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As part of Intelligent Transportation System [ITS] solutions, the world renowned adaptive signal control algorithm – SCOOT – monitors traffic flow in real-time to optimize traffic signal operation, and adjusts signal timings to match prevailing conditions.

The successful management of traffic in the 21st century places many demands upon traffic engineers and officials. As the volume of traffic on highways and roadways continues to grow at a greater rate than the capacity of the road network, the effect of traffic congestion is an ever increasing problem in towns and cities throughout North America. The traffic engineer in a modern traffic control center is continually working to maximize the efficiency of the traffic flow while minimizing any disruptions caused by incidents and events.

Many benefits are obtained from the implementation of an effective adaptive control system, not only for traffic in the town or city, but also for the local economy and environment.

The latest release of the SCOOT adaptive control system – PC SCOOT – combines proven adaptive algorithms with the enhanced functionality in the user interface, all operating on a Microsoft Windows® PC-platform. This combination of Siemens’ proven SCOOT software and the Microsoft Windows operating system [OS] offers a solution which is flexible enough to meet the traffic needs of any municipality, from small towns to the largest urban metropolises.

The introduction of PC SCOOT by Siemens allows more cost-effective systems integration and commonality of hardware across the range of traffic management and control systems. This in turn reduces maintenance requirements and provides more opportunities for implementing a range of ITS solutions:

- World leading adaptive control;
- Increased standardization within traffic control centres;
- Microsoft Windows OS;
- Customized congestion management tool kit;
- Reduced equipment and maintenance costs;
- Real IP communications;
- Maximizes network efficiency;
- Improved access to management data;
- Reductions in delay of over 20%;
- Ease of use for new users;
- Simple installation and migration.

The latest version of the PC SCOOT adaptive traffic control software has been proven in over 100 towns and cities around the world as effective in reducing congestion and maximizing the efficiency of the road network.

ITS is the keystone of urban traffic management and Siemens offers a variety of solutions ranging from a single system to a comprehensive integrated package including on-street equipment and complementary adaptive, central, and regional systems networked together.

PC SCOOT operates as part of a larger solution, working in tandem with other Siemens advanced transportation management systems [ATMS]. The ATMS provides traffic management and control, and prepares the controller’s timing plans for interaction and adjustment by PC SCOOT.

ITS flexibility allows engineers to control and monitor traffic over a wide area, combining traditional traffic control with a host of additional functions to best achieve maximum efficiency. Siemens ITS solutions offer the following range of features to the traffic engineer to make maximum use of any installed technology:

- SCOOT adaptive control;
- Public transport priority;
- Emergency vehicle green waves;
- Car park management and guidance;
- Fixed time signal control with automatic plan selection;
- Traffic flow monitoring;
- Queue and congestion detection;
- Tidal flow control;
- Pollution monitoring.

Public transport priority is increasingly seen as crucial in maintaining the effectiveness of buses and light rail systems as viable alternatives to the private car. Siemens provides effective priority through PC SCOOT, allowing public transport vehicles to adhere to their schedule while minimizing the disruption to other vehicles. Recent developments in PC SCOOT have enhanced the provision of public transport priority, reducing delay to buses while also minimizing the effects on normal traffic.

Modern communications technology offers a range of flexible options, which until now have not truly been available for adaptive control. In addition, the implementation within PC SCOOT of a new communications interface will allow current and future users to make much better use of modern communications systems.

PC SCOOT has been enhanced to enable the use of modern communications technology used by ITS solutions and, in turn, absorb inconsistencies and delays in data delivery with less impact on the system. This reduces dependency on traditional leased line communications techniques and opens up the potential to utilize a wide range of modern communications technologies previously unavailable to SCOOT systems, which allows utilization of cost-effective communications infrastructures that can be optimized to individual system constraints and available infrastructure.

PC SCOOT introduces several enhancements in the control of traffic signals, improving public transport priority and increasing efficiencies in dealing with pedestrian movements. Enhanced bus priority phase skipping is now included in PC SCOOT, reducing delays to buses waiting at the signals by skipping intermediate side road stages where appropriate. The system includes comprehensive guidance on when phase skipping is appropriate and when it may be inadvisable. The approach of a bus can be indicated by on-vehicle transponders activating special detectors, or the location can be provided by a bus management system using any automatic vehicle location system. Tests on street have shown benefits of up to four (4) seconds reduced delay per bus.

PC SCOOT provides improved control of intelligent pedestrian facilities, using the traffic signal controller and special detectors to monitor pedestrians crossing the road and feeding this information back into the SCOOT model optimizing the vehicle greens. This reduces wasted time where pedestrian crossings have long requirements for green times due to design constraints, by providing the appropriate amount of green time to pedestrians based upon detection.
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For more advanced future features and/or more information on Siemens software products call (512) 837-8310 or call your local dealer (see website for the dealer in your area).

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PC SCOOT
Adaptive traffic control for the PC platform.