

RTscada Application Note #6

Regional Operation Center

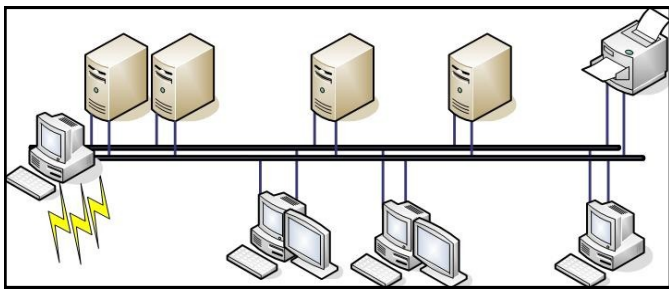
Introduction

Operating a utility system in a reliable and profitable manner requires having access to the right information at the right time. This requires access to data from the entire transmission and distribution grid, as well as substations and distribution feeders. Historically, each of these areas has been addressed by systems uniquely designed for each application. **RTscada** is the first system with the flexibility to address the needs of all these areas.

RTscada is a Real-Time Information System that runs on Windows-based computers. It contains a series of modules that can be configured to meet the monitoring and control requirements of each area. In addition, individual **RTscada** systems can inter-communicate to build a utility-wide information and control system. The **RTscada** software has over one million hours of field proven operation in substations and utility control centers. The **RTscada** Solutions Series is a set of application guides describing the uses of **RTscada** in each of these application areas.

Application Scenario

You are considering building, upgrading, or expanding a regional operation center or your utility-wide operation center. **RTscada** can meet all of your requirements.



Hardware

Choose a single or dual network of PC Workstations and servers to meet the processing requirements. Dual Real-time redundant servers are the most common configuration to handle the SCADA applications.

Either single or dual PCs are used as Front End Processors (FEPs) for communication with substations. Port servers are used to interface to the communication circuits with up to 64 ports per FEP. Each port operates independ-

ently with different protocols, if necessary.

System Operators use PC workstations with dual or triple monitors. Work Stations and Operators can be assigned to operational Areas of Responsibility.

Additional servers may be added for advanced applications, history files, corporate interfaces, etc.

Software

RTscada supports the most commonly used communication protocols and others can be easily added.

RTscada will monitor the position of your electrical breakers, collect data on feeder loading, and provide remote control of your power system devices. The electrical data collected will provide information to improve system planning, and improve the overall operation of the electrical system.

Another feature of the SCADA system is the Historical Data Subsystem which provides recording and playback of history data. This feature may be used for Operator Training.

Many larger systems have two or more operators who may have responsibilities for different parts of the electrical network. To support this situation, **RTscada** has the ability to support Areas of Responsibility. Alarm acknowledgement and control actions are only permitted by an operator and workstation assigned to a specific area.

Larger systems also interface to corporate casual users. These casual users might be system planning engineers, maintenance planners, or technicians.

In addition, **RTscada** may be interfaced to other corporate computer systems, such as an Outage Management System, trouble call system or customer information system.

Large systems often provide information to neighboring control systems, other utilities, Regional Transmission System Operators, and Independent System Operators.

Regional Operation Centers with **RTscada** may be networked together to share operational data and control. The databases and displays may be shared across the network to reduce system administrator efforts and cost.

Feature	Benefit
Windows Based Software	Compatible with Most IT Standards
Modular Software Architecture	Size Hardware to Meet Requirements One Workstation Multiple Servers/Workstations
High-Level Security	Microsoft Security Procedures Secure Log-on Monitoring/Control Intersystem Communication Security User Authentication Hardware Authorization Time Tagged Messages Message Encryption (Optional)
Artificial Intelligent Engine	Real-time Analysis of Data/Corrective Actions Closed-Loop Control Load Transfer / Restoration Load Shedding / Restoration Fault Isolation / Restoration
History File Recording and Playback	Review previous events in virtual real-time Train Operators with recorded events
External Data Sharing	Corporate User Access to Data Integration with Corporate Systems Outage Management System Customer Information System Billing System
Data Interchange with Associated Systems	Independent System Operator Regional Transmission Operator

Hardware Requirements
Dual SCADA PC Servers with Microsoft Windows Server 2003 Operating System
Additional Application PC Servers with Microsoft Windows Server 2003 Operating System Microsoft SQL Server Database Manager
Workstation PCs with Microsoft Windows XP Professional Operating System Dual 19 Inch or Larger Monitors
Dual PC Server FEPs with Microsoft Windows Server 2003 Operating System 16-64 Communication Ports
External Computer Interface (Optional)

Additional Services Available from DC Systems
System Hardware Specifications
Database and Display Preparation
Factory Acceptance Testing
Site Acceptance Testing
Training
<ul style="list-style-type: none"> • Operators • System Administrators
Annual Support Contract

DC Systems

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