

MMS Generations Database Description for TetraData

2/22/06

I. Introduction:

This document provides general background information on the contents and structure of an MMS Generations database. It focuses on the information pertinent to the following sets of data:

- Student Demographic
- Student Address/Contact Information
- School and Database Configuration Information
- Course Data
- Master Schedule
- Student Daily Attendance
- Student Class Attendance
- Student Scheduling
- Student Grade Reporting
- Student Discipline

In most cases, this document does not provide the structure for individual tables – table structures have been provided in separate documents – rather, it focuses on the conventions for storing and retrieving data from the database, and on the relations among the various tables.

II. General Description of MMS Generations Database:

- The MMS Generations database is a collection of over 80 Visual FoxPro version 8.0 tables.
- With a few exceptions, each table in the database has a 7-character name and a '.DBF' extension. (Note that VFP 8.0 tables may also have associated files with .FPT and/or .CDX extensions. The FPT files hold the data associated with memo fields in the DBF. The CDX files hold table indexes. You should not ever need to access either of these two types of file.)
- Each table name is made up of a 4-character prefix, followed by a 3-digit database code. All tables in a given database will have the same database code. So, for example, for database code 011, some standard MMS table names would be CATV011.DBF, EMFV011.DBF, CONV011.DBF, and so on.
- Each table in the database can hold records for multiple schools and multiple school years.
- With one or two exceptions that are not relevant here, each record in each table includes a field named **SCH_CODE**. This is a 3-character field that holds the code of the school to which the record belongs. CRLLC pre-assigns the school codes. When a user creates a database he or she can 'activate' it for any school covered by their license. From that point on, every record added to the database for a given school gets the assigned school code.

Clients who have purchased a license for more than one school can configure their databases in any manner they choose. They can combine multiple schools in a single database or create a separate database for each school. No matter how they configure it, the key for accessing records for a given school is to filter on the proper school code.

- Each table in the MMS database also includes a field named **SCH_YEAR**. This is a character field with a length of 5. All records in the database for a given school year will have the same value in this field.

School years are most commonly recorded in the form YY-YY. For example, the school year code for 2005-06 is **05-06**; for 2004-05, it's **04-05**. When accessing records from the MMS database, you will need to filter on the appropriate school year as well as school code.

Note: *the MMS does offer an alternative labeling convention for school years. Users may also choose to assign school year labels where the first two characters are the starting year, as above, and the last two characters are a term label. For example, for the 2003-04 school year, a school could choose*

the labels 03-S1, 03-S2, 03-T1, 03-T2, 03-T3, 03-T4, 03-T5, 03-T6. This option is very rarely used. The purpose is to let schools treat terms or semesters as separate school years.

- A utility to read data from the MMS database must be certain to select records from the proper school and school year.

The following sections describe the tables that hold the various student, course and system configuration data elements of interest to TetraData.

III. Table Descriptions:

Reminder: each table may contain records for multiple schools and/or multiple school years. Schools are distinguished by the SCH_CODE field; school years are distinguished by the SCH_YEAR field.

1. Student Demographic Information:

Most of the significant elements are found in a table with an 'EMFV' prefix, e.g., EMFV111.DBF. The EMFV tables normally hold 76 pre-defined fields (the first 76 fields in the table description document "Student-Biographical." Users may define and add fields for their own use, up to the table limit of 255 fields.

MMS may add fields required for state reporting purposes as well. the MMS database holds two additional student demographic tables, beginning with the prefixes EMAV and EMBV. These tables will always hold 4 pre-defined fields: ID_NUMBER, SCH_CODE, SCH_YEAR and UNIQKEY.

Beyond those 4 fields, the remainder of each table (up to 255 fields each) may be used for the user for user-defined fields, or may be allocated by MMS for fields required for state reporting purposes.

The ID_NUMBER field in the EMFV table serves as the key field for all student-based tables in the database. All ID_NUMBER fields in all other student-based tables refer back to the ID_NUMBER found in the EMFV table.

There is one additional field in the EMFV table you need to pay attention to. The field name is EMF_FLAG, and it holds an Active/Inactive designation for the student. It is a Character field with a length of 1. The possible values are "A" and "I". In downloading schedule information, you should disregard any student with an EMF_FLAG value of "I".

2. Student Address and Contact Information:

This information is kept in a table with a CONV prefix (see document "Address-Contact"). Apart from the actual contact information, which should be fairly self-explanatory, the key fields in this table are:

ID_NUMBER
CON_TYPE
SCH_CODE
SCH_YEAR

Each student in the EMFV table may have up to 9 contact records in the Address and Contact information table. The contact type records are identified by the CON_TYPE field, which may have values ranging from 'C1' to 'C9.'

The school determines how many contact records to allocate in the School-Database Configuration table (CFGV). All students in a given school and school year will have the same number of contact records.

The ID_NUMBER, SCH_CODE and SCH_YEAR fields are used to relate a student contact record to the student record in the EMFV table.

3. School and Database Configuration Information:

This information is kept in a table with a CFGV prefix. Like most tables in the database, this table can contain records for multiple schools and school years. The record for a given school and school year is identified by the SCH_CODE and SCH_YEAR fields.

Key fields in this table include:

NCONTACTS: the number of contact records allocated for each student in the student address-contact table (CONV).

MAXDAYS: the number of days in the schedule week. The range is 1 to 14.

DAYSPATT: the labels the user has chosen to apply to each day. Note that internally, MMS labels the days with the letters from A through N. Users may assign their own labels for each day, and these labels are used on all user reports.

MAXPDS: the number of periods in the schedule day. Periods are stored internally as character codes from 1 to 99, but are displayed with the user's labels, from the PDALBELS field.

4. Course Information Data Elements (Course Catalog Table):

These key fields are found in a table with a 'CATV' prefix, e.g., CATV111.DBF.

Field Name	Field Description	Type	Length
CRS_CODE	Course Number	Character	12 (alphanumeric)
CRS_NAME	Course Description	Character	18
CRS_CREDIT	Credit Hours	Numeric	7 (max 999.9999)

5. Section Information Data Elements (Course Section Table):

These fields are found in a table with an 'SECV' prefix, e.g., SECV111.DBF. This table holds master schedule information.

Field Name	Description	Field Type	Length	Notes
CRSE	Course Code	Character	12	This field relates to the CRS_CODE field in the CATV table.
SCTN	Section Code	Character	4	
SECT_NAME	Section Name	Character	18	
SEM_CODE	Semester Code (MMS internal semester code)	Character	2	The values in this field range from A through X. They relate to the TRM_CODE field in the Term Definition Table (TRMV). See additional notes below.
DAYS	Meeting Days (max 14 days, labeled A through M)	Character	14	
STARTPD	Section Beginning Period	Character	2	
STOPPD	Section Ending Period	Character	2	
MAX	Maximum Seat Enrollment	Character	3	
ENR	Current Seat Enrollment	Character	3	
ROOM	Room	Character	6	
TCHR_NO	Teacher	Character	4	
SPLIT	Section Link Code (E=End C=Continue)	Character	1	The meeting patterns for some sections cannot be expressed in a single line. For example, a lab section may meet MTWF period 1, and R periods 1 and 2. In the MMS, these types of patterns are handled by adding another line to the section. The field SPLIT indicates whether there is an

				additional line for a section. A value of 'C' indicates that the section information continues on another line (with the same course and section code). A value of 'E' indicates that this is the last line for the section. There is no limit to the number of lines that may be used for a section, although more than 3 or 4 is very uncommon.
PRIORITY	Scheduling Priority (N=Normal L=Low)	Character	1	
SCH_YEAR	School Year	Character	5	
SCH_CODE	School Code	Character	3	
GRD_PLAN	Grade plan for this section	Character	3	
CMPTR_MADE	True if section was build by the ASB	Logical	1	
OMITCLATT	True if section not included in class attendance processing	Logical	1	
ISTRANSFER	Transfer Course Flag	Logical	1	
UNIQKEY	Unique Key Identification Integer	Integer	4	

Notes on SEM_CODE Field:

This field indicates the term meeting pattern for the section. MMS supports up to 24 terms. The internal code range is A through X. With MMS Generations, the user has a great deal of flexibility in determining the number and meaning of term definitions. Users can choose default setups for semester, trimester, 4-quarter or 6-term patterns

The table below indicates the default setups for each of these common term configurations:

Internal Code	Semester Setup	Trimester Setup	4-Quarter Setup	6-Term Setup
A	Year	Year	Year	Year
B	Semester 1		Semester 1	Semester 1
C	Semester 2		Semester 2	Semester 2
D		Trimester 1	Quarter 1	Term 1
E		Trimester 2	Quarter 2	Term 2
F		Trimester 3	Quarter 3	Term 3
G			Quarter 4	Term 4
H				Term 5
I				Term 6

However, the above setups are simply available defaults that the user may choose. There is no rule that internal term code 'A' signifies a full-year term. The user is free to modify the definitions and to add non-standard terms. Schools may define mini-terms, terms meeting over non-contiguous spans of weeks, summer school terms, and so on. The actual definition for each semester code is found in the term definition table (TRMV – e.g., TRMV111.DBF). The key fields in the TRMV table are discussed in the next section.

6. Term Definition Table:

This table holds the list of term definitions used by the school. Each term record contains an internal MMS code (range A through X) and a term label that is used for reports and editors. In addition, each term record may hold up to 4 spans of starting and ending weeks and dates. A given term may meet for non-consecutive spans of weeks – for example, the user may define a term that meets for quarter 1 and quarter 3, but not quarters 2 or 4.

Field Name	Description	Field Type	Length
TRM_CODE	Term Code used internally by the MMS. This value relates to the SEM_CODE field in the course/section table. The range is 'A' through 'X', for a total of 24 possible term codes. The term label (see TRM_DCODE below) for a term may change; the internal code is always used for reference.	Character	2
TRM_DESC	Term Description	Character	24
TRM_DCODE	Term Label: this is the value that appears on reports and editors. For example, internal TRM_CODE 'A' might commonly have a label of 'YR'.	Character	3
STARTW1	Start Week of Term Span 1. All term starting and ending weeks are integers ranging from 1 to 48. They do not correspond to calendar weeks in any way; rather they are used to determine when terms overlap or are independent – e.g., a course section scheduled for a term that meets weeks 1 through 36 will overlap (and therefore conflict with) a section that meets weeks 19 through 36. Terms may use up to 4 spans of starting and ending weeks. In the sample file (trmv099) term code N ('Q13') meets weeks 1 through 9 and 19 through 27.	Numeric	2
STARTD1	Start Date of Term Span 1. This is the first calendar date for the term. This, and its related fields, will be critical for you to know whether a course/section meets on a given day of the year.	Date	8
STOPW1	Stop Week of Term Span 1	Numeric	2
STOPD1	Stop Date of Term Span 1	Date	8
STARTW2	Start Week of Term Span 2	Numeric	2
STARTD2	Start Date of Term Span 2	Date	8
STOPW2	Stop Week of Term Span 2	Numeric	2
STOPD2	Stop Date of Term Span 2	Date	8
STARTW3	Start Week of Term Span 3	Numeric	2
STARTD3	Start Date of Term Span 3	Date	8
STOPW3	Stop Week of Term Span 3	Numeric	2
STOPD3	Stop Date of Term Span 3	Date	8
STARTW4	Start Week of Term Span 4	Numeric	2
STARTD4	Start Date of Term Span 4	Date	8
STOPW4	Stop Week of Term Span 4	Numeric	2
STOPD4	Stop Date of Term Span 4	Date	8

TWEEKS	Total Weeks in Year: this indicates the total number of weeks available for term definitions; range is 1 – 48.	Numeric	2
DFT_GPLAN	Default Grade Plan?	Character	3
SCH_YEAR	School Year: this is a 5-character field in the form '05-06'.	Character	5
SCH_CODE	School Code	Character	3
FREETERM	True if free time maintained for this Term	Logical	1
UNIQKEY	Unique Key Identification Integer	Integer	4

7. Teacher Demographic Information:

These elements are found in a table with a 'TCHV' prefix, e.g., TCHV111.DBF.

Data Element	Field Name	Type	Length
Teacher ID	ID_NUM	Character	4 (this field relates to the TCHR_NO field in the Course Section Table – SECV.)
Teacher Name	TCHR_NAME	Character	14 (This field is used on most MMS reports that include teachers. All users will put information here. Users may also record teacher first, last and middle names in the fields listed below. These would be used on reports such as mailing labels.)
Last Name	TCHLAST	Character	16
First Name	TCHFIRST	Character	12
Middle Initial	TCHMIDDLE	Character	12

8. Student Daily Attendance Information:

Three tables are key to interpreting student daily attendance information:

- Student Entry-Withdrawal Table (prefix ATMV)
- Student Daily Attendance Table (prefix ATNV)
- Daily Attendance Code Table (prefix (CDEV)

Student Entry-Withdrawal Table:

This table defines the student's membership record. The table layout is found in the 'Student-EWR' document. A student may have multiple records within the same school and school year – this would happen, for example, when a student enters on September 5, withdraws on November 10, and re-enters on December 11. There is no limit on the number of entry/withdrawal records a given student may have.

The key fields in this table are:

- ID_NUMBER relates to the student ID in the EMFV table
- ENT_DATE entry date
- ENT_CODE entry code
- WTH_DATE withdrawal date (may be empty if student has not withdrawn)
- WTH_DATE withdrawal date

Student Daily Attendance Table:

This table holds each student's daily attendance record. The table layout is found in the 'Student-Daily-Attendance' document.

MMS records only dates on which a student has some attendance activity – if a student is present on 9/10/05, not tardy or dismissed, then the student will have no record in the table for 9/10/05. A student may have multiple records in the table for the same date. For example, a student may be tardy in the

morning and dismissed early in the afternoon. A student may be assigned an attendance code on a given date only if he or she is a member on that date, based on the student's entry-withdrawal record.

The key fields in this table are:

ID_NUMBER relates to the student ID in the EMFV table
SAF_DATE1 the attendance date
SAF_CODE the daily attendance code. Code interpretations may be found in the Daily Attendance Code table (see below).

Daily Attendance Code Table:

This table holds the list of valid daily attendance codes. The table layout is found in the 'Daily-Attendance-Codes' document.

Each valid daily attendance code has a record in this table. The key fields are as follows:

ATN_CODE the daily attendance code. This is the value stored in the student daily attendance table, and is the value that appears on all attendance reports.
ATN_ABS the percent absent. Any code that indicates absence will have a non-zero value in this field. The maximum value is 1.000, indicating a full day absent. A value of 0.500 indicates a half-day absent, 0.250 a quarter-day, and so on. A value of 0.000 means that no absence is indicated.
ATN_TAR indicates whether the code signifies Tardy. A value of 1 indicates Tardy, 0 indicates not tardy.
ATN_DIS indicates whether the code signifies Dismissed. A value of 1 indicates Dismissed, 0 indicates not Dismissed.

A given code may mean both Absent and Tardy or Absent and Dismissed.

UNEXCUSED a logical value – if True, the Absence indicates Unexcused.

9. Student Class Attendance Information:

Two tables hold the critical Student Class Attendance data:

Student Class Attendance Table (prefix PATV)
Class Attendance Code Table (prefix PCDV)

Student Class Attendance Table:

Student class attendance data is recorded by student, course-section and date. All records in this table are associated with a course and section. The table layout is found in the 'Student-Class-Attendance' document.

The key fields in this table are:

ID_NUMBER relates to the student ID in the EMFV table
ATT_DATE the attendance date
PAT_CODE the class attendance code. These codes are independent of daily attendance codes, and relate to the PCA_CODE field in the Class Attendance Code table. A student may receive only one class attendance code for a given class on a given date.
COURSE the course code – relates to the CRSE field in the Section (SECV) table.
SECT the section code – relates to the SCTN field in the Section (SECV) table.

Class Attendance Code Table:

This table holds the list of valid class attendance codes. The table layout may be found in the 'Class-Attendance Codes' document.

The key fields in this table are:

PCA_CODE the class attendance code. Relates to the PAT_CODE field in the student class attendance table.
PCA_ABS indicates whether this is an Absence code. Although it is a numeric field with 3 decimal places, there are only two possible values: 1.000, indicating an absence code, and 0.000, indicating that this is not an absence code.

PCA_TAR	a logical field indicating whether the code is a Tardy code; if True, the code signifies Tardy.
PCA_DIS	a logical field indicating whether the code is a Dismissal code; if True, the code signifies Dismissed.

10. Student Schedule Information:

Apart from the master schedule information held in the Course Section Table (SECV), the key student schedule data is held in the Student Schedule Table – table prefix SCHV. The table layout is found in the ‘Student-Schedules’ document.

A student will have one record in this table for each course he or she is enrolled in. The key fields in this table are as follows:

ID_NUMBER	relates to the student ID in the EMFV table
CRS_CODE	the course code – relates to the CRSE field in the Section (SECV) table.
CRS_SECT	the section code – relates to the SCTN field in the Section (SECV) table.
IS_CRS_WTH	a withdrawal flag – this is a logical value; when True, it signifies that the student has received a withdrawal grade for this course in the Student Grade Table.
HAS_GRADES	a flag signifying whether the student has received a grade, comment or manually assigned credit for this class in the student grade table. This is a logical value; when True, the student has been assigned a grade, comment or credit.