

**AFCTN Report
94-079**

**AFCTB-ID
94-036**



SGML Transfer Demonstration

Using:



Texas Instruments' Data

MIL-STD-1840A

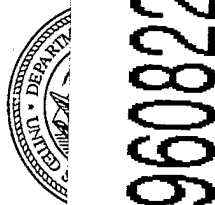


MIL-D-28000A (IGES)

MIL-M-28001A (SGML)

MIL-R-28002A (Raster)

MIL-D-28003 (CGM)



Quick Short Test Report

19960822 055

04 May 1994



Prepared for
Electronic Systems Center
Air Force CALS Program Office
HQ ESC/AV-2
4027 Colonel Glenn Hwy Suite 300
Dayton OH 45431-1672

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Quick Short Test Report

04 May 1994

Prepared By

Air Force CALS Test Bed
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Air Force CALS Test Bed

Notification of Test Results

04 May 1994

This notice documents the results of an Air Force CALS Test Bed (AFCTB) Quick Short Test Report (QSTR) evaluation of data submitted by:

Texas Instruments

Identified as follows:

Title:	SGML Transfer Demonstration
Program:	N/A
Program Office:	N/A
Contract No.:	N/A
QSTRNo.:	AFCTN-ID 94-036

Received on the following media: **9-Track Tape**

The results of the QSTR evaluation are as follows:

MIL-STD-1840A Standard	Fail
MIL-STD-1840A Media Format:	Fail
MIL-D-28000A IGES:	Fail
MIL-M-28001A SGML:	Pass
MIL-R-28002A Raster:	Fail
MIL-D-28003 CGM:	Fail

Formal results with associated disclaimer are documented and available from the AFCTB.

**Air Force CALS Test Bed
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1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-cycle Support (CALs) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALs standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALs initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Texas Instruments' interpretation and use of the CALS standards in transferring technical publication data. Texas Instruments used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 9-track magnetic tape.

The tape was part of the SGML transfer demonstration conducted by the AFCTB.

2. Test Parameters

Test Plan: AFCTB 94-036

Date of Evaluation: 4 May 1994

Evaluator: George Elwood
Air Force CALS Test Bed
DET 2 HQ ESC/AV-2P
4027 Colonel Glenn Hwy
Suite 300
Dayton OH 45431-1672

Data Originator: Mike Hurn
Texas Instruments
MS 8420
PO Box 869305
Plano TX 75086
(214) 575-3368

Data Description: Technical Manual Test
1 Document Declaration file
1 Document Type Definition (DTD)
1 Initial Graphics Exchange Specification (IGES) file
1 Text/Standard Generalized Markup Language (SGML) file
3 Raster files
3 Computer Graphics Metafile (CGM) files

Data Source System:

1840

HARDWARE

VAX VMS System
Sun Spark II Workstation

SOFTWARE

Texas Instruments (TI) *Tapetool*

IGES

HARDWARE

Unknown

SOFTWARE

Unknown

Text/SGML

HARDWARE

Sun Spark II Workstation

SOFTWARE

ArborText 4.3.1

Raster

HARDWARE

Unknown

SOFTWARE

Unknown

CGM

HARDWARE

Unknown

SOFTWARE

Unknown

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

AFCTN Tapetool v1.2.10 UNIX

XSoft CAPS/CALS v40.4

MIL-D-28000 (IGES)

HP 735

InterCAP X-Change v7.82

Sun SparcStation 2

Carberry CADLeaf Plus b3.1

IGES Data Analysis (IDA) IGESView v3.05

MIL-M-28001 (SGML)

SUN SparcStation 2

ArborText ADEPT v4.2.1

PC 486/50

Exoterica XGMLNormalizer v1.2e3.2

Exoterica Validator v2.0 ex1

SoftQuad Author/Editor v2.1

McAfee & McAdam Sema Mark-it v2.3

Public Domain sgmls

MIL-R-28002 (Raster)

HP 735

InterCAP X-Change v7.82

SGI Indigo2

AFCTN *xrastb.sgi*

IDA CALSView

SUN SparcStation 2

Carberry CADLeaf Plus v3.1

AFCTN *validg4*

IDA IGESView v3.0

MIL-D-28003 (CGM)

HP 735

InterCAP X-Change v7.82

SGI Indigo 2

IDA CALSView

SUN SparcStation 2

Carberry CADLeaf Plus v3.1

PC 486/50

Advanced Technology Center

(ATC) MetaCheck R 2.10

Standards

Tested:

MIL-STD-1840A

MIL-D-28000A

MIL-M-28001A

MIL-R-28002A

MIL-D-28003

3. 1840A Analysis

3.1 External Packaging

The tape arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a commercial overnight padded mailing bag. The exterior of the bag was not marked with a magnetic tape warning label, as required by MIL-STD-1840A, para. 5.3.1.3.

The tape was not enclosed in a barrier bag or barrier sheet material as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed the label indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Enclosed in the bag was a packing list showing all files recorded on the tape.

3.2 Transmission Envelope

The 9-track tape received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The tape was run through the AFCTN *Tapetool v1.2.10* utility. No errors were reported while evaluating the contents of the tape labels.

The tape was read using XSoft's *CAPS read1840A* utility with reported errors. The errors relate to the CALS Document Declaration file and are defined below.

The physical structure of the tape meets CALS MIL-STD-1840A and ANSI x3.27 requirements.

3.2.2 Declaration and Header Fields

Twenty-two errors and 32 Notes were found in the Document Declaration file and data file headers. The first error was in the Declaration file. The "filcnt" record had no value. This was also reported by the XSoft tape utility.

filcnt:

- *** ERROR (MIL-STD-1840A; 5.1.1.2) - Value missing after Document Declaration header field.
- *** NOTE - The header record will be given the value NONE.
- *** NOTE - Correction made in new Document Declaration Header File.

Because of the above error the AFCTN *Tapetool* made assumptions, which were wrong, and generated the following error for the remaining files.

txtfilid: W

- *** ERROR (MIL-STD-1840A; 5.1.4.1) - Invalid 'txtfilid:' value for product data. Expected => NONE
- *** NOTE - The header record will be given the value NONE.
- *** NOTE - Correction made in new Text Header File.

Because of the error in the filcnt record, this portion of the tape does not meet the CALS MIL-STD-1840A requirements.

4. IGES Analysis

The tape contained one IGES file. When this file was inspected, it was found to be incomplete. The file length should have been over 230K. The length off the tape was 1504.

4.1 Texas Instruments' Comment

Texas Instruments was contacted by the AFCTB about the graphic problem. Here is their response.

"Texas Instruments participated in 'only the SGML - Edna's story' portion of the demo. No graphics files were touched in any way by Texas Instruments.

I do not understand what may have caused the problems you indicate above. The tape sent to you was a 'new, never used before' 9 track tape.

Please check the SGML file and grade Texas Instruments only on the content of that one file."

This tape is a travelling tape and is part of a test of SGML capabilities. The text file is to be modified by each participant. The last tape received by the AFCTB was from ArborText and it had no reported errors. If the tape received by TI was a copy of the ArborText tape, no errors should have been found. A corrected tape with new graphic files will be provided to the next participant.

The IGES file does not meet the CALS MIL-D-28000A specification.

5. SGML Analysis

The tape contained one text file, one DTD, and one Format Output Specification Instance (FOSI) file. The AFCTB has several parsers available for evaluating submitted DTD and text files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. These products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings unless specified in the report.

The text and DTD files were evaluated using the Exoterica *Validator ex1* parser. No errors were reported.

The text and DTD files were tested using the Exoterica *XGMLNormalizer* parser. No errors were reported.

The text and DTD files were evaluated using McAfee & McAdam's *Sema Mark-it v2.3* parser. No errors were reported.

The text file was imported into ArborText's *Adept* software and published. A copy of the title page is included in Appendix B, Section 10 of this report. Note, the graphic files from the baseline AFCTB document were used because the graphic files from TI's tape were usable.

The SGML file meets the CALS MIL-M-28001A specification.

6. Raster Analysis

The tape contained three Raster files. All files were evaluated using the AFCTN *validg4* utility. This program reported all three files failed to meet the CALS MIL-R-28002A specification.

While checking the files, it was noted that the files were not complete. Tape marks were noted within the files. See TI's comments above.

7. CGM Analysis

The tape contained three CGM files. The files were evaluated using ATC's *MetaCheck* with CALS options which reported the files in error. Visually inspection indicated the files were corrupted. Tape marks and other character strings were found within these files. See TI's comments above.

The CGM files do not meet the CALS MIL-D-28003 specification.

8. Conclusions and Recommendations

The tape from Texas Instruments had a critical error. All of the graphic files were corrupted. The Document Declaration file had an error in the filcnt record, which caused additional errors to be reported. This portion of the tape does not meet the CALS MIL-STD-1840A requirements.

All graphic files were found to be corrupted. The files contained tape marks and other text and binary strings of data. The IGES, Raster, and CGM files do not meet the CALS specifications.

The text, DTD, and FOSI parsed without a reported error. The SGML files meet the CALS MIL-M-28001A specification.

The tape does not meet the CALS MIL-STD-1840A requirements, due to the error in the Document Declaration file and the graphic files.

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog

CALS Test Network Catalog Evaluation - Version 1.2; Release 10 (C)

Standards referenced:

- MIL-STD-1840A (1987) - Automated Interchange of Technical Information
- ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
for Information Interchange
- ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Tue May 3 08:36:49 1994

MIL-STD-1840A File Catalog

File Set Directory: /cals/u1210/Set066

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D001T001	Text	D/00260	02048/000029	Extracted
D001G002	DTD	D/00260	02048/000019	Extracted
D001H003	Output Specification	D/00260	02048/000041	Extracted
D001R004	Raster	F/00128	02048/000020	Extracted
D001R005	Raster	F/00128	02048/000028	Extracted
D001C006	CGM	F/00080	00800/000268	Extracted
D001C007	CGM	F/00080	00800/000110	Extracted
D001Q008	IGES	F/00080	02000/000002	Extracted
D001R009	Raster	F/00128	02048/000060	Extracted
D001C010	CGM	F/00080	00800/000351	Extracted

Catalog Process terminated normally.

9.2 Tape Evaluation Log

CALS Test Network Tape Evaluation - Version 1.2; Release 10 (C)

Standards referenced:

ANSI X3.27 (1987) - File Structure and labeling of Magnetic Tapes
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Tue May 3 08:36:11 1994

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1CAL501

TI-TAPETOOL

4

Label Identifier: VOL1

Volume Identifier: CALS01

Volume Accessibility:

Owner Identifier:

Label Standard Version: 4

HDR1D001

CALS0100010001000000 94112 00000 000000TI-TAPETOOL

Label Identifier: HDR1

File Identifier: D001

File Set Identifier: CALS01

File Section Number: 0001

File Sequence Number: 0001

Generation Number: 0000

Generation Version Number: 00

Creation Date: 94112

Expiration Date: 00000

File Accessibility:

Block Count: 000000

Implementation Identifier: TI-TAPETOOL

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

End of Volume CALS01

End Of Tape File Set

Deallocating /dev/rmt0...

Tape Import Process terminated normally.

9.3 Tape File Set Validation Log

CALS Test Network File Set Evaluation - Version 1.2; Release 10 (C)

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information

Tue May 3 08:36:49 1994

MIL-STD-1840A File Set Evaluation Log

File Set: Set066

Found file: D001

Extracting Document Declaration Header Records...

Evaluating Document Declaration Header Records...

srcsys: Texas Instruments P.O.Box 869305 Plano, TX 75086

srcdocid: Air

srcrelid: NONE

chglvl: ORIGINAL

dteis: 19940412

dstsys: Boeing Defense and Space Group Product Support Division P.O. Box 7730 Wichita,
Kansas 67277-7730

dstdocid: Air

dstrelid: NONE

dtetrn: 19940422

dlvacc: NONE

filcnt:

*** ERROR (MIL-STD-1840A; 5.1.1.2) - Value missing after Document Declaration
header field.

*** NOTE - The header record will be given the value NONE.

*** NOTE - Correction made in new Document Declaration Header File.

ttlcls: UNCLASSIFIED

doccls: UNCLASSIFIED

doctyp: Product Data

docttl: NONE

1 error(s), 0 warning(s), and 2 note(s) were encountered
in Document Declaration File D001.

Found file: D001T001

Extracting Text Header Records...

Evaluating Text Header Records...

srcdocid: Air
dstdocid: Air
txtfilid: W
*** ERROR (MIL-STD-1840A; 5.1.4.1) - Invalid 'txtfilid:' value for
product data. Expected => NONE
*** NOTE - The header record will be given the value NONE.
*** NOTE - Correction made in new Text Header File.
doccls: UNCLASSIFIED
notes: SGML

1 error(s), 0 warning(s), and 2 note(s) were encountered
in Text File D001T001.

Saving Text Header File: D001T001_HDR
Saving Text Data File: D001T001_TXT

Found file: D001G002
Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: Air
dstdocid: Air
notes: DTD

Saving DTD Header File: D001G002_HDR
Saving DTD Data File: D001G002_DTD

Found file: D001H003
Extracting Output Specification Header Records...
Evaluating Output Specification Header Records...

srcdocid: Air
dstdocid: Air
notes: FOSI

Saving Output Specification Header File: D001H003_HDR
Saving Output Specification Data File: D001H003_OS

Found file: D001R004
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: Air
dstdocid: Air
txtfilid: W
*** ERROR (MIL-STD-1840A; 5.1.4.4) - Invalid 'txtfilid:' value for
product data. Expected => NONE
*** NOTE - The header record will be given the value NONE.
*** NOTE - Correction made in new Raster Header File.

figid: NONE
srcgph: fig1
*** ERROR (MIL-STD-1840A; 5.1.4.4) - Invalid 'srcgph:' value for
product data. Expected => NONE
*** NOTE - The header record will be given the value NONE.
*** NOTE - Correction made in new Raster Header File.
doccls: UNCLASSIFIED
rtype: 1
rorient: 000,270
rpelcnt: 000668,000990
rdensty: 0200
notes: NONE

2 error(s), 0 warning(s), and 4 note(s) were encountered
in Raster File D001R004.
Saving Raster Header File: D001R004_HDR
Saving Raster Data File: D001R004_GR4

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

Found file: D001C010
Extracting CGM Header Records...
Evaluating CGM Header Records...

srcdocid: Air
dstdocid: Air
txtfilid: W
*** ERROR (MIL-STD-1840A; 5.1.4.5) - Invalid 'txtfilid:' value for
product data. Expected => NONE
*** NOTE - The header record will be given the value NONE.
*** NOTE - Correction made in new CGM Header File.
figid: NONE
srcgph: sgmlmap
*** ERROR (MIL-STD-1840A; 5.1.4.5) - Invalid 'srcgph:' value for
product data. Expected => NONE
*** NOTE - The header record will be given the value NONE.
*** NOTE - Correction made in new CGM Header File.
doccls: UNCLASSIFIED
notes: NONE

2 error(s), 0 warning(s), and 4 note(s) were encountered
in CGM File D001C010.
Saving CGM Header File: D001C010_HDR
Saving CGM Data File: D001C010_CGM

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...

*** ERROR (MIL-STD-1840A; 5.1.1.2) - Actual CGM File Count does not match filcnt record. Actual => 3, Expected => 0.
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Actual DTD File Count does not match filcnt record. Actual => 1, Expected => 0.
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Actual Output Specification File Count does not match filcnt record. Actual => 1, Expected => 0.
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Actual IGES File Count does not match filcnt record. Actual => 1, Expected => 0.
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Actual Raster File Count does not match filcnt record. Actual => 3, Expected => 0.
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Actual Text File Count does not match filcnt record. Actual => 1, Expected => 0.
*** NOTE - Correction made in new Document Declaration header file.
6 error(s) were encountered during file count verification.
File Count verification complete.

A total of 22 error(s), 0 warning(s), and 32 note(s) were encountered in Document D001.

A grand total of 22 error(s), 0 warning(s), and 32 note(s) were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

9.4 XSoft Tape Log

```
/cals/caps/Bin/read1840A: --- Read declaration file 'D001      ' ---
/cals/caps/Bin/read1840A: writing data file 'aftb9436/Air/W.T.sgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb9436/Air/Air.G.dtd'.
/cals/caps/Bin/read1840A: writing data file 'aftb9436/Air/Air.H.out'.
/cals/caps/Bin/read1840A: writing data file 'aftb9436/Air/fig1.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'aftb9436/Air/wire.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'aftb9436/Air/igesmap.C.cgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb9436/Air/seal.C.cgm'.
/cals/caps/Bin/read1840A: writing data file 'aftb9436/Air/hook1.Q.igs'.
/cals/caps/Bin/read1840A: writing data file 'aftb9436/Air/topg.R.cci'.
/cals/caps/Bin/read1840A: writing data file 'aftb9436/Air/sgmlmap.C.cgm'.
-- declaration file indicates 0 files of type T
-- declaration file indicates 0 files of type G
-- declaration file indicates 0 files of type H
-- declaration file indicates 0 files of type Q
-- declaration file indicates 0 files of type R
-- declaration file indicates 0 files of type C
-- declaration file indicates 0 files of type X
-- declaration file indicates 0 files of type P
-- declaration file indicates 0 files of type Z
*** WARNING: Declaration file indicates 0 SGML files, but tape contains 1 files.
*** WARNING: Declaration file indicates 0 DTD files, but tape contains 1 files.
*** WARNING: Declaration file indicates 0 Output Specification files, but tape
contains 1 files.
*** WARNING: Declaration file indicates 0 IGES files, but tape contains 1 files.
*** WARNING: Declaration file indicates 0 Raster files, but tape contains 3 files.
*** WARNING: Declaration file indicates 0 CGM files, but tape contains 3 files.
```

10. Appendix B - SGML

10.1 Front Cover

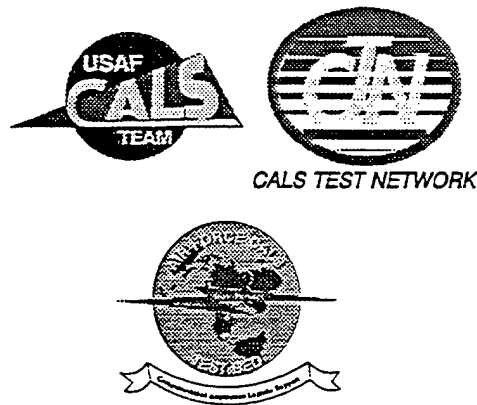
EXPO92 DEMO

TECHNICAL MANUAL

Sample Text

IGES TRANSFER MANUFACTURING DEMONSTRATION SGML TRANSFER DEMONSTRATION

Air Force CALS Test Bed
SGML Transfer Demonstration



DISCLAIMER: Neither the United States Government or Air Force nor any of their employees, makes any warranty for accuracy or usefulness of any apparatus, product, or process used to create this test document. Reference herein to any specific commercial products, process, or service by trade name, trademark manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or the Air Force.

15 February 1993

10.2 Edna's Story

CHAPTER 3

The SGML Transfer Story

3.1 Part One - The Start

It was a dark and rainy night. Edna sat in front of her computer terminal, lines of care etched into her young, care-worn face. Knowing full well, even as she began to enter her confession into the IWSDB, that she would be subject to questions from higher authority, maybe even the MAISRC. She crouched over her care-worn keyboard and started to enter her tale. She had agonized long and hard before making this decision, fearing the wrath of the CALS ISG committee on The Suppression of Overblown Phrases. Finally she began to type the name(s) of the guilty person(s). Just as she was about to run a spell check on the list(s) of government(s) agencies a shadow appeared from over her shoulder, blanking out the blanked-out portion of the screen and she knew that the guilty person(s), or significant other(s), was about to stop her from continuing her expose, or at least preventing her from saving it to the B drive. She emitted a high-pitched scream and then, after being bound and gagged and her password removed, she started to tell her amazing story to her captor(s).

Each company/organization will add one or two paragraphs to the story. Graphics may be added but the total contribution is not to exceed one page. Change the title to reflect the name of your company/organization and continue the story.

3.2 Part Two - Edna Begins Her Story. By US Lynx

"Last fall there were persistent rumors about a shadowy SGML initiative code-named PEDS. No one was sure who was sponsoring the research, but a 'Deep Throat' kind of character called me one day to say that the system was undergoing a trial during a hot congressional race in Washington state. He said I could find out more about PEDS, which 'Throat' said stood for Political Exaggeration Detection and Sampling system, during an environmental rally in the Cascades. I thought I had to be there.

"Tempers were high at the rally, because a "Wise Use" pro-clearcutting group had shown up. As I was fighting my way through the screaming crowd, I saw a mousy woman suddenly appear as if from nowhere. The crowd parted to let her pass, a few "Wise Users" snickering, the environmentalists watching in awe. My God, it was the Log Lady!

"And she was cradling not a real branch, but a compressed sawdust fireplace log, like the ones city folks buy for their very expensive fireplaces. Trailing behind the Log Lady was a faint aura, at the edge of which I thought I saw the sweep of an ermine cape.

"She came straight to me and looked searchingly into my eyes. 'I sense you work for the government. Let me tell you what's been happening since the Twin Peaks crew left me in the woods with that owl,' she began. I asked, 'Does it involve that nebulous shape standing behind your shoulder?' 'You must be psychic,' she whispered with rising excitement. 'Two weeks ago, in the woods, I was visited by an apparition of Elvis, and he hasn't left me alone since then.' Ba-ba-booeey!

"A sudden rush of wind trembled the trees. I couldn't suppress a shiver. For the past few months reports had come to my office of dead Elvises appearing to cows throughout the Midwest and upsetting their milk production by crooning 'Love Me Tender' for hours. And here was another Elvis. Ba-ba-booeey!!!

"The Log Lady lowered her voice conspiratorially and told me that Elvis had been warning her about a little man with big ears from Texas and his sidekick Yimbo. (I knew that Yimbo and he reminded me less of Tonto than Gomer.) 'He has something to do with what Elvis calls PEDS or PEZ - some kind of electronic response system - and has a DDT or DTD that he's fiddling with.' But there her information ended. The rally seemed to go on forever and not even when Willie Nelson gave us a ten-song set did anyone else approach me. I felt frustrated, night had fallen, and I told the Log Lady I needed to leave. She (and Elvis) wanted a ride down the road. Back at my rented 4X4 Log Lady and Elvis had a brief scuffle over who got to sit in front; Log Lady won.

"Her (their) motel was positively Batesian. Log Lady didn't take to brief goodbyes, and I guess my impatience was showing because suddenly she seemed to melt into mist before my eyes. I blinked but she was really gone. And Elvis? Sitting in the dark back seat grinning a little. He said, 'Just a sample of virtual reality projection with a psychological kicker added; you wanted to see her.' And he too began to fade, until all one saw was that famous Cheshire cat grin (the stamp!). Oh Elvis, you cyber-chunk, I thought.

"I was about to speed away, but I noticed something glowing on Elvis's seat. I picked it up and saw it was a cassette labeled 'Unpublished Beatles Songs.' Was this Elvis' secret taste in music or did this unpublished Beatles song hide a secret about the PEDS project, like 'Revolution Number Nine' played backward? Why was Elvis appearing all over the country and why was he projecting out the Log Lady, with her warnings about the dwarf from Dallas? What did this dwarf know about the secret PEDS project and who was running it? Questions and more questions. For answers, I leaned forward to push the tape into the player. Something hit me from behind and I blacked out."

3.3 Part Three - Blood, Blood, and more...Blood, by Data Conversion Laboratory

I came to slowly, dried blood sticking my eyeballs to the steering wheel. I pulled back slowly, my vision was a bit foggy, but I could make out the huge blood stain on the cassette player, the seat cushion, and the still semi-viscous blood puddle on the dash.

Blood dripped from the already-coming-loose-again-ceiling fabric, and it dripped from the door handles and window buttons, and it felt wet and dry, and wet and dry on my stomach where my blood soaked crew-neck shirt blew back and forth in the slight breeze.

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My first thoughts were, is this my blood? Where did I get all this blood? I don't recall having that much blood. And if not my blood, whose?

As my vision started clearing up, I began to notice something strange. The blood stain on the seat cushion had formed what appeared to be a numeric string. Two of the digits were hard to make out, but as the blood dried, it became obvious to me that the number 38784 appeared on the seat. Still partially dazed, I thought to myself that I'd seen that number before, but couldn't remember where or when. But deep in my gut I knew that this was the key that would help me answer my continually growing list of questions.

3.4 PART FOUR — MEANING IN "38784". BY INTER-LEAF

38784 — is it a mystical pattern of digits, or a holistic grouping? Is there meaning revealed in the image appearing after all that blood?

What is the meaning of the patterns in the digits? left middle right: thrice seven times four is 84, just how 38784 concludes. That repetition and redundancy could well be a checking scheme to make sure that no information is lost in presentation. Now we have left the interiors: more repetition, both eights. A common financial reporting system uses fractions of eights. Could that be shorthand for 3/8 and 7/8? Perhaps that reappearing of the eights is symbolic of Elvis's reported reappearing? Or in even times: The product of the evens, eight times eight times four is 128. That's America's Technological Highway in Massachusetts. Isn't that a natural linkage? The Log Lady appears here as well using those even digits log base four of 8 times 8 is 3. Isn't that odd? Speaking of odd, the sum of the odd three plus seven is ten, whose prime factors complete the primes up to ten: 3 7 2 5. How many primes are there there: just four, another use of that last digit. How many Elvises are there? The most telling is the double reversal of direction: first reversal (about the 7) is 48783. Then 48783 minus 38784 is 9999. The second reversal of 9999 about their horizontal middle gives 6666. Four sixes again reversing the first and last digits of 38784 is just three sixes. Everyone knows that that 666 is code for the devil, just as the devil is lived reversed. I note that the blood darkens, and where the 38784 had formed, now a hole appears.

I now explore that dark hole. Perhaps the meaning of that darkening and disappearing of the 38784 is holistic. The insight from the numerology suggest some vision, some interpretation, some structure, some formalities. Perhaps there is a combination of visual information, extensive narrative information to generalize what just shakes out of those visuals, and some formalisms that try to make "still clearer" those visions through what seem to be never-ending "Fantastic Odes Suggesting Indiscretions", or FOSIs for short. There is need for an unlimited number of Elvises to forever come up with new variations by just shake, rattle, and rolling through the unending records of FOSIs. I must find where that dark hole called 38784 actually is. so I can again approach an Elvis. I wonder which one? I wonder how many odes can come from one Elvis?

3.5 Part FIVE - Possessed by ELVIS

"Honey, wake up," echoed the distant voice in my head. Hands tugging at my nightshirt. "You're having that nightmare again", the voice said louder! Protesting loudly, grunting and finally groping for the Mickey Mouse watch on my bed stand, I find the lamp switch and Mickey at the same time. The glow of light paralyzes my eyes as I struggle to sit up. Glancing at Mickey, horror seizes me. In an instant, i blink and the image of Mickey with sideburns in a white polyester bell bottom jump suit vanishes. It's 1:50 a.m. "Whew, it was just a dream" I say out loud partly to myself and partly to the already-snoring lump next to me. Stepping into my tattered bunny slippers and pulling on my "Barney" bathrobe, I turn off the light and thumper silently down the stairs, through the living room toward the den.

The den is lit by the white static of the TV, casting out radiant bursts of light in all directions. The room is silent except for the tic-toc of the clock on the far wall. In the corner, hidden in the darkness, shadows dance on the newest addition to the family: the ELectronic Vesatile Imaging System (ELVIS) and it's subsystem, the Optical Display Editing System (ODES).

My pulse quickens as I cross the room. Perspiration forms at my temples. My hands feel clammy. "Welcome to ELVIS!" says the device as it comes to life at my command. Cautiously, I sit. ELVIS' subsystems come on-line one at a time. ELVIS instructs, "For Optical interaction, lift and attach the ODES headset." Trembling, I put on the headset and the monitor shuts down, the keyboard vanishes into the darkness. I lookup into the pulsating rainbow in front of my eyes and realize I've been transformed into another place, possibly another time. Visions from my past flash before my eyes. I think "STOP" and an image freezes before my eyes. I think "I wish it would move slowly", and it does. Images from my life appear in a seemingly random pattern, each evoking the same emotions as when the event originally happened, only stronger, more intense. Reliving each experience is far more difficult now.

Tired with the past, I ask myself "what about the future?" The buffet of imagery vanishes. "Nooooooo", I scream, but they're gone instantly. Gone is the headset. ELVIS is missing. So are the ODES. I cradle my head in my hands. As my hands meet my face, I stand and face the horrid image in the mirror. I crumble, falling to my knees. Sobbing, I realize those sideburns are mine. So is the white polyester bell-bottom jump suit and the platform shoes!

3.6 Part Six - Edna and the Dark Side of CALS. By Texas Instruments

Edna was having trouble getting the words out of her mouth. "It must have been the SGML," she said. "Everyone of the vendors at CALS EXPO93 promised me so much." "They all promised me it would be so easy!" Edna paused and continued, "Well, DTDs were much harder to master than anyone ever indicated that it would be!" "And finally, I can't lie, it was the FOSI that finished me off." "FOSIs are two or three times as complex as DTDs and surely were the work of a group of madmen!" "The FOSI broke my spirit!" Edna cried softly as the chuckling ISG storm troopers from the Electronic Publishing Committee led her away.

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Meanwhile, two figures standing in the shadows slowly moved into the light. One turned to the other and said, "Too bad Edna cracked." "If she could have only held on until DSSSL arrived; perhaps, formatting CALS documents would have been easier." The second figure bent backward in uncontrollable laughter and responded, "You've got to be kidding?" "Look at our hidden agenda and you will see document transfer will never be easy!" The two shadowy figures slowly read the agenda listing.

1. Make DTDs difficult to interpret.
2. Permit DTD fragmentation to further complicate comprehension.

3. Make FOSIs at least twice as difficult and complex as DTDs.
4. Don't permit DSSSL ease of use to exceed that of the FOSI.
5. Above all else, don't make it easy on the end user!

Now both laughing, the two dark shapes merge again into the shadows. At the other end of the hall, Edna screamed out "The FOSI made me do it!" one last time as the ISG storm troopers pulled her inside her cell.

3.7 Part Seven

Continue the saga here if you dare