



CommandCenter® Secure Gateway

Centralized access and control
of your entire IT infrastructure

CC-E1

- ▶ Stronger processing, more memory
- ▶ Dual power supply

CC-V1

- ▶ 1U form factor

Virtual appliance

- ▶ Runs on VMware® ESX and ESXi

How True Appliances and a Distributed Architecture in a Centralized Management Solution Benefits You

Introduction

In the server world, an appliance is a completely enclosed turnkey unit, in which the operating system, application software and client interfaces are integrated into one easy-to-deploy package. Administrators don't need to spend nearly as much time installing and managing an appliance as they do applications and traditional servers. The hardware and software is preinstalled and configured by the manufacturer and are typically plug-and-play devices. Very secure, hardened appliances also do not require the management of security tools such as firewalls and antivirus software.

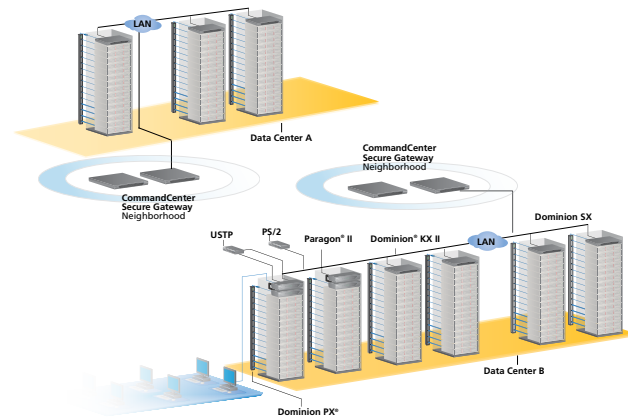


Diagram of CC-SG neighborhoods and clusters

Raritan's CommandCenter Secure Gateway (CC-SG), a centralized IT infrastructure management solution, is a true appliance. Both rack-mounted hardware and virtualized versions are available. The hardware (or physical) appliance is deployed as a two-unit "cluster" for easy primary/secondary redundancy. When added scalability is needed, primary units can be set up in a multi-appliance "neighborhood."

Other centralized management solutions in the market are available as Windows® or Linux® applications and use what's known as a "hub & spoke" configuration to enable scalability and redundancy. These solutions generally do not offer management flexibility and have a higher total cost of ownership (TCO).

What Are CC-SG Neighborhoods and Clusters – and Why Are They Deployed?

A CC-SG neighborhood is a group of CC-SG appliances that work together to serve the IT access and management needs of the enterprise.

A neighborhood enhances performance by distributing device and node access across CC-SG units within a data center or multiple locations. In a neighborhood, login is required only to a user's home unit. Through a simple dropdown menu, access to resources managed directly by other CC-SGs is fast and easy.

Regionalizing a neighborhood enables local authentication for the fastest access possible to local resources – while also providing around-the-clock global operations. Regional deployment of CC-SG appliances also allows for local administrative autonomy. A neighborhood can also be set up on an organizational basis – providing autonomy, but also support for other groups as needed.

Each neighborhood unit can be backed up with a second unit (i.e., a cluster) for easy redundancy. Secondary units are typically deployed on a different subnet and sometimes in a different geographical location for additional resiliency. The communication between the databases in each cluster unit is constantly open, so updates are very small, resulting in the use of very little network bandwidth.

What Is a Hub & Spoke Solution?

A hub & spoke solution consists of one primary host or “hub” server and one or more secondary “spoke” servers. Access and management application software is installed on each server in the configuration and are identified as either a hub or a spoke. Each hub & spoke server contains a database for storing user, configuration and system information. Each unit also serves as a point for authentication, user access rights, logging and licensing. One of the servers is assigned “hub” status and contains the system’s master database.

Neighborhood and Cluster Advantages Over Hub & Spoke Solutions

Easy to Deploy and Manage

CC-SG is available as a rack-mounted hardware appliance or a virtual appliance. Because CC-SG is provided as a completely enclosed turnkey appliance, the operating system, application software and client interfaces are integrated into a single easy-to-deploy package.

Conversely, the leading hub & spoke solution consists of a software package that is installed on servers that must be purchased, managed and maintained. While CC-SG customers can look forward to an occasional firmware upgrade, hub & spoke administrators have to worry about maintaining server operating systems, firewalls, antivirus software, spyware, hardware maintenance and much more.

It’s important to note that while the neighborhood feature is an excellent option for increased scalability and other benefits, the performance of just one CC-SG typically exceeds the needs of even the largest organizations. A majority of customers install only one primary CC-SG, along with a backup unit if desired (i.e., one cluster). And in most



Diagram of a hub & spoke configuration

cases, when a neighborhood is deployed, it consists of only two units. Compare this to a hub & spoke configuration, which often includes three or more servers.

Less Network Overhead

Because CC-SG users enter the neighborhood through only one of the member units – and can then access any target that’s connected to any other CC-SG in the neighborhood – there is no synchronization of databases among the primary units. In terms of a cluster, the database of a CC-SG primary/backup cluster is always kept in sync in real time. No scheduled tasks are needed. And because updates are constant, they are very small – instead of scheduled bulk updates.

Network overhead in a hub & spoke configuration is considerably higher. Access to target devices is available from the hub or any of the spokes. And each server also has a role in failover and backup. As a result, to ensure accurate rights management, logging and reporting, significant database synchronization – and therefore significant use of the network – is required.

More Secure Access

CC-SG users access all targets – even those directly connected to and managed by other neighborhood CC-SGs – through one “home” CC-SG. Users can use any of the neighborhood units as their home CC-SG, but administrators ensure that all management occurs through only one point of access.

Hub & spoke users can enter through any server in the configuration, making access rights management a significant chore for the administrator. And, due to CC-SG’s low security profile, Linux-based appliance architecture, it is much more immune to viruses and hacking.

No Single Point of Failure

With the easy implementation of a CC-SG cluster, customers instantly eliminate any single point of failure. It's worth noting that CC-SG primary units have been designed to have an extremely high availability rate, thereby limiting the chances of actually needing to restore from backup.

For even more redundancy, the CC-SG feature, "IP Failover Mode," enables administrators to use two CC-SG LAN ports to implement network failover where only one LAN port is active at a time. If the primary LAN is connected and receiving a link integrity signal, CC-SG uses this LAN port for all communications. If the primary LAN loses link integrity, CC-SG will fail over to the secondary LAN. The secondary LAN will be used until the primary LAN returns to service. As long as one LAN connection is viable, users do not notice any disruption in service during a failure.

Another option that provides easy, automated CC-SG failover operations is to configure two IP addresses per DNS name. If the primary unit fails, there is a seamless transfer to the secondary. Alternatively, the CC-SG client can also be used to bookmark both locations for convenient switching to the backup unit.

Conversely, hub & spoke solutions often need to utilize a load balancing switch to help improve performance. In such a configuration, however, the load balancer is a single point of failure because it serves as a "front end" to the hub & spokes that all traffic must travel through first. A CC-SG neighborhood does not require a "super-unit," hub or other single point of system management.

Lower TCO

A vast majority of CC-SG customers utilize a single cluster solution, which supports access to several thousand target devices by dozens, and sometimes hundreds, of users. When a neighborhood is deemed to be a good fit, there is often no need to expand past two primary units for maximum performance.

The typical hub & spoke configuration consists of three or more servers. More spokes means more licensing and warranty costs, more cost of administration, more rack space, more network cabling and more power consumption.

Raritan's pricing, licensing and maintenance model is straightforward and customer friendly. First, "cluster kits" are available, which include two CC-SG units to be deployed in cluster mode. Because only one unit at a time is being used to access IT resources, only a single license fee is charged for the targets that will be accessed. This saves customers thousands of dollars relative to the typical hub & spoke solution.

Summary

Compared to a more complex hub & spoke approach, which can require significant management overhead of multiple third-party servers, constant database synchronization and complex licensing, the CC-SG enlists a straightforward failover and expansion approach. CC-SG also avoids a confusing array of licensing options to cover a variety of hub/spoke combinations. As a result, a typical CC-SG solution is easier to manage and has a lower TCO than a hub & spoke deployment.

Ready to hear more? Contact Raritan today.
Call +31 (0)10 284 4040 or visit www.raritan.eu/CC-SG

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Raritan provides secure IT infrastructure management solutions that increase data center efficiency and productivity by delivering integrated in-band and out-of-band server access, control and power management. Raritan's KVM, serial console and intelligent PDU products are in use at over 50,000 locations worldwide. Raritan's OEM division provides embedded hardware and firmware for server and client management, including KVM over IP, IPMI, intelligent power management and other industry standards-based management applications.

Based in Somerset, NJ, Raritan has 38 offices worldwide, serving 76 countries. For more information, please visit Raritan.eu