure for detailed system analysis. This data is visualized by a graphical user interface with **pre-defined dashboards** that allow **easy determination of resource shortages** and provide a good overview of total system performance.

Licensing


The HEMISPHERE® Backbone Failover Module is licensed over the HEMISPHERE® Site Dongle, just like all other components of the entire HEMISPHERE® system. The scope of delivery of the failover module includes a clone of the **Hemisphere® Site Dongle**, so that each of the three sites is equipped with the same dongle. This ensures that a dongle is always available for licensing of the entire system even in case of a total failure of one of the sites.

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Module License	
007874	DLD - HEMISPHERE® Backbone Failover Module License for the use of the basic installation of the failover software on one server as the Kubernetes master node, licenses for two Kubernetes slave nodes included, 1x clone of the HEMISPHERE® Site Dongle included

Server	
007380.411	 Server 2 Rack-Mount 1RU Server hardware, 1RU rack-mount, 8-core 2.1GHz CPU, 32GB DDR4 RAM, 2x redundant power supplies, 1x SATA DOM 64 GB, 2x SSD 1000 GB with RAID 1 (in tray), 2x 3.5" HDDs optional, MegaRAID controller included, license for VMware ESXi 6.5 included

System Requirements Virtual Server	
CPU virtual	2 vCPU
RAM virtual	10 vRAM
Storage	30 GB SSD
Network	1.000 Mbps or 10.000 Mbps
Operating system	Ubuntu Server 18.04 LTS



See more.