

SAF User Documentation : C2_TRMD Common Terms Definition Viewpoint

| Domain | Aspect | Maturity |
|--------|----------------------|---|
| Common | Taxonomy & Structure |  proposed |

Example

| # | △ Term | Synonyms | Description | Active Hyperlink |
|----|--|------------------|--|---|
| 1 |  Animal Behavior | ABC | Animal Behavior Classification | |
| 2 |  Combustion | | A combustion is a fast and exothermic oxidative reaction that releases heat, requiring an oxidizing agent to burn the fuel. In the case of a forest fire this oxidizing agent is the air in the atmosphere with the vegetation being the fuel. | |
| 3 |  Distress Signal | | A distress signal, also known as a distress call, is an internationally recognized means for obtaining help. Distress signals are communicated by transmitting radio signals, displaying a visually observable item or illumination, or making a sound audible from a distance. | |
| 4 |  Empirical Model | Empirical Models | Fully empirical models rely on statistical correlation between variables known to influence fire spread, such as wind speed, slope, and fuel moisture content, with field observations of rates of spread. Empirical methods are incorporated into the national operational models of fire spread used in Canada, the Canadian Fire Behavior Prediction Model (Forestry Canada Fire Danger Group, 1992), and in Australia, the McArthur grassland ... | |
| 5 |  Environment Interface | EIF | Environment Interface | |
| 6 |  Fire Detection | | It is essential to set up an effective surveillance network which allows to reduce the time between the ignition and the detection of the forest fire. It focuses particularly on all activities which can cause a fire. The surveillance is based on the combination of various observation and detection means, either mobile or fixed, terrestrial or aerial. The combination of the surveillance and the first intervention, performed by the same team having terrestrial ... | |
| 7 |  Fire Information | FIMS | Fire Information Management System | |
| 8 |  Forest Fire | FF | A forest fire involves combustion of organic material (fuel) that releases a large quantity of energy. The combustion energy is transferred from the burning fuel to unburned fuels ahead of the fire front. This phenomenon ensures the fire spread. The fire start depends on the flammability of the vegetation. The fire spread depends on a number of variables, including fuel characteristics (size, moisture content and arrangement), weather and topography. | |
| 9 |  Forest Fire Detection | FFDS | Forest Fire Detection System | |
| 10 |  Forest Fire Information | FFIM | Forest Fire Information Management | |
| 11 |  Forest Fire Information Management Control | FFIMC2 | Forest Fire Information Management Control Center | |
| 12 |  Forest Sensor Ecosystem | FSE | Forest Sensor Ecosystem | |
| 13 |  Geolocation | | Geolocation is the identification or estimation of the real-world geographic location of an object, such as a radar source, mobile phone, or Internet-connected computer terminal. In its simplest form, geolocation involves the generation of a set of geographic coordinates and is closely related to the use of positioning systems, but its usefulness is enhanced by the use of these coordinates to determine a meaningful location, such as a street address. | |
| 14 |  Human Interface | HIF | Human Interface | |
| 15 |  Physical Model | Physical Models | Physical models of fire spread estimate the flux between burning and unburned fuel in order to determine the rate of fire spread. The prevailing assumption of this approach is that all heat transfer involved in the combustion reaction satisfies the conservation of energy. The conservation of energy is expressed as an equation in the figure to the right. This equation states that, under steady-state conditions, the rate of fire spread, R , in m/s, is equal to the ratio ... | |
| 16 |  Remote Sensing | | Remote sensing is the acquisition of information about an object or phenomenon without making physical contact with the object, in contrast to in situ or on-site observation. |  https://en.wikipedia.org/wiki/...en... |
| 17 |  Smoke and Fire Detection | SFDS | Smoke and Fire Detection Software | |
| 18 |  System Interface | SIF | System Interface | |
| 19 |  Wireless Sensor Network | WSN | Wireless sensor networks refer to networks of spatially dispersed and dedicated sensors that monitor and record the physical conditions of the environment and forward the collected data to a central location. WSNs can measure environmental conditions such as temperature, sound, pollution levels, humidity and wind. | |

| # | Term | Synonyms | Description | Active Hyperlink |
|----|---|----------|---|---|
| 1 |  byte | octet | 8-bit binary integer in the range [0, 255] where the most significant bit is bit 7 and the least significant bit is bit 0 | |
| 2 |  byte order | | ordering of bytes for multi-byte data values | |
| 3 |  chromaticity | | pair of x and y values in the xyY space specified at [COLORIMETRY] Note: Chromaticity is a measure of the quality of a color regardless of its luminance. | |
| 4 |  composite (verb) | | form an image by merging a foreground image and a background image, using transparency information to determine where and to what extent the background should be visible Note The foreground image is said to be composited against the background. | |
| 5 |  datastream | | sequence of bytes | |
| 6 |  deflate | | member of the LZ77 family of compression methods |  https://www.rfc-editor.org/rfc/rfc1951 |
| 7 |  frame | | For static PNG, the static image is considered to be the first (and only) frame. For animated PNG, each image that forms part of the frame-based animation sequence is a frame. Thus, for animated PNG, when the static image is not the first frame, the static image is not considered to be a frame. | |
| 8 |  frame buffer | | the final digital storage area for the image shown by most types of computer display. Note Software causes an image to appear on screen by loading the image into the frame buffer. | |
| 9 |  fully transparent black | | pixel where the red, green, blue and alpha components are all equal to zero | |
| 10 |  gamma value | | value of the exponent of a gamma transfer function | |
| 11 |  gamma | | power-law transfer function | |
| 12 |  high dynamic range | HDR | an image format capable of storing images with a relatively high dynamic range similar to or in excess of the human visual system's instantaneous dynamic range (~12-14 stops). PNG allows the use of two HDR formats, HLG and PQ. | |
| 13 |  hybrid log-gamma | HLG | transfer function defined in [ITU-R-BT.2100] Table 5. (A relative scene-referred system) |  https://www.itu.int/rec/R-REC-BT.21... |
| 14 |  full-range image | | image where reference black and white correspond, respectively, to sample values 0 and $2^{(bit\ depth)} - 1$ | |
| 15 |  image data | | 1-dimensional array of scanlines within an image | |
| 16 |  interlaced PNG image | | sequence of reduced images generated from the PNG image by pass extraction | |
| 17 |  lossless | | method of data compression that permits reconstruction of the original data exactly, bit-for-bit | |
| 18 |  LZ77 | | data compression algorithm described in [Ziv-Lempel]. |  https://ieeexplore.ieee.org/do...0557... |
| 19 |  luminance | | perceived brightness of a colour Note Luminance and chromaticity together fully define a perceived colour. A formal definition of luminance is found at [COLORIMETRY]. | |
| 20 |  narrow-range image | | Image where reference black and white do not correspond, respectively, to sample values 0 and $2^{(bit\ depth)} - 1$ | |
| 21 |  network byte order | | byte order in which the most significant byte comes first, then the less significant bytes in descending order of significance (MSB LSB for two-byte integers, MSB B2 B1 LSB for four-byte integers) | |
| 22 |  perceptual quantiser | PQ | transfer function defined in ITU-R BT.2100 Table 4. (An absolute display-referred system) Note Only RGB may be used in PNG, ICTp is NOT supported. | |
| 23 |  PNG decoder | | process or device that reconstructs the reference image from a PNG datastream and generates a corresponding delivered image | |
| 24 |  PNG editor | | process or device that creates a modification of an existing PNG datastream, preserving unmodified ancillary information wherever possible, and obeying the chunk ordering rules, even for unknown chunk types | |
| 25 |  PNG encoder | | process or device which constructs a reference image from a source image, and generates a PNG datastream representing the reference image | |
| 26 |  PNG file | | PNG datastream stored as a file | |
| 27 |  PNG four-byte unsigned inte | | a four-byte unsigned integer limited to the range 0 to $2^{31}-1$. | |
| | | | Note The restriction is imposed in order to accommodate languages that have difficulty with unsigned four-byte values. | |
| 28 |  sample | | intersection of a channel and a pixel in an image | |
| 29 |  sample depth | | number of bits used to represent a sample value | |
| 30 |  scanline | | row of pixels within an image or interlaced PNG image. | |
| 31 |  standard dynamic range | SDR | an image format capable of storing images with a relatively low dynamic range of 5-8 stops. Examples include sRGB, Display P3, ITU-R BT.709 Note Standard dynamic range is independent of the primaries and hence, gamut. Wide color gamut SDR formats are supported by PNG. | |
| | | | | |
| 32 |  stop | | a change in scene light luminance of a factor of 2. | |
| 33 |  transfer function | | function relating image luminance with image samples | |
| 34 |  white point | | chromaticity of a computer display's nominal white value. | |
| 35 |  Cyclic Redundancy Code | CRC | type of check value designed to detect most transmission errors. Note A decoder calculates the CRC for the received data and checks by comparing it to the CRC calculated by the encoder and appended to the data. A mismatch indicates that the data or the CRC were corrupted in transit deflate-style compression method. | |
| | | | | |
| 36 |  zlib | | SOURCE: [rfc1950] Note Also refers to the name of a library containing a sample implementation of this method |  https://www.rfc-editor.org/rfc/rfc1950 |
| 37 |  Cathode Ray Tube | CRT | vacuum tube containing one or more electron guns, which emit electron beams that are manipulated to display images on a phosphorescent screen | |
| 38 |  Least Significant Byte | LSB | Least significant byte of a multi-byte value | |
| 39 |  Most Significant Byte | MSB | Most significant byte of a multi-byte value | |

Purpose

The Common Terms Definition Viewpoint supports the definition of applicable terms ... [tbd] ...

Applicability

The Common Terms Definition Viewpoint supports the[tbd] activity part of the... [tbd]... activities of the INCOSE SYSTEMS ENGINEERING HANDBOOK 2023 [§ tbd].

Presentation

A table format listing terms ...[tbd].

A table format listing abbreviations and relationship to standards if applicable... [tbd].

Stakeholder

- [Hardware Developer](#)
- [Mechanic Developer](#)
- [Software Developer](#)

Concern

- [What are the sources \(e.g. a standard\) of terms?](#)
- [Which terms and abbreviations are applicable to the system of interest or its system elements and their interfaces and interactions?](#)

Profile Model Reference

The following Stereotypes / Model Elements are used in the Viewpoint:

- [SAF_Term](#) contained in [SAF_Standard](#)
- [SAF_C2_TRMD_Table](#)
- [SAF_Standard](#)
- [SAF_Term](#)

Input from other Viewpoints

Required Viewpoints

none

Recommended Viewpoints

- [Common Standards Definition Viewpoint](#)