

# **Bed Management Solution (BMS)**

## **Technical Manual**



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**Prepared by Harris Corporation**

## Revision History

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# Table of Contents

<b>1</b>	<b>Introduction .....</b>	<b>1</b>
1.1	Purpose.....	1
1.2	BMS Overview .....	1
1.3	References.....	2
<b>2</b>	<b>Implementation and Maintenance.....</b>	<b>2</b>
2.1	BMS Infrastructure Diagram.....	2
2.2	System Requirements (Hardware and Software) .....	3
2.3	Configuration Parameters .....	5
2.4	Scheduled Windows and SQL Jobs Configuration .....	28
2.4.1	BMS Reports Full .....	28
2.4.2	BMS Incremental.....	37
2.4.3	BMS Reports Windows Management Instrumentation (WMI) .....	43
2.5	Ward Whiteboard Kiosk Mode Display Configuration.....	43
2.5.1	Disable Screen Saver.....	43
2.5.2	Configure Power Settings: Disable Sleep and Stand-by Mode.....	45
2.5.3	Configure Auto-login Option.....	48
2.5.4	Configure BMS Whiteboard Kiosk Default Login User.....	50
2.5.5	Whiteboard Kiosk Default User Role Assignment.....	51
2.5.6	Configure Start-up Command .....	53
2.6	Whiteboard Snapshot Configuration.....	57
2.6.1	Create Snapshot Folder .....	57
2.6.2	Define Network Share .....	58
2.6.3	Assign Rights to Master BMS Service Account User.....	60
2.6.4	Assign Snapshot Folder Path to Ward Group.....	66
2.6.5	Associate Scheduler with Whiteboard Report.....	66
2.7	EMS Mobile Device Configuration.....	67
2.7.1	Configure EMS Mobile Device Default Login User .....	67
2.7.2	Configure EMS Mobile Device URL .....	69
2.8	VistA Integration.....	69
2.8.1	Choose VistA Site .....	69
2.8.2	Define Schedulers.....	71
2.8.3	Run Scheduler.....	71
2.8.4	View Audit Results .....	72
2.9	NUMI Integration .....	74
2.9.1	Choose VistA Site .....	74
2.9.2	Define Schedulers.....	74
2.9.3	Select Scheduler .....	74
<b>3</b>	<b>Application structure.....</b>	<b>75</b>
3.1	Application Components .....	75
3.2	Application Directory Structure .....	75
3.3	Database Architecture.....	76

3.4	Component Files .....	78
<b>4</b>	<b>Archiving .....</b>	<b>104</b>
<b>5</b>	<b>External Relationships .....</b>	<b>104</b>
<b>6</b>	<b>External Interfaces .....</b>	<b>104</b>
<b>7</b>	<b>Software Security .....</b>	<b>106</b>
7.1	Policy Manager .....	106
7.2	Operation Definitions .....	107
7.3	Task Definitions .....	118
7.4	Role Definitions .....	131
7.5	Assigning a Role to a User .....	131
7.6	Adding a New Role .....	132
7.7	Adding a New Task .....	136
7.8	Adding a New Operation .....	138
7.9	BMS Roles .....	139
<b>8</b>	<b>Troubleshooting .....</b>	<b>140</b>
<b>9</b>	<b>Appendix A – BMS Diagrams .....</b>	<b>145</b>
9.1	Business Process Diagrams .....	145
9.2	Activity Diagram .....	150
9.3	Functional Flow Diagram .....	151
9.4	Data Flow Diagram .....	152
9.5	Dallas NTX Local Policy Example .....	152
<b>10</b>	<b>Appendix B - Terms, Acronyms, and Abbreviations .....</b>	<b>154</b>

## List of Tables

<i>Table 1 - Server for Web Applications.....</i>	<i>3</i>
<i>Table 2 - Application Sever .....</i>	<i>4</i>
<i>Table 3 - Database Server.....</i>	<i>4</i>
<i>Table 4 - BMS ServiceHost Configuration Parameters.....</i>	<i>5</i>
<i>Table 5 - EIS Service Configuration Parameters .....</i>	<i>10</i>
<i>Table 6 - EVS Service Configuration Parameters.....</i>	<i>13</i>
<i>Table 7 - PAP Service Configuration Parameters.....</i>	<i>16</i>
<i>Table 8 - PDP Service Configuration Parameters .....</i>	<i>18</i>
<i>Table 9 - RS Service Configuration Parameters.....</i>	<i>18</i>
<i>Table 10 - STS Service Configuration Parameters.....</i>	<i>20</i>
<i>Table 11 - Win ServiceHost Configuration Parameters.....</i>	<i>21</i>
<i>Table 12 - WMI User Group Configuration Parameters.....</i>	<i>22</i>
<i>Table 13 - Policy Manager Configuration Parameters.....</i>	<i>22</i>
<i>Table 14 - BMS Web Configuration Parameters.....</i>	<i>23</i>
<i>Table 15 - Description and configuration for Whiteboard URL parameters.....</i>	<i>55</i>
<i>Table 16 - Facility Settings Page Parameters .....</i>	<i>68</i>
<i>Table 17 - BMS Admin Page Parameters .....</i>	<i>68</i>
<i>Table 18 - Description and Configuration for EMS Mobile Device URL parameters.....</i>	<i>69</i>
<i>Table 19 - New VistA Site Parameters.....</i>	<i>70</i>
<i>Table 20 - New Scheduler Parameters .....</i>	<i>71</i>
<i>Table 21 - View Audit Results Columns Report.....</i>	<i>74</i>
<i>Table 22 - BMS Database Files.....</i>	<i>78</i>
<i>Table 23 - BMS Service Files .....</i>	<i>79</i>
<i>Table 24 - Win Service Host Files .....</i>	<i>83</i>
<i>Table 25 - BMS Web Site Files.....</i>	<i>92</i>
<i>Table 26 - PolicyManager Files.....</i>	<i>102</i>
<i>Table 27 - BMS Operations.....</i>	<i>107</i>
<i>Table 28 - BMS Tasks.....</i>	<i>120</i>
<i>Table 29 - Terms, Acronyms, and Abbreviations.....</i>	<i>154</i>

## List of Figures

Figure 1 - BMS Infrastructure Diagram.....	2
Figure 2 - BMS - Report Full Job .....	28
Figure 3 - BMS - Start Full Job .....	29
Figure 4 - BMS - Check State Job Incremental .....	30
Figure 5 - BMS - Call Procedure .....	31
Figure 6 - BMS - Shrink .....	32
Figure 7 - BMS - Clear Data .....	33
Figure 8 - BMS - Call Procedure Full .....	34
Figure 9 - Copy Users in History Database .....	35
Figure 10 - BMS Reports Full Path File Log .....	36
Figure 11 - BMS - Report Incremental Job .....	37
Figure 12 - BMS - Start Job Incremental .....	38
Figure 13 - BMS - Check State Job Full .....	39
Figure 14 - BMS - Call Procedure Properties .....	40
Figure 15 - BMS - Call Procedure Incremental .....	41
Figure 16 - BMS Incremental Path File Log .....	42
Figure 17 - Screen Saver Option .....	44
Figure 18 - Screen Saver Settings Window .....	45
Figure 19 - Control Panel Window .....	46
Figure 20 - Power Options .....	46
Figure 21 - Change Plan Settings Option .....	47
Figure 22 - Power Options Settings .....	47
Figure 23 - Run Window .....	48
Figure 24 - Run Window with Command Entered .....	48
Figure 25 - User Accounts Window .....	49
Figure 26 - User must enter a user name and password to use this computer option .....	50
Figure 27 - EMS Fields Filled on the Facility Settings Page .....	51
Figure 28 – Whiteboard Kiosk User Role Assignment Fields Filled on the Facility Settings Page .....	52
Figure 29 – Whiteboard Kiosk User Role Assignment Fields Filled on the BMS Admin Section Add/Edit BMS User Page .....	53
Figure 30 - Tools Menu of Internet Explorer 9 .....	54
Figure 31 - General Tab of Internet Options .....	54
Figure 32 - Open Option .....	56
Figure 33 - Internet Explorer Shortcut .....	56
Figure 34 - Whiteboard Snapshot Folder .....	58
Figure 35 - Whiteboard Snapshot Folder Properties .....	58
Figure 36 - Advanced Sharing Option .....	59
Figure 37 - Share this folder Option .....	59
Figure 38 - Permissions for Whiteboard Snapshot .....	60
Figure 39 - Select Users or Groups Window .....	60
Figure 40 - Advanced Section of Select Users or Groups Window .....	61
Figure 41 - Search Result Section .....	62
Figure 42 - Object Names Section .....	62
Figure 43 - Permissions Window .....	63
Figure 44 - User Permissions .....	64
Figure 45 - Advanced Sharing Window .....	65
Figure 46 - WardGroup1-PC Path .....	65
Figure 47 - Contingency Settings Page .....	66
Figure 48 - Whiteboard Report Scheduler Association .....	66
Figure 49 - EMS Fields Filled on the Facility Settings Page .....	67
Figure 50 – EMS Fields Filled on the BMS Admin Page .....	68
Figure 51 – EMS Staff Page for Mobile Devices .....	69
Figure 52 - Adding a Vista Site .....	70
Figure 53 - Schedulers Tab .....	71

Figure 54 - VistA Integration Tab .....	72
Figure 55 - Audit Tab .....	73
Figure 56 - View Audit Results .....	73
Figure 57 - NUMI Tab .....	74
Figure 58 - Selecting the VistA Site for Which to Gather NUMI Data .....	75
Figure 59 - Database Architecture .....	77
Figure 60 - Backup Maintenance Plan .....	104
Figure 61 - BMS External Interfaces .....	105
Figure 62 - Policy Manager Main Window .....	106
Figure 63 - Operation Definition .....	107
Figure 64 - Task Definition .....	118
Figure 65 - Operations Defining a Task .....	119
Figure 66 - Role Definition .....	131
Figure 67 - Assigning Roles to Users .....	132
Figure 68 - New Role Definition .....	133
Figure 69 - Adding Tasks and Operations to a Role .....	134
Figure 70 - Add Role to Role Assignments List .....	135
Figure 71 - New Task Definition .....	136
Figure 72 - Adding Operations to a Task .....	137
Figure 73 - New Operation Definition .....	138
Figure 74 - 500 Internal Server Error .....	140
Figure 75 - There are no Facilities .....	140
Figure 76 - Unhandled Exception .....	141
Figure 77 - Login Unsuccessful .....	142
Figure 78 - EMS Bed Status Report is Missing .....	143
Figure 79 - Report Cannot be Found .....	144
Figure 80 - Admit Patient to Pending Placement Business Process .....	145
Figure 81 - Transfer Patient Pending Placement Business Process .....	145
Figure 82 - Display and Update Pending Placement Business Process .....	146
Figure 83 - Display and Update Bed Status Business Process .....	146
Figure 84 - Manage Bed Cleaning Business Process .....	147
Figure 85 - Create Notification Business Process .....	147
Figure 86 - Create Facility Diversion Business Process .....	148
Figure 87 - Manage Whiteboard Business Process .....	148
Figure 88 - Reports Business Process .....	149
Figure 89 - BMS Overview Activity Diagram .....	150
Figure 90 - BMS Overview Functional Flow Diagram .....	151
Figure 91 - BMS Overview Data Flow Diagram .....	152

# 1 Introduction

## 1.1 Purpose

This document is designed to provide sufficient technical information about the Bed Management Solution (BMS) application to the developers and Information Resources Management (IRM) technical personnel to operate and maintain the software.

## 1.2 BMS Overview

BMS is a real-time, user-friendly Web-based Veterans Health Information Systems and Technology Architecture (VistA) interface for tracking patient movement, bed status and bed availability. It provides performance information that can be used to improve patient flow within, and between, VA Medical Centers (VAMCs).

BMS allows administrative and clinical staff to record, manage and report on the planning, patient-movement, patient occupancy, and other activities related to management of beds. All patient admission, discharge, and transfer movements are sent directly from VistA to BMS.

BMS offers the following features:

- Tracks patient movement through the system;
- Displays patient and bed occupancy status for all beds in the facility and/or Veterans Integrated Service Networks (VISN);
- Provides visibility of bed availability within VAMC's to support emergency management;
- Automates request and assignment of beds;
- Displays and facilitates timely discharge appointments;
- Supports and facilitates efficient flow operations and is a catalyst to process improvement and best practices;
- Provides reports on performance measures associated with bed management and patient flow.

BMS provides answers to the following questions:

- How many beds do we have?
- How many empty beds do we have?
- How many available female beds do we have?
- How many beds are out of service and why?
- How long does it take to clean a bed?
- How many patients are waiting for beds in community hospitals?
- How many admissions, transfers, and discharges did my unit have yesterday?
- How many discharges will we have tomorrow?
- How many scheduled admissions do we have for today?



## 1.3 References

Requirements Specification Document (CLIN: 0002AA; title: Requirements Specification Document; file: Init8\_BMS\_RSD)

Software Design Document (CLIN: 0002AC; title: System Design Document; file: Init8\_BMS\_SDD)

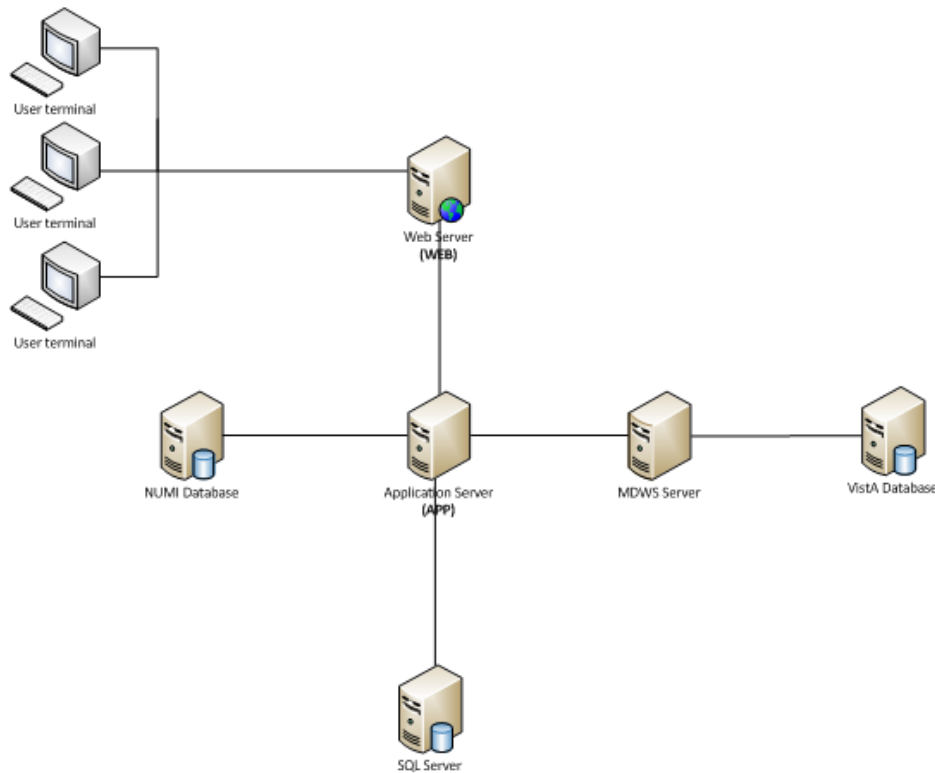
Product Architecture Document (CLIN: 0002AD; title: Product Architecture Document; file: Init8\_BMS\_PAD)

## 2 Implementation and Maintenance

### 2.1 BMS Infrastructure Diagram

The BMS application has a list of physical components that can be divided on more physical servers according with their roles.

The following diagram represents a possible schema of physical deployment.



*Figure 1 - BMS Infrastructure Diagram*

BMS is divided into specific components:

1. Persistence layer: SQL Server 2008 R2 database
2. Application server layer: Windows Communication Foundation (WCF) Web Services installed as Windows Services

3. Web server layer: Active Server Pages (ASP) .NET Model-View-Controller (MVC) Web application hosted in Internet Information Services (IIS)
4. Data Exchange Servers:
  - a. National Utilization Management Integration (NUMI) SQL Server Database
  - b. VistA integration servers (servers that have access to VistA)
    - i. Medical Domain Web Services (MDWS): Web Service installed in IIS
5. Client Layer: Web Application client launched from browsers

## 2.2 System Requirements (Hardware and Software)

BMS requires the creation of a Master Windows Service Account User and numerous facility/Site Service Account Users for execution and operations.

All the BMS Application Services run under a service account.

- AICT has created the Windows User (**acc\bms\_svc\_prod**) as the master service account that the four BMS Services runs under. This can be referred to as the Master BMS Service Account.
- The VAAUSBMSMUL25 server hosts the four application services.
  - BMS.BedManagerService
  - BMS.SecurityHost
  - BMS.ServiceHost
  - BMS.VI.ServiceHost.

All BMS Facilities/Sites require at least one service account for certain site functionality.

- This service account will run the EMS Mobile Page and Whiteboard Kiosk Page functions.
- Under BMS version 1.xx a single service account can be used for both functions.
- The service account that runs the EMS Mobile Page and Whiteboard Kiosk Page functions must not have any Policies assigned that restrict its use to specific computers.

BMS minimum hardware and software requirements are presented below:

*Table 1 - Server for Web Applications*

Basic software:	Microsoft Windows Server 2008 64 bit R2 Standard Microsoft Clustering Services 2008 IIS 7.5 ASP.NET MVC3 .NET Framework 4.0
Application software:	Dashboards web application
Processor(s):	2 x Intel Xeon E5520 or equivalent
Memory:	16 GB
Hard disks:	600 GB
Network controller:	Broadcom NetXtreme Gigabit Ethernet, or equivalent

*Table 2 - Application Sever*

<b>Basic software:</b>	Microsoft Windows Server 2008 64 bit R2 Standard .NET Framework 4.0
<b>Application software:</b>	EIS, EVS, DS, BMS InFlow
<b>Processor(s):</b>	2 x Intel Xeon E5520 or equivalent
<b>Memory:</b>	16 GB
<b>Hard disks:</b>	600 GB
<b>Network controller:</b>	Broadcom NetXtreme Gigabit Ethernet, or equivalent

*Table 3 - Database Server*

<b>Basic software:</b>	Microsoft Windows Server 2008 64 bit R2 Standard Microsoft SQL Server 2008 R2 Standard .NET Framework 4.0
<b>Application software:</b>	Databases used by the services installed on APP
<b>Processor(s):</b>	2 x Intel Xeon E5520 or equivalent
<b>Memory:</b>	16 GB
<b>Hard disks:</b>	600 GB
<b>Network controller:</b>	Broadcom NetXtreme Gigabit Ethernet, or equivalent

## 2.3 Configuration Parameters

This section describes configuration parameters of the BMS application.

Table 4 - BMS ServiceHost Configuration Parameters

File	Section	Configuration key	Configuration values (ex.)	Description	
BMS.ServiceHost.exe.config	configuration/connectionStrings/add	ConnectionString	Data source=vadserver\sql2008;InitialCatalog=BMS;Persist Security Info=False;Integrated Security=SSPI	Connection string for the connection to the BMS database.	
	configuration/appSettings/key	DatasetPath	DBRepository		Data Adapters (eXtensible Markup Language (XML) mapping files) path.
		LocalServer	yes/no		ePractice remoting.
		UseSecurityContext	0/1		ePractice security context.
		ePractice.MiddleTier.Transaction	MiddleTier.dll		Specifies the middle tier assembly.
		ConnectionString	1		ePractice connection reference.
		TransactionProvider	ePractice.MiddleTier.		ePractice transaction provider.
				CustomTransactionProvider	
		VistaWorker.WorkerDelayTimeSpan	0:0:0:1		Time span between the BMS Service starts and the Vista Worker runs for the first time.
		VistaWorker.WorkerPeriodTimeSpan	0:0:0:5		Time span between two runs of the Vista Worker.
		VistaWorker.Enabled	true/false		Specifies if the Vista Worker is enabled.
		VistaWorker.BulkSize	100		Maximum number of processed entities in one step.
		VistaIntegration.Enabled	true/false		Specifies if the Vista Integration is enabled/disabled.
	SmtpHost	localhost		Smtp host.	
VistaWorker.VistASitesFilePath	VistASites.xml		The vista sites configuration file name.		

	VistaIntegration.SchedulerSecondsLate	30	The time delay of schedulers.
	VistaIntegration.UpdateBmsPatients	true/false	Whether update bms patients is enabled or not.
	VistasBedHoldSupported	V01BHS	Which VistA support Bed Hold.
	visitorAppPwd	UM	Password used by MDWS to connect to VistA.

File	Section	Configuration key	Configuration values (ex.)	Description
		visitorUserSiteCode	523	User Site Code used by MDWS to connect to VistA.
		visitorUserName	DEPARTMENT OF DEFENSE,USER	User Name used by MDWS to connect to VistA.
		visitorUserDuz	10000029117	User Duz used by MDWS to connect to VistA.
		visitorUserSsn	123456789	User SSN used by MDWS to connect to VistA.
		visitorContext	OR CPRS GUI CHART	Context used by MDWS to connect to VistA.
		UsingNewMdwsMethods	true/false	Whether use new MDWS methods for vista integration.
		BMS_EIS_GET_ENTITY_FILTR_PAGE_SIZE	1000	Number of records queried that are brought from EIS in one page.
		BMS_EVS_GET_CONCEPT_PAGE_SIZE	1000	Number of records queried that are brought from EVS in one page.
		Changeset	Number of latest build.	Changeset of the installed build.
		NumiSvcAuthenticationKey	AEB4E3F0-67E4-4CAF-8A16-D7C93A075371	NUMI service authentication key.
		NumiMaxNumberOfSitesPerCall	5	Maximum number of sites that NUMI processes in one call.
		ReadCacheEndpointFromConfig	true/false	If true the cache is read from config, otherwise is read from BMS table.
		UseCacheEndpointFromConfig WithSsl	true/false	Whether use SSL endpoint from configuration file.
		ProxyPoolMaxCount	1000	The maximum number of proxies in the pool.
		MdwsEndpointUrl_1	http://mdws_server:81/QuerySvc.asmx	MDWS instance URL address.
		MdwsEndpointUrl_2	http://mdws_server:82/QuerySvc.asmx	MDWS instance URL address.
		VistaIntegrationJobFailed MaxCount	25	The maximum number of job failures until the system decides to retry.
		VistaIntegrationJobFailed IncrementDateMinutes	10	The time span (minutes) that the system decides to increment job's start date when the threshold of job failures is reached.
		VistaIntegrationJobFailed NotificationEmailTo	va_person@va.gov	Recipient's email used when a job fails.
		VistaIntegrationJobFailed NotificationEmailFrom	BMSBackgroundProcessorAgent@va.gov	Sender's email used when a job fails.

File	Section	Configuration key	Configuration values (ex.)	Description
	configuration/ system.serviceModel/s ervices/service/host/b aseAddresses	baseAddress	http://vaserver:17050/ BMSOperations	BMS Operations service endpoint address.
	configuration/ system.serviceModel/s ervices/service/host/b aseAddresses	baseAddress	http://vaserver:17050/BMSQuery	BMS Query service endpoint address.
	configuration/ system.serviceModel/s ervices/service/host/b aseAddresses	baseAddress	http:// vaserver:17050/ BMSConfigurationOperations	BMS Configuration Operations service endpoint address.
	configuration/ system.serviceModel/s ervices/service/host/b aseAddresses	baseAddress	http://vaserver:17050/BMS/ AuthorizationSubscriber	Authorization Subscriber service endpoint address.
	configuration/ system.serviceModel/s ervices/service/host/b aseAddresses	baseAddress	http://vaserver:17050/TransferWF	Transfer Workflow service endpoint address.
	configuration/ system.serviceModel/s ervices/service/host/b aseAddresses	baseAddress	http://vaserver:17050/BMSWF	BMS Workflow service endpoint address.
	configuration/ system.serviceModel/s ervices/service/host/b aseAddresses	baseAddress	http://vaserver:17050/ WaitingListWF	Patients Pending Placement List Workflow service endpoint address.
	configuration/ system.serviceModel/s ervices/service/host/b aseAddresses	baseAddress	http://vaserver:17050/ BedCleanWF	Bed Clean Workflow service endpoint address.
	configuration/ system.serviceModel/s ervices/service/host/b aseAddresses	baseAddress	http://vaserver:17050/ BedUnavailableWF	Bed Unavailable Workflow service endpoint address.
	configuration/ system.serviceModel/s ervices/service/host/b aseAddresses	baseAddress	http://vaserver:17050/VistaQuery	VistA Query Workflow service endpoint address.

File	Section	Configuration key	Configuration values (ex.)	Description
	configuration/ system.serviceModel/s ervices/service/host/b aseAddresses	baseAddress	http://vaserver:17050/ HL7Operations	HL7 Operations service endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver/mdws2/ QuerySvc.asmx	MDWS client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/PAP	PAP client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/PDP	PDP client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/PAP	PAP Windows authentication client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/PDP	PDP Windows authentication client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/ QueryFunctions	EIS Query Functions client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/ QueryFunctions	EIS Windows authentication client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/ EntityManagement	Entity Management client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/ EntityManagement	Entity Management authentication client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/ CTSVocabularyRuntime	EVS CTS Vocabulary Runtime client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/ CTSVocabularyBrowse	EVS CTS Vocabulary Browse client endpoint address.
	configuration/ system.serviceModel/c	address	http://vaserver:17050/ CTSMessageBrowse	EVS CTS Message Browse client endpoint address.



File	Section	Configuration key	Configuration values (ex.)	Description
	lient/endpoint			
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/ CTSMessagesRuntime	EVS CTS Message Runtime client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/ CTSMessagesEdit	EVS CTS Message Edit client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/ CTSVocabularyEdit	EVS CTS Vocabulary Edit client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/ BMSQuery	BMS Query client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/ BMSQuery	BMS Query Windows authentication client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/ BMSOperations	BMS Operations client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/ BMSOperations	BMS Operations Windows authentication client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/ BMSConfigurationOperations	BMS Configurations client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/ BMSConfigurationOperations	BMS Configurations Windows authentication client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/BMSWF	BMS Workflow client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/BMSWF	BMS Workflow Windows authentication client endpoint address.
	configuration/ system.serviceModel/c lient/endpoint	address	http://vaserver:17050/ BedCleanWF	Bed Clean Workflow client endpoint address.
	configuration/	address	http://vaserver:17050/	Bed Clean Workflow Windows authentication

File	Section	Configuration key	Configuration values (ex.)	Description
	system.serviceModel/client/endpoint		BedCleanWF	client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/BedUnavailableWF	Bed Unavailable Workflow client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/BedUnavailableWF	Bed Unavailable Workflow Windows authentication client endpoint address.

Table 5 - EIS Service Configuration Parameters

File	Section	Configuration key	Configuration values (ex.)	Description
EISService  Implementation. dll config	configuration/connectionStrings/add	ConnectionString	Workstation id=vadbserver\sql2008r2;packet size=4096;data source=vadbserver\sql2008r2;persist security info=False;Initial Catalog=BMS_EIS;Integrated Security=SSPI;	Connection string for the connection to the BMS_EIS database.
	configuration/appSettings/key	DatasetPath	DBRepository	Data Adapters (XML mapping files) path.
		OverwriteCreateEntityId	true/false	If set to true, the service generates a new unique identifier on each resource create call, otherwise, it uses the identifier received as parameter. If set to true, the service notifies linked
		NotificationIndicator	true/false	EIS services of changes produced on entities.
		UseSecurityContext	0/1	ePractice security context
		DnsIdentity	IWHM3Services	Certificate which specifies the service's dns identity.
		ReceiveIndicator	true/false	If set to true, the service accepts notification messages from linked EIS services.
		AutomaticLinkIndicator	true/false	If set to true, entities are automatically linked (associated as equivalent) across linked EIS services.
		XEISIndicator	true/false	Specifies whether the cross EIS worker should be started.

		XEISDomain	domain name	Domain of the cross EIS implementation.
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File	Section	Configuration key	Configuration values (ex.)	Description
		SubscriptionTopic	entity	Specifies the topic of the synchronization subscription, meaning what should be synced.
		AuditProtocol	none/udp	Transfer protocol to communicate with the audit service or none if not used.
		AuditServer	auditserver	Server where the audit service resides.
		AuditPort	10000	Port of the audit service on the specified server.
		AuditSynchronIndicator	true/false	Specifies if the Audit Service should be called synchronous or asynchronous.
	configuration/ system.serviceModel/behaviors/endpointBehaviors/behavior/clientCredentials/serviceCertificate/scopedCertificates/add	targetUri	http://vaserver:17050/STS/Windows	URI of STS certificate.
	configuration/ system.serviceModel/bindings/wsFederationHttpBinding/binding/message/issuerMetadata	address	http://vaserver:17050/STS/mex	STS metadata exchange URL used by ServiceBinding.
	configuration/ system.serviceModel/bindings/wsFederationHttpBinding/binding/security/message/issuer	address	http://vaserver:17050/STS/Windows	STS URL used by WinBinding.
	configuration/ system.serviceModel/services/serviceHost/baseAddress/add	baseAddress	http://vaserver:17050/QueryFunctions	EIS Query Functions service endpoint address.
	configuration/ system.serviceModel/services/serviceHost/baseAddress/add	baseAddress	http://vaserver:17050/Administration	EIS Administration service endpoint address.
	configuration/ system.serviceModel	baseAddress	http://vaserver:17050/EntityManagement	EIS EntityManagement service endpoint address.

File	Section	Configuration key	Configuration values (ex.)	Description
	el/services/service/host/baseAddress/add			
	configuration/system.serviceModel/services/service/host/baseAddress/add	baseAddress	http://vaserver:17050/ServiceMetadataManagement	EIS ServiceMetadataManagement service endpoint address.
	configuration/system.serviceModel/services/service/host/baseAddress/add	baseAddress	http://vaserver:17050/BulkEntityManagement	EIS Bulk BulkEntityManagement service endpoint address.
	configuration/system.serviceModel/services/service/host/baseAddress/add	baseAddress	http://vaserver:17050/Subscribe	EIS Subscribe service endpoint address.
	configuration/system.serviceModel/services/service/host/baseAddress/add	baseAddress	http://vaserver:17050/LinkAlgorithmAdministration	EIS LinkAlgorithmAdministration service endpoint address.
	configuration/system.serviceModel/services/service/host/baseAddress/add	baseAddress	http://vaserver:17050/EIS/SubscriptionAdministration	EIS SubscriptionAdministration service endpoint address.
	configuration/system.serviceModel/services/service/host/baseAddress/add	baseAddress	http://vaserver:17050/Receive	EIS Receive service endpoint address.
	configuration/system.serviceModel/services/service/host/baseAddress/add	baseAddress	http://vaserver:17050/EIS/MessageAdministration	EIS MessageAdministration service endpoint address.
	configuration/system.serviceModel/services/service/host/baseAddress/add	baseAddress	http://vaserver:17050/EIS/AuthorizationSubscriber	EIS AuthorizationSubscriber service endpoint address.

File	Section	Configuration key	Configuration values (ex.)	Description
	add			
Connections.xml	MyConnections/ connectionString	connectionString	workstation id= vadserver\sql2008r2;packet size=4096;data source= vadserver\sql2008r2;persist security info=False;Initial Catalog=BMS_EIS;Integrated Security=SSPI;	Connection string for the connection to the BMS_EIS database.

Table 6 - EVS Service Configuration Parameters

File	Section	Configuration key	Configuration values (ex.)	Description
MessageImpl.dll. config	configuration/ appSettings/ kev	DatasetPath	DBRepository	Data Adapters (XML mapping files) path.
		ApplicationFolder	D:\CTS\CTSImport	String path to application folder.
		SqlScriptsFolder	SqlScrips	SQL scripts folder name.
		TextFilesFolder	TextFiles	Text files folder name.
		PackageFilesFolder	PackageFiles	Package files folder name.
		CodeMappingTempTable	dbo.TempMapping	The mapping temporary table name.
		TemporaryFolder	Temp	Temporary folder name.
		SubscriptionTopic	cts	Specifies the topic of the synchronization subscription, meaning what should be synced.
		NotificationIndicator	true/false	Notification indicator.
		BulkInsertBatchSize	1000	Maximum number of processed records in one step.
		DnsIdentity	IWHM3Services	Certificate which specifies the service's dns identity.
StartSecurityEndpoints	true/false	Specifies if the secure endpoints are to be started.		
http://localhost:17050/CTSImport	EVS	EVS import from excel key.		

		http://localhost:17050/CTSExport	EVS	EVS export to excel key.
	configuration/ system.serviceMod el/services/service/h ost/baseAddresses/	baseAddress  baseAddress	http://vaserver:17050/ CTSVocabularyRuntime  https://vaserver:17050/	CTS VocabularyRuntime service endpoint address (HTTP Protocol).  CTS VocabularyRuntime service endpoint address (HTTPS Protocol).

File	Section	Configuration key	Configuration values (ex.)	Description
	add		CTSVocabularyRuntime	
	configuration/ system.serviceModel/services/serviceHost/baseAddresses/add	baseAddress	http://vaserver:17050/ CTSMapping	CTS Mapping service endpoint address (HTTP Protocol).
	configuration/ system.serviceModel/services/serviceHost/baseAddresses/add	baseAddress	https://vaserver:17706/ CTSMapping	CTS Mapping service endpoint address (HTTPS Protocol).
	configuration/ system.serviceModel/services/serviceHost/baseAddresses/add	baseAddress	http://vaserver:17050/ CTSVocabularyBrowse	CTS VocabularyBrowse service endpoint address (HTTP Protocol).
	configuration/ system.serviceModel/services/serviceHost/baseAddresses/add	baseAddress	https://vaserver:17706/ CTSVocabularyBrowse	CTS VocabularyBrowse service endpoint address (HTTPS Protocol).
	configuration/ system.serviceModel/services/serviceHost/baseAddresses/add	baseAddress	http://vaserver:17050/ CTSMessageRuntime	CTS MessageRuntime service endpoint address (HTTP Protocol).
	configuration/ system.serviceModel/services/serviceHost/baseAddresses/add	baseAddress	https://vaserver:17706/ CTSMessageRuntime	CTS MessageRuntime service endpoint address (HTTPS Protocol).
	configuration/ system.serviceModel/services/serviceHost/baseAddresses/add	baseAddress	http://vaserver:17050/ CTSMessageBrowse	CTS MessageBrowse service endpoint address (HTTP Protocol).
	configuration/ system.serviceModel/services/serviceHost/baseAddresses/add	baseAddress	https://vaserver:17706/ CTSMessageBrowse	CTS MessageBrowse service endpoint address (HTTPS Protocol).
	configuration/ system.serviceModel/services/serviceHost/baseAddresses/add	baseAddress	http://vaserver:17050/ CTSMessageEdit	CTS MessageEdit service endpoint address (HTTP Protocol).
	configuration/ system.serviceModel/services/serviceHost/baseAddresses/add	baseAddress	https://vaserver:17706/ CTSMessageEdit	CTS MessageEdit service endpoint address (HTTPS Protocol).
	configuration/ system.serviceModel/services/serviceHost/baseAddresses/add	baseAddress	http://vaserver:17050/ CTSVocabularyEdit	CTS VocabularyEdit service endpoint address (HTTP Protocol).
	configuration/ system.serviceModel/services/serviceHost/baseAddresses/add	baseAddress	https://vaserver:17706/ CTSVocabularyEdit	CTS VocabularyEdit service endpoint address (HTTPS Protocol).
	configuration/ system.serviceModel/services/serviceHost/baseAddresses/add	baseAddress	http://vaserver:17050/ CTSMappingEdit	CTS MappingEdit service endpoint address (HTTP Protocol).
	configuration/ system.serviceModel/services/serviceHost/baseAddresses/add	baseAddress	https://vaserver:17706/ CTSMappingEdit	CTS MappingEdit service endpoint address (HTTPS Protocol).
	configuration/ system.serviceModel/services/serviceHost/baseAddresses/add	baseAddress	http://vaserver:17050/Xaml	XAML service endpoint address.



File	Section	Configuration key	Configuration values (ex.)	Description
	ost/baseAddresses/ add			
	configuration/ system.serviceMod el/services/service/h ost/baseAddresses/ add	baseAddress	<i>http://vaserver:17050/ EVSWrapper</i>	EVS Wrapper service endpoint address.
	configuration/ system.serviceMod el/services/service/h ost/baseAddresses/ add	baseAddress	<i>http://vaserver:17050/ CTSImport</i>	CTS Import service endpoint address.
	configuration/ system.serviceMod el/services/service/h ost/baseAddresses/ add	baseAddress	<i>http://vaserver:17050/ CTSExport</i>	CTS Export service endpoint address.
	configuration/ system.serviceMod el/services/service/h ost/baseAddresses/ add	baseAddress	<i>http://vaserver:17050/ CTSEditBulk</i>	CTS EditBulk service endpoint address.
	configuration/ system.serviceMod el/services/service/h ost/baseAddresses/ add	baseAddress	<i>http://vaserver:17050/CTS/ SubscriptionAdministration</i>	CTS Subscription Administration service endpoint address.
	configuration/ system.serviceMod el/services/service/h ost/baseAddresses/ add	baseAddress	<i>http://vaserver:17050/CTS/ MessageAdministration</i>	CTS Message Administration service endpoint address.
	configuration/syste m.serviceModel/ bindings/ wsFederationHttpBi nding/binding/ security/message/ issuerMetadata	address	<i>http://vaserver:17050/STS/mex</i>	STS metadata exchange URL used by ServiceBinding.

File	Section	Configuration key	Configuration values (ex.)	Description
	configuration/system.serviceModel/bindings/wsFederationHttpBinding/binding/security/message/issuer	address	http://vaserver:17050/STS/Windows	STS URL used by WinBinding.
EVSWrapper.dll.config	configuration/system.serviceModel/services/service/host/baseAddresses/add	baseAddress	http://vaserver:17050/EVSWrapper	EVS Wrapper service endpoint address.

Table 7 - PAP Service Configuration Parameters

File	Section	Configuration key	Configuration values (ex.)	Description
PolicyAdministrationPoint.dll.config	configuration/appSettings/	DefaultResourceRoot	VA	Default root for identifiers.
		DatasetPath	DBRepository	Data Adapters (XML mapping files) path.
		su	hmcomplus	Specifies the super user of the application.
		SubscriptionTopic	Authorization	Specifies the topic of the synchronization subscription, meaning what should be synced.
		DnsIdentity	IWHM3Services	Certificate which specifies the service's dns identity.
		AuditProtocol	none/udp	Transfer protocol to communicate with the audit service or none if not used.
		AuditServer	auditserver	Server where the audit service resides.
	AuditPort	10000	Port of the audit service on the specified server.	

configuration/ connectionStrings/ add	connectionString	workstation id= vadbserver\sql2008r2;packet size=4096;data source= vadbserver\sql2008r2;persist security info=False;Initial Catalog=BMS_AUTHZ;Integrated Security=SSPI;	Connection string for the connection to the BMS_AUTHZ database.
configuration/system.serviceModel/ bindings/ wsFederationHttpBi	address	http://vaserver.17050/STS/ Windows	STS URL used by UpnBinding.

File	Section	Configuration key	Configuration values (ex.)	Description
	nding/binding/security/message/issuer			
	configuration/system.serviceModel/bindings/wsFederationHttpBinding/binding/security/message/issuer	address	http://vaserver:17050/STS/Windows	STS URL used by WinBinding.
	configuration/system.serviceModel/services/service/host/baseAddresses/add	baseAddress	http://vaserver:17050/PAP	PAP service endpoint address.
	configuration/system.serviceModel/services/service/host/baseAddresses/add	baseAddress	http://vaserver:17050/AuthorizationPublisher	AuthorizationPublisher service endpoint address.
	configuration/system.serviceModel/services/service/host/baseAddresses/add	baseAddress	http://vaserver:17050/PAP/MessageAdministration	MessageAdministration service endpoint address.
	configuration/system.serviceModel/services/service/host/baseAddresses/add	baseAddress	http://vaserver:17050/PAP/SubscriptionAdministration	SubscriptionAdministration service endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/PDP/Request	PDP request client endpoint address.
	configuration/system.serviceModel/behaviors/endpointBehaviors/behavior/clientCredentials/serviceCertificate/scopedCertificates/add	targetUri	http://vaserver:17050/STS/Windows	URI of STS certificate.
Connections.xml	MyConnections/MyConnection/	connectionString	workstation id= vadbserver\sql2008r2;packet	Connection string for the connection to the BMS_AUTHZ database.

File	Section	Configuration key	Configuration values (ex.)	Description
	ConnectionString		size=4096;data source=vadbserver\sql2008r2;persist security info=False;Initial Catalog=BMS_AUTHZ;Integrated Security=SSPI;	

Table 8 - PDP Service Configuration Parameters

File	Section	Configuration key	Configuration values (ex.)	Description
PolicyDecisionPoint.dll.config	configuration/appSettings/key	DefaultResourceRoot	VA	Default root for identifiers.
		ConnectionString	Data source=vadbserver\sql2008;InitialCatalog=BMS_AUTHZ;Persist Security Info=False;Integrated Security=SSPI	Connection string for the connection to the BMS_AUTHZ database.
	configuration/system.serviceModel/bindings/wsFederationHttpBinding/binding/security/message/issuerMetadata	address	http://vaserver:17050/STS/mex	STS metadata exchange URL used by ServiceBinding.
	configuration/system.serviceModel/services/serviceHost/baseAddresses/add	baseAddress	http://vaserver:17050/PDP	PDP service endpoint address.
	configuration/system.serviceModel/services/serviceHost/baseAddresses/add	baseAddress	http://vaserver:17050/PDP/Request	PDP Request service endpoint address.

Table 9 - RS Service Configuration Parameters

File	Section	Configuration key	Configuration values (ex.)	Description
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RS.Service Implementation	configuration/ appSettings/	DefaultResourceRoot reportingServicesURL	VA http://vaserver:90/report	Default root for identifiers. reporting services URL address.
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File	Section	Configuration key	Configuration values (ex.)	Description
dll.config	key		Server/ReportService2005.asmx	
		RootFolderName	Reporting Service	Reports root folder in the reporting services.
		AuditProtocol	none/udp	Transfer protocol to communicate with the audit service or none if not used.
		AuditServer	auditserver	Server where the audit service resides.
		AuditPort	10000	Port of the audit service on the specified server.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/PDP/Request	PDP request client endpoint address.
	configuration/system.serviceModel/bindings/wsFederationHttpBinding/binding/security/message/issuerMetadata	address	http://vaserver:17050/STS/mex	STS metadata exchange URL used by ServiceBinding.
	configuration/system.serviceModel/bindings/wsFederationHttpBinding/binding/security/message/issuer	address	http://vaserver:17050/STS/Windows	URL of CustomBinding_IAuthenticationService.
	configuration/system.serviceModel/services/service/host/baseAddresses/add	baseAddress	http://vaserver:17050/RS	RS service endpoint address.
	configuration/system.serviceModel/behaviors/endpointBehaviors/behavior/clientCredentials/serviceCertificate/scopedCertificates/	targetUri	http://vaserver:17050/STS/Windows	URI of STS certificate.

File	Section	Configuration key	Configuration values (ex.)	Description
	add			

Table 10 - STS Service Configuration Parameters

File	Section	Configuration key	Configuration values (ex.)	Description	
SecureToken Service.dll.config	configuration/ appSettings/ key	Delay	0:01:00	Sleep interval between the retries to insert the superusers in the database.	
		TokenTTLInMinutes	1442	Time to live of the security token, in minutes.	
		STSCertificateStoreName	My	Specifies the name of the X.509 certificate store to open.	
		STSCertificateStoreLocation	LocalMachine	Specifies the location of the X.509 STS certificate store.	
		STSCertificateFindType	FindBySubjectName	Specifies the type of value the X509Certificate2Collection.Find method	
					searches for.
		STSCertificateFindValue	IWHM3STS	STS Certificate name.	
		ServiceCertificateStoreName	My	Specifies the name of the X.509 certificate store to open.	
		ServiceCertificateStoreLocation	LocalMachine/CurrentUser	Specifies the location of the X.509 services' certificate store.	
		ServiceCertificateFindType	FindBySubjectName	Specifies the type of value the X509Certificate2Collection.Find method searches for.	
		ServiceCertificateFindValue	IWHM3Services	Services' Certificate name.	
		su	Domain qualified user names, comma separated.	Usernames of all the super users in the application.	
domains	VA VA	Comma separated list of root extension values for the application's domains.			



configuration/ connectionStrings/ add	connectionString	workstation id= vadbserver\sql2008r2;packet size=4096;data source= vadbserver\sql2008;persist security info=False;Initial Catalog=BMS_AUTHZ;Integrated Security=SSPI;	Connection string for the connection to the BMS_AUTHZ database.
configuration/ system.serviceMod	baseAddress	http://vaserver.17050/STS	STS service endpoint address.

File	Section	Configuration key	Configuration values (ex.)	Description
	el/services/service/host/baseAddresses/add			
	configuration/system.serviceModel/services/service/host/baseAddresses/add	baseAddress	http://vaserver:17050/authsvc	Authsvc service endpoint address.
	configuration/system.serviceModel/bindings/wsFederationHttpBinding/binding/security/message/issuerMetadata	address	http://vaserver:17050/STS/mex	STS metadata exchange URL used by ServiceBinding.
	configuration/system.serviceModel/bindings/wsFederationHttpBinding/binding/security/message/issuer	address	http://vaserver:17050/STS/Windows	URL of STS used by WindowsBinding.
	configuration/system.serviceModel/bindings/wsFederationHttpBinding/binding/security/message/issuer/identity/userPrincipalName	value	VAUser@domain.com	Name of the user under which the service is running.
	configuration/system.serviceModel/behaviors/serviceBehaviors/behavior/serviceMetadata	httpGetUrl	http://vaserver:17050/STS/mex	Metadata exchange address of ServiceSTSBehavior.

*Table 11 - Win ServiceHost Configuration Parameters*

File	Section	Configuration key	Configuration values (ex.)	Description
WinServiceHost.exe.config	configuration/appSettings/key	LocalServer	yes/no	ePractice remoting flag. Only used with yes.
		UseSecurityContext	0/1	Flag which specifies if ePractice uses the security context.
		AuditProtocol	none/udp	Transfer protocol to communicate with the audit service or none if not used.
		AuditServer	auditserver	Server where the audit service resides.
		AuditPort	10000	Port of the audit service on the specified server.
		ServiceCertificateStoreName	My	Specifies the name of the X.509 certificate store to open.
		ServiceCertificateStoreLocation	LocalMachine	Specifies the location of the X.509 services' certificate store.
		ServiceStartupTimeoutSecondsAdd	90	Specifies the type of value the time in seconds to wait for the services to start.
		ServiceCertificateFindType	FindBySubjectName	X509Certificate2Collection.Find method searches for

Table 12 - WMI User Group Configuration Parameters

File	Section	Configuration key	Configuration values (ex.)	Description
WMI_UserGroup.exe	configuration/appSettings/key	DatasetPath	DBRepository	Data Adapters (XML mapping files) path.
		LocalMachineName	localhost	Name of the host where WMI_UserGroup will run.
		IsRunningOnLocalMachine	true/false	Specify if WMI_UserGroup will run on local machine or not.
Connections.xml	MyConnections/MyConnection/ConnectionString	ConnectionString	packet size=4096;data source=vadbserver\sql2008r2;persist security info=False;Initial Catalog=BMS_DW;Integrated Security=SSPI;connection timeout = 600	Connection string for the connection to the BMS_DW database.

Table 13 - Policy Manager Configuration Parameters

File	Section	Configuration key	Configuration values (ex.)	Description
PolicyManager.exe.config	configuration/ appSettings/ key	DefaultResourceRoot	VA	Default root for identifiers.
		AuditProtocol	none/udp	Transfer protocol to communicate with the audit service or none if not used.
		AuditServer	auditserver	Server where the audit service resides.
		AuditPort	10000	Port of the audit service on the specified server.
	configuration/			
	configuration/			
	system.serviceModel/bindings/wsFederationHttpBinding/binding/security/message/issuer	address	http://vaserver:17050/STS/	STS address used by wsFederationBinding binding
	configuration/system.serviceModel/behaviors/endpointBehaviors/behavior/clientCredentials/scopedCertificates/add	targetUri	http://vaserver:17050/STS/	STS address of STS certificate.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/PAP	PAP client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/AuthorizationPublisher	AuthorizationPublisher client endpoint address.
PolicyEditor.dll.config	configuration/system.serviceModel/client	address	http://vaserver:17050/PAP	PAP client endpoint address.

Table 14 - BMS Web Configuration Parameters

File	Section	Configuration key	Configuration values (ex.)	Description
Web.config	configuration/ appSettings/	webpages:Version	1.0.0.0	Version of the web site.
		ClientValidationEnabled	true/false	Gets or sets a value that indicates whether client-side validation is enabled.

File	Section	Configuration key	Configuration values (ex.)	Description
	key	UnobtrusiveJavaScriptEnabled	true/false	Gets or sets a value that indicates whether unobtrusive JavaScript is enabled.
		ReportsPath	/BMS	Path of the reports in the reporting services.
		BMS.EVSDictionaryCacheSize	512	Cache size for the vocabulary service, representing the number of concepts cached.
		VAURL	http://vaww.esm.infoshare.va.gov/PMIC/Projects/BMS/Implement/default.aspx	BMS Sharepoint Site.
		TICKETURL	http://vaww.esm.infoshare.va.gov/PMIC/Projects/BMS/Implement/HDPProcess/default.aspx	Enter a defect and enhancement ticket.
		WhiteboardRefreshRate	60	Time in seconds of refresh rate of the whiteboard page.
		THRESHOLD	0	Threshold value used to compare wait time value of the patient from the Patients Pending Placement List in order to display an alert on the Patients Pending Placement List.
		aspnet:MaxHttpCollectionKeys	2000	Maximum number of asp.net collection keys.
		WhiteboardAjaxRefreshRate	60	Time in seconds of AJAX refresh rate of the whiteboard page.
		WhiteboardRealRefreshRate	60	Time in minutes of standard refresh rate of the whiteboard page.
		HomePageRefreshRate	300	Time in seconds of refresh rate of the home page.
		BMS_EIS_GET_ENTITY_FILTER_PAGE_SIZE	1000	Number of records queried that are brought from EIS in one page.
		BMS_EVS_GET_CONCEPT_PAGE_SIZE	1000	Number of records queried that are brought from EVS in one page.
		Smtphost	VA_MAIL_SERVER	Mail Server host.
		DisplayDetailedErrorMessage	true/false	If set to true displays detailed error message, otherwise displays a generic message ("Please contact BMS administrator.").

File	Section	Configuration key	Configuration values (ex.)	Description
		Is_IIS_Single_Instance	true/false	If set to true a single IIS instance is used. If set to false multiple IIS instances are used (web farm scenario).
		ProxyPoolMaxCount	100	The maximum number of proxies in the pool.
		MdwsEndpointUrl_1	http://mdws_server:81/QuerySvc.asmx	MDWS instance URL address.
		MdwsEndpointUrl_2	http://mdws_server:82/QuerySvc.asmx	MDWS instance URL address.
	configuration/system.serviceModel/bindings/wsFederationHttpBinding/binding/security/message/issuer	address	http://vaserver:17050/STS/Windows	STS Windows address used by WindowsBinding.
	configuration/system.serviceModel/bindings/wsFederationHttpBinding/binding/security/message/issuer	address	http://vaserver:17050/STS/	STS address used by WSFederationHttpBinding_Authenticated Service binding.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/authsvc/upnidentity	Security Authentication client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/RS	Reporting Services client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/QueryFunctions	EIS QueryFunctions client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/QueryFunctions	EIS QueryFunctions Windows authentication client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/EntityManagement	EIS EntityManagement client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/EntityManagement	EIS EntityManagement Windows authentication client endpoint address.

File	Section	Configuration key	Configuration values (ex.)	Description
	client/endpoint			
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/PAP	PAP client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/PAP	PAP Windows authentication client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/PDP	PDP client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/PDP	PDP Windows authentication client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/CTS VocabularyRuntime	CTS VocabularyRuntime client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/CTS VocabularyBrowse	CTS VocabularyBrowse client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/CTS MessageBrowse	CTS MessageBrowse client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/CTS MessageRuntime	CTS MessageRuntime client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/CTS MessageEdit	CTS MessageEdit client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/CTS VocabularyEdit	CTS VocabularyEdit client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/BMS ConfigurationOperations	BMS ConfigurationOperations client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/BMS ConfigurationOperations	BMS ConfigurationOperations Windows authentication client endpoint address.



File	Section	Configuration key	Configuration values (ex.)	Description
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/BMSQuery	BMS Query client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/BMSOperations	BMS Operations client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/TransferWF	Transfer workflow client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/BMSWF	BMS workflow client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/WaitingListWF	Patients Pending Placement List workflow client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/BedCleanWF	Bed clean workflow client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/BedUnavailableWF	Bed Unavailable workflow client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/VistaQuery	Vista Query client endpoint address.
	configuration/system.serviceModel/client/endpoint	address	http://vaserver:17050/VistaQuery	Vista Query Windows authentication client endpoint address.

## 2.4 Scheduled Windows and SQL Jobs Configuration

BMS runs one Windows Scheduled task: BMS – WMI\_UserGroup and two SQL Jobs in order to bring data into the data warehouse (BMS\_DW database): BMS - Reports Full and BMS – Reports Incremental. More information about BMS databases can be referenced from [Section 3.3](#).

### 2.4.1 BMS Reports Full

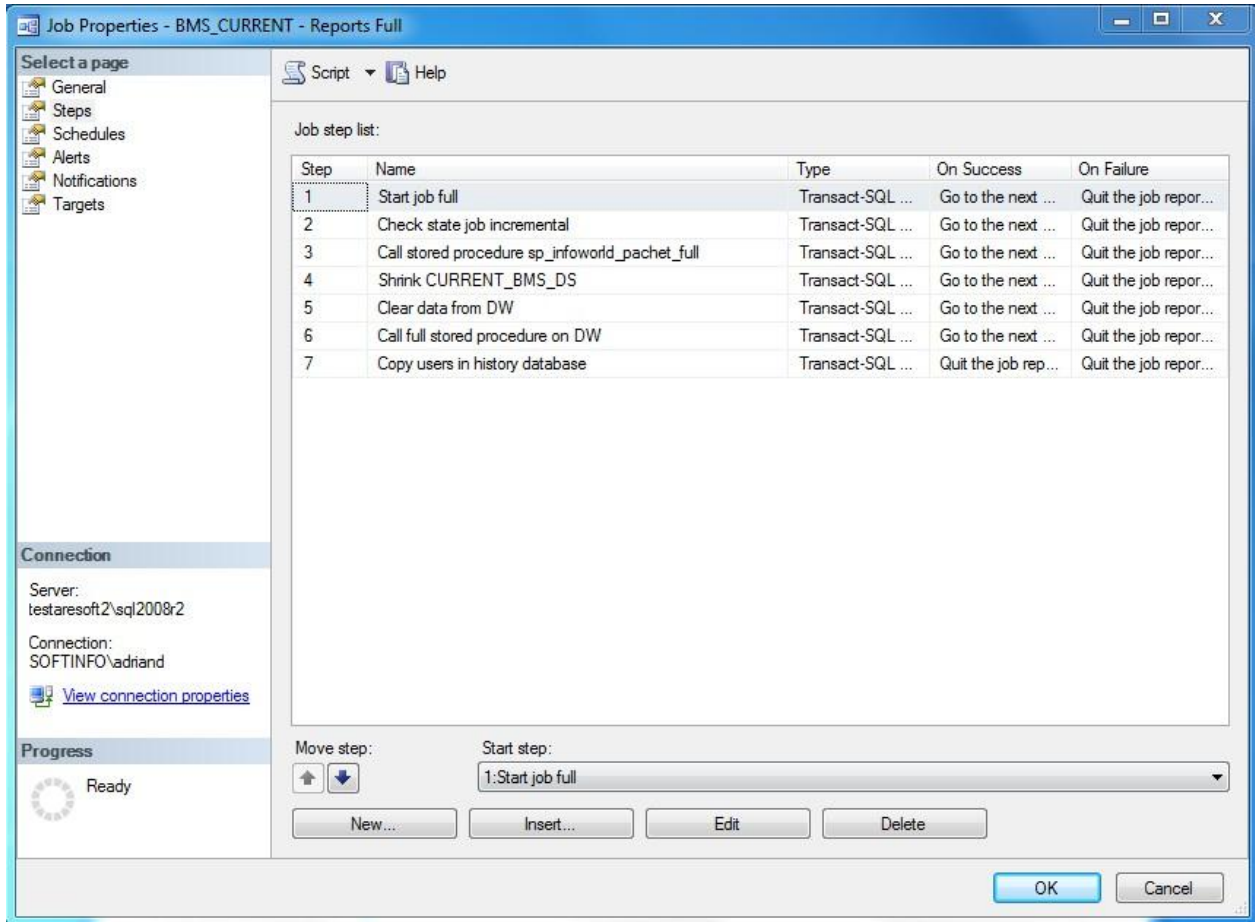
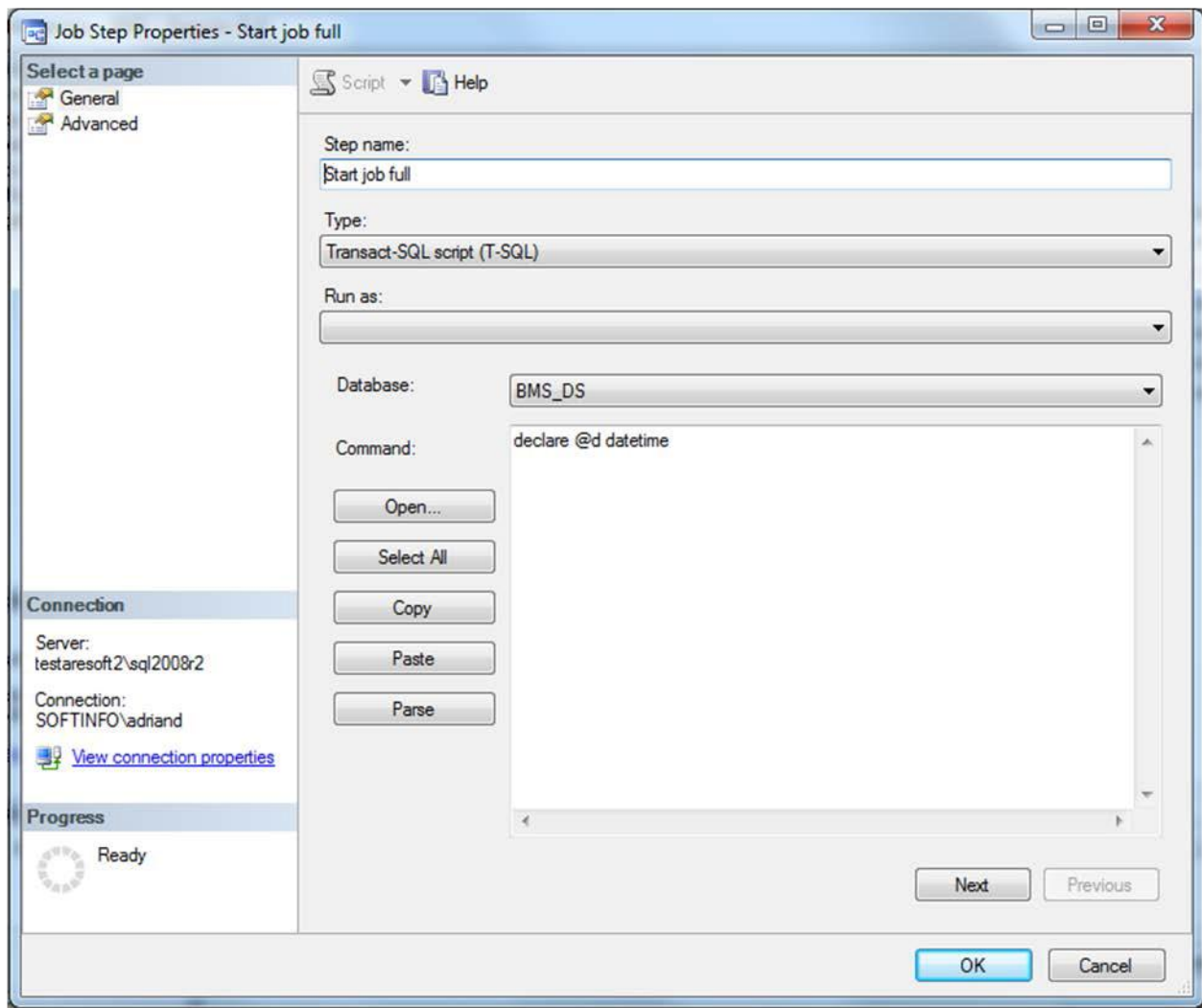


Figure 2 - BMS - Report Full Job

The job's steps can be seen in the figure above and most of them execute stored procedures. At the beginning of the process, the operations are done between the source databases and the destination database, which is BMS\_DS in our case.

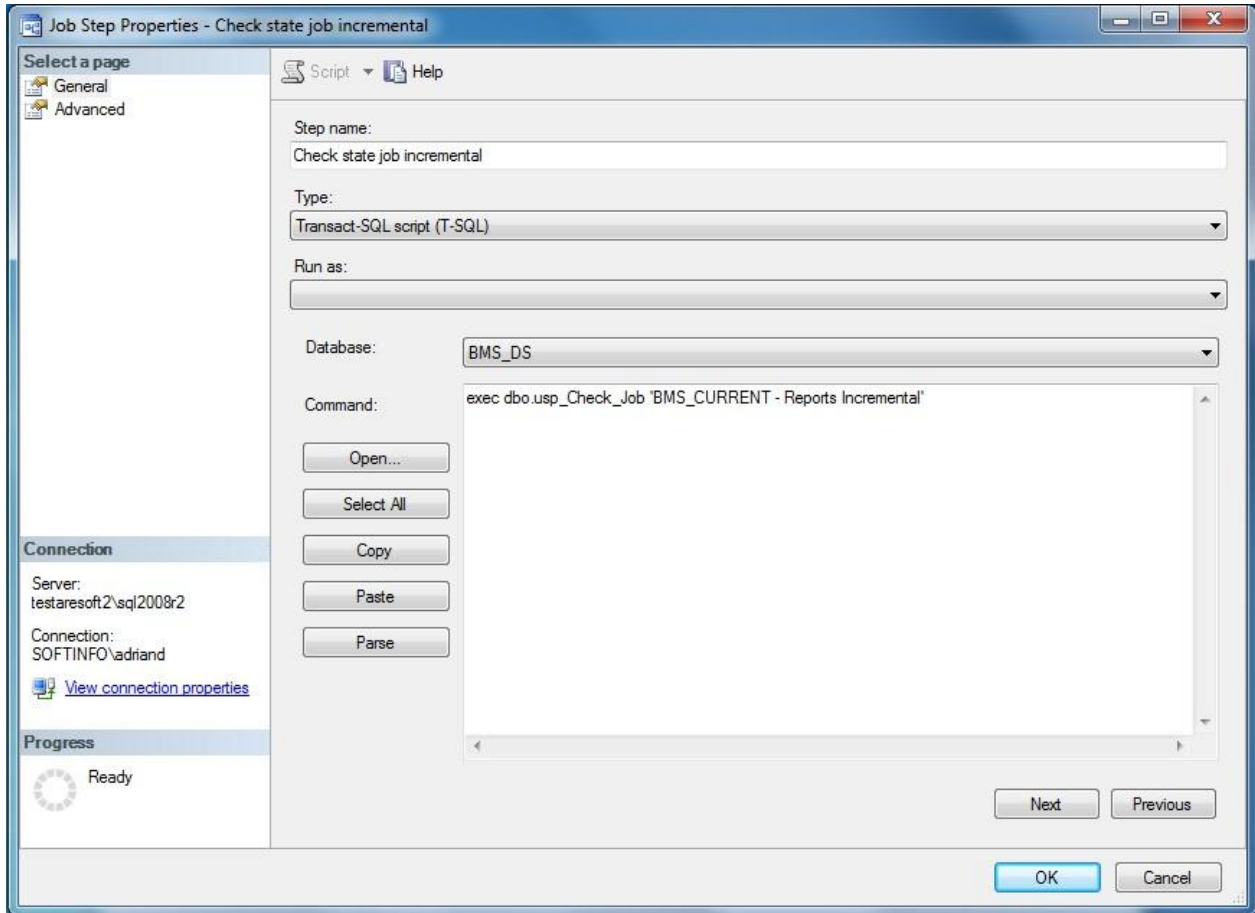
Each step is described below:

**Step 1.** Start job full: this is only an informative step for the log file.



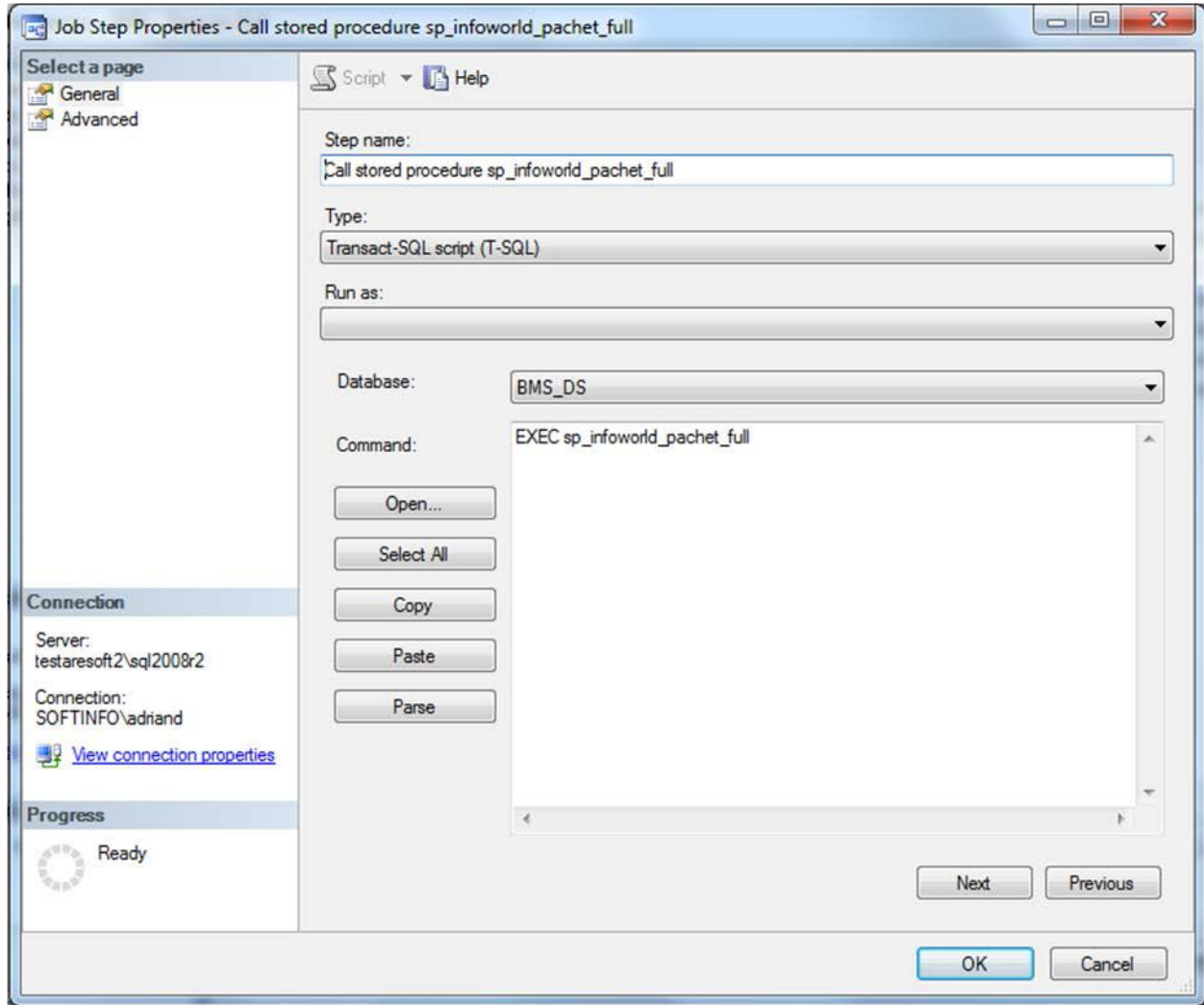
*Figure 3 - BMS - Start Full Job*

**Step 2.** Check state job incremental: it checks the state of the BMS incremental job in order to be sure that it is not currently running, in which case the full job cannot continue.



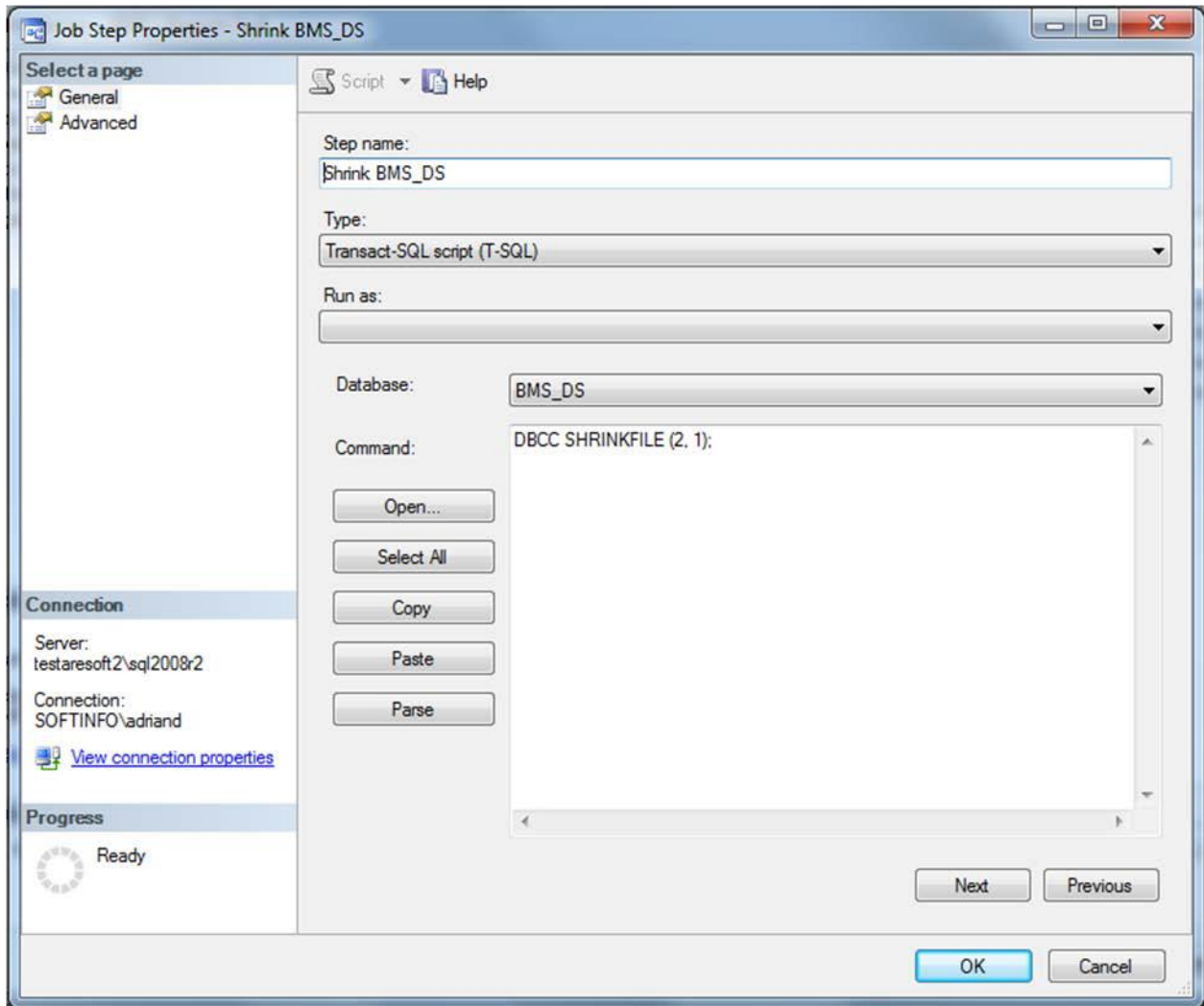
*Figure 4 - BMS - Check State Job Incremental*

**Step 3.** Call procedure `sp_infoworld_pachet_full`: creates or truncates the existing tables in the destination database and then inserts all the rows from each source table in the corresponding destination table. The destination tables from BMS\_DS have the same name as the source tables but prefixed with the source database name. This information is stored in a configuration table in BMS\_DS database, `dbo.ConfigTable`.



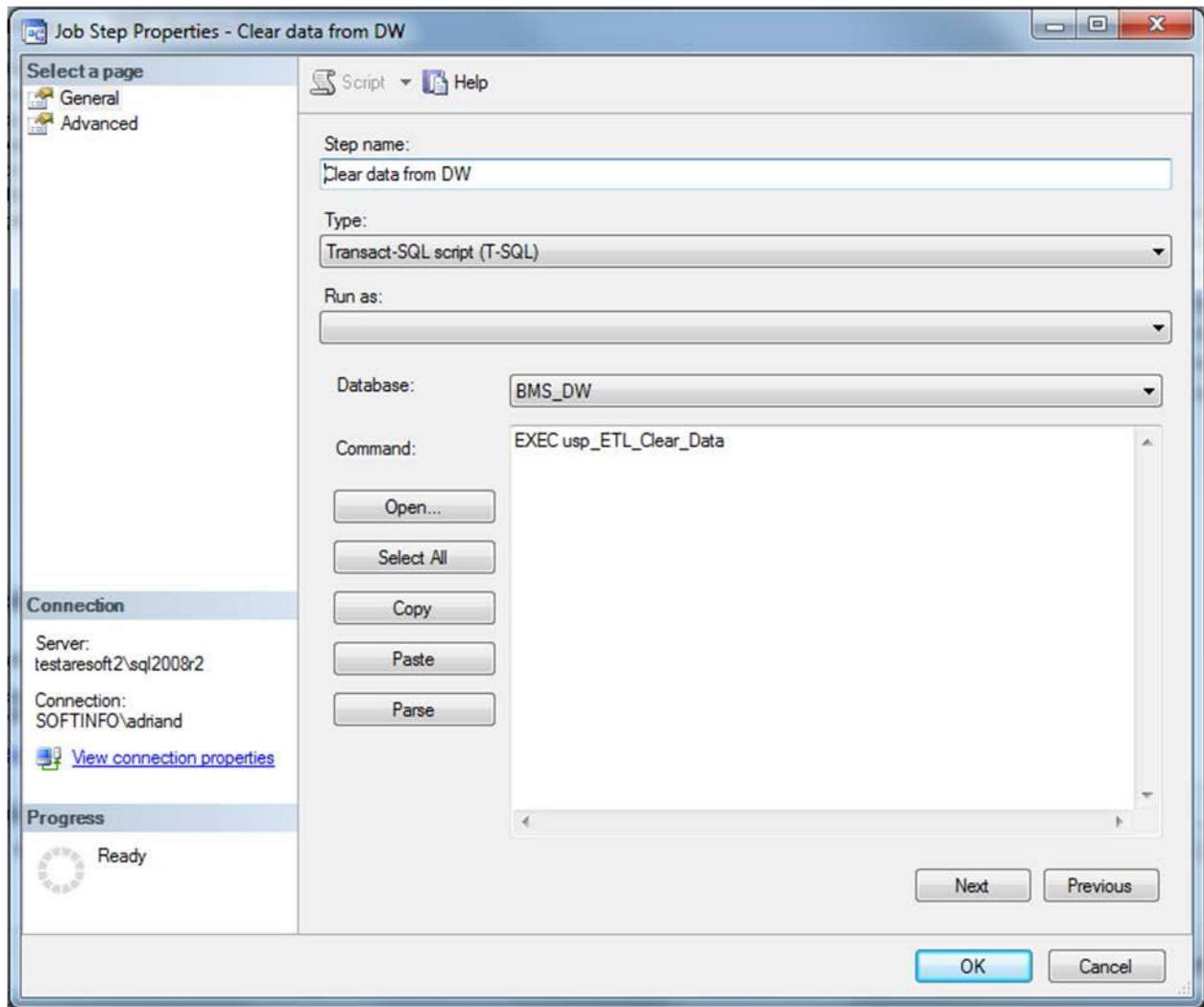
*Figure 5 - BMS - Call Procedure*

**Step 4. Shrink BMS\_DS:** Shrinks the file with the id 2 (the log file), to the size of 1 MB.



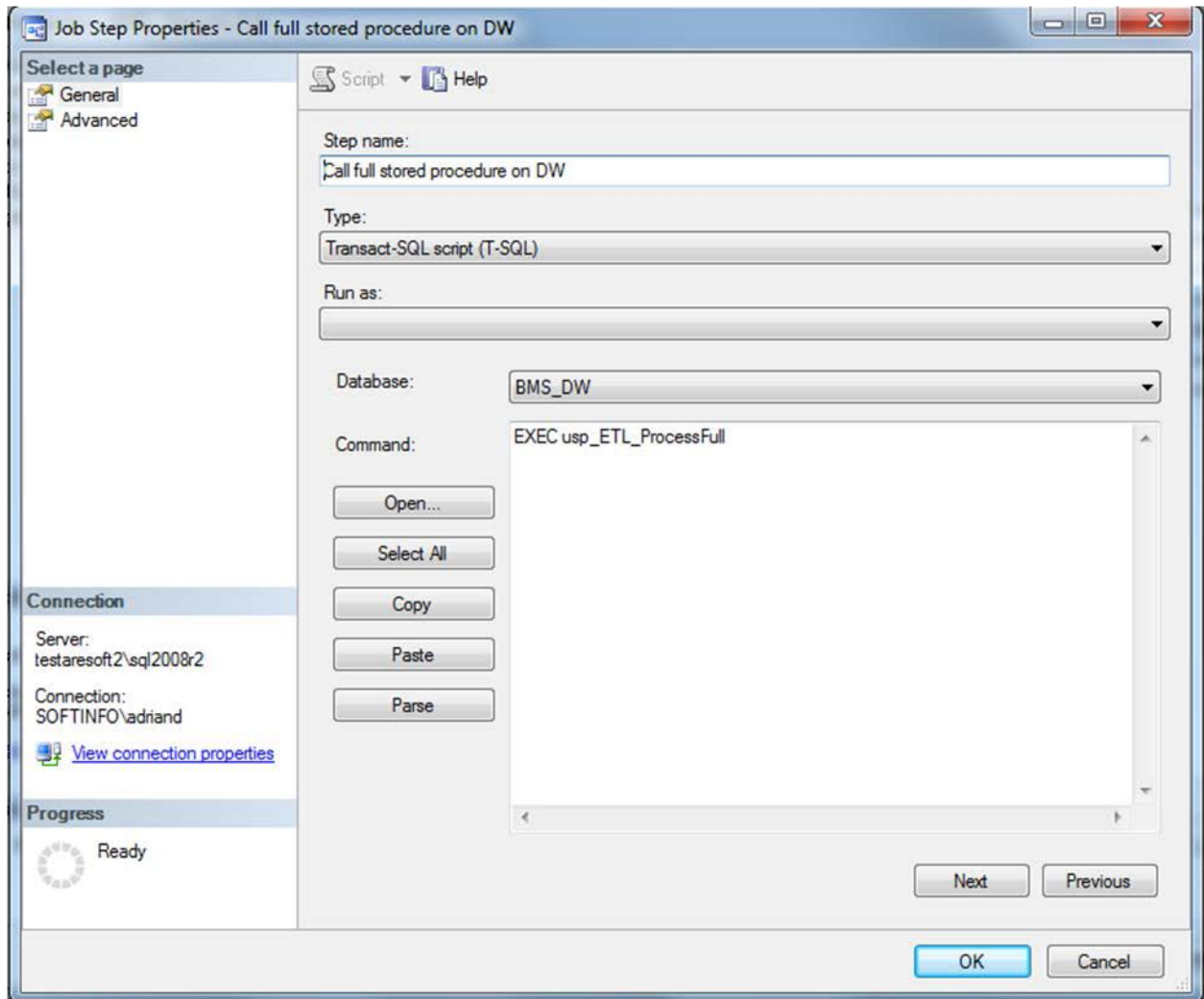
*Figure 6 - BMS - Shrink*

**Step 5.** Clear data from BMS\_DW: the data warehouse database is cleared, meaning that its tables will become empty, but of course exceptions can exist and they really do - tables that contain static data and should not be removed. Thus, the database becomes ready to receive all the source data.



*Figure 7 - BMS - Clear Data*

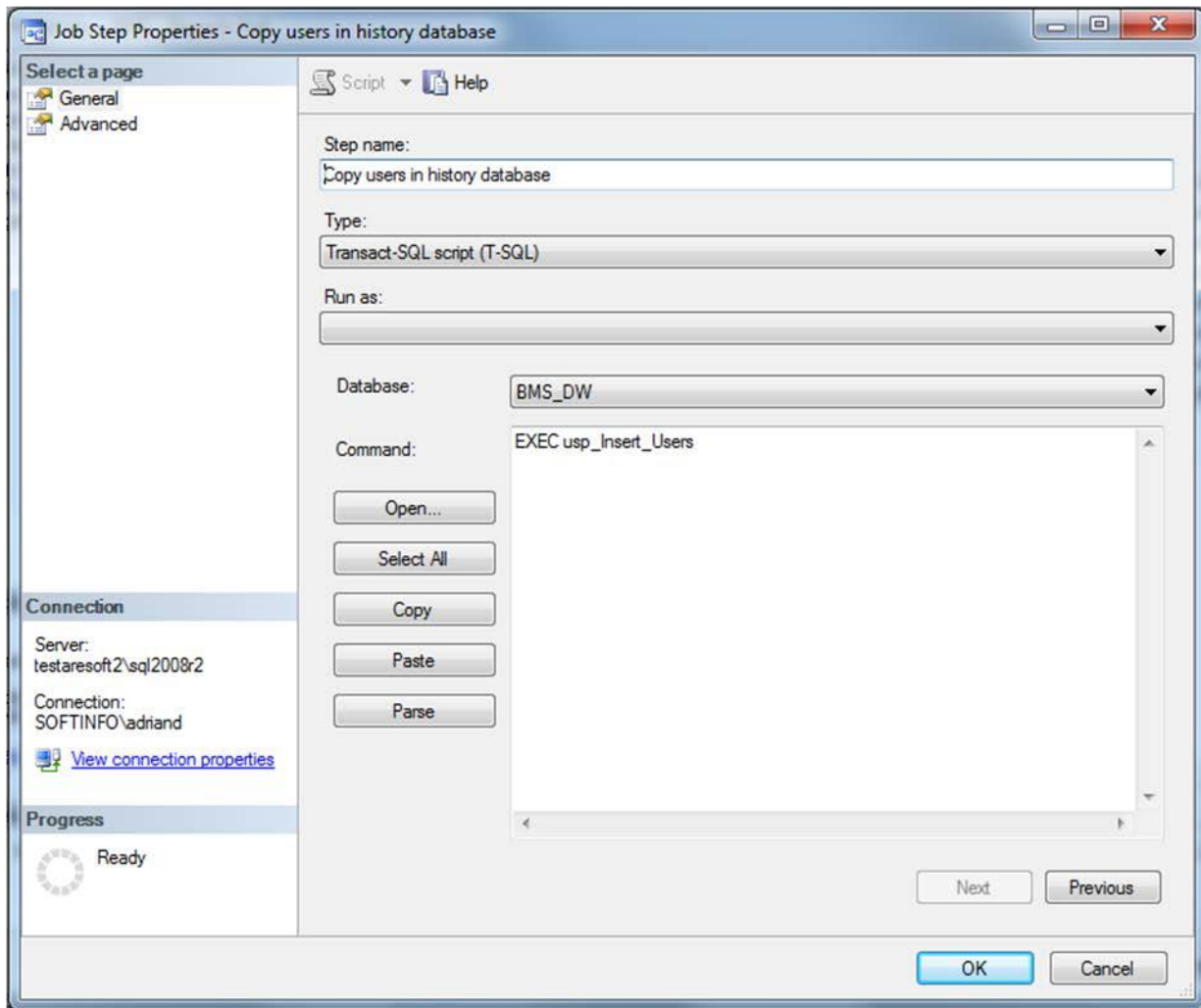
**Step 6.** Call procedure full on BMS\_DW: it inserts first the vocabulary data, then EIS entities (ETL dimension tables) and BMS acts (ETL facts tables).



*Figure 8 - BMS - Call Procedure Full*



**Step 7.** Copy users in history database: adds users in user\_h table from BMS History database. This step is needed because some reports need to display users that did certain insert/update/delete operations in the application.



*Figure 9 - Copy Users in History Database*

For each step a log file can be set, see screenshot below for step 7:

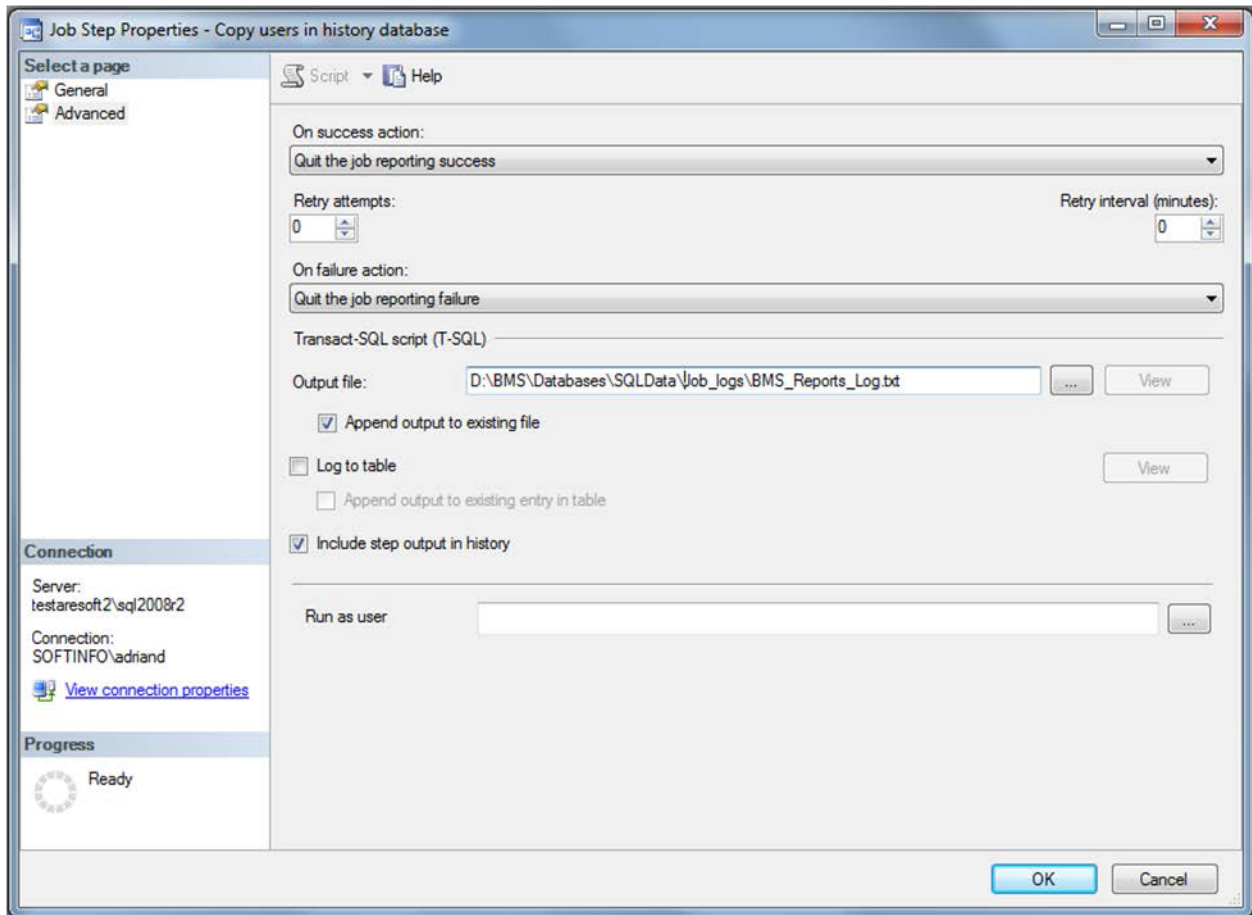


Figure 10 - BMS Reports Full Path File Log

The job can be run by right clicking on the job and then choosing “Start job at step...”, selecting the first job in the appearing window and then hitting the Start button. Then a smaller window remains open, showing the progress of the execution and its result: success or failure. The detailed results can be found in the log file that you set at the installation phase. If an operation fails at any step, the job will quit. This setting can be changed in the step’s *Advanced* tab.

## 2.4.2 BMS Incremental

BMS Incremental logic is to keep the BMS\_DW database up to date without having to delete all the existing data. The following picture shows the job's steps.

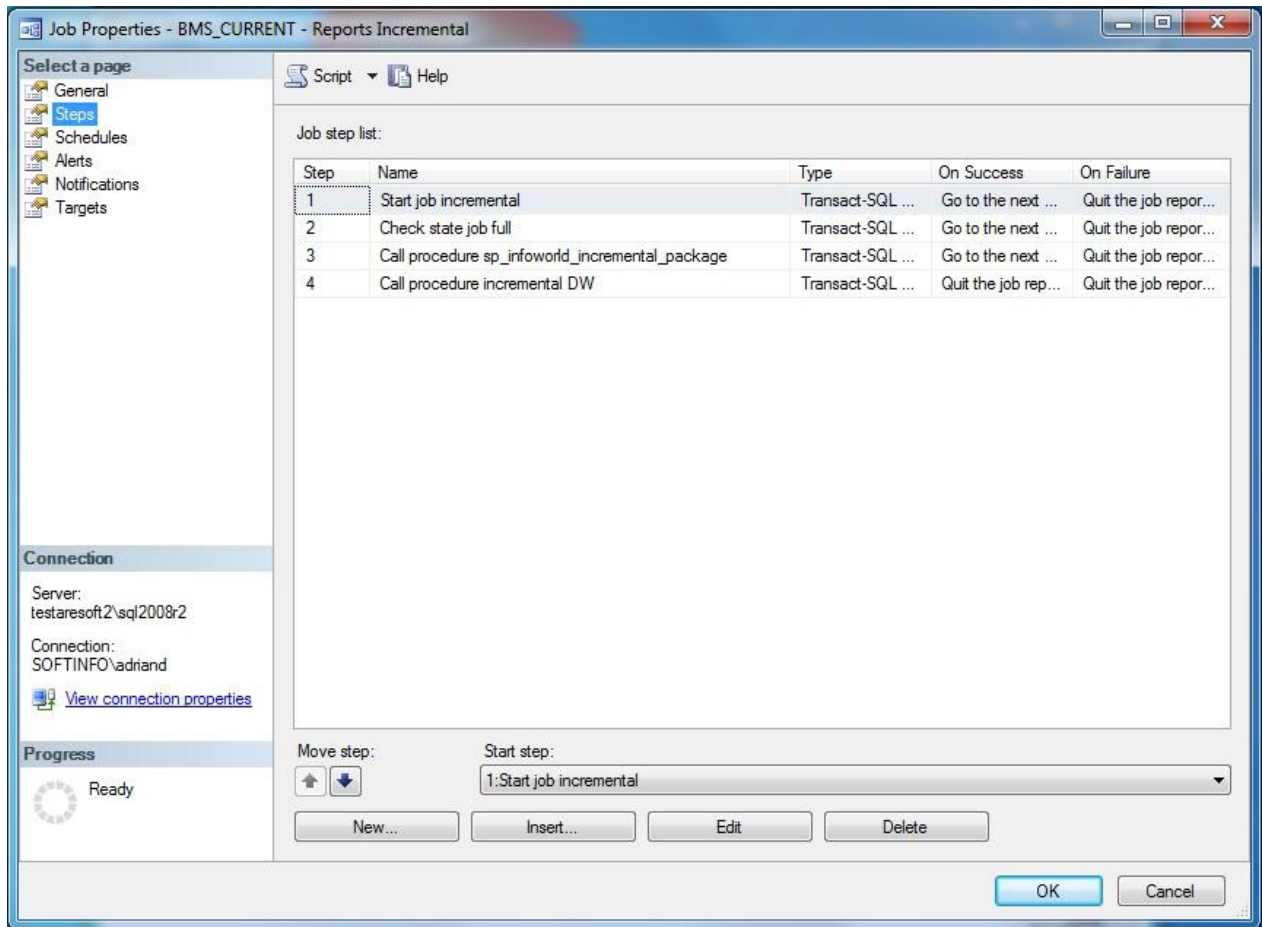
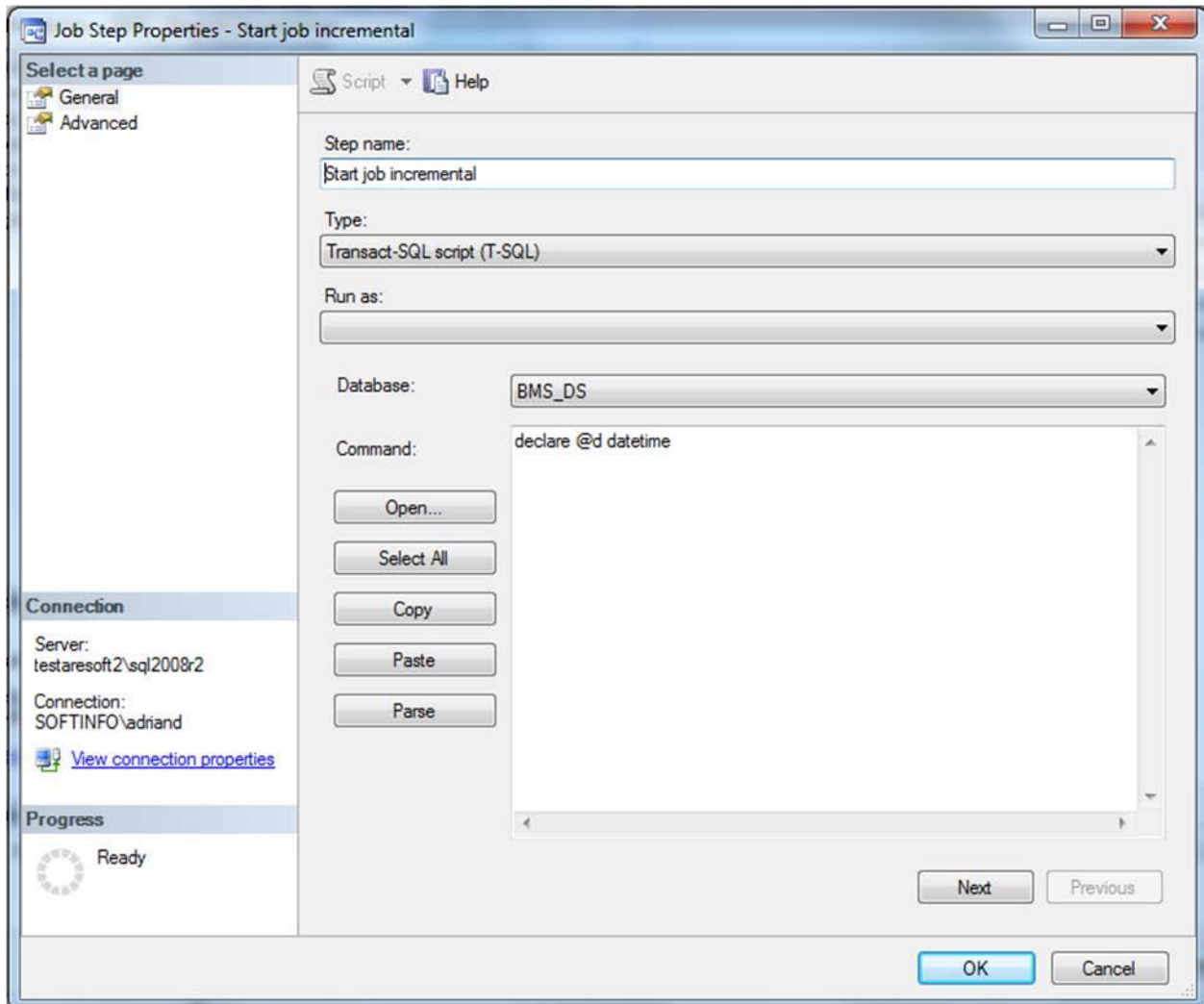


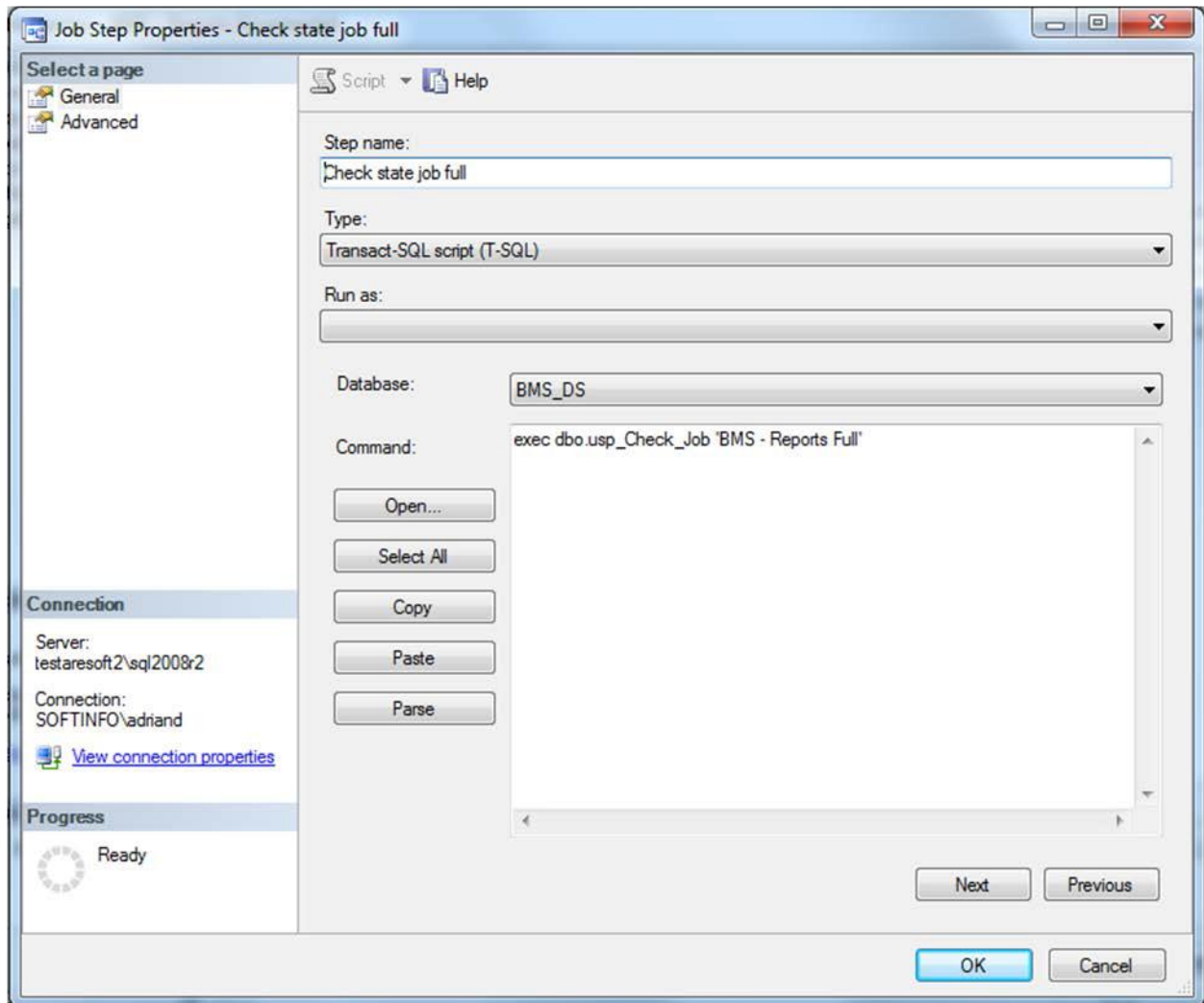
Figure 11 - BMS - Report Incremental Job

**Step 1.** Start job incremental: this is only an informative step for the log file.



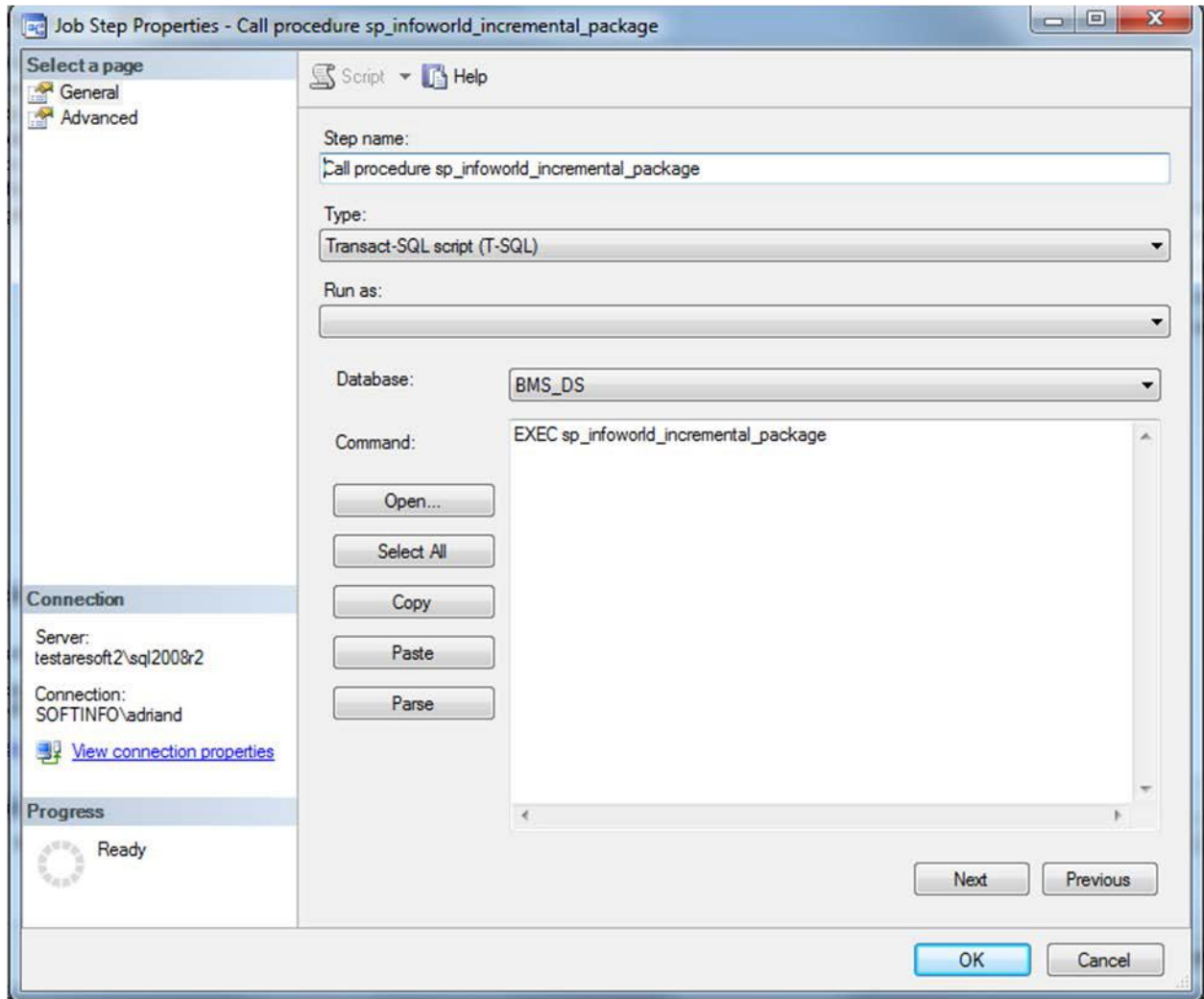
*Figure 12 - BMS - Start Job Incremental*

**Step 2.** Check state job full: it checks the state of the BMS full job described above in order to be sure that it is not currently running, in which case the incremental job cannot continue.



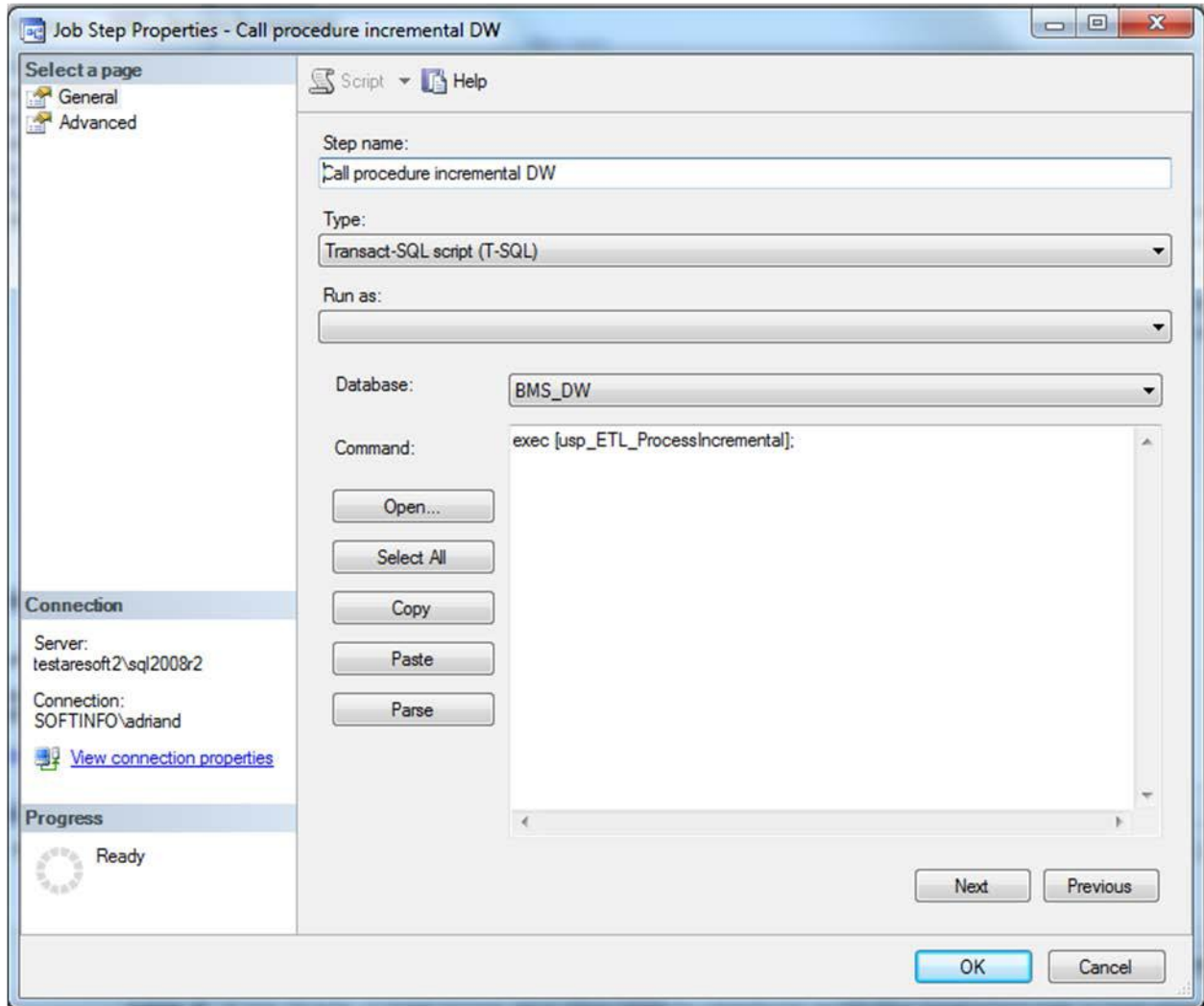
*Figure 13 - BMS - Check State Job Full*

**Step 3.** Call procedure `sp_infoworld_incremental_package`: makes all the necessary updates from the source databases to the BMS\_DS database. When rows are deleted in the source tables, an update is made in BMS\_DS database (in the necessary tables) by changing a flag column's value to 1 (deleted) from 0 (existing).



*Figure 14 - BMS - Call Procedure Properties*

**Step 4.** Call procedure incremental DW: will search for any new, updated or deleted row in BMS\_DS database's tables in order to do the correspondent operations in its tables.



*Figure 15 - BMS - Call Procedure Incremental*

For each step a log file can be set, see screenshot below for step 4:

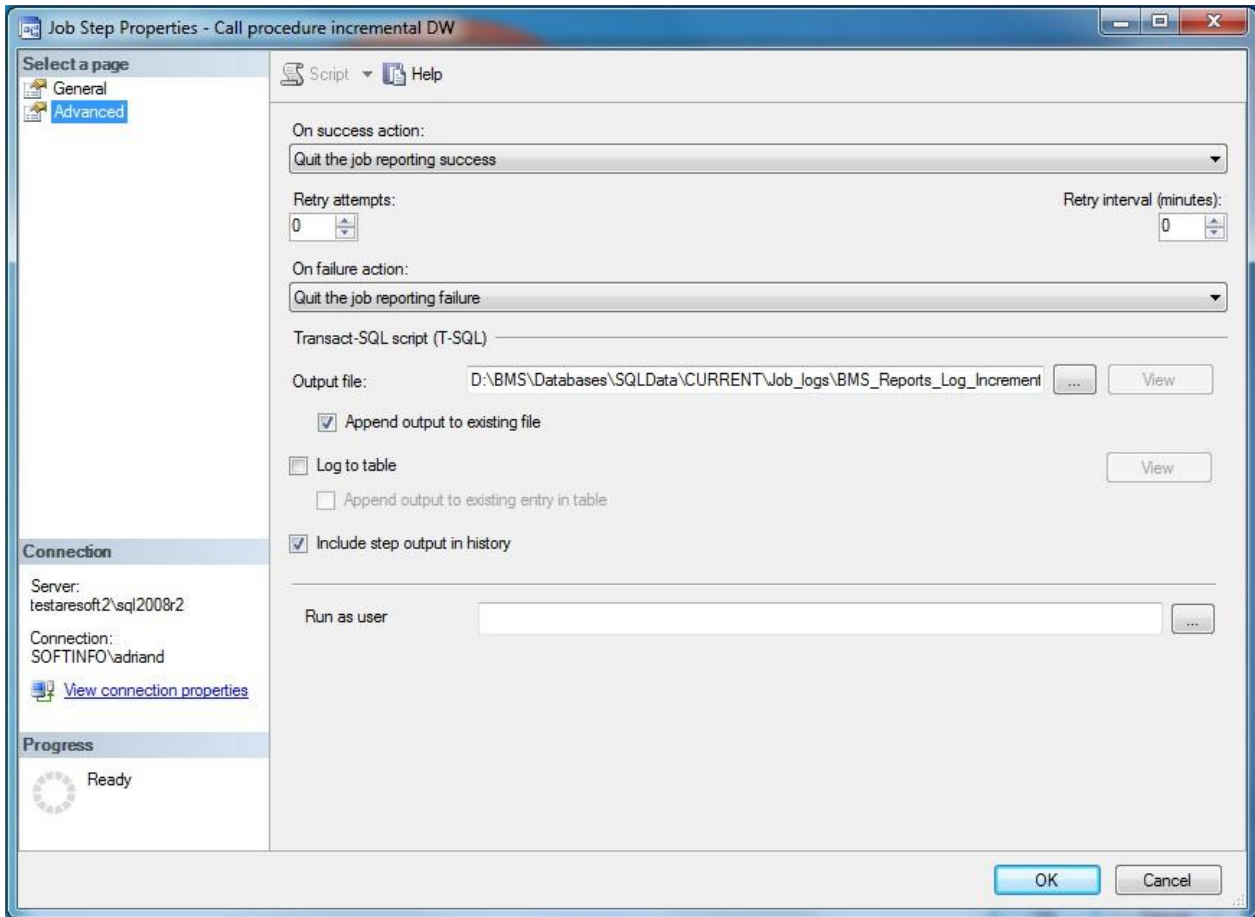


Figure 16 - BMS Incremental Path File Log



### 2.4.3 BMS Reports Windows Management Instrumentation (WMI)

This job runs a process through Windows Task Scheduler that takes all the users and user groups from the Active Directory and inserts them in BMS\_DW database.

In order to run the process successfully, the user needs to configure WMI\_UserGroup.config file (Reference Table 12 - WMI User Group Configuration Parameters) and set the connection of the database in the Connections.xml file. These files are stored in the folder where WMI\_UserGroup application is installed.

## 2.5 Ward Whiteboard Kiosk Mode Display Configuration

One of BMS functionalities is to be able to display the Ward Whiteboard page on the large displays, in kiosk mode.

These displays should be placed carefully, considering that confidential patient data (Social Security Number) should not be in view of people who are not authorized to see it.

Large display boards run in kiosk mode—a method of operation designed for Internet kiosks and other settings where limiting end-user interactions with applications are advisable. Kiosk mode locks down the user interface to protect applications from accidental or deliberate misuse.

In order to configure the Ward Whiteboard page to be displayed on the large displays, in kiosk mode, certain steps need to be completed:

1. Disable the screen saver
2. Configure the power settings to disable the sleep, stand-by mode
3. Configure auto-login
4. Configure the BMS user that will be used to do a default login
5. Configure the start-up command

### 2.5.1 Disable Screen Saver

In order to display the Whiteboard page continuously the screen saver needs to be disabled.

**NOTE:** The Windows menu that allows the disable of the screen saver might be different from one version of Windows to another. For example, for Windows 7 the needed operations are:

- Right click on the desktop
- Click Personalize
- Click on the screensaver button on the lower-right part of the page

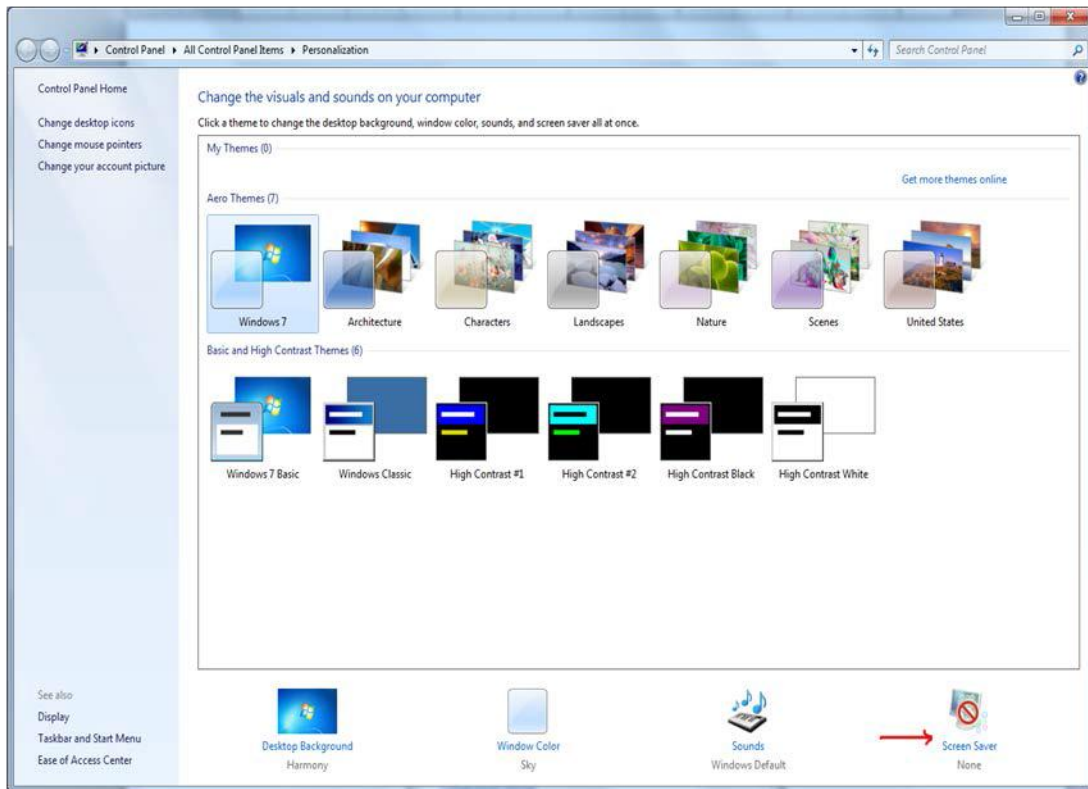
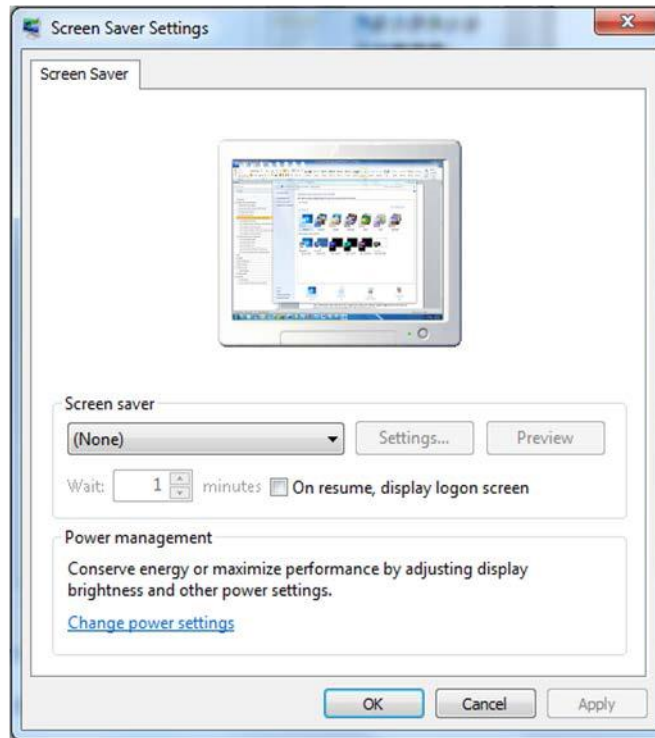


Figure 17 - Screen Saver Option

- Select None from the screensaver drop down on the displayed form



*Figure 18 - Screen Saver Settings Window*

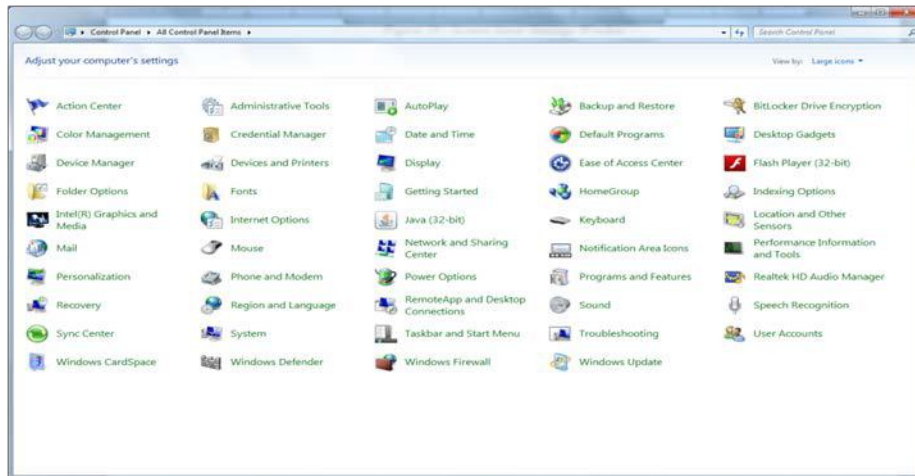
- Click OK.

## 2.5.2 Configure Power Settings: Disable Sleep and Stand-by Mode

In order to display the Whiteboard page continuously the power settings need to be adjusted so that the computer will never enter into hibernate or stand-by and also the screen will never turn off.

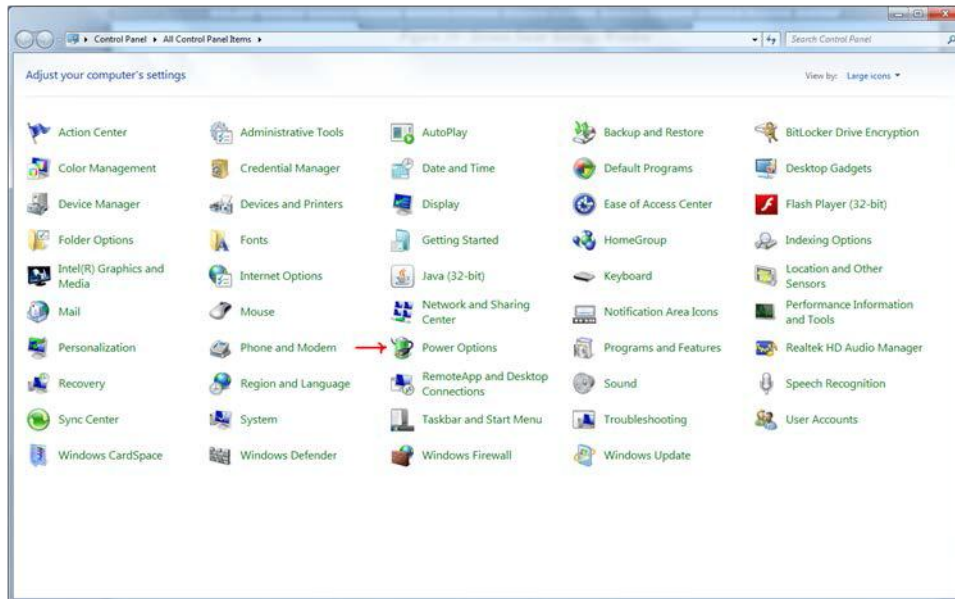
**NOTE:** The Windows menu that allows the configuration of the power settings might be different from one version of Windows to another. For example, for Windows 7 the needed operations are:

- *Go to Control Panel*



*Figure 19 - Control Panel Window*

- *Select Power Options*



*Figure 20 - Power Options*

- Click on “Change Plan settings” for the active plan

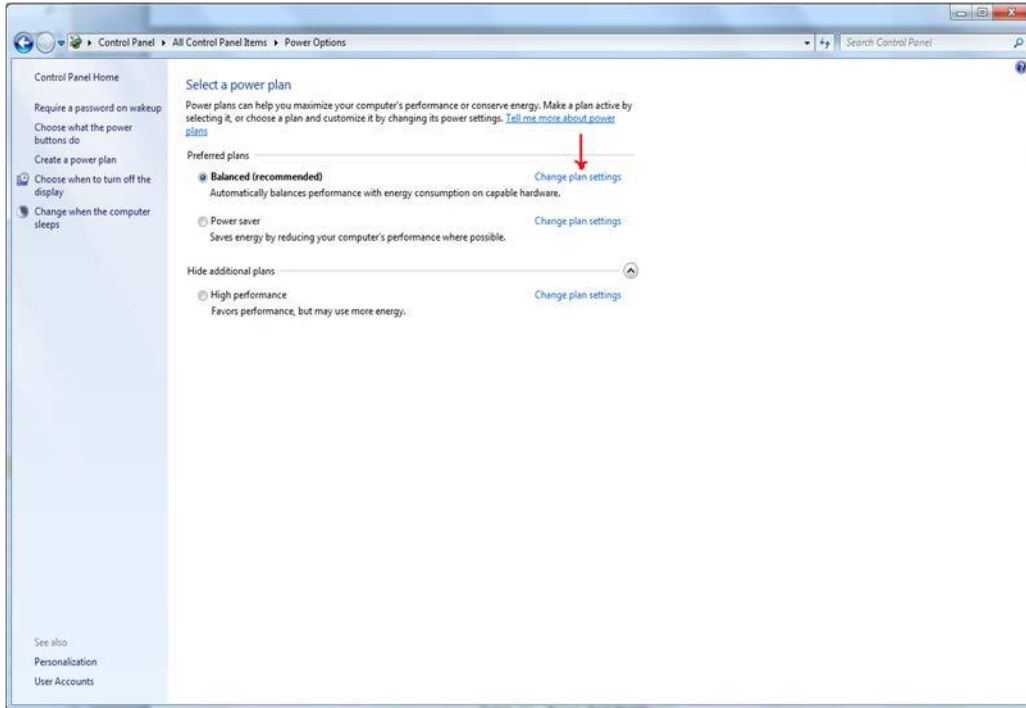


Figure 21 - Change Plan Settings Option

- Select “Never” from the drop downs associated with “Turn off the display” and “Put the computer to sleep”

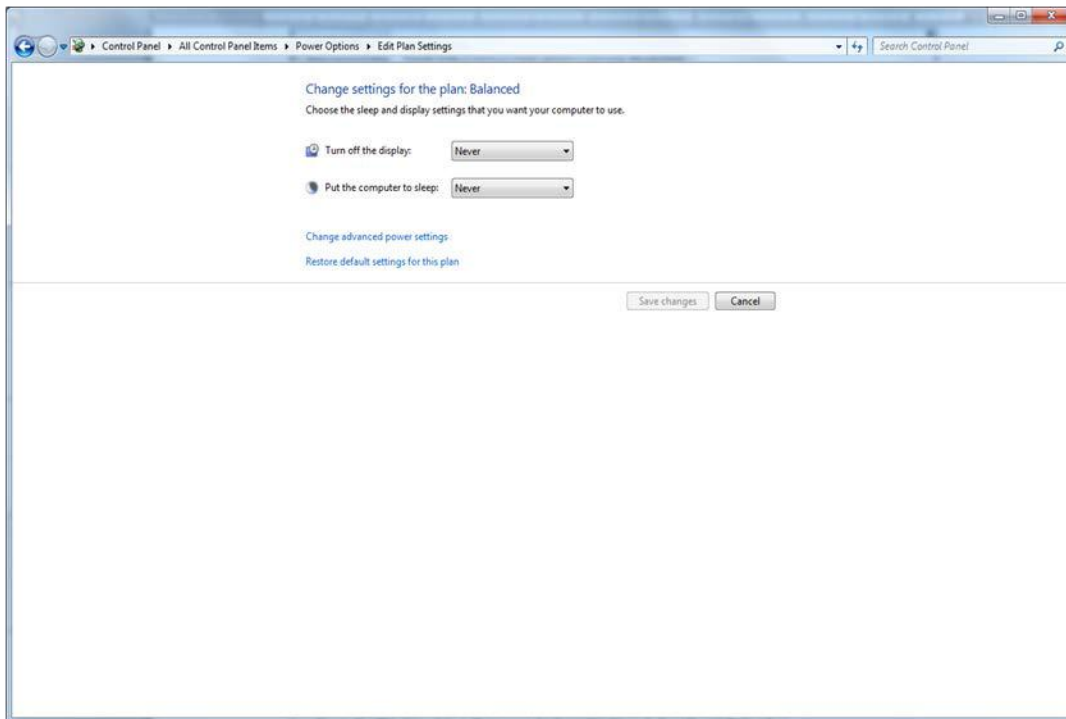


Figure 22 - Power Options Settings

- Click “Save changes”

### 2.5.3 Configure Auto-login Option

The computer that will display the Whiteboard page needs to have the auto-login configuration set to true.

**NOTE:** The Windows menu that allows the configuration of the auto-login settings might be different from one version of Windows to another. For example, for Windows 7 the needed operations are:

- Press the Windows key + R on your keyboard to launch the “Run” dialog box.

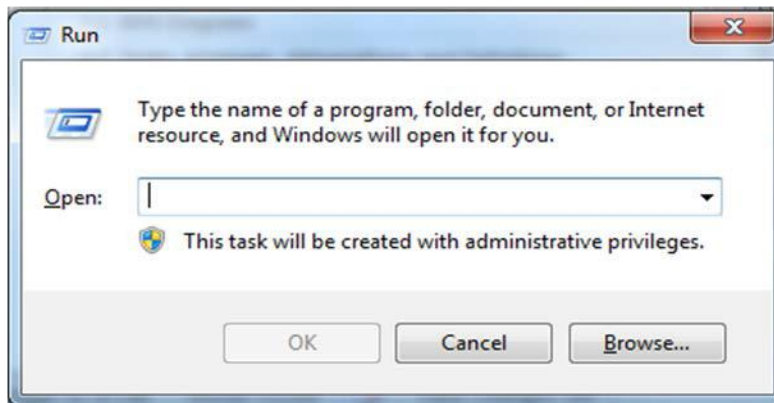


Figure 23 - Run Window

- Type in “control userpasswords2”

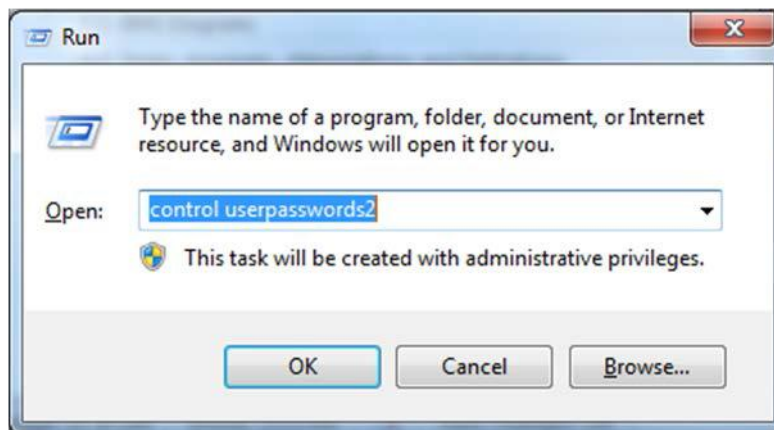


Figure 24 - Run Window with Command Entered

- Press Enter. The User Accounts window will display.

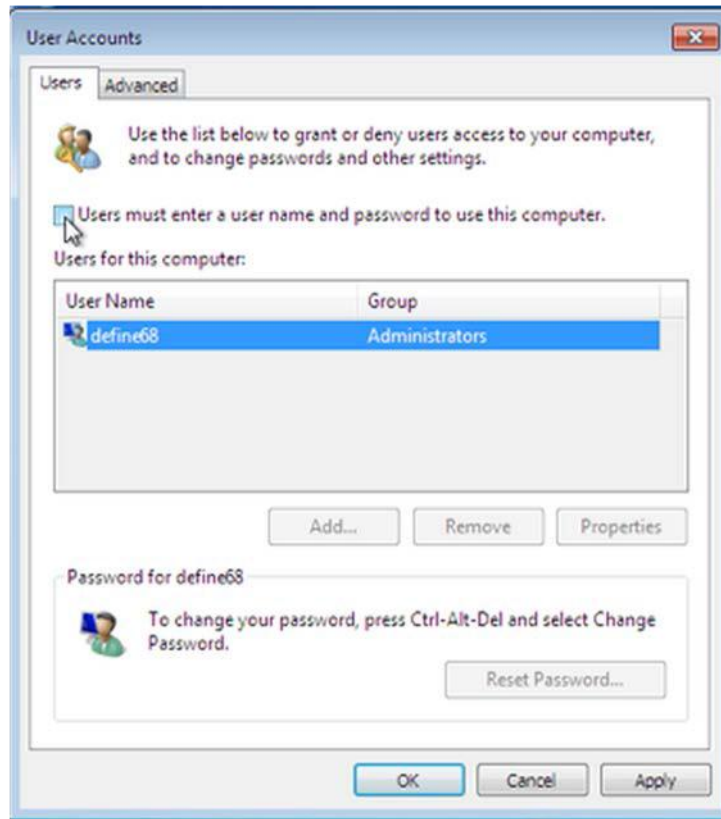


Figure 25 - User Accounts Window

- Uncheck the option “Users must enter a user name and password to use this computer”



Figure 26 - User must enter a user name and password to use this computer option

- Click “OK”

## 2.5.4 Configure BMS Whiteboard Kiosk Default Login User

For the current facility that uses the computer that will display the associated Whiteboard page, a default user needs to be configured in BMS application for the Ward Whiteboard Kiosk.

For that the user needs to:

- Go to Home Page
- Click on the Site Options link
- Click on the Facility Setting link
- Fill the fields “**Whiteboard Kiosk Default User Name:**”, “**Whiteboard Kiosk Password:**” and “**Whiteboard Kiosk Password Confirm:**” with the BMS Service Account ID



Facility Configuration - VA NORTH TEXAS HEALTH CARE SYSTEM: DALLAS VA MEDICAL CENTER (NTX)	
PARAMETER	OPTIONS
BMS Server Time Zone	CENTRAL STANDARD TIME
Facility Site Time Zone	CST
Auto-Removal Patients Pending Bed Placement List?	Yes
Integrated Facility?	No
Facility Name:	VA NORTH TEXAS HEALTH CARE SYSTEM: DALLAS VA
Facility Address 1:	4500 S. LANCASTER RD.
Facility Address 2:	DALLAS, TEXAS 75216
Facility Point-of-Contact:	JEFFREY D ALLEN
Facility POC Email:	JEFFREYD.ALLEN@VA.GOV
Facility POC Telephone:	214 857 4607
Local Time Adjust:	0
EMS Default User Name:	vhantxbedmgmt
EMS Password:	
EMS Password Confirm:	
Whiteboard Kiosk Default User Name:	vhantxbedmgmt
Whiteboard Kiosk Password:	
Whiteboard Kiosk Password Confirm:	
<input type="button" value="Submit"/> <input type="button" value="Cancel"/>	

[BMS Home](#) | [Icon Legend](#) | [Information](#)

Figure 27 - EMS Fields Filled on the Facility Settings Page

- Click Submit

## 2.5.5 Whiteboard Kiosk Default User Role Assignment

Each facility must assign the BMS “EMS USER” Role to the Service Account ID created to run the Whiteboard Kiosk URL. This assignment can be done from the **BMS Admin Section → Add/Edit BMS User** hyperlink or Facility **Site Options → BMS User Add/Edit** hyperlink.

- Click the **Select Existing NT User Name** button
- Select the correct VISN Domain from the left Drop Down Box.
- In the **User Name** box Enter the BMS Service Account ID created for the BMS EMS/Whiteboard Kiosk. Then click the Find button
- Click the Selected Radio button for the user. Then click the Select button.
- In the EMS User box, select “Yes”. All other roles should be “No”.
- In the Default Region box, select the correct Region.
- In the Default VISN box, select the correct VISN.
- In the Default Site box, select your Site.
- In the READ Access box, select “Yes”.
- In the WRITE Access box, select “Yes”.

Return to Admin Page

**User Configuration - VA NORTH TEXAS HEALTH CARE SYSTEM: DALLAS VA MEDICAL CENTER (NTX)**

Select Existing NT User Name

PARAMETER	OPTIONS
NT User Name	v17.med.va.gov\vhantxbedmgmt
Admin User?	No <input type="button" value="v"/>
Audit Log User?	No <input type="button" value="v"/>
Site User?	No <input type="button" value="v"/>
EMS User?	Yes <input type="button" value="v"/>
EMS Supervisor User?	No <input type="button" value="v"/>
Default Region:	2
Default VISN:	17
Default Site:	NTX - VA NORTH TEXAS HEALTH CARE SYSTEM: DALLAS VA MEDICAL CENTER
READ Access?	Yes <input type="button" value="v"/>
WRITE Access?	Yes <input type="button" value="v"/>

---

| [BMS Home](#) | [Icon Legend](#) | [Information](#) |

Figure 28 – Whiteboard Kiosk User Role Assignment Fields Filled on the Facility Settings Page

Select Existing NT User Name		Select Default	
PARAMETER		OPTIONS	
NT User Name	v17.med.va.gov\vhantxbedgmt		
Support User?	No		
National User?	No		
Regional User?	No		
VISN User?	No		
Admin User?	No		
Audit Log User?	No		
Site User?	No		
EMS User?	Yes		
EMS Supervisor User?	No		
Guest User?	No		
Default Region:	2		
Default VISN:	17		
Default Site:	NTX - VA NORTH TEXAS HEALTH CARE SYSTEM: [v]		
READ Access?	Yes		
WRITE Access?	Yes		

Display only the facilities with permissions

READ Access	WRITE Access	Region	VISN	Facility
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Region 2	VISN 17	DALLAS (549, NTX)

Figure 29 – Whiteboard Kiosk User Role Assignment Fields Filled on the BMS Admin Section Add/Edit BMS User Page

- Click Submit

## 2.5.6 Configure Start-up Command

A specific URL needs to be configured as the Home-Page for the intended browser. The menu to set the default home-page might differ from one browser to another.

For example, for Internet Explorer (IE) 9.0 the user needs to:

- Click ALT
- Select Tools menu

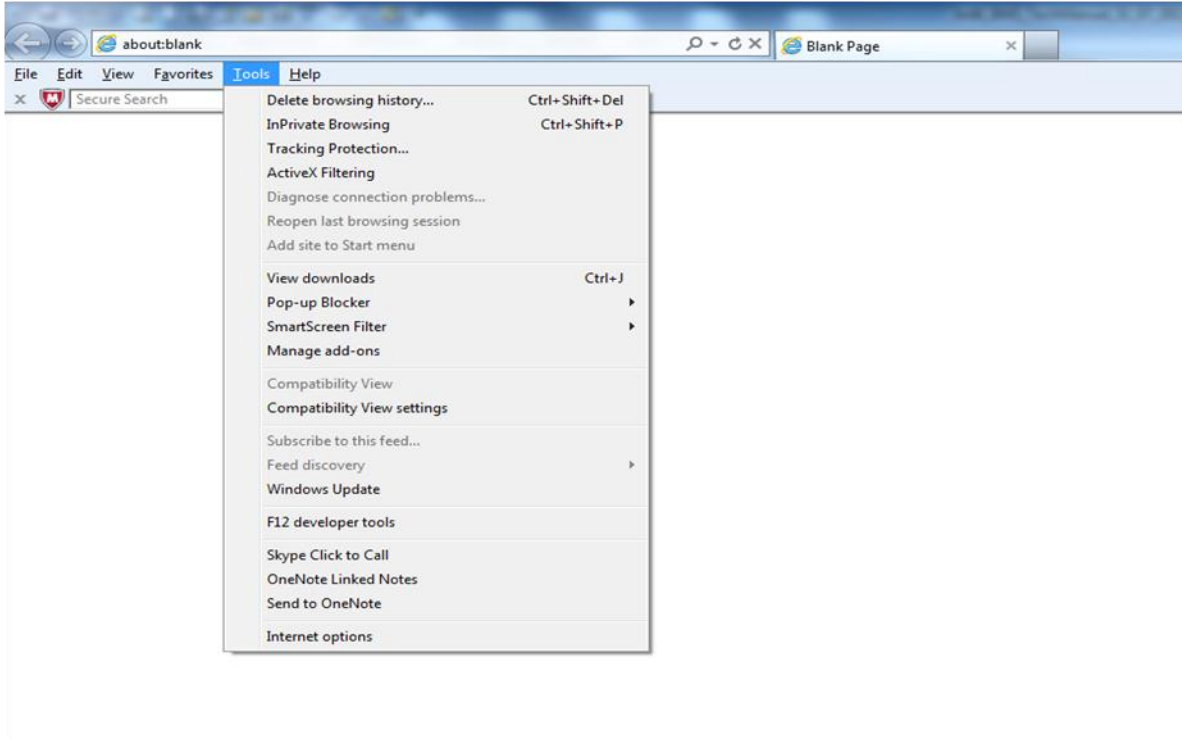


Figure 30 - Tools Menu of Internet Explorer 9

- Select Internet Options
- On the General tab, under the homepage text field enter the URL

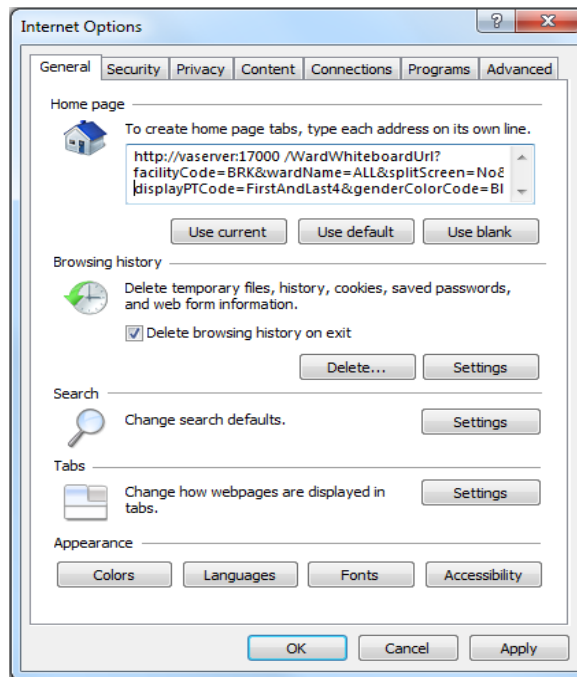


Figure 31 - General Tab of Internet Options

- Click OK

The URL that needs to be configured here has a special format as follows:

<https://vaww.bms.va.gov>

[/WardWhiteboardUrl?facilityCode=BRK&wardName=ALL&splitScreen=No&displayPTCode=FirstAndLast4&genderColorCode=Blue/Pink&displayFooterCensus=Yes&displayStaffAttending=Staff%20and%20Attending&scrollRate=20](#)

Description and available values of the page parameters:

*Table 15 - Description and configuration for Whiteboard URL parameters*

Parameter	Short Description	Options
<u>facilityCode</u>	Code of facility (e.g. BROCKTON = BRK);	Enter the 3 character facility ID.
<u>wardName</u>	Name of BMS Ward Name. To see all the wards the value that needs to be configured is ALL.	These are the BMS WARDS as defined in the Facility, Site Options, Vista Ward Add/Edit. The Ward name value should match the "BMS WARD GROUP TEXT". A single ward can be entered or the value "ALL" to display all the wards at the facility.
<u>splitScreen</u>	To split the page in two tables enter the value "Yes".	Yes No
<u>displayPTCode</u>	How should be displayed the patient under the column "Patient" (full name or 1st+Last 4).	<u>FirstAndLast4</u> <u>LastName</u>
<u>genderColorCode</u>	To change the background color for the row according with patient's gender.	<u>Blue/Pink</u> <u>None</u>
<u>displayFooterCensus</u>	To view the footer census.	Yes No
<u>displayStaffAttending</u>	What column is displayed in the table? (Staff column, Attending column or both)	<u>Staff and Attending</u> <u>Staff</u> <u>Attending</u>
<u>scrollRate</u>	The timer interval will affect the scrolling speed. This parameter can be absent. (if specified then it represents seconds)	Null or an integer value.

The next step is to add to the startup commands the launch of the chosen browser.

**NOTE:** This operation might differ from one version of Windows to another. For example for Windows 7 the steps needed are:

- Click Start.
- Select All Programs
- Right click on the Startup folder
- Select Open

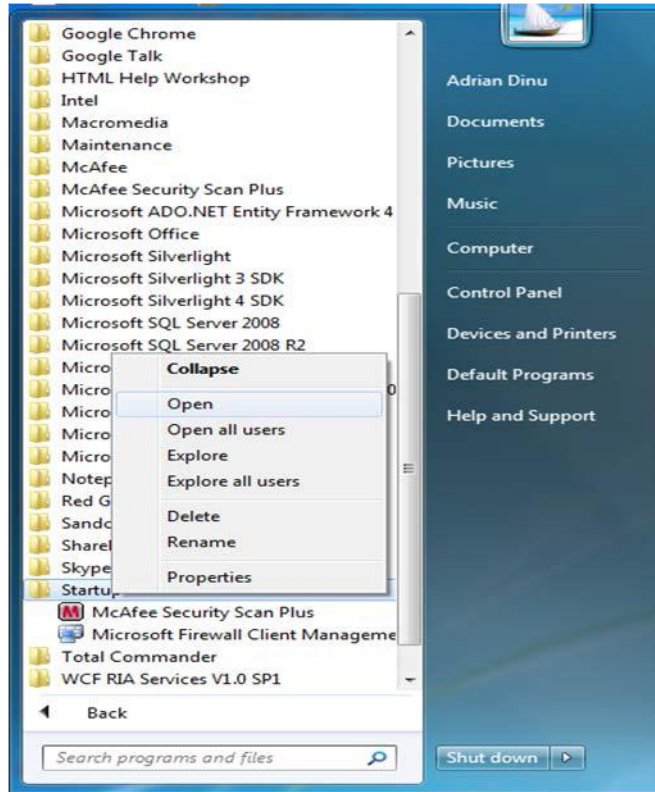


Figure 32 - Open Option

- Create a shortcut of the Internet Explorer and copy it to Startup folder

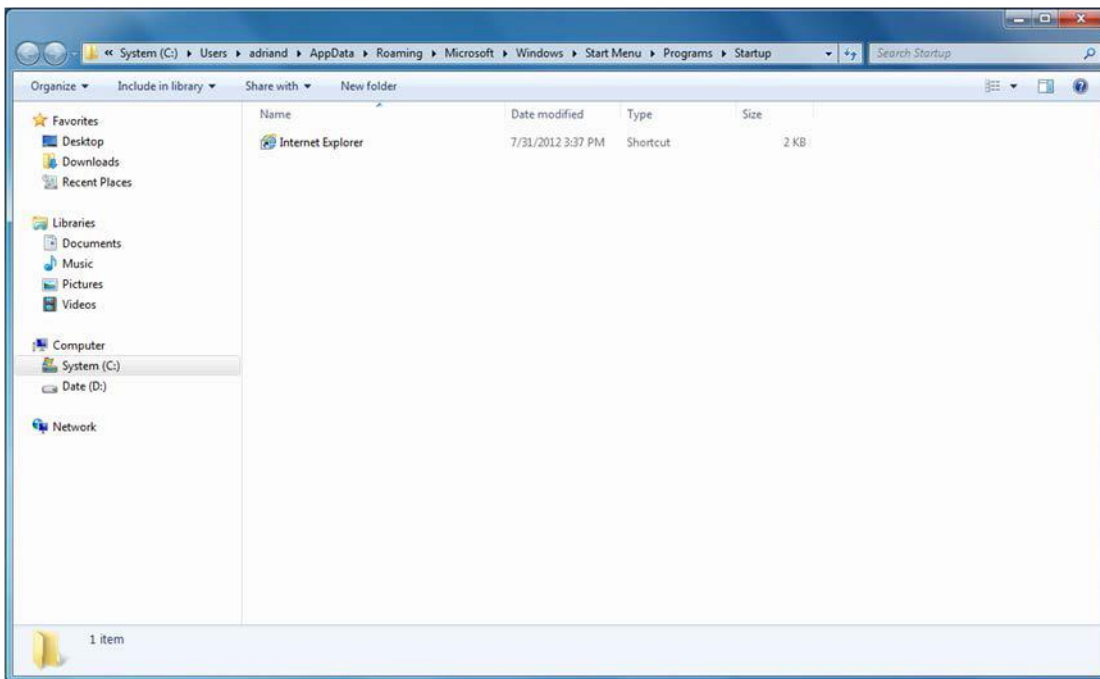


Figure 33 - Internet Explorer Shortcut

## 2.6 Whiteboard Snapshot Configuration

In order to configure the Whiteboard snapshot certain steps need to be completed:

1. Create snapshot folder
2. Define network share
3. Assign rights to user
4. Assign snapshot folder path to ward group
5. Associate scheduler with the whiteboard report

Suppose the goal is to configure the settings for two BMS Ward Groups: WARD GROUP 1 and WARD GROUP 2.

Assuming that these two Ward groups are in different physical locations, a designated workstation will be assigned for each one of them.

For the purpose of example, these workstations are called: WARDGROUP1-PC and WARDGROUP2-PC.

### 2.6.1 Create Snapshot Folder

On WARDGROUP1-PC and WARDGROUP2-PC, a folder should be created for this purpose. For example, assume that this folder is on the “C:” drive, like this “C:\WhiteboardSnapshot”.

*On Windows 7 the needed operations are:*

- Click Start button
- Select All Programs
- Select Accessories folder
- Click Windows Explorer
- Go to C drive
- Right click on C drive
- Select New folder
- Enter the name of the folder, e.g. WhiteboardSnapshot

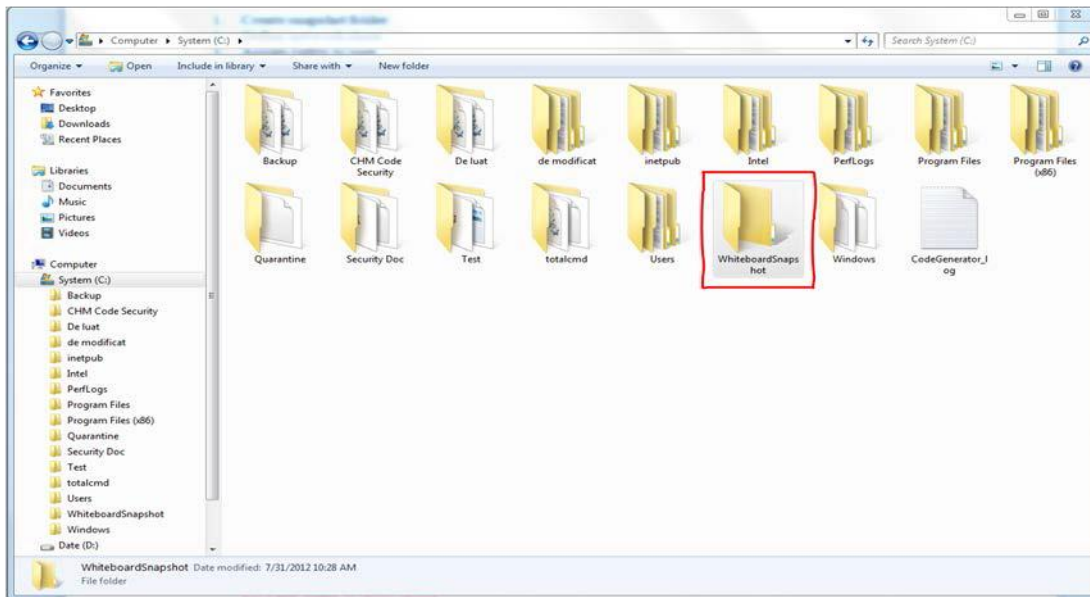


Figure 34 - Whiteboard Snapshot Folder

## 2.6.2 Define Network Share

For these two folders (one on each computer) the Network Admin needs to define network shares. For example, assume that the network share name on each computer is “WhiteboardSnapshot”.

*Note: The Windows menu that allows the configuration of folder sharing might be different from one version of Windows to another. For example, for Windows 7 the needed operations are:*

- *Navigate to the “WhiteboardSnapshot” folder, right-click it and choose Properties*

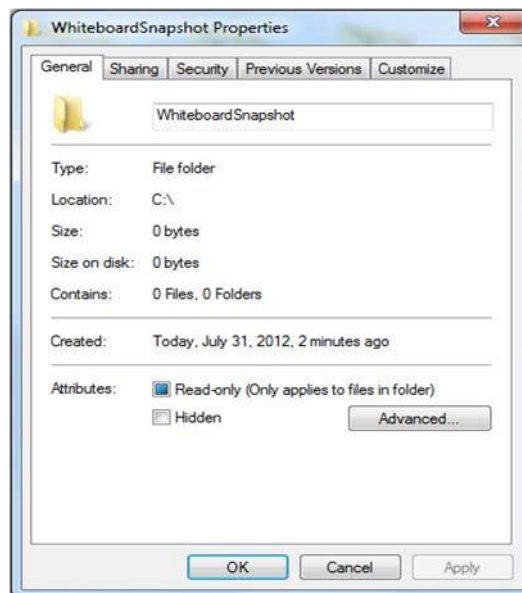


Figure 35 - Whiteboard Snapshot Folder Properties

- *Go to Sharing tab and select Advance Sharing option.*



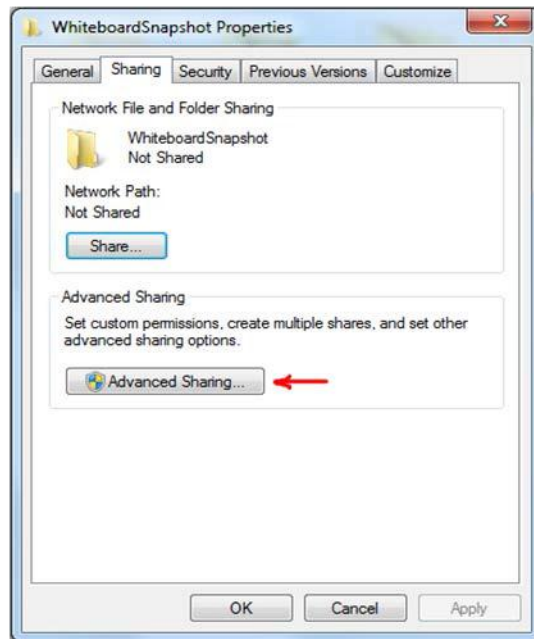


Figure 36 - Advanced Sharing Option

- In Advanced Sharing dialog, enable Share this folder option. It will automatically add folder's name as Share name.

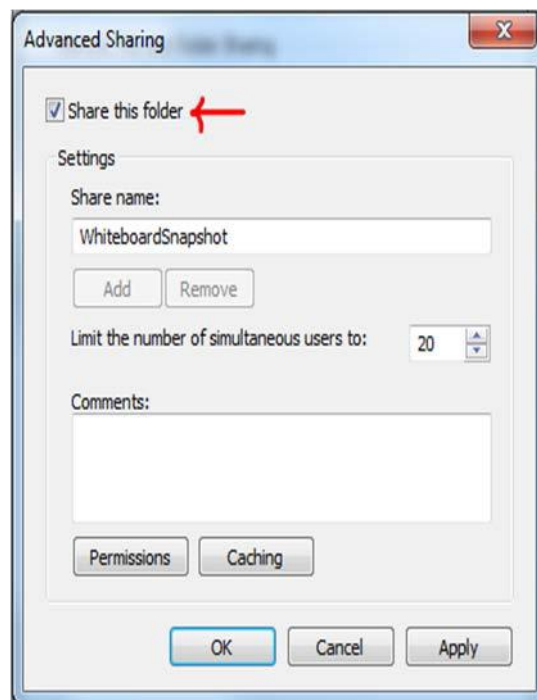


Figure 37 - Share this folder Option

### 2.6.3 Assign Rights to Master BMS Service Account User

The BMS Application runs under a service account. AICT has created the Windows User (**acc\bms\_svc\_prod**) as the master service account that the BMS Services runs under. The Windows user (**acc\bms\_svc\_prod**) that is configured to be the Login that runs the four BMS Windows Services needs to have full rights to these shares.

This user must have full control on each facilities file folder that is used to store the Whiteboard Contingency Reports.

On Windows 7 the needed operations are:

- Having Advanced Sharing window open click on Permissions button to set the folder's permissions.

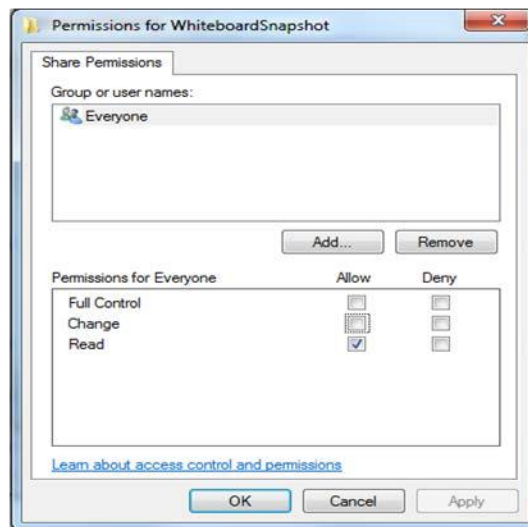


Figure 38 - Permissions for Whiteboard Snapshot

- In the Permissions window click Add button to set the network user rights on the shared folder.

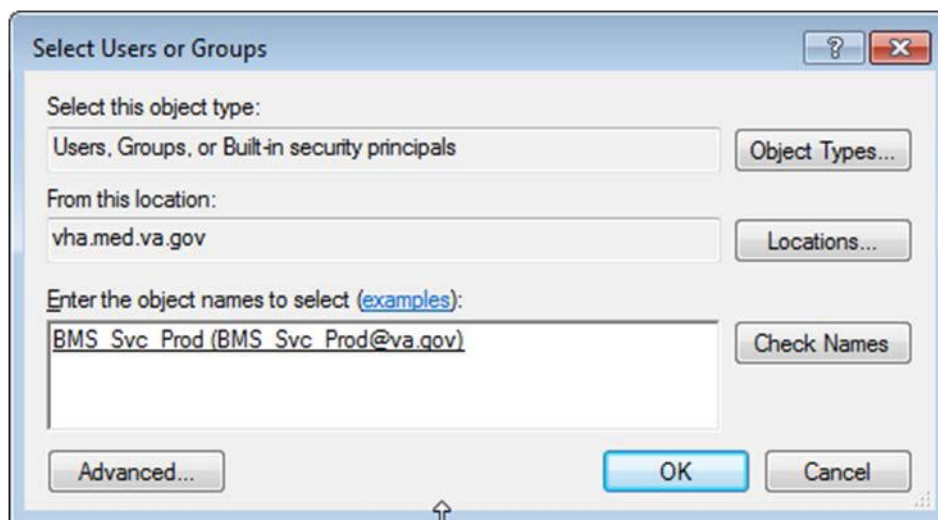


Figure 39 - Select Users or Groups Window

- Click "Advanced" button to select user.

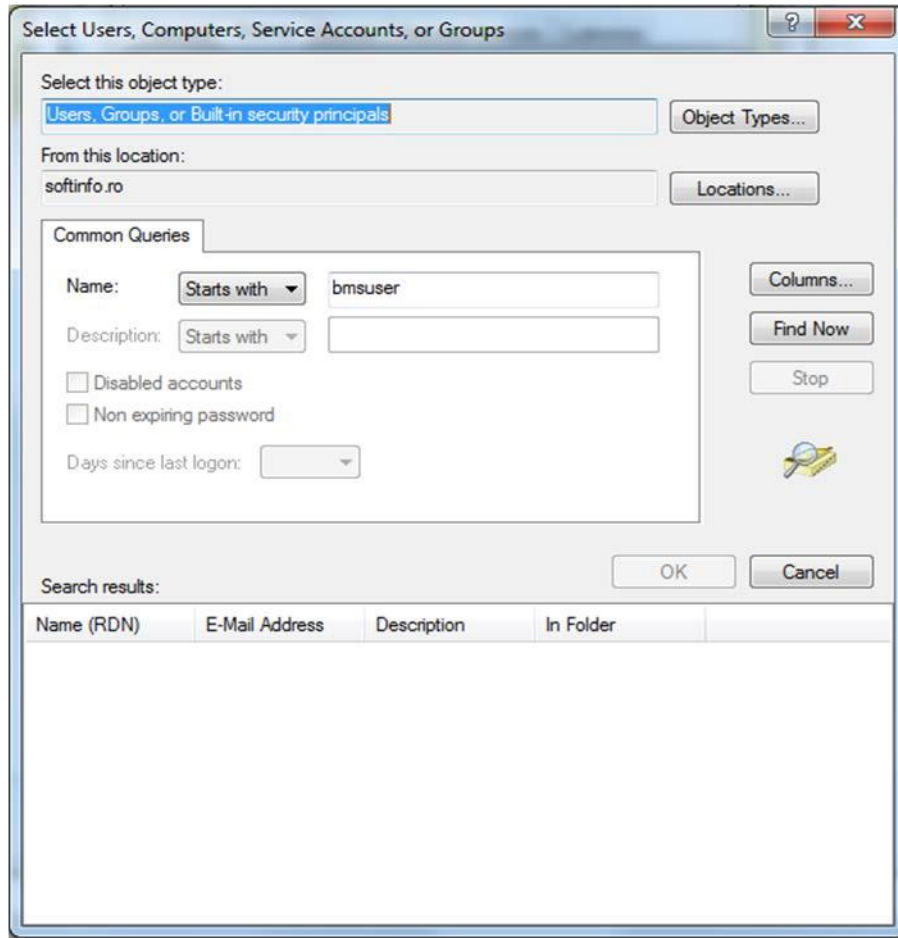


Figure 40 - Advanced Section of Select Users or Groups Window

- Enter the name of the user (*aac\bms\_svc\_prod*) that runs the two BMS Windows Services. Click Find Now button.

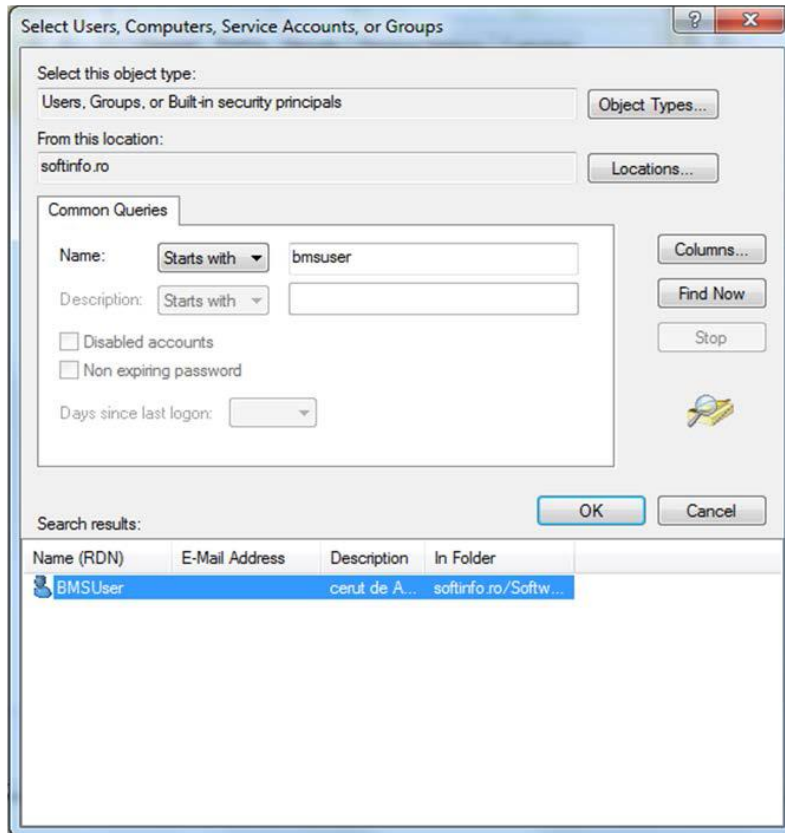


Figure 41 - Search Result Section

- Scroll down the Search results section to select the user. Once done, click OK. It will add the user within the object names section.

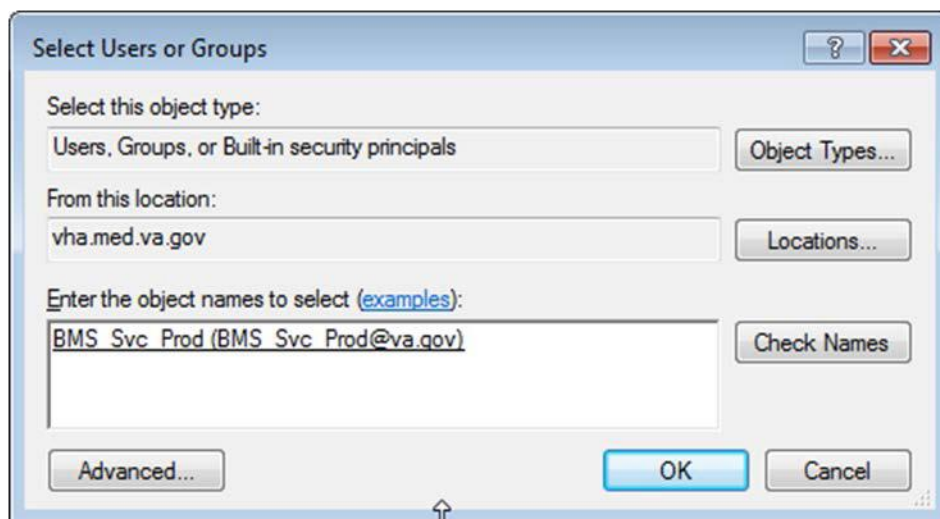
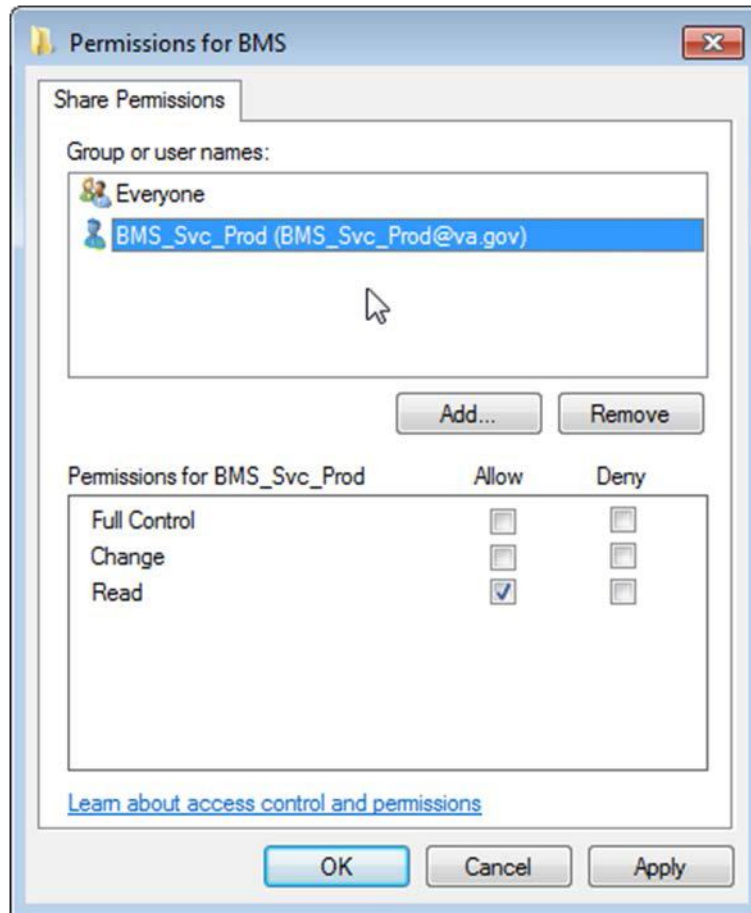


Figure 42 - Object Names Section

- *Clicking OK will add folder access permission for user and takes you back to Permissions dialog, allowing you to configure the permissions for newly added users.*



*Figure 43 - Permissions Window*

- *Select user, and from Permissions section check Full Control.*

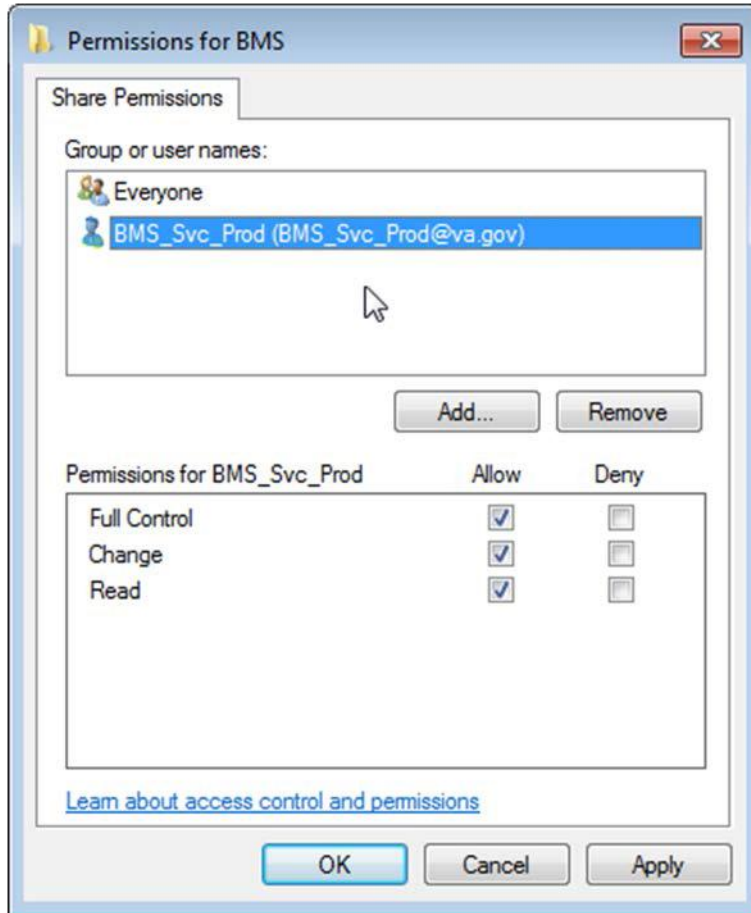


Figure 44 - User Permissions

- Click Ok to close Permissions window. It will take you back to Advanced Sharing window.

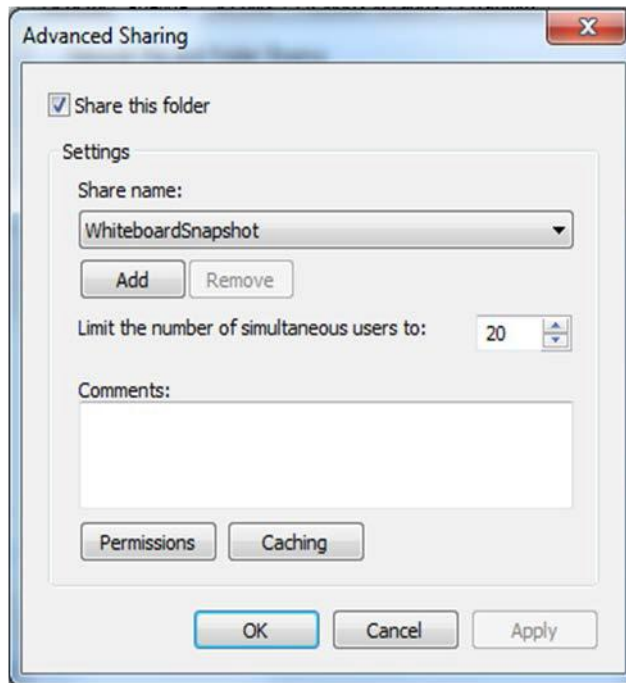


Figure 45 - Advanced Sharing Window

- Now, click OK to share the folder.
- Close Whiteboard Snapshot properties window.

Having these two folders shared and having that user given the rights previously mentioned, if someone is logged in the network with that user, he/she could access those folders from Windows Explorer using an URI address. See screenshot below:

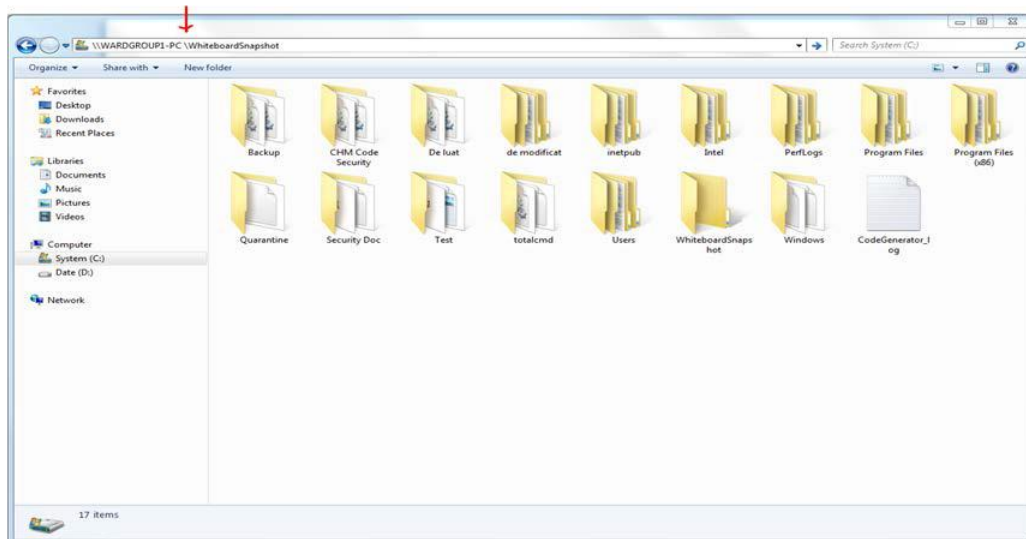


Figure 46 - WardGroup1-PC Path

## 2.6.4 Assign Snapshot Folder Path to Ward Group

Within the BMS Application, under Site Settings and then Contingency Settings page, the Admin should enter the values as captured in the screenshot (\\WARDGROUP1-PC\WhiteboardSnapshot for WARD GROUP 1 and respectively \\WARDGROUP2-PC \WhiteboardSnapshot for WARD GROUP 2).

**NOTE:** The Windows User (**acc\bms\_svc\_prod**) must have full read/write access to this folder.

[Return to Admin Main Page](#)

Contingency Settings - VA BOSTON HEALTHCARE SYSTEM, BROCKTON CAMPUS (BRK)

Ward Group	Whiteboard Report Path
WARD GROUP 1	\\WARDGROUP1-PC\WhiteboardSnapshot
WARD GROUP 2	\\WARDGROUP2-PC \WhiteboardSnapshot
WG LILI	

Save

[BMS Home](#) | [Icon Legend](#) | [Information](#)

Figure 47 - Contingency Settings Page

## 2.6.5 Associate Scheduler with Whiteboard Report

Within the BMS Application, Facility Home page, under Site Options and then Background Processors page, a Scheduler should be associated in the Whiteboard Report section.

Under the WhiteBoard Report section:

- In the “**Add/Update Scheduler:**” field, select the schedule frequency that Whiteboard should be backed up.
- Click Save Scheduler button.

[Return to Admin Page](#)

Background Processors - VA BOSTON HEALTHCARE SYSTEM, BROCKTON CAMPUS (BRK)

**Whiteboard Report**

Current Scheduler: NONE

Add/Update Scheduler: Every 4 hours

Save Scheduler

**Patients Pending Bed Placement List**

Current Scheduler: NONE

Add/Update Method: Select A Method

Add/Update Scheduler: Select A Scheduler

Save Scheduler

Cancel

[BMS Home](#) | [Icon Legend](#) | [Information](#)

Figure 48 - Whiteboard Report Scheduler Association



## 2.7 EMS Mobile Device Configuration

In order to configure the BMS EMS Mobile Devices, the following steps must be completed:

- The local IS must create a local Service Account with a password that never expires and does not change. This account must not have any kind of policy that restricts its use to specific computers. The EMS Mobile Device will use this account to access the EMS Mobile page.
- Each facility must enter the local Service Account and Password in the EMS Default User and Password fields on the Facilities Settings page.
- Configure the Mobile Device so that when it boots up, it will automatically open IE and go to the specified URL.

### 2.7.1 Configure EMS Mobile Device Default Login User

For the current facility, a default user must be configured in the BMS application for the EMS Mobile Device.

To accomplish this, the Facility Admin User must do the following:

- Go to the Facility Home Page.
- Click on the Site Options link.
- Click on the Facility Setting link.
- Fill the fields “**EMS Default User Name:**”, “**EMS Password:**”, and “**EMS Password Confirm:**” with the BMS Local Service Account.

[Return to Admin Page](#)

Facility Configuration - VA NORTH TEXAS HEALTH CARE SYSTEM: DALLAS VA MEDICAL CENTER (NTX)	
PARAMETER	OPTIONS
BMS Server Time Zone	CENTRAL STANDARD TIME
Facility Site Time Zone	CST
Auto-Removal Patients Pending Bed Placement List?	Yes
Integrated Facility?	No
Facility Name:	VA NORTH TEXAS HEALTH CARE SYSTEM: DALLAS VA
Facility Address 1:	4500 S. LANCASTER RD.
Facility Address 2:	DALLAS, TEXAS 75216
Facility Point-of-Contact:	JEFFREY D ALLEN
Facility POC Email:	JEFFREYD.ALLEN@VA.GOV
Facility POC Telephone:	214 857 4607
Local Time Adjust:	0
EMS Default User Name:	vhantxbedgmt
EMS Password:	
EMS Password Confirm:	
Whiteboard Kiosk Default User Name:	vhantxbedgmt
Whiteboard Kiosk Password:	
Whiteboard Kiosk Password Confirm:	
<input type="button" value="Submit"/> <input type="button" value="Cancel"/>	

| [BMS Home](#) | [Icon Legend](#) | [Information](#) |

Figure 49 - EMS Fields Filled on the Facility Settings Page

- Click the Submit button.

Table 16 - Facility Settings Page Parameters

Column	Description
EMS Default User Name:	The BMS Service Account ID needed to load the EMS Mobile Page for Mobile Devices.
EMS Password:	The BMS Service Account ID password needed to load the EMS Mobile Page for Mobile Devices.
EMS Password confirm:	The confirmation of the password.

This setup can also be completed by the system Support User:

- Go to the BMS Admin Page
- Click on the Edit BMS Facility Settings link
- Click on the Facility Name Drop Down and select the name of the Facility to be configured
- Fill the fields “EMS Default User Name”, “EMS Password” and “EMS Password Confirm” with the BMS Local Service Account

[Return to Admin Page](#)

Facility Configuration - VA NORTH TEXAS HEALTH CARE SYSTEM: DALLAS VA MEDICAL CENTER (NTX)	
PARAMETER	OPTIONS
BMS Server Time Zone	CENTRAL STANDARD TIME
Facility Site Time Zone	CST
Auto-Removal Patients Pending Bed Placement List?	Yes
Integrated Facility?	No
Facility Name:	VA NORTH TEXAS HEALTH CARE SYSTEM: DALLAS VA
Facility Address 1:	4500 S. LANCASTER RD.
Facility Address 2:	DALLAS, TEXAS 75216
Facility Point-of-Contact:	JEFFREY D ALLEN
Facility POC Email:	JEFFREYD.ALLEN@VA.GOV
Facility POC Telephone:	214 857 4607
Local Time Adjust:	0
EMS Default User Name:	vhantxbedgmt
EMS Password:	
EMS Password Confirm:	
Whiteboard Kiosk Default User Name:	vhantxbedgmt
Whiteboard Kiosk Password:	
Whiteboard Kiosk Password Confirm:	
<input type="button" value="Submit"/> <input type="button" value="Cancel"/>	

[BMS Home](#) | [Icon Legend](#) | [Information](#)

Figure 50 – EMS Fields Filled on the BMS Admin Page

- Click the Submit button

Table 17 - BMS Admin Page Parameters

Column	Description
EMS Default User Name:	The BMS Service Account ID needed to load the EMS Mobile Page for Mobile Devices.
EMS Password:	The BMS Service Account ID password needed to load the EMS Mobile Page for Mobile Devices.
EMS Password confirm:	The confirmation of the password.

## 2.7.2 Configure EMS Mobile Device URL

For the current facility, the EMS Device URL must be configured in the EMS Mobile Device.

The URL to be entered has a special format:

<https://vaww.bms.va.gov/EMSMobileLogon?code=BRK>.

*Table 18 - Description and Configuration for EMS Mobile Device URL parameters*

Parameter	Short Description	Options
Code	Code of facility (e.g. BROCKTON = BRK)	Enter the 3-character facility ID.

EMS staff can access the BMS Web page for mobile devices at the URL set up by their local IS staff.

Be sure to use the code of the facility for which access is needed.

The following page is displayed:



*Figure 51 – EMS Staff Page for Mobile Devices*

## 2.8 VistA Integration

This chapter describes the process of importing vocabularies, entities, patient admission, transfer, discharge (ADT) and bed pending placement information from VistA.

In order to integrate with VistA certain steps should be completed:

1. Choose VistA site
2. Define Schedulers
3. Run Scheduler
4. View Audit Results

### 2.8.1 Choose VistA Site

VistA Sites tab from Background Processors page of Admin section allows the user to view the list of VA facility sites sharing the same VistA instance and to add a new VA facility to a VistA instance.

### 2.8.1.1 Adding a New VistA Site

To add a VA facility site to a VistA instance follow the steps presented below.

1. From the Background Processors page of Admin section select VistA Sites to display the page in the following image. A list of VA facility sites is displayed in the column to the left of the page.

[Back to Regional Page](#) |

Figure 52 - Adding a VistA Site

2. Click the Add new VistA site link then from the VistA Site area use the Name field to select the code of the site you want to add to the current VistA instance, and then select the Time Zone.

In the Connections area you can choose between two connection methods: ODBC and MDWS. Fill in the following data for the ODBC method:

Table 19 - New VistA Site Parameters

Column	Description
Connection String	The connection string for the ODBC method.
User	The username for the connection.
Password	The password associated to the user account.
MDWS Endpoint	The specific instance of MDWS that the individual site will bind too.

You can use the Test Connection buttons to verify the connection and press the Save button to enter the data into the system.

The newly added site will be added in the sites list to the left of the screen.

## 2.8.2 Define Schedulers

The Schedulers tab from Background Processors page of Admin section displays a list of schedulers defined by user. It allows the user to add new schedulers, edit or remove old schedulers.

**NOTE:** To run the schedulers, the VistA Integration tab must be used (see next section VistA Integration for details).

The Schedulers tab is displayed as in the following image:

Figure 53 - Schedulers Tab

### 2.8.2.1 Adding a New Scheduler

To add a new scheduler follow the steps presented below.

1. From the Background Processors page select the Schedulers tab.
2. In the Schedulers tab fill in the following data:

Table 20 - New Scheduler Parameters

Column	Description
Name	The name of the scheduler.
Recurs every	The frequency.
Time Zone	Time zone associated with the scheduler.
Occurs once at/Occurs every	The frequency values.

After setting the desired frequency for the new scheduler, do not forget to press the Save button to enter the data into the system.

## 2.8.3 Run Scheduler

The VistA Integration tab is used to run (automatically or manually) the defined schedulers and to select which data categories will be affected by a scheduler's action.

The VistA Integration tab is displayed as in the following image:

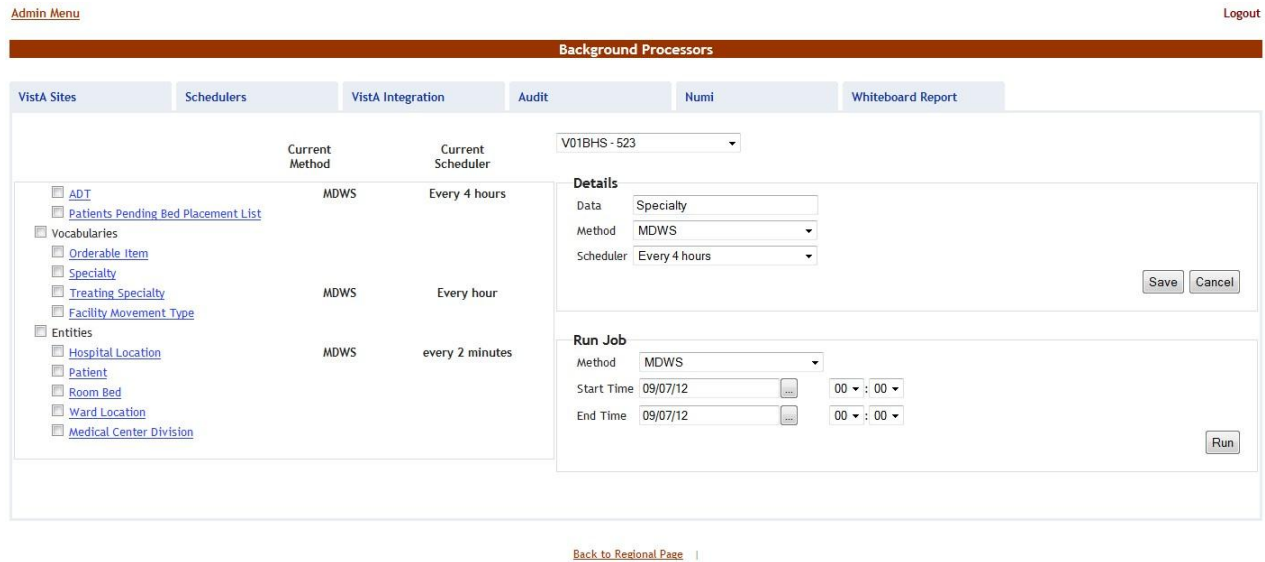


Figure 54 - VistA Integration Tab

From the field in the upper part of the page select the VistA site where the scheduler(s) will run.

Next step:

- Either click one data category from the column to the left (its name will appear in the Data field) and then select a method and scheduler from the **Method** and **Schedulers** fields in the Details area: this will cause the selected scheduler to run at the time set for it in the **Schedulers** tab and to bring data from the selected category.
- Or select several data categories (using the check-boxes) then select a connection method from the Run Job area, set the **Start time/End time** and click the **Run** button: this will cause the scheduler set using the selected method to start running now and bring the data from the selected categories.

## 2.8.4 View Audit Results

The Audit tab displays the results of the operations performed in the VistA Integration tab.

The Audit tab is displayed as shown in the following image.



Figure 55 - Audit Tab

The options to the left of the page allow the user to determine the filter criteria for the generated audit reports. The options to the right of the screen allow the user to select the type of operation to be captured by the audit report as well as the time interval for the audit.

After selecting the desired criteria, click the Filter by button to display the page as in the following image.

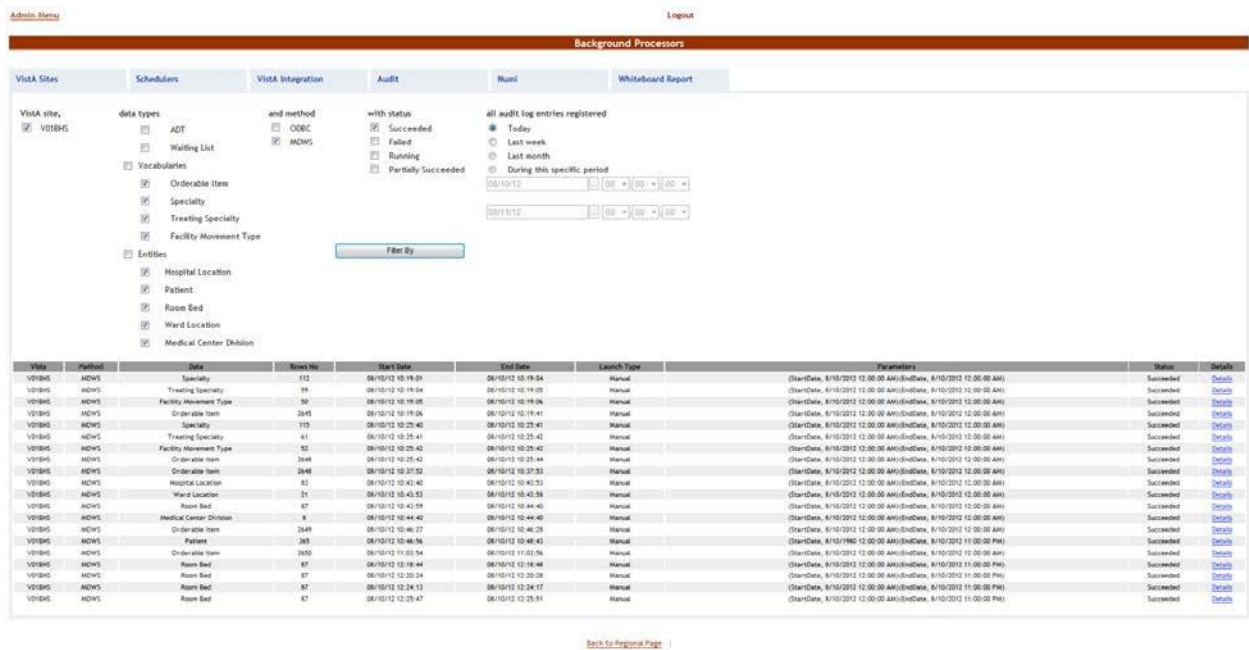


Figure 56 - View Audit Results

A list of operations is displayed. For each entry the following data is available:

Table 21 - View Audit Results Columns Report

Column	Description
VistA	The VistA site where the audit action has been performed.
Method	The method used for connecting to the VistA site.
Data	The type of data retrieved by the VistA integration operation.
Rows no	The number of operations of the selected type captured by the audit action.
Start Date	The start date of the retrieval operation.
End Date	The end date of the retrieval operation.
Launch Type	The way the audit action has been launched.
Parameters	Audit operation start date and time, and end date and time.
Status	The status of the VistA integration action.
Details	Clicking this link will display the number of entries in the report.

## 2.9 NUMI Integration

This chapter describes the process of importing patient level of care information from NUMI.

In order to integrate with NUMI certain steps should be completed:

1. Choose VistA site
2. Define Schedulers
3. Select Scheduler

### 2.9.1 Choose VistA Site

This step is the same as the one performed on VistA Integration process and can be referenced from [Section 2.7.1](#).

### 2.9.2 Define Schedulers

The process of defining schedulers can be referenced from Vista Integration process, [Section 2.7.2](#).

### 2.9.3 Select Scheduler

The NUMI tab is used to select the scheduler that will connect to the NUMI server and will retrieve data for a certain VistA site.

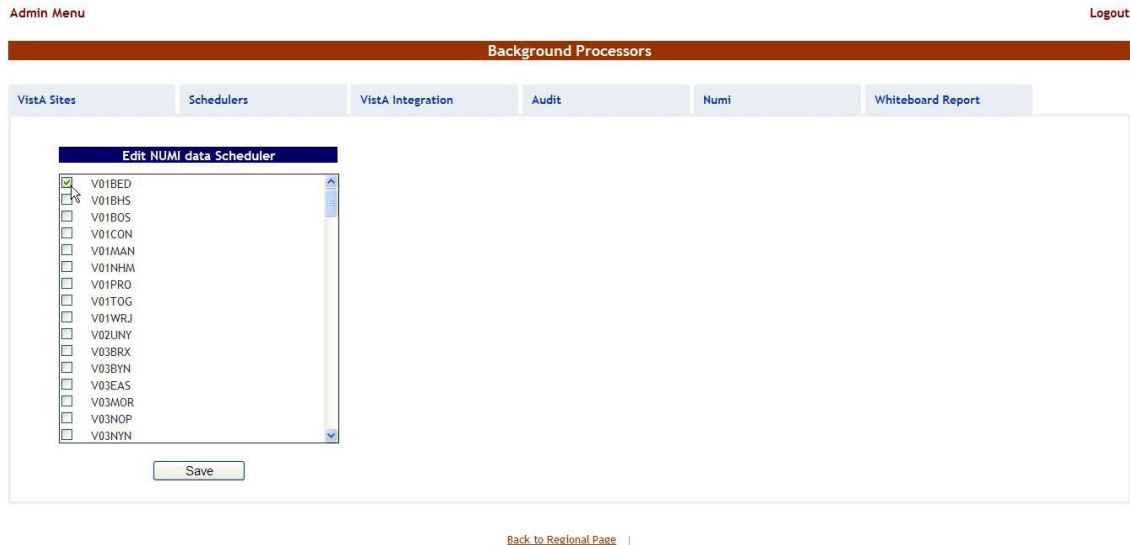
The NUMI tab is displayed as in the following image.



Figure 57 – NUMI Tab



From the Schedulers field select the scheduler created to retrieve the NUMI data then click the Add button: following page is displayed.



*Figure 58 - Selecting the VistA Site for Which to Gather NUMI Data*

Select the VistA site for which the selected scheduler will retrieve NUMI data then press the Save button.

Use the Edit link to select a different site for which the scheduler should retrieve NUMI data.

## 3 Application structure

### 3.1 Application Components

BMS application consists of the following components:

- BMS Databases (BMS Database, BMS Authz, BMS EIS, BMS EVS, BMS\_DS, BMS\_DW, BMS InstanceStore and BMS History)
- BMS Services (BMS Service and Win ServiceHost)
  - BMS Service
  - Win Service Host (EIS Service, EVS Service, PAP service, PDP service, RS service and STS service)
- BMS Web Site

### 3.2 Application Directory Structure

BMS application directory is structured as is presented below:

```
+---Consoles
| +---PolicyManager
+---Databases
| \---SQLData
```

```

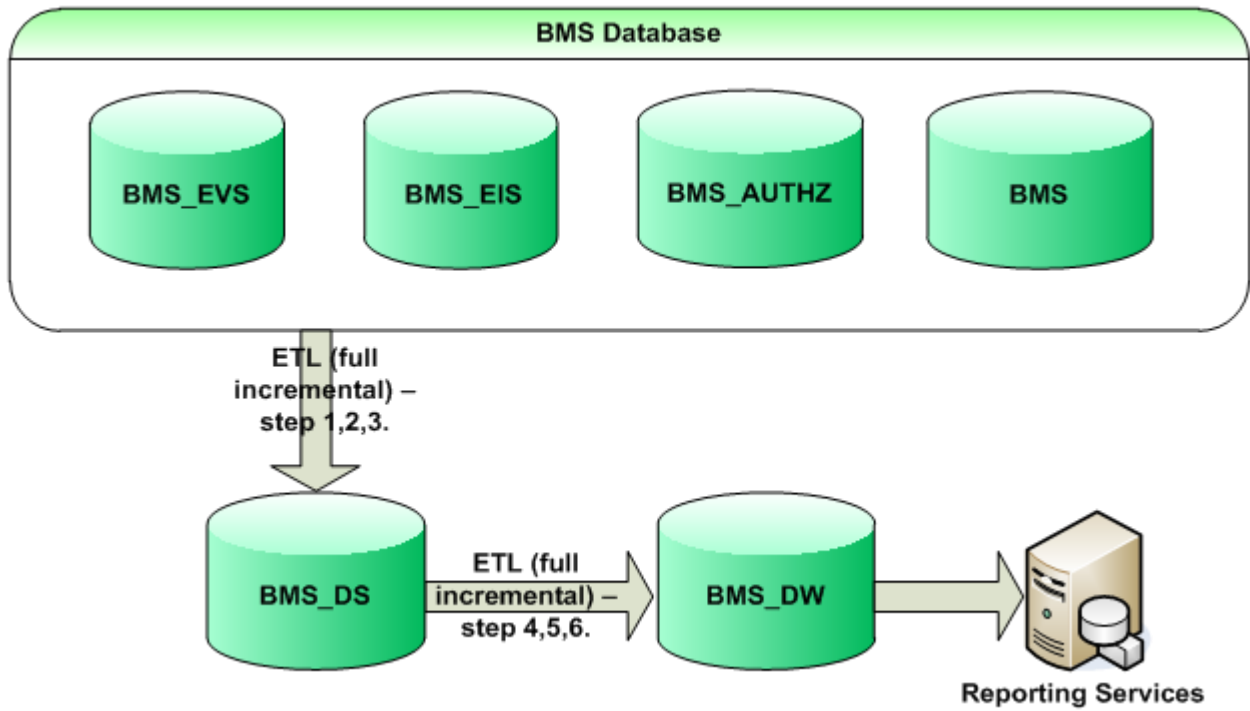
| | \---Job Logs
| | \---WMI_UserGroup
+---Services
| +---BMS
| | \---DBRepository
| | \---LinqToSql
| | \---LocalReportWhiteboard
| | \---Scripts
| +---EIS
| | \---DBRepository
| +---EVS
| | \---DBRepository
| +---PAP
| | \---DBRepository
| +---PDP
| +---RS
| +---Shared
| \---STS
+---WebSite
| +---bin
| | \--- LocalReportWhiteboard
| | \--- Scripts
| +---Content
| | \---images
| | +---themes
| | | +---base
| | | | \---images
| +---Reporting
| +---ReportsLocal
| +---Scripts
| \---Views

```

### 3.3 Database Architecture

Database architecture contains three main parts:

- BMS Database - Contains BMS\_EVS (Enterprise Vocabulary database), BMS\_EIS (Entity Identification Services database), BMS\_AUTHZ (Authorization database) and BMS (Bed Management database).
- BMS\_DS - By an ETL job the data are loaded into the data storage database.
- BMS\_DW - By an ETL job the data are inserted/updated/deleted in/from the data warehouse database.



*Figure 59 - Database Architecture*

### 3.4 Component Files

A list with files for each BMS component is presented below:

Table 22 - BMS Database Files

Relative Path	File	Description
Databases\SQLData	BMS_AUTHZ_Data.mdf	Database files (BMS database, BMS Authz, BMS EIS, BMS EVS....)
	BMS_AUTHZ_log.ldf	
	BMS_Data.mdf	
	BMS_log.ldf	
	BMS_DS_Data.mdf	
	BMS_DS_log.ldf	
	BMS_DW_Data.mdf	
	BMS_DW_log.ldf	
	BMS_EIS_Data.mdf	
	BMS_EIS_log.ldf	
	BMS_EVS_Data.mdf	
	BMS_EVS_log.ldf	
	BMS_HISTORY_Data.mdf	
	BMS_HISTORY_log.ldf	
BMS_InstanceStore_Data.mdf		
BMS_InstanceStore_log.ldf		
Databases\SQLData\Job_Logs	BMS_Reports_Log.txt	BMS Report Full job file log and BMS Incremental job file log.
	BMS_Reports_Log_Incremental.txt	
Databases\SQLData\WMI_UserGroup	AdapterRepository.dll	Binaries of WMI UserGroup application.
	Common.dll	
	connectionConfiguration.config	
	Connections.SingleDatabase.dll	
	ContextWriter.dll	
	General.MT.dll	
	Infoworld.Configuration.dll	
	MiddleTier.dll	
	MS.Common.dll	

Relative Path	File	Description
	MS.Configuration.dll	
	MS.Connections.dll	
	WMI_UserGroup.exe	
	WMI_UserGroup.exe.config	
	WMI_UserGroup.vshost.exe	
	WMI_UserGroup.vshost.exe.config	
	WMI_UserGroup.vshost.exe.manifest	
Databases\SQLData\WMI_UserGroup\ DBRepository	Connections.xml	File used to set the connection to the database.
	InfoWorld.WMI_UserGroup.DTO.DTOUserGroupDomain.xml	XML mapping file which contain mapping definitions between ePractice datasets and SQL tables. The dataset is specified by setting the <MyDataSetInfo> tag. The table to interact with – specified through the <MyDataTable> tag – is defined by four commands – usually stored procedures – which represent the Create, Read, Update and Delete (CRUD) operations which can be performed on the table: select (Read), insert (Create), update (Update) and delete (Delete). Stored procedure parameters are passed from these datasets and mapped in the same XML file.

Table 23 - BMS Service Files

Relative Path	File	Description
Services\BMS	AdapterRepository.dll	The binaries of the BMS Service.
	AuditTrailSender.dll	
	AuthenticationProxy.dll	
	AuthorizationSubscriber.dll	
	BMS.Contracts.dll	
	BMS.Facade.dll	
	BMS.Facade.Contracts.dll	
	BMS.Host.dll	
	BMS.MT.dll	
	BMS.MT.dll.config	
	BMS.Numi.dll	
	BMS.Schedulers.dll	

Relative Path	File	Description
	BMS.Security.dll	
	BMS.ServiceHost.exe	
	BMS.ServiceHost.exe.config	
	BMS.ServiceImplementation.dll	
	BMS.ServicesWrapper.dll	
	BMS.UnitTesting.dll	
	BMS.UnitTesting.dll.config	
	BMS.Utils.dll	
	BMS.VistaIntegration.dll	
	BMS.VistaIntegration.Cache.dll	
	BMS.VistaIntegration.Data.dll	
	BMS.VistaIntegration.HL7.dll	
	BMS.VistaIntegration.Mdws.dll	
	BMS.VistaIntegration.UnitTesting.dll	
	BMS.VistaIntegration_Accessor.dll	
	BMS.VistaWorker.dll	
	BMS.VistaWorker.Reader.dll	
	BMS.VistaWorker2.Writer.dll	
	BMS.Web.dll	
	BMS.WhiteboardReport.dll	
	BMS.Workflows.CustomActivities.dll	
	BMS.Workflows.PropertyPromotionActivity.dll	
	BMS.Workflows.WF.dll	
	Castle.Core.dll	
	Common.dll	
	connectionConfiguration.config	
	Connections.SingleDatabase.dll	
	ContextWriter.dll	
	DataUtil.dll	
	FakeltEasy.dll	
	General.MT.dll	

Relative Path	File	Description
	HL7DataTypes.dll	
	IContracts.dll	
	ICTSEdit.dll	
	Infoworld.Configuration.dll	
	InterSystems.Data.CacheClient.dll	
	log4net.dll	
	Mdws2ORM.dll	
	Microsoft.Web.Mvc.dll	
	MiddleTier.dll	
	MS.Common.dll	
	MS.Configuration.dll	
	MS.Connections.dll	
	PAPProxy.dll	
	RS.Contracts.dll	
	Saml20.dll	
	SecurityTokenCache.dll	
	trace.log	
	Tracing.dll	
	VistASites.xml	
	Xacml2.dll	
	XacmlCore.dll	
Services\BMS\DBRepository	BMS.MT.Admission.xml	XML mapping files which contains mapping definitions between ePractice datasets and SQL tables. The dataset is specified by setting the <MyDataSetInfo> tag. The table to interact with – specified through the <MyDataTable> tag – is defined by four commands – usually stored procedures – which represent the CRUD operations which can be performed on the table: select (Read), insert (Create), update (Update) and delete (Delete). Stored procedure parameters are passed from these datasets and mapped in the same XML file. Connections.xml file is used to set the connection string to BMS database.
	BMS.MT.AdmissionInfo.xml	
	BMS.MT.AdmissionLevelOfCare.xml	
	BMS.MT.BedCleanInfo.xml	
	BMS.MT.BedCleaning.xml	
	BMS.MT.BedCleanMobileInfo.xml	
	BMS.MT.BedDNDAAndOOSFromVista.xml	
	BMS.MT.BedOccupancyCount.xml	
	BMS.MT.BedOccupancyInfo.xml	
	BMS.MT.BedStaff.xml	

Relative Path	File	Description
	BMS.MT.BedStaffHistory.xml	
	BMS.MT.BedSwitch.xml	
	BMS.MT.BedUnavailable.xml	
	BMS.MT.BedUnavailableHistory.xml	
	BMS.MT.BedUnavailableInfo.xml	
	BMS.MT.CancelableOrderInfo.xml	
	BMS.MT.Configuration.xml	
	BMS.MT.Discharge.xml	
	BMS.MT.Diversion.xml	
	BMS.MT.EISOrganization.xml	
	BMS.MT.EmsStaff.xml	
	BMS.MT.EvacuationPatients.xml	
	BMS.MT.IconAssociation.xml	
	BMS.MT.IconAssociationInfo.xml	
	BMS.MT.IconDetail.xml	
	BMS.MT.IconInfo.xml	
	BMS.MT.IconOrder.xml	
	BMS.MT.JobAudit.xml	
	BMS.MT.JobAuditInfo.xml	
	BMS.MT.LastActInfo.xml	
	BMS.MT.LevelOfCare.xml	
	BMS.MT.LoggedUser.xml	
	BMS.MT.Movement.xml	
	BMS.MT.NewEvent.xml	
	BMS.MT.OccupiedBedInfo.xml	
	BMS.MT.PatientIconAssociation.xml	
	BMS.MT.PatientLocation.xml	
	BMS.MT.PatientsWaitingCount.xml	
	BMS.MT.PatientWaitingDateView.xml	
	BMS.MT.PatientWaitingStandardView.xml	
	BMS.MT.Transfer.xml	



Relative Path	File	Description
	BMS.MT.TransferInfo.xml	
	BMS.MT.VistaIntegrationLog.xml	
	BMS.MT.VistaOperation.xml	
	BMS.MT.WaitingListItem.xml	
	BMS.MT.WaitingListReport.xml	
	ConfigurationService.DataAccess.ConfigurationsBE.xml	
	Connections.xml	
Services\BMS\LocalReportWhiteboard	WardWhiteboard.rdlc	Ward whiteboard report file.
Services\BMS\Scripts	conditional-validation.js	JavaScript conditional validation file.

Table 24 - Win Service Host Files

Relative Path	File	Description
Services\EIS	BindingExtensions.dll	Binaries of the EIS Service.
	DTOGenericService.dll	
	DTOHL7Service.dll	
	EISAuditUtil.dll	
	EISAutomaticLink.dll	
	EISCache.dll	
	EISContracts.dll	
	EISDataAccess.dll	
	EISNotifications.dll	
	EISServiceGenericImplementation.dll	
	EISServiceHL7Implementation.dll	
	EISServiceImplementation.dll	
	EISServiceImplementation.dll.config	
ICSharpCode.SharpZipLib.dll		
Services\EIS\DBRepository	Connections.xml	XML mapping files which contains mapping definitions between ePractice datasets and SQL tables. The dataset is specified by setting the <MyDataSetInfo> tag. The table to interact with – specified through the <MyDataTable> tag – is defined by four commands – usually stored procedures – which represent the CRUD operations which can be performed on the table: select
	InfoWorld.EIS.DTOGenericService.DTOAutomaticLink.xml	
	InfoWorld.EIS.DTOGenericService.DTODomain.xml	
	InfoWorld.EIS.DTOGenericService.DTOEntity.xml	

Relative Path	File	Description
	InfoWorld.EIS.DTOGenericService.DTOEntityType.xml	(Read), insert (Create), update (Update) and delete (Delete). Stored procedure parameters are passed from these datasets and mapped in the same XML file. Connections.xml file is used to set the connection string to BMS_EIS database.
	InfoWorld.EIS.DTOGenericService.DTOEntityTypeClassifier.xml	
	InfoWorld.EIS.DTOGenericService.DTOEntityTypeTraitCoresp.xml	
	InfoWorld.EIS.DTOGenericService.DTOTrait.xml	
	InfoWorld.EIS.DTOGenericService.DTOTraitAssignment.xml	
	InfoWorld.EIS.DTOGenericService.EntityManagement.DTOEntityManageLink.xml	
	InfoWorld.EIS.DTOGenericService.EntityManagement.DTOEntityMerge.xml	
	InfoWorld.EIS.DTOGenericService.EntityManagement.DTOEntitySetStatus.xml	
	InfoWorld.EIS.DTOGenericService.LinkAlgorithmManagement.LinkAlgorithmTrait.xml	
	InfoWorld.EIS.DTOGenericService.LinkAlgorithmManagement.LinkAlgorithmTraits.xml	
	InfoWorld.EIS.DTOGenericService.LinkAlgorithmManagement.Match.xml	
	InfoWorld.EIS.DTOGenericService.QueryFunctions.DTOConflictingEntities.xml	
	InfoWorld.EIS.DTOGenericService.QueryFunctions.DTOFindEntity.xml	
	InfoWorld.EIS.DTOGenericService.QueryFunctions.DTOGetAllInfoPar.xml	
	InfoWorld.EIS.DTOGenericService.QueryFunctions.DTOGetAllInformationForAnEntity.xml	
	InfoWorld.EIS.DTOGenericService.QueryFunctions.DTOGetSupportedDomains.xml	
	InfoWorld.EIS.DTOGenericService.QueryFunctions.DTOLinkedEntities.xml	
	InfoWorld.EIS.DTOHL7Service.Address.xml	
	InfoWorld.EIS.DTOHL7Service.Container.xml	
	InfoWorld.EIS.DTOHL7Service.ContainerFiltr.xml	
	InfoWorld.EIS.DTOHL7Service.ContainerInfo.xml	
	InfoWorld.EIS.DTOHL7Service.Device.xml	
	InfoWorld.EIS.DTOHL7Service.DeviceFiltr.xml	

Relative Path	File	Description
	InfoWorld.EIS.DTOHL7Service.DeviceInfo.xml	
	InfoWorld.EIS.DTOHL7Service.ManufacturedMaterial.xml	
	InfoWorld.EIS.DTOHL7Service.ManufacturedMaterialFiltr.xml	
	InfoWorld.EIS.DTOHL7Service.ManufacturedMaterialInfo.xml	
	InfoWorld.EIS.DTOHL7Service.Material.xml	
	InfoWorld.EIS.DTOHL7Service.MaterialFiltr.xml	
	InfoWorld.EIS.DTOHL7Service.MaterialInfo.xml	
	InfoWorld.EIS.DTOHL7Service.NonPersonLivingSubject.xml	
	InfoWorld.EIS.DTOHL7Service.NonPersonLivingSubjectFiltr.xml	
	InfoWorld.EIS.DTOHL7Service.NonPersonLivingSubjectInfo.xml	
	InfoWorld.EIS.DTOHL7Service.Organization.xml	
	InfoWorld.EIS.DTOHL7Service.OrganizationFiltr.xml	
	InfoWorld.EIS.DTOHL7Service.OrganizationInfo.xml	
	InfoWorld.EIS.DTOHL7Service.Person.xml	
	InfoWorld.EIS.DTOHL7Service.PersonFiltr.xml	
	InfoWorld.EIS.DTOHL7Service.PersonInfo.xml	
	InfoWorld.EIS.DTOHL7Service.Place.xml	
	InfoWorld.EIS.DTOHL7Service.PlaceFiltr.xml	
	InfoWorld.EIS.DTOHL7Service.PlaceInfo.xml	
	InfoWorld.EIS.DTOHL7Service.Telecom.xml	
	InfoWorld.WSEventing.DTO.CustomSubscriptions.xml	
	InfoWorld.WSEventing.DTO.Endpoints.xml	
	InfoWorld.WSEventing.DTO.FilterDialects.xml	
	InfoWorld.WSEventing.DTO.Message.xml	
	InfoWorld.WSEventing.DTO.MessageGet.xml	

Relative Path	File	Description
	InfoWorld.WSEventing.DTO.MessageGetDeliveryTo.xml	
	InfoWorld.WSEventing.DTO.Subscriptions.xml	
Services\EVS	ActionManager.dll	Binaries of EVS service.
	BindingExtensions.dll	
	CodingSystems.DAL.dll	
	Configuration.dll	
	connectionConfiguration.config	
	Connections.Common.dll	
	CTSEdit.dll	
	CTSEdit.Utils.dll	
	CTSEditBulk.dll	
	CTSEditExport.dll	
	CTSEditImport.dll	
	CTSEditImportProxy.dll	
	CTSService.Utils.dll	
	DTOMappingEdit.dll	
	DTOMapping.dll	
	DTOMessageBrowser.dll	
	DTOMessageEdit.dll	
	DTOMessageRuntime.dll	
	DTOVocabularyEdit.dll	
	DTOVocabularyEdit.dll.config	
	EVSWrapper.dll	
	EVSWrapper.dll.config	
	Factory.dll	
	HL7DataTypes.XmlSerializers.dll	
IContracts.dll		
ICSharpCode.SharpZipLib.dll		
ICTSEdit.dll		
ICTSEditBulk.dll		
ICTSEditExport.dll		

Relative Path	File	Description
	ICTSImport.dll	
	IEventing.dll	
	MappingImpl.dll	
	Message.dll	
	MessageImpl.dll	
	MessageImpl.dll.config	
	MS.Caching.dll	
	Notify.dll	
	SecureChannel.dll	
	Security.Null.dll	
	securityConfiguration.config	
	VocabularyBrowser.DTO.dll	
	VocabularyImpl.dll	
	VocabularyRuntime.DTO.dll	
	XamlContracts.dll	
	XamlDataContracts.dll	
	XamlImpl.dll	
Services\EVS\DBRepository	Connections.xml	XML mapping files which contains mapping definitions between ePractice datasets and SQL tables. The dataset is specified by setting the <MyDataSetInfo> tag. The table to interact with – specified through the <MyDataTable> tag – is defined by four commands – usually stored procedures – which represent the CRUD operations which can be performed on the table: select (Read), insert (Create), update (Update) and delete (Delete). Stored procedure parameters are passed from these datasets and mapped in the same XML file. Connections.xml file is used to set the connection string to BMS_EVS database.
	InfoWorld.EVS.CTSEdit.DTO.Association.xml	
	InfoWorld.EVS.CTSEdit.DTO.CodingSystem.xml	
	InfoWorld.EVS.CTSEdit.DTO.Concept.xml	
	InfoWorld.EVS.CTSEdit.DTO.ConceptAssociationsToCMultiAttrib.xml	
	InfoWorld.EVS.CTSEdit.DTO.ConceptProperty.xml	
	InfoWorld.EVS.CTSEdit.DTO.DSMap.xml	
	InfoWorld.EVS.CTSEdit.DTO.DSMapEntry.xml	
	InfoWorld.EVS.CTSEdit.DTO.DTORExpandValueSet.xml	
	InfoWorld.EVS.CTSEdit.DTO.DTOValueSet.xml	
	InfoWorld.EVS.CTSEdit.DTO.DTOVocabularyDomain.xml	
	InfoWorld.EVS.CTSEdit.DTO.Relation.xml	

Relative Path	File	Description
	InfoWorld.EVS.CTSEdit.DTO.ValueSets.xml	
	InfoWorld.EVS.CTSMAPI.DTO.CodeSystemInfo.xml	
	InfoWorld.EVS.CTSMAPI.DTO.DomainValueSetFiltr.xml	
	InfoWorld.EVS.CTSMAPI.DTO.DSConceptsByCode.xml	
	InfoWorld.EVS.CTSMAPI.DTO.DSConceptsByCodeProperties.xml	
	InfoWorld.EVS.CTSMAPI.DTO.DSConceptsByDesignation.xml	
	InfoWorld.EVS.CTSMAPI.DTO.DSConceptsByDesignationProperties.xml	
	InfoWorld.EVS.CTSMAPI.DTO.DSFullValueSetDescription.xml	
	InfoWorld.EVS.CTSMAPI.DTO.DSValueSetContextExpansion.xml	
	InfoWorld.EVS.CTSMAPI.DTO.DSValueSetExpansion.xml	
	InfoWorld.EVS.CTSMAPI.DTO.DSValueSetExpansionProperties.xml	
	InfoWorld.EVS.CTSMAPI.DTO.DSValueSetExpansionReverse.xml	
	InfoWorld.EVS.CTSMAPI.DTO.DSVocabularyDomainDescription.xml	
	InfoWorld.EVS.CTSMAPI.DTO.GetFillInDetailsCD.xml	
	InfoWorld.EVS.CTSMAPI.DTO.IsCodeInValueSet.xml	
	InfoWorld.EVS.CTSMAPI.DTO.ValidateCode.xml	
	InfoWorld.EVS.CTSMAPI.DTO.ValueSetCodeReference.xml	
	InfoWorld.EVS.CTSMAPI.DTO.ValueSetFiltr.xml	
	InfoWorld.EVS.CTSMAPI.DTO.VocabularyDomainFiltr.xml	
	InfoWorld.EVS.CTSMMapping.DTO.DSMapConceptCode.xml	
	InfoWorld.EVS.CTSMMapping.DTO.DSMapEntry.xml	
	InfoWorld.EVS.CTSMMapping.DTO.DSSupportedMapsFiltr.xml	
	InfoWorld.EVS.CTSVAPI.DTO.CodeSystem.xml	
	InfoWorld.EVS.CTSVAPI.DTO.CodeSystemFiltr.xml	

Relative Path	File	Description
	InfoWorld.EVS.CTSVAPI.DTO.CodingSchemeFiltr.xml	
	InfoWorld.EVS.CTSVAPI.DTO.ConceptCodeValid.xml	
	InfoWorld.EVS.CTSVAPI.DTO.ConceptDescription.xml	
	InfoWorld.EVS.CTSVAPI.DTO.ConceptExpansion.xml	
	InfoWorld.EVS.CTSVAPI.DTO.ConceptProperties.xml	
	InfoWorld.EVS.CTSVAPI.DTO.ConceptsByDesignation.xml	
	InfoWorld.EVS.CTSVAPI.DTO.ConceptsByProperty.xml	
	InfoWorld.EVS.CTSVAPI.DTO.Designation.xml	
	InfoWorld.EVS.CTSVAPI.DTO.RelatedConcepts.xml	
	InfoWorld.EVS.DTOEditBulk.ConceptBulk.xml	
	InfoWorld.EVS.DTOEditBulk.ConceptPropertyBulk.xml	
	InfoWorld.EVS.DTOEditBulk.RelationBulk.xml	
	InfoWorld.WSEventing.DTO.CustomSubscriptions.xml	
	InfoWorld.WSEventing.DTO.Endpoints.xml	
	InfoWorld.WSEventing.DTO.FilterDialects.xml	
	InfoWorld.WSEventing.DTO.Message.xml	
	InfoWorld.WSEventing.DTO.MessageGet.xml	
	InfoWorld.WSEventing.DTO.MessageGetDeliveryTo.xml	
	InfoWorld.WSEventing.DTO.Subscriptions.xml	
	XamlDataContracts.DSXamlReverse.xml	
	XamlDataContracts.RootXaml.xml	
	XamlDataContracts.XAMLFiltr.xml	
Services\PAP	ActionManager.dll	Binaries of PAP service.
	AuthorizationProxy.dll	
	Configuration.dll	
	connectionConfiguration.config	

Relative Path	File	Description
	Connections.Common.dll	
	Microsoft.ApplicationBlocks.Data.dll	
	Microsoft.ApplicationBlocks.ExceptionManagement.dll	
	Microsoft.ApplicationBlocks.ExceptionManagement.Interfaces.dll	
	Microsoft.Practices.EnterpriseLibrary.Common.dll	
	Microsoft.Practices.EnterpriseLibrary.ExceptionHandling.dll	
	Microsoft.Practices.EnterpriseLibrary.ExceptionHandling.Logging.dll	
	Microsoft.Practices.EnterpriseLibrary.Logging.dll	
	Microsoft.Practices.ObjectBuilder.dll	
	MS.Caching.dll	
	ObjectPickerHelper2.dll	
	PAPProxy.dll	
	PDPServiceAuthorizationManager.dll	
	PolicyAdministrationPoint.dll	
	PolicyAdministrationPoint.dll.config	
	SecureChannel.dll	
	Security.Null.dll	
Services\PAP\DBRepository	Connections.xml	XML mapping files which contains mapping definitions between ePractice datasets and SQL tables. The dataset is specified by setting the <MyDataSetInfo> tag. The table to interact with – specified through the <MyDataTable> tag – is defined by four commands – usually stored procedures – which represent the CRUD operations which can be performed on the table: select (Read), insert (Create), update (Update) and delete (Delete). Stored procedure parameters are passed from these datasets and mapped in the same XML file. Connections.xml file is used to set the connection string to BMS_AURHZ database.
	InfoWorld.DE.DataAccess.LabSet.xml	
	InfoWorld.DE.DataAccess.LabSetId.xml	
	InfoWorld.DE.DataAccess.SentStatus.xml	
	InfoWorld.WSEventing.DTO.CustomSubscriptions.xml	
	InfoWorld.WSEventing.DTO.Endpoints.xml	
	InfoWorld.WSEventing.DTO.FilterDialects.xml	
	InfoWorld.WSEventing.DTO.Message.xml	
	InfoWorld.WSEventing.DTO.MessageGet.xml	
	InfoWorld.WSEventing.DTO.MessageGetDeliveryTo.xml	
	InfoWorld.WSEventing.DTO.Subscriptions.xml	



Relative Path	File	Description
Services\PDP	PolicyDecisionPoint.dll	Binaries of PDP service.
	PolicyDecisionPoint.dll.config	
Services\RS	AuthorizationProxy.dll	Binaries of RS service.
	RS.Contracts.dll	
	RS.Proxy.dll	
	RS.ServiceImplementation.dll	
	RS.ServiceImplementation.dll.config	
Services\Shared	7zip.dll	Shared binaries by BMS Service and Win Service.
	AdapterRepository.dll	
	AuditTrailSender.dll	
	AuthorizationSubscriber.dll	
	BindingExtensions.dll	
	Common.dll	
	CommonResources.dll	
	Connections.SingleDatabase.dll	
	ContextWriter.dll	
	DataUtil.dll	
	General.MT.dll	
	HL7CDA.dll	
	HL7CMET.dll	
	HL7DataTypes.dll	
	ICSharpCode.SharpZipLib.dll	
	Infoworld.Configuration.dll	
	log4net.dll	
	MiddleTier.dll	
	MS.Common.dll	
	MS.Configuration.dll	
MS.Connections.dll		
MS.Security.dll		
Saml20.dll		
SecurityTokenCache.dll		

Relative Path	File	Description
	Tracing.dll	
	WSEventing.dll	
	WSEventing.DataAccess.dll	
	WSEventing.DTO.dll	
	Xacml2.dll	
	XacmlCore.dll	
Services\STS	SecureTokenService.dll	Binaries of STS service.
	SecureTokenService.dll.config	
Services	WinServiceHost.exe	WinServiceHost files.
	WinServiceHost.exe.config	
	BMS-Services.log	

Table 25 - BMS Web Site Files

Relative Path	File	Description
WebSite	Global.asax	The binaries of the BMS Web Site, web site configuration file.
	packages.config	
	Web.config	
WebSite\bin	AuthenticationProxy.dll	Web site's binaries.
	BMS.Contracts.dll	
	BMS.Contracts.pdb	
	BMS.Facade.Contracts.dll	
	BMS.Facade.Contracts.pdb	
	BMS.Facade.dll	
	BMS.Facade.pdb	
	BMS.Security.dll	
	BMS.Security.pdb	
	BMS.ServicesWrapper.dll	
	BMS.ServicesWrapper.pdb	

Relative Path	File	Description
	BMS.Web.pdb	
	EISContracts.dll	
	HL7DataTypes.dll	
	IContracts.dll	
	ICTSEdit.dll	
	log4net.dll	
	Microsoft.Web.Mvc.dll	
	PAPPProxy.dll	
	RS.Contracts.dll	
	Saml20.dll	
	SecurityTokenCache.dll	
	Tracing.dll	
	Xacml2.dll	
	XacmlCore.dll	
WebSite\bin\LocalReportWhiteboard	WardWhitebord.rdlc	Ward Whiteboard report file.
WebSite\bin\Scripts	Conditional-validation.js	File used by the site for conditional validation.
WebSite\Content	Controls.css	Images, themes and styles.
	Site.css	
WebSite\Content\images	add_tab_24.jpg	Images used by site.
	arrow_down.jpg	
	arrow_up.jpg	
	BMSLogoV6.jpg	
	check_inv.jpg	
	edit_staff_cancel.jpg	
	edit_staff_save.jpg	
	Info.jpg	
	Ladybug.jpg	
	login_logo.jpg	
	order_down.jpg	
	order_up.jpg	
	sort_down.jpg	

Relative Path	File	Description
	sort_up.jpg	
WebSite\Content\themes\base	jquery.ui.accordion.css	jQuery controls style-sheets files.
	jquery.ui.all.css	
	jquery.ui.autocomplete.css	
	jquery.ui.base.css	
	jquery.ui.button.css	
	jquery.ui.core.css	
	jquery.ui.datepicker.css	
	jquery.ui.dialog.css	
	jquery.ui.progressbar.css	
	jquery.ui.resizable.css	
	jquery.ui.selectable.css	
	jquery.ui.slider.css	
	jquery.ui.tabs.css	
	jquery.ui.theme.css	
WebSite\Content\themes\base\images	ui-bg_flat_0_aaaaaa_40x100.png	Images.
	ui-bg_flat_75_ffffff_40x100.png	
	ui-bg_glass_55_fbf9ee_1x400.png	
	ui-bg_glass_65_ffffff_1x400.png	
	ui-bg_glass_75_dadada_1x400.png	
	ui-bg_glass_75_e6e6e6_1x400.png	
	ui-bg_glass_95_fef1ec_1x400.png	
	ui-bg_highlight-soft_75_cccccc_1x100.png	
	ui-icons_222222_256x240.png	
	ui-icons_2e83ff_256x240.png	
	ui-icons_454545_256x240.png	
	ui-icons_888888_256x240.png	
	ui-icons_cd0a0a_256x240.png	
WebSite\Reporting	EvacuationPatientReportViewer.aspx	Report Viewer pages.
	LocalReportViewer.aspx	
	ReportError.aspx	

Relative Path	File	Description
	ReportViewer.aspx	
WebSite\ ReportsLocal	BedStatusReport.rdlc	Bed Status Report file.
WebSite\Scripts	conditional-validation.js	JavaScript files.
	element-change.js	
	hoverIntent.js	
	jquery.autosize.js	
	jquery.jscrollpane.min.js	
	jquery.maskedinput-1.3.min.js	
	jquery.mousewheel.js	
	jquery.tablesroll.js	
	jquery.tablesorter.js	
	jquery.ui.autocomplete.js	
	jquery.ui.core.js	
	jquery.ui.position.js	
	jquery.ui.progressbar.js	
	jquery.ui.widget.js	
	jquery.unobtrusive-ajax.js	
	jquery.unobtrusive-ajax.min.js	
	jquery.validate.js	
	jquery.validate.min.js	
	jquery.validate.unobtrusive.js	
	jquery.validate.unobtrusive.min.js	
	jquery.validate-vsdoc.js	
	jquery-1.5.1.js	
	jquery-1.5.1.min.js	
jquery-1.5.1-vsdoc.js		
jquery-1.7.1.js		
jquery-1.7.1.min.js		
jquery-ui-1.8.11.js		
jquery-ui-1.8.11.min.js		
jquery-ui-1.8.18.custom.js		

Relative Path	File	Description
	json2.js MicrosoftAjax.js MicrosoftAjax.debug.js MicrosoftMvcAjax.js MicrosoftMvcAjax.debug.js MicrosoftMvcValidation.js MicrosoftMvcValidation.debug.js modernizr-1.7.js modernizr-1.7.min.js superfish.js supersubs.js whiteboard-script.js	
WebSite\Views	_ViewStart.cshtml Web.config	User Interface views.
WebSite\Views\Account	LogOff.cshtml LogOn.cshtml	Login/Logout user interface views.
WebSite\Views\Admin	AddEditUser.cshtml AddUserOperations.cshtml CheckItemView.cshtml FacilityEdit.cshtml FacilityEditSaved.cshtml Index.cshtml RemoveUserOperations.cshtml SelectUser.cshtml SisterSiteAddEdit.cshtml SisterSiteEditSaved.cshtml <del>UserEditHasSaved.cshtml</del> UserOperationsView.cshtml	Admin section user interface views.
	Index.cshtml	

Relative Path	File	Description
	DeleteConfirmation.cshtml Edit.cshtml Index.cshtml SaveConfirmation.cshtml Search.cshtml SearchResult.cshtml	
WebSite\Views\AdminSpecialtyAssociation	Delete.cshtml Index.cshtml	Admin specialty association user interface views.
	AddConfirmation.cshtml Delete.cshtml DeleteConfirmation.cshtml	
WebSite\Views\AdminUnavailableReason	Edit.cshtml EditConfirmation.cshtml Index.cshtml MissingUnavailableReasonText.cshtml UnavailableReasonAlreadyExists.cshtml UnavailableReasonList.cshtml	Admin unavailable reason user interface views
	AddAction.cshtml Delete.cshtml	
WebSite\Views\AdminWaitingArea	DeleteAction.cshtml Edit.cshtml EditAction.cshtml Index.cshtml	Admin waiting area user interface views.
WebSite\Views\AdminWhiteboardReport	Delete.cshtml Edit.cshtml Index.cshtml	Admin whiteboard report user interface views.
WebSite\Views\AdtOrderableItems	Confirmation.cshtml Index.cshtml OrderableItemsList.cshtml	ADT Orderable Items user interface views.

WebSite\Views\BackgroundProcessors	AddEditConfirmation.cshtml DeleteConfirmation.cshtml	Background Processors user interface views.
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Relative Path	File	Description
	Index.cshtml	
WebSite\Views\BedBoard	Filter.cshtml Index.cshtml	VISN user interface views.
WebSite\Views\BedBoardModule	Index.cshtml	Bed Board Module user interface view.
WebSite\Views\BedInformation	ClearAll.cshtml Index.cshtml NotifyChange.cshtml	Bed Information user interface views.
WebSite\Views\BedStatusReport	Index.cshtml	Patients Pending Placement Status report user interface view.
WebSite\Views\ContingencySettings	Confirmation.cshtml Index.cshtml	Contingency settings user interface views.
WebSite\Views\DischargeClinic	Index.cshtml MessageConfirmation.cshtml	Discharge clinic user interface views.
WebSite\Views\EmsBedStatusAdmin	Edit.cshtml EMSBatchAssign.cshtml Index.cshtml SaveConfirmation.cshtml	EMS bed status user interface views.
WebSite\Views\EMSMobile	EMSList.cshtml Users.cshtml	EMS Mobile user interface views.
WebSite\Views\EMSMobileLogon	Index.cshtml	EMS Mobile Logon user interface view.
WebSite\Views\EmsNotification	AddEdit.cshtml AddEditAction.cshtml Delete.cshtml DeleteAction.cshtml Index.cshtml	EMS Notification user interface views.
WebSite\Views\EmsStaff	Delete.cshtml Edit.cshtml Index.cshtml	EMS Staff user interface views.
WebSite\Views\EventNotification	AddConfirmation.cshtml AddEdit.cshtml Delete.cshtml	Event Notification user interface views.

Relative Path	File	Description
	EditConfirmation.cshtml Index.cshtml	
WebSite\Views\Exception	Index.cshtml WFException.cshtml	Exception user interface views.
	Add.cshtml AddConfirmation.cshtml AllDiversions.cshtml	
WebSite\Views\FacilityDiversio n	CurrentDiversions.cshtml Diversions.cshtml Edit.cshtml EditConfirmation.cshtml EditDuplicate.cshtml Index.cshtml	Facility Diversion user interface views.
WebSite\Views\FacilitySettings	Index.cshtml SaveConfirmation.cshtml	Facility Settings user interface views.
	AdmissionList.cshtml AdmissionSuccessRemove.cshtml AdmissionSuccessUndoRemove.cshtml ChangeIntegratedSiteError.cshtml	
WebSite\Views\Home	Edit.cshtml FeeUtilizationAdmissionList.cshtml Index.cshtml PatientFlowAdmissionList.cshtml PatientInHouseAdmissionList.cshtml PatientInquiry.cshtml <del>RemoveAdmission.cshtml</del> StandardAdmissionList.cshtml	Home user interface views.

UndoRemoveAdmission.cshtml		
WebSite\Views\IconLegend	Index.cshtml	Icon Legend user interface view.
WebSite\Views\IconLibrary	Edit.cshtml Index.cshtml	Icon Library user interface views.

Relative Path	File	Description
	ResetConfirmation.cshtml	
	SaveConfirmation.cshtml	
WebSite\Views\Information	Index.cshtml	Information user interface view.
WebSite\Views\LogOff	Index.cshtml	LogOff user interface view.
WebSite\Views\MaintainMarquee	Index.cshtml	Maintain Marquee user interface view.
	Saved.cshtml	
WebSite\Views\NationalAndRegional	DateAuditView.cshtml	National user interface views.
	Index.cshtml	
	PatientWaitingList.cshtml	
	StandardView.cshtml	
WebSite\Views\NewEvents	Index.cshtml	New events user interface view.
WebSite\Views\Numi	Delete.cshtml	NUMI user interface views.
	Edit.cshtml	
	Index.cshtml	
WebSite\Views\Patient	Admission.cshtml	Patient user interface views.
	Confirmation.cshtml	
	EvacuationData.cshtml	
	GenericWfFault.cshtml	
	PatientWaitingAdd.cshtml	
	PatientWaitingEdit.cshtml	
	Select.cshtml	
WebSite\Views\Reports	Index.cshtml	Reports user interface view section of home page.
WebSite\Views\Shared	_Layout.cshtml	Shared user interface views.
	_LayoutAdminPages.cshtml	
	_VistaIntegrationLayout.cshtml	
	Error.cshtml	
	Header.cshtml	
WebSite\Views\SiteList	Index.cshtml	Site list user interface view.
WebSite\Views\SiteOptions	CacheConfirmation.cshtml	Site options user interface views.
	EvacuationConfirmation.cshtml	
	Index.cshtml	

Relative Path	File	Description
WebSite\Views\Transfer	AddEditResult.cshtml	
	AddTranfer.cshtml	
	EditTransfer.cshtml	
	FinalizeResult.cshtml	
	FinalizeTransfer.cshtml	
	Index.cshtml	
WebSite\Views\Unauthorized	PermissionAuth.cshtml	Unauthorized user interface view.
WebSite\Views\UnavailableReason	AddConfirmation.cshtml	Unavailable reason user interface views.
	Delete.cshtml	
	DeleteConfirmation.cshtml	
	Edit.cshtml	
	EditConfirmation.cshtml	
	Index.cshtml	
	MissingUnavailableReasonText.cshtml	
UnavailableReasonAlreadyExists.cshtml		
WebSite\Views\UserConfiguration	Index.cshtml	User configuration views.
	SelectUser.cshtml	
	UserEditHasSaved.cshtml	
WebSite\Views\VistaIntegration	Audit.cshtml	VistA integration user interface views.
	AuditLogEntries.cshtml	
	Categories.cshtml	
	DeleteScheduler.cshtml	
	EditScheduler.cshtml	
	EditVistASite.cshtml	
	ErrorDetail.cshtml	

Relative Path	File	Description
	DeleteAction.cshtml Edit.cshtml EditAction.cshtml Index.cshtml	
WebSite\Views\WardConfiguration	Delete.cshtml Index.cshtml	Ward configuration user interface views.
WebSite\Views\WardOccupancy	Index.cshtml	Ward occupancy user interface view.
	ClearAll.cshtml Edit.cshtml Index.cshtml	
WebSite\Views\WardWhiteboard	NotifyChange.cshtml WardWhiteBoard.cshtml WhiteboardDataOne.cshtml WhiteboardDataTwo.cshtml	Ward whiteboard user interface views.
WebSite\Views\WardWhiteboardUrl	Index.cshtml	Ward whiteboard url user interface view.
WebSite\Views\WhiteboardStaff	Index.cshtml	Whiteboard staff user interface view.

Table 26 - PolicyManager Files

Relative Path	File	Description
	7zip.dll AdapterRepository.dll AuditTrailSender.dll Infoworld.Configuration.dll	
Consoles\PolicyManager	MS.Common.dll MS.Configuration.dll MS.Connections.dll PAPPProxy.dll PolicyEditor.dll PolicyEditor.dll.confia	Binaries of PolicyManager application.

Relative Path	File	Description
	ResourceSecurityProperties.dll	
	SecurityTokenCache.dll	
	WSEventing.dll	
	WSEventing.DataAccess.dll	
	WSEventing.DTO.dll	
Consoles\PolicyManager\ ro	PolicyEditor.resources.dll	Binaries used by Policy Manager.
	ResourceSecurityProperties.resources.dll	
Consoles\PolicyManager\ ro-RO	PolicyEditor.resources.dll	Binaries used by Policy Manager.
	ResourceSecurityProperties.resources.dll	

## 4 Archiving

All the sensitive data in the BMS solution is persisted in a collection of SQL Server Databases. Therefore the archiving process is implying the definition of maintenance plans that will regularly make backups of these databases, backups that can be restored if needed.

The maintenance plan can be defined as detailed in the following pictures:

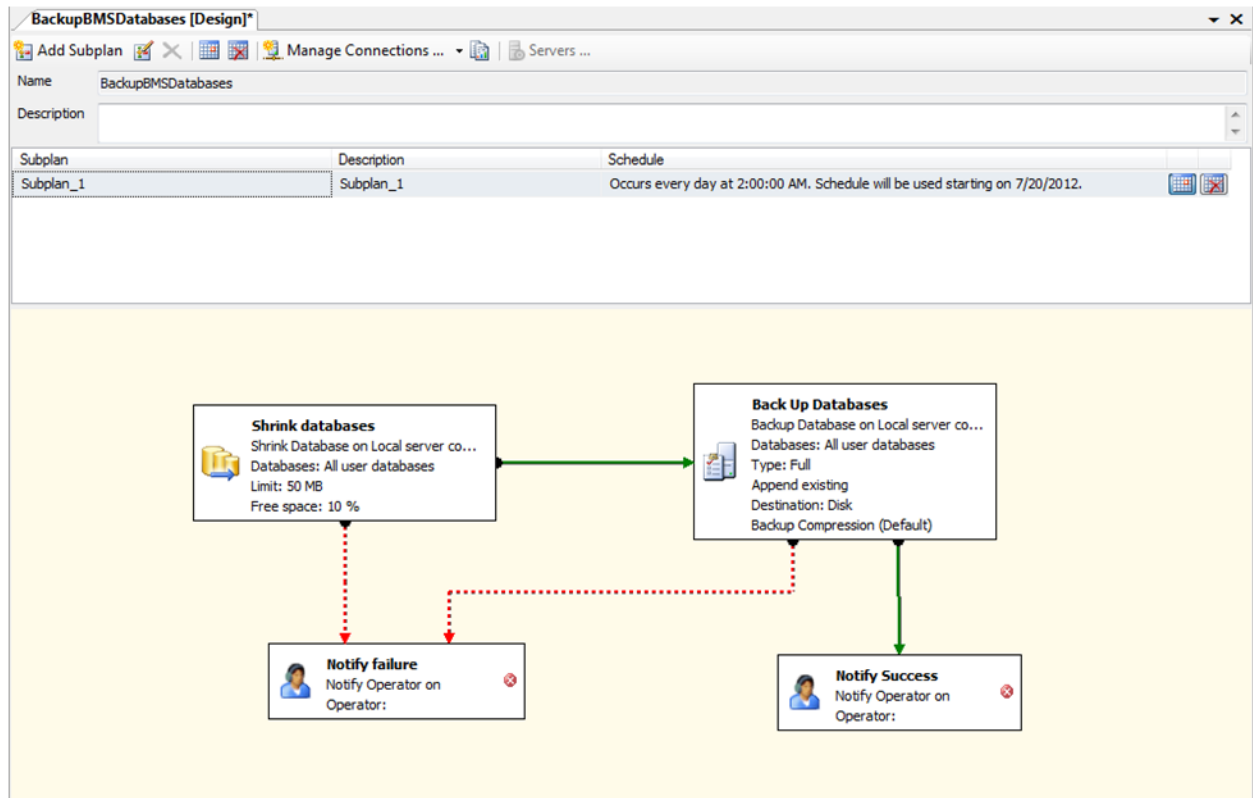


Figure 60 - Backup Maintenance Plan

## 5 External Relationships

External relationships can be referenced from External Interfaces in the next section.

## 6 External Interfaces

VistA and NUMI are the external interfaces that are connected with the BMS system (see screenshot below):



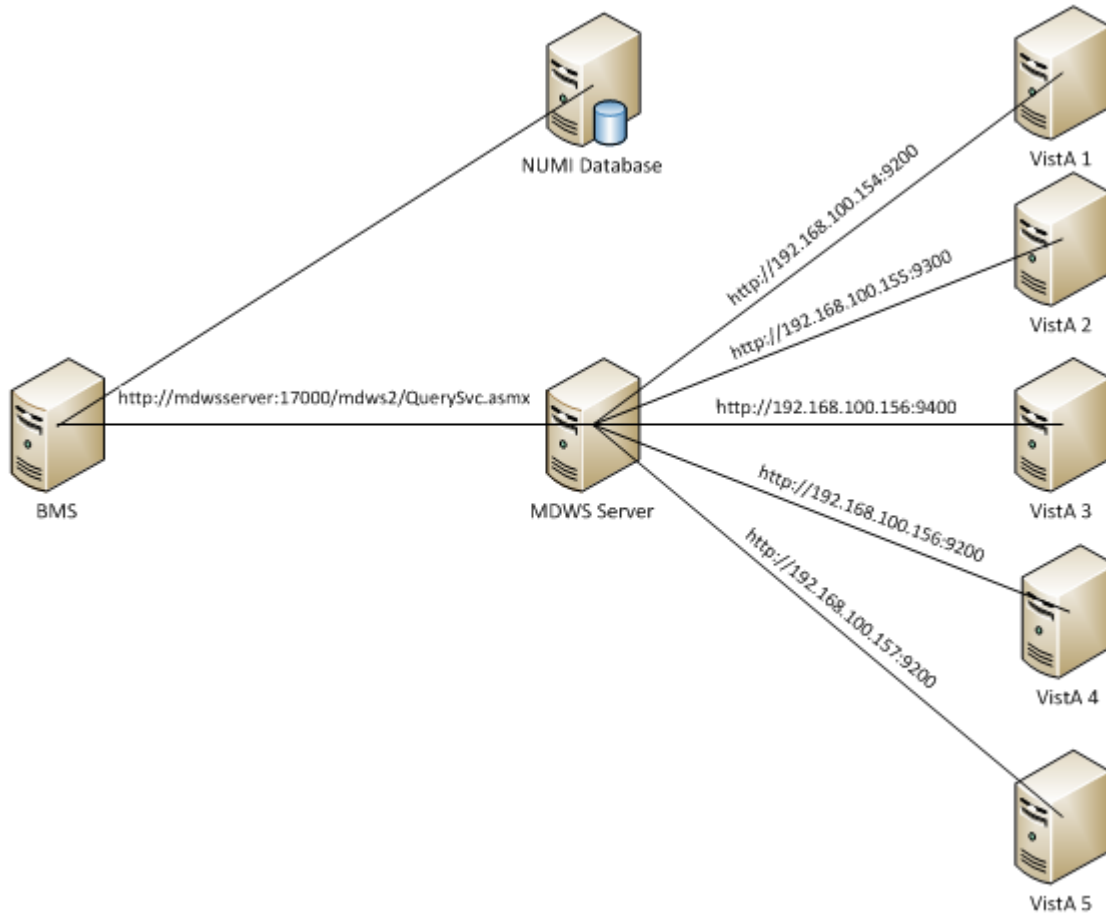


Figure 61 - BMS External Interfaces

All the VISTA deployments will be connected through a Healthcare Integration Engine (MDWS version 2) to the BMS. MDWS v.2 is a suite of Service Oriented Architecture (SOA) middle-tier web services that exposes medical domain functionality, Medical Domain Objects (MDO).

In order to connect to MDWS v.2, BMS service configuration file (BMS.ServiceHost.exe.config) should be changed as follows, see **Table 4 - BMS ServiceHost Configuration Parameters** section:

- A MDWS client service endpoint should be set: `http://mdwsserver:17000/mdws2/QuerySvc.asmx`
- VistaIntegration.Enabled should be set to true: `VistaIntegration.Enabled=true`

The following configurations should be set in MDWS to be able to connect to VistA deployments:

- Application protocol: `http://192.168.100.156:9200`
- VistA DataSource connection string: `<DataSource modality="HIS" protocol="VISTA" source="192.168.100.156" status="active" port="9200"/>`

These configurations should be done for each VistA deployment.

A connection string to NUMI database needs to be set in service configuration file (BMS.ServiceHost.exe.config), see **Table 4 - BMS ServiceHost Configuration Parameters** section: `<ConnectionString>Data Source=numiserver;Initial Catalog=NUMI;Integrated Security=True;</ConnectionString>`.

**NOTE:** All the configurations described above are using dummy servers and ports. Real deployment should use appropriate server, port and database connection strings.

## 7 Software Security

BMS Security is implemented at two levels:

- The first level of security consists in deciding which users have access to what pages (National/Regional, VISN, facility, EMS page).
- The second level of security refers to the read/write permissions (which are the pages a user can edit/update).

Both levels of security are implemented by means of the Policy Manager application described in the next section.

An additional level of security is provided by the domain restrictions: users can access only the BMS pages within the domain where they have been granted access rights.

### 7.1 Policy Manager

From the Console folder of your BMS solution, select Policy Manager and then double-click the PolicyManager.exe file to display the following dialog window:

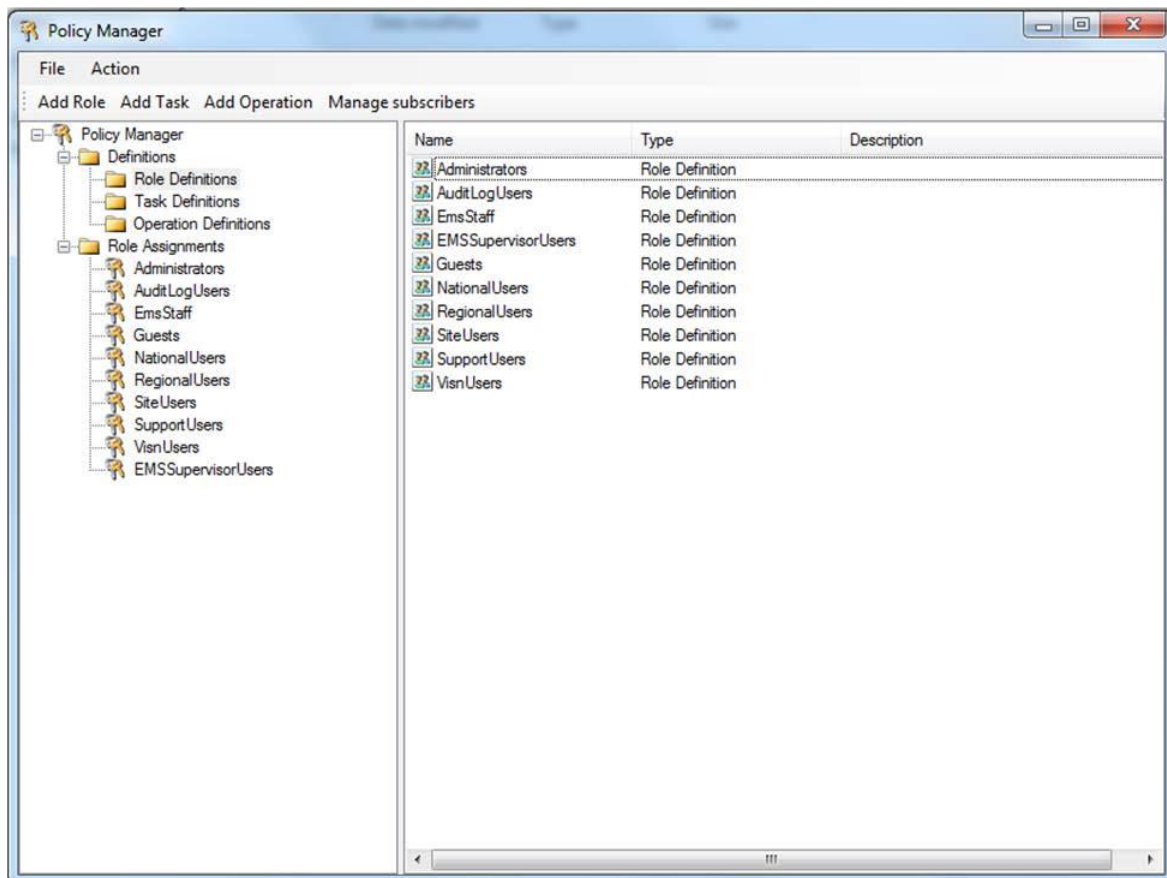


Figure 62 - Policy Manager Main Window

The Definitions folder in the left hand panel contains the definitions of the roles, tasks and operations valid within the BMS application.

The Role Definitions folder contains the list of user roles defined within BMS.

The Task Definitions folder contains the list of tasks that can be performed within BMS and their corresponding definitions. A task usually requires the completion of several operations.

The Operation Definitions folder contains the list of operations that can be performed within BMS and their corresponding definitions.

## 7.2 Operation Definitions

To view the definition of an operation select Operation definitions from the left-hand panel of the main Policy Manager window and double-click the operation to display the following dialog window:

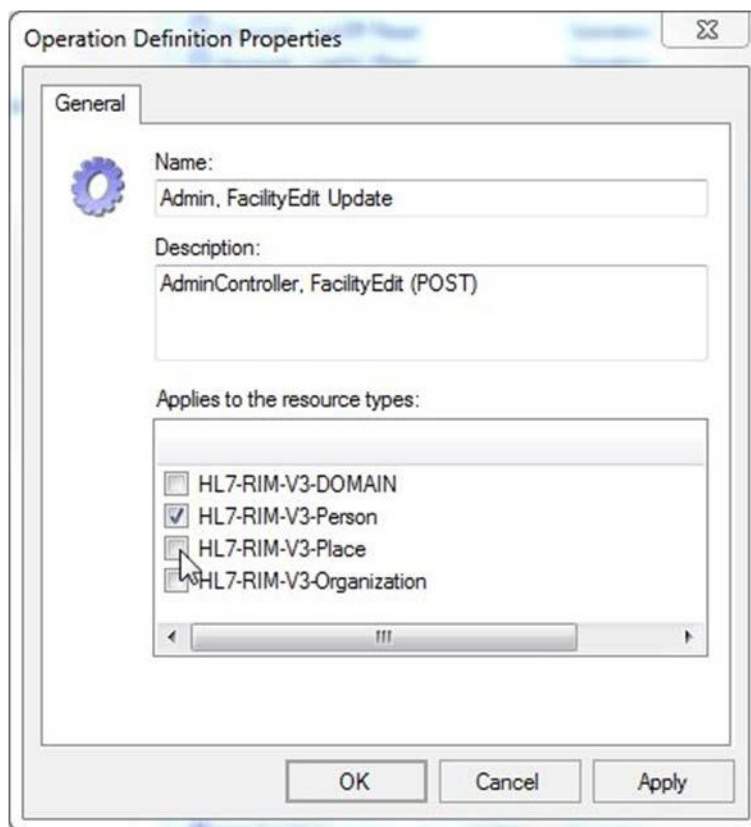


Figure 63 - Operation Definition

A list with all the operations of BMS application is presented below:

Table 27 - BMS Operations

Operation Name	Operation Description
Admin, AddEditUser Read	'Add/Edit BMS User' hyperlink from the Administration section's menu.
Admin, FacilityEdit Read	'Edit BMS Site' hyperlink from the Administration section's menu.
Admin, Index Read	'BMS Admin' hyperlink from the National And Regional Page.

Operation Name	Operation Description
Admin, SelectUser Read	'Select Existing NT User Name' button from the ADMINISTRATION SECTION - USERADD/EDIT page.
Admin, SisterSiteAddEdit Read	'Edit Sister Sites' hyperlink from the Administration section's menu.
Admin, AddUserOperations Read	'Add User' button from the ADMINISTRATION SECTION - FACILITY EDIT page (Edit BMS Site submenu).
Admin, RemoveUsers Read	'Remove Selected' button from the ADMINISTRATION SECTION - FACILITY EDIT page (Edit BMS Site submenu).
Admin, SearchUser Read	'Find' button from the 'Select user' page ('Select Existing NT User Name' button from the Administration Section menu, 'Add/Edit BMS User' submenu).
Admin, SearchUsers Read	'Find' button from the ADMINISTRATION SECTION - FACILITY EDIT page (Edit BMS Site submenu).
Admin, ClearCache Read	'Clear Cache' link from the Administration section's menu.
Admin, AddEditUser Update	'Submit' button from the ADMINISTRATION SECTION - USERADD/EDIT page.
Admin, FacilityEdit Update	'Submit' button from Administration section's menu 'Edit BMS Site' hyperlink (page ADMINISTRATION SECTION - FACILITY EDIT).
Admin, SisterSiteAddEdit Update	'Edit Sister Sites' hyperlink from the Administration section's menu, 'Submit' button.
Admin, AddUserOperations Update	'Add' button from Add users page (Add User button from the Facility page).
Admin, RemoveUserOperations Update	'Remove Selected' button from the ADMINISTRATION SECTION - FACILITY EDIT page (Edit BMS Site submenu).
AdminComments, Delete Read	'Delete' hyperlink from the Common Medical Terms page.
AdminComments, Edit Read	'Edit' hyperlink from the Common Medical Terms page.
AdminComments, Index Read	'Common Medical Terms' hyperlink from the Administration section's menu.
AdminComments, Index Update	'Save' button from the Common Medical Terms page.
AdminIcon, Delete Read	'Delete Icon' button on ADMINISTRATION SECTION - EDIT ICON page (Add/Edit Icon Submenu)
AdminIcon, Edit Read	'Edit' Link on ADMINISTRATION SECTION - ICON ADD/EDIT page (Add/Edit Icon Submenu)
AdminIcon, Index Read	'Add/Edit Icon' link on ADMINISTRATION SECTION
AdminIcon, Search Read	'Search' Link on ADMINISTRATION SECTION - ICON ADD/EDIT page (Add/Edit Icon Submenu)
AdminIcon, ViewIconReport Read	'Report' Link on ADMINISTRATION SECTION - ICON ADD/EDIT page (Add/Edit Icon Submenu)
AdminIcon, Delete Update	'Remove' button on ADMINISTRATION SECTION - DELETE ICON page (Add/Edit Icon Submenu)
AdminIcon, Edit Update	'Save' button on ADMINISTRATION SECTION - EDIT ICON page (Add/Edit Icon Submenu)
AdminIcon, Index Update	'Up/Down arrow' buttons on ADMINISTRATION SECTION - ICON ADD/EDIT page (Add/Edit Icon Submenu)
AdminSpecialtyAssociation, Delete Read	'Delete' Link on ADMINISTRATION SECTION - Treating Specialty/NUMA/HAvBED Edit page (Treating Specialty/NUMA/HAvBED Submenu)
AdminSpecialtyAssociation, Index Read	'Treating Specialty/NUMA/HAvBED' Link on ADMINISTRATION SECTION

Operation Name	Operation Description
AdminSpecialtyAssociation, Delete Update	'Delete' Button on ADMINISTRATION SECTION - Treating Specialty/NUMA/HAvBED Delete page (Treating Specialty/NUMA/HAvBED Submenu)
AdminSpecialtyAssociation, Index Update	'Save' Button on ADMINISTRATION SECTION - Treating Specialty/NUMA/HAvBED Edit page (Treating Specialty/NUMA/HAvBED Submenu)
AdminUnavailableReason, Delete Read	'Delete' link on ADMINISTRATION SECTION - National Unavailable Reason page (National Unavailable Reason Submenu)
AdminUnavailableReason, Edit Read	'Edit' link on ADMINISTRATION SECTION - National Unavailable Reason page (National Unavailable Reason Submenu)
AdminUnavailableReason, Index Read	'National Unavailable Reason' Link on ADMINISTRATION SECTION
AdminUnavailableReason, Delete Update	'Delete Record' button on ADMINISTRATION SECTION - National Unavailable Reason Delete page (National Unavailable Reason Submenu)
AdminUnavailableReason, Edit Update	'Submit' button on ADMINISTRATION SECTION - National Unavailable Reason Edit page (National Unavailable Reason Submenu)
AdminUnavailableReason, Index Update	'Add' button on ADMINISTRATION SECTION - National Unavailable Reason page (National Unavailable Reason Submenu)
AdminWaitingArea, Delete Read	'Delete' link on ADMINISTRATION SECTION - National Waiting Areas Parameter page (National Waiting Area Submenu)
AdminWaitingArea, Edit Read	'Edit' link on ADMINISTRATION SECTION - National Waiting Areas Parameter page (National Waiting Area Submenu)
AdminWaitingArea, Index Read	'National Waiting Area' Link on ADMINISTRATION SECTION
AdminWaitingArea, DeleteAction Update	'Delete Record' button on ADMINISTRATION SECTION - National Waiting Area Parameter Delete page (National Waiting Area Submenu)
AdminWaitingArea, Edit Update	'Submit' button on ADMINISTRATION SECTION - National Waiting Area Parameter Edit page (National Waiting Area Submenu)
AdminWaitingArea, Index Update	'Add' button on ADMINISTRATION SECTION - National Waiting Area Parameter page (National Waiting Area Submenu)
AdminWhiteboardReport, Delete Read	'Delete' link on ADMINISTRATION SECTION - Whiteboard Report page (Background Processor Submenu)
AdminWhiteboardReport, Edit Read	'Edit' link on ADMINISTRATION SECTION - Whiteboard Report page (Background Processor Submenu)
AdminWhiteboardReport, Index Read	'Whiteboard Report' tab on ADMINISTRATION SECTION - Background Processor page
AdminWhiteboardReport, Delete Update	'Delete Record' button on ADMINISTRATION SECTION - Whiteboard Report Delete page (Background Processor Submenu)
AdminWhiteboardReport, Edit Update	'Save' button on ADMINISTRATION SECTION - Whiteboard Report Edit page (Background Processor Submenu)
AdtOrderableItems, Index Read	Site Options, ADT Orderable Items Add/Delete hyperlink
AdtOrderableItems, Delete Update	'Delete' hyperlink from the list of orderable items.
AdtOrderableItems, Index Update	'Add' button from the Bed Board ADT Orderable Items Configuration.

Operation Name	Operation Description
BackgroundProcessors, Index Read	'Background Processors' hyperlink from Site Options page.
BackgroundProcessors, Index Update	'Save Scheduler' button from Background Processors page within Site Options.
AuditLogReport, Index Read	'View audit log' link on ADMINISTRATION SECTION
rep, Audit Log Report	Access the Audit Log Report.
BedBoard, ChangeFacility Read	Click on a facility link from the VISN Network Bed Boards list.
BedBoard, Index Read	'Return to VISN Network' hyperlink from the home page.
BedBoard, ShowFacilityBedSummaryReport Read	Click on a Facility Summary Report on VISN Network Bed Boards list
BedBoard, ShowVISNBedSummaryReport Read	Click on a VISN Summary Report on VISN Network Bed Boards list
BedBoardModule, Index Read	Site Options, Bed Board Module Enable/Disable link.
BedBoardModule, Index Update	'Submit' button from the Bed Board Module Activation and Configuration page.
BedInformation, Index Read	Ward Occupancy, click on a hyperlink from the BED column.
BedInformation, ClearAll Read	Click on button 'Clear ALL Comments For ALL Wards Associate To This Bed...'
BedInformation, NotifyChange Read	'Submit' button from the Add/Edit Bed Unavailable Reason page.
BedInformation, Index Update	Click on buttons 'Submit' and/or 'Update Reason and Comments'.
ContingencySettings, Index Read	'Contingency Settings" link on Site Settings pages.
ContingencySettings, Index Update	'Save' button on Contingency Settings page on Site Settings pages.
DischargeClinic, Index Read	Site Options, 'Discharge Appt Clinics Add/Delete' hyperlink.
DischargeClinic, Delete Update	Site Options, 'Discharge Appt Clinics Add/Delete' hyperlink, 'Delete' button.
DischargeClinic, Index Update	Site Options, 'Discharge Appt Clinics Add/Delete' hyperlink, 'Add' button.
EmsBedStatusAdmin, EMS Supervisor Read/Update	'Assigned To' drop down on EMS Bed Edit page
EmsBedStatusAdmin, EMSBatchAssign Read	'Batch Assign' button on Ems Bed Status Admin page
EmsBedStatusAdmin, EMSBatchAssign Update	'Submit' button on EMS Bed Edit page on EMS Bed Status Admin page
EmsBedStatusAdmin, Edit Read	RoomBed column link click.
EmsBedStatusAdmin, Index Read	'Return to VISN Network' link from the home page, 'Return to Regional Page' link, 'Go To Facility Bed Cleaning Page (EMS Staff Only) button.
EmsBedStatusAdmin, SaveConfirmation Read	'Submit' button click in the Environmental Management Service Bed Status page.
EmsBedStatusAdmin, Edit Update	'Submit' button click in the Environmental Management Service Bed Status page.
EMSMobile, EMSList Read	Load Bed Clean Requests on EMS Mobile Pages
EMSMobile, Users Read	Click on a User button on EMS Mobile Pages
EMSMobile, EMSList Update	Click on a Bed Clean Request button on EMS Mobile Pages
EMSMobile, Users Update	Click on Submit button after entering a PIN on EMS Mobile Pages

Operation Name	Operation Description
EmsNotification, AddEdit Read	'Edit' link from the Current Locations table (EMS Bed Notification).
EmsNotification, AddEditAction Read	'Submit' button from the EMS Bed Notification Edit page.
EmsNotification, Delete Read	'Delete' link from the Current Locations table (EMS Bed Notification).
EmsNotification, Index Read	Site Options, 'EMS Notification Add/Edit' link
EmsNotification, DeleteAction Update	'Delete Record' button from the EMS Bed Status Notification Delete page.
EmsNotification, Index Update	'Submit' button from the EMS Bed Notification Edit page or Notifications Add page.
EmsStaff, Delete Read	'Delete' link on EMS Staff page on Site Options pages
EmsStaff, Edit Read	'Edit' link on EMS Staff page on Site Options pages
EmsStaff, Index Read	EMS Staff link on Site Options page
EmsStaff, Delete Update	'Delete Record' button on Ems Staff Delete page on Site Options pages
EmsStaff, Edit Update	'Submit' button on Ems Staff Edit page on Site Options pages
EventNotification, AddConfirmation Read	'Submit' button from the Event Notification Add page.
EventNotification, AddEdit Read	'Add' button or 'Edit' link from the Event Notifications page.
EventNotification, EditConfirmation Read	'Submit' button from the Event Notifications Edit page.
EventNotification, Index Read	Site Options, 'Event Notification Add/Edit' hyperlink.
EventNotification, Index Update	'Submit' button from the Event Notification Add page.
Exception, Index Read	Appears when an exception occurs.
FacilityDiversion, Add Read	'Add' button from the Facility Diversion page.
FacilityDiversion, AddConfirmation Read	'Add' button from the Add New Diversion Status page.
FacilityDiversion, Edit Read	'Edit' link from the Facility Diversion page.
FacilityDiversion, EditConfirmation Read	'Save' button from the Diversion Status edit page.
FacilityDiversion, FilterDiversions Read	'Current Diversions' or 'All Diversions' button from the main Facility Diversions page.
FacilityDiversion, Index Read	'Facility Diversion' hyperlink from the home page.
FacilityDiversion, Index Update	'Add' button or 'Edit' link from the Facility Diversion page.
FacilitySettings, Index Read	Site Options, Facility Settings link
FacilitySettings, Index Update	Site Options, Facility Settings link, Submit button
Home, Index Read	Home page.
Home, Index2 Read	Current, Past 30-Days, Past 60-Days, Past 90-Days home page's buttons.
Home, PatientInquiry Read	Click on the patient link from the Patients Pending Placement list (Home page).
Home, RemoveAdmission Read	Remove link from the Patients Pending Placement list (Home page).
Home, UndoRemoveAdmission Read	Undo link from the Patients Pending Placement list (Home page).

Operation Name	Operation Description
Home, RemoveAdmissionPost Update	Remove link from the Patients Pending Placement list (Home page), Remove button from the confirmation page.
Home, UndoRemoveAdmissionPost Update	'Undo' button on Undo Remove Admission Page on Facility HomePage
IconLegend, Index Read	'Icon Legend' link from the bottom of the Home page or Site Options, BMS Icon Legend link.
IconLibrary, Edit Read	'Edit' Link on Site Options - Site Configurable Icons page.
IconLibrary, Index Read	Site Options, Site Configurable Icons link.
IconLibrary, ResetConfirmation Read	'Reset' button on Edit Site Configurable Icon page.
IconLibrary, Edit Update	'Save' button on Site Options - Site Configurable Icons page.
IconLibrary, Index Update	'Up/Down arrow' buttons on Site Options - Site Configurable Icons page.
IconLibrary, ResetConfirmation Update	'Reset' button on Reset Site Configurable Icon page.
Information, Index Read	'Information' link from the bottom of the Home page.
MaintainMarquee, Index Read	'Maintain Marquee Text' link from the Administration Section's menu.
MaintainMarquee, ChangeMarquee Update	'Submit' button from the ADMINISTRATION SECTION - MAINTAIN MARQUEE TEXT page.
NationalAndRegional, Index Read	Home page, Return to VISN Network link, Return to Regional Page link.
NewEvents, Index Read	Home page, New Events link.
Numi, Add Read	'Add' button on ADMINISTRATION SECTION - Background Processors page (Background Processors Submenu).
Numi, Delete Read	'Delete' Link on ADMINISTRATION SECTION - Background Processors page (Background Processors Submenu).
Numi, Edit Read	'Edit' Link on ADMINISTRATION SECTION - Background Processors page (Background Processors Submenu).
Numi, Index Read	'Numi' tab on ADMINISTRATION SECTION - Background Processors page (Background Processors Submenu).
Numi, Delete Update	'Delete Record' button on ADMINISTRATION SECTION - Background Processors Delete page (Background Processors Submenu).
Numi, Edit Update	'Save' button on ADMINISTRATION SECTION - Background Processors Add/Edit page (Background Processors Submenu).
<a href="http://tempuri.org/IAdministrativeFunctions/GetDomains">http://tempuri.org/IAdministrativeFunctions/GetDomains</a>	Functions used in the Administration Section, Add/Edit BMS User and Edit BMS Site submenus.
<a href="http://tempuri.org/IAdministrativeFunctions/GetCurrentDomain">http://tempuri.org/IAdministrativeFunctions/GetCurrentDomain</a>	
<a href="http://tempuri.org/IAdministrativeFunctions/GetRoles">http://tempuri.org/IAdministrativeFunctions/GetRoles</a>	
<a href="http://tempuri.org/IAdministrativeFunctions/GetBulkPolicies">http://tempuri.org/IAdministrativeFunctions/GetBulkPolicies</a>	
<a href="http://tempuri.org/IAdministrativeFunctions/GrantPermission">http://tempuri.org/IAdministrativeFunctions/GrantPermission</a>	
<a href="http://tempuri.org/IAdministrativeFunctions/RevokePermission">http://tempuri.org/IAdministrativeFunctions/RevokePermission</a>	



Operation Name	Operation Description
http://tempuri.org/IAdministrativeFunctions/GetRoleByName	
http://tempuri.org/IAdministrativeFunctions/GetPermissionsByResourceType	
http://tempuri.org/IAdministrativeFunctions/GetAllUsersAndDomain	
http://tempuri.org/IAdministrativeFunctions/GetAllUserRoles	
http://tempuri.org/IAdministrativeFunctions/AssignUser	
http://tempuri.org/IAdministrativeFunctions/DeassignUser	
http://tempuri.org/IAdministrativeFunctions/GetPolicy	
http://tempuri.org/IAdministrativeFunctions/ClearPermissionsForResource	
http://tempuri.org/IAdministrativeFunctions/AddActionEntityType	
http://tempuri.org/IAdministrativeFunctions/AddOperation	
http://tempuri.org/IAdministrativeFunctions/AddRole	
http://tempuri.org/IAdministrativeFunctions/AddTask	
http://tempuri.org/IAdministrativeFunctions/AssignOperations	
http://tempuri.org/IAdministrativeFunctions/AssignRole	
http://tempuri.org/IAdministrativeFunctions/ChangeUserPassword	
http://tempuri.org/IAdministrativeFunctions/DeassignOperations	
http://tempuri.org/IAdministrativeFunctions/DeassignRole	
http://tempuri.org/IAdministrativeFunctions/DeleteActionEntityType	
http://tempuri.org/IAdministrativeFunctions/DeleteOperation	
http://tempuri.org/IAdministrativeFunctions/DeletePermissionForResourceAndOperation	
http://tempuri.org/IAdministrativeFunctions/DeletePermissionsForResourceAndOperations	
http://tempuri.org/IAdministrativeFunctions/DeleteRole	
http://tempuri.org/IAdministrativeFunctions/DeleteTask	
http://tempuri.org/IAdministrativeFunctions/GetActionTypes	
http://tempuri.org/IAdministrativeFunctions/GetAvailableDomains	
http://tempuri.org/IAdministrativeFunctions/GetCallerIsSuperUser	
http://tempuri.org/IAdministrativeFunctions/GetConnectedRolesAndOperations	
http://tempuri.org/IAdministrativeFunctions/GetActionTypes	
http://tempuri.org/IAdministrativeFunctions/GetOperationByName	
http://tempuri.org/IAdministrativeFunctions/GetOperationByNameExcludingId	

Operation Name	Operation Description
http://tempuri.org/IAdministrativeFunctions/GetOperations	
http://tempuri.org/IAdministrativeFunctions/GetRoleByNameExcludingId	
http://tempuri.org/IAdministrativeFunctions/GetRoleDefinition	
http://tempuri.org/IAdministrativeFunctions/GetRolesDefinitionIntersect	
http://tempuri.org/IAdministrativeFunctions/GetRoleUsers	
http://tempuri.org/IAdministrativeFunctions/GetSubscriptions	
http://tempuri.org/IAdministrativeFunctions/GetTaskByName	
http://tempuri.org/IAdministrativeFunctions/GetTaskByNameExcludingId	
http://tempuri.org/IAdministrativeFunctions/GetTaskDefinition	
http://tempuri.org/IAdministrativeFunctions/GetTasks	
http://tempuri.org/IAdministrativeFunctions/GetUserBySid	
http://tempuri.org/IAdministrativeFunctions/GetUserByUserName	
http://tempuri.org/IAdministrativeFunctions/GetUserDefinedRoles	
http://tempuri.org/IAdministrativeFunctions/GetUserGroupId	
http://tempuri.org/IAdministrativeFunctions/GetUserRoles	
http://tempuri.org/IAdministrativeFunctions/InsertPermissionForResourceAndOperation	
http://tempuri.org/IAdministrativeFunctions/InsertPermissionsForResourcesAndOperations	
http://tempuri.org/IAdministrativeFunctions/InsertResource	
http://tempuri.org/IAdministrativeFunctions/IsChild	
http://tempuri.org/IAdministrativeFunctions/RefreshCache	
http://tempuri.org/IAdministrativeFunctions/SearchUsers	
http://tempuri.org/IAdministrativeFunctions/SetCurrentDomain	
http://tempuri.org/IAdministrativeFunctions/SynchronizeAllSubscribers	
http://tempuri.org/IAdministrativeFunctions/UpdateOperation	
http://tempuri.org/IAdministrativeFunctions/UpdateRole	
http://tempuri.org/IAdministrativeFunctions/UpdateTask	
Patient, Admission Read	'Edit' link from the Home page, Patients Pending Placement list.
Patient, Select Read	'Add New Patient' link from the Home page, Patients Pending Placement section.
Patient, Admission Update	'Submit' button from ADD/EDIT Patients Pending Placement page.

Operation Name	Operation Description
rep, Active Admission Orders Report	Access the Active Admission Orders Report.
rep, Active Discharge Orders Report	Access the Active Discharge Orders Report.
rep, Active Transfer Orders Report	Access the Active Transfer Orders Report.
rep, Antic Discharge Orders Report	Access the Antic Discharge Orders Report.
rep, BED AVAILABILITY STATUS REPORT	Access the BED AVAILABILITY STATUS REPORT.
rep, Bed Specialty Report	Access the Bed Specialty Report.
rep, Bed Specialty Roster	Access the Bed Specialty Roster.
rep, Bed Summary Report	Access the Bed Summary Report.
rep, Bed Turnaround Time Report	Access the Bed Turnaround Time Report.
rep, Beds Out of Service Report (All)	Access the Beds Out of Service Report (All).
rep, Beds Out of Service Report (By Date)	Access the Beds Out of Service Report (By Date).
rep, Discharges In Progress	Access the Discharges In Progress.
rep, Emergency Management Evacuation Report	Access Emergency Management Evacuation Report
rep, Icon Usage Report	Access the Icon Usage Report
rep, Patient Inquiry	Access the Patient Inquiry report.
rep, Patient Movement Report	Access the Patient Movement Report.
rep, Patient Movements by Date	Access the Patient Movements by Date.
rep, Patients w Discharge Appointments	Access the Patients w Discharge Appointments.
rep, Scheduled Admissions by Date	Access the Scheduled Admissions by Date.
rep, Scheduled Admissions Report	Access the Scheduled Admissions Report.
rep, VISN Bed Summary Report	Access VISN Bed Summary Report
rep, VISN Network Active Report	Access the VISN Network Active Report.
rep, VISN Network Audit Report	Access the VISN Network Audit Report.
rep, VISN Network Contract Report	Access the VISN Network Contract Report.
rep, VISN Network Disposition Report	Access the VISN Network Disposition Report.
rep, Wait List Status Report	Access the Patients Pending Placement Status Report.
Reports, Index Read	'Submit' buttons from the Home page corresponding to the reports.
SiteOptions, Index Read	Home page, Site Options link.
SiteOptions, EvacuationConfirmation Read	Access to Evacuation Confirmation page.
SiteOptions, Index Update	'Submit' button from Site Options page.
SiteOptions, EvacuationConfirmation Update	'Save' button from Evacuation Confirmation page.
Transfer, AddTransfer Read	VISN page, Add New Patient button, Submit button from the Select Patient page.
Transfer, EditTransfer Read	'Edit' link from the VISN page, Patients in Community

Operation Name	Operation Description
	Hospitals list.
Transfer, FinalizeTransfer Read	'Finalize' link from the VISN page, Patients in Community Hospitals list.
Transfer, Index Read	VISN page, Add New Patient button.
Transfer, AddTransfer Update	VISN page, Add New Patient button, Submit button from the Select Patient page, and Submit button from the Enter Patient Data page.
Transfer, EditTransfer Update	'Edit' link from the VISN page's Patients in Community Hospitals list and then Submit button.
Transfer, FinalizeTransfer Update	'Finalize' link from the VISN page's Patients in Community Hospitals list and then Submit button from the Finalize Patient Data page.
UnavailableReason, Delete Read	'Delete' link from the Bed Board Site Unavailable Reason page's list.
UnavailableReason, Edit Read	'Edit' link from the Bed Board Site Unavailable Reason page's list.
UnavailableReason, Index Read	Site Options, Unavailable Reason Add/Edit link.
UnavailableReason, Delete Update	'Delete' link from the Bed Board Site Unavailable Reason page's list and then 'Delete Record' button.
UnavailableReason, Edit Update	'Edit' link from the Bed Board Site Unavailable Reason page's list and then Submit button.
UnavailableReason, Index Update	'Add' button from the Bed Board Site Unavailable Reason page.
UserConfiguration, Index Read	Site Options, Add/Edit BMS User link.
UserConfiguration, SearchUser Read	'Find and Save' buttons from the 'Select user' page ('Select Existing NT User Name' button from the Site Options, 'Add/Edit BMS User' link ).
UserConfiguration, SelectUser Read	'Select Existing NT User Name' button from the Site Options - Add/Edit BMS User page.
UserConfiguration, Index Update	'Submit' button from the Site Options - Add/Edit BMS User page.
VistaIntegration, Audit Read	'Audit' tab on ADMINISTRATION SECTION - Background Processors page (Background Processors Submenu) and 'Filter By' button from the 'Audit' tab.
VistaIntegration, Categories Read	'Vista Integration' tab on ADMINISTRATION SECTION - Background Processors page (Background Processors Submenu).
VistaIntegration, DeleteScheduler Read	'Add new scheduler' link and select a scheduled name from the 'Scheduled' tab.
VistaIntegration, Index Read	'Background Processors' link on ADMINISTRATION SECTION.
VistaIntegration, Schedulers Read	'Schedulers' tab on ADMINISTRATION SECTION - Background Processors page (Background Processors Submenu).
VistaIntegration, TestMDWConnection Read	'TestMDWConnection' button from the 'Vista Sites' tab.
VistaIntegration, TestODBCConnection Read	'TestODBCConnection' button from the 'Vista Sites' tab.
VistaIntegration, VistaSites Read	'Vista Sites' tab on ADMINISTRATION SECTION - Background Processors page (Background Processors Submenu).
VistaIntegration, Categories Update	'Save and Run' buttons from the 'Vista Integration' tab.
VistaIntegration, DeleteScheduler Update	'Delete' link from the 'Scheduled' tab and then 'Delete Record' button.

Operation Name	Operation Description
VistaIntegration, Schedulers Update	'Save' button from the 'Scheduled' tab.
VistaIntegration, VistASites Update	'Save' button from the 'VistA Sites' tab.
WaitingArea, Delete Read	'Delete' link from the Patient Waiting Areas page's list of Current Waiting Areas.
WaitingArea, Edit Read	'Edit' link from the Patient Waiting Areas page's list of Current Waiting Areas.
WaitingArea, Index Read	Site Options, Waiting Area Add/Delete link.
WaitingArea, DeleteAction Update	'Delete' link from the Patient Waiting Areas page's list of Current Waiting Areas and then 'Delete Record' button.
WaitingArea, Edit Update	'Edit' link from the Patient Waiting Areas page's list of Current Waiting Areas and then Submit button.
WaitingArea, Index Update	'Add' button from the Patient Waiting Areas page.
WardConfiguration, Delete Read	'Delete' link from the Bed Board Ward Configuration, Current Vista Wards list.
WardConfiguration, Index Read	Site Options, Vista Ward Add/Edit link.
WardConfiguration, Index Update	Site Options, Vista Ward Add/Edit link, Save button.
WardConfiguration, DeleteWard Update	Site Options, Vista Ward Add/Edit link, Delete operation.
WardOccupancy, Index Read	'Submit' button from the Home page corresponding to the Ward Occupancy.
WardWhiteboard, Edit Read	Click on a link from the BED column from WARD Whiteboard Report.
WardWhiteboard, EditPT Read	Click on a link from the PT column from the WARD Whiteboard Report.
WardWhiteboard, Index Read	Home page, 'Ward Whiteboard' link.
WardWhiteboard, NotifyChange Read	Click on a link from the BED column from WARD Whiteboard Report and then on the Submit button.
WhiteboardStaff, Index Read	Click on the checkbox from the STAFF column from the WARD Whiteboard Home.
WardWhiteboard, ShowReport Read	'Export Report' link from the right of the WARD Whiteboard Home page or WARD Whiteboard Report page, Export Report.
WardWhiteboard, Submit Read	'Submit' button from the WARD Whiteboard Home page.
WardWhiteBoard, WardWhiteBoard Read	Home page, 'Ward Whiteboard' link, Submit button from the WARD Whiteboard Home.
WardWhiteboard, ClearAll Read	Click on a link from the BED column from WARD Whiteboard Report and then click on the button 'Clear ALL Comments For ALL Wards Associate To This Bed...'.
WardWhiteBoard, WardWhiteBoard Update	Click on a staff name from the STAFF column from the WARD WhiteBoard Report and then click on the image 'Save Staff'.
WhiteboardStaff, Index Update	Click on the checkbox from the STAFF column from WARD Whiteboard Report and then on the 'Save' button.
WardWhiteboard, Edit Update	Click on a link from the BED column from WARD Whiteboard Report and then on the Submit button.

## 7.3 Task Definitions

To view the definition of a task, select Task definitions from the left-hand panel of the main Policy Manager window and in the list in the right-hand area, double-click the task to display the following dialog window.

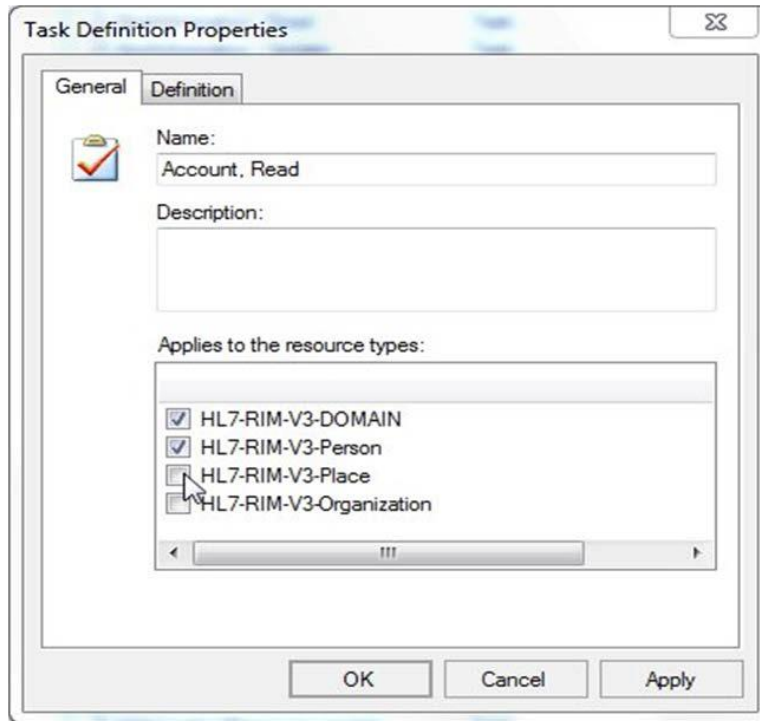
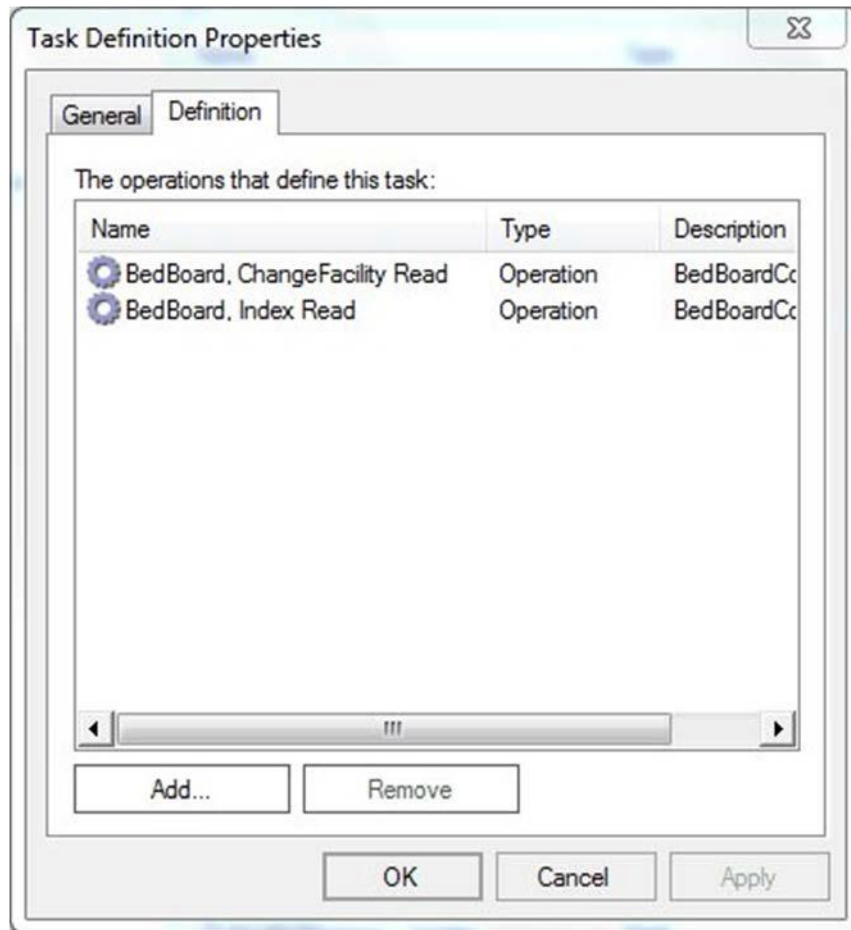


Figure 64 - Task Definition

To determine what resource type the task refers to, select one or more of the elements in the “*Applies to resource types*” area.

To view the operations that need to be performed in order to complete the task, select the Definition tab to display it as in the following image:



*Figure 65 - Operations Defining a Task*

Use the Add and Remove buttons to add or remove operations from the list.

A list with all the tasks, along with corresponding operations of the BMS application, is presented below:

Table 28 - BMS Tasks

Task Name	Task Description	Operation Name
Admin, Read	Admin Read permission, user has the right only to view data.	Admin, AddEditUser Read
		Admin, FacilityEdit Read
		Admin, Index Read
		Admin, SelectUser Read
		Admin, SisterSiteAddEdit Read
		Admin, AddUserOperations Read
		Admin, RemoveUsers Read
		Admin, SearchUser Read
		Admin, SearchUsers Read
		Admin, ClearCache Read
Admin, Update	Admin Update permission, user has the right to modify data.	Admin, AddEditUser Update
		Admin, FacilityEdit Update
		Admin, SisterSiteAddEdit Update
		Admin, AddUserOperations Update
		Admin, RemoveUserOperations Update
AdminComments, Read	AdminComments Read Read permission, user has the right only to view data.	AdminComments, Delete Read
		AdminComments, Edit Read
		AdminComments, Index Read
AdminComments, Update	AdminComments Update permission, user has the right to modify data.	AdminComments, Index Update
AdminIcon, Read	AdminIcon Read permission, user has the right only to view data.	AdminIcon, Delete Read
		AdminIcon, Edit Read
		AdminIcon, Index Read
		AdminIcon, Search Read
		AdminIcon, ViewIconReport Read
AdminIcon, Update	AdminIcon Update permission, user has the right to modify data.	AdminIcon, Delete Update
		AdminIcon, Edit Update



Task Name	Task Description	Operation Name
		AdminIcon, Index Update
AdminSpecialtyAssociation, Read	AdminSpecialtyAssociation Read permission, user has the right only to view data.	AdminSpecialtyAssociation, Delete Read AdminSpecialtyAssociation, Index Read
AdminSpecialtyAssociation, Update	AdminSpecialtyAssociation Update permission, user has the right to modify data.	AdminSpecialtyAssociation, Delete Update AdminSpecialtyAssociation, Index Update
AdminUnavailableReason, Read	AdminUnavailableReason Read permission, user has the right only to view data.	AdminUnavailableReason, Delete Read AdminUnavailableReason, Edit Read AdminUnavailableReason, Index Read
AdminUnavailableReason, Update	AdminUnavailableReason Update permission, user has the right to modify data.	AdminUnavailableReason, Delete Update AdminUnavailableReason, Edit Update AdminUnavailableReason, Index Update
AdminWaitingArea, Read	AdminWaitingArea Read permission, user has the right only to view data.	AdminWaitingArea, Delete Read AdminWaitingArea, Edit Read AdminWaitingArea, Index Read
AdminWaitingArea, Update	AdminWaitingArea Update permission, user has the right to modify data.	AdminWaitingArea, DeleteAction Update AdminWaitingArea, Edit Update AdminWaitingArea, Index Update
AdminWhiteboardReport, Read	AdminWhiteboardReport Read permission, user has the right only to view data.	AdminWhiteboardReport, Delete Read AdminWhiteboardReport, Edit Read AdminWhiteboardReport, Index Read
AdminWhiteboardReport, Update	AdminWhiteboardReport Update permission, user has the right to modify data.	AdminWhiteboardReport, Delete Update AdminWhiteboardReport, Edit Update
AdtOrderableItems, Read	AdtOrderableItems Read permission, user has the right only to view data.	AdtOrderableItems, Index Read
AdtOrderableItems, Update	AdtOrderableItems Update permission, user has the right to modify data.	AdtOrderableItems, Delete Update AdtOrderableItems, Index Update
BackgroundProcessors, Read	BackgroundProcessors Read permission, user has the right only to view data.	BackgroundProcessors, Index Read
BackgroundProcessors, Update	BackgroundProcessors Update permission, user has the right to modify data.	BackgroundProcessors, Index Update
AuditLogReport, Read	AuditLogReport Read permission, user has the right	AuditLogReport, Index Read

Task Name	Task Description	Operation Name
	only to view data.	rep, Audit Log Report
BedBoard, Read	BedBoard Read permission, user has the right only to view data.	BedBoard, ChangeFacility Read
		BedBoard, Index Read
		BedBoard, ShowFacilityBedSummaryReport Read
		BedBoard, ShowVISNBedSummaryReport Read
BedBoardModule, Read	BedBoardModule Read permission, user has the right only to view data.	BedBoardModule, Index Read
BedBoardModule, Update	BedBoardModule Update permission, user has the right to modify data.	BedBoardModule, Index Update
BedInformation, Read	BedInformation Read permission, user has the right only to view data.	BedInformation, Index Read
		BedInformation, ClearAll Read
		BedInformation, NotifyChange Read
BedInformation, Update	BedInformation Update permission, user has the right to modify data.	BedInformation, Index Update
ContingencySettings, Read	ContingencySettings Read permission, user has the right only to view data.	ContingencySettings, Index Read
ContingencySettings, Update	ContingencySettings Update permission, user has the right to modify data.	ContingencySettings, Index Update
DischargeClinic, Read	DischargeClinic Read permission, user has the right only to view data.	DischargeClinic, Index Read
DischargeClinic, Update	DischargeClinic Update permission, user has the right to modify data.	DischargeClinic, Delete Update
		DischargeClinic, Index Update
EmsBedStatusAdmin, EMS Supervisor	EmsBedStatusAdmin EMS Supervisor permission, user has the right to re-assign the bed cleaning to another person and to batch assign the cleaning to a person.	EmsBedStatusAdmin, EMS Supervisor Read/Update
		EmsBedStatusAdmin, EMSBatchAssign Read
		EmsBedStatusAdmin, EMSBatchAssign Update
EmsBedStatusAdmin, Read	EmsBedStatusAdmin Read permission, user has the right only to view data.	EmsBedStatusAdmin, Edit Read
		EmsBedStatusAdmin, Index Read
		EmsBedStatusAdmin, SaveConfirmation Read
EmsBedStatusAdmin, Update	EmsBedStatusAdmin Update permission, user has the right to modify data.	EmsBedStatusAdmin, Edit Update
EMSMobile, Read	EMSMobile Read permission, user has the right only to	EMSMobile, EMSList Read

Task Name	Task Description	Operation Name
	view data.	EMSMobile, Users Read
EMSMobile, Update	EMSMobile Update permission, user has the right to modify data.	EMSMobile, EMSList Update
		EMSMobile, Users Update
EmsNotification, Read	EmsNotification Read permission, user has the right only to view data.	EmsNotification, AddEdit Read
		EmsNotification, AddEditAction Read
		EmsNotification, Delete Read
		EmsNotification, Index Read
EmsNotification, Update	EmsNotification Update permission, user has the right to modify data.	EmsNotification, DeleteAction Update
		EmsNotification, Index Update
EmsStaff, Read	EmsStaff Read permission, user has the right only to view data.	EmsStaff, Delete Read
		EmsStaff, Edit Read
		EmsStaff, Index Read
EmsStaff, Update	EmsStaff Update permission, user has the right to modify data.	EmsStaff, Delete Update
		EmsStaff, Edit Update
EventNotification, Read	EventNotification Read permission, user has the right only to view data.	EventNotification, AddConfirmation Read
		EventNotification, AddEdit Read
		EventNotification, EditConfirmation Read
		EventNotification, Index Read
EventNotification, Update	EventNotification Update permission, user has the right to modify data.	EventNotification, Index Update
Exception, Read	Exception Read permission, user has the right only to view data.	Exception, Index Read
FacilityDiversion, Read	FacilityDiversion Read permission, user has the right only to view data.	FacilityDiversion, Add Read
		FacilityDiversion, AddConfirmation Read
		FacilityDiversion, Edit Read
		FacilityDiversion, EditConfirmation Read
		FacilityDiversion, FilterDiversions Read
		FacilityDiversion, Index Read
FacilityDiversion, Update	FacilityDiversion Update permission, user has the right to modify data.	FacilityDiversion, Index Update

Task Name	Task Description	Operation Name
FacilitySettings, Read	FacilitySettings Read permission, user has the right only to view data.	FacilitySettings, Index Read
FacilitySettings, Update	FacilitySettings Update permission, user has the right to modify data.	FacilitySettings, Index Update
Home, Read	Home Read permission, user has the right only to view data.	Home, Index Read
		Home, Index2 Read
		Home, PatientInquiry Read
		Home, RemoveAdmission Read
		Home, UndoRemoveAdmission Read
Home, Update	Home Update permission, user has the right to modify data.	Home, RemoveAdmissionPost Update
		Home, UndoRemoveAdmissionPost Update
IconLegend, Read	IconLegend Read permission, user has the right only to view data.	IconLegend, Index Read
IconLibrary, Read	IconLibrary Read permission, user has the right only to view data.	IconLibrary, Edit Read
		IconLibrary, Index Read
		IconLibrary, ResetConfirmation Read
IconLibrary, Update	IconLibrary Update permission, user has the right to modify data.	IconLibrary, Edit Update
		IconLibrary, Index Update
		IconLibrary, ResetConfirmation Update
Information, Read	Information Read permission, user has the right only to view data.	Information, Index Read
MaintainMarquee, Read	MaintainMarquee Read permission, user has the right only to view data.	MaintainMarquee, Index Read
MaintainMarquee, Update	MaintainMarquee Update permission, user has the right to modify data.	MaintainMarquee, ChangeMarquee Update
NationalAndRegional, Read	NationalAndRegional Read permission, user has the right only to view data.	NationalAndRegional, Index Read
NewEvents, Read	NewEvents Read permission, user has the right only to view data.	NewEvents, Index Read
Numi, Read	NUMI Read permission, user has the right only to view data.	Numi, Add Read
		Numi, Delete Read

Task Name	Task Description	Operation Name
		Numi, Edit Read
		Numi, Index Read
Numi, Update	NUMI Update permission, user has the right to modify data.	Numi, Delete Update
		Numi, Edit Update
PAP, User	PAP permission, the right to access methods exposed by PAP service.	<a href="http://tempuri.org/IAdministrativeFunctions/GetDomains">http://tempuri.org/IAdministrativeFunctions/GetDomains</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetCurrentDomain">http://tempuri.org/IAdministrativeFunctions/GetCurrentDomain</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetRoles">http://tempuri.org/IAdministrativeFunctions/GetRoles</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetBulkPolicies">http://tempuri.org/IAdministrativeFunctions/GetBulkPolicies</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GrantPermission">http://tempuri.org/IAdministrativeFunctions/GrantPermission</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/RevokePermission">http://tempuri.org/IAdministrativeFunctions/RevokePermission</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetRoleByName">http://tempuri.org/IAdministrativeFunctions/GetRoleByName</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetPermissionsByResourceType">http://tempuri.org/IAdministrativeFunctions/GetPermissionsByResourceType</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetAllUsersAndDomain">http://tempuri.org/IAdministrativeFunctions/GetAllUsersAndDomain</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetAllUserRoles">http://tempuri.org/IAdministrativeFunctions/GetAllUserRoles</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/AssignUser">http://tempuri.org/IAdministrativeFunctions/AssignUser</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/DeassignUser">http://tempuri.org/IAdministrativeFunctions/DeassignUser</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetPolicy">http://tempuri.org/IAdministrativeFunctions/GetPolicy</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/ClearPermissionsForResource">http://tempuri.org/IAdministrativeFunctions/ClearPermissionsForResource</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/AddActionEntityType">http://tempuri.org/IAdministrativeFunctions/AddActionEntityType</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/AddOperation">http://tempuri.org/IAdministrativeFunctions/AddOperation</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/AddRole">http://tempuri.org/IAdministrativeFunctions/AddRole</a>
<a href="http://tempuri.org/IAdministrativeFunctions/AddTask">http://tempuri.org/IAdministrativeFunctions/AddTask</a>		
<a href="http://tempuri.org/IAdministrativeFunctions/AssignOperations">http://tempuri.org/IAdministrativeFunctions/AssignOperations</a>		
<a href="http://tempuri.org/IAdministrativeFunctions/AssignRole">http://tempuri.org/IAdministrativeFunctions/AssignRole</a>		
<a href="http://tempuri.org/IAdministrativeFunctions/ChangeUser">http://tempuri.org/IAdministrativeFunctions/ChangeUser</a>		

Task Name	Task Description	Operation Name
		Password
		<a href="http://tempuri.org/IAdministrativeFunctions/DeassignOperations">http://tempuri.org/IAdministrativeFunctions/DeassignOperations</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/DeassignRole">http://tempuri.org/IAdministrativeFunctions/DeassignRole</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/DeleteActionEntityType">http://tempuri.org/IAdministrativeFunctions/DeleteActionEntityType</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/DeleteOperation">http://tempuri.org/IAdministrativeFunctions/DeleteOperation</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/DeletePermissionForResourceAndOperation">http://tempuri.org/IAdministrativeFunctions/DeletePermissionForResourceAndOperation</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/DeletePermissionsForResourcesAndOperations">http://tempuri.org/IAdministrativeFunctions/DeletePermissionsForResourcesAndOperations</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/DeleteRole">http://tempuri.org/IAdministrativeFunctions/DeleteRole</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/DeleteTask">http://tempuri.org/IAdministrativeFunctions/DeleteTask</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetActionEntityTypes">http://tempuri.org/IAdministrativeFunctions/GetActionEntityTypes</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetAvailableDomains">http://tempuri.org/IAdministrativeFunctions/GetAvailableDomains</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetCallerIsSuperUser">http://tempuri.org/IAdministrativeFunctions/GetCallerIsSuperUser</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetConnectedRolesAndOperations">http://tempuri.org/IAdministrativeFunctions/GetConnectedRolesAndOperations</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetEntityTypes">http://tempuri.org/IAdministrativeFunctions/GetEntityTypes</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetOperationByName">http://tempuri.org/IAdministrativeFunctions/GetOperationByName</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetOperationByNameExcludingId">http://tempuri.org/IAdministrativeFunctions/GetOperationByNameExcludingId</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetOperations">http://tempuri.org/IAdministrativeFunctions/GetOperations</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetRoleByNameExcludingId">http://tempuri.org/IAdministrativeFunctions/GetRoleByNameExcludingId</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetRoleDefinition">http://tempuri.org/IAdministrativeFunctions/GetRoleDefinition</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetRolesDefinitionIntersect">http://tempuri.org/IAdministrativeFunctions/GetRolesDefinitionIntersect</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetRoleUsers">http://tempuri.org/IAdministrativeFunctions/GetRoleUsers</a>
		<a href="http://tempuri.org/IAdministrativeFunctions/GetSubscriptions">http://tempuri.org/IAdministrativeFunctions/GetSubscriptions</a>

Task Name	Task Description	Operation Name
		http://tempuri.org/IAdministrativeFunctions/GetTaskByName
		http://tempuri.org/IAdministrativeFunctions/GetTaskByNameExcludingId
		http://tempuri.org/IAdministrativeFunctions/GetTaskDefinition
		http://tempuri.org/IAdministrativeFunctions/GetTasks
		http://tempuri.org/IAdministrativeFunctions/GetUserById
		http://tempuri.org/IAdministrativeFunctions/GetUserByUserName
		http://tempuri.org/IAdministrativeFunctions/GetUserDefinedRoles
		http://tempuri.org/IAdministrativeFunctions/GetUserGroupId
		http://tempuri.org/IAdministrativeFunctions/GetUserRoles
		http://tempuri.org/IAdministrativeFunctions/InsertPermissionForResourceAndOperation
		http://tempuri.org/IAdministrativeFunctions/InsertPermissionsForResourcesAndOperations
		http://tempuri.org/IAdministrativeFunctions/InsertResource
		http://tempuri.org/IAdministrativeFunctions/IsChild
		http://tempuri.org/IAdministrativeFunctions/RefreshCache
		http://tempuri.org/IAdministrativeFunctions/SearchUsers
		http://tempuri.org/IAdministrativeFunctions/SetCurrentDomain
		http://tempuri.org/IAdministrativeFunctions/SynchronizeAllSubscribers
		http://tempuri.org/IAdministrativeFunctions/UpdateOperation
		http://tempuri.org/IAdministrativeFunctions/UpdateRole
		http://tempuri.org/IAdministrativeFunctions/UpdateTask
Patient, Read	Patient Read permission, user has the right only to view data.	Patient, Admission Read
		Patient, Select Read
Patient, Update	Patient Update permission, user has the right to modify data.	Patient, Admission Update
Reporting Services, Fetch	Reporting Services Fetch permission, the right to bring	rep, Active Admission Orders Report

Task Name	Task Description	Operation Name
	the list of reports from Reporting Services.	rep, Active Discharge Orders Report
		rep, Active Transfer Orders Report
		rep, Antic Discharge Orders Report
		rep, BED AVAILABILITY STATUS REPORT
		rep, Bed Specialty Report
		rep, Bed Specialty Roster
		rep, Bed Summary Report
		rep, Bed Turnaround Time Report
		rep, Beds Out of Service Report (All)
		rep, Beds Out of Service Report (By Date)
		rep, Discharges In Progress
		rep, Emergency Management Evacuation Report
		rep, Icon Usage Report
		rep, Patient Inquiry
		rep, Patient Movement Report
		rep, Patient Movements by Date
		rep, Patients w Discharge Appointments
		rep, Scheduled Admissions by Date
		rep, Scheduled Admissions Report
		rep, VISN Bed Summary Report
		rep, VISN Network Active Report
		rep, VISN Network Audit Report
		rep, VISN Network Contract Report
		rep, VISN Network Disposition Report
		rep, Wait List Status Report
Reports, Read	Reports permission, user has the right only to view data.	Reports, Index Read
SiteOptions, Read	SiteOptions permission, user has the right only to view data.	SiteOptions, Index Read
		SiteOptions, EvacuationConfirmation Read
SiteOptions, Update	SiteOptions Update permission, user has the right to	SiteOptions, Index Update



Task Name	Task Description	Operation Name
	modify data.	SiteOptions, EvacuationConfirmation Update
Transfer, Read	Transfer permission, user has the right only to view data.	Transfer, AddTransfer Read
		Transfer, EditTransfer Read
		Transfer, FinalizeTransfer Read
		Transfer, Index Read
Transfer, Update	Transfer Update permission, user has the right to modify data.	Transfer, AddTransfer Update
		Transfer, EditTransfer Update
		Transfer, FinalizeTransfer Update
UnavailableReason, Read	UnavailableReason Read permission, user has the right only to view data.	UnavailableReason, Delete Read
		UnavailableReason, Edit Read
		UnavailableReason, Index Read
UnavailableReason, Update	UnavailableReason Update permission, user has the right to modify data.	UnavailableReason, Delete Update
		UnavailableReason, Edit Update
		UnavailableReason, Index Update
UserConfiguration, Read	UserConfiguration permission, user has the right only to view data.	UserConfiguration, Index Read
		UserConfiguration, SearchUser Read
		UserConfiguration, SelectUser Read
UserConfiguration, Update	UserConfiguration Update permission, user has the right to modify data.	UserConfiguration, Index Update
VistaIntegration, Read	VistaIntegration permission, user has the right only to view data.	VistaIntegration, Audit Read
		VistaIntegration, Categories Read
		VistaIntegration, DeleteScheduler Read
		VistaIntegration, Index Read
		VistaIntegration, Schedulers Read
		VistaIntegration, TestMDWConnection Read
		VistaIntegration, TestODBCConnection Read
		VistaIntegration, VistASites Read
VistaIntegration, Update	VistaIntegration Update permission, user has the right to modify data.	VistaIntegration, Categories Update
		VistaIntegration, DeleteScheduler Update
		VistaIntegration, Schedulers Update

Task Name	Task Description	Operation Name
		VistaIntegration, VistASites Update
WaitingArea, Read	WaitingArea permission, user has the right only to view data.	WaitingArea, Delete Read
		WaitingArea, Edit Read
		WaitingArea, Index Read
WaitingArea, Update	WaitingArea Update permission, user has the right to modify data.	WaitingArea, DeleteAction Update
		WaitingArea, Edit Update
		WaitingArea, Index Update
WardConfiguration, Read	WardConfiguration permission, user has the right only to view data.	WardConfiguration, Delete Read
		WardConfiguration, Index Read
WardConfiguration, Update	WardConfiguration Update permission, user has the right to modify data.	WardConfiguration, Index Update
		WardConfiguration, DeleteWard Update
WardOccupancy, Read	WardOccupancy permission, user has the right only to view data.	WardOccupancy, Index Read
WardWhiteboard, Read	WardWhiteboard permission, user has the right only to view data.	WardWhiteboard, Edit Read
		WardWhiteboard, EditPT Read
		WardWhiteboard, Index Read
		WardWhiteboard, NotifyChange Read
		WhiteboardStaff, Index Read
		WardWhiteboard, ShowReport Read
		WardWhiteboard, Submit Read
		WardWhiteBoard, WardWhiteBoard Read
WardWhiteboard, Update	WardWhiteboard Update permission, user has the right to modify data.	WardWhiteBoard, WardWhiteBoard Update
		WhiteboardStaff, Index Update
		WardWhiteboard, Edit Update

## 7.4 Role Definitions

To view the actual definition of a BMS user role, from the Definitions folder select Role Definitions and double click the role name in the main panel of Policy Manager: in the Role Definition Properties dialog window, select the Definition tab to display it as in the following image:

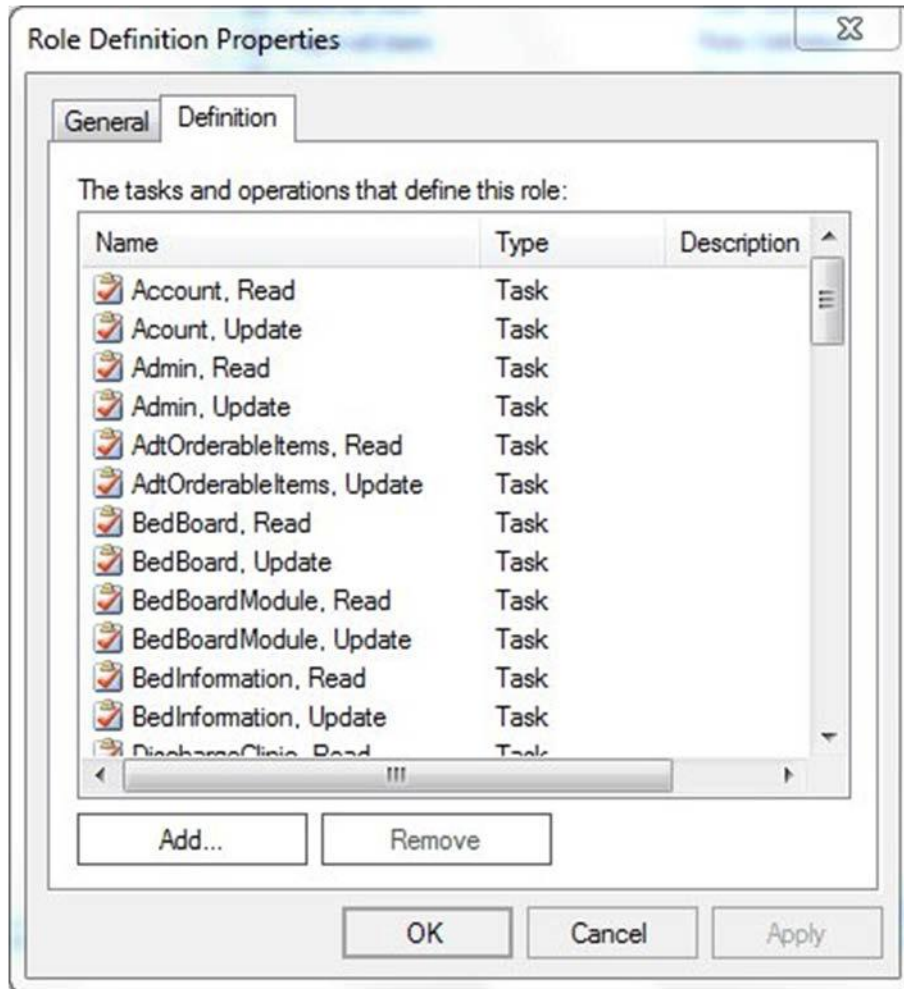
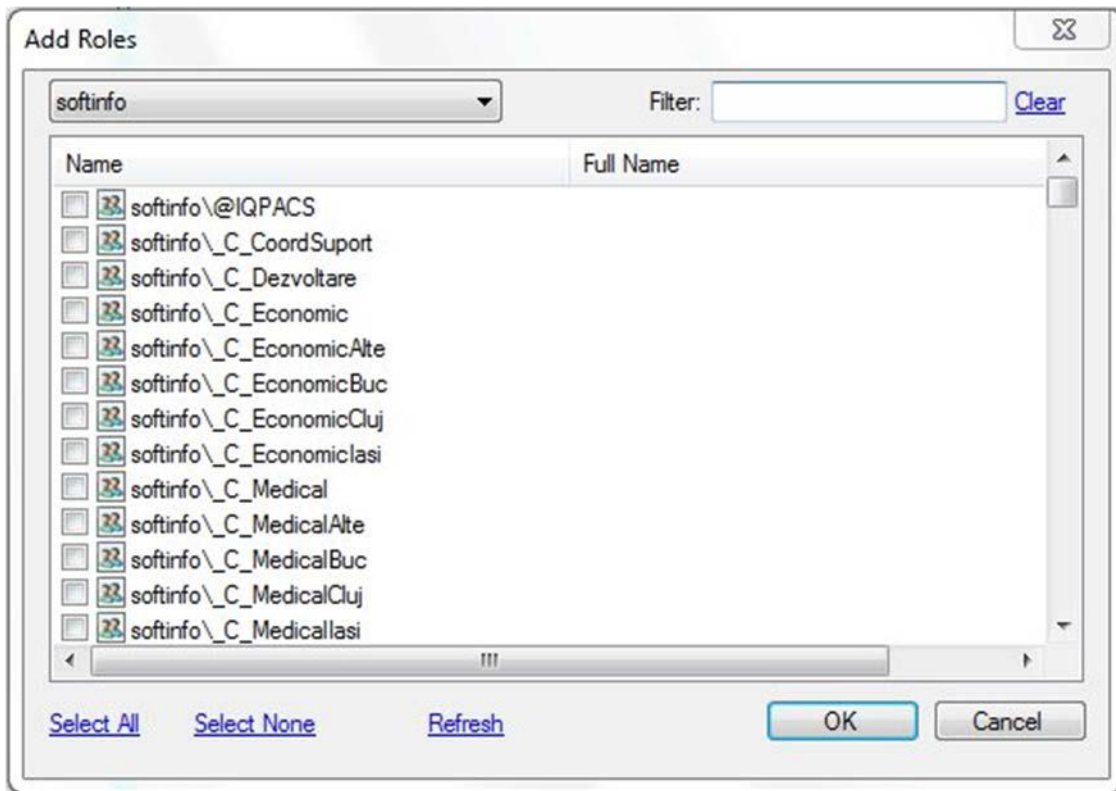


Figure 66 - Role Definition

## 7.5 Assigning a Role to a User

To assign one of the roles defined for BMS to a user follow the steps below.

From the main page of Policy Manager, from Role assignments folder select a role then right-click and select “Assign Windows Users and Groups”: the following dialog is displayed.

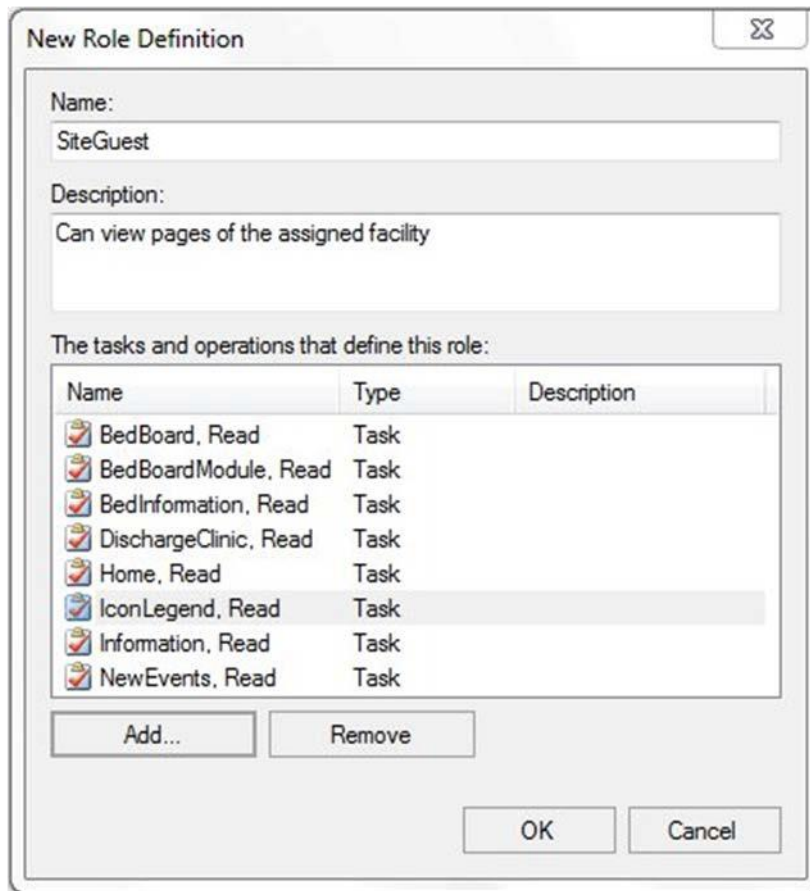


*Figure 67 - Assigning Roles to Users*

A list of users and user groups existing in the current domain are displayed. Use the arrow button of the field in the upper left corner of the dialog to select the domain and the Filter field if necessary, and then click each applicable check box to select the user or group of users for which you want to assign the selected BMS role. Click OK to finalize the operation.

## 7.6 Adding a New Role

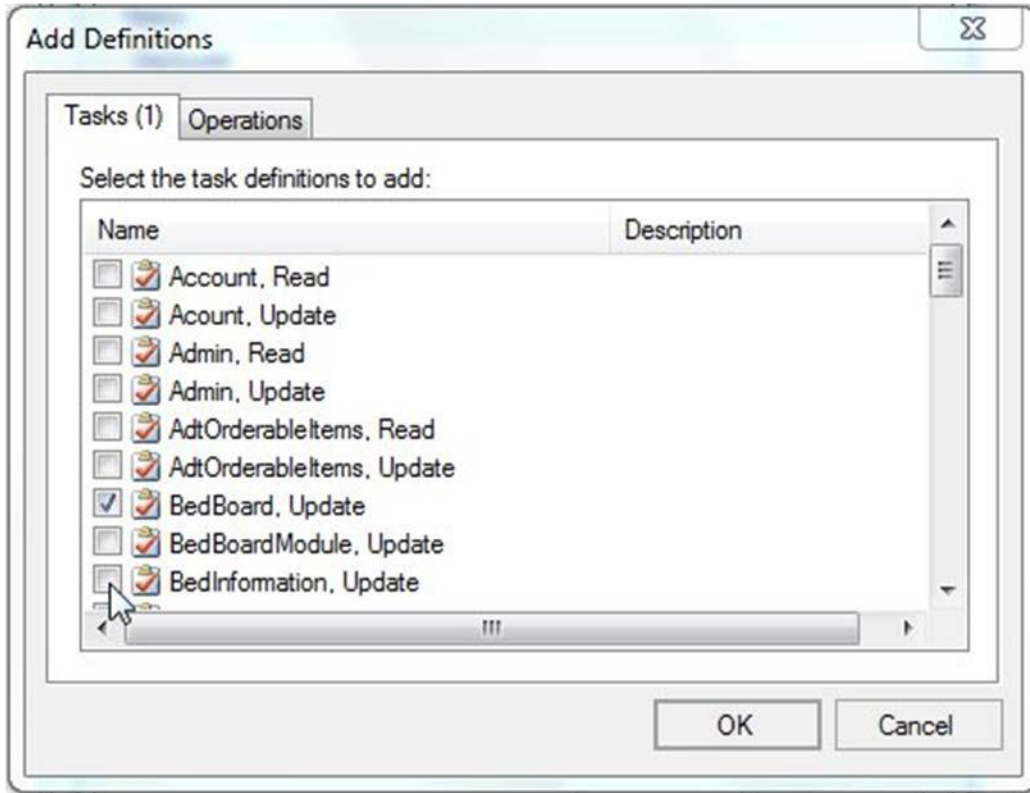
To add a new role, click the Add Role button from the main Policy Manager window or right-click Role Definitions folder and select New Role Definition...: the following dialog window is displayed:



*Figure 68 - New Role Definition*

Enter the name of the new role and a short description.

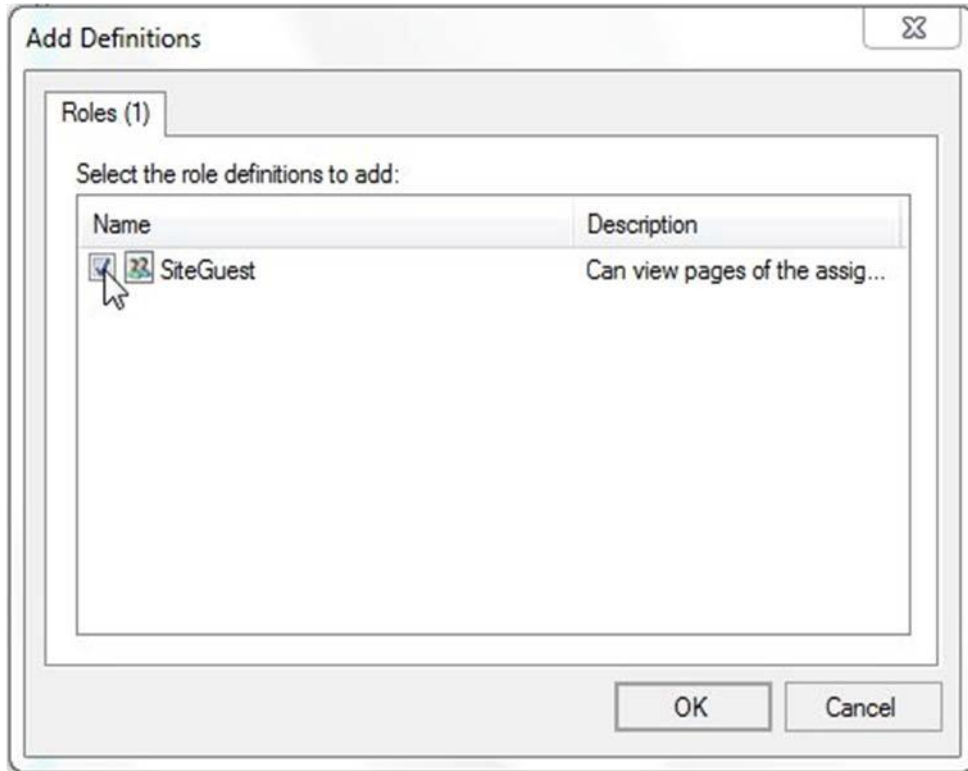
To add the tasks and operations that can be performed for this role click the Add button to display the following dialog window:



*Figure 69 - Adding Tasks and Operations to a Role*

Tasks and operations that can be performed within the BMS system are available in separate tabs. Select the ones to be included in the definition of the current role (the number of selected tasks/operations will be displayed in the corresponding tab title) then press OK: The selected tasks and operations will be displayed in the New Role Definition dialog box. Press OK to add the role to the list of roles defined for BMS: The Roles Definitions list will be updated to contain the new role.

To add the new role to the Role Assignment folder, select the folder, right-click and select Assign Roles to display the following dialog window:

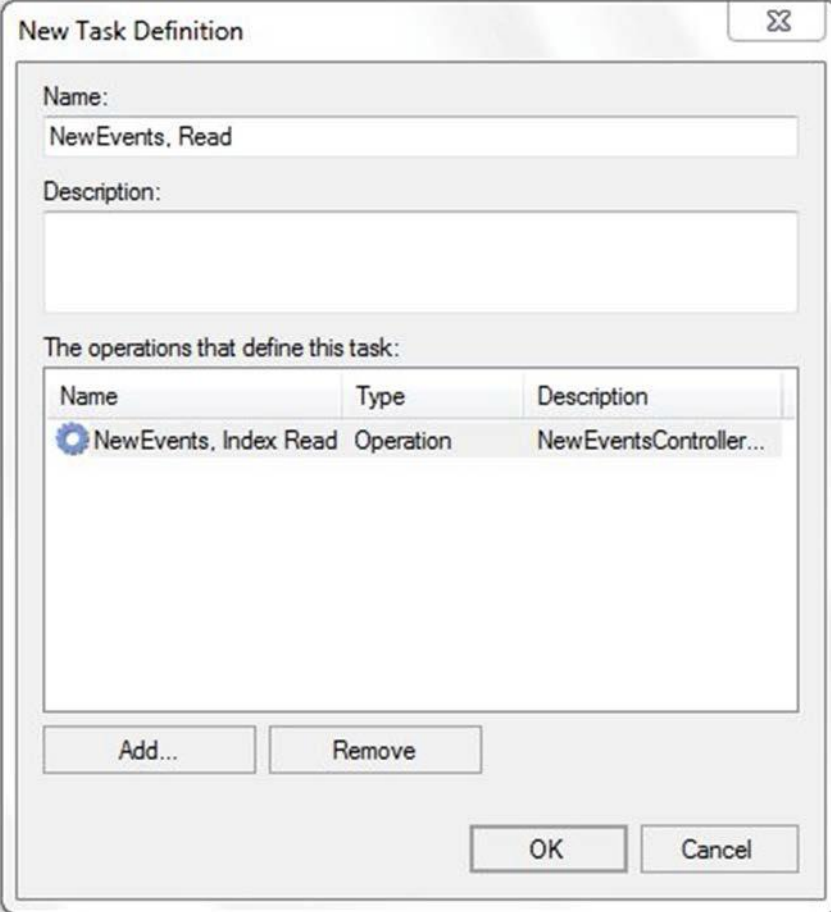


*Figure 70 - Add Role to Role Assignments List*

Select the role then press OK: The newly added role will be displayed in the Role Assignments list and you will be able to assign the new role to BMS users.


## 7.7 Adding a New Task

To add a new task, click the Add Task button from the main Policy Manager window or right-click Task Definitions folder and select New Task Definition: The following dialog window is displayed:



The dialog window titled "New Task Definition" contains the following fields and controls:

- Name:** A text box containing "NewEvents, Read".
- Description:** An empty text box.
- The operations that define this task:** A table with the following content:

Name	Type	Description
 NewEvents, Index Read	Operation	NewEventsController...

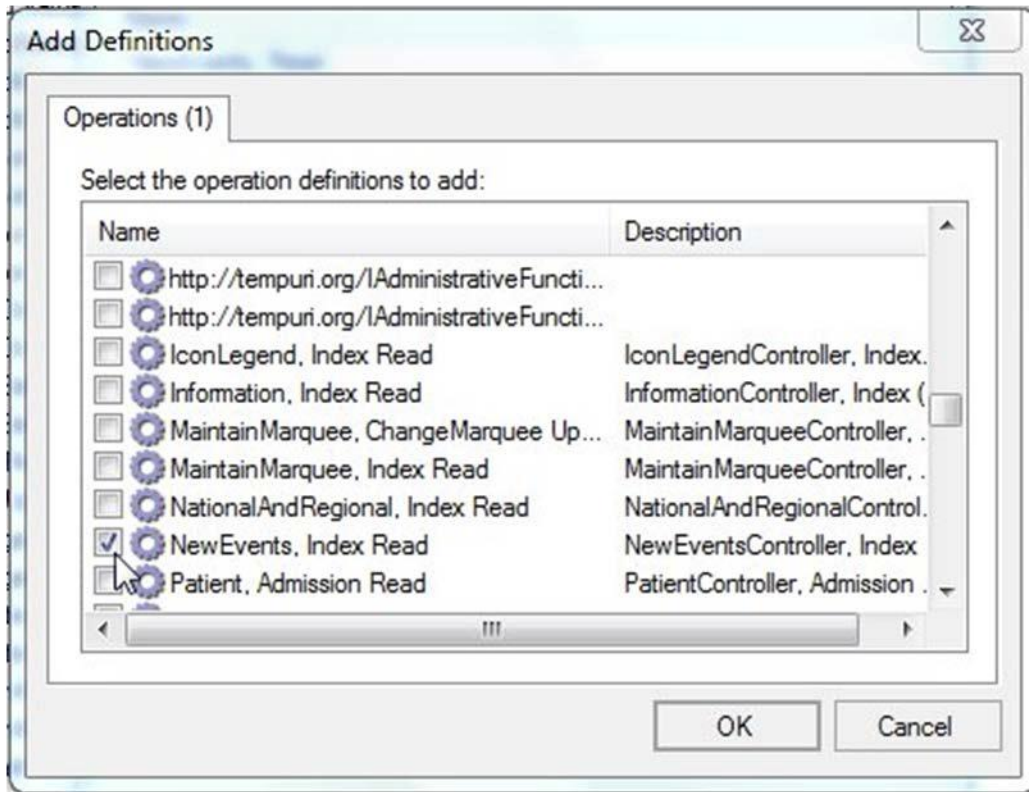
At the bottom of the table are "Add..." and "Remove" buttons. At the bottom right of the dialog are "OK" and "Cancel" buttons.

*Figure 71 - New Task Definition*

Enter the name of the new task followed by read/write option and a short description.



To add the operations that define the Task, click the Add button to display the following dialog window:

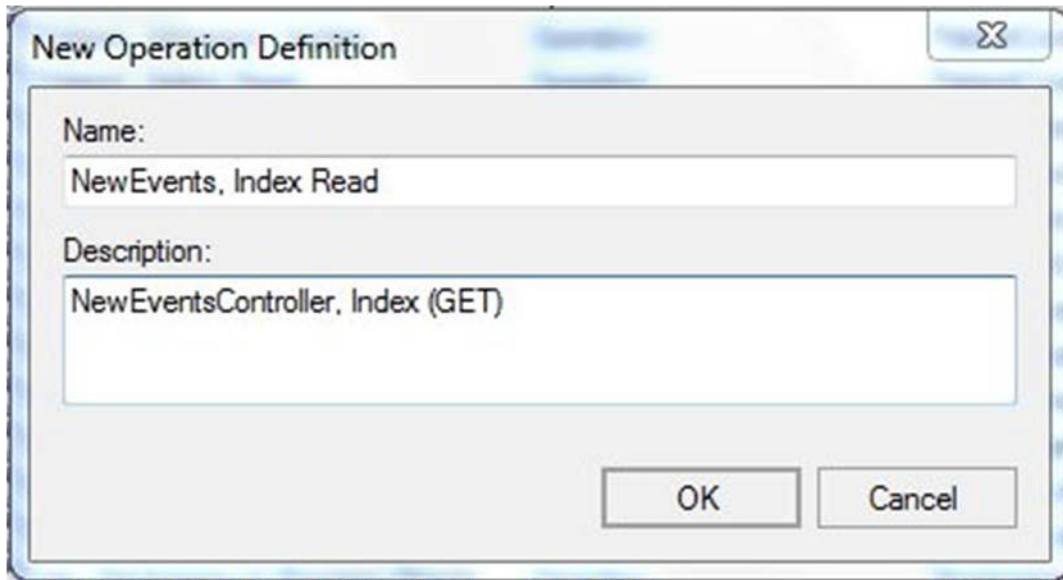


*Figure 72 - Adding Operations to a Task*

Select the operations that define the selected task then click OK to return to the New Task Definition dialog box. Click OK to add the new task to the Task Definitions list.

## 7.8 Adding a New Operation

To add a new operation, click the Add Operation button from the main Policy Manager window or right-click Operation Definitions folder and select New Operation Definition: The following dialog window is displayed.

A screenshot of a Windows-style dialog box titled "New Operation Definition". The dialog has a close button in the top right corner. It contains two text input fields. The first field is labeled "Name:" and contains the text "NewEvents, Index Read". The second field is labeled "Description:" and contains the text "NewEventsController, Index (GET)". At the bottom right of the dialog, there are two buttons: "OK" and "Cancel".

*Figure 73 - New Operation Definition*

Enter the name of the new operation followed by read/write option and a short description.

Click OK to add the new operation to the Operation Definitions list.

## 7.9 BMS Roles

BMS users fall under the following categories:

**Administrators:** This type of user will customize the BMS settings according to the needs of a facility. They will have access to the Site Options pages. This role refers to a group of users whose members are the person(s) responsible for setting up BMS options for the current facility.

**AuditLogUsers:** This type of user will have access to Audit Log Report. This role cannot be used alone, only together with another role.

**EmsStaff:** The EMS group of users will be allowed to edit and update the bed cleaning process but not the other parts of the bed board. Any member of your EMS staff that will be interacting with BMS must be in this group.

**EMSSupervisorUsers:** The EMS supervisor group of users will be allowed to view the requests for bed clean operations, to filter existing requests by different criteria and to select requests in order to assign them to EMS staff. This role cannot be used alone, only together with EmsStaff role.

**Guests:** The guest user will be allowed to generate the National Bed Availability report from National/Regional page.

**National Users/Regional Users:** This type of user will have access to the National/Regional page only.

**Site Users:** This type of user only has access to the BMS facility page.

**Support Users:** This type of user will have access to the Administrative page of the BMS solution. They configure the sites for the BMS facilities and grant access and read/write rights to the users.

**VISN Users:** This type of user will have access to the pages of different facilities within the VISN where they have been granted access.

## 8 Troubleshooting

This section contains information on common issues with using BMS solution and how those may be resolved.

### Symptom 1

When you try to load the BMS application, one of the following error messages appear:

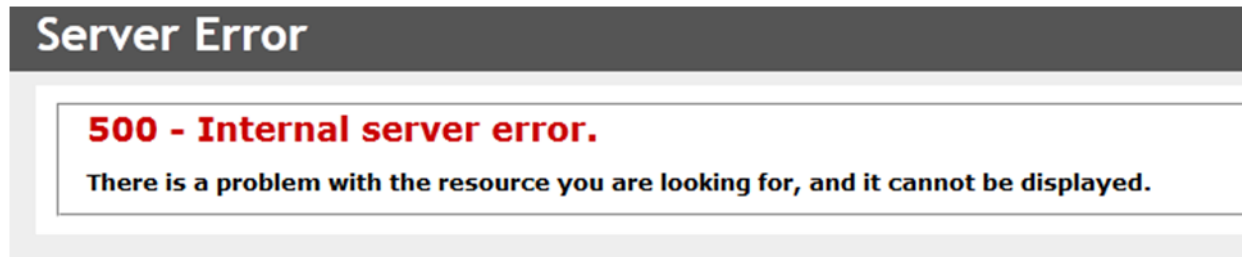


Figure 74 - 500 Internal Server Error

### Diagnoses and Solutions

Start the IIS Manager and check if the Application Pool Identity is set to the correct identity (bmsuser).

### Symptom 2

When trying to load the BMS application, one of the following error messages appears:

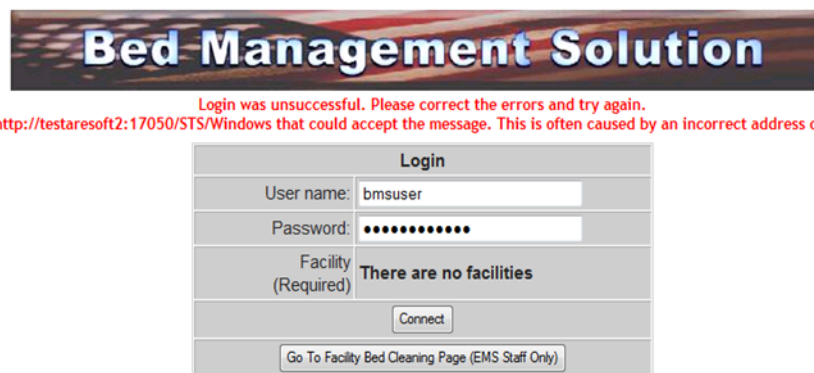


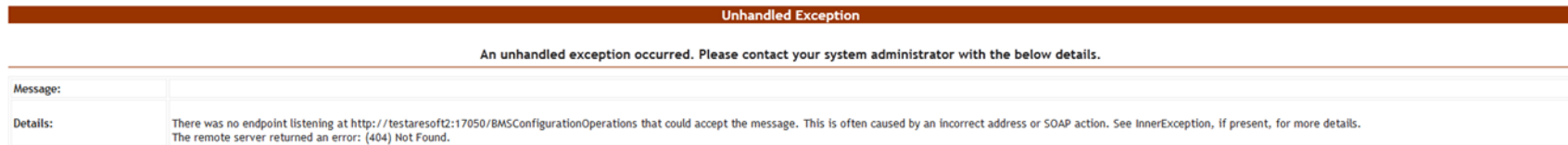
Figure 75 - There are no Facilities

## Diagnoses and Solutions

Go to the services' machine and check if the BMS.ServiceHost service is stopped. Start the services.msc console and start the service.

### Symptom 3

When trying to load the BMS application, one of the following error messages appears:



*Figure 76 - Unhandled Exception*

## Diagnoses and Solutions

- Check if BMS.BMService service is stopped or SQL Server might also have stopped.
- Go to the SQL Server machine and start the SQL Server from the SQL Server Configuration Manager. Verify if the connection string to the database server is set properly.
- Then go to the services' machine, start the services.msc console and start the BMS.BMService service.

## Symptom 4

When trying to log-in to the BMS application, the following error is displayed:

- There was an error when trying to login: There was no endpoint listening at http://testaesoftware2:17050/BMSConfigurationOperations that could accept the message. This is often caused by an incorrect address or SOAP action. See InnerException, if present, for more details.

The screenshot shows a web-based login form titled "Login". It contains the following elements:

- User name:** bmsuser
- Password:** Masked with 10 dots.
- Facility (Required):** A dropdown menu with a list of facilities. The list includes: ALBANY (528A8, ALN), ALBUQUERQUE (501, ABQ), ALTOONA (503, ALT), AMARILLO (504, AMA), ANCHORAGE (463, ANC), ANN ARBOR (506, ANN), ASHEVILLE (637, ASH), AUGUSTA (509, AUG), BALTIMORE (512, BAL), BATH (528A6, BAN), BATTLE CREEK (515, BAC), BAY PINES (516, BAY), BECKLEY (517, BEC), BEDFORD (518, BED), BIG SPRING (519, BIG), BILOXI (520, BIL), BIRMINGHAM (521, BIR), BOISE (531, BOI), **BROCKTON (523AS, BRK)** (highlighted), and BRONX (526, BRX).
- Buttons:** "Connect" and "Go To Facility Bed Cleaning Page (EMS Staff Only)".

Figure 77 - Login Unsuccessful

## Diagnoses and Solutions

Check if BMS.BMSservice service is stopped. Go to the services' machine, start the services.msc console and start the service.

## Symptom 5

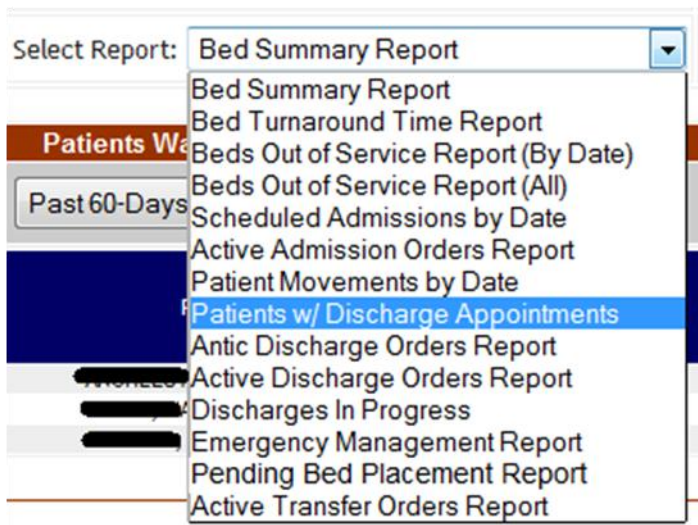
Data does not appear in the reports. Data does not get refreshed in the reports.

## Diagnoses and Solutions

In SQL Configuration Manager, check if the SQL Server Agent is started, and if it isn't start it; then, in the SQL Server Management Studio, check if the *BMS - Reports Full* and *BMS - Reports Incremental* are deployed and run without errors. If the jobs are not deployed, install them.

## Symptom 6

A report is missing from Other Reports section on the Facility Home Page (e.g. *EMS Bed Status Report (Admin)*).



*Figure 78 - EMS Bed Status Report is Missing*

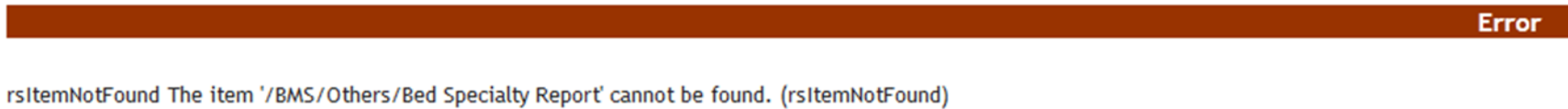
### **Diagnoses and Solutions**

Check if the report is missing from the SQL Server Reporting Services. Go to the management web page and add the missing report (Upload File).

## Symptom 7

When trying to view one of the reports (other than the *Other Reports*) the following error appears:

[Return to Previous Page](#)



*Figure 79 - Report Cannot be Found*

## Diagnoses and Solutions

Check if the mentioned report is missing from the Reporting Services. Go to the management web page and add the specified report.

### BMS Log Files

There are five log files available to anyone supporting the BMS system, the **WinServiceHost**, the **SecurityHost**, the **BMS.ServiceHost**, the **BMS.VI.ServiceHost** and the **WebTrace log**.

- The WinServiceHost log file is named **BMS-Services.log** and its location is on the application server (vaausbmsmul25) D:\BMS\Bin.
- The SecurityHost log file is named **BMS-Security.log** and its location is on the application server (vaausbmsmul25) D:\BMS\Bin.
- The BMS.ServiceHost logfile is named **BMS.trace.log** and its location is on the application server (vaausbmsmul25) at D:\BMS\Bin\BMS.
- The BMS.VI.ServiceHost logfile is named **BMS.VI.trace.log** and its location is on the application server (vaausbmsmul25) at D:\BMS\Bin\BMS.
- The Web trace log is named **WebTrace.log** and its location is on the web server (vaausbmsweb25) at D:\BMS\BMS.Web.

These logs contain various types of information (informational, warnings, and errors) with the exception of the web trace log, which only contains error messages.

There is no log file for MDWS, those errors are captured through our integration calls and posted in the BMS.ServiceHost log file (Trace.log). These are bit more tricky to debug as in any attempt requires the exact parameters to be passed to MDWS.



# 9 Appendix A – BMS Diagrams

## 9.1 Business Process Diagrams

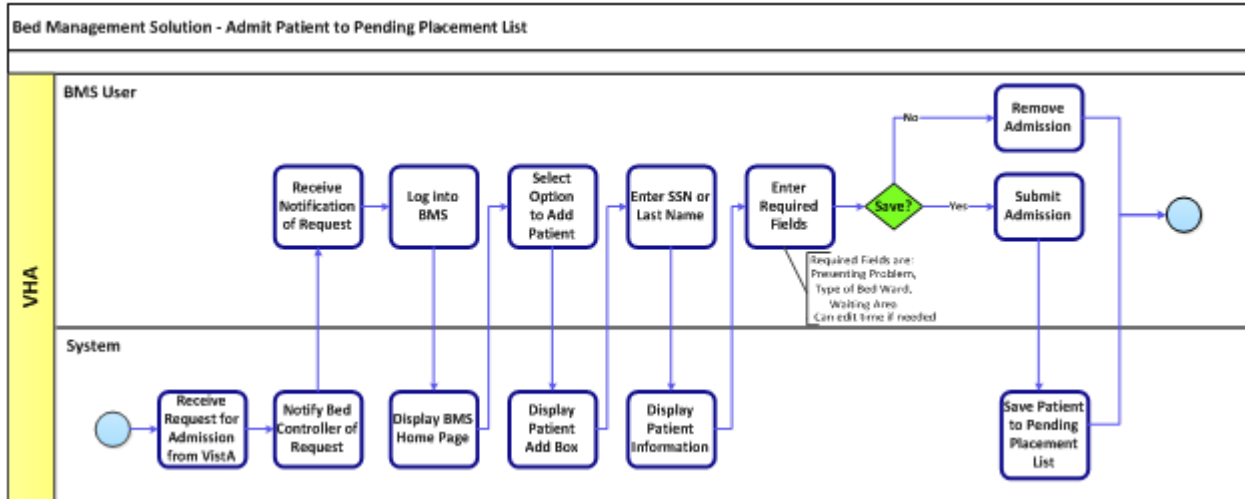


Figure 80 - Admit Patient to Pending Placement Business Process

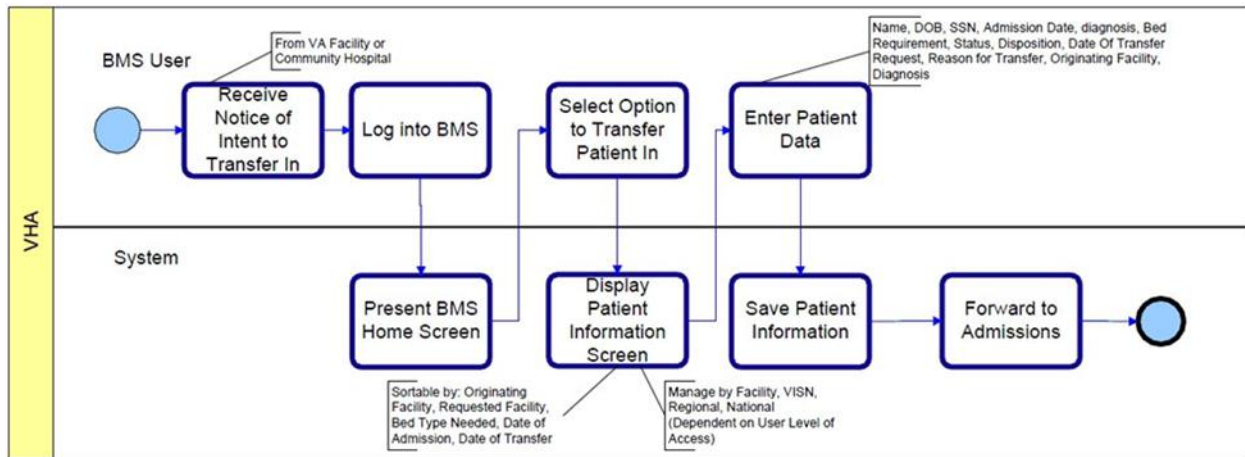


Figure 81 - Transfer Patient Pending Placement Business Process

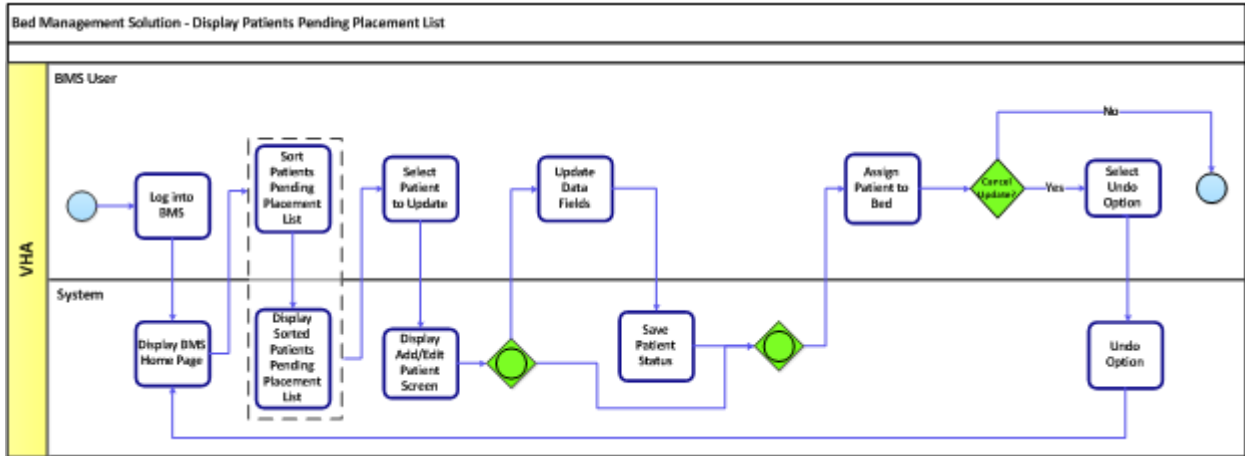


Figure 82 - Display and Update Pending Placement Business Process

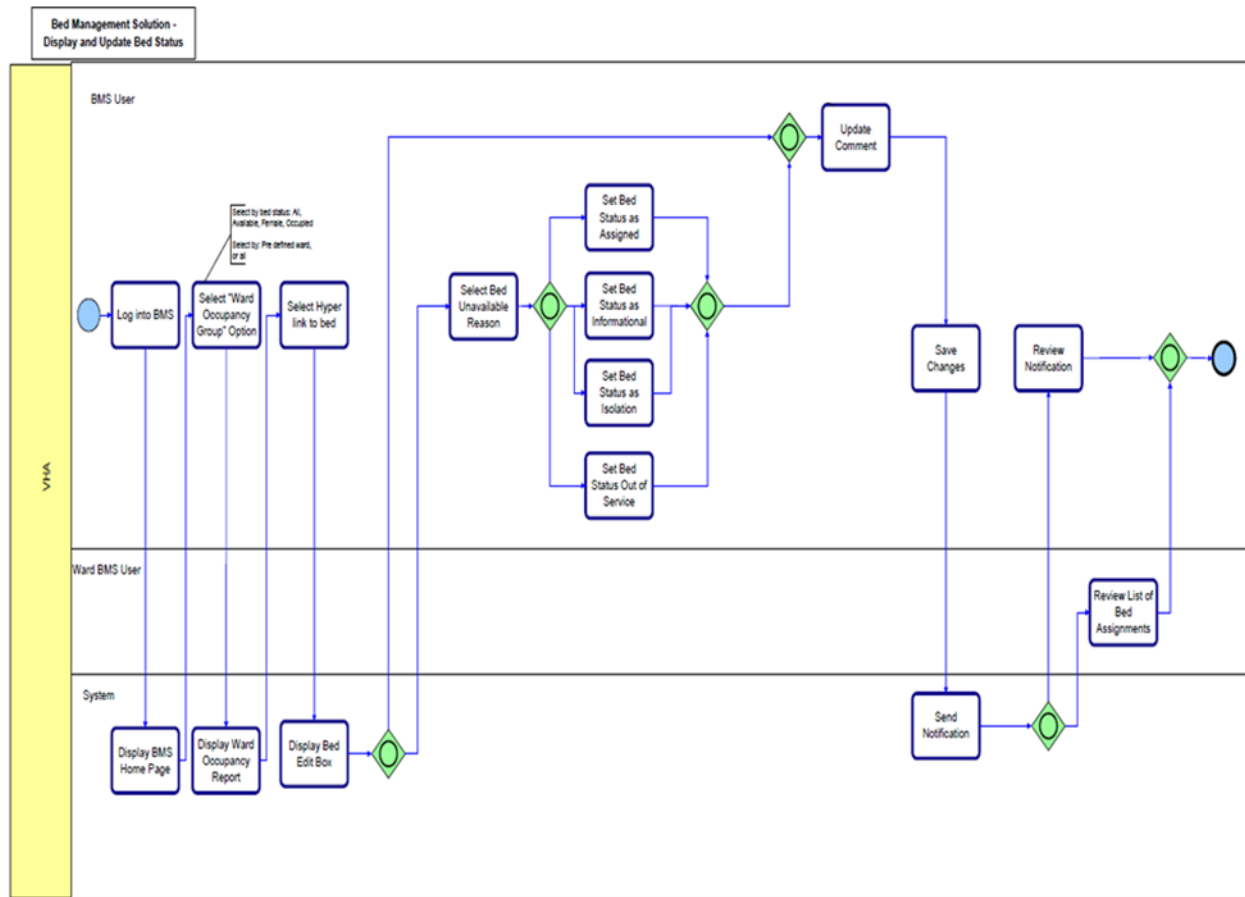


Figure 83 - Display and Update Bed Status Business Process

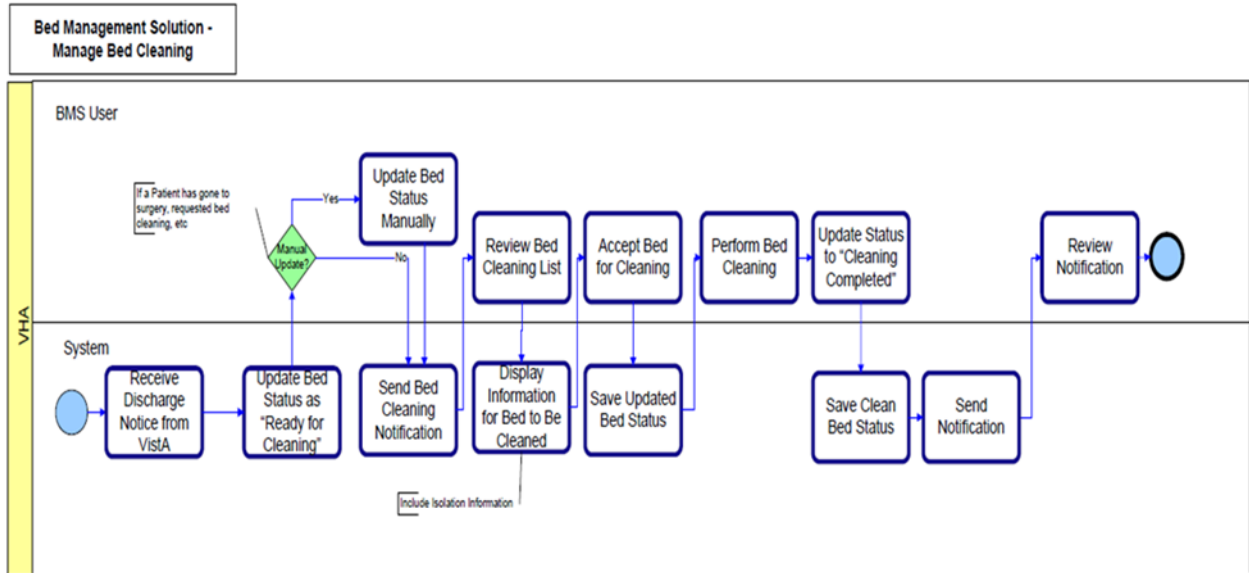


Figure 84 - Manage Bed Cleaning Business Process

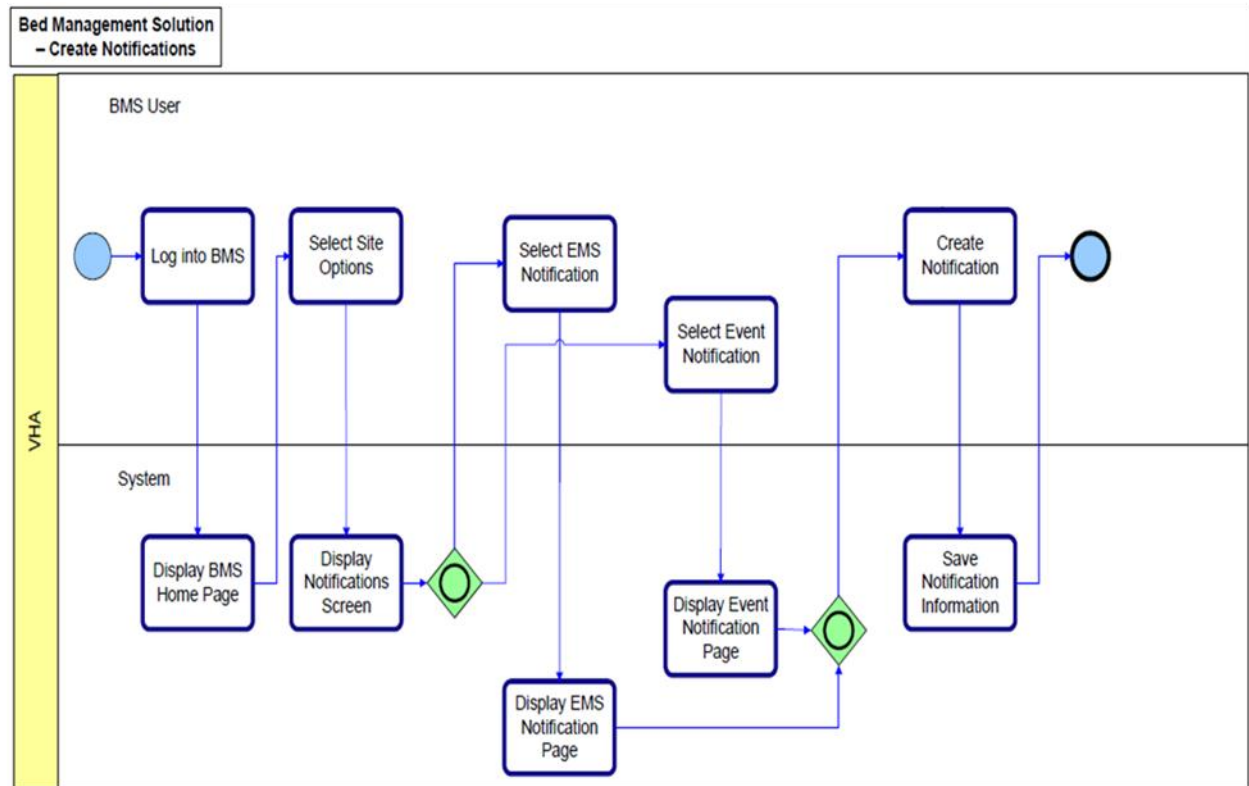


Figure 85 - Create Notification Business Process

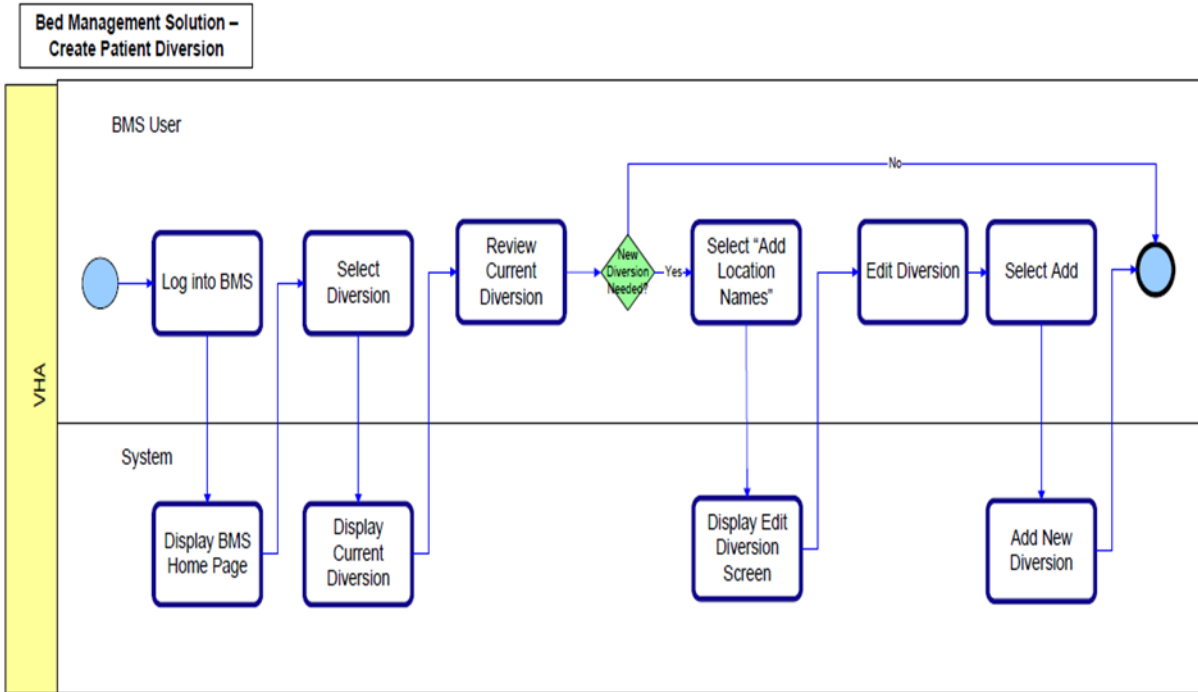


Figure 86 - Create Facility Diversion Business Process

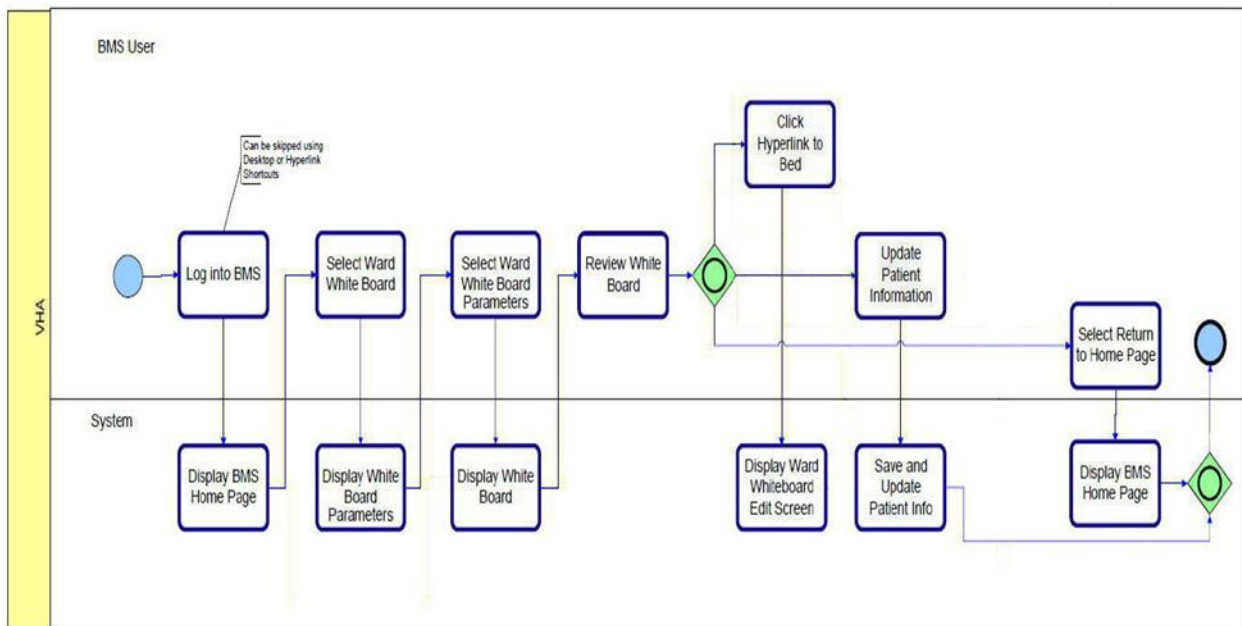
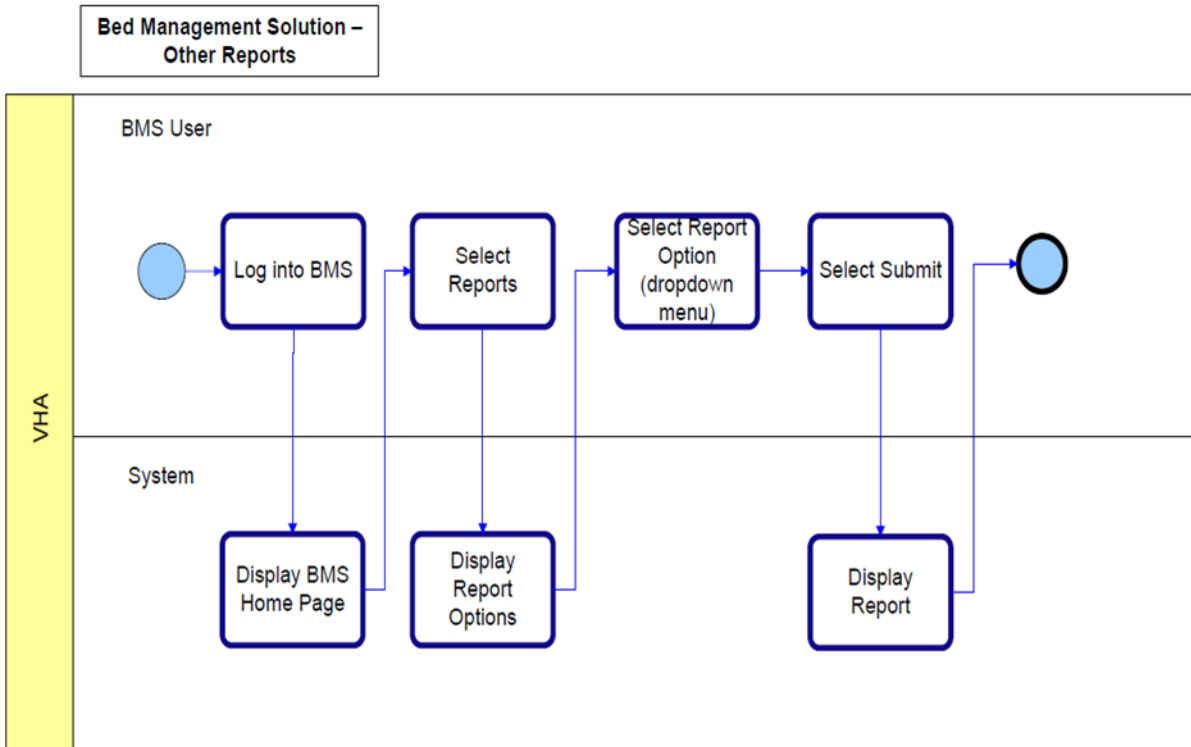


Figure 87 - Manage Whiteboard Business Process



*Figure 88 - Reports Business Process*

## 9.2 Activity Diagram

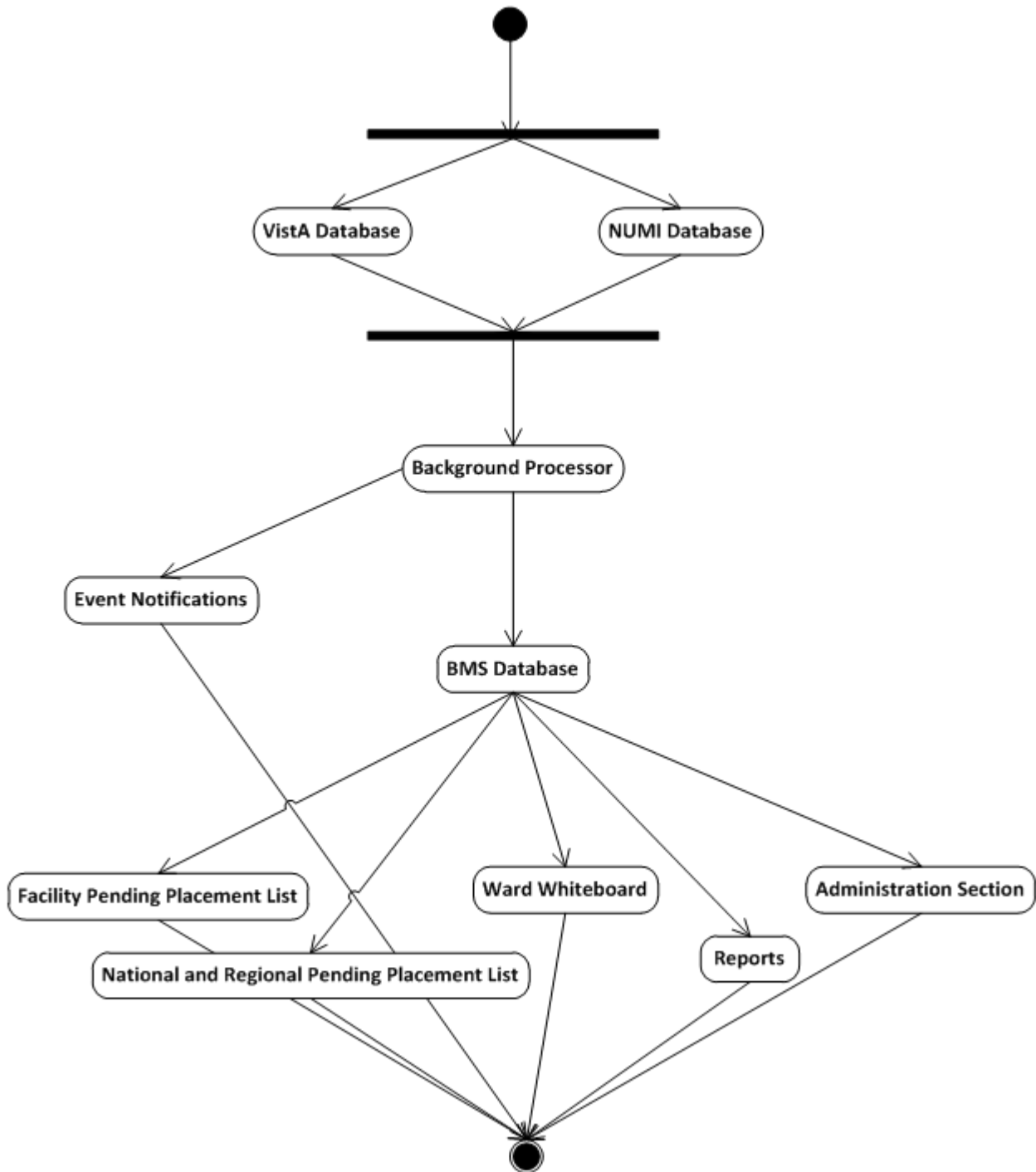
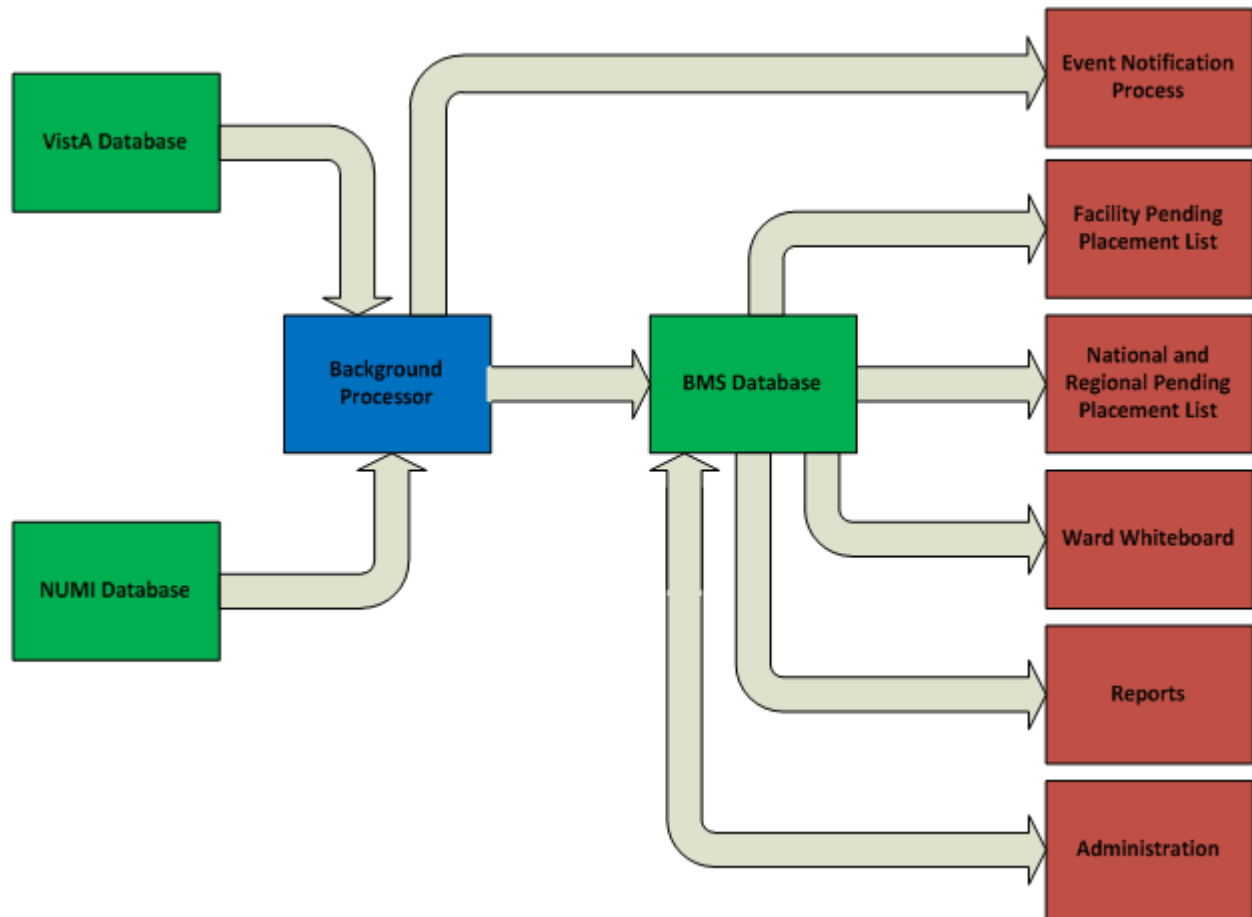


Figure 89 - BMS Overview Activity Diagram

### 9.3 Functional Flow Diagram



*Figure 90 - BMS Overview Functional Flow Diagram*

## 9.4 Data Flow Diagram

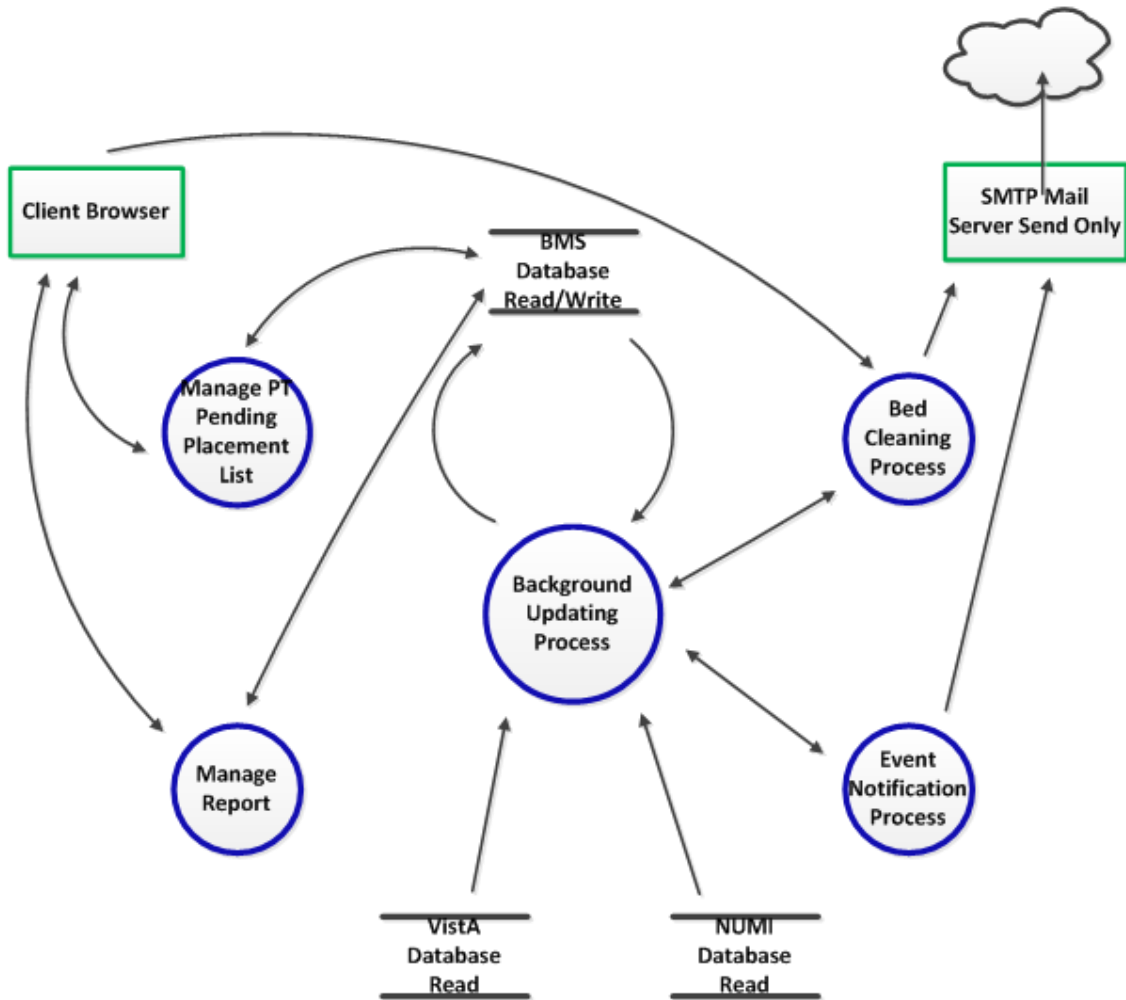


Figure 91 - BMS Overview Data Flow Diagram

## 9.5 Dallas NTX Local Policy Example

Below is an example of the BMS Whiteboard Kiosk mode setup by North Texas VAMC (NTX).

1. Create a VA Domain User Name and Password
2. Image a PC with the "One Off" VA Gold Image
3. Pull Network cable once image is completed
4. Log in as Administrator
5. Create a local user account on PC that matches the created VA Domain Account
6. Make local user Administrator (Temporary)
7. Log into PC as Local User
8. Take computer off of the domain and place into a work group
9. Delete The computer in Active Directory
10. Change Screen Saver to None
11. Change Power Options to Never Turn off the display and Never Put the computer to sleep



12. Pull up the Run window (Windows button + R) and type in **control userpasswords2**
13. Uncheck the box next to Users must enter a user name and password to use this computer while local user is highlighted
  - a. In windows 7 this check box is only available if the computer is not on a Domain.
14. Export “VA Internal Root” certificate from a computer on the Domain to a flash drive or other media
15. Import the “VA Internal Root” Certificate to Trusted Root Certificate Authorities folder on the BMS PC
16. Set Up a scheduled task to run at login to have the computer automatically go to the website
17. Completed registry edits in both 32 bit and 64 bit locations
18. Gpedit.msc
19. Take away admin rights
20. Reboot PC

Local Group Policy Changes:

**User Configuration\Administrative Templates\System\Ctrl+Alt+Del Options**

Remove TaskManager	Enable
Remove Lock Computer	Enable
Remove Change Password	Enable
Remove Logoff	Enable

**User Configuration\Administrative Templates\Control Panel\Personalization**

Enable Screen Saver	Disabled
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Registry Edits:

**HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon**

DefaultDomainName	REG_SZ	(local computer name)
DefaultUserName	REG_SZ	(Local Username i.e. kioskuser)
DefaultPassword	REG_SZ	(Local user account's password)
AutoAdminLogon	REG_SZ	1

**HKEY\_LOCAL\_MACHINE\SOFTWARE\Wow6432Node\Microsoft\Windows NT\CurrentVersion\Winlogon**

DefaultDomainName	REG_SZ	(local computer name)
DefaultUserName	REG_SZ	(Local Username i.e. kioskuser)
DefaultPassword	REG_SZ	(Local user account's password)

**HKEY\_LOCAL\_MACHINE\SOFTWARE\Policies\Microsoft\Internet Explorer\Restrictions**

NoBrowserContextMenu	REG_DWORD	1
NoFileOpen	REG_DWORD	1
NoOpenInNewWnd	REG_DWORD	1

# 10 Appendix B - Terms, Acronyms, and Abbreviations

Table 29 - Terms, Acronyms, and Abbreviations

Terms, Acronyms, Abbreviations	Definitions
ASP	Active Server Pages
BMS	Bed Management Solution
CRUD	Create, Read, Update, Delete
EIS	Entity Identification Service
EMS	Environmental Management Service
ETL	Extract Transform Load
EVS	Enterprise Vocabulary Service
IE	Internet Explorer
IIS	Internet Information Services
IRM	Information Resources Management
MDO	Medical Domain Objects
MDWS	Medical Domain Web Services
MVC	Model-View-Controller
NUMI	National Utilization Management Integration
ODBC	Open Database Connectivity
PAP	Policy Administration Point
Patients Pending Placement	A queue of patients in need of beds at VA facilities
PDP	Policy Decision Point
RS	Reporting Services
SOA	Service Oriented Architecture
SQL	Structured Query Language
STS	Secure Token Service
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
VA	Department of Veterans Affairs
VAMC	VA Medical Center
VISN	Veterans Integrated Service Network
VistA	Veterans Health Information Systems and Technology Architecture
WCF	Windows Communication Foundation
XAML	Extensible Application Markup Language
XML	eXtensible Markup Language
WMI	Windows Management Instrumentation