

PSE S.A.

Electricity company uses AppGate® to secure critical systems



Quick Facts

Organization

- Polskie Sieci Elektroenergetyczne (PSE S.A.) is the transmission system operator for Poland, responsible for meeting the country's domestic and cross-border demands for electricity

Challenges

- A complex business environment requires secure access for employees, electricity companies/traders, contractors and 3rd party suppliers to PSE systems and resources
- Necessity to protect the company's mission critical systems and sensitive information being handled on the electricity market
- Maintaining continuity of service in a 24/7 operation running SCADA & EMS applications

Solution

- A very flexible, powerful and stable access system for the professional and demanding environment at PSE S.A.

Benefits

- Precise control to network resources
- Strong Two Factor Authentication
- Contextual Authorization
- Persistent Encryption ensuring privacy
- Clustering for High Availability

Background

PSE S.A. is the Transmission System Operator for Poland, responsible for meeting the country's domestic and cross-border demands for electricity. As well as managing and developing the extensive network of power transmission lines and substations across Poland, the company's responsibilities also include the national security of the electricity supply, managing cross-border connections, and operating the power market 'balancing mechanism': buying and selling balancing energy effectively in real-time to balance power flows in the transmission system.

The complex nature of the business means that many user groups need access to PSE S.A.'s systems and resources: employees, electricity companies/traders, contractors and 3rd party suppliers. To protect the company's mission critical systems and protect the sensitive information being handled on the electricity market, PSE S.A. needed powerful yet flexible network security. The company turned to Cryptzone for the solution.



Requirements

Access control for a wide range of user groups: To provision access for a large number of users with diverse requirements, administrators needed to be able to define many individual roles quickly and easily, and have precise control over individual access rights. For example electricity market players submitting bids to buy/sell electricity; employees using or supporting central control systems; employees needing access to mail and office applications; 3rd party suppliers providing online remote system support and maintenance.

Strong user authentication and encryption: Unauthorized access to some areas of the network could have potentially catastrophic results: from manipulation of the energy markets to control of substations leading to blackouts across the country.

Therefore all communications needed to be encrypted, and strong user authentication would be required to protect critical systems.

24/7 access: "We needed secure access 24/7", says Tomasz Szudejko, Deputy Director of Department of Operator Services, PSE S.A.. "SCADA and EMS applications are working 24 hours a day. No downtime is allowed so it is important for our employees at home or after hours to be able to log in and fix any problems – and to be able to do it in a secure way."

The Solution

PSE S.A. selected Cryptzone's AppGate as it met the full set of requirements, combining strong authentication, authorization, encryption and access control in one comprehensive solution.

AppGate technology is flexible and scalable making it easy and cost effective for PSE S.A. to start with a smaller installation and then add additional servers as requirements changed. Initially one AppGate security server was installed but that has now been upgraded to support increasingly complex requirements. Two clustered Ax2 security servers provide internal access to key systems such as SAP and the energy market. A second cluster provides external access for electricity market traders, and for technical support personnel so they have remote access in case of emergency. A third cluster provides remote access for employees to access the mail server and office applications when working away from the office.

AppGate is designed to cluster several servers together for high availability. Alternative IP addresses for the other clustered servers are automatically distributed to users' machines so, in the event that the usual server is unavailable connections are immediately routed to the good server. It is also possible to connect two different ISPs to the clustered servers so if one ISP fails then users can still access the network through the other ISP/server.

Powerful rules and roles management provides administrators with precise control over which network resources each user can access and under what circumstances. End points can be measured so for example only corporate owned machines can connect to particular applications. Services that the user is not authorized to use are invisible thus making it impossible for them to see or attack other corporate assets. In addition AppGate can automatically configure machines that have never connected to the PSE S.A. network before. So if an external trader or supplier uses a different PC, the client is provisioned and configured without having to wait for an administrator's input.

Tomasz Szudejko says "We work very closely with the AppGate team in Sweden and have found them to be very responsive, for instance when we have needed them to develop additional functionality. We think it's a very flexible, powerful and stable system for the professional and demanding environment. So we would be happy to recommend it."

Conclusion

Following the successful initial implementation of AppGate at PSE S.A., the organization has adopted AppGate as the main system for controlling access to important systems. AppGate has been integrated into with the new control systems and technologies at the company's award winning HQ in Warsaw. Other areas of the business, including branch offices, that need access to data exchange, mail and other applications, are also using AppGate for secure access.

The AppGate system is relatively easy to use but the key issue is that it is very powerful. It is possible to define so many different profiles for different people with very different needs. We couldn't find any other system that allows us to define such a variety of different profiles for all our different users."

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