

DATA SECURITY ADMINISTRATION FOR COMPUTER SYSTEMS

DATA ATTRIBUTES AND CLASSIFICATION OF DATA

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1. GENERAL

1.01 This section has been developed by a multicompany project team under the direction of the GUARDSMAN Steering Committee. This standard is being issued by the Director—Data Systems of AT&T and has been agreed to by Bell Laboratories and AT&T. Any deviation from this standard by an Operating Telephone Company (OTC) is at its own risk.

1.02 Whenever this section is reissued, the reason for reissue will be listed in this paragraph.

1.03 Every element of data within a system has, by its characteristics, certain inherent attributes. The summation of these attributes will in turn determine the security classification which is assigned to that data element. Determination of this classification is solely dependent on the attributes of the data and should not change unless the content of the data is changed. Analysis of data attributes and subsequent data classification

may require cooperation of data systems, auditing, and user groups.

1.04 Data, in the context of this section, is any contiguous collection of information which can be uniquely accessed. For example, data might be a field, record, data base segment, file, data set catalog, program, program or procedure library, table, document, listing, or other data associated with computer systems.

1.05 Data that is comprised of two or more component elements (eg, a file comprised of several record types) will have at least the attributes and classification of its most sensitive component elements. The composite data may have additional attributes or classifications generated by the logical or physical association of its component elements.

2. DATA ATTRIBUTES

2.01 Data attributes are determined by data content alone, not the system or environment in which the data is stored or used. These attributes include:

- (a) Criticality
- (b) Activity
- (c) Uniqueness
- (d) Integrity
- (e) Internal Value
- (f) External Value
- (g) Imposed Value
- (h) Personal Value.

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Data can be analyzed for the presence of each of these attributes. In some cases, a subjective assessment must suffice if the attributes do not lend themselves to ready quantification.

2.02 Criticality: A measure of how essential this particular data is to the day-to-day operation of the business (eg, pending service order file, mechanized time records). Would a segment of the day-to-day operation of the business be severely impaired without ready access to the data?

Yes — Data is critical.
No — Data is not critical.

2.03 Activity: A measure of the ability of data to cause access to or modification of other data (eg, programs, USO-USOC tables, etc). Is the data capable of actively accessing or modifying other data or of directing functions?

Yes — Data has activity.
No — Data does not have activity.

2.04 Uniqueness: A measure of the ability to which data can be recaptured (eg, customer trouble report, AMA paper tapes, etc). Is the data either the sole source or could not be retrievable by any practical means from the original source?

Yes — Data has uniqueness.
No — Data does not have uniqueness.

2.05 Integrity: A measure of the data's impact on a segment of the business if an inadvertent or unauthorized modification which affects its accuracy occurs (eg, customer daily payment register, PICS inventory file, facility assignment records, etc). Will any deterioration in the accuracy of the data significantly impact the usefulness of that data to a segment of the business?

Yes — Data has high level of integrity.
No — Data does not have high level of integrity.

2.06 Internal Value: A measure of the monetary worth of this data to a segment of the business. The monetary worth is determined by its inherent value or by the cost to establish the data, whichever is greater (eg, TSPS tapes, computer program, etc). Will the loss or unavailability of the data have a significant economic impact on a segment of the business?

Yes — Data has internal value.
No — Data does not have internal value.

2.07 External Value: A measure of the monetary worth of this data to a person or organization outside the business (eg, nonpublished customer information, market trend data, etc). Would knowledge of the data offer significant economic advantage to someone outside the company?

Yes — Data has external value.
No — Data does not have external value.

Note: "Outside the Company" would also include use of the data by employees for personal gain.

2.08 Imposed Value: The impact of legal and regulatory agency restrictions pertaining to the availability of the data (eg, bonded rate case files, toll message history, etc). Would general knowledge of the data, inside or outside the company, cause a violation of the imposed restrictions?

Yes — Data has imposed value.
No — Data does not have imposed value.

2.09 Personal Value: A measure of whether or not the data contains information about an individual's attributes or activities (eg, customer credit information, employee salary data, etc). Does the data describe, locate, or index information about an individual's attributes or activities?

Yes — Data has personal value.
No — Data does not have personal value.

3. DATA CLASSIFICATIONS

3.01 Four basic *classifications* defined for data are Essential, Proprietary, Private, and Public. Data may carry one or any combination of these classifications (excluding Public) depending on its attributes. In addition, should the data originate outside the company and already have a classification defined by its originator (eg, U. S. Government Classification), the originator's classification will apply. The fourth classification, Public, is implied by the lack of any of the other classifications.

3.02 Essential Classification is applied to data which an organization needs to survive or perform its mission. This classification also applies where a high degree of assurance and

recoverability is required. It reflects the amount of time a segment of the business can survive if this information is lost. Data attributes whose presence imply an Essential Classification are:

- (a) Criticality
- (b) Activity
- (c) Uniqueness
- (d) Integrity.

3.03 *Proprietary Classification* is applied to data which by law or policy requires adequate technological and administrative safeguards to confine its handling, dissemination, storage, and disposal, because its content has quantitative value to the company. Data attributes whose presence imply a Proprietary Classification are:

- (a) Internal Value

(b) External Value

(c) Imposed Value.

3.04 *Private Classification* is applied to data which is sensitive because of its relationship to personal information about an individual, employee, customer shareholder, or associate. The data attribute whose presence would imply a Private Classification is:

- (a) Personal Value.

3.05 *Public Classification* is applied to any data which is readily available to the general public or which has no attributes which would preclude its distribution.

DATA ATTRIBUTE AND CLASSIFICATION WORKSHEET INSTRUCTIONS

The data attribute and classification worksheet is supplied as a documentation aid for the Data Security Administration function.

INSTRUCTIONS

- (1) List application name and the identification of data to be classified on the left side of the worksheet.
- (2) For *each* data entry:
 - (a) Determine which of the attributes defined in Section 007-610-030 apply.
 - (b) Place a check mark in the column under each attribute present.
- (3) In addition:
 - (a) If there is a check in any column 1 through 4, place a check mark in that row under *Essential* classification.
 - (b) If there is a check mark in any column 5 through 7, place a check mark in that row under *Proprietary* classification.
 - (c) If there is a check mark in column 8, place a check mark in that row under *Private* classification.
 - (d) If there are no check marks under *Attributes*, place a check mark in that row under *Public* classification.
- (4) Also:
 - (a) Total the number of check marks in columns 1 through 4 (these attributes indicate a need for usage type protective measures) and enter this number under column *U*.
 - (b) Total the number of check marks in columns 5 through 8 (these attributes indicate a need for access type protective measures) and enter this number under column *A*.

DATA ATTRIBUTE AND CLASSIFICATION SAMPLE WORKSHEET

Application _____

Data Identification	Attributes								Classifications				Exposures	
	1 Criticality	2 Activity	3 Uniqueness	4 Integrity	5 Internal Value	6 External Value	7 Imposed Value	8 Personal Value	A Essential	B Proprietary	C Private	D Public	U S A G E	A C C E S S
Pending Service Order File	x					x			x	x			1	1
Mechanized Time Records	x			x					x				2	0
USO-USOC Tables		x		x					x				2	0
Computer Programs		x			x				x	x			1	1
Customer Trouble Report			x						x				1	0
AMA Paper Tape			x						x				1	0
Customer Daily Payment Register		x							x				1	0
PICS Inventory File		x							x				1	0
Facility Assignment Records		x							x				1	0
TSPS Tapes					x					x			0	1
Non-Published Customer Information						x				x			0	1
Market Trend Data						x				x			0	1
Bonded Rate Case Files							x			x			0	1
Toll Message History							x			x			0	1
Customer Credit Information								x			x		0	1
Employee Salary Data								x			x		0	1
Rate Tariffs												x	0	0
Published Customer Name & Address												x	0	0

Prepared By: _____ Date: _____ Approved By: _____ Date: _____