V*ISTA

FILEMAN DELPHI COMPONENTS (FMDC)
TECHNICAL MANUAL and
SECURITY GUIDE

Version 1.0*1

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Department of Veterans Affairs
VHA CIO Technical Services

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FileMan Delphi Components V. 1.0*1 Technical Manual

Introduction

The FileMan Delphi Components make it easy for developers to work with VA FileMan data in Delphi applications. The components encapsulate the details of retrieving, validating and updating VA FileMan data within a Delphi application. This saves you from creating your own custom remote procedure calls (RPCs) when you need to access VA FileMan data.

The FileMan Delphi Components also include special enhanced features such as complete server-side error checking and data dictionary help.

If you're already familiar with Delphi, the time needed to develop an application to edit a set of VA FileMan fields using the FileMan Delphi Components is comparable to the time needed to create the same application using VA FileMan's roll-and-scroll ScreenMan interface.

Related Manuals

- *FileMan Delphi Components V. 1.0 Installation Guide*
  Provides instructions for installing the FileMan Delphi Components.

- *FileMan Delphi Components V. 1.0 Getting Started Guide*
  Gets you started with using the FileMan Delphi Components.

- *FMDC.HLP Help File*
  Provides complete information on the FileMan Delphi Components, including full listings of each component's methods and properties.

- *VA FileMan Programmer Manual*
  Provides complete information on the VA FileMan Database Server (DBS) API. The FMDC data access components are wrappers around calls in the VA FileMan Database Server (DBS) API. An online version of this documentation is available at the VA FileMan web page:

  http://www.va.gov/vdl/Infrastructure.asp?appID=6

Implementation and Maintenance

The FileMan Delphi Components do not have any site parameters, nor do they have any site configurability.

Files

M Server Files

The FileMan Delphi Components do not export any files for M servers. VA FileMan (in patch DI*21*34 for version 21, and as a part of version 22), however, exports routines and remote procedure calls (RPCs) required for use by the FileMan Delphi components on any M servers they are used to access.

Client (Developer Workstation): FMDC File Listing

A single self-extracting .EXE file (FMDC1_0.EXE or patched version, e.g., FMDC1_0P1.EXE) is provided to install the FileMan Delphi Components on developer workstations. The files distributed are:

Delphi 4 Installation

```
    DIACCESS.DCU    Diaccess compiled unit
    DIACCESS.PAS    Pascal source file
 DIDATAPROB.DCU    Didataprob compiled unit
 DIDATAPROB.DFM    Form for didataprob unit
 DIDATAPROB.PAS    Pascal source file
      DIERR.DCU    Dierr compiled unit
      DIERR.DFM    Form for dierr unit
      DIERR.PAS    Pascal source file
      DIHLP.DCU    Dihlp compiled unit
      DIHLP.DFM    Form for dihlp unit
      DIHLP.PAS    Pascal source file
   DITYPLIB.DCU    Dityplib compiled unit
   DITYPLIB.PAS    Pascal source file
   FMCMPNTS.DCR    Resources for fmcmpnts unit
   FMCMPNTS.DCU    Fmcmpnts compiled unit
   FMCMPNTS.PAS    Pascal source file
   FMCNTRLS.DCR    Resources for fmcntrls unit
   FMCNTRLS.DCU    Fmcntrls compiled unit
   FMCNTRLS.PAS    Pascal source file
       FMDC.BPL    Package library file for Delphi 4
       FMDC.CNT    Contents file for Online Help
       FMDC.DCP    Compiled Package file for Delphi 4
       FMDC.DCU    Compiled Unit for Delphi 4
       FMDC.DPK    Package source file for Delphi 4
       FMDC.HLP    Online Help
       FMDC.RES    Resource file
   FMLOOKUP.DCR    Resources for fmlookup unit
   FMLOOKUP.DCU    Fmlookup compiled unit
   FMLOOKUP.DFM    Form for fmlookup unit
   FMLOOKUP.PAS    Pascal source file
```

Delphi 3 Installation

```
DIACCESS.DCU     Diaccess compiled unit
DIACCESS.PAS     Pascal source file
DIDATAPROB.DCU   Didataprob compiled unit
DIDATAPROB.DFM   Form for didataprob unit
DIDATAPROB.PAS   Pascal source file
DIERR.DCU        Dierr compiled unit
DIERR.DFM        Form for dierr unit
DIERR.PAS        Pascal source file
DIHLP.DCU        Dihlp compiled unit
DIHLP.DFM        Form for dihlp unit
DIHLP.PAS        Pascal source file
DITYPLIB.DCU     Dityplib compiled unit
DITYPLIB.PAS     Pascal source file
FMCMPNTS.DCR     Resources for fmcmpnts unit
FMCMPNTS.DCU     Fmcmpnts compiled unit
FMCMPNTS.PAS     Pascal source file
FMCNTRLS.DCR     Resources for fmcntrls unit
FMCNTRLS.DCU     Fmcntrls compiled unit
FMCNTRLS.PAS     Pascal source file
FMDC.CNT         Contents file for Online Help
FMDC.DCP         Compiled Package file for Delphi 3
FMDC.DCU         Compiled Unit for Delphi 3
FMDC.DPK         Package source file for Delphi 3
FMDC.DPL         Package library file for Delphi 3
FMDC.HLP         Online Help
FMDC.RES         Resource file
FMLOOKUP.DCR     Resources for fmlookup unit
FMLOOKUP.DCU     Fmlookup compiled unit
FMLOOKUP.DFM     Form for fmlookup unit
FMLOOKUP.PAS     Pascal source file
```

Delphi 2 Installation

```
DIACCESS.DCU     Diaccess compiled unit
DIDATAPROB.DCU   Didataprob compiled unit
DIDATAPROB.DFM   Form for didataprob unit
DIERR.DCU        Dierr compiled unit
DIERR.DFM        Form for dierr unit
DIHLP.DCU        Dihlp compiled unit
DIHLP.DFM        Form for dihlp unit
DITYPLIB.DCU     Dityplib compiled unit
FMCMPNTS.DCR     Resources for fmcmpnts unit
FMCMPNTS.DCU     Fmcmpnts compiled unit
FMCNTRLS.DCR     Resources for fmcntrls unit
FMCNTRLS.DCU     Fmcntrls compiled unit
FMDC.CNT         Contents file for Online Help
FMDC.HLP         Online Help
FMDC.KWF         Keyword file for integrating Online Help w/Delphi 2
FMLOOKUP.DCR     Resources for fmlookup unit
FMLOOKUP.DCU     Fmlookup compiled unit
FMLOOKUP.DFM     Form for fmlookup unit
```

Routines

The FileMan Delphi Components do not export any routines for M servers. VA FileMan (in patch DI*21*34 for version 21, and as a part of version 22), however, exports routines and remote procedure calls (RPCs) required for use by the FileMan Delphi components. These routines and RPCs need to be installed on any M servers that will be accessed by client applications compiled with the FileMan Delphi Components.

Exported Options

The FileMan Delphi Components do not export any options.

Archiving and Purging

The FileMan Delphi Components do not store any data specific to the FMDC package, and therefore have no archiving or purging recommendations.

Callable Routines/Entry Points/APIs

The FileMan Delphi Components do not have any callable routines, entry points or APIs.

External Interfaces

The external interfaces of the FileMan Delphi Components (components, objects and routines) are fully documented in the *FileMan Delphi Components Getting Started Manual* and in the online FMDC.HLP help file (distributed along with the component files).

The FileMan Delphi Components provide the following components for use in Delphi:

TFMFiler	TFMComboBox
TFMFinder	TFMComboBoxLookUp
TFMFindOne	TFMEdit
TFMGets	TFMLabel
TFMHelp	TFMListBox
TFMLister	TFMMemo
TFMValidator	TFMRadioButton
TFMLookUp	TFMRadioGroup
TFMCheckBox	

The FileMan Delphi Components provide the following objects for use in Delphi:

> TFMErrorObj
> TFMFieldObj
> TFMHelpObj
> TFMRecordObj

The FileMan Delphi Components provide the following Pascal routines for use in Delphi:

> DeleteRecord
> LockNode

External Relations

In their initial release (FMDC 1.0), the FileMan Delphi Components were released as part of VA FileMan. The server-side RPCs and routines supporting FMDC were released in VA FileMan patch DI*21*34.

As of the release of patch FMDC*1.0*1, the FileMan Delphi Components are their own standalone package. They are assigned the namespace of FMDC (although there are currently no server side components in the FMDC namespace). A KIDS distribution is provided with patch FMDC*1.0*1 to update M server package files with the new FMDC package information.

The client side files and components are also now part of the FileMan Delphi Components package.

Relationship with the VA FileMan (Server RPCs)

As of patch FMDC*1.0*1, the FileMan Delphi Components have been granted integration agreements to use VA FileMan's DDR* RPCs. To use these RPCs, the following minimum requirements for VA FileMan, on any server accessed using the FileMan Delphi Components, are:

- **Patch DI*21*34 (or VA FileMan V. 22) Must be Installed**

  Client applications compiled with the FileMan Delphi Components require that the server(s) they connect to must have the support DDR* RPCs and supporting DDR* M routines installed. These RPCs and routines are distributed in patch DI*21*34, and also as part of VA FileMan V. 22.

- **Patch DI*21*41 (or VA FileMan V. 22) Must be Installed**

  VA FileMan patch DI*21*41 (included in VA FileMan V. 22) provides a required update to make a DBS call compatible with the FileMan Delphi Components.

Relationship with the RPC Broker (Server Routines)

- **RPC Broker V. 1.1 or Greater Must be Installed**

  When you create an application with the FileMan Delphi Components, the server(s) your application connects to need to have the RPC Broker V. 1.1 or greater installed.

Relationship with the RPC Broker Development Kit (BDK)

- The FileMan Delphi Components require that the RPC Broker BDK be installed in Delphi prior to installing the FileMan Delphi Components. The V. 1.0 FileMan Delphi Components are compatible with any RPC Broker V. 1.1 BDK, regardless of the patch level of the BDK.

Internal Relations

The FileMan Delphi Components do not have any routines, files or options that cannot function independently.

Package-Wide Variables

The FileMan Delphi Components do not have any package-wide variables.

Software Product Security

Security Management

User-level security for client applications compiled with the FileMan Delphi Components is controlled through Kernel's OPTION file, using the RPC Broker's security mechanisms:

- Users *without* programmer access to a server can run a particular client application that connects to an M server *only if* the application's corresponding "B"-type Kernel option has been assigned to that user by the M server's system manager. Furthermore, that Kernel option must register all of the RPCs used by the application in its RPC multiple.

- Developers *with* programmer access on a server (i.e., access to the server system and possession of the XUPROGMODE key on that system) can bypass the "B"-type Kernel option security requirements.

For more information on the RPC Broker's security mechanisms, please refer to the documentation for the RPC Broker package.

When developers create a Kernel "B"-type option for an application, they need to register all RPCs invoked by the client application. The RPCs they need to register can include custom ones designed specifically for that applications use, as well (if the client application uses any FileMan Delphi Components) the RPCs invoked by the particular FMDC components.

The table on the opposite page lists the RPCs invoked by FMDC components and Pascal routines.

Mail Groups and Alerts

The FileMan Delphi Components do not make use of mail groups, nor alerts.

Remote Systems

The FileMan Delphi Components, while supporting client/server connectivity for applications created by V*IST*A developers, do not, in and of themselves, transmit data to any remote systems or databases.

Interfacing

Inprise Delphi (a commercial software development platform for building Windows client applications) is required to use the functionality provided in the FileMan Delphi Components. Delphi is an approved development platform for V*IST*A.

Electronic Signatures

The FileMan Delphi Components do not use electronic signatures.

RPCs Invoked by FMDC Components and Pascal Routines

FMDC Pascal Routine	Method	Remote Procedure
DeleteRecord	N/A	DDR DELETE ENTRY
LockNode	N/A	DDR LOCK/UNLOCK NODE

FMDC Component	Method	Remote Procedure
TFMCheckBox	GetAndDisplayHelp	DDR GET DD HELP
	GetHelp	DDR GET DD HELP
	Validate	DDR VALIDATOR
TFMComboBox	GetAndDisplayHelp	DDR GET DD HELP
	GetHelp	DDR GET DD HELP
	GetList	DDR LISTER
	GetMore	DDR LISTER
	Validate	DDR VALIDATOR
TFMComboBoxLookUp	(always)	DDR LISTER
	(always)	DDR FINDER
	GetAndDisplayHelp	DDR GET DD HELP
	GetHelp	DDR GET DD HELP
	Validate	DDR VALIDATOR
TFMEdit	GetAndDisplayHelp	DDR GET DD HELP
	GetHelp	DDR GET DD HELP
	Validate	DDR VALIDATOR
TFMFiler	Update	DDR FILER
TFMFinder	GetFinderList	DDR FINDER
TFMFindOne	GetIEN	DDR FIND1
TFMGets	GetAndFill	DDR GETS ENTRY DATA
	GetData	DDR GETS ENTRY DATA
TFMHelp	GetAndDisplayHelp	DDR GET DD HELP
	GetHelp	DDR GET DD HELP
TFMLabel	Validate	DDR VALIDATOR
TFMListBox	GetAndDisplayHelp	DDR GET DD HELP
	GetHelp	DDR GET DD HELP
	GetList	DDR LISTER
	GetMore	DDR LISTER
	Validate	DDR VALIDATOR
TFMLister	GetList	DDR LISTER
	GetMore	DDR LISTER
TFMLookUp	Execute	DDR LISTER
TFMMemo	GetAndDisplayHelp	DDR GET DD HELP
	GetHelp	DDR GET DD HELP
TFMRadioButton	GetAndDisplayHelp	DDR GET DD HELP
	GetHelp	DDR GET DD HELP
	Validate	DDR VALIDATOR
TFMRadioGroup	GetAndDisplayHelp	DDR GET DD HELP
	GetHelp	DDR GET DD HELP
	Validate	DDR VALIDATOR
TFMValidator	Validate	DDR VALIDATOR

Menus

The FileMan Delphi Components do not export any options.

Security Keys

The FileMan Delphi Components do not export any security keys.

File Security

The FileMan Delphi Components do not export any files.

The FileMan Delphi Components, however, do provide generalized access to data in VA FileMan files, acting as Delphi component wrappers around VA FileMan's DBS (Database Server) calls. As with the underlying VA FileMan DBS calls, the FileMan Delphi Components do not rely on DUZ-based mechanisms to control access to data — neither Kernel's File Access Security (e.g., "Kernel Part Three") or VA FileMan's file security is used. Instead, security to files is controlled through the Kernel OPTION file. If a user has access to run the application through Kernel's (and the RPC Broker's) security mechanisms, then all database access *provided by the application* is enabled.

References

No particular regulations, VHA manuals or directives refer specifically to the FileMan Delphi Components.

Official Policies

No official polices refer specifically to the FileMan Delphi Components.

Glossary

BDK   Broker Development Kit. Provided with **V**_IST_**A**'s RPC Broker software package, this contains the files necessary to connect to a **V**_IST_**A** M server from a Windows client.

Components   In Delphi, components are building blocks from which an application can be constructed. Components include the visible parts of an application, such as buttons and memo fields, and invisible parts such as components that retrieve information from a server. Components can have properties, methods and events. Third parties (such as VHA OCIO Technical Services) can create and distribute components for use by Delphi developers along with the standard components distributed in Delphi.

DBS   DataBase Server. VA FileMan's API that is optimized for accessing VA FileMan data from Windows clients.

Delphi   A development product made by Inprise Corporation, and approved as a development platform for **V**_IST_**A** Windows client software.

DUZ   The Kernel variable containing a user's identity.

Inprise   The company (formerly Borland) that makes Delphi.

Objects   Objects, in Delphi, are dynamically allocated portions of memory with a predetermined structure based on their Object Pascal class type.

Pascal   The computer language used by Inprise Delphi (Delphi uses a version called Object Pascal).

RPC Broker   The **V**_IST_**A** software development package that provides client/server connectivity between Windows clients and **V**_IST_**A** M servers.

Units   Source code modules used in Pascal.

VA FileMan   **V**_IST_**A**'s main database management system (DBMS).

Glossary