



BIRKDALE OFFICE SUITES
NETWORK DESIGN
WHITEPAPER

Birkdale Office Suites

Birkdale Office Suites provides office rental space, meeting rooms and virtual offices to a wide variety of clients and organizations. Located in Huntersville, NC, Birkdale Office Suites caters to the ever-changing needs of business startups and remote workers needing space to grow their clientele and skills.

The Problem: Convenience at the Risk of Security

Birkdale Office Suites wanted to provide easy-to-use Internet access to its clients.

The problem was that this access also needed to be secured, as each office space would house a different organization. Protecting its clients and their privacy was at the top of Birkdale's list when it came time to design their network. Implementing both wired and wireless access would be simple enough, but there needed to be proper segmentation between the different offices. There was added pressure, given that many of Birkdale Office Suite's tenants dealt daily with confidential information such as home closings, legal support and therapy. The added difficulty was that, as a startup itself, Birkdale Office Suites could not initially afford to spend large amounts of money on its internal network. Also, having its own IT department wasn't feasible, so the work needed to be outsourced.

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Designing the Solution

JSCM Group was contracted by Birkdale Office Suites to design an easy-to-use but highly secure network. There needed to be wired access as well as wireless, and costs had to be kept at a minimum. JSCM Group worked with Birkdale Office Suites to lay a strong foundation of security that would be a low-touch solution once it was deployed.

Protecting the Network's Edge

First, a WatchGuard XTM330 firewall was selected. This device would be capable of handling large amounts of traffic at a reasonable cost to the organization. The device was licensed with WatchGuard's Basic Security Suite, giving access to WebBlocker content filtering, Intrusion Prevention (IPS), Application Control, Gateway Antivirus (GAV), and Reputation Enabled Defense (RED). With its ease of configuration, this firewall would allow Birkdale Office Suites to provide high-level security on traffic entering and leaving the network.



WatchGuard XTM330

Creating Segmentation

To provide the segmentation needed for the different office spaces, JSCM Group configured different VLANs on the firewall. Each office was set up with its own segment that would ensure its data was contained. By building these VLANs on the firewall, JSCM Group could build policies for each office and ensure proper segmentation. These VLANs would also be extended to the wireless network, providing each office its own SSID for wireless Internet access.

The Network Backbone

For switch capabilities, JSCM Group chose a Cisco SG300 PoE switch. This device would allow for the VLANs to be carried through to the different offices, enforcing the segmentation of the network's physical connections.



Cisco SG300

Wireless Access

Initially JSCM Group chose to implement a WatchGuard access point. Not long into production, it was identified that this particular product was not capable of handling the demands on the space. Birkdale Office Suites is located in an area that is dense with other businesses, and therefore other wireless networks. The initial implementation was unable to handle these competing networks. Once the issue was identified, JSCM Group switched to Meraki MR33 APs. The implementation of these devices showed immediate improvement. The Meraki access points were able to handle the competing networks and could more easily provide a stable wireless network for each of the offices. Additionally, the cloud management provided easy access if changes needed to be implemented.



Meraki MR33

Tweaking the Design

As Birkdale Office Suites grew and more offices were rented, it became apparent that there needed to be better restrictions on bandwidth utilization for the different office spaces. This was accomplished easily by implementing Traffic Management restrictions on the WatchGuard firewall. Each office or VLAN was provided a set amount of bandwidth, ensuring that access was evenly distributed across Birkdale Office Suite's clientele.

Implementing Changes

An important part of the initial design was to make it simple to implement changes on the network. As tenants changed, the network could easily be reconfigured to accommodate the needs of the new occupant. The segmented infrastructure was already in place, so the only change was to ensure that the new client was set up with a wireless SSID on their piece of the network.

Continued Management

Since its start, Birkdale Office Suites has continued to use JSCM Group to help manage its network. The initial design has remained in place and continues to prove itself in its simplicity and security. Additionally, the configuration of the firewall and VLANs makes troubleshooting much simpler. If an issue is submitted, the segmentation allows JSCM Group to quickly identify if it a problem happening network-wide, or solely with one VLAN. The quicker identification of the root of the problem leads to faster correction times of any issues.

Through the partnership with JSCM Group, Birkdale Office Suites has been able to offer a stable, trustworthy network that provides security to any client. Ongoing costs have remained minimal, giving Birkdale Office Suites the opportunity to focus on its most important asset: its clients.