

Deploying a Full GIS in a Utility Company in 18 Months

AES Corporation headquartered in Arlington Virginia, is a leading independent power company that owns and operates over \$33 billion of assets in 30 countries on 5 continents, including 160 power generation facilities that provide over 55 gigawatts of generating capacity. The company also runs 20 electric distribution companies that deliver electricity to approximately 16 million end-use customers. Approximately 24% of AES's revenues come from businesses in North America, 18% from the Caribbean, 33% from South America, 20% from Europe and Africa and 5% from Asia.

AES Eletropaulo distributes electric energy for 24 municipalities within the of São Paulo metro area, including the capital city, totaling 4.526 km². The company has 5 million industrial, commercial and residential consumers spread through one of the most important social-economic regions of the country, where nearly 16 million people live. It accounts for 42% of the population of the State of São Paulo and 9% of the Brazilian population.

AES Eletropaulo's task is not limited to the energy supply. The company believes that in order to fulfill its mission, it is necessary to include Social Responsibility actions in its activities. The involvement in projects directed to education, safety, environment and energy conservation contributes to the construction of a fairer and more honest society. Currently, all AES Eletropaulo units have ongoing social projects, many of which established partnerships with municipalities, local associations and philanthropic entities.

For 16 years, AES Eletropaulo (ELP) had used a legacy mainframe system for overhead and underground networks, devices, and structures. Landbase was based on a CAD application.

After the decision to implement a GIS solution, ELP hired M&M and ESRI in May 2000 and the project started in July. The initial scope was to develop the system architecture, data modeling, develop the process to convert data from the legacy system and CAD application, build customizations for the business processes and first trainings.

A 176 primary circuit pilot occurred in July 2001. Data extraction and landbase conversion began in November 2001 and 250 end-users were trained.

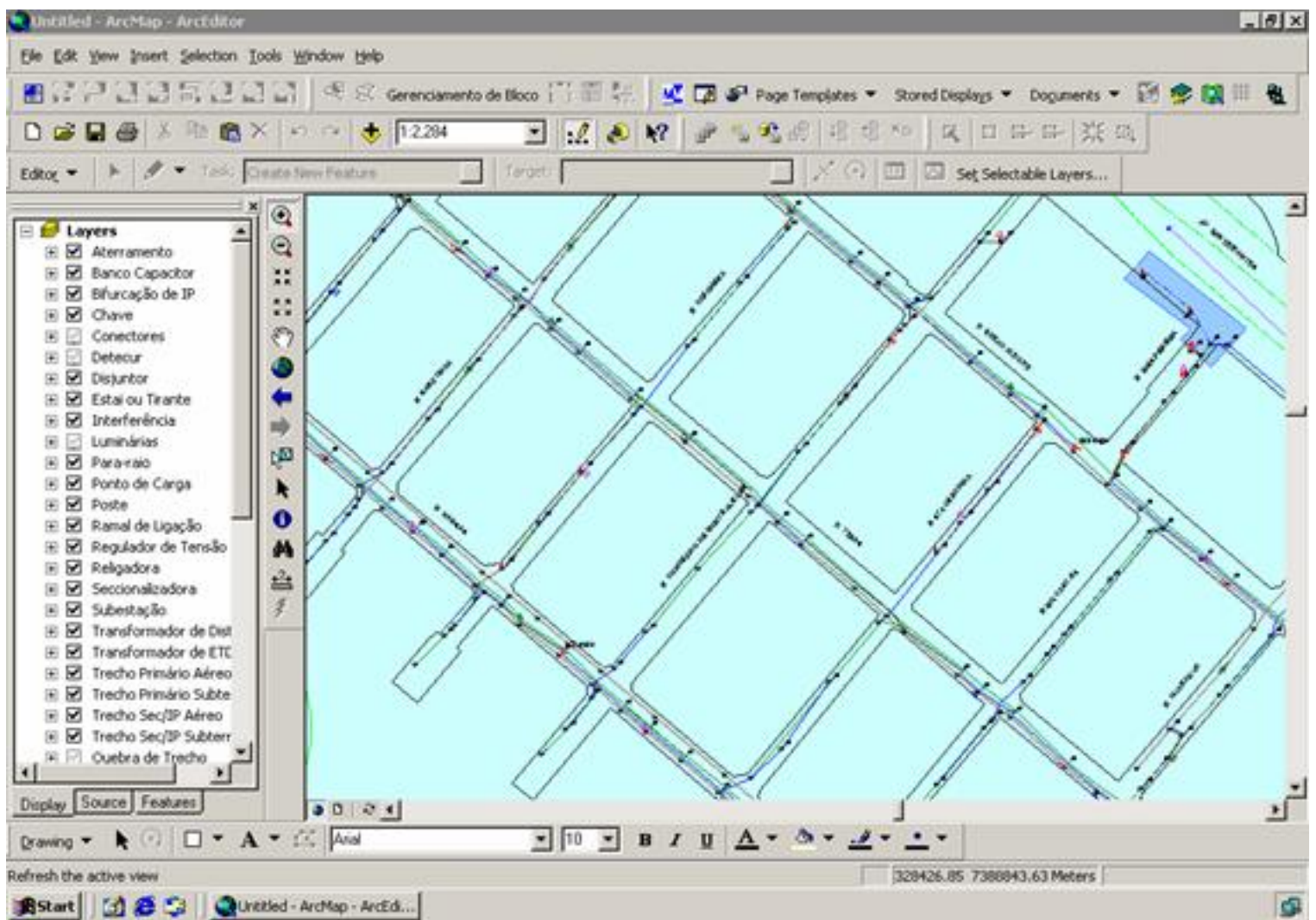


Fig. 1 – ArcFM with a small part of Eletropaulo network

A 38 GB Oracle/ArcSDE geodatabase was assembled with 1650 overhead circuits, all secondary and street light circuits, 1.2 million poles, 270,000 pieces of equipment and 5 million customers in addition to all the digital cartography referent to the company's concession area.

System Overview

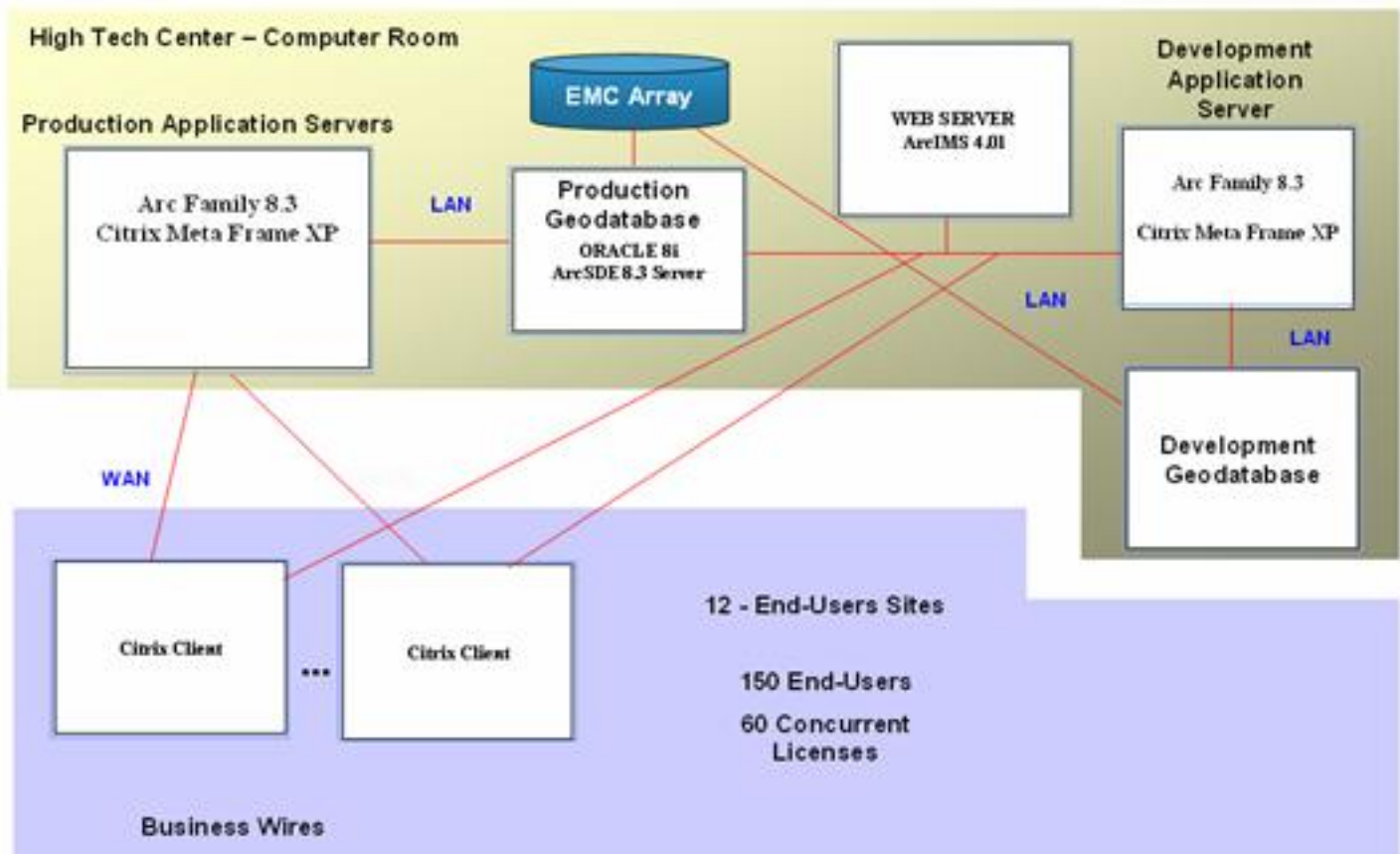


Fig. 2 – GIS Infrastructure

The project has reached all its goals in just 18 months and today, it is continuing for underground and transmission circuits. It is the first open and standard GIS deployed in Brazil.

The system has been available since January 2002 using three application servers in which the Windows 2000 Advanced Server, Citrix Metaframe XP, ArcEditor, ArcFM and Conduit Manager 8.3 are installed and compose it, another Web server with ArcIMS 4.01 software. The geodatabase is stored in a Sun Server E10K under Oracle and ArcSDE platform.

AES Eletropaulo believes that the greatest advantage of the system is in its simple operation, versatility and faster analysis. Before, the generation of a thematic map for a certain region could take weeks to be concluded.

The navigation through the database is open to everyone in the Internet. As soon as the GIS technology is implemented for the overhead network, the project is on the second phase of implementation, which will focus on the underground circuits, the sub-transmission lines and

applications for electric analysis calculation and expansion planning in a network simulation environment. This phase will bear its first fruits in the beginning of 2003 and will be concluded in 2004.

GIS offers many alternatives that may contribute to the company's operation, the next step is to incorporate a work design system to GIS technology and to integrate with a work management system and central operations.

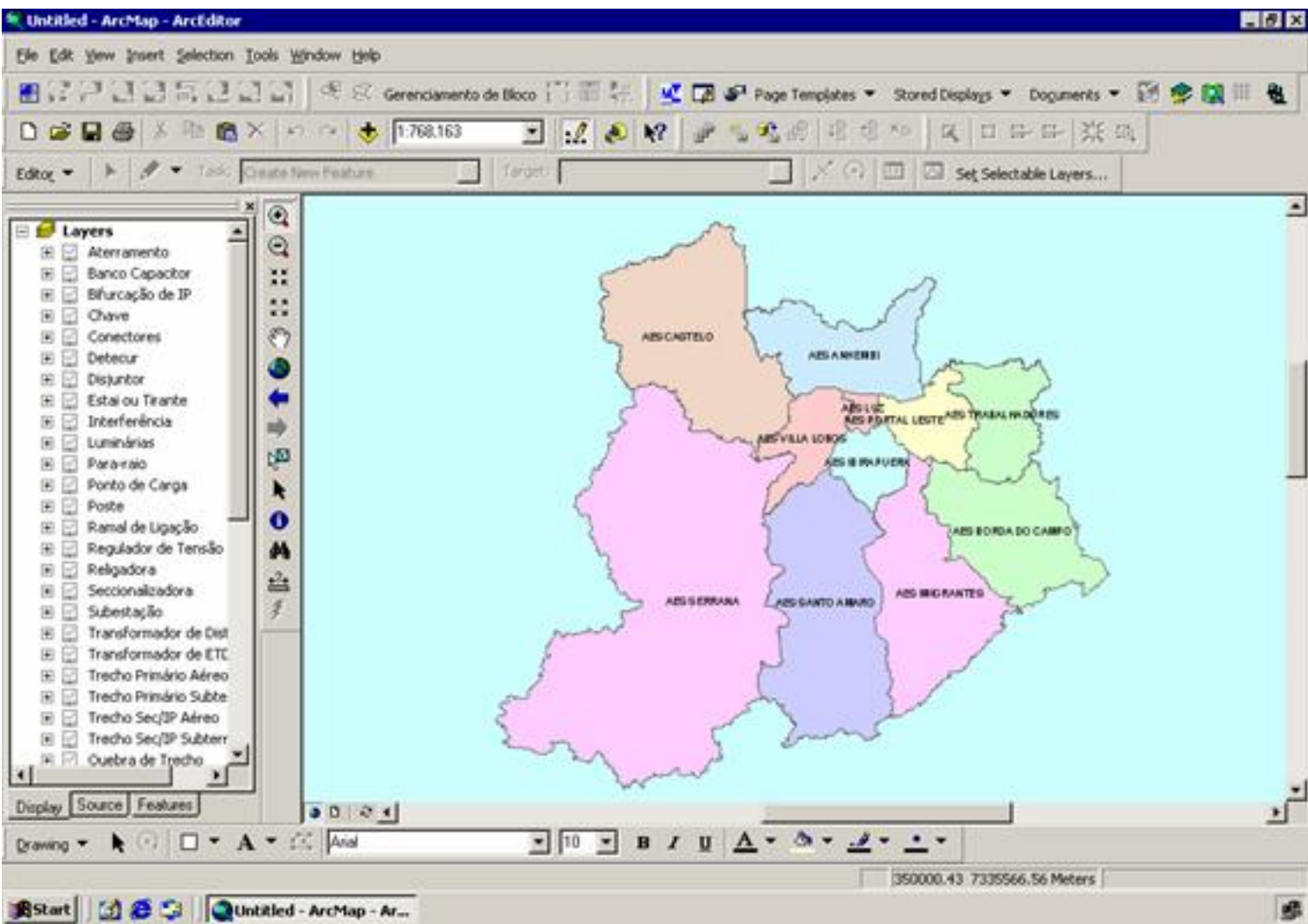


Fig. 3 – Eletropaulo area

For more information, visit AES Corporation web site www.aesc.com, AES Eletropaulo web site www.eletropaulo.com.br, or make a contact with Marco Afonso, Technical Solutions Manager (email marco.afonso@aesc.com).