

Purpose:

SDE DB Explore is designed for the Service Desk Express administrator to aid in the development and testing of business rules, reports and general exploration of the Service Desk Express database.

Features:

- Browse the tables and fields of the database showing all the field data types and sizes without stopping the application server.
- Display the module list by view name or display name with tool tips showing the underlying table name, sequence, module and display names. Just hover the mouse pointer over the module in the tree.
- Module tree shows related modules and their relation types.
- Field list shows sequence, field name, display name, underlying table column name, data type, size and much more information.
- Field list can be sorted by any column in ascending or descending direction.
- Select statements can be created using simple drag and drop from the module tree and field list.
- Select statement results window can be independently customised using style sheets for screen display or printing output. (Style sheets are supplied but can be customised easily)
- Easily set many documented and undocumented features in the SDE system.
- View all active processes in the system making it easy to shut down the application servers in preparation for use of DB Admin.
- View the job queue.
- Examine the contents of the job queue showing the transaction and current data for prequeue entries and the resolved conditions and actions for postqueue entries. See exactly what data the business rules engine is working with to help troubleshoot business rules failures.
- Use the powerful MATH statement builder to develop and test MATH statements then copy and paste the completed statement into either CSBR or Business Rules conditions or actions.



SDE DB Explore for BMC Service Desk Express 9



Installation

SDE DB Explore is installed using the supplied setup program. Follow the prompts from the install wizard.

Executing SDE DB Explore

Execute SDE DB Explore by selecting it from the Start menu. It can be found under
Program Files\SDE Tools\SDE DB Explore

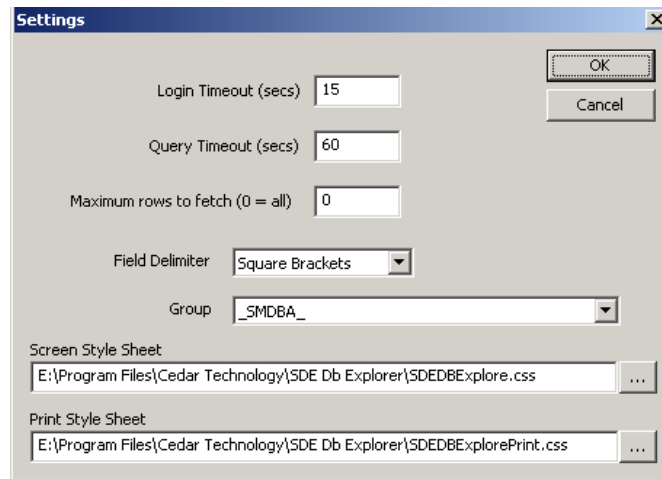
The first time the program is run it will prompt for either Oracle or SQL Server database connectivity. Use the radio button to select your database engine then check the check box to bypass this selection in future invocations.

Select an ODBC data source that is configured to connect to your SDE database. You can create a new data source directly from the data source manager by clicking the *New* button. You can create any sort of data source, file, system or user, but the data source must specify the server and database. You can use integrated authentication if you have sufficient privileges on the database server. If not using integrated authentication you must supply a user name and password. Use the user name `_SMSYSADMIN_` (note the underscores at either end) and supply the system admin password. You cannot make changes to the data in the SDE database using SDE DB Explore so don't worry about being logged in as `_SMSYSADMIN_`. This is needed to allow SDE DB Explore to access the tables containing the module and field definitions.

Once SDE DB Explore has successfully logged in to the database you will be presented with a window divided into four panes. You can resize these panes to suit your monitor and the program will *remember* the size and position of the panes for the next time you run the program.

Settings

To start off you should set the *settings*. These are set using a dialogue invoked by selecting *settings* from the *view* menu item.



The screenshot shows a 'Settings' dialog box with the following fields and controls:

- Login Timeout (secs): 15
- Query Timeout (secs): 60
- Maximum rows to fetch (0 = all): 0
- Field Delimiter: Square Brackets (dropdown menu)
- Group: _SMDBA_ (dropdown menu)
- Screen Style Sheet: E:\Program Files\Cedar Technology\SDE Db Explorer\SDEDBExplore.css (with browse button)
- Print Style Sheet: E:\Program Files\Cedar Technology\SDE Db Explorer\SDEDBExplorePrint.css (with browse button)
- Buttons: OK, Cancel

Login Timeout can be increased if you find that the server does not respond reliably in 15 seconds. This should not normally be necessary.

Query timeout can be increased if you need to execute queries that might take longer than 60 seconds to return the first row of data.

Maximum rows to fetch should be set to a number greater than 0 to limit the result sets of queries you execute. For testing out new queries 100 is a good value giving a reasonable size set without the risk of bringing enormous amounts of data back from the server.

Field Delimiter can be either square brackets or double quotes. This delimiter is used around table, view and field when creating statements using drag and drop or cut and paste from the module tree or field list.

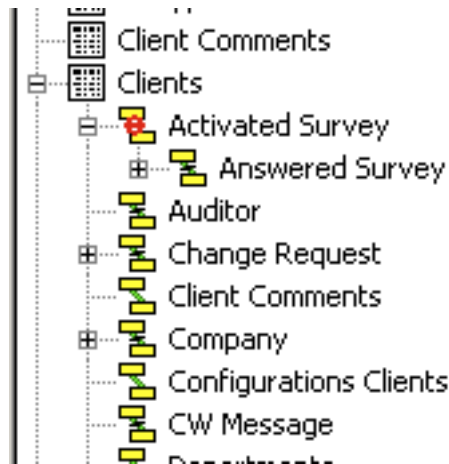
Group should be set to the group that owns the views you use when creating select statements.

Screen Style Sheet identifies the style sheet used when rendering business rules and select statement results to the screen. You can specify your own style sheet file here. If you wish to customise the supplied style sheet it is recommended that you copy it to a new file then reference this new file here rather than change the actual file supplied.

Print Style Sheet identifies the style sheet used when rendering business rules and select statement results to a printer. You can specify your own style sheet file here. If you wish to customise the supplied style sheet it is recommended that you copy it to a new file then reference this new file here rather than change the actual file supplied.

Windows

Module Tree



The Module Tree shows all the modules in the Service Desk Express database in alphabetical order. They are listed either by view name or display name based on the setting of the View/Modules by Display Name menu option. When checked the modules are listed with their display names which can be more useful in later versions where modules have been renamed to conform more closely to the ITIL recommendations. Whichever way the modules are displayed, you can quickly see all the relevant information by letting the mouse cursor hover over the module name. A tool tip will appear giving the sequence number, base table name, module or display name, and any foreign key information.

Expanding a module by clicking the small + symbol alongside its icon will show all the other modules in the system which possess foreign keys to the module selected. The icon adjacent to these modules shows the type of relationship. In the screen shot above we can see that there are several modules with foreign keys to Client.

- Activated Survey has a Restrict link. You cannot delete a client if there is an activated survey that references it.
- Auditor has a Set Null link. If you delete a client which is referenced by an auditor entry, the auditor module's foreign key will be set to null and the auditor row will effectively be orphaned from the client module.
- Client Comments has a Cascade link. If you delete a client which is referenced by one or more Client Comments, the related client comments will also be deleted.

Field List

When you select a module in the Module Tree, the Filed List will be populated with a list of all the fields in the module.

	Seq...	View Column Na...	Column Display N...	Table Column Name	Field Type	Database ...	Database...	Database De...	SDE ...	SDE Default
Departments	1	Sequence	Sequence	SEQUENCE	Real (NOT NULL)	int	4		N	
Enail Conversation	2	LastModified	LastModified	LASTMODIFIED	Real (NOT NULL)	datetime	8	(getdate())	GS	GETDATE()
FAQ	3	LastUser	LastUser	LASTUSER	Real (NULL)	nvarchar	60 (30 chars)	(user_name0)	A	SYSTEM_USER
FAQ Category	4	Code	Code	CODE	Real (NOT NULL,UNIQUE)	nvarchar	60 (30 chars)		U	
FAQ Feedback	5	Location	Location	LOCATION	Real (NULL)	nvarchar	510 (255 chars)		A	
GMT	6	Comments	Comments	COMMENTS	Real (NULL)	ntext	16		A	
Groups	7	CustomPerms	CustomPerms	CUSTOMPERMS	Real (NULL)	int	4		N	
Groups Details	9	InActive:	InActive:	_INACTIVE_:	Real (NOT NULL)	smallint	2	((0))	Y	0
Impact	10	Seq_Survey	Seq_Survey	SEQ_SURVEY	Foreign Key to Survey (SET NULL) (NULL)	int	4		N	
Incident	11	Survey Name	Survey Name	"SEQ_SURVEY"."_SURVEY_", "SURVEY_NAME"	Virtual	nvarchar	60 (30 chars)		U	
Incident Attachments	12	Survey Descr	Survey Descr	"SEQ_SURVEY"."_SURVEY_", "DESCRIPTION"	Virtual	nvarchar	100 (50 chars)		A	
Incident Details	13	Idle Timeout	Idle Timeout	IDLETIMEOUT	Real (NULL)	int	4	((0))	N	0
License Exceeded	14	Seq.Parent	Seq.Parent	SEQ_PARENT	Foreign Key to Groups (STRICT) (NULL)	int	4		N	
Mail Listen	15	Parent Group Name	Parent Group Name	"SEQ_PARENT"."_GROUPS_", "CODE"	Virtual	nvarchar	60 (30 chars)		U	
MAPI Email	16	Can Switch Dashboard	Can Switch Dashboard	CANSWITCHDASHBOARD	Real (NOT NULL)	smallint	2	((1))	Y	0
Module	17	Edit Dashboard Rights	Edit Dashboard Rights	EDITDASHBOARDRIGHTS	Real (NOT NULL)	smallint	2	((1))	Y	0
NesSend	18	Seq.Dashboard	Seq.Dashboard	SEQ_DASHBOARD	Foreign Key to Dashboard (SET NULL) (NULL)	int	4		N	

The field list can be sorted by any column by simply clicking the header for the column. Clicking the header a second time will sort it in the opposite direction. You can easily find the actual view field name or underlying base table field name and details from the display name by simply sorting on display name and locating the field then looking at the other columns in the same row for the other relevant information.

You can print the field list by selectint the window and the selecting File / Print from the menu.

Query Editor

The query editor can be used to create select statements and execute them against the Service Desk Express database. You can use the canned queries available from the module tree, use drag and drop from the module and field list windows or simply type the command manually.

Execute the command by clicking the green arrow icon on the tool bar. If a section of the command is highlighted when the command is executed, only the highlighted potion is sent to the server. This way you can prepare several statements in the editor window and select the one you wih to execute before pressing the button.

You can save the contents of the query window to a file by selecting File / Save from the menu.

File / Open from the menu will load a previously saved query from a file.

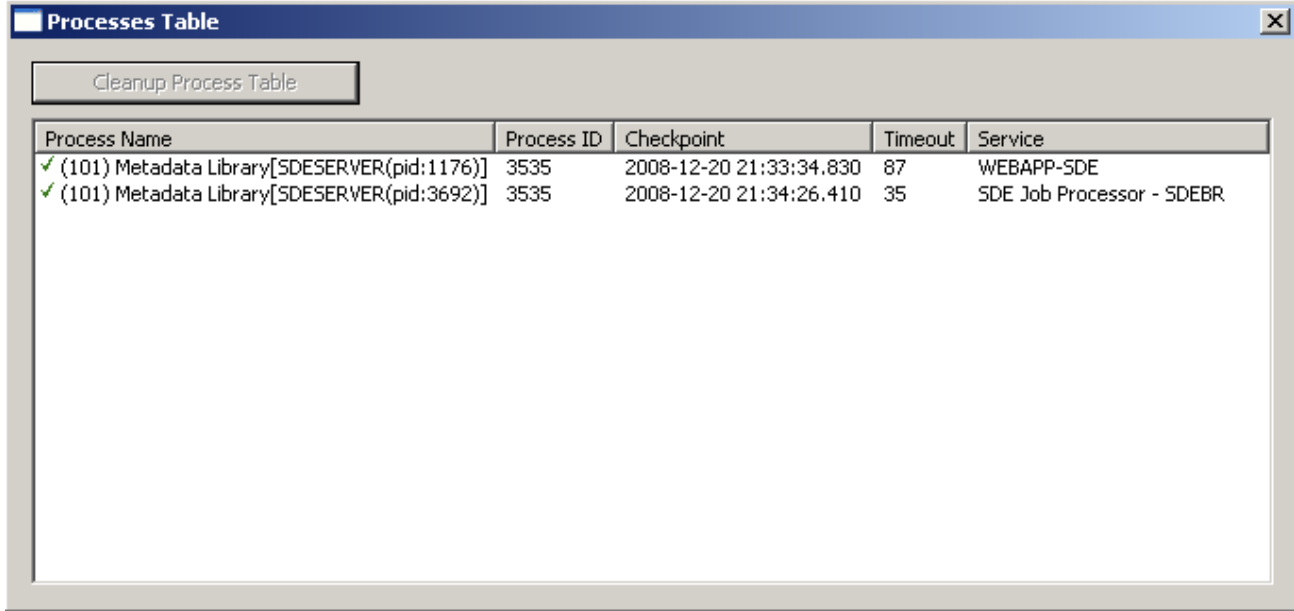
Query Results

The query results window is an HTML view arranged as a table. The formatting is driven by the cascading style sheets referenced in the set-up dialogue. These can be altered to suit your own requirements or tastes.

The query results can be printed or exported to a file in various formats.

Active Processes

The Active Processes window can be opened by selecting Active Process List from the View menu.



Process Name	Process ID	Checkpoint	Timeout	Service
✓ (101) Metadata Library[SDESERVER(pid:1176)]	3535	2008-12-20 21:33:34.830	87	WEBAPP-SDE
✓ (101) Metadata Library[SDESERVER(pid:3692)]	3535	2008-12-20 21:34:26.410	35	SDE Job Processor - SDEBR

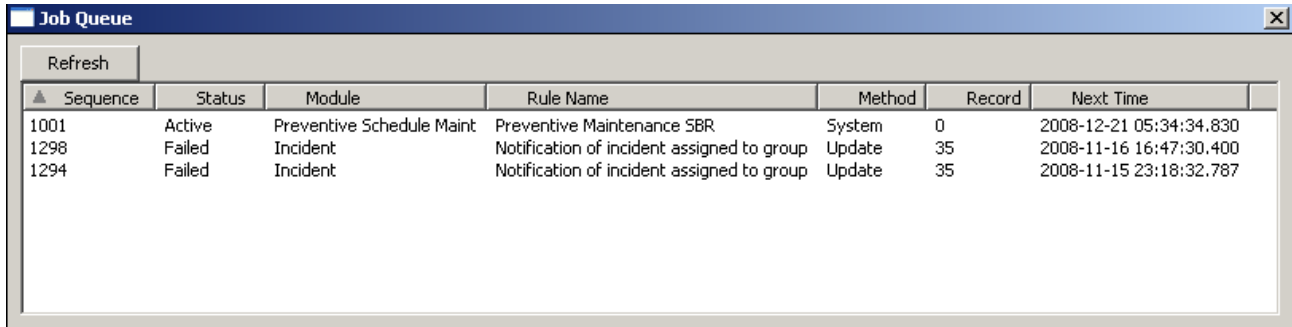
Active processes reset their time-out every 90 seconds. You can easily identify the process from the information provided in this list. When you reset IIS to stop the application server the process entries will eventually time out beyond 90 seconds at which point the green check marks will change to red Xs. Only when all green check marks have disappeared can the DB Admin tool be started.

It is not safe to manually delete entries in the SMYSYPROCESS unless the process time out has passed 90 seconds.

Pressing the Cleanup Process Table button at any time will remove any entries that have timed out although it is not strictly necessary to do so as DB Admin will do this when it connects.

Job Queue

The Job Queue window is accessed by selecting Job Queue from the View menu.



Sequence	Status	Module	Rule Name	Method	Record	Next Time
1001	Active	Preventive Schedule Maint	Preventive Maintenance SBR	System	0	2008-12-21 05:34:34.830
1298	Failed	Incident	Notification of incident assigned to group	Update	35	2008-11-16 16:47:30.400
1294	Failed	Incident	Notification of incident assigned to group	Update	35	2008-11-15 23:18:32.787

Double click any entry to see the details for that entry. Either the System or Rule window will open and display the contents of the job entry.

System Job Details

In the System state the job queue entry has not been evaluated to find any relevant business rules that may be fired. The initial entry into the job queue simply records the module and transaction type and the contents of the transaction and current data sets. The current data set contains only the underlying table fields that are not null but the business rules engine will resolve any virtual fields from the stored foreign keys at execution time. The transaction data only contains fields either on the form if the transaction is the result of a user interface action, or only those fields specified in the business rule that resulted in the transaction. One of the most common problems with business rules failing is the assumption that a value is present in the transaction data set when in fact it is not. To be able to examine the System entries and establish exactly what data is presented to the business rules engine you can slow the engine down so you have a chance to view the data in the System entries before they are processed.

The format of this window is controlled by the cascading style sheets listed in the set-up dialogue and it can be printed by Right Clicking the window and selecting Print from the context menu.

Rule Job Details

Once a System entry is evaluated against the conditions of all the relevant business rules it will be converted to a Rule entry for ever rule where the conditions evaluate to true.

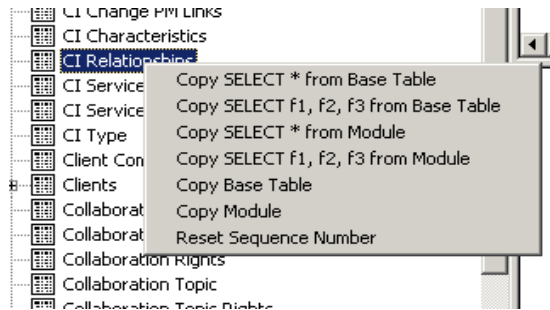
The entry for this state contains data conditions and actions. This window will show this data in a easy to read format so you can see exactly what is being used in processing the rule.

The format of this window is controlled by the cascading style sheets listed in the set-up dialogue and it can be printed by Right Clicking the window and selecting Print from the context menu.

Querying the Service Desk Express Database

Creating and Executing Queries

You can create queries in the centre right window and run them against the database displaying the results in the bottom right window. Right click on a module and you will get a popup menu with options to create canned queries. These are copied to the clipboard and can be pasted into the query window using the CTRL V keyboard sequence or the paste option from the right click context menu for the query window.



Using this menu you can create many select statements in addition to copying the module or table names to the clipboard.

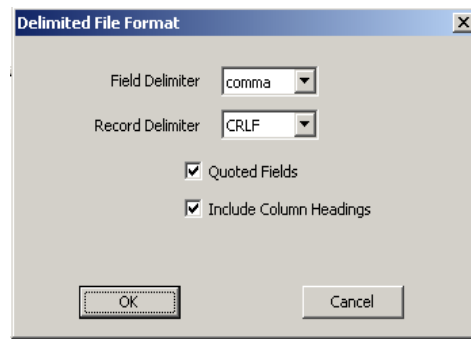
Printing query results

To print the results of a query you can either select print from the right click (context) menu for the query results window or click anywhere in the window to select it and then select Print from the File menu.

Exporting query results

To export the results of a query, click once anywhere in the query results window to select it then select Export from the File menu. You will be asked to provide a file name and location to save the export to. You can pick from CSV, TXT or XML file types or specify any file extension you like. If you pick a file name with an XML extension SDE DB Explore will export the result set in XML format. There are no further options to pick for XML format output and the file will be saved as specified.

If you pick any other file extension a dialog box will appear to allow you to specify information about how to format the file.



Field Delimiter is the character used to separate each field. You can select either comma or tab characters to delimit fields.

Record Delimiter is the character or character sequence used to separate rows of information. You can select CR, CRLF or LF. Microsoft environments normally use the CRLF sequence.

Quoted Fields check box. When checked the field contents will be enclosed within double quote characters. Always specify this if there is a possibility of the field or record delimiters being legitimate characters in one or more fields. If checked, any double quote characters found in the field data will be doubled i.e. [He said "Hello".] will become ["He said ""Hello""."].

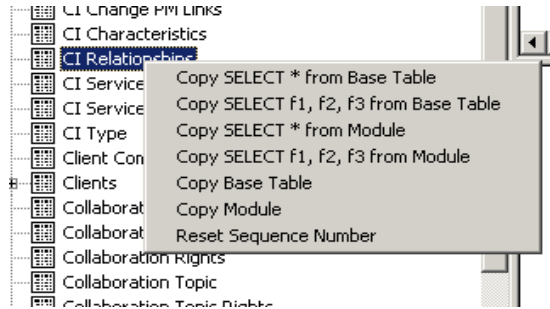
Include Column Headings check box. When checked, the first row of data in the export file will be the column headings of the query. If not checked the first row will be the first row of returned data and no column heading information will be recorded.

Drag and Drop

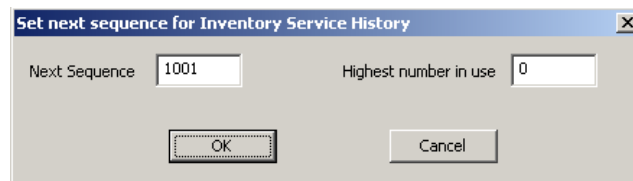
The module tree and field list windows work as drag and drop sources to make query building fast and simple. You can even drag items out of the application and drop them into other applications including business rules expression builder windows. Dragging with the left mouse button will drag the module (view) name from the module tree or the module field name from the field list. Dragging with the right mouse button will drag the base table from the module tree or the base table field from the field list. You cannot right drag a virtual field because these do not exist in the base table.

When dragging a module name from the module tree the module name will be automatically prefixed by the group name listed in the settings dialogue. You can select any primary group in the settings dialogue and this will then be used whenever you drag module names.

Setting the Module Next Sequence Number

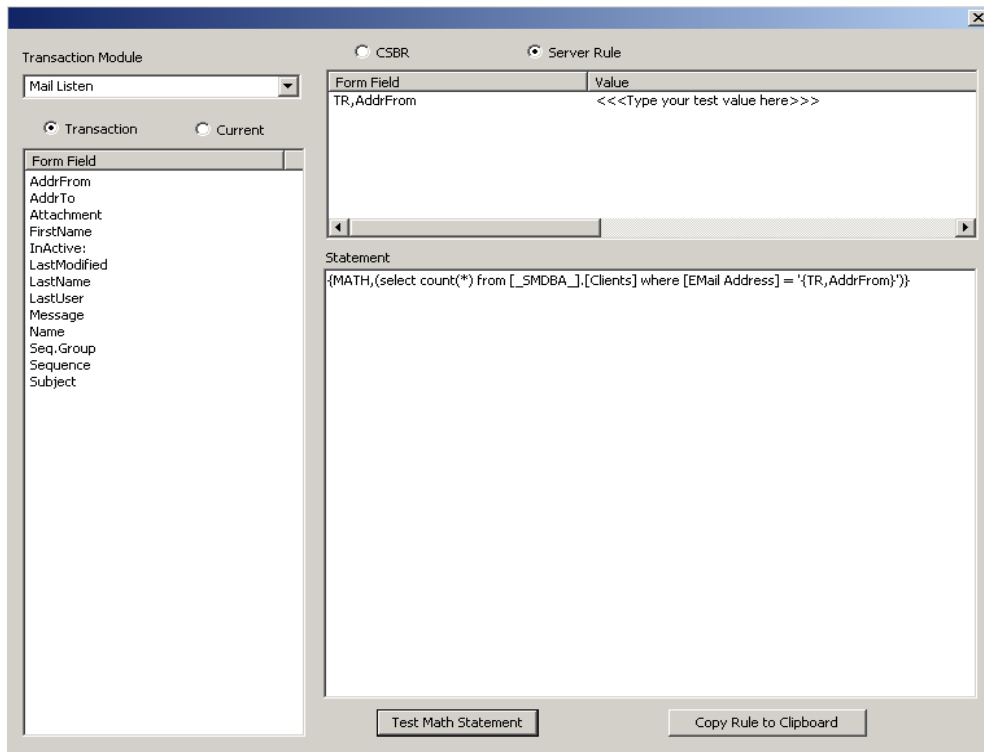


The last option on the module context (right click) menu allows you to change the next sequence number for the selected module.



Math Builder

Access to the Math Builder window is from the Math Statement Builder option of the View menu. The Math Builder allows you to build and test complex MATH statements to be used in both client and server side business rules.



First, select the module that provides the transaction and current values for the rule and use the radio buttons to select CSBR or Server Rule.

Now you can build your statement inside the parentheses using drag and drop from the module tree and field list or typing any valid SQL. You can drop either transaction or current fields into the statement by selecting the appropriate radio button for transaction or current data then dragging the field from the field list in the Math Statement Builder and dropping it into the statement directly.

For every unique field added an entry is placed in the table above the statement window. The name of the field is shown in the left column and you can place a test value in the right hand column. This data is used to test the statement when the Test Math Statement button is pressed.

When you are satisfied with the statement, you can click the Copy Rule to Clipboard button to place the complete rule on the clipboard then simply paste it into the expression builder window in Service Desk Express.



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