Ramco Aviation Solution

Version 5.8

Installation Manual

VirtualWorksTM RunTime Installation Document -

Prerequisites



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Revision History

Version	Date	Author	Description
1.0	21/04/2010	Manigandan R	Created
1.1	18/06/2010	Vijayalakshmi G	Reviewed and incorporated the changes
1.2	30/12/2010	Vinoth Kumar K	Modified the Changes for Dot Net Framework 4.0
1.3	28/03/2013	Vinoth Kumar K	Modified for Windows 2012 and SQL 2012 Environments

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This document walks through the prerequisites before start installing VirtualWorksTM .Net Runtime (Microsoft Version) installation.

Note: Settings specified in this document are applicable to all layers like File Server, Web Server, App Server and RM Server unless it explicitly mentioned that applicable to particular layer.

1. Prerequisites

Operating System	Windows Server 2012. Note: Application and RM (Database) Servers should always have same OS + Service Pack
.Net Framework Version	2.0, 3.5 SP1, 4.0 and 4.5
VC 7 Runtime	Installer for this application is packaged along with the installation kit itself. Run the file VC7RuntimeSetup.MSI that is given with the installation kit
YMI	$\frac{1151}{1151}$
115	8.0
SQL Server	2012 (only in RM Server)
	The server default collation should be (Latin1-General,
	case-insensitive, accent-sensitive, kanatype-
	insensitive, and width-insensitive for Unicode Data,
	SQL Server Sort Order 52 on Code Page 1252 for non-
	Unicode Data). During setup choose
	"SQL_Latin1_General_CP1_CI_AS" as SQL collation
Microsoft Web Deploy	Microsoft Web Deploy v3.5 needs to be installed in
	Application Server (Choose installation type as complete) – Software Available in DVD4 - Tools

1.1. Server Settings before proceeding with installation

Before proceeding with the installation, make sure that,

- ✓ All Servers have sufficient Disk space (as per the Hardware Specification & COTS List) and also partitioned. It is recommended to have at least one more drive apart from Default "C" Drive. It is advisable to install the VirtualWorks[™] in the User partitioned Drive, instead of System Drive (C:)
- ✓ System Drive should have partitioned with minimum of 40GB allocation and User Drive with remaining
- ✓ User Drives for RM Server should be partitioned to keep Database files and Log files separately. This enhances performance of SQL Server IO operations
- ✓ Server name (across all layers) should not have any special characters. All server names participating in the VirtualWorks[™] deployment architecture should start with alphabets and can contain numbers. Non-Alphanumeric characters are



not allowed. Servers should also not have any VirtualWorks[™] component name and part of the Server Name.

✓ Check the Global Assembly Cache path (C:\Windows\Assembly); it should not appear as a folder. It should appear like as specified in below screenshot.

	assembly				_		x
€ 🗇 ▼ ↑ 🌗 🕨	Computer ► Local Disk (C:) ► Windows ► assembly		~ ¢	Sea	rch Windows		Q
							0
🔶 Favorites	Assembly Name		Version	Cul	Public Key Token		1^
Dealter	Accessibility		2.0.0.0		b03f5f7f11d50a3a		
Desktop	: CADODB		7.0.330		b03f5f7f11d50a3a		
Downloads	: Appconfig		1.4.3.12		b0bf8b7c06314379		
🔛 Recent places	: AspNetMMCExt		2.0.0.0		b03f5f7f11d50a3a		
	: AssetRMInfo		1.4.3.12		b0bf8b7c06314379		
🥽 Libraries	: 🛍 BasStockAnly		1.4.3.12		3a721247b727f8b9		
Documents	📲 BasStockAnly.Resources		1.4.3.12		3a721247b727f8b9		
J Music	💰 BusinessObjects.Licensing.KeycodeDecoder		12.0.11		692fbea5521e1304		
Pictures	: 💼 ClientSocket		1.4.3.12		3a721247b727f8b9		
Videos	📲 ComponentRouting		1.4.3.12		b0bf8b7c06314379		
1 videos	📲 ComSvcConfig		3.0.0.0		b03f5f7f11d50a3a		
	😹 Configgen		1.4.3.12		3a721247b727f8b9		
I Computer	💰 CRVsPackageLib		ComSvcConfig, Ve	rsion=	3.0.0.0, Culture=neutr	al,	
	📸 CrystalDecisions.CrystalReports.Design		PublicKeyToken=b	031517	f11d50a3a, processorA	rchitect	ture=M
📬 Network	💰 CrystalDecisions.CrystalReports.Engine		12.0.20		692fbea5521e1304		
	💰 CrystalDecisions.CrystalReports.Engine.resources		12.0.20	en	692fbea5521e1304		
	CrystalDecisions.CrystalReports.TemplateEngine		12.0.11		692fbea5521e1304		
	CrystalDecisions.Data.AdoDotNetInterop		12.0.20		692fbea5521e1304		
	CrystalDecisions.Enterprise.Desktop.Report		12.0.11		692fbea5521e1304		
	📸 CrystalDecisions.Enterprise.Framework		12.0.11		692fbea5521e1304		
	📸 CrystalDecisions.Enterprise.InfoStore		12.0.11		692fbea5521e1304		
	📸 CrystalDecisions.Enterprise.PluginManager		12.0.11		692fbea5521e1304		
	CrystalDecisions.Enterprise.Viewing.ReportSource		12.0.11		692fbea5521e1304		\checkmark
	<	Ш					>
88 items 1 item selecte	d						

✓ Windows Firewall is off for all state viz., Domain Profile, Public Profile and Private Profile.

During runtime installation, the app and web server will communicate through a port number (which will be defined during installation); to make sure firewall is not blocking this process, the following settings needs to be done.

Also refer section 2.0 Enabling VirtualWorks[™] Runtime specific ports in Firewall to set firewall for the ports between the servers

To change Windows Firewall settings

Go to Control Panel -> Click on Windows Firewall -> Click on Change Notification Settings

Control Panel Home	Help protect your PC with Windows F	irewall
Allow an app or feature through Windows Firewall	Windows Firewall can help prevent hackers or ma Internet or a network.	alicious software from gaining access to your PC through the
Change notification settings	Update your Firewall settings	
Turn Windows Firewall on or off	Windows Firewall is not using the recomm settings to protect your computer.	ended 🛞 Use recommended settings
💡 Restore defaults	What are the recommended settings?	
Advanced settings		
Troubleshoot my network	😵 Domain networks	Connected 📀
	Networks at a workplace that are attached to a c	domain
	Windows Firewall state:	Off
	Incoming connections:	Block all connections to apps that are not on the list of allowed apps
	Active domain networks:	rsil.ramco.com
	Notification state:	Do not notify me when Windows Firewall blocks a new app
	😵 Private networks	Not connected 📀
	· · · · · · ·	



Ensure that the above rounded firewall state setting is done for all three profiles and click on $\mathbf{OK}.$

1.1.1. Environment Variables Settings

Set .Net Framework v3.5 and v2.0.50727 in environment path. Right click on My Computer -> System Properties -> Advanced System Settings -> Advanced Tab -> Environment Variables -> System Variables -> Edit the "Path" variable and paste the physical paths for .Net Framework 3.5 and 2.0 in the same order as specified at the end (after adding a ; [semicolon]) and click on **OK** . This should be set in all participating servers (WEB, APP and DB/RM Server).

For Ex: 32 bit machines: %systemroot%\Microsoft.NET\Framework\v2.0.50727 For Ex: 64 bit machines - %systemroot%\Microsoft.NET\Framework64\v2.0.50727 Similarly for Framework 3.5 version also.

This setting is required to enable command line invocation of dotnet compiler program.

01		System	
🕞 🕞 🗢 👚 🛃 🕻 Control P	anel 🕨 S	ystem and Security + System 🗸 🗸 🗸	Search Control Panel
Control Panel Home	Vie	System Properties	Environment Variables X
 Device Manager Remote settings Advanced system settings 	Wii	Computer Name Hardwire Advanced Remote You must be logged on as an Administrator to make most of these changes Performance	e Edit System Variable X
	Sys	Visual effects, processor scheduling, memory usage, and visual memory Settings	Variable galue: Paul Variable galue: stMicrosoft.NET\Framework64\v2.0.50727
		User Profiles Desktop settings related to your sign-in Settings	System variables Variable Variable Variable Variable Value A
	Co	Startup and Recovery System startup, system failure, and debugging information Settings	Windows(x) Windows(system32)C1(Windows(C1),) Path C1(Windows(system32)C1(Windows(C1),) Windows(system32)C1(Windows(System32)C1)
	Wit	Environment Variables.	New Edit Delete OK Cancel
See also Action Center		OK Cancel Apply	

- In case if the installation should happen on a different drive other than the default system drive (for ex. instead of C:\Program Files, if the installation should be done on D:\Program Files), then change the Program Files directory path in Registry as below:
 - For 32 bit OS Change the value of the Key ProgramFilesDir under the registry key HKEY_LOCAL_MACHINE\SOFTWARE\ \Microsoft\Windows\CurrentVersion from C:\Program Files to D:\Program Files
 - For 64 bit OS Change the value of the Keys ProgramFilesDir and ProgramFilesDir(X86) under the registry key HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\Windows\C urrentVersion and HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion from C:\Program Files (X86) to D:\Program Files (X86).

Note: This modifies the default program Files installation directory path for all new software installations. If this is acceptable then proceed with this settings, otherwise change the settings back to original after completing the runtime installation and also ensuring that the applications are launches properly. And also during RT Patch installation and un-installation, these settings needs to be same as given during RT installation.

1.1.2. User Access Control Settings

- If the Runtime installation is not done through the "Administrator" user account and is done through a user account with "Administrator" privileges (added in "Administrators" Group), then the following needs to be done. Please note that adding a user account to "Administrators" Group does not mean that the user has got "Administrator" equivalent privileges. So following privileges are required:
 - ✓ User should be part of "Administrators" group
 - ✓ User should be part of "Power Users" group
 - ✓ The "User Account Control Settings" for the logged-in user account should be set to "Never Notify". See image below for details:



Note: 1. In the above screenshot "*RSIEXDOM*/9159" is a sample user account created for demonstration purpose. 2. This setting is required without which Create folder permission will not exist for a non- Administrator User account

✓ Manually create a folder called "Preferences" under .\Program Files (x86) folder and provide "Full Control" (under Security Tab) for the logged-in user account. See image below for details.

Preferences Properties	×
General Sharing Security Previous Versions Cu	ustomize
Object name: C:\Program Files (x86)\Preferences	
Coop of each nome Everyone Creat or Polication Packages Creator Owner	^
SYSTEM	>
To change permissions, click Edit.	Edit
ermissions for Everyone Alion	Deny
Full control 🗸	^
Modify 🗸	
Head & execute	=
List rolder contents	
Write -	~
Ar special nermissions or advanced settings click Advanced. Learn about access control and permissions	Ad <u>v</u> anced
OK Cancel	Apply

- ✓ Do the settings as given below. These settings should also be done on all participating layers (WEB, APP and DB).
 - Run gpedit.msc from Run, navigate and browse to Computer Configuration -> Windows Settings -> Security Settings -> Local Policies -> Security Options
 - Set policy User Account Control: Behavior of the elevation prompt for administrators in Admin Approval Mode to – Elevate without prompting
 - Set policy User Account Control: Detect application installations and prompt for elevation to – Disabled
 - Set policy User Account Control: Run all administrators in Admin Approval Mode to – Disabled

File Action View Help		
🗢 🄿 🙍 📷 🗙 🗐 🗟 🖬		
🗐 Local Computer Policy	Policy	Security Setting
🔺 👰 Computer Configuration	📓 Network security: LAN Manager authentication level	Not Defined
Software Settings	📓 Network security: LDAP client signing requirements	Negotiate signing
⊿ 🚞 Windows Settings	🐻 Network security: Minimum session security for NTLM SSP based (including secure RPC) clients	Require 128-bit encrypti
Name Resolution Policy	🐻 Network security: Minimum session security for NTLM SSP based (including secure RPC) servers	Require 128-bit encrypti
Scripts (Startup/Shutdown)	📓 Network security: Restrict NTLM: Add remote server exceptions for NTLM authentication	Not Defined
Security Settings	🕼 Network security: Restrict NTLM: Add server exceptions in this domain	Not Defined
Account Policies	B Network security: Restrict NTLM: Audit Incoming NTLM Traffic	Not Defined
⊿ Local Policies	B Network security: Restrict NTLM: Audit NTLM authentication in this domain	Not Defined
Audit Policy	In Network security: Restrict NTLM: Incoming NTLM traffic	Not Defined
User Rights Assignment	Solution in this domain Security: Restrict NTLM: NTLM authentication in this domain	Not Defined
Security Options	B Network security: Restrict NTLM: Outgoing NTLM traffic to remote servers	Not Defined
Windows Firewall with Advance Network List Manager Deligies	Recovery console: Allow automatic administrative logon	Disabled
Network List Manager Policies	Recovery console: Allow floppy copy and access to all drives and all folders	Disabled
Figure Restriction Policies	Shutdown: Allow system to be shut down without having to log on	Disabled
Application Control Policies	Shutdown: Clear virtual memory pagefile	Disabled
P I P Security Policies on Local Co.	System cryptography: Force strong key protection for user keys stored on the computer	Not Defined
Advanced Audit Policy Configu	System cryptography: Use FIPS compliant algorithms for encryption, hashing, and signing	Disabled
Policy-based OoS	System objects: Require case insensitivity for non-Windows subsystems	Enabled
Administrative Templates	System objects: Strengthen default nermissions of internal system objects (e.g. Symbolic Links)	Enabled
🕵 User Configuration	System settings: Ontional subsystems	Posix
Software Settings	System settings: Use Certificate Bules on Windows Executables for Software Restriction Policies	Disabled
Windows Settings	Service of the second s	Disabled
Administrative Templates	User Account Control: Allow IllAccess annications to prompt for elevation without using the secure deskton	Disabled
	User Account Control: Behavior of the elevation prompt for administrators in Admin Approval Mode	Elevate without prompti
	User Account Control: Behavior of the elevation prompt for standard users	Promot for credentials
	Set Account Control: Detect application installations and around for all utility	Dirabled
	Ser Account Control: Detect application installations and promperior elevation	Disabled
	I lose Account Control: Only elevate executables that are signed and valuated	Enabled
	We ose Account Control, Only revale DiAccess applications that are installed in secure locations	Discher
	in User Account Control: Run an auministrators in Aumin Approval Mode	Disableu
	wij user Account Control: Switch to the secure desktop when prompting for elevation	Disabled Facility
	user Account Control: virtualize file and registry write failures to per-user locations	Enabled

✓ After completing the above steps, settings to be set in all layer machines where the installation would be done. While running the RSSetup.exe from the Base Runtime installation kit, VirtualWorks folder would get created under ...\Program Files (x86) folder. User should have "Full Control" privileges for VirtualWorks and its sub-folders (under Security Tab). This permission should be given before running the RuntimeSetup.MSI.

👃 VirtualWorks Properties 🗙
General Sharing Security Previous Versions Customize
Object name: c.: Program iles (x86)WirtualWorks
Group or user names:
& CREATOR OWNER
To change permissions, click Edit.
Permenene for Everyone Allow Deny
Full control 🗸 🛆
Modity 🗸
Head & execute 🗸 🔳
List folder contents
Head V
Write 🗸 🕐
For special permissions or advanced settings, Advanced click Advanced.
Learn about access control and permissions
OK Cancel Apply

✓ Restart the Servers.

1.1.3. Server Roles Settings

Generally in Windows 2012 server, most of the Roles and Features are in uninstalled state and wherever we need, we could initiate the required Roles and Features.

For installing VirtualWorksTM Runtime, it is mandatory to enable the following Roles and Features.

1. Go to Server Manager.



- WELCOME TO SERVER MANAGER

 QUICK START

 QUICK START
 </
- 2. Click on Add Roles and Features.

3. On the installation type, select "Role-based or feature-based installation" and click on Next.

Select installation	DESTINATION SEF DESTINATION SEF TECHTEST2012.rsimail.rsil.ramco.
Before You Begin Installation Type	Select the installation type. You can install roles and features on a running physical computer or vir machine, or on an offline virtual hard disk (VHD).
Server Selection	Role-based or feature-based installation Configure a single server by adding roles, role services, and features.
Features Confirmation	 Remote Desktop Services installation Install required role services for Virtual Desktop Infrastructure (VDI) to create a virtual machine-to or session-based desktop deployment.

4. Select the "Select a server from the server pool" option and select the current server name from the server pool.

Select a server from the s	server pool	
Server Pool		
Filter:		
Name	ID Address	Operating System
TECHTEST2012.rsimail.rsi	172.16.5.77	Nicrosoft Windows



5. Select the layer to be installed in the server. If WEB layer of VirtualWorks[™] is to be installed, then select the WEB Layer and if APP layer of Virtualworks[™] is to be installed, select the WEB and APP Layers. While selecting the WEB / APP layers, if the system by default prompts for some Role services/features to be installed, select the same and proceed further.

Before You Begin Installation Type	Select one or more roles to install on the selected server.	
Server Selection	L Active Directory Lightweight Directory Convicer	~
Server Roles	Active Directory Eightweight Directory Services	_
Features	Application Server	
	DHCP Server	
	DNS Server	
	Fax Server	
	File And Storage Services (Installed)	
	Hyper-V	
	Network Policy and Access Services	_
	Print and Document Services	
	Remote Access	
	Remote Desktop Services	
	Volume Activation Services	
	Web Server (IIS)	
		_
		\sim

For Web and App Servers, select the following Role services:



Select the role services to install for Application Server				
Role services				
.NET Framework 4.5 COM+ Network Access				
 Distributed Transactions WS-Atomic Transactions Incoming Network Transactions Outgoing Network Transactions TCP Port Sharing Web Server (IIS) Support Windows Process Activation Service Support 				
HTTP Activation				
Message Queuing Activation Named Pipes Activation TCP Activation				

For App Server, select the following Role services:

6. On clicking Next, the features respective to the layers would be prompted. Select .Net Framework on all installing servers. (Make sure that the features HTTP Activation and Non-HTTP activation under ".Net Framework 3.5 features <u>are not selected</u> and .NET Framework 3.5 (includes .NET 2.0 and 3.0) feature <u>is selected</u>) And make sure HTTP Activation, Named Pipe Activation, TCP Activation and TCP Port Sharing options are selected under WCF Services of .Net Framework 4.5 Features.

For Web, App and RM Server, select the following Features





7. Clicking **Next**, system will automatically display the selected Roles and Role Services to be installed in this server. Click on **Install** to install the same.

Confirm installat	DESTINATION SE ON Selections TECHTEST2012.rsimail.rsil.ramoo	RVER .com			
▲ Do you need to specify an alternate source path? One or more installation selections are missing source files on the destinati ×					
Before You Begin	Before You Begin To install the following roles, role services, or features on selected server, click Install.				
Installation Type	Restart the destination server automatically if required				
Server Selection	Optional features (such as administration tools) might be displayed on this page because they have				
Server Roles	been selected automatically. If you do not want to install these optional features, click Previous to clear their check boxes.				
Features					
Web Server Role (IIS)	.NET Framework 3.5 Features	^			
Role Services	.NET Framework 3.5 (includes .NET 2.0 and 3.0)				
Application Server	.NET Framework 4.5 Features				
Role Services					
Confirmation	Distributed Transactions				
	Incoming Network Transactions				
	Outgoing Network Transactions				
	.NET Framework 4.5	\sim			
	Export configuration settings Specify an alternate source path				
	< <u>P</u> revious <u>N</u> ext > <u>Install</u> Can	cel			

Wait for the installation to complete and restart the server if the same is prompted.

Installation progress Before You Begin Installation Type Server Selection Server Roles Features Web Server Role (IIS) Role Services Application Server Role Services Confirmation Results View installation progress Installation started on TECHTEST2012.rsimail.rsil.ramco.com Installation started on TECHTEST2012.rsimail.rsil.ramco.com Installation started on TECHTEST2012.rsimail.rsil.ramco.com Installation started on TECHTEST2012.rsimail.rsil.ramco.com NET Framework 3.5 (includes .NET 2.0 and 3.0) .NET Framework 4.5 Features Application Server Distributed Transactions Incoming Network Transactions .NET Framework 4.5 Web Server (IIS) Management Tools	_ D X					
Before You Begin View installation progress Installation Type Feature installation Server Selection Feature installation Server Roles Installation started on TECHTEST2012.rsimail.rsil.ramco.com Features NET Framework 3.5 Features Web Server Role (IIS) .NET Framework 3.5 (includes .NET 2.0 and 3.0) Role Services .NET Framework 4.5 Features Application Server Asplication Server Role Services Distributed Transactions Confirmation Incoming Network Transactions NET Framework 4.5 Web Server (IIS) Magnetic Services NET Framework 4.5 Confirmation NET framework 4.5 Web Server NET Framework 4.5 Web Server (IIS) Magnetic Server	DESTINATION SERVER [2012.rsimail.rsil.ramco.com					
Installation Type Server Selection Server Roles Features Web Server Role (IIS) Role Services Application Server Role Services Confirmation Results Installation server Outgoing Network Tansactions Incoming Network Tansactions Installation Server (IIS) Messagement Tools						
Server Selection Installation started on TECHTEST2012.rsimail.rsil.ramco.com Server Roles Installation started on TECHTEST2012.rsimail.rsil.ramco.com Features .NET Framework 3.5 Features Web Server Role (IIS) .NET Framework 3.5 (includes .NET 2.0 and 3.0) Role Services .NET Framework 4.5 Features Application Server ASP.NET 4.5 Role Services Distributed Transactions Confirmation Incoming Network Transactions NET Framework 4.5 Web Server (IIS) Measagement Tools Magagement Tools						
Server Roles Installation started on TECHTEST2012.rsimail.rsil.ramco.com Features .NET Framework 3.5 Features Web Server Role (IIS) .NET Framework 3.5 (includes .NET 2.0 and 3.0) Role Services .NET Framework 4.5 Features Application Server ASP.NET 4.5 Role Services Distributed Transactions Confirmation Incoming Network Transactions Results Outgoing Network Transactions .NET Framework 4.5 Web Server (IIS)						
Features .NET Framework 3.5 Features Web Server Role (IIS) .NET Framework 3.5 (includes .NET 2.0 and 3.0) Role Services .NET Framework 4.5 Features Application Server ASP.NET 4.5 Role Services Distributed Transactions Confirmation Incoming Network Transactions Results Outgoing Network Transactions NET Framework 4.5 Web Server (IIS) Management Tools Management Tools						
Web Server Role (IIS) .NET Framework 3.5 (includes .NET 2.0 and 3.0) Role Services .NET Framework 4.5 Features Application Server ASP.NET 4.5 Role Services Distributed Transactions Confirmation Incoming Network Transactions Results Outgoing Network Transactions .NET Framework 4.5 Web Server (IIS)	^					
Role Services .NET Framework 4.5 Features Application Server ASP.NET 4.5 Role Services Distributed Transactions Confirmation Incoming Network Transactions Results Outgoing Network Transactions .NET Framework 4.5 Web Server (IIS) Management Tools Management Tools						
Application Server Role Services Confirmation Results ASP.NET 4.5 Application Server Distributed Transactions Incoming Network Transactions Outgoing Network Transactions .NET Framework 4.5 Web Server (IIS) Management Tools	=					
Role Services Application Server Confirmation Distributed Transactions Results Outgoing Network Transactions .NET Framework 4.5 Web Server (IIS) Management Tools Management Tools						
Confirmation Incoming Network Transactions Results Outgoing Network Transactions .NET Framework 4.5 Web Server (IIS) Management Tools						
Results Outgoing Network Transactions .NET Framework 4.5 Web Server (IIS) Management Tools Management Tools						
.NET Framework 4.5 Web Server (IIS) Management Tools						
Web Server (IIS) Management Tools						
	~					
You can close this wizard without interrupting running tasks. View task progress or open this page again by clicking Notifications in the command bar, and then Task Details. Export configuration settings						

1.1.4. RMSERVER Settings

- 1. Go to SQL Server Configuration Manager.
- Disable Shared Memory Protocol as this is not supported. This needs to be disabled under both "Protocols for SQL Server" as well as under "Client Protocols" as shown below.



3. If Sql server is set with instance name and the Virtualworks[™] Runtime executable is allowed to run RM server, then do the following settings

Create Alias name for the Server Instance through SQL Configuration Manager.

Goto SQL Configuration Manager -> SQL Native Client 11.0 Configuration -> Aliases -> Right click -> New Alias...

Give an Alias Name and TCP Port no (Default is 1433 if it is not changed during SQL Server installation, if TCP port no is changed during installation and not known while creating Alias then change the Protocol to "Named Pipes").

Give Server Name with ServerName \InstanceName and Click OK

After this setting has done, the sql server should be able to connect with alias name, instead of *ServerName\InstanceName*. This Alias name should be given in Resource Manager (RM) Server Name during all the course of VirtualWorks[™] Runtime installation.

Refer screenshot given below:



a	Sql Server Configuration Manager					
File Action View Help						
SQL Server Configuration Manager (Local) SQL Server Services SQL Server Network Configuration (32bit)	Alias Name	Server	Protocol	Parameters		
				There are no items to s	how in this view. 1	
∡			Alias - New	×		
🔩 Client Protocols 🚇 Aliases	[Alias				
∡ J SQL Server Network Configuration		🗆 General				
▲		Alias Name Port No	New Alias)		
Client Protocols		Protecol	TCP/IP			
Reference Allases		Server				
		Port number used by the r	new alias to connect to S	QL Server		
		ОК	Cancel	poly Help		

4. Restart SQL Server Services

1.1.5. Component Services Settings

Note: These settings need to be done in App and RM Layers.

The following changes should be done in Com+ Explorer (To launch Component Services Goto Start -> Run -> Type dcomcnfg -> Ok). If "APP Server" role is not available in Database layer machine, add the same and do these settings.

- 1. Open COM+ Explorer
- 2. Expand to "My Computer" node
- 3. Expand Distributed Transactions Coordinator -> Select Local DTC and click on properties and click on Security tab and choose the options as per the image below:

Local DTC Properties ? X					
Tracing Logging Security					
Security Seturities ✓ Network DTC Access Client and Administration ✓ Allow Remote Clients ✓ Allow Remote Clients ✓ Allow Instruction ✓ Allow Outbound ○ Mutual Authentication Required ○ Incoming Caller Authentication Required ● No Authentication Required					
STO Logon-locourt NT AUTHORITY/NetworkService Browse					
Password: Confirm password:					
Learn more about <u>setting these properties</u> .					
OK Cancel Apply					

4. Choose Logging tab and change the Capacity to 40 MB. Click on OK.

Local DTC Properties	?	x		
Tracing Logging Security Log Information Location: C:W/indows\system32\MSDtc Bro Capacity: 40 MB	NSE			
Learn more about <u>setting these properties</u> .				
OK Cancel	App	oly		

2. Recommended Settings in WEB, APP and Database Servers

Entries in LMHOSTS and HOSTS file

- Add the IP address of the APP Server in LMHosts file of the WEB Server (in case WEB and APP servers are two different physical machines)
 - a. Open the LMHOSTS (without extension) file available under %systemroot%\SYSTEM32\Drivers\ETC folder and go to the end of the file.
 - b. Add a new line and type the IP address (of the App server name) and the App server machine name separated by the tab space and save the file.
- Add the WEB Server IP and the Application Server IP Address in the HOSTS file of the WEB Server (in case WEB and APP servers are two different physical machines)
 - a. Open the HOSTS (without extension) file available under %systemroot%\SYSTEM32\Drivers\ETC folder and go to the end of the file.
 - b. Add a new line and specify the IP Address of the WEB and the Application Server and its machine name separated by Tab space. Save the file and close it.
- Add the IP address of the WEB Server and RM Server in LMHosts file of the APP Server
 - a. Open the LMHOSTS (without extension) file available under %systemroot%\SYSTEM32\Drivers\ETC folder and go to the end of the file.
 - b. Add a new line and type the IP address (of the WEB server name and the RM Server) and the WEB and RM server machine names separated by the tab space and save the file.
- Add the WEB Server IP, Application Server IP and the RM Server IP Addresses in the HOSTS file of the APP Server
 - a. Open the HOSTS (without extension) file available under %systemroot%\SYSTEM32\Drivers\ETC folder and go to the end of the file.
 - b. Add a new line and specify the IP Address of the WEB, Application and the RM Server and its machine name separated by Tab space. Save the file and close it.
- ✤ Add the IP address of the Application Server in LMHosts file of the RM Server
 - a. Open the LMHOSTS (without extension) file available under %systemroot%\SYSTEM32\Drivers\ETC folder and go to the end of the file.
 - b. Add a new line and type the IP address of the App server name and the Application server machine names separated by the tab space, save the file and close it.
- Add the Application Server IP and the RM Server IP Addresses in the HOSTS file of the RM Server
 - a. Open the HOSTS (without extension) file available under %systemroot%\SYSTEM32\Drivers\ETC folder and go to the end of the file.



b. Add a new line and specify the IP Address of the Application and RM Server and its machine name separated by Tab space. Save the file and close it.

Once all the above settings are completed, restart the WEB, Application and the RM Server. Make sure all the necessary services are restarted.

Refer attachment given below:

Hosts File Table:

📕 hosts - Notepad File Edit Format View Help # Copyright (c) 1993-2009 Microsoft Corp. # This is a sample HOSTS file used by Microsoft TCP/IP for Windows. # # This file contains the mappings of IP addresses to host names. Each # entry should be kept on an individual line. The IP address should # be placed in the first column followed by the corresponding host name. # The IP address and the host name should be separated by at least one # space. Additionally, comments (such as these) may be inserted on individual lines or following the machine name denoted by a '#' symbol. ## # # For example: # 102.54.94.97 38.25.63.10 # source server
x client host ## rhino.acme.com x.acme.com localhost name resolution is handled within DNS itself. # 127.0.0.1 localhost localhost 172.16.2.19 AMDEN2K8RAMAPP1 172.16.2.20 amden2k8ramweb1 172.16.2.16 amdenvmsqlsbx



LMHosts File Table:

Imhosts - Notepad File Edit Format View Help The #BEGIN_ and #END_ALTERNATE keywords allow multiple #INCLUDE statements to be grouped together. Any single successful include will cause the group to succeed. # # Finally, non-printing characters can be embedded in mappings by # first surrounding the NetBIOS name in guotations, then using the # ∖0xnn notation to specify a hex value for a non-printing character. # # The following example illustrates all of these extensions: #PRE #DOM:networking #net group's DC 4" #special app server #PRE #source server #PRE #needed for the include 102.54.94.97 102.54.94.102 102.54.94.123 rhino #P "appname \0x14" # # popular # 102.54.94.117 localsrv # #BEGIN_ALTERNATE #INCLUDE \\localsrv\public\lmhosts
#INCLUDE \\rhino\public\lmhosts #END_ALTERNATE # In the above example, the "appname" server contains a special # character in its name, the "popular" and "localsrv" server names are # preloaded, and the "rhino" server name is specified so it can be used # to later #INCLUDE a centrally maintained lmhosts file if the "localsrv" # conterm is upavailable # system is unavailable. # Note that the whole file is parsed including comments on each lookup, # so keeping the number of comments to a minimum will improve performance. # Therefore it is not advisable to simply add lmhosts file entries onto the # end of this file. 172.16.2.19 AMDEN2K8RAMAPP1 172.16.2.20 amden2k8ramweb1 172.16.2.16 amdenvmsqlsbx

1.1

3. Enabling VirtualWorksTM Runtime specific ports in Firewall

In case firewall needs to be set between WEB/APP/Database layers, open the following ports Bi-Directionally in the Firewall between the immediate source and the destination servers

For VirtualWorks[™] .Net Runtime, following ports are mandatory:

Service Name	Port No.	Direction
Internet Information	Default Port 80 (If this is changed in	Bi-Directional – Between
Services (IIS)	IIS, then the modified port should be enabled in Firewall)	WEB and APP Servers.
VWSocketServer	Whichever port is specified while generating WEBConfig and APPConfig DLLs through ConfigGenerator	Bi-Directional – Between WEB and APP Servers.
Ramco Daemon Service (proprietary to VirtualWorks [™])	Default Port 1306 (Configurable through RDE Configuration)	Bi-Directional – Between the server on which Daemon Engine is configured and Database Server.
MS SQL Server	Default Port 1433, 1434 (Can be changed at the time of installation of MS SQL Server)	Bi-Directional – Between APP and Database Server.
MSDTC	This service uses 135 as a mandatory port and also another port for communication between APP and RM Layer. The second port is dynamic and can vary between the entire allowable TCP port ranges. This port range can be restricted manually through COM. Contact Runtime Support team on how to configure manual port ranges.	Bi-Directional – Between APP and Database Server.
Net.TCP, Net.Pipe (Services running on APP Server)	Ports – 807 and 808 (This is required only if Communicator Type is set to 1 in WEB.Config file in WEB Server under\VirtualWorks\IIS).	Bi-Directional – Between WEB and APP Servers.

- End of Document -

Corporate Office and R&D Center

Ramco Systems Limited, 64, Sardar Patel Road, Taramani , Chennai – 600 113, India Office + 91 44 2235 4510 / 3090 4000 Fax +91 44 2235 2884 Website - www.ramco.com