

PEPPERMILL CASINO & RESORT

RENO, NEVADA

The Peppermill Resort Spa Casino is Reno's premier AAA Four Diamond resort. There are 1,635 guest rooms including the 600 room all-suite Tuscany Tower. The resort includes a massive 82,000 square foot casino, 33,000 square foot spa, 9,900 square foot fitness center as well as three pools, three spas, ten restaurants and fifteen bars and lounges. In 2010 the resort decided to overhaul the high-speed Internet access network to ensure a first class experience while accommodating the growing number of devices that guests were bringing. A colossal distribution network consisting of more than a thousand pieces of top shelf equipment that cost over \$1M was installed. However the resort still experienced significant stability problems with the guest network despite the massive expenditure on deploying a high quality distribution infrastructure. Guests were constantly complaining that they could not access the network and that even when they could get access the speed was unsatisfactory.

The IT personnel at the Peppermill came to RG Nets for a solution. A quick site survey indicated that the existing logical network architecture was a major source of problems. All guest traffic was placed on the same broadcast domain. This approach was insufficient to handle the volume of traffic and number of devices present on the network. Furthermore the single L2 was subject to being overwhelmed by individual bad actors. RG Nets personnel proposed to install an rXg cluster and deploy the rXg per-user VLAN technology in conjunction with dynamic VLAN assignment on the distribution network to help alleviate the L2 problems. A major problem with deploying a standard per-user VLAN topology was discovered upon further review. The distribution network at the Peppermill supports only 256 VLANs and some of those VLANs were already in use.

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Erik Barnett,
IT Manager, Peppermill Casinos



RG Nets engineers quickly developed a solution for the Peppermill where the rXg per-user VLAN approach is expanded to support VLAN reuse. The distribution network was configured for dynamic VLAN assignment as it would be for any other rXg powered per-user VLAN deployment. However the rXg was configured to reuse VLANs when assigning devices through a combination of strategies that balances device count and load across all of the configured VLANs. Changing the L2 network architecture to utilize an rXg powered dynamic VLAN assignment with reuse strategy resulted in a dramatically higher performance and much more resilient guest Internet access network. Broadcast packets are limited to their originating VLANs which typically have fewer than 8 devices on them. The maximum device count is 20 devices per VLAN. The PUVLAN architecture ensures reliable network operation even at peak occupancy periods while simultaneously hosting a large conference. Thus the damage that a virus, worm, malware and/or a purposeful bad actor is extremely limited. Most importantly it is nearly impossible for a single problematic node to take down the entire network through an L1, L2, L3 or L4 manipulation such as a rogue DHCP service or hijacking the IP address of the default gateway. The rXg is also configured to provide traffic shaping to ensure that devices consume bandwidth within reasonable utilization limits both in real-time and over the duration of the guest stay. A captive portal is used to identify devices belonging to guests who are staying overnight. The rXg can enforce different policies based on the information provided to the portal. Deep integration with the Agilisys property management system enables the rXg to apply unique policy based on room types, rate codes or nearly any other aspect of the guest folio that the operator desires. Conventions may purchase Internet access for use as an attendee or exhibitor amenity. The convention attendees identify themselves by providing shared access credentials to the captive portal. The rXg then associates

the appropriate policy based on what the IT staff has preconfigured which in turn is based on what has been sold to the conference.

Revenue is dramatically higher than with the previous system due to the ability to offer varying utilization limits as a key differentiator between Internet access packages. Cost is also dramatically reduced because the IT staff are able to do everything needed to setup for a convention in less than two minutes without third-party intervention. Guests who are neither staying overnight nor are part of a convention that has an access code may purchase Internet access by providing credit card information to the captive portal. The portal is also used to advertise resort amenities, restaurants, gaming specials and events. These additional revenue streams are enabled through the rXg without the need for any additional equipment. In fact the rXg is the only piece of equipment that sits between the distribution network and the Internet.

Nathan Estes, Director of IT at Peppermill Casinos says "I am extremely happy with RG Nets and their rXg product. The RG Nets personnel are always there to help when a question arises and their people are top notch. I've never had such great support from any vendor." Erik Barnett the IT Manager at Peppermill Casinos says "Putting in the rXg was the best thing that ever happened to the guest network. Overnight the situation went from tons of complaints and daily equipment reboots to zero problems" The owners of the Peppermill also own and operate several other casinos in Nevada. They have since installed rXgs at three other properties and are in the process of moving all of their remaining properties to rXg. Every person at RG Nets works towards perfection everyday. We believe that the results speak for themselves.

About RG Nets

RG Nets is the premium provider of gateways and centralized-authentication appliances designed to manage, provision, and protect revenue-generating networks. Our mission is to create tools that are so good, we would use our own money to buy them.

www.rgnets.com

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