Basic SYSRPC Functions

This section provides instructions for starting and terminating the SYSRPC utility and describes the main features and functions provided by the utility.

- Invoking SYSRPC
- Terminating SYSRPC
- Service Directory Tree
- Menu Bar
- Toolbar
- Context Menu

Invoking SYSRPC

- To invoke the SYSRPC utility
 - 1. From the library workspace in the Natural Studio tree view, select a library.
 - 2. From the Tools menu, choose Configuration Tools and Remote Procedure Call.

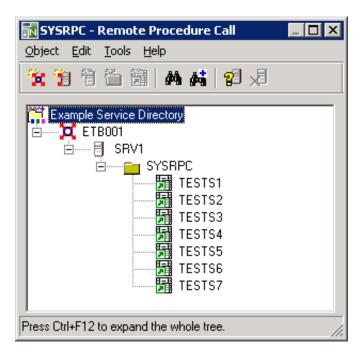
Or:

In the Command line, enter the following command:

SYSRPC

The **SYSRPC** - **Remote Procedure Call** window appears and displays the service directory tree view for the library specified. This is indicated in the name of the directory root node: **Service Directory** [*library-name*].

When you invoke SYSRPC for the first time for a library, as shown in the example below, the tree view contains example (dummy) data. The name of the service directory root node is **Example** Service Directory which will change to Service Directory [library-name] when you use the Save or Save As function (see *Menu Bar* below), regardless of any tree view modifications. For a list of possible root names, see *Root Node Names* in the section Service Directory Maintenance.



The menus and toolbar buttons in the **SYSRPC - Remote Procedure Call** window provide all functions required to maintain a service directory, generate stub subprograms (interface objects) and execute server commands.

Terminating SYSRPC

- To terminate the SYSRPC utility
 - In the SYSRPC Remote Procedure Call window, from the Object menu, choose Exit.

Or:

Choose ALT+F4.

Or:

Choose the standard Windows close function.

If a window appears with a message saying that subprogram NATCLTGS is missing (needed at runtime), choose **Yes** to confirm the generation of NATCLTGS, or choose **No** to cancel the operation.

Service Directory Tree

The tree view in the **SYSRPC - Remote Procedure Call** window displays all items (tree nodes) required for service directory maintenance. For explanations of the tree nodes, see *Tree Nodes* in *Service Directory Maintenance*. For explanations of the tree node hierarchy, see *Service Directory Concept* in *Service Directory Maintenance*.

Do not confuse a tree node of the service directory with the node to which an RPC connection is established (see *Natural RPC Terminology* in the *Natural Remote Procedure Call* documentation).

Menu Bar Basic SYSRPC Functions

You can manipulate the tree nodes by using the functions provided with the menu bar, the toolbar and the context menu described below.

You can expand or collapse tree nodes by choosing the toggle \boxplus (expand) or the toggle \boxminus (collapse) in front of a tree node. Alternatively, you can choose the ARROW keys. Double-click on an expandable tree node to display all subordinate items.

To expand all nodes of a tree

• In the SYSRPC - Remote Procedure Call window, select the root node and choose Expand Tree from the context menu.

Or:

Choose CTRL+F12.

Menu Bar

The menus, menu items and equivalent shortcut keys (if available) provided to execute SYSRPC functions are described in the following section.

Menu	Menu Item and Shortcut	Explanation			
Object	Open	Opens a service directory:			
		From the Type drop-down list box, select the type of service directory (defa is SERVDIRX or NATCLTGS) and, if required, in the Library text box, replace the name of the library (default is the current library).			
		The non-modifiable text box underneath Library displays the database ID (DBID), the file number (FNR) and the type of Natural file (FNAT = system, FUSER = user) for the library specified.			
	Save CTRL+S	Saves the service directory in the current library.			
	Save As	Saves the service directory in another library.			
	Properties	Invokes the Properties of Service Directory dialog box. It provides information on the generation of the service directory:			
		Object The name of the service directory.		<i>i</i> .	
		Generated by	The name of the Natural utility.		
		Environment If the directory was generated in a local er value local is displayed. Otherwise, the server is displayed. Library The name of the library in which the servi generated.			
				the service directory was	
		User	The ID of the user who generated	I the service directory.	
		Time stamp	The date and the time at which the modified.	e service directory was last	
		Tree view nodes	The number of tree nodes include node.	ng the service directory root	
		Expiration time	The remote directory data is load expiration time in seconds determ of this data. If directory data is re time set, it will automatically be time is set to 0, the remote direct reloaded.	nines the period of validity quested after the expiration reloaded. If the expiration	
	Exit CTRL+F4	Terminates SYS	Terminates SYSRPC.		
Edit	New Item	Creates a new tree node item. Depending on the tree node selected, you have the following choices:			
		Node Corresponding toolbar button Logical Service (EntireX) Corresponding toolbar button		onding toolbar button: 🎉	
				onding toolbar button:	
		RPC Server		onding toolbar button: 📋	
		Library		onding toolbar button: 🛅	
		Service (Subprogram) Corresponding toolbar button:		onding toolbar button:	
		See also the section Natural RPC Terminology in the Natural Remote Procedure Call (RPC) documentation and Location Transparency in the section Service Directory Maintenance for explanations of relevant expressions. Modifies the name of a tree node. Removes a tree node. Cuts, copies or pastes a tree node.			
	Rename CTRL+F2				
	Delete				
	Cut CTRL+X				
	Copy CTRL+C				
	Paste CTRL+V				
	Find	Invokes the Fin	l Item window to search for a na	ne:	
	CTRL+F	Find what	Enter an alphanumeric search s	ring of up to 32 characters.	
		Case sensitive	Select this check box to disting		
		lowercase characters. Whole words Select this check box to search for complete character only strings only.			
		Choose OK to start searching and move to the first hit, which is highlighted. Corresponding toolbar button: Searches for additional instances of the search string specified in the Find Item window and moves to the next hit if one exists.			
	Find Next CTRL+F3				
		Corresponding toolbar button:			

Menu	Menu Item and Shortcut	Explanation		
Tools	Ping CTRL+F9	Sends an internal message to verify server connections described in the section Server Command Execution.		
		Corresponding toolbar button:		
Terminate Server		Sends an internal message to terminate server connections as described in the section Server Command Execution.		
	Terminate EntireX Broker Service	Requests termination of an EntireX Broker service as described in the section Server Command Execution.		
	Broker Service	Corresponding toolbar button:		
	Single Stub Generation CTRL+F8	Generates single stub subprograms (interface objects) as described in Generating Single Stubs with Parameter Specification in the section Stub Generation.		
	Stub Mass Calculation CTRL+F5	Performs calculations for size requirements of RPC calls as described in the section Calculating Size Requirements.		
	Stub Mass Generation CTRL+F6	Generates single or multiple stub subprograms (interface objects) online or batch as described in <i>Using the Stub Mass Generation Function</i> in the section <i>Stub Generation</i> .		
	Stub Generation from IDL CTRL+F7	Generates stub subprograms (interface objects) or parameter data areas (PDAs) from IDL files as described in <i>Generating Stubs or PDAs from IDL Files</i> in the section <i>Stub Generation</i> .		
Help		Displays SYSRPC help text:		
		SYSRPC Utility - Overview Server Command Execution (Ping, Terminate) Expiration Time Logon Option Transport Protocol Location Transparency Service Directory Tree Generating Single Stubs with Parameter Specification Generating Multiple Stubs		
		Generating Stubs or PDAs from IDL Files Calculating Size Requirements		

Toolbar

The toolbar buttons that provide quick access to frequently used SYSRPC functions are described in the following section.

Toolbar Button	Function
K	Adds a new tree node item. See also the corresponding menu: Edit > New Item > Node .
	Adds a new logical service (EntireX) item. See also the corresponding menu: Edit > New Item > Logical Service (EntireX) .
*	Adds a new RPC server item. See also the corresponding menu: Edit > New Item > RPC Server .
*	Adds a new library item. See also the corresponding menu: Edit > New Item > Library .
滑	Adds a new service (subprogram) item. See also the corresponding menu: Edit > New Item > Service (Subprogram).
<i>8</i> 4	Finds a character string. See also the corresponding menu: Edit > Find .
å•å	Finds the next character string. See also the corresponding menu Edit > Find Next .
2	Pings RPC servers. See also the corresponding menu: Edit > Ping .
×I	Terminates an EntireX Broker service. See also the corresponding menu: Edit > Terminate EntireX Broker Service .

Basic SYSRPC Functions Context Menu

Context Menu

The context menu provides alternative ways of executing the commands and functions provided by the menus and the toolbar in the **SYSRPC - Remote Procedure Call** window.

In addition, the context menu provides the following:

- the command **Expand Tree** (described earlier in *Service Directory Tree*),
- the **Logon Option** (see *Service Directory Maintenance*) and
- the option to specify the **Transport Protocol** (see *Service Directory Maintenance*).