Entuity® 14.0
Entuity Integration Module for
BMC® Remedy Action Request System 1.1

Entuity Integration Module for BMC Remedy Action Request System maximizes the accuracy and minimizes the effort necessary to create service processes in the BMC Remedy AR System. Entuity's extensive IT infrastructure details are also linked to opened action requests to improve overall service resolution.
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1 Entuity Integration for BMC Remedy AR System

The Entuity Integration for BMC® Remedy AR System automates the workflow of generating Action Requests (ARs) from within Entuity’s management system. An AR can be generated after a fault or troublesome event by any IT infrastructure assets under management by Entuity. Additionally, an administrator can raise a non-specific AR, or identify a network object (or set of objects) and generate an AR for specific action against those devices. This allows IT staff to identify, coordinate, schedule, address, and track resources required to maintain the network, and feeds to MTTR and MTBF analysis.

Action Requests generated from Entuity are used in the AR System for normal action request processing and assignment. To provide supporting information to an action request, the Entuity management console can be directly invoked from within an AR, allowing network administrators to access all of the real-time and historical event information stored in Entuity. More specifically, the Entuity AR System Integration enables:

- automatic generation of ARs, derived from Entuity events, to particular application forms on target AR System servers
- interactive generation of ARs, initiated from Entuity. The specified application forms on target AR System servers are opened for editing, with default data populated from the current Entuity managed object.
- AR System-invoked Entuity Lookup: context-sensitive invocation of the Entuity Component Viewer from an AR System form. Entuity passes to the AR System a URL identifying the managed object that is the source of the AR.

![Figure 1-1 Entuity Integration for BMC® Remedy AR System Overview](image-url)
This guide documents the default integration which allows you to install the sample integration implementation to work with Remedy AR System 7.0, using the AR System Service Desk application.

For the default integration Entuity forwards information on two types of managed objects, devices and ports. Entuity can also pass to AR System a URL identifying the managed object that is the source of the AR. From an AR System you can open Entuity’s Component Viewer with the focus on the managed object.

Contact Entuity support for how Entuity Integration for BMC® Remedy AR System can work with:

- Multiple Remedy AR system servers, including working with different Remedy versions.
- Forms in applications other than the AR System Help Desk/System Service Desk application.

BMC Remedy AR System Management

BMC Remedy Action Request System (AR System) is a framework within which applications are built by AR System administrators. Applications consist of a set of AR System forms that are linked using workflow rules designed for the application. These forms contain fields which Entuity can be configured to populate.

AR System users access applications according to permissions that are set against users and groups. Information forwarded by Entuity conforms to this permissioning model.

The Entuity Integration for BMC® Remedy AR System integration allows Entuity to map its data through configuration files to the required AR System formats, forms and applications.

Entuity Integration for BMC® Remedy AR System

Entuity Integration for BMC® Remedy AR System requires a valid license and inclusion of configuration files to Entuity. The default installation allows interactive AR generation, automatic AR generation requires additional configuration.

Module Availability

The Entuity Integration for BMC® Remedy AR System is available with Entuity (for details on Entuity’s technical specification see the Entuity Getting Started Guide).

Entuity Integration for BMC® Remedy AR System is approved for use with:

- Remedy AR System 8.1.
- Remedy AR System 7.0 including Remedy Mid Tier 7.0.

Module Security

Entuity access permissions are granted based on that view membership according to the standard Entuity security model. To access the Advanced Action menus from the Entuity client the user account requires the Remedy tool permission. With automatic AR generation
the user account defined in remedyforkevent.cfg must have access to the Entuity view used with automatic AR generation.

Entuity Integration for BMC® Remedy AR System requires Remedy user accounts to access the AR System server and midtier, and also to raise and view ARs. Remedy user account details are held in the arhelpdsk_server.cfg, arhelpdsk70.cfg and arhelpdsk70_global.cfg files.

Required Linux Red Hat 6 Packages

When running this integration on Linux Red Hat 6 Entuity there are four required packages, see Table 1-1 Additional Packages Required with Entuity BMC Integrations.

<table>
<thead>
<tr>
<th>Linux Red Hat 6 Packages Required with BMC Integrations</th>
</tr>
</thead>
<tbody>
<tr>
<td>compat-libstdc++-33.i686 glibc.i686 nss-softokn-freebl.i686 libgcc.i686</td>
</tr>
</tbody>
</table>

Table 1-1 Additional Packages Required with Entuity BMC Integrations

To check if a package is installed, from the server command line you can use the RPM Package Manager (RPM). For example to check if the package glibc.i686 is installed, from the server command line enter:

```
rpm -q glibc.i686
```

When the package is:

- Not installed RPM returns:
  
  glibc.i686 is not installed

- Installed RPM returns details, for example:
  
  glibc-2.12-1.80.el6_3.6.i686

You can also check all of the packages through one instruction:

```
for i in libgcc.i686 glibc.i686 nss-softokn-freebl.i686 compat-libstdc++-33.i686; do rpm -q $i ;done
```

You should consult the Red Hat documentation before installing the missing required packages.

You must install any missing packages to the server before using the integration; your system should be registered with Red Hat Network Classic and be setup to receive software updates.

You can use the command line package utility Yellowdog Updater, Modified (YUM) to install missing packages. You can install all packages through one instruction:

```
yum install libgcc.i686 glibc.i686 nss-softokn-freebl.i686 compat-libstdc++-33.i686
```
Interactive AR Generation Overview

You can manually generate ARs from within Entuity using the Advanced Actions available from the menu bar and context menus. These menus are available from Event Viewer, Component Viewer and the Find Tool.

Interactive generation of ARs is implemented using AR System API calls from within the Entuity server to populate an AR System form. This allows the Entuity user to open ARs related to a one-off event or specific object in the context of whatever item is highlighted when the menu item is invoked.

The display of an AR System form during interactive generation of ARs relies on connecting to an AR System server through the Remedy Mid Tier.

Overview of the interactive AR generation process:

1) From Entuity’s client AR System menus are available, either from a context menu which only displays menu options for the active object, or from the Menu bar which allows the raising of a global incident independent of an Entuity context.

2) `arforward` converts the Entuity data to the format required by the target AR System form and forwards it to the appropriate AR System server.

Automatic AR Generation Overview

By editing Entuity Integration for BMC® Remedy AR System configuration files, you can configure Entuity to automatically generate ARs on an AR System server when Entuity raises events in a specified view.
Entuity recommend that you create a view for use by the AR integration. For the AR view set appropriate event and object filters, as by default every event raised in this view triggers the automatic generation of an AR ticket.

When Entuity raises an event in the AR view:

1) Event management process forwards the event to **forkevent** *(when forkevent starts it registers itself as a client of the process, using the details in the connect section of its configuration file).*

2) **forkevent** structures the information and by default passes event information to **EventActionApplication**.

   **EventActionApplication** uses any menu definitions that specify the RemedyForkEvent application to decide what additional information should be extracted from Entuity’s database.

3) **EventActionApplication** combines the event data sent by **forkevent** and the Entuity data retrieved as specified in the menu definition and invokes the **arforward** action, that was specified in the menu definition with the combined information as command line input.

4) **arforward** converts the Entuity information received in its command line input to the format required by the target AR System form and forwards it to the appropriate AR System server.

You can set an additional event filter, through **sw_remedy_menu_def.cgl**, to allow only certain events in a view to automatically trigger AR generation.

---

**Figure 1-3   Automatic AR Generation Architecture**
2 Configuring the Integration

Entuity Integration for BMC® Remedy AR System is supplied with a sample application. The degree to which the sample application meets your requirements determines how involved is the configuration process.

Entuity Integration Configuration Files

Configuration of the Entuity Integration for BMC® Remedy AR System integration is through application of configuration files and the subsequent running of `configure`. You can also edit the configuration files to customize the sample integration.

<table>
<thead>
<tr>
<th>Filename</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>arhelpdsk.cfg</td>
<td><code>arforward</code> Configuration, maps the extracted Entuity data to the target AR forms. It is used when AR generation is called within a context, e.g. an event or object is selected in the Entuity client.</td>
</tr>
<tr>
<td>arhelpdsk_global.cfg</td>
<td><code>arforward</code> Configuration, maps the extracted Entuity data to the target AR forms. It is used when AR generation is called without a context, e.g. an event or object is not selected in the Entuity client., the Advanced Action being called from the menu bar.</td>
</tr>
<tr>
<td>arhelpdsk_server.cfg</td>
<td>AR System server connection, details parameters required to connect to the AR System server.</td>
</tr>
<tr>
<td>remedyforkevent.cfg</td>
<td>Event Action Configuration, specifies automatic AR generation through the <code>forkevent</code> process and <code>EventActionApplication</code>.</td>
</tr>
<tr>
<td>RemedyForkEvent.log</td>
<td>Default name of the Remedy forkevent log file.</td>
</tr>
<tr>
<td>RemedyForkEventLoggerConf.xml</td>
<td>Sets the parameters for the Remedy forkevent log file, including name, maximum number of backups, maximum file size, warning level.</td>
</tr>
<tr>
<td>startup_O/S.cfg</td>
<td>A standard Entuity file that defines Entuity processes that should run when the Entuity server is running, This file includes a sample Remedy section.</td>
</tr>
<tr>
<td>startup_O/S_site_specific.cfg</td>
<td>The site specific startup file for Entuity. For automatic AR generation copy the Remedy section from <code>startup_O/S.cfg</code> and set the state to normal.</td>
</tr>
<tr>
<td>sw_remedy_menu_def.cfg</td>
<td>Advanced Actions Configuration, details advanced actions for interactive AR generation and the type of information gathered for both interactive and automatic AR generation. This is applied to the Entuity server.</td>
</tr>
</tbody>
</table>

Table 2-1 Entuity Integration for BMC® Remedy AR System Integration Files

When you edit the configuration files you may want to consider backing them up, or renaming them, to preserve the changes during any subsequent Entuity re-install or upgrade.
Activation of Entuity Integration for BMC® Remedy AR System requires an appropriate license, inclusion of its configuration and the running of Entuity configure.

The Entuity AR System is supplied with a default implementation. Before activating Entuity AR System you should:

1. Start Entuity
2. Rename Configuration Files and References to those Files
3. Stop Entuity
4. Copy to the Entuity server a valid license
5. Run Configure
6. Select Required Remedy Version from Module screen
7. Yes
8. Complete Remedy Integration Details
9. Complete Configure
10. Configure Automatic AR Generation
11. Start Entuity
12. Create Entuity view for Remedy
13. Amend RemedyForkEvent.cfg
14. Amend startup_o/s.cfg
15. Amend User Account Details in arhelpdesk Configuration Files
16. Rename Configuration Files and References to those Files
17. Stop and Restart Entuity
18. Amend User Account Details in arhelpdsk Configuration Files
19. Rename Configuration Files and References to those Files
20. Start Entuity

Figure 2-1  Integration Configuration Process Overview

(see Appendix B - Entuity AR System Installation Files).
ensure you have setup Remedy AR System accounts for use with the integration
add to the Entuity server a license that includes Entuity AR System. By default license.dat is installed to `entuity_home\etc`.
consider renaming, or backing up, configuration files when you have amended the default settings (see Appendix B - Entuity AR System Installation Files)
decide whether you want to run automatic AR generation. You should understand which managed object - event type combinations you want to allow automatic AR generation. You can filter managed object and events through Entuity view filters.

Setting Up Entuity AR System Accounts

Entuity requires access to the AR System. You should set up account(s) that allow access to the AR System server with both submitter and viewer permissions to the integration’s AR forms.

Figure 2-2 Setting Up AR System Account

In Remedy AR System 7.0 an account must be a valid entry in the Peoples form, created through the Application Administration tool, with Assignment Availability and be a member of Support Staff. You can:

- accept the default account used by Entuity, creating it in on your AR System server.
- use different AR System server account(s), which then require you to amend the user account details used by Entuity Integration for BMC® Remedy AR System.

<table>
<thead>
<tr>
<th>Name</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>user</td>
<td>EYEUser</td>
<td>Entered through <code>configure</code>, which writes it to <code>arhelpsdk_server.cfg</code>.</td>
</tr>
<tr>
<td>password</td>
<td>eyeuser</td>
<td>Entered through <code>configure</code>, which writes it to <code>arhelpsdk_server.cfg</code>.</td>
</tr>
<tr>
<td>ARFirstName</td>
<td>EYE</td>
<td>Entered through <code>arhelpdesk70.cfg</code> and <code>arhelpdesk70_global.cfg</code>.</td>
</tr>
<tr>
<td>ARLastName</td>
<td>User</td>
<td>Entered through <code>arhelpdesk70.cfg</code> and <code>arhelpdesk70_global.cfg</code>.</td>
</tr>
</tbody>
</table>

Table 2-2 User Account Information for Remedy AR System 7.0
Configuring Interactive Remedy AR System

Entuity recommend configuring Entuity Integration for BMC® Remedy AR System through `configure`, this allows interactive AR generation from Entuity. When you want to activate automatic AR generation you will have to manually edit the files.

To activate Entuity Integration for BMC® Remedy AR System:

1) Acquire a valid license from your Entuity representative. The new license file should be added to `entuity_home/etc`.

2) Stop the Entuity server.

3) Run Entuity `configure`, and when it is run:
   - as a wizard, from the Module Select page check the appropriate version of Entuity Integration for BMC® Remedy AR System integration
   - from the command line, when prompted enter `yes` to modify the activated modules and again when prompted to activate the Entuity Integration for BMC® Remedy AR System integration.

Figure 2-3 Configuring Interactive AR Generation
4) configure prompts for you to enter:

- **Server**, IP address or resolved name of the Remedy AR server.
- **MidTier**, IP address or resolved name of the Remedy AR MidTier.
- **User**, user name required to access Remedy AR System.
- **Password**, valid user account password (optional).
- **Auth**, authorization level (optional).
- **Port**, port used to communicate with Remedy AR System (optional).
- **Rpc**, set to RPC program number when using a non-administrator server for RPC and 0 when not.
- **Ssl**, set to 1 when using SSL and 0 when not.

![Configure Entuity Remedy AR System](image)

Figure 2-4 Configure Entuity Remedy AR System

5) Complete configure.

6) When using non-default user accounts, enter the account information by amending the **ARFirstName** and **ARLastName** section in **arhelpdedsk.cfg** and **arhelpdsk_global.cfg**.

7) Restart the Entuity server.

Entuity’s discovery process may take a number of hours to discover all of the Remedy advanced actions required for the Entuity Integration for BMC® Remedy AR System integration.
Configuring Automatic AR Generation

Entuity Integration for BMC® Remedy AR System includes the facility for automatic forwarding of events to the AR System and raising of ARs.

![Diagram showing steps:]
1. Open an Entuity client and create the view (e.g. coreRouters) for use with the integration. Take care to include to the view only those object-event type combinations against which you would want automatic AR generation.
   
   By default, all events that are raised in this view cause automatic AR generation.

2. Amend `entuity_home/etc/remedyforkevent.cfg` to permit access to that view on your Entuity server, for example:

   ```
   [connection]
   username=JJones
   view=coreRouters
   ```

   This example forwards all events in the coreRouters view, with access being permitted to forkevent through the defined Entuity user account.

   By default Entuity Integration for BMC® Remedy AR System forwards all events in the defined view. You can apply an additional filter, through `sw_remedy_menu_def.cfg`, which would only forward explicitly detailed events.

3. Amend the startup state of Remedy to normal, to allow forkevent to run automatically each time Entuity starts. In the Entuity startup file (`startup_0/`...
S_site_specific.cfg) amend the Remedy configuration to:

```plaintext
[remedy]
state=normal
type=command
start=${ENTUITY_HOME}\{FPS\}integ{FPS}ForkEvent{FPS}forkevent
  ${ENTUITY_HOME}\{FPS\}etc{FPS}remedyforkevent.cfg pipe_remedy
directory=${LOGDIR}
is_critical=n
```

Entuity Integration for BMC® Remedy AR System logging information is listed in `EventActionApplication.log` file. For more detail set the log level to true in `entuity_home/etc/RemedyForkEventLoggerConf.xml`. This is valid only for the automatic integration.

4) Stop and restart Entuity.
3 Controlling Access to Advanced Actions

Entuity Integration for BMC® Remedy AR System uses Advanced Actions to present the user menus through which you can generate ARs.

Accessing Integration Menus

When Entuity Integration for BMC® Remedy AR System integration is enabled on the Entuity server access to the integration menus is still restricted; by default only members of the Administrators user group have access. Access for other users to these menus is granted through the User Group Tools and Permissions dialog.

To extend access to the integration menus ensure that you are logged into Entuity as a member of the Administrators Group, and then:

1) Click Administration > Account Management.
2) Highlight the group whose tool permissions you want to amend.
3) Select Tools Permissions. Entuity displays the Modify Tools Permission dialog.

Figure 3-1 Modifying Tool Permissions

4) In Menus and Links check the Show Remedy.
5) Press OK to save the tool permissions and exit from the dialog.
4 Interactive Action Request Generation

From Entuity you can manually generate an AR. The default content of the AR depends upon whether the AR was called through:

- A context menu, where Entuity defaults values from the current highlighted object or objects, together with values relating to the Entuity server, AR user and AR form. Specifically, the AR System menu takes as its context in:
  - Event Viewer the highlighted event, or events.
  - Explorer the highlighted object or objects.
  - Map the highlighted object or objects.
  - Search Tool the highlighted result object, or objects.
  - Component Viewer the highlighted object, or objects.
- The Component Viewer menu bar, where Entuity raises a non-specific AR and defaults values relating to the Entuity server, AR user and AR form but not of any managed object or event.

Entuity does not verify whether an AR has already been raised against an event. When unsure you should first check the AR System, or configure Remedy to handle AR deduplication.

![Figure 4-1 Raising Multiple Incidents from a Map](image)

Generating ARs from Event Viewer

The automatic AR generation on the raising of an event can be supplemented with the interactive generation of ARs from Event Viewer, appropriate for when a view does not support automatic AR generation.

To raise ARs for events, from Event Viewer:
1) Highlight the event, or events, and open the context menu.

![Figure 4-2 ARs Raised from Event Viewer](image_url)

2) Select **BMC AR Remedy System** and then the appropriate command:

- **Raise Multiple Incidents**, to raise one AR for each highlighted event.
- **Raise Single Incident**, to raise one AR for all of the highlighted events.

Entuity gathers the requested information and presents it in a AR System form (opened on the same machine as the Entuity client).

3) When necessary complete the AR System form and save it.

On the form open **Notes**, to view details of the event, including the URL that links back to the event source in Component Viewer. When the AR is for more than one event then **Description** details each event in turn.

When accessing the AR System through a browser the event source URL is not available as a hyperlink. To use a URL copy it to a web browser **Address** field.
Generating ARs from the Web UI

From the web UI you can generate ARs wherever you can highlight a managed object, for example from the Explorer tree, maps and the results of a Search.

To forward object details from the Entuity Search tool:

1) From the Search tool’s results panel highlight the object(s) and open the context menu.
2) Click **BMC AR Remedy System** and then the appropriate command:
   - **Raise Multiple Incidents**, to raise one AR for each highlighted object.
   - **Raise Single Incident**, to raise one AR for all of the highlighted objects.

   Entuity gathers the requested information and presents it in a AR System form (opened on the same machine as the Entuity client).
3) When necessary complete the form and save it.

Generating Non-Specific ARs from Component Viewer

You can open an AR from Entuity that does not default to a particular event or managed object. Instead it opens an AR of the type incident that references the Entuity server but requires further details completing.

To open a general purpose AR:

1) From Component Viewer select Advanced Actions > BMC AR Remedy System and then Raise Incident. Entuity gathers the requested information.

2) Entuity delivers the information, through arforward, opening an AR.
Figure 4-6  A General Purpose AR

Generating ARs from Component Viewer

From Component Viewer the AR System menu is accessible through the context menu and the menu bar. The same functionality is available through both access methods.

To forward object details from Component Viewer:

1) Highlight the object(s) and open the context menu.

2) Select **Advanced Actions > BMC AR Remedy System** and then the appropriate command:

- **Raise Multiple Incidents**, to raise one AR for each highlighted object.
- **Raise Single Incident**, to raise one AR for all of the highlighted objects.

Entuity gathers the requested information and presents it in an AR System form (opened on the same machine as the Entuity client).
3) When necessary complete the AR System form and save it.
5  Automatically Generating Action Requests

You can configure Entuity to automatically generate Action Requests (AR) for an AR System servers. The trigger for the raising of an AR is the raising of an event which has an associated advanced action configured through the Entuity Integration for BMC® Remedy AR System integration.

Automatic ARs are Created from Entuity Events

When Entuity raises an event it checks against the forwarding filter as to whether the event details should be forwarded to the AR System, specifically is the raised event:

- In the specified view, e.g. in the sample configuration My Network.
- Of the specified type, e.g. in the sample configuration all events are passed.

Only when both conditions are met is event information passed to the specified form on the AR System, with the summary details prefixed by Automated Event to identify the AR as automatically generated.

In the sample configuration the My Network view and all event types are specified, which would result in all events received by the Entuity server resulting in ARs. Entuity recommend changing the view to a more restricted view, through remedyforkevent.cfg.
Controlling Which Events Result in Automatic AR Generation

Through a combination of Entuity view and advanced action configuration Entuity Integration for BMC® Remedy AR System determines when an event raised in Entuity results in the automatic creation of an AR.

Entuity views allow you to control the combination of managed objects and event types that can result in a view. Through `remedyforkevent.cfg` you define the connection to this view, allowing forkevent to forward event information to the AR System. Through `sw_remedy70_menu_def` you can configure an additional event filter, so not all events raised in the view result in an AR.

Using Entuity Views with Automatic AR Generation

Entuity views allow you to control both the objects displayed, and the events displayed through two filters:

- an object filter that only permits those objects against which you would want to raise ARs.
- a view filter, through which you select which type of events are displayed against the managed objects in the view.
When you have setup a view you must still configure forkevent to use that view, through the connection section of remedyforkevent.cfg.

Entuity recommend you tightly control the number of managed object - event combinations that can result in automatic AR generation.

For details on view creation and management see the Entuity System Administrator Guide.

**Configuring Advanced Action Filters**

By default the event filter available with the Advanced Action uses wildcards (asterisks) for event group and event identifiers, allowing events of all types through to the AR System:

```
[MenuItem Event_Menu1_ARSingleRemedyForkEvent_HD]
.
supportedEventTypes=::*
.
```

You can adjust the event filter to only forward explicitly specified events, for example:

```
supportedEventTypes=512:7
```

uniquely identifies the Network Outage as 512 is its event group identifier and 7 is its event identifier. (See the Entuity Event Reference Manual for details on Entuity event groups and identifiers.)

You can identify more than one event type, using commas to separate each event:

```
supportedEventTypes=1024:800,1024:802
```

respectively identifies AP Host Count High and AP Host count Low events.

**Entuity recommend you consult your Entuity Support representative before amending Advanced Action configurations.**
6 Opening Entuity From an AR Server

From an AR System server you can open an Entuity originated AR, and drill back to the source managed object using a URL.

Understanding Entuity URLs

The sample implementation sends a URL as part of the AR. The URL identifies the:

- Entuity Server that manages the object
- Entuity CGI that launches Component Viewer
- Entuity user account that originated the AR, although not the account password
- Managed object that is the root of the AR.

For example:

```
http://10.44.1.126/EOS/cgi/EYELauncher?--user=admin;--start=opener;--eosObjectID=1.48.17.8890
```

can be understood as:

- `http://10.44.1.126/`, identifies the location of the Entuity web server.
- `EOS/cgi/EYELauncher`, identifies the cgi that launches Component Viewer.
- `--user=admin;`, identifies the user account logging into Entuity as admin. When you want to login using a different account amend the URL here, as it cannot be amended through the login dialog.
- `--start=opener;`, opens Component Viewer.
- `eosObjectID=1.48.17.8890` identifies the Entuity managed object displayed by Component Viewer. Managed object identifiers can have one of two formats in Entuity:
  - `-1.-1.<objectId>` (e.g. -1.-1.-1.34)
  - `object1.object2.object3.object4`, e.g. 4.12.0.0 for a device, 1.48.17.8890 for a port.

Each managed object has a unique identifier that can be viewed using Flex Reports.

Opening Entuity from AR System

To open Component Viewer from AR System:

1) From the AR open `Notes`. AR System displays a full description of the AR. Depending upon whether you are accessing the AR through the mid tier or through a browser the AR’s URL is available either as a hyperlink or a text string.

2) When the URL is a:

   - Hyperlink select the hyperlink.
   - Text string, copy the URL and paste it into a browser address field, and press Return.
Entuity launches Component Viewer on the same host as the AR System client, with the focus on the managed object that is the source of the AR.

Figure 6-1 Opening Component Viewer From an AR System
Appendix A  Remedy AR System Configuration

Entuity recommend using configure to setup your Entuity Integration for BMC® Remedy AR System integration. You can use this appendix to understand how your system is configured. Where you want to substantially amend the default integration Entuity recommend you can contact Entuity Support.

Configuration of the Entuity Integration for BMC® Remedy AR System integration is through application of these types of configuration file:

- Advanced Action Configuration, e.g. sw_remedy70_menu_def.cfg, details user menus for interactive AR generation and the type of information gathered for both interactive and automatic AR generation. This is applied to the Entuity server.
- Event Action Configuration, e.g. remedyforkevent.cfg, specifies automatic AR generation through the forkevent process and EventActionApplication.
- arforward Configuration, e.g. arhelpdsk.cfg and arhelpdsk_global.cfg, maps the extracted Entuity data to the target AR forms. arforward was developed using the Remedy API.
- AR System server connection, e.g. arhelpdsk_server.cfg, details parameters required to connect to the AR System server.

Entuity is supplied with sample configuration files that allow integration with the default Remedy Help Desk application:

- sw_remedy70_menu_def.cfg, details the extensible menu configuration.
- remedyforkevent.cfg, requires amending of Entuity user and view details.
- arhelpdsk70.cfg and arhelpdsk70_global.cfg, requires amending of connect details to the AR System server. Details of the AR System forms and fields Entuity information is passed to can also be amended, although for a default sample integration that is not required.
- RemedyForkEventLoggerConf.xml, sets the logging level of forkevent and does not require amending.

This appendix details the changes required to the sample files to integrate them with an existing BMC AR Remedy System application. It also indicates how to amend these files to work with other AR System applications.

After the configuration files are applied the integration is ready to use.

Configuring Advanced Actions

The AR System menu is a configurable user menu. It determines the user menus available through the Entuity client and the type of data collected from Entuity’s database when generating ARs, both interactively and automatically. The sample integration is supplied with one user action configuration file, sw_remedy70_menu_def.cfg.
It is also through the user action configuration that the types of events that can result in an automatically generated AR are determined:

```
supportedEventTypes=*: *
```

where `*:*` is `EventGroupID:EventID` indicates all event groups and all events within those groups are enabled (see the Entuity Events Reference Manual for details of event identifiers).

Currently user menu configuration functionality is restricted to Entuity. Contact your Entuity representative if you require amendments to the AR System menu.

Configuring the AR System Server Connection

Entuity data extracted by `EventActionApplication` is ready to be forwarded to one or more AR System servers and to one or more AR System applications. The AR System configuration files, by default `arhelpsdk_server.cfg` is a plain text file with a connection section which identifies the AR System server(s) and how they can be accessed.

ARServer Connection Section

The ARServer Connection specifies the server(s) and applications `arforward` establishes a connection with, and the method of that connection. This section has the format:

```
[ARServer]
Server=10.44.1.103
MidTier=10.44.1.103
User=Demo
Pass=
#Auth=
#Port=2001
#Rpc=
Ssl=0
SchemaList=ARHelpDesk
```

This sample section includes commented out arguments, i.e. those prefixed by `#`. 

Where:

- **Server** is a mandatory field that identifies the AR System server where ARs are created. This must be an AR System server that is known to the Remedy Mid Tier to which interactive integration connects. Ensure the network DNS settings are configured so the AR System server is visible to the Entuity server.

- **User, Pass and Auth** are the AR System user account details required for communication with the AR System server. These settings should meet the requirements for communicating with the Remedy Mid Tier and have permissions for both submitting and viewing the forms used in the integration on the name AR System servers.
You can also specify user account details through the user action configuration file; user accounts defined there take precedence. However Entuity recommend only setting user details, here, in the AR System configuration file.

- **MidTier** specifies the Remedy Mid Tier server and optionally the port if the Mid Tier is not using port 80. When not specified Server is used (and the default port 80).
- **Port** specifies the TCP port used by the AR System server. It is only required when the AR System server is not using a portmapper.
- **Rpc** is only required when communication is with a private AR System server queue.
- **Ssl** is only required when communication to the Remedy Mid Tier is through SSL, and then it must be set to 1.
- **SchemaList** specifies one or more Schema section identifiers. Multiple section identifiers are comma delimited.

### Configuring for the AR System Schema

The AR System schema configuration file is a plain text file with two section types:

- **ARServer Connection** section identifies the AR System server and how it can be accessed (defined in arhelpdsk.cfg)
- **Schema section** identifies the different AR System applications to which data is forwarded. It also maps the Entuity data to the appropriate fields in the AR System (defined in arhelpdsk70.cfg and arhelpdsk70_global.cfg).

#### Schema Section

Each application form to which Entuity forwards data must be identified in **SchemaList** and then detailed in its own section. These sections:

- Identify the AR System application to which data is forwarded.
- Map the Entuity data to the appropriate fields in the AR System.

The AR System section has the format:

```
[ARHelpDesk]
Form=HPD:IncidentInterface_Create
View=Dialog
Mappinglist=ARAction,
    = ARSubmitter,
    = ARSummary,
    = ARLongDescr,
    = ARImpact,
    = ARUrgency,
    = ARFirstName,
```

= ARLastName,
= ARStatus,
= ARServiceType,
= ARReportedSource,
ResultForm=HPD:Help Desk
ResultLink=100000161

Where:

- [ARHelpDesk] is the schema name which must be listed in SchemaList. Schemas not included to SchemaList are not applied to arforward.
- Form identifies the AR System form to which data is to be forwarded.
- View is the AR System view. It is only required if a View is required when connecting through the Remedy Mid Tier.
- MappingList identifies the mapping sections between the Entuity and AR System data fields. Multiple mappings are comma-delimited.
- ResultForm, identifies the AR System form in which the new incident details are displayed. When a form is not identified the details are displayed in the form to which it was written.
- ResultLink, where a result form is specified the user must give a field that is common to both forms and whose value uniquely identifies the identifier of the result form.

Together ResultForm and ResultLink allow Entuity Integration for BMC® Remedy AR System to submit data using one form, and view the created AR System incident in a second results form.

A Field Mapping section has the format:

[ARServiceType]
Field=1000000099
Value=Infrastructure Event
Datatype=4

Where:

- [ARServiceType] is the mapping name which must be listed in MappingList. Mappings not included to MappingList are not applied to arforward.
- Field specifies the numeric identifier of the AR System application field that is to be updated.
- Value specifies the value written to AR System application field. This can be a:
  - literal value, e.g. Infrastructure Event.
  - format string that takes values from forkevent and uses them as input parameters to arforward.
**Datatype** specifies the AR System database data type for the field using its numeric value. For example, 0 indicates a null value:

- 0, NULL value
- 1, Keyword
- 2, Integer
- 3, Real
- 4, Character
- 5, Diary
- 6, Enumeration
- 7, Time
- 10, Decimal
- 13, Date
- 14, Time of day.

Always consult AR System documentation.

The previous field mapping extract example identifies the AR type as Infrastructure Event. The sample ARs are all of that type. The following field mapping extracts illustrate how different types of information can be passed to the AR System application.

To use field values you must use the $n notation. In the sample integration `arforward` extracts two values:

- $1, a short description of the raising event or managed object
- $2, the fuller description of the raising event or managed object.

These parameters are associated with AR form fields, for example this section:

```plaintext
[ARSummary]
Field=1000000000
Value=$1
Datatype=4
```

Passes the value of $1, which for automatically generated ARs is the event identifier, to the Help Desk Description field, identified as field `1000000000`.

*Value* can handle combined literal and format string parameters. For example:

```plaintext
Value="Received automatic incident " + $1
```

is displayed in the target AR System field as:

```
Received automatic incident Event AvailMonitor Node Down occurred on 10.44.1.126
```

Where:
“Received automatic incident” are literal strings. Notice they include the spaces necessary for a well formed layout.

$1 is a parameter with the value **Event AvailMonitor Node Down occurred on 10.44.1.126.**

+ is the conjugating symbol.

**Using AR System Alias**

When the field is an enumeration or a selection list, and if alias has been configured in the AR System Server, it can be used instead of the numeric value of the enumeration. In this example Datatype=2 so the AR System field identifier is set to an integer value:

```
[ARSource]
Field=1000000215
Value=4
Datatype=2
```

In this example Datatype=2 so the AR System field identifier is set to a character alias:

```
[ARSource]
Field=1000000215
Value=Systems Management
Datatype=4
```

**Using AR System Keywords**

The next example shows an AR System keyword being used as the value for an AR field:

```
[ARSubmitter]
Field=2
Value=1
Datatype=1
```

Datatype=1 indicates an AR System keyword and the keyword is a value by integer 1 ($USER$) so the current user name is the value of this field.

**Sample AR System Server Configuration**

This sample configuration file is supplied with the Entuity Integration for BMC® Remedy AR System Integration.

```
# This configuration file maps the following command line parameter list:
# arforward -file ${EntuityInstall}/etc/arhelpdsk70.cfg -user UserName
# [-pass Password -auth Auth -port Port -rpc RPC] -plist -p1 "Short description text" -p2 "Long description text"
# This line includes the file containing the ARServer connection
!arhelpdsk_server.cfg
```
In order for the creation of the Incident to succeed using these fields, automatic assignment group must be configured on the Remedy server.

This example section shows a create form, and a display form which share a mutual field. In the case of HPD:Help Desk, the Incident Id field 1000000161 is populated by workflow behind the IncidentInterface form when the entry is successfully created.

```
[ARHelpDesk]
Form=HPD:IncidentInterface_Create
View=Dialog
Mappinglist=ARAction,
   = ARSubmitter,
   = ARSummary,
   = ARLongDescr,
   = ARImpact,
   = ARUrgency,
   = ARFirstName,
   = ARLastName,
   = ARStatus,
   = ARServiceType,
ResultForm=HPD:Help Desk
ResultLink=1000000161
```

The above MappingList uses some of these fields: for each field that is to be populated, list it in the MappingList and supply the Field number, the Field datatype and the Field value.

```
[ARIncidentId]
Field=1000000161
Value=13
Datatype=1
[ARSubmitter]
Field=2
Value=1
Datatype=1
[ARSummary]
Field=1000000000
Value=$1
Datatype=4
```
[ARLongDescr]
Field=1000000151
Value=$2
Datatype=4
[ARImpact]
Field=1000000163
Value=3-Moderate/Limited
Datatype=4
[ARUrgency]
Field=1000000162
Value=3-Medium
Datatype=4
[ARPrioriity]
Field=1000000164
Value=Medium
Datatype=4
[ARFirstName]
Field=1000000019
Value=EYE
Datatype=4
[ARLastName]
Field=1000000018
Value=User
Datatype=4
[ARPhone]
Field=1000000056
Value=0044(0)2074444829
Datatype=4
[ARStatus]
Field=7
Value=New
Datatype=4
[ARReason]
Field=1000000881
Value=Request
Datatype=4
[ARReasonHidden]
Field=1000000150
Value=Request
Datatype=4

[ARServiceType]
Field=1000000099
Value=Infrastructure Event
Datatype=4

[ARSource]
Field=1000000215
Value=Systems Management
Datatype=4

[ARAction]
Field=1000000076
Value=CREATE
Datatype=4

[ARReportedSource]
Field=1000000215
Value=Direct Input
Datatype=4
Appendix B  Entuity AR System Installation Files

Entuity Integration for BMC® Remedy AR System Integration Files

Entuity Integration for BMC® Remedy AR System is supplied with your standard Entuity installation. The installed Entuity Integration for BMC® Remedy AR System Integration includes:

- template files installed to `entuity_home/install/template/etc`:
  - arhelpdsk_server.cfg

- sample configuration files that integrate with the default AR System HPD:HelpDesk form. These are in `entuity_home/etc`:
  - arhelpdsk70.cfg
  - arhelpdsk70_global.cfg
  - sw_remedy70_menu_def.cfg
  - remedyforkevent.cfg
  - RemedyForkEventLoggerConf.xml.

- file generated after `configure` in `entuity_home/install/template/etc`:
  - arhelpdsk_server.cfg

- files in `entuity_home/integ/Remedy/`:
  - arforward.exe.

Renaming Integration Configuration Files

The sample configuration files are overwritten with each new Entuity installation. When you want to use the sample configuration in a live installation you can either take a backup of your files and reinstall them after each upgrade, or consider the supplied files as templates that you should amend after amending them. When renaming files remember to edit the content, so any references to these files are also amended.

Rename the sample files and settle on a standard naming format, for example:

- `sw_remedy70_menu_def_NEWNAME.cfg`
- `remedyforkevent_NEWNAME.cfg`
- `arhelpdsk70_global_NEWNAME.cfg`
- `arhelpdsk70_NEWNAME.cfg`
- `arhelpdsk_server_NEWNAME.cfg`. It is automatically created during `configure`, however if the file already exists it is not overwritten. This file only requires renaming when configuring multiple servers.

You must also rename any references to these files within the configuration files. For example, in:

- `sw_menu_def_file_list.cfg, include sw_remedy70_menu_def_NEWNAME.cfg`. 
Entuity Integration for BMC® Remedy AR System dlls

For this module to run you should ensure these dlls are available in the run time path on the Entuity server:

- dlls for Windows installations, available in `entuity_home/integ/Remedy/lib` and usually installed in `/systemWOW64`:
  - arapi70.dll
  - arutl70.dll
  - icuin32.dll
  - arrpc70.dll
  - icudt32.dll
  - icuuc32.dll
  - msvcr71.dll
  - msvcp71.dll
- dlls for Linux installs, available in `entuity_home/integ/Remedy/lib`:
  - libar.so
  - libcudatbmc.so.32
  - libcui18nbmc.so.32
  - libcuiobmc.so.32
  - libcuiucbmc.so.32
Appendix C Configuring Automatic AR Generation

The default installation of Entuity Integration for BMC® Remedy AR System allows interactive AR generation. For automatic AR generation, you must also configure and run forkevent.

forkevent is configured through its own event action configuration file (remedyforkevent.cfg), to forward event information to the EventActionApplication. Specifically forkevent:

1) Uses details in the [connection] section to register with the event management process. forkevent becomes a client, the Entuity server only forwards to forkevent those events in the registered view.

2) Uses details in the [pipe_remedy] section when calling EventActionApplication. forkevent structures the event details, and sends the data to EventActionApplication using the stdin of the pipe process.

You can also run more than one forkevent process at one time, although they must use different configuration files. For details contact your Entuity Support representative.

EventActionApplication uses the default configuration, specifically:

1) EventActionApplication uses the appropriate menu in sw_remedy_menu_def_menu.cfg to build a complete parameter list from forkevent’s direct data and StormWork’s event object details and Entuity host/user information.

2) EventActionApplication builds a string that contains the returned parameters and then passes it to the forked process arforward.

Configuring forkevent

Pipe Process

forkevent communicates with the database using Pipe, each time forkevent recognizes an event it sends the event data to the stdin of the Pipe process. The format and structure of the event data is taken from the [data] section in the configuration file.

The Pipe continues to run until it is explicitly stopped or the Entuity server is stopped. Each time a new event occurs the same forkevent process is used.

In Pipe mode forkevent sends event data in the format:

```
VariableLabel VariableValue <CR>
BlankLine <CR>
```

Where:

- **VariableLabel** is the label assigned to the event data in the [data] section, e.g. Descr in Descr=${event.PAPIDescr}.
- \textit{VariableValue} is the event data value, extracted from the [data] section, e.g. 
  \texttt{$\{event.PAPIDescr\}$ in Descr=$\{event.PAPIDescr\}$}.
- \texttt{<CR>} is the end of line marker. Each value is passed on its own line.
- \textit{BlankLine} is automatically sent at the end of the event data to signal the end of that event.

\textbf{Remedy forkevent Configuration}

The Entuity Remedy ARSys Integration configuration file, e.g. \texttt{RemedyForkEvent.cfg}, contains details:

- Required to access the Entuity database.
- Used to determine the format and order event data is passed to the AR System.

There are a number of sections, each starts with its section name, enclosed within square brackets, e.g. [connection] and [data]. All variable definitions are held within sections. These sections can be divided into three types:

- Connection section contains details required to access the Entuity database (see \textit{Connection Section}).
- Process section determines which parameters are passed. You can specify one or more process sections, which one is used is passed as an argument when running \texttt{forkevent} (see \textit{Process Sections}).
- Data section details the event data passed to the Pipe process (see the \textit{Data Section}).

\textbf{Entuity supply a sample file, \texttt{RemedyForkEvent.cfg}. You should read this section and then take a backup of the file before attempting to amend it.}

\textbf{Connection Section}

This section details the information required to access Entuity to collect event data. This is an example section:

\begin{verbatim}
[connection]
username=admin
view=My Network
extendedEvents=1
\end{verbatim}

Where:

- \texttt{[connection]} is the name of the section that contains the details required to access Entuity event data.
- \texttt{username} is the Entuity login name.
- \texttt{view} is the Entuity view from which events are collected, by default \texttt{My Network}. Only when an event occurs on a managed object within the defined view is it forwarded by \texttt{forkevent}. \texttt{My Network} includes all managed objects, Entuity advise changing \texttt{view} to a more restricted view to only include events from required objects.
username and view are the same details as used for accessing Entuity.

- extendedEvents sets the maximum number of characters that forkevent forwards for the event description. Event descriptions greater than this setting are truncated. When set to:
  - 0 (default), forwards event descriptions to a maximum of 127 characters
  - 1, forwards event descriptions to a maximum of 4095 characters.

Process Sections
The process sections define the pipe process and its arguments. A configuration file can have more than one process definition, although only one is used at any one time. This is passed as an argument when forkevent is run.

This is the sample process section:

```
[pipe_remedy]
start=${install.JAVA} -Dlog4j.configuration=file:${ENTUITY_HOME}${FPS}etc${FPS}RemedyForkEventLoggerConf.xml=-cp ${ENTUITY_HOME}${FPS}lib${FPS}httpd${FPS}EOS${FPS}EOSServer.jar{EPS}${ENTUITY_HOME}${FPS}lib${FPS}httpd${FPS}EOS${FPS}log4j.jar=com.entuity.eos.menu.EventActionApplication=period=1000 appname=RemedyForkEvent userid=${activeuser}webport=${webportnum}
args=
type=pipe
directory=${LOGDIR}
```

Where the following arguments may be passed to the menu application:

- **[pipe_remedy]** is the section name. This is passed as a parameter with the forkevent command.
- **start** runs the specified application with the set arguments:
  - **maxactions**, the maximum number of concurrently executing menu actions, by default 15. Once exceeded Entuity queues remaining actions. It is optional, but when set must be 1 or greater.
  - **timeout**, the time after which an executing action can be removed from the pool and queued actions run. A timeout action can be terminated, or left for execution based on the value of terminate. 0 indicates no timeout, the default is 900000 ms, 15 minutes, and the minimum value is 100 ms.
  - **terminate**, when set to true, the default, terminates a timed-out action, false allows the action to complete.
  - **period**, specifies the minimum amount of time in milliseconds that must elapse between action executions, and is used to control throughput of action executions and system load. The default is 1000.
  - **dshost**, IP address or hostname of the Entuity StormWorks server, by default
Entuity

localhost.

- **dsport**, Entuity StormWorks port, the default is 5467.
- **dstimeout**, timeout for the Entuity StormWorks database connection. The default is 60 seconds.
- **appname**, name of the application forkevent runs to gather the AR System data.
- **userid**, the account name used to access Entuity.
- **clienthost**, application's IP address, by default localhost.
- **eyeserver**, IP address or hostname, and port of the Entuity web server, by default localhost:80. This attribute is used in place of **webport** but can also make use of it, for example where **keli** is the Entuity server hostname:
  
  eyeserver=keli:${webportnum}

- **webport**, the port on which the Entuity web server is accessible, by default 80.
- **args** allow you to pass commandline arguments with the Pipe and Fork processes. They are not used with the Entuity Integration for BMC® Remedy AR System integration.
- When **type** is **pipe**, **start** runs as soon as forkevent runs, creating the Pipe process.
- **EmptyVariable** is used to enter a value in an event variable passed from Entuity that does not contain any data, i.e. to make it easier to identify in the integrated package. By default EMPTY_VARIABLE is entered, using **EmptyVariable** you can replace that with one of your choice, e.g. MISSING_VALUE.
- **directory** is the directory from which the process is run and log files are written to.
- **loglevel** is the level of logging information recorded, i.e. **errors**, **warning**, **info**, **debug** and **all**.

**Data Section**

This section holds the associations between labels and Entuity event variables. These labels can be used by the Pipe process to identify and manipulate event data. There must only be one data section in an Event Forward configuration file.

The data section is only used with the Pipe process. The Pipe process runs continually and it is only through the data section that arguments can be passed for each event. The Fork process is started for each event, and so arguments are passed each time an event occurs.

This is an example section:

```
[data]
  event.PAPIId=${event.PAPIId}
  event.PAPIEventGroup=${event.PAPIEventGroup}
  event.PAPIEventId=${event.PAPIEventId}
  event.PAPIEventStr=${event.PAPIEventStr}
  event.PAPITimeStamp=${event.PAPITimeStamp}
  event.PAPIObjectID_1=${event.PAPIObjectID_1}
  event.PAPIObjectID_2=${event.PAPIObjectID_2}
```
event.PAPIObjectID_3=${event.PAPIObjectID_3}
event.PAPIObjectID_4=${event.PAPIObjectID_4}
event.PAPIpriority=${event.PAPIpriority}
event.PAPIAttr=${event.PAPIAttr}
event.PAPIDescr=${event.PAPIDescr}
event.PAPIImpact=${event.PAPIImpact}
event.PAPIImpactDescr=${event.PAPIImpactDescr}
event.PAPIDetails=${event.PAPIDetails}

Where:

- `[data]` is the mandatory name of the data section.
- `${event.PAPIID}` is a numeric value specifying the current instance of the event.
- `${event.PAPIEventGroup}` is a numeric value specifying the event's group.
- `${event.PAPIEventID}` is the event identifier within the context of the event group.

The combination of event group and event ID uniquely identify all Entuity event types (see the `Entuity Event Reference Manual`).

- `${event.PAPIEventStr}` is the description of the event associated with the event identifier.
- `${event.PAPItimestamp}` is the time the event occurred, represented as UTC (Coordinated Universal Time, i.e. the number of seconds since 1970-01-01 00:00:00 GMT).
- `${event.PAPIObjectID_1}`, `${event.PAPIObjectID_2}` and `${event.PAPIObjectID_3}` and `${event.PAPIObjectID_4}` are internal values that indicate the origin of the event.
- `${event.PAPIpriority}` is retained for backward compatibility.
- `${event.PAPIAttr}` is an internal numeric attribute, not used for the integration.
- `${event.PAPIImpactDescr}` lists entities likely to be affected by the event, e.g. hosts, VLANs and monitored applications.
- `${event.PAPIDescr}` is a textual description of the managed object on which the event occurred, e.g. VLAN, device, module or port.
- `${event.PAPIDetails}` is supplemental information on the particular event, e.g. actual values of network statistics which caused a threshold event.

Java Fork Process

`forkevent` communicates with the AR System servers through `EventActionApplication`. Each time `EventActionApplication` forwards data to `arforward` it generates a new Fork process. As the process is created arguments detailing the event are passed to `arforward` (the forked process). You can pass these arguments through `start`.

When the data is sent the process is closed. Each AR has its own Fork process.
AR System
BMC Remedy Action Request System (AR System) is a framework within which applications are built by AR System administrators. Applications consist of a set of AR System forms that are linked using workflow rules designed for the application. These forms contain fields which Entuity can be configured to populate.

ARs
Entuity integrates with AR System to generate Action Requests (ARs). The sample integration with the Remedy Help Desk includes ARs of the type incident.

Attribute
In Entuity an attribute is a property of an object that is defined through StormWorks. Attribute data can be charted using the Attribute Grapher and is available to Report Builder.

Core Ports
Entuity considers core ports, as WAN ports, administratively up ports which have a configured IP addresses (i.e. layer 3 ports) on devices which are routers or have router capability, or trunks and uplinks that are administratively up.
By default the port status event, Port Operationally Down, is only enabled for core ports.

Data Management Kernel (DMK)
The DMK supports Entuity's intelligent discovery function. It includes out of the box data models for a wide range of managed devices including hundreds of Ethernet switches and routers. These customizable data models define the attributes of each managed element, its possible dependencies in relation to other elements of the network, and the specific details to retrieve for each element. The DMK manages these data models and automatically applies updates and changes to the Entuity database schema.

Drop Box
Drop box acts as a temporary repository for objects, for example gauges, charts, links, device metrics, that you want to include to new reports, dashboards.

Entuity
Entuity is both the name of the network management software and the company producing it. Entuity software is designed for networks of any size and complexity, from the smallest,
simplest corporate infrastructure to the largest multinational. Every customer can access the full functionality of our cornerstone solution, incorporating fault, performance and inventory management.

**Essential Reports**

Entuity provide a number of Essential Report templates that determine the basic report type, e.g. PVC Data Loss report. An Entuity administrator can use these templates to create new Essential Report definitions, setting when the report runs, which view it reports on, the page layout and the report’s Prime Time.

Entuity users that have access to the associated views, can then access the generated reports through Reports in the web UI or Component Viewer. These reports are currently available as PDF documents.

**Eye of the Storm® (EYE)**

Until Entuity 12.5 the software was known as Eye of the Storm (EYE).

**Entuity Remedy AR System Integration**

The Entuity Remedy AR System integration allows forwarding of event and managed object information from Entuity to one or more AR System servers.

Entuity allows two types of forwarding:

- automatic generation of Action Requests (ARs), derived from Entuity events, to particular application forms on target AR System servers
- interactive generation of Action Requests (ARs), initiated from Entuity. The specified application forms on target AR System servers are opened for editing, with default data populated from the current Entuity managed object(s) or event(s).

Entuity can also pass to AR System a URL identifying the managed object that is the source of the AR. From AR System you can open Entuity’s Component Viewer with the focus on the managed object.

**Polling Engine**

The Polling Engine (or Core Management Engine) is the set of processes within an Entuity server responsible for all general network management tasks excluding flow collection (e.g. network discovery, inventory, monitoring, event management).

Administrators can enable/disable an Entuity server’s Polling Engine through **configure**, a decision which should be made according to the role the administrator wants the server to perform in the management of the network.
Reachability

Availability Monitor sends an ICMP ping to the management IP address of managed devices, by default every two minutes. Devices that respond are considered reachable, those that do not respond, after the set number of retries, are considered unreachable. When Availability Monitor (applicationMonitor) is not running, then the reachability of the device is Unknown for that period, although Entuity maintains the last known state of the device.

Reboot

Entuity uses the device sysuptime to calculate when the device was last rebooted, or more accurately when the device last came up after being rebooted.

Remedy Help Desk / Service Desk

Entuity Remedy AR System Integration for Remedy AR System 7.0 includes a sample configuration which integrates with the Remedy Service Desk application.

Uptime

By default Entuity polls devices every five minutes, retrieving device sysuptime. Entuity checks as to whether the device has been continually up since the last poll, and modifies the device’s uptime value accordingly.

When sysuptime indicates the device has been down during the polling interval but is now up, from sysuptime alone Entuity cannot identify for how long the device was down. Entuity takes this unknown time, and adds fifty percent of it to the known uptime value, with the remaining fifty percent considered UNKNOWN. For example where sysuptime has a value of two minutes. Entuity cannot determine the state of the device over the first three minutes of the polling interval. Entuity adds ninety seconds to the sysuptime value, giving an uptime value of two hundred and ten seconds and records the device state as UNKNOWN for ninety seconds.

Device uptime is visible through Component Viewer, and is used in many reports, e.g. Routing Summary, Switching Summary, KPI Device Availability / Uptime.
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