RESOURCE AND PATIENT MANAGEMENT SYSTEM

BMXNet40

ADO.NET Data Access and Connectivity Utilities for RPMS including WinForm and EHR Integration Frameworks

(BMX)

Installation Guide & Release Notes

Version 4.0
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Preface

This manual provides information regarding only the release and installation of the BMX Version 4.0 package.

1.0   Release Notes

This manual provides information regarding the release and installation of the BMX Version 4.0 package. BMXNET40.dll, BMXWIN40.dll, and BMXEHR40.dll's support Microsoft .NET Frameworks 2.0, 3.0, and 3.5. This manual has been updated to support:

- BMXNET40.dll, which is a rewrite of BMX supporting new context model, security features, ,session pooling, and several fixes

- BMXWIN40.dll, which is a framework based on BMXNET40 for writing .NET WinForm applications including standardized login and connection management dialogs

- BMXEHR40.dll, which is a framework based on BMXNET40 for writing .NET components to be hosted within the Electronic Health Record (EHR)/VueCentric framework

Developers can also write components based on BMXNET40 that will work with both BMXWIN BMXEHR frameworks with minimal additional coding overhead.

BMXNET40 is implemented on the Resource and Patient Management System (RPMS) server using routines, options, Remote Procedure Codes (RPCs), and files contained in the Kernel Installation and Distribution System (KIDS) file. All sites using .NET GUI clients should install the KIDS file on the RPMS server.

BMXNET40 is implemented on the client side in BMXNET40.dll, BMXWIN40.dll, and BMXEHR40.dll. Developers may obtain a copy of these dlls from Indian Health Service (IHS) Software Quality Assurance (SQA) as a software distribution download.

BMXNET40 is intended to be used in conjunction with the Microsoft Visual Studio 2005 or 2008 IDE for application development.

The BMX_0400.k KIDS file is backwards compatible with BMXNet20.dll and BMXNet.dll, and can be installed and used with client applications written to the BMXNet.dll (1.0) and BMXNet20.dll (2.0).

BMXNET40 client libraries are not compatible with BMX_0200.k or BMX_0100.k, and applications/EHR components utilizing BMXNET40.dll, BMXWIN40.dll, or BMXEHR40.dll must have BMX_0400.k installed on the RPMS server.

2.0   Installation Notes

Prefix: BMX
Current Version: 4.0

> **Warning**: Read entire notes file prior to attempting any
>   installation.

2.1   General Information

- Make a copy of this distribution for offline storage.

- Print all notes/readme files.

- It is recommended that the terminal output during the installation be captured using an auxport printer attached to the terminal at which you are performing the software installation. This will ensure a printed audit trail if any problems should arise.

2.2   Contents of Distribution

- bmx_0400.k–KIDS package containing M routines, files, options, and remote procedure calls

- bmx_040i.pdf–Installation Guide and Release Notes

- bmx_040u.pdf–Users Manual

- bmx_040t.pdf–Technical Manual

- BMXNET40.zip

    - BMXNET40.dll–core BMXNET40 library
    - BMXWIN40.dll–framework for WinForm, ASP.NET, or Web services
    - BMXEHR40.dll–framework for EHR components
    - BMXNET40.chm–Online help for BMXNET40

2.3   System Requirements

2.3.1   RPMS Server Requirements

- VA FileMan version 22 or higher

- VA Kernel version 8.0 or higher

- Cache version 5.0.21 or higher

2.3.2   Workstation Requirements for Use of BMXNet 4.0 dll Files for Software Development

- Windows 2000, 2003, XP SP3, Vista with service packs installed

- Microsoft .NET Framework v2.0.50727 or higher

- EHR/VueCentric 1.1 patch 5 for BMXEHR40.net

3.0   Installation Instructions

1. Load and install BMX kids file on RPMS server using the KIDS menu options. The Installation Sample in Section 4.0 of this document shows the specific steps to be taken.

2. Assign BMXZMENU to local site manager users who will be responsible for managing BMXNet.

3. Place the BMXMENU option on a menu that is accessible to site managers only, e.g., the Operations menu.

4. Use the EDIT option in BMXNet menu to add a BMXNet Monitor entry. Use a port that is not currently in use by any other TCP listener. The suggested default port is 10501.

5. Use TaskMan to schedule the option BMX MONITOR START. Specify STARTUP at the Special Queuing field.

6. Execute the STRT option of BMXNet.

7. Assign the BMXRPC option to a place in the Kernel menu structure that will be accessible to users of BMXNet.

4.0   Sample Installations

Figure 4.1 shows a sample KIDS installation of BMXNet:

```
3  XPD MAIN     Kernel Installation & Distribution System


          Edits and Distribution ...
          Utilities ...
          Installation ...

Select Kernel Installation & Distribution System Option: Installation


   1      Load a Distribution
   2      Verify Checksums in Transport Global
   3      Print Transport Global
   4      Compare Transport Global to Current System
   5      Backup a Transport Global
   6      Install Package(s)
          Restart Install of Package(s)
          Unload a Distribution

Select Installation Option: Load a Distribution
Enter a Host File: C:\bmx_0400.k

KIDS Distribution saved on Jun 07, 2010@16:40:41
Comment: BMX dotNET BROKER UTILITIES 4.0 KIDS

This Distribution contains Transport Globals for the following Package(s):
Build BMX 4.0 has been loaded before, here is when:
     BMX 4.0   Install Completed
               was loaded on Oct 10, 2009@08:52:13
     OK to continue with Load? NO// YES

Distribution OK!

Want to Continue with Load? YES//
Loading Distribution...

Build BMX 4.0 has an Environmental Check Routine
Want to RUN the Environment Check Routine? YES//
   BMX 4.0
Will first run the Environment Check Routine, BMXE01


                            Hello, ADAM ADAM

         Checking Environment for Install of Version 4.0 of BMX.

             Need at least FileMan 22.....FileMan 22.0 Present

              Need at least Kernel 8.0.....Kernel 8.0 Present
```

```
Checking Kernel system parameters.  This may take 1 minute...
Kernel system parameters validated


ENVIRONMENT OK.


Use INSTALL NAME: BMX 4.0 to install this Distribution.



    1       Load a Distribution
    2       Verify Checksums in Transport Global
    3       Print Transport Global
    4       Compare Transport Global to Current System
    5       Backup a Transport Global
    6       Install Package(s)
            Restart Install of Package(s)
            Unload a Distribution

Select Installation Option: 2  Verify Checksums in Transport Global
Select INSTALL NAME: BMX 4.0        Loaded from Distribution      Loaded from
Distribution  6/07/10@20:16:22
     => BMX dotNET BROKER UTILITIES 4.0 KIDS  ;Created on Jun 07, 2010@16:40:41

This Distribution was loaded on Mar 7, 2009@09:23:48 with header of
   BMX dotNET BROKER UTILITIES 4.0 KIDS  ;Created on Jun 07, 2010@16:40:41
   It consisted of the following Install(s):
        BMX 4.0
DEVICE: HOME//   CONSOLE






PACKAGE: BMX 4.0     Jun 07, 2010 10:24 pm                              PAGE 1
------------------------------------------------------------------------------

    59 Routine checked, 0 failed.

    1       Load a Distribution
    2       Verify Checksums in Transport Global
    3       Print Transport Global
    4       Compare Transport Global to Current System
    5       Backup a Transport Global
    6       Install Package(s)
            Restart Install of Package(s)
            Unload a Distribution


Select Installation Option: Install Package(s)
Select INSTALL NAME: BMX 4.0        Loaded from Distribution      Loaded from Dist
ribution  3/7/09@09:23:48
     => BMX dotNET BROKER UTILITIES 4.0 KIDS  ;Created on Jun 07, 2010@16:40:41

This Distribution was loaded on Mar 07, 2009@09:23:48 with header of
   BMX dotNET BROKER UTILITIES 4.0 KIDS  ;Created on Jun 07, 2010@16:40:41
   It consisted of the following Install(s):
        BMX 4.0
Checking Install for Package BMX 4.0
Will first run the Environment Check Routine, BMXE01
```

```
                              Hello, ADAM ADAM

             Checking Environment for Install of Version 4.0 of BMX.

                   Need at least FileMan 22.....FileMan 22.0 Present

                    Need at least Kernel 8.0.....Kernel 8.0 Present

                               ENVIRONMENT OK.

Install Questions for BMX 4.0

Incoming Files:


   90093.1   BMX USER
Note:  You already have the 'BMX USER' File.


   90093.2   BMX APPLICATION
Note:  You already have the 'BMX APPLICATION' File.


   90093.5   BMXNET MONITOR
Note:  You already have the 'BMXNET MONITOR' File.


   90093.9   BMX GUI REPORT
Note:  You already have the 'BMX GUI REPORT' File.


   90093.98  BMX ADO LOG
Note:  You already have the 'BMX ADO LOG' File.


   90093.99  BMX ADO SCHEMA
Note:  You already have the 'BMX ADO SCHEMA' File.

Want KIDS to Rebuild Menu Trees Upon Completion of Install? YES// NO


Want KIDS to INHIBIT LOGONs during the install? YES// NO

Enter the Device you want to print the Install messages.
Enter a '^' to abort the install.

DEVICE: HOME//
 Install Started for BMX 4.0 :
               Jun 07, 2010@10:25:10

Build Distribution Date: Jun 07, 2010


 Installing Routines:
               Jun 07, 2010@10:25:10

 Installing Data Dictionaries:
               Jun 07, 2010@10:25:10

 Installing PACKAGE COMPONENTS:

 Installing SECURITY KEY
```

```
 Installing INPUT TEMPLATE

 Installing REMOTE PROCEDURE

 Installing OPTION
              Jun 07, 2010@10:25:10

 Updating Routine file...

 Updating KIDS files...

 BMX 4.0 Installed.
              Jun 07, 2010@10:25:10

 NO Install Message sent

Install Completed


   1        Load a Distribution
   2        Verify Checksums in Transport Global
   3        Print Transport Global
   4        Compare Transport Global to Current System
   5        Backup a Transport Global
   6        Install Package(s)
            Restart Install of Package(s)
            Unload a Distribution


Select Installation Option:


            Edits and Distribution ...
            Utilities ...
            Installation ...

Select Kernel Installation & Distribution System Option:

Do you really want to halt? YES//




Halting at 10:26 pm
EDR>
```

Figure 4-1: Sample of screens displayed in an installation

Appendix A: BMX Routine Size

The following table represents the BMX routine size in lines and bytes installed with the KIDS installation. The site manager can run the BMXNTEG routine to check whether any routine has been modified from the original KIDS install.

Routine	Size in Bytes	Checksum
BMXADE1	3028	202895
BMXADE2	3250	215402
BMXADO	6549	418183
BMXADO2	3489	255576
BMXADOF	11452	725170
BMXADOF1	3281	207254
BMXADOF2	2138	139526
BMXADOFD	2927	184329
BMXADOFS	6736	406496
BMXADOI	2215	134635
BMXADOS	9227	581516
BMXADOS1	2790	177677
BMXADOV	5739	373853
BMXADOV1	9072	554917
BMXADOV2	4690	289928
BMXADOVJ	3534	225846
BMXADOX	13904	870307
BMXADOX1	11753	751140
BMXADOX2	3126	199436
BMXADOXX	12226	762829
BMXADOXY	11992	769541
BMXE01	2610	185734
BMXEHR	7337	475235
BMXFIND	7919	563026
BMXG	1970	120497
BMXGETS	4309	308756
BMXMBRK	6045	399724
BMXMBRK2	3621	233173
BMXMEVN	7145	502429
BMXMON	10184	719138
BMXMSEC	3155	217778
BMXNTEG	1953	121515
BMXPO	1522	102017
BMXPRS	2153	134459
BMXRPC	5755	428908

Routine	Size in Bytes	Checksum
BMXRPC1	7622	559228
BMXRPC10	9682	623943
BMXRPC2	3531	243905
BMXRPC3	6387	443331
BMXRPC4	4941	310665
BMXRPC5	3896	288956
BMXRPC6	3759	270824
BMXRPC7	5776	411297
BMXRPC8	2240	165807
BMXRPC9	7123	467733
BMXSQL	10871	727603
BMXSQL1	9912	615416
BMXSQL2	2748	183784
BMXSQL3	13511	868130
BMXSQL4	1313	88507
BMXSQL5	6648	433320
BMXSQL6	10606	683092
BMXSQL7	8098	527973
BMXSQL91	4332	281563
BMXTABLE	159	9991
BMXTRS	1300	81294
BMXUTL1	7818	520399
BMXUTL2	900	60487
BMXUTL5	5330	358896
BMXUTL6	1141	75004
BMXUTL7	766	54422

Contact Information

If you have any questions or comments regarding this distribution, please contact the OIT Help Desk (IHS).

Phone: (505) 248-4371 or (888) 830-7280 (toll free)

Fax: (505) 248-4363

Web: http://www.ihs.gov/GeneralWeb/HelpCenter/Helpdesk/index.cfm

Email: support@ihs.gov