

**e-scada.com** is an SSP and ASP (SCADA Service Provider and an Application Service Provider) offering an Internet-based Supervisory Control and Data Acquisition (SCADA) system and application services to the electric utility industry.

With the advent and explosive growth of the Internet as a communication and connection medium, SCADA systems and application services offered to utilities in a hassle-free and maintenance-free manner is a viable and innovative business proposition. **e-scada** fills two needs:

#### End-users

- Small to mid-sized utilities with no existing SCADA system or technical maintenance staff, wanting to out-source the maintenance of their SCADA system
- Utilities without a large capital budget
- Application users who want a low cost, low maintenance application service

#### Service Providers

- Utilities who want to use this technology to become SCADA Service Providers (SSP) and Application Service Providers (ASP) to their members (e.g. G&T, REA, and GENCOs)

#### Why e-scada?

Due to the disjointed nature of power generation, transmission, delivery, marketing, and consumption, as well as the need to exchange real-time and semi-real-time data, systems designed with proprietary and closed architectures cannot meet the ever-changing requirements of the power system operations.

Since consumers will demand improved service, reliability, and information from their power producers, an architecture is needed which can interface with various customer systems and devices. An Internet-based architecture is an ideal and flexible platform for this constantly changing business.

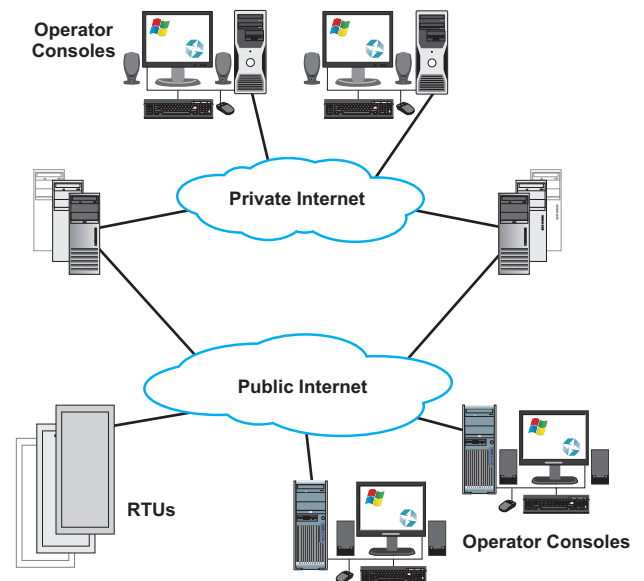
An Internet-based architecture would allow utilities to offer control and monitoring services to their lower tier systems, as a SCADA Service Provider (SSP), or offer control to geographically disjointed power generation entities, or take on additional revenue generating

ventures such as regulation, load management, energy accounting, meter reading, and billing.

Why a web-based SCADA architecture? In addition to deregulated power market forces that require a dynamic control system platform, other variables also dictate the need for an Internet-based Supervisory Control and Data Acquisition system. Systems with traditional architectures may have the following limitations:

- Expensive to own and maintain
- Long lead times for deployment
- Obsolete or semi-obsolete in a short time
- No in-house expertise to maintain the technology
- Technology is maintenance intensive
- Need to have a vendor involved in maintenance and support

An Internet-based SCADA system will provide a technology alternative to companies who cannot deal with these large, complex, traditional SCADA systems. With **e-scada.com**, these companies can solve their technology dilemmas by subscribing to a SCADA Service Provider (SSP).



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Web based RTUs connect the substations via the Internet or an Intranet to the SSP where the servers are located. The data processing for all SCADA applications is performed at the SSP. The results and the user interface are presented in a Java/Web graphical interface back to the operators over the web.

Security is an important fact in control applications. Provisions are made for secure transactions between the operators using the web graphical interface and the servers. Authentication, passwords, and signature tokens along with encryption are used to package and send control requests from the operators to the SSP.

## Technical Overview

The advent of Internet technology and the World Wide Web, has created a new computing environment. Simplicity, openness, ease of use, distributed information management, and remote access to information has revolutionized the concept of system design and development.

Enterprise systems and automation systems need to take advantage of this new computing environment as well.

**e-scada's** architecture is similar to the client/server architecture where clients are slim clients with little or no software other than a standard browser (e.g. MS Explorer, Netscape Navigator, etc.). **e-scada's** architecture also uses web servers, which can act as database management servers as well as application servers.

In such an environment, the clients do not need to reside near the servers. Using the public Internet or a corporate Intranet, clients can be distributed geographically thus serving system operators, corporate users, interested consumers, power plants, or crews in service trucks, to name a few. In fact with this architecture it is possible to locate servers in one part of the world and clients in another.

This opens up a realm of new possibilities for utilities to become Information Service Providers (ISP), Application Service Providers (ASP), and Control Service Providers (CSP) for their suppliers, consumers, or other electric utilities without an Information Technology infrastructure.

The technology in the next few years promises small microprocessor devices with a Java and web interface,

allowing a host of new controllers to be developed for the electric utility sector. It is possible that these small, cheap devices with web, cellular phone, or satellite communication technology could reside in remote locations and provide control and information to various devices.

## Products and Services

**e-scada.com** provides the following systems and application services:

- SCADA or Supervisory Control and Data Acquisition systems
- Energy Management Software (Transmission Security Analysis and Generation Control)
- Load Forecasting
- Trouble Call Management
- Load Management

