



PRODUCTION MANAGEMENT AND CONTROL SYSTEM

(PROMACS)

GLOSSARY

Inter-Office Memorandum

[Redacted]

STAT

TO: ACD, ACOC

JOB:

FROM:

[Redacted]

DATE: 15 August 1966

STAT

RE:

AF Contract [Redacted] - PERT Item C-4-1040

STAT

Attached for your review and information is the Production Management and Control System (PROMACS) Glossary. This glossary should be retained in your file for future reference. It will be updated as needed.

FAC/jar

1 Attachment

ACD (3 copies)

ACOC (5 copies)

PRODUCTION MANAGEMENT AND CONTROL SYSTEM (PROMACS)

GLOSSARY

15 August 1966

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I. INTRODUCTION AND SUMMARY

A. Background

During the briefing of the 14 April 1966 PROMACS Progress Report conflicting interpretations of terminology caused considerable discussion. It became apparent that a need existed to better define certain terms used in the Progress Report. A request was made to the PROMACS development team to redefine these terms and to review the report and develop definitions for any additional terms which needed clarification. This glossary has been prepared in response to that request.

B. Purpose

The purpose of this glossary is to define selected terms used in the PROMACS Progress Reports of 14 April and 1 August 1966. The terms selected are those whose definition is considered basic to a clear understanding of the reports. In selecting the terms it has been assumed that the reader has a basic understanding of the terminology in general use at ACIC. For example, terms such as "Format 6 of the CIP," "allocation of resources," and "N-7 report" have not been included in the glossary.

The definitions will convey the intended meaning of the terms as used in the Progress Reports. Where the intended meaning coincides with a definition existing in one of the publications listed in the bibliography, the existing definition is used. In some cases it has been necessary to change an existing definition or to construct a definition in order to explain an intended meaning.

C. Organization

The definitions are presented in Sections II and III of this glossary. Section II consists of a definition of the terms Planning, Programming, Scheduling,

and Controlling. These terms have been extracted because of their special significance to PROMACS. Section III is composed of the remaining terms selected for clarification, and is arranged alphabetically.

Should the need arise to define additional terms this glossary will be updated.

SECTION II

PROMACS SIGNIFICANT TERMS

Planning - The process of selecting and developing the best course of action to accomplish an objective, encompassing all steps necessary to conduct a smooth operation and evaluate its contribution to the objective. In planning, the manager visualizes and formulates what the operation is about, how it will be conducted, and what it will contribute to broader objectives.

Programming - The process of determining requirements and allocating resources on a time-phased basis to support programs, program changes, and operational concepts of the USAF.

Scheduling - Establishing the entire production sequence and subordinate operations in a beginning-to-end relationship with regard to the availability of men, machines, materials, and completion dates.

Controlling - The evaluation of over-all effectiveness of operations. The process of ensuring operations stay within the established limits of procedural policy which includes taking action when required to bring variant operations into line and prevent future policy deviations.

SECTION III

ALPHABETICAL LISTING OF TERMS

A

Access, random - Pertaining to the process of obtaining data from, or placing data into computer storage when there are no sequential relations governing the access time to successive storage locations. Access time is independent of the location of the information most recently placed in storage.

Authorizations (Manpower) - The number of approved positions for a specific grade and skill required to accomplish a specific workload.

APPS - Automatic Photo-composition Placement System

B

Batch Processing - A technique by which items to be processed must be coded and collected into groups prior to processing.

Boundary Conditions - Defined parameters specifying the limits within which a problem solution has been restricted.

C

Capability - The ability to execute a specified course of action.

Contract Dollars - The funds which are associated with the procurement of the services of a commercial or government contractor.

COC - Complete Operational Capability - In the case of IDHS, COC is October 1969.

COBOL - Common Business Oriented Language, a type of computer programming language.

Constraint - Predetermined limits affecting a problems solution.

Critical Path - The longest path, in terms of weeks, through a PERT network.

D

Data - General term used to devote any or all facts, numbers, letters, and symbols that refer to or describe an object, idea, condition, situation or other factors. It connotes basic elements of information which can be processed

Data Element - A specific item of information appearing in a set of data.

Data Collection (gathering) Device - Electronic device used to input data to a computer or an off-line storage station from a remote station.

Data Manipulation - Processing data, such as sorting, merging, adding, etc.

Data Processing - The preparation of source media that contains data or basic elements of information, and the handling of such data according to precise rules of procedure to accomplish such operations as classifying, sorting, calculating, summarizing, and recording.

Degree of Difficulty - The relative complexity of a chart preparation as compared to an average chart of the same series. The degree will be expressed as a number (on a relative scale) and used as a multiplier against the standard or average time to perform a step or steps in chart preparation to obtain estimated time.

Division Procedures - Documents which supplement the Plant Manual by establishing intra-division policies and operating procedures.

E

Equipment (Electronic Data Processing) - An electronic computer and component equipment required to perform a complete data processing function.

Equipment (Peripheral) - Auxiliary machines which may be placed under the control of the central computer, e.g., card readers, printers, magnetic tape feeds.

Equipment (Punched Card Accounting Machines) - Electrical, mechanical, or electronic machines which primarily create punched cards or are actuated by them to create additional records of this type and/or produce finished reports.

F

Field Size (Length) - The number of characters required to record information. On a punch card it refers to the number of columns. On a tape it refers to the number of bit positions.

G

Gantt Chart - A plot of a task to be accomplished against a time base. Commonly known as a "bar chart."

Hardware - The physical equipment or devices forming a computer and peripheral equipment. Contrasted with software.

I

Information - A collection of facts or other data, especially that derived from the processing of data.

Inquiry, Data Retrieval - A request for presentation of specific information from data files. The information is presented as an extract of a data file and is usually not a recurring report.

IOC - Initial Operational Capability - In the case of IDHS, IOC is October 1967.

J

Job Loading - Allocation of manpower to individual production assignments by organization and in consideration of the production sequence and completion dates.

L

Linear Programming - A mathematical technique for determining the best allocation of limited resources to accomplish a desired objective. It presumes that the variables of a problem are fairly constant and their values known, and that the relationship among the variables represents a linear or straight line relationship to one another.

M

Manager - An individual responsible for one or more of the following in carrying out the overall ACIC mission:

- (1) Planning, organizing and controlling use of men, money or material.
- (2) Making decisions which have broad organizational impact.

Management Information System - A communications process in which data are recorded and processed for operational purposes. The problems are isolated for higher level decision making and information is fed back to top management to reflect the progress or lack of progress made in achieving major objectives.

Master File - Synonymous with data base.

Materials (Direct) - Materials whose use is specifically related to a job and enter into the end product. These materials generally consist of the following categories: photographic paper, film, map paper, plastics, and lithographic plates.

Materials (Indirect) - Materials which are not easily associated with a particular job, such as office supplies, inks used in chart construction, and photographic chemicals.

Milestone - Distinct, objectively identifiable points which can be used as a means of evaluating progress in terms of an estimated time schedule.

Model - Mathematical or logical representation of a system (or problem).

Model, Mathematical - The general characterization of a process, object, or concept in terms of mathematics. This enables relatively simple manipulation of variables to be accomplished, determining how the process, object, or concept would behave in different situations.

Module - A combination of components, contained in one package. This combination provides a complete function or functions to the subsystems in which they operate.

Monte Carlo Technique - An application of random sampling which simulates an existing situation. This technique obtains approximate values for variables in a model whenever a large number of variables are present whose interrelationships are too complex to permit the determination of the values of such variables by normal analytical methods.

O

Objective - A brief, concise statement of a goal representing a single attainment of significant magnitude.

Off-Line Storage Terminal - Equipment not in direct communication with the central processing unit of a computer but in direct communication with remote communication equipment capable of receiving and storing information transmitted from these remote stations for later use in computer processing.

On-Line - Pertaining to peripheral equipment or devices in direct communication with the central processing unit of a computer.

Operational Directives - A series of documents which are used to make work assignments to ACIC production elements, to define policies and establish general procedures for accomplishing ACIC's primary mission.

P

Parameter - A characteristic element or an assigned constant factor.

Plan - A description of the method of accomplishing an objective showing the major steps involved.

Planning Factor - A properly selected multiplier or value computed from program information used in planning to estimate the amount and type of effort involved in a contemplated operation. Planning factors are often expressed as rates, ratios, or lengths of time.

Procedure - A prescribed way to take action to achieve a predetermined objective. A precise step-by-step method for effecting a solution to a problem.

Process Definition - Detailed production steps and related resources required to produce an ACIC product.

Production - The conversion of source materials into products and/or components thereof, through a series of related work processes. This includes functions of production engineering, controlling, quality assurance, and the determination of resource requirements.

Product (ACIC) - A product produced by ACIC components which has an ultimate use by other than ACIC and which has been distributed to the user.

Production Commitment - Any action that commits the production of items at any specific rate, by any given date, utilizing any particular capability in accordance with any given specifications and quality standard.

Production Resources Information - A statement involving ACIC production resources (manpower, equipment, and contract funds), including estimates of resources required in future production of specific items or programs, estimates of production resources required for new work, manhour and calendar time production standards, and completion dates on assigned projects or potential assignments.

Production Specifications - Documents which define the content, format, and graphic portrayal characteristics for ACIC end products.

Program Manpower - A time-phased manpower plan reflecting distribution of manpower resources by command, base, and unit allocated by Hq USAF.

Programming, Computer - Planning the complete sequence of machine instructions and routines necessary to solve a problem by means of a computer. This may involve, among other things, analysis of the problem, preparation of a flow diagram, preparing details, testing and developing subroutines, allocation of storage locations, specification of input and output formats, and the incorporation of a computer run into a complete data processing system.

Q

Query - See inquiry.

R

Real Time Processing - The processing of information or data in a sufficiently rapid manner, usually within minutes, so that the results of the processing are available in time to influence the process being monitored or controlled.

Regression Formula - A mathematical expression depicting a linear or curvilinear relationship such as $y=a+bx+cx^2$.

Remote Communication Station - A piece of equipment located outside the general area of a computer installation capable of transmitting information into or receiving information from the computer installation area.

S

Sequential Access - The process of obtaining information from or placing information into storage where the time required for such access is dependent on the necessity for waiting while nondesired storage locations are processed in turn.

Simulation - Imitative type of data processing in which a computer is used to manipulate a mathematical model of some physical entity. Information enters the computer to represent the factors entering the real process, the computer produces information that represents the results of the process and the processing done by the computer represents the process itself.

Software - The package of programming support or utility routines which is provided a given computer. This generally includes compilers, assemblers, narrators, routines, and subroutines.

Source Materials - A collective term used to include aerial and ground still photographs, radar scope photographs, maps, charts, geodetic control, gravity data, intelligence reports, and air information data.

Standards - 1. An acceptable criterion or an established measure of performance, practice or design.

2. The time required by a qualified worker, working at an average pace under average conditions, to perform a defined amount of work.

Status - A brief statement on the progress of a plan, task, job, etc.

Sub-system - A self-sustained operating component of a system.

System - An assembly of procedures, processes, methods, routines, techniques, or sub-systems united by some form of regulated interaction to form an organized whole.

Systems Analysis - An organized technique employing scientific methods in the study of an activity, method, operation or organization. Each component or sub-system is defined and studied in detail. Emphasis is placed on the integrated relationships existing between the sub-systems to establish the proper functional continuity toward the successful performance of the complete system in reaching a defined goal.

T

Theory, Queuing - A form of probability theory useful in studying delays or line-ups at servicing points.

Time sharing - The use of a device for two or more purposes during the same overall time interval, accomplished by interspersing component actions in time.

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