

CASE STUDY

Utilities • MOSCAD / SCADA • Bangkok Metropolitan Flood Control Centre



Bangkok Metropolitan Flood Control Centre

Motorola SCADA system minimises damage from urban floods.



MOSCAD – Remote unit for Canal Gate & Rain Gauge Control.

MOTOROLA SOLUTIONS help monitor flood levels so that the residents of Bangkok are protected from the ravages of urban flooding. The SCADA-based MOSCAD system is a vital link in improving the quality of life for Bangkok residents, and allows this vibrant capital city to function as a thriving regional metropolis.

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BACKGROUND

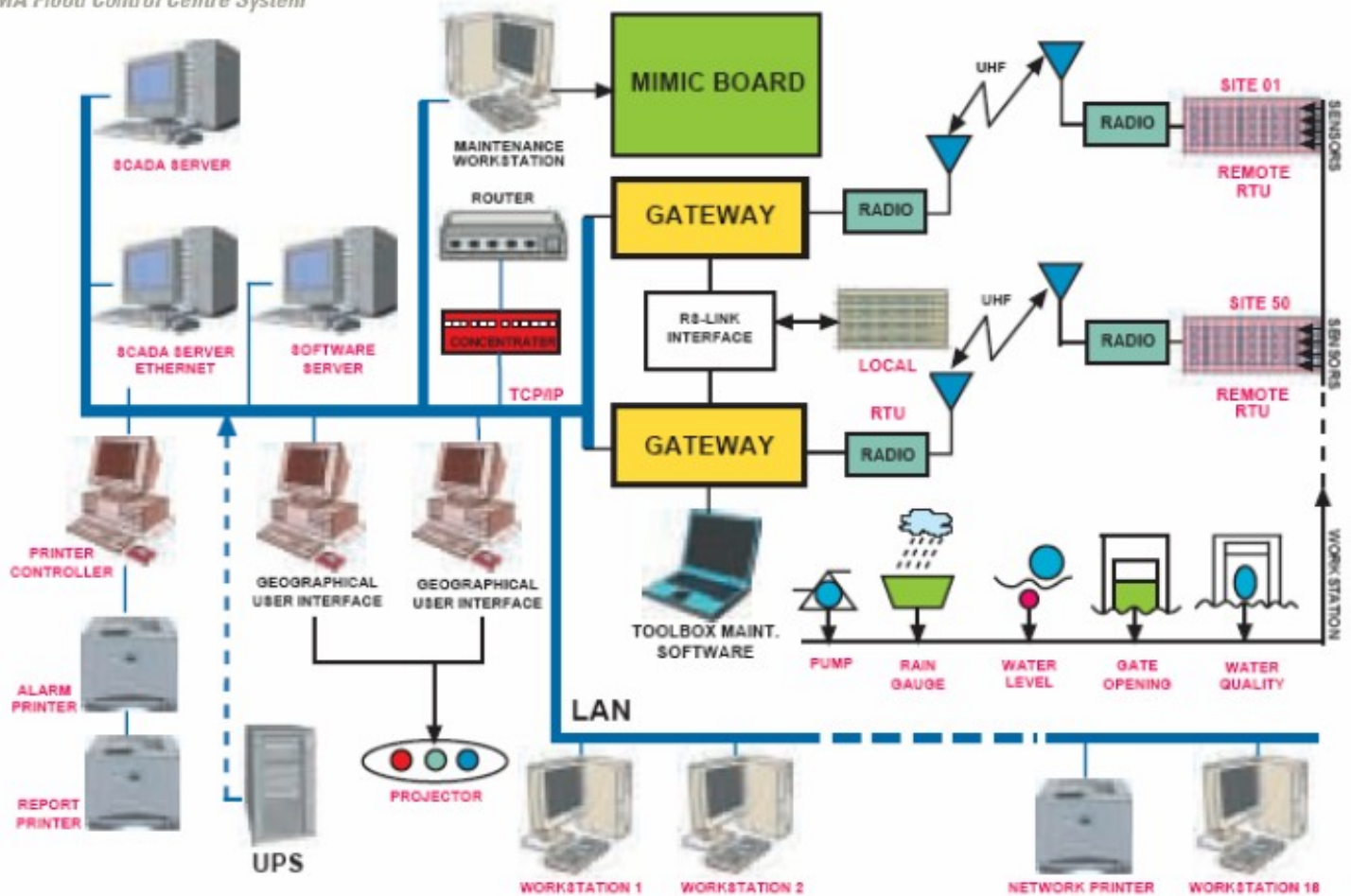
The city of Bangkok, Thailand's bustling capital, is situated on a downstream flat delta of the Chao-Phraya River, approximately one to one-and-half metres above sea level. Population growth has resulted in high population density in this urban centre. Despite trends toward modernising infrastructure, the city is often plagued with severe urban flooding.

The Bangkok Metropolitan Flood Control Center, rehabilitated in 1997 to increase efficiency and improve coverage, turned to Motorola to install computer technology and systems that would systematically and efficiently manage flood monitoring programs to reduce risk and minimise damage.

Motorola designed a SCADA-based system to:

- Remotely supervise and collect data on hydrological conditions (rainfall, water level), facility operation, flood situation, water quality and other related issues.
- Process information needed for planning and decision-making concerning planned tasks to reduce damage.
- Maintain communication systems to broadcast flood situation and protection orders to all remote locations and stations.





BENEFITS

- Real-time data for instant decision-making in order to reduce damage
- Ability to monitor flood levels – hence improving the lives of the residents

MOTOROLA SOLUTIONS

The Motorola-designed SCADA-based system consists of a PC-based master control centre located in the Bangkok City Hall building. There are 50 Motorola MOSCAD remote sites situated throughout Bangkok. These remote sites automatically collect flood related data, such as water level in canals and the river, rainfall, pump status and water quality, and transmit it in cyclic mode to the master control centre via a telemetry system using UHF radios.

The master control system is based on SCADA software interfaced via a gateway to TCP/IP on Ethernet Links for data exchanges between the computer system and the MOSCAD remote sites. The SCADA software provides calculation, database display and graphic display (see block diagram).

Real-time data is monitored via computer screen, video projectors, or mimic boards that display city maps for instant decision-making. Alarm and events are displayed and printed, and historical data is stored for analysis.

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