

SIEMENS TRAFFIC CONTROLS,
Sopers Lane,
POOLE, Dorset.
BH17 7ER.
SYSTEM/PROJECT/PRODUCT: UTC

Glossary of terms
used in association with
UTC Systems

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1. INTRODUCTION

1.1 Purpose

The purpose of this document is to provide a comprehensive glossary of all terms used in UTC systems, whether universally acknowledged definitions or those devised specifically for the product. The intention would then be for all new or modified documents to refer to this document in section 1.4 (Definitions), thus removing the need to list common definitions in every document. Any new definitions created as part of a new document should be added to this document which should then be up-issued.

1.2 Scope

This document should contain any abbreviation or definition of items which have a special meaning within the UTC product area as well as commonly used abbreviations.

1.3 Related Documents

1.3.1 Reference Documents

- 1.3.1(a) MCE0360C DTp specification for Urban Traffic Control Systems, July 1983

1.4 Definitions

See main body of this document.

1.5 Issue State and Amendments

Issue 1.1A	First draft for comment
Issue 1.1B	Incorporating written comments and presented for review
Issue 1.1	Following review and rework
Issue 1.2	Inclusion of CAST, FAN, STA, STP, CSDA
Issue 1.3	Inclusion of BRU and minor cosmetics
Issue 1.4	Inclusion of ERN, SGA, CMS, MMS, LSE, SCA, PCA, DTM, EVE, TPU, RMS, RTh, NCP and change of PCL to SPCL
Issue 1.5	Inclusion of ref. 1.3.1(c), ACE, ACL, QA, SCM, SM, SRS, WAN
Issue 1.6	Inclusion of Project File
Issue 02.00	Inclusion of MMI, TC12, X Terminals, DIGI I/O, LAN, LAN Bridges, PCSA and SIP
Issues 03 to 06	Not Issued.
Issue 07	Updated to align issue state with Software issue state.
Issues 08 to 14	Not issued

Issue 15	Changed to Word Format and updated to align with version 15 of the UTC system.
Issue 16	Not issued
Issue 17	Updated to align with version 17 of the UTC system
Issues 18 to 20	Not issued
Issue 21	Updated to align with version 21 of the UTC system
Issue 22	Not issued
Issue 23	New definitions added and sections 2 and 3 combined.
Issues 24 to 27	Not issued
Issue 28	Removal of references to VAX systems

2. DEFINITIONS OF TERMS

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2.1 **ACE and ACL**

Access Control Entries in Access Control Lists are means of providing security and restricted access to files in the VMS operating system environment.

2.2 **ACP**

An Ancillary Control Process is a task which performs i/o functions typically associated with a device driver. Its function is to receive complex i/o requests from applications programs and to translate these into simple i/o calls to the device driver.

2.3 **ALPHA****

The computers currently supplied for UTC systems are based on the Alpha processor chip. The Alpha processor was originally developed by Digital, further developed by Compaq and is now supplied by Hewlett-Packard.

2.4 **ANSI**

American National Standards Institute

2.5 **ARTEMIS**

Automatic Road Traffic Event Monitoring and Information System

2.6 **ASCII**

American Standard Code for Information Interchange

2.7 **AST**

An Asynchronous System Trap is an RSX feature which provides a software interrupt at task level, i.e. a task detecting an AST may break off from its current processing in order to perform some actions of immediate importance before resuming from the point of interrupt.

2.8 **ASTRID**

ASTRID (or Automatic SCOOT Traffic Information Database) is an on-line database that collects data from a SCOOT traffic control system, or other source of traffic information, for later analysis. ASTRID was developed by Southampton University and TRL.

2.9 **BABT**

Board Approval of British Telecom

2.10 **BAUD RATE**

Data Transmission rate in bits per second

2.11 BCD

Binary Coded Decimal

2.12 BRU

Back-up and Restore Utility

2.13 BST

British Summer Time

2.14 BT

British Telecommunications

2.15 CAST

A CAST is a collection of system commands which are stored together and which may be actioned by a single operator or timetable request. Systems may contain many CASTs and each CAST may contain many commands. When actioned commands in a CAST will be implemented immediately and in the order held within the CAST.

2.16 CCITT

Committee Consultatif International de Telegraphie et Telephonie

2.17 CCTV

Closed Circuit Television

2.18 CD

Compact Disk

2.19 CLI

Command Line Interpreter

2.20 CLR

Common Location Reference

2.21 CM

Configuration Management

2.22 CMS

DEC VMS Code Management System. The CMS system is used to control which versions of the various software modules, which make up the VMS UTC system, are incorporated in a particular release (or version) of the VMS UTC software.

2.23 COMET

The STC Central Office Management Integrated Traffic system is the STC traffic management and information system.

2.24 CORBA

The Common Object Request Broker Architecture is an open, vendor-independent architecture and infrastructure that computer applications can use to work together over networks.

2.25 CPU

Central Processing Unit

2.26 CR

Carriage Return

2.27 CRC

A Cyclic Redundancy Check is one which is used to prove the integrity of a stream of data items, i.e. it is a form of sum check.

2.28 CRS

The Customer Requirements Specification is the first document produced by engineering on award of a contract. Its purpose is to identify the scope of the system which must then be agreed with both the customer and the Department of Transport.

2.29 CSC

Cold Stand-by Computer

2.30 DAT

Digital Audio Tape

2.31 DBm

Deci-Bel milliwatt

2.32 DCL

Digital Command Language

2.33 DEC**

The Digital Equipment Corporation (DEC) was the company which supplied the PDP, VAX, and Alpha computers on which the UTC software has run. The Digital Equipment Corporation was taken over by Compaq and has now merged with Hewlett-Packard (HP).

2.34 DECNET**

The Digital Equipment Corporation Network (DECNET) Software produced by DEC (and now HP) to enable communications between computers in a network, e.g. connected by Ethernet.

2.35 DIGI I/O

Digital inputs/outputs used for driving alarm panels and wallmap indications.

2.36 DOT

An earlier abbreviation for the Department of Transport (see DTp)

2.37 DRIVE

Dedicated **R**oad **I**nfrastructure for **V**ehicle **S**afety in **E**urope

2.38 DTp

Department of Transport

2.39 EDM

An event driven message is one generated by the SCOOT kernel software following a particular event during its modelling or optimising activities. There are a number of different messages available which may be started or stopped under operator control.

2.40 EGA

Enhanced Graphics Adapter

2.41 ERN

Engineering Release Note

2.42 EXCEED

Exceed is an X-Windows terminal emulator from Hummingbird.

2.43 FAN

Fault Action Note

2.44 FAT

Factory Acceptance Tests are optional and are performed at Poole to demonstrate to a customer that his system is in a satisfactory state to be shipped to site. The tests are performed to a schedule (document) agreed in advance with the customer.

2.45 FEP

Front End Processor

2.46 FMS (First Definition)

The Forms Management System is a software package sold by DEC. It is used for data entry to the UTC system as it is preferable to an editor.

2.47 FMS (Second Definition)

Fault Management System

2.48 FRT

Factory Release Tests (sometimes known as system tests) are performed by ourselves to ensure that we are satisfied that a system is fit to leave Poole. The tests are performed to schedules (not the same as FAT). The customer is usually not involved in this activity which is mandatory on all systems.

2.49 FSCE

Free Standing Computer Equipment tests are optional and are performed at Poole to show a customer that his computer has been delivered here and is functioning correctly. This activity usually happens early in a contract to enable us to get payment for the equipment.

2.50 GHOSTSCRIPT

Ghostscript is an interpreter for the PostScript (TM) language. A PostScript interpreter usually takes as input a set of graphics commands. The output is usually a page bitmap which is then sent to an output device such as a printer or display. PostScript is embedded in many printers.

2.51 GMT

Greenwich Mean Time

2.52 GUI

Graphical User Interface

2.53 HMDD

Hardware Module Design Document

2.54 IBM

International Business Machines

2.55 I/G

The length of time between successive green periods (hence inter-green). This can apply to both stages and phases.

2.56 INGRID

An **INtegrated INcident Detection** system developed by TRL to automatically detect traffic incidents in urban areas. Information from the SCOOT traffic system and the ASTRID database is used by INGRID for this purpose.

2.57 I/O

Input/Output

2.58 ISO

International Standards Organisation

2.59 IRN

The internal reference number of a piece of equipment. This is the value which is used by the majority of the UTC system software to represent items of equipment, e.g. intersections, pelicans. The user is generally unaware of IRNs (see SCNs). IRNs start from 1 and are sequential up to the configured number for each equipment type.

2.60 ITS

The instation test set is used to test both instation and outstation transmission equipment. It does this by being plugged into test sockets and simulating other items of transmission equipment, e.g. at the instation it may simulate an OTU whilst at the outstation it may simulate part of an ITU.

2.61 ITU

An instation transmission unit is all the instation data transmission equipment attached to a traffic controlling computer.

2.62 KERMIT

A general purpose file transfer utility

2.63 LAN

Group of computers connected in a Local Area Network.

2.64 LAN BRIDGE

Device used to allow computers in separate locations to communicate as part of the same LAN.

2.65 LED

Light Emitting Diode

2.66 LPU

Link Profile Units are the measure of vehicle occupancy used by the SCOOT kernel software to model behaviour in the traffic network. 17 LPUs are approximately equivalent to 1 vehicle.

2.67 LSE

VMS Language Sensitive Editor

2.68 LUN

A Logical Unit Number is required by a task running under RSX if it needs to perform any sort of I/O operation, e.g. file access, terminal access. Each I/O procedure provided within the executive for these purposes will need the LUN chosen as a parameter in any call. A task may use many LUNs simultaneously if required.

2.69 MCE

Movement control equipment specifications are produced by the Department of Transport to identify the rules and regulations to be complied with for a variety of transportation products including UTC. At present we are bound by MCE0360C, reference 1.3.1(a)

2.70 MCR

The Monitor Console Routine provided as part of the operating system software, is that which enables the user to access an RSX 11 system. Commands input through MCR are of 3 characters plus optional parameters and are typed in response to a ">" prompt.

2.71 MDF

The main distribution frame is the structure in the computer room at a customer's site where the incoming BT lines are terminated and connected to the instation transmission equipment.

2.72 MMI

Man Machine Interface covers the methods and formats of the interactions of the UTC users with the system, including commands, messages and graphics.

2.73 MMS

DEC VMS Module Management System

2.74 MOS

Metal-Oxide Semi-conductor

2.75 MSDOS

Microsoft Disk Operating System

2.76 NAS 150**

DEC Proprietary Workstation Software

2.77 NCP

Network Control Program

2.78 OMCU

The outstation monitoring and control unit is an OMU (see below) with extra facilities to enable it to perform limited control functions on the equipment to which it is attached.

2.79 OMU

The outstation monitoring unit, part of the RMS system, is located with an item of outstation equipment (typically a controller) with the purpose of monitoring the operation of this equipment and reporting any faults to an instation computer.

2.80 OTS (First Definition)

The outstation test set can be used on street to test the operation of OTUs. The test set plugs into the OTU and is typically used in association with the ITS to test instation to outstation communication when commissioning a system in the field.

2.81 OTS (Second Definition)

The object time system is a library of routines for a given language which can be built into a task and used at run-time.

2.82 OTU

The outstation transmission unit is the interface between the BT lines from the instation and a piece of outstation equipment, typically but not restricted to a traffic controller.

2.83 PC

Personal Computer

2.84 PCB

Printed Circuit Board

2.85 PCL

Printer Command Language (PCL) defines a standard set of commands which enable programs to communicate with HP or HP-compatible printers.

2.86 POSTSCRIPT

PostScript is a programming language which is optimized for printing graphics and text. Its main purpose is to provide a convenient language in which to describe images in a device independent manner.

2.87 PROJECT FILE

A Project File is the paper record of the current state of a specific project, it can contain review minutes, internal memos, metrics, fault log and other items as necessary. It is confidential to STC.

2.88 PROM

Programmable Read Only Memory

2.89 PSTN

Public Switching Telephone Network

2.90 PSU

Power Supply Unit

2.91 QA

Quality Assurance

2.92 RDBMS

Relational Database Management System (e.g. ORACLE)

2.93 RJT

Route Journey Time

2.94 RMS (First Definition)

Record Management System. The DEC record management system is the file handling system of VMS (See 2.144).

2.95 RMS(Second Definition)

Remote Monitoring System

2.96 ROM

Read Only Memory

2.97 ROMANSE

Road Management System for Europe

2.98 RSX**

The Resource Scheduling Executive is the computer operating system supplied by DEC which was used on PDP- 11 based UTC systems. An RSX emulator forms part of the current UTC systems.

2.99 RTL

Run-Time Library

- 2.100 SAT**
Site Acceptance Tests
- 2.101 SCM**
Software Configuration Management (see 2.21)
- 2.102 SCN**
The System Code Number is the representation of a piece of equipment known to the user. All types of equipment have SCNs which are converted to IRNs by the system software for ease of processing.
- 2.103 SCOOT**
Split, Cycle, Offset, Optimisation Technique
- 2.104 SDCN**
SCOOT Design Change Notes are issued by TRL when updates to the SCOOT kernel software are needed.
- 2.105 SDD**
The system design document is produced following agreement of the CRS to describe how we are going to create a system to satisfy all the requirements identified in the CRS. The document is sometimes but not always subject to customer agreement.
- 2.106 SGA**
A Shared Global Area in the computer memory is one where software items are held to allow access from any application. UTC system databases are implemented as SGAs and the terms SGA and database are often used to mean the same global entities.
- 2.107 SIP**
Systems Indication Panel. This displays the UTC system and operational alarms to the operators.
- 2.108 SIS**
Strategic Information System
- 2.109 SMDD**
Software Module Design Document
- 2.110 SMFS**
Software Module Functional Specification

2.111 SOFT

Saturation Occupancy from Flow Technique is a special optional facility within the SCOOT kernel. Its purpose is to use traffic flow patterns to vary saturation occupancy parameters which would otherwise not be traffic responsive.

2.112 SQL

Structured Query Language

2.113 SPCL

Siemens Plessey Controls Limited (now STC)

2.114 SRS

The System Requirements Specification in the UTC environment is the document which describes the requirements and facilities of a standard system.

2.115 SSDD

Sub-System Design Document

2.116 ST

Self Tuning detectors are widely used to detect traffic.

2.117 ST800

Siemens Type 800 Controller

2.118 STA

The Stage Translation Arrays are a software facility which contain various data items concerned with the association of stages in the UTC and SCOOT sub-systems, i.e. which SCOOT stage requests cause which UTC stages to be forced.

2.119 STC

Siemens Traffic Controls

2.120 STCL

Siemens Traffic Controls Limited (now STC)

2.121 STP

The Stage Translation Plans are a special type of plan which enable one or more UTC stage actions to occur during a given SCOOT stage, i.e. they allow the ability to run fixed length UTC stages and demand dependent stage pairs.

2.122 TC8

Telecommand-8 is the 300 baud data transmission system used on UTC systems up to 1992.

- 2.123 TC12**
Telecommand- 12 is the 1200/600/300 baud data transmission system used on STCL UTC systems from 1992.
- 2.124 TMC**
Traffic Management Computer
- 2.125 TPU**
VAX Text Processing Utility
- 2.126 TCC**
Traffic Control Computer
- 2.127 TfL**
Transport for London is the new name for the organisation, which was previously known as The Traffic Control and Systems Unit (TCSU), is the group running the traffic systems as part of local authority organisations. Notable ones often referred to simply as TCSU are London and Liverpool.
- 2.128 T200**
Siemens Type 200 Controller
- 2.129 T400**
Siemens Type 400 Controller
- 2.130 TRL**
The Transport Research Laboratory are the group who instigated the creation of SCOOT and currently maintain it. Formerly called TRRL - Transport and Road Research Laboratory.
- 2.131 TRRL**
See TRL (2.130)
- 2.132 TSC**
A transmission system chassis is a unit of data transmission at the instation which in TC8 terms can communicate with up to 64 OTU addresses.
- 2.133 UPS**
Uninterruptable Power Supply
- 2.134 UT**
Universal Time (See 2.51)

2.135 UTC First Definition)

Urban Traffic Control

2.136 UTC (Second Definition)

UTC is Coordinated Universal Time, which is often referred to as Greenwich Mean Time (GMT) (See2.51).

2.137 UTMC

Urban Traffic Management and Control

2.138 VA

Vehicle Actuated

2.139 TTIC

Traffic and Travel Information Centre

2.140 VCS

VMS Control System

2.141 VDU

Visual Display Unit

2.142 VGA

Video Graphics Array

2.143 VIP

Very Important Person

2.144 VMS (First Definition)**

The Virtual Memory System is the operating system used on the Alpha ranges of computers which have been used for UTC Systems.

2.145 VMS (Second Definition)

A Variable Message Sign may be used to show traffic information to road users, to indicate the state of a car park, etc. The sign may be either a rotating plank or dot matrix type.

2.146 WAN

Wide Area Network

2.147 XVISION

Xvision is an X-Windows terminal emulator.

2.148 X-TERMINALS

Terminals designed to handle communication with other computers in a LAN using X-Windows software protocols.