

CASE STUDY

BYNE



STATE GRID BRAZIL CENTER OF OPERATIONS

Implementation of the Emergency
Communication and Control System

+55 11 2102-6920

info@byne.com.br

www.byne.com.br



STATE GRID
BRAZIL HOLDING S.A.
国家电网巴西控股公司

One of the largest energy transmitters in Brazil relies on the ControlONE solution for its critical communication

Source: State Grid

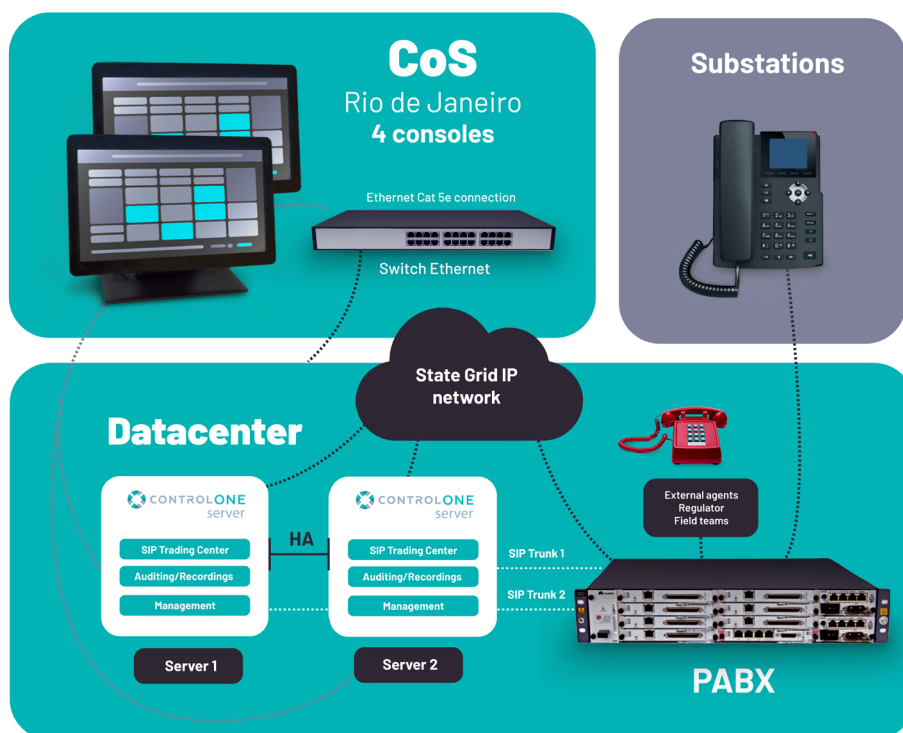
THE PROJECT

The challenge, which began in May 2018, consisted of implementing the Emergency Communication and Control System of the State Grid Brazil Holding Operations Center. To meet the critical communication needs of the company, the provided integrated solution included operation consoles with

call recording capability, accessories, installation, training, and other essential services for company operations. The system also has centralized auditing, with indicators and integrated evaluation functions.

Our ControlONE solution was successfully installed and provides a simplified critical communication architecture that includes integrated access to alarms, call control, conferences and cameras.

PROJECT ARCHITECTURE



CHALLENGES

The operation of State Grid Brazil is highly complex, considering that this electricity transmitter is responsible for connecting the Belo Monte plant and the largest cities in Brazil, such as São Paulo and Rio de Janeiro, among others. Given the magnitude of the project, the solution had very specific requirements:

- The system needed to be expandable to up to 40 operating consoles without having to change hardware;
- The operations flow had to be fully configurable directly on the consoles, with functions of automation, telephony, radio communication, and video monitoring;
- The console needed to allow conferencing with up to 100 concurrent extensions;
- The system administration had to be accessible through a web application, through secure HTTPS protocols, with user and password authentication;
- Updates also had to occur through a web interface with a secure line (using SSH protocol);
- At least 60 simultaneous recording channels were required, with high availability;
- The recordings needed to be backed up automatically and manually, as well as auditable and stored on external FTP and CIFS;
- Integration had to be possible with analog, digital, or voice over IP announcement systems;
- Finally, the solution should provide communications with UHF and VHF radio, MotoTRBO, P25, and TETRA.

OUR SOLUTION

The project was developed in line with our sustainability and safety objectives and aimed to meet the critical communication needs of companies operating in the energy market. According to Aline Gravina, operations manager of State Grid Brazil Holding, ControlONE provided **“ease of use (touchscreen) and agility to answer calls and select priority calls, such as ONS, enhancing overall performance during emergencies”**.

To fulfill these requirements, the entire project included the following:

- 6 consoles installed in the operations center in Rio de Janeiro;
- Communication via private lines, State Grid IP network, and public telephony;
- Data center with two ControlONE servers, equipped with SIP Trading concentrator, possibility of audits and recordings, system management via web application, and integration with the PBX central.



Source: State Grid



Source: State Grid

CLIENT BENEFITS

The solution we implemented in State Grid Brazil ensures simple and efficient communication. **The key benefit of ControlONE is to allow operators to communicate quickly with the right people, at the right times.** Our integrated platform has an easy-to-operate interface that unifies several means of voice and text communication.

All features are accessed through the single console interface:

Support for a wide range of voice communication protocols (telephony and radio communication), regardless of manufacturer;

Automation and integrated video monitoring;

Redundancy and high availability mechanisms for geographically distributed environments;

Automation of procedural scripts (operating instructions).

This system design was achieved using a simple, fully IP, unified architecture, without the need for multiple components. These features facilitated implementation and simplify migration and upgrades according to new communication technologies while maintaining legacy systems.

How has the ControlONE solution helped the business?

List of recent calls with recording playback function for easier occurrence analysis;

List with queue of incoming calls for easier selection of calls to be answered;

Call transfer mode for quicker call transfer between the operating tables;

Great tool for managing recordings in the cloud, with more practical reading and analysis;

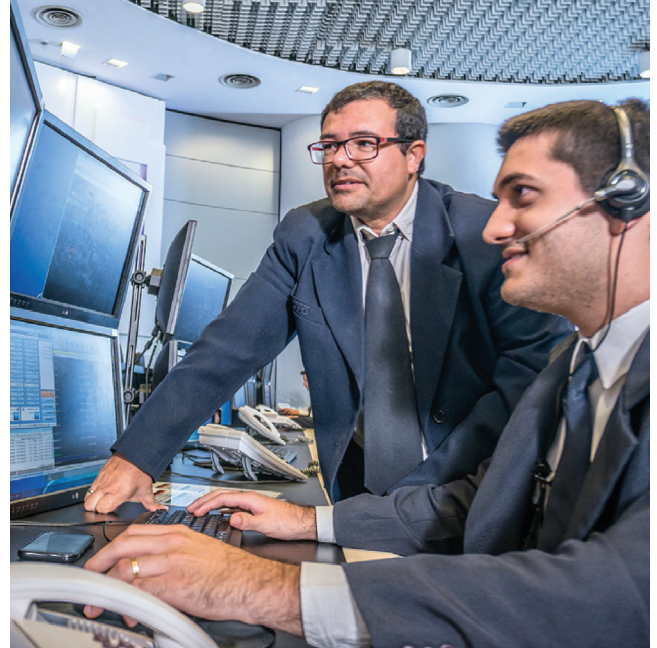
Conference mode to access ongoing calls from another operating table.

ABOUT THE CLIENT

State Grid Brazil Holding is part of the State Grid Corporation of China Group, a Chinese state-owned global leader in distribution technology, also present in Portugal, Australia, Italy, Greece, Oman, Chile, the Philippines, and Hong Kong. In Brazil, State Grid Brazil has more than 15 thousand km of electric power transmission lines. Moreover, it is the sole parent company or participating company in consortia in 24 concessionaires that supply energy to 14 Brazilian states.



Source: State Grid



Operating in Brazil since 2010, when it outbid seven concessionaires that previously belonged to the Spanish company Plena, the company has invested more than BRL 21 billion nationwide. Since then, it has increased its participation in the Brazilian electricity sector, winning bids every year. State Grid Brazil operates on one of the two bipoles of the Belo Monte plant, the largest transmission lines in the world, with the innovative technology of ± 800 kV UATCC, and supplies energy to major Brazilian.

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