

Benefits of Bluesocket High Availability Solution in a VMWare environment

Explanation of Redundancy provided by VMWare:

VMware VMotion

VMware VMotion enables the live migration of running virtual machines from one physical server to another with zero down time, continuous service availability, and complete transaction integrity.

VMware High Availability (HA)

This feature provides high availability for applications running in virtual machines. If a server fails, affected virtual machines are restarted on other production servers that have spare capacity.

In the event of physical server failure, affected virtual machines are automatically restarted on other production servers with spare capacity. In the case of operating system failure, VMware HA restarts the affected virtual machine on the same physical server.

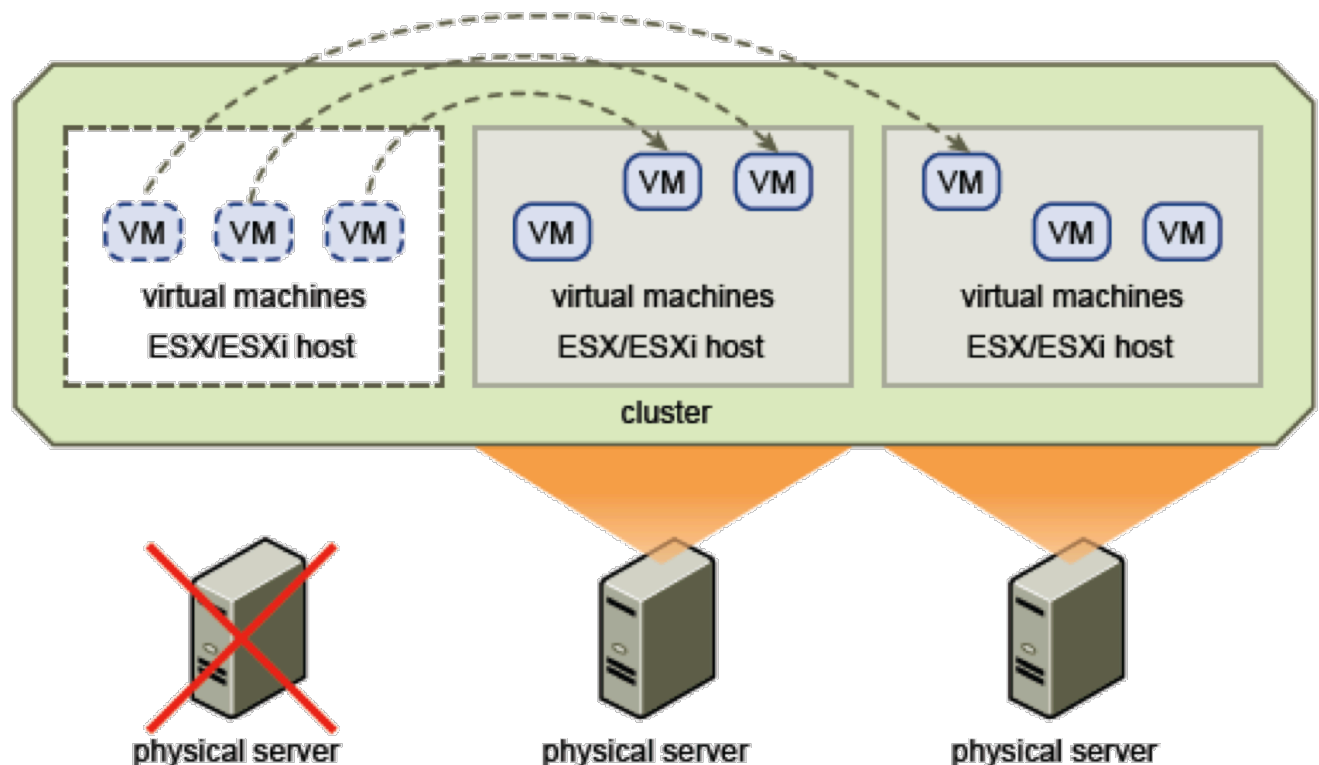


Figure 1: Example of VMWare HA

Bluesocket's vWLAN Solution:

vWLAN™'s architecture is the first of its kind to create a truly unified wireless and wired network which delivers maximum efficiency by separating the data plane from the wireless network management and control plane. This is achieved through the use of smart Bluesocket 802.11n Access Points which can support user authentication and traffic forwarding decisions at the edge of the network. Forwarding data traffic directly to the wired network frees enormous capacity within the wireless controller. More capacity means the vWLAN™ can deliver enhanced wireless management and control performance with far less dedicated hardware. Bluesocket's fully virtualized, software-based solution gives customers the flexibility to run vWLAN™ on a variety of server, blade, and hypervisor platforms (like VMWare).

Bluesocket's High Availability (HA) Solution

Bluesocket's HA solution is designed to provide uninterrupted WLAN service and a "Zero Packet Failover Event". The 1+1 high availability scheme is based on installing both Primary vWLAN software and a Hot-standby vWLAN software. Both vWLAN software can be deployed anywhere as long as the Bluesocket access points have Layer2 or Layer3 connectivity to them (same building, across campus or over the Internet.)

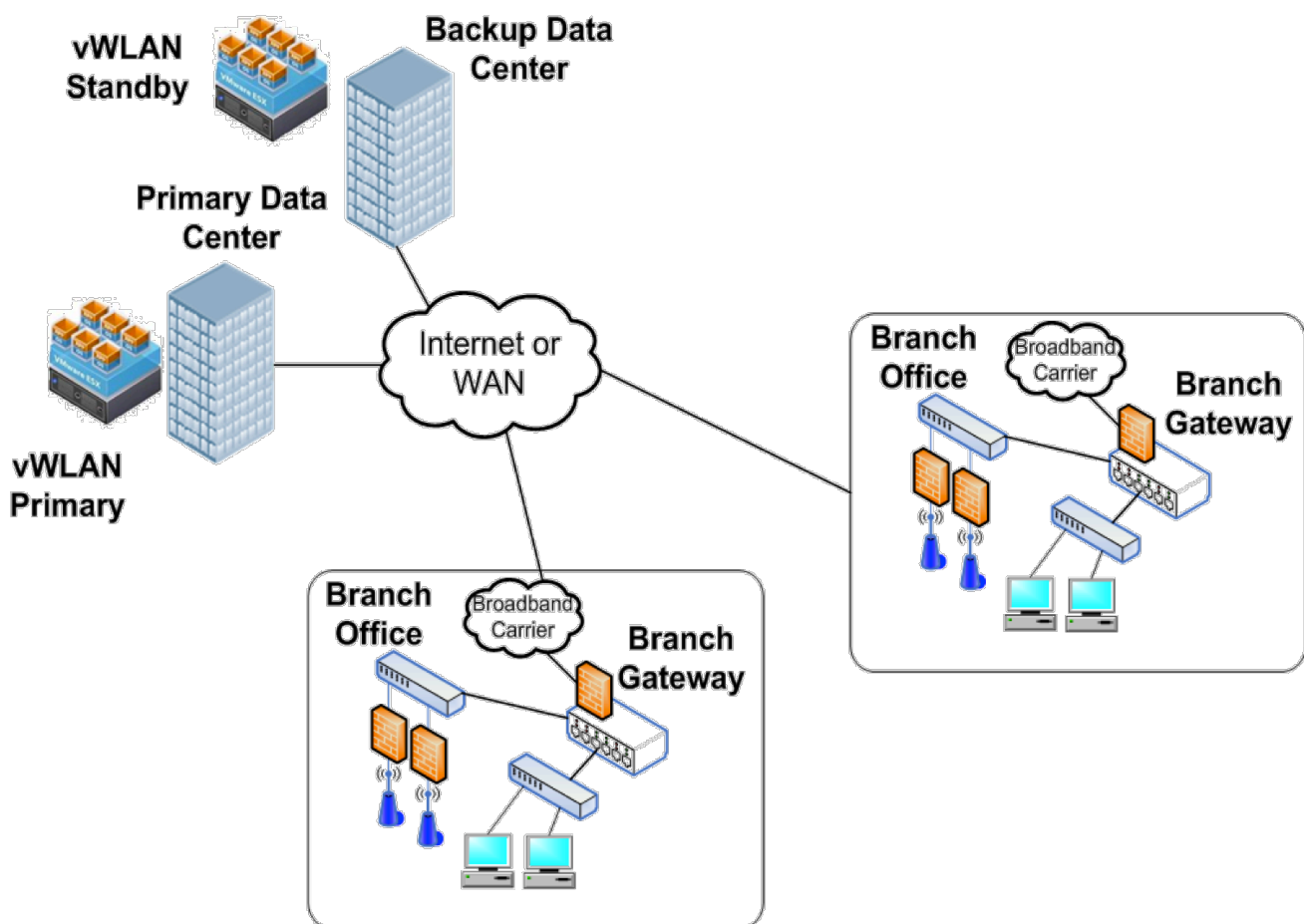


Figure 2: Example of Bluesocket's vWLAN HA

What advantage Bluesocket's HA solution will provide over VMWare HA solution?

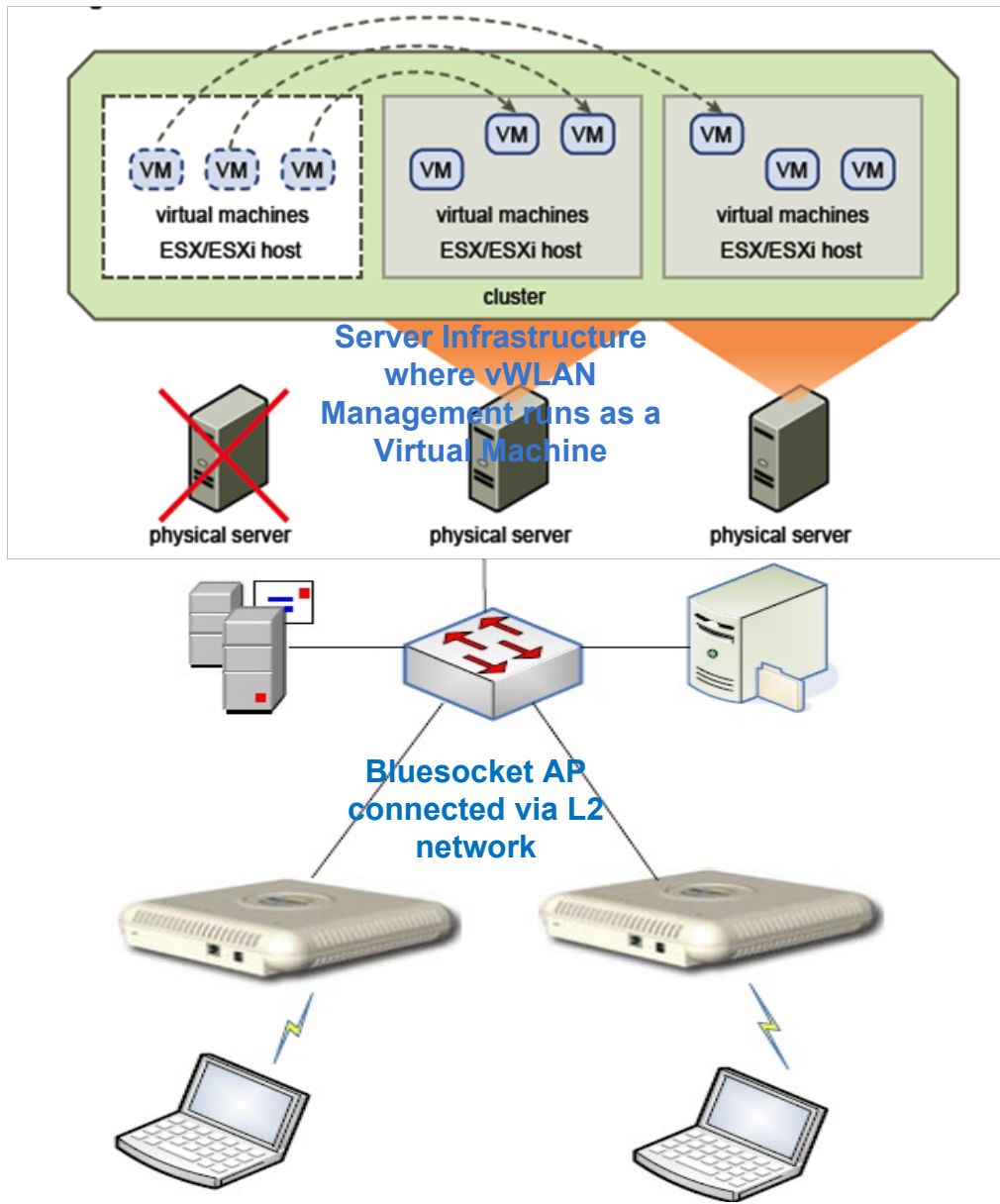


Figure 3: Example of a vWLAN Installation in a VMWare environment

Bluesocket's High Availability (HA) Solution Software

Bluesocket's vWLAN Management software runs as an application in a VMWare environment. VMWare solution monitors the Virtual Machine and the physical server and provides redundancy in case the Virtual Machine fails or the physical server fails itself. VMWare's HA solution only detects the server infrastructure failures.

- VMWare is not tracking the Network Layer through which Bluesocket AP's communicate with the vWLAN software

The above diagram shows a simplistic network diagram of vWLAN Deployment. Since Bluesocket is responsible for the seamless WLAN operation it's HA solution is designed to provide complete failure recovery.

In above example if the Bluesocket AP fails to communicate with the Primary vWLAN management software due to Network Failure, all the Bluesocket AP's will seamlessly failover and start communicating with the Secondary vWLAN software; existing authorized users will not lose a single packet and new users will be redirected to the Secondary vWLAN software for Authentication. Bluesocket's HA solution tracks any failure which can happen at the network layer and can disrupt the WLAN service. VMWare's HA solution cannot detect this failure

- VMWare cannot detect vWLAN Management Software Failure

Bluesocket's HA solution is designed around its Smart Access Points. Anytime the Bluesocket Access Points fails to communicate to the Primary vWLAN software it will failover to the secondary vWLAN software. This failure could be due to software failure at the vWLAN Management level. This will not be detected by VMWare, as its not handling the Bluesocket vWLAN software, it is just handling the resources on which the vWLAN software resides.

Limitation of VMWare HA solution:

- **VMWare's HA solution does not work across WAN or Internet.** Bluesocket's HA solution has no such limitation. Bluesocket's Primary and Secondary vWLAN software can reside anywhere on the network (Reference Figure 2).
- VMWare's HA solution is focused on server resiliency and therefore cannot guarantee zero packet loss for wireless clients during network infrastructure or WLAN management specific failures.