





Protecting Critical Workforce Systems: How Mississippi Modernized Cybersecurity with Fortinet


Fortinet Case Study


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CASE STUDY

Fortinet Gets the Job Done Securely and Efficiently for the Mississippi Department of Employment Security

When Mississippi residents lose their jobs, the Mississippi Department of Employment Security (MDES) provides them with stability and help in a time of turbulence. The agency serves as the state's unemployment office. It also runs 35 WIN job centers across Mississippi, where the unemployed can take advantage of skills training, career counseling, job placement assistance, and other services.

"Anyone who has been released from their job in the state of Mississippi can be our client," explains Leigh Weems, MDES's network manager. "We hold a lot of personal information about the people we assist. If we were ever to experience a data breach, we would face serious risk to our reputation and to our ability to help Mississippians. And even if there were no breaches but our network went down, state unemployment processes would not be able to operate, which would be detrimental to the people of Mississippi. All MDES data comes back to our Jackson office, and it is my job to keep that data safe and our organizational network running smoothly."

At the same time, MDES leads a consortium of state governments that are pioneering new employment software. The consortium has outsourced development of this software to Tata Consultancy Services (TCS). The sensitive nature of the software under development makes security crucial for this arm of MDES as well.

Efficient Next-Generation Security with the Fortinet Security Fabric

Fortinet solutions have played a key role in keeping MDES's network secure for nearly a decade. "We have two FortiGate Next-Generation Firewalls [NGFWs] set up in an HA [high-availability] pair in our Jackson headquarters, so they have redundancy in case one fails," Weems explains. The FortiClient Fabric Agent provides network access for remote employees. And MDES uses FortiAuthenticator with FortiToken Mobile to provide multi-factor authentication (MFA) to streamline and secure user authentication for controlled network access.

"The FortiGates provide perimeter security," Weems says. "They also internally segment our network thereby controlling access to resources depending on which VLAN the user is assigned to. The TCS contractors who work on-site are set up in one VLAN. Our printing and data networks are in two others. We have a separate management VLAN, and a segment for VPN users that gives them only limited access to internal resources."

MDES uses the FortiGuard AI-Powered Security Services Enterprise Protection Bundle with its NGFWs. "The fact that the FortiGates pull in threat feeds, so that I do not have to constantly update policies as threats are discovered in the wild, has been extremely helpful," Weems says. "Utilizing the services in the Enterprise Bundle has really simplified my job."



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Leigh Weems
Network Manager
MDES

Details

Customer: Mississippi Department of Employment Security

Industry: Government

Headquarters: Jackson, Mississippi

Business Impact

- No major security incidents over nearly a decade with Fortinet
- No hardware failures over three years

The reliability of the VPN solution has also proven highly beneficial to Weems. “Because we have a good VPN solution, we are able to have good security practices,” Weems says. “We restrict access with MFA, and we are constantly working to heighten our network security to make sure only authorized users can enter. I am confident with how we have set things up. To get into our network, you must be a member of a specific group, and you also must have the right token.

“The MFA in FortiToken Mobile has been great,” he adds. “FortiAuthenticator is running our RADIUS and LDAP services, connecting with Active Directory. So, as soon as we add users to a specific Active Directory group, a FortiToken email is sent to them so that they can set up the mobile app. That streamlines management of the VPN.

“In fact,” Weems continues, “for my entire tenure here, the Fortinet solutions have just been running. They have no noticeable impact on network performance, we have had no hardware failures, and I do not have to do any kind of daily maintenance on the Fortinet infrastructure. I am a one-man operation, so my time is spread very thin. I appreciate that the Fortinet Security Fabric helps me work more efficiently.”

Expert Support and Single-Pane-of-Glass Management

When Weems joined MDES three years ago, he was a networking novice. During a recent initiative that included upgrading the agency’s FortiGates to newer models, MDES subscribed to FortiCare Advanced Support with a Technical Account Manager (TAM) so that Weems could connect with networking and security expertise when he needed assistance.

“Everything went very well with the FortiGate upgrade, and the FortiCare TAM has been fantastic,” he says. “I bounce questions off of him, such as ‘How can we address this issue?’ or ‘We want to upgrade that; what do you suggest?’ For example, he helped us set up geoblocks to prevent access to our systems from anywhere outside the United States. Fortinet has provided us with a great team to work with, and they are accessible to us whenever we need them. FortiCare support has made my job much easier.”

Not only does this level of support improve Weems’ productivity, but it also boosts security for MDES. Weems leverages the TAM’s expertise to ensure he configures the Fortinet solutions properly. “And FortiCare provides us with information on all the new vulnerabilities that come up,” Weems says. “They frequently reach out to let us know there is a new threat on the horizon and how to address it. That service provides a nice level of comfort.”

TCS manages security for the Amazon Web Services (AWS) environment using FortiManager. “We set all our firewall configurations within FortiManager, and we have a lot of policies that follow the project’s requirements,” Saif Alani, a consultant with TCS says. “We can allow or block specific URLs on the FortiGate VMs, then apply the change on FortiWeb as well. And the combination of FortiManager and FortiAnalyzer greatly improves our visibility into what is happening with security, networking, and performance in our AWS environment.”

Data from the FortiGates and FortiAuthenticator flows into FortiAnalyzer, which Weems uses to research any network or security concerns. “For instance,” he says, “when a manager wants to see whether an employee is logged in to the VPN and actually working, I can go into FortiAnalyzer, quickly run a query, and show them what they are looking for. FortiAnalyzer lets us bring all our logging onto one appliance and look at it through a single pane of glass, so we can efficiently access any network or security information we may need.”

Business Impact (cont.)

- Low total cost of ownership, as simplicity enables one person to manage the network
- Easy, single-pane-of-glass access to information about network usage and security issues
- No daily maintenance required on Fortinet Security Fabric solutions
- Reliable VPN for easy access for remote workers

Solutions

- FortiGate Next-Generation Firewall
- FortiAuthenticator
- FortiToken
- FortiClient Enterprise Management Server
- FortiWeb
- FortiManager
- FortiAnalyzer

Services

- FortiGuard AI-Powered Security Services Enterprise Protection Bundle
- FortiCare Advanced Services with Technical Account Manager



MDES is now deploying FortiClient Enterprise Management Server (EMS) to improve the security of and visibility into network access. “So far, FortiClient EMS has proven very easy to manage,” Weems says. “We have implemented vulnerability scans, which has significantly improved security, particularly around the TCS contractors who connect to our network. Our IT staff does not manage their client systems, but if their computer does not meet our security requirements, they are not going to be able to connect.” Eventually, Weems plans to use FortiClient for zero-trust network access (ZTNA). “The vulnerability scanning ensures users are on a trusted device before they get into our network,” he says. “Then, ZTNA will control where they can go once they are inside.”

Only Good Experiences with Fortinet Protecting Dev Resources

The software development environment that MDES has outsourced to TCS resides in the AWS cloud. TCS uses three HA pairs of FortiGate virtual machines (VMs) to protect the cloud-hosted network, with FortiWeb to defend its applications in development from web-based threats.

“We have a lot of firewall policies and FortiWeb rules that filter all our traffic,” says Saif Alani, a consultant with TCS. “At the same time, we are troubleshooting from A to Z, and we have built a monthly maintenance window into our services so that we can keep the Fortinet solutions updated and address any issues that may arise.”

Fortinet solutions have protected the TCS development resources for several years, and Alani reports that they have no impact on network performance. “Our priority is protection, which is why we always keep our network firewalls and web application firewalls on the latest update,” he explains. “But those continuous security improvements have never affected how our network operates—network performance has consistently looked good.”

He adds that although other TCS clients use different brands of firewalls, the firm likes FortiGates, especially for the MDES development work. “Fortinet is more flexible and easier to deal with than some of the other firewall vendors,” Alani says. “If we have an issue in our environment, the support is available immediately to help us troubleshoot and then verify the fix. We have had a lot of good experiences with our Fortinet environment.”

Smooth and Secure Network Requires Minimal Staffing

Internally, MDES has realized many of the same benefits. “Knock on wood, we have not had a major incident like a data breach,” Weems says. “But with the Fortinet products we have in place, the Fortinet resources we have access to, and a third-party monitoring service that we utilize, I think we could respond very quickly if a security event were to happen.”

On top of that, the Fortinet solutions enable him to manage the network solo, reducing the total cost of ownership for MDES. “Fortinet solutions have an interface that is straightforward and very easy to interact with,” Weems says. “Fortinet makes it simple for me—as one person, with a fairly basic knowledge of networking—to manage and maintain my network. If we were using a different product set, I would probably have to hire additional network engineers to keep everything running smoothly.”

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Saif Alani
Consultant
Tata Consultancy Services

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