SolutionBase: Enterprise-ready Process Automation with Interleave

by Jack Wallen | Jan 31, 2008 12:00:00 AM

Takeaway: With Interleave, the Linux community has a tracking system as powerful as any Windows offering. And equally as simple to install. And reliable. And user-friendly. Jack Wallen shows how it works.

When corporations get to a certain size accountability and tracking become paramount in order to succeed. Without a process with which to track systems, orders, purchases, work, employees, and customers, your business would be nothing more than a Chapter 13 waiting to happen.

Now one would think that having such a tool to keep accountability in order would fall squarely on the hands of the Windows world. Not so. With Interleave, the Linux community has a tracking system as powerful as any Windows offering. And equally as simple to install. And reliable. And user-friendly.

So what can Interleave do? In a sense, Interleave will help you kick your reliance on spreadsheets, databases, bug-tracking, web-publishing/collaborationtools. It can serve as your one-stop tracking shop. It's really that good. And this tool will one-up all your other tools by creating summaries and status reports.

Interleave will run on any platform and is used through via Web interface. So it's cross platform perfection. With that in mind, let's see about installing this baby so we can see just what's under the hood.

Getting and Installing

Installing Interleave is fairly simple. You first need to make sure your system meets the requirements.

The requirements are minimal:

Base:

- PHP4 or PHP5
- MySQL
- A Webserver

PHP settings:

- register_globals: off
- magic_quotes_gpc: off
- max_execution_time: 60 (at least)
- memory_limit: 24MB (128 MB recommended)
- allow_url_include: on
- error_reporting: E_ALL & ~E_NOTICE)

MySQL Settings:

- Optional: Upgrade max_package_size when you use large attachments and
- Not running in STRICT mode

Webserver Settings:

- WebDAV OFF for CRM-CTT base directory

Installation

I will be installing this system on a Ubuntu Server 6.06 installation.

The first thing to do is to download the required file from Sourceforge and move that file into your Apache document root. The next step is to unpack the file with the command *tar xvzf CRM-CTT_Interleave-XXX.tar.gz* (Where *XXX* is the release number.)

Now you will have a new directory called CRM-CTT_Interleave-XXX (Again where XXX is the release number.) Rename that directory otherwise your users will have to remember a rather lengthy URL. You can move that directory with the command *mv CRM-CTT_Interleave-XXX CRM* (Yet again where XXX is the release number.) I have chosen to name my resulting directory CRM for ease of use.

Now change into that new directory and change the permissions on the *config.inc.php* file to 777 with the command *chmod 777 config.inc.php* (this will ease installation.)

The next step isn't required before you fire up your browser but it will be asked of you once you have the browser open. So since we're already in command-line mode, we'll take care of it now. You need to change the php memory minimum in the *php.ini* file. In my case that file is in */etc/php5/apache2*. In that file (around line 246) you will see the entry:

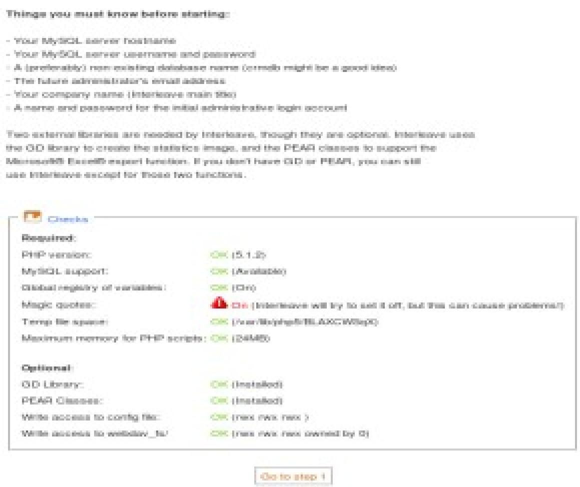
memory_limit = 8M ; Maximum amount of memory a script may consume (8MB)

Change that limit to 128M or the system will not have enough memory to run. Save and close that file and restart Apache. In my case restarting Apache is done with the command */etc/init.d/apache2 restart.*

Finally you will need to create a database to use. I highly recommend the use of phpMyAdmin to do this.

Now we're ready to fire up the browser. Open up the browser and point it to http://IP_ADDRESS_OF_SERVER/CRM (Where IP_ADDRESS_OF_SERVER is the actually address of your CRM server) and you will be greeted with the screen shown in **Figure A.**

Figure A



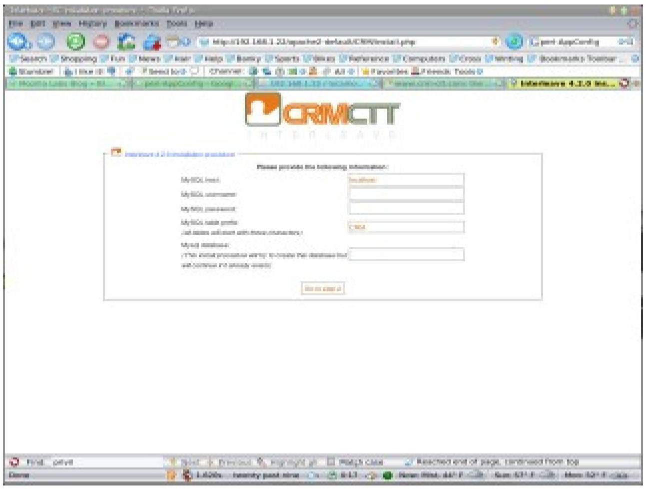
You might have more warnings or errors than you see here. If so, you will most likely not be able to move on to step 1 until the errors are taken care of.

Although optional I would highly recommend installing the GD and PEAR packages so statistical images can be generated. These images will be helpful for analysis and such. To install the GD module you will first have to make sure that PEAR is installed. Do this with *apt-get install php-pear.* Once that is installed you will use the CPAN tool to instal DB. Issue the command *cpan* and, once at the *cpan* prompt, run the command *install DB*. This will install the necessary modules.

Once you have taken care of the above you can click the *Go to step 1* link at the bottom of the install page.

The next page you will see (see **Figure B** below) will ask you for the necessary database information.

Figure B



The nice thing about this system is that it will TRY to create the database for you if it's not already created. I recommend taking care of this business yourself.

Once you have the necessary information filled in, click the *Go to step 2* link.

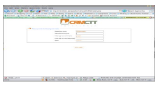
If everything is successful you will be informed of such in the next screen, as seen in **Figure C**.

Figure C

Alls well that ends well.

Now click the *Go to step 4* link. During step four you will be required to fill out the information for the admin (as shown in **Figure D** below.) This is all pretty straight forward with the exception of the repository which will serve as sections or departments for downloads uploads. You can create more repositories later but you MUST create one upon installation.

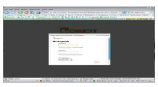
Figure D



Make sure you include the Administrators email address.

Step 4 is actually the log in for the administrator, shown in **Figure E**.

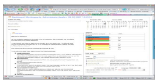
Figure E



At first login you will only have the one repository you created at installation.

Once logged in you will see the Interleave main page (see **Figure F** below.)

Figure F



One thing you will notice is that the system points you to "below" for the Administrator link. It is not "below". In fact the administrator link is on the right side of the screen under the Statistics tables. Click on the Administration link to open the admin tool. NOTE: The system also says you can hit Alt-A to get to the the administration page. This is also not so. In Firefox Alt-A selects all on the page.

You are now ready to take care of the initial administration tasks.

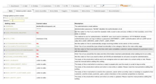
The first administration page you see contains a number of tabs as seen in **Figure G**. The first tab you want to go to is the Global system values.

Figure G

To get out of the Admin tool you simply click the Dashboard tab.

Once in the Global system values tab. you first need to click on the ADMPASSWORD value to set a global administrator password. Now only those who know this password can access the administration tool. You'll see this in **Figure H**.

Figure H



If the ADMINPASSWORD is not set the value will register as NONE.

As per the directions of the Dashboard, you will want to take care of all of the following:

- ADMPASSWORD: Main administrator password that will allow access to even more administration tools.
- MIPASSWORD: Management Information password that will allow certain users access to the management information section.
- LANGOVERRIDE: Set this to "yes" so that users can not change the language of the site. If you have multi-lingual users leave this set to "no" but you will have to have the language packs installed.
- MANAGEMENTINTERFACE: Set to "on" so limited users will be able to see a restricted management interface. Set to "off" and they will see no management interface.
- ENABLECUSTINSERT: If set to "on" customers who have an account will be able to add entries by themselves.
- CRONPASSWORD: Password used by cron. Set this even if you do not use this function.
- Main language: Default language.

Now step into the System Configuration tab as, seen in **Figure I,** to take care of a few more tasks.

Figure I

Although not critical, some of these tasks will be necessary down the road.

One thing you will want to do is to create more repositories. Click on the Configure Repositories to go to the Repository Management tool as seen in **Figure J**.

Figure J

This screen gives you detailed information about current repositories.

Click on the New Repository tab and enter the information for a new repository. A new repository could be (as said before) a department, a process, a function, a job, a buyer, a seller, a client, etc. The steps to creating the repository are very similar to creating the initial database during installation.

Now one of the hitches during the creation of the repositories is that you will have to edit the config.inc.php file by hand, once the repository has been created. Really all you have to do is add the text the system gives you into the file. The text will look something like:

$host[1] = "localhost";

$user[1] = "root";

$pass[1] = "DBPASSWORD";

$database[1] = "clients";

$table_prefix[1] = "CRM";

Where DBPASSWORD is the actual password for the database user.

You will enter that text before the *?>* characters at the end of the file.

Once you have entered that text, save the file and click the link given to you at the end of the repository creation. Now if you go to the Current Repositories (under the System configuration tab) you will see the new repository listed.

There is one other interesting tool that can be set from the System Configuration tab. Click the Enable On Screen Logging Mode and a popup window will open that will log information every time you execute a task it. This is an outstanding tool for debugging issues. NOTE: You will have to allow popups from your Interleave server to enable this feature.

Get Ready, Get Set

You are now ready to embark on using an Enterprise-ready system that will take away the pain of using multiple tools to track, task, and tally all your corporations systems, information, clients, processes, and so much more. Something that could have been a rather daunting task has just become simple and reliable.

Of course, now you're looking at learning an entirely new system. Never fear, next time around we'll discuss the actual usage of this outstanding resource.

Naturally, however, with a system so resplendent with possibilities you have to consider the fact that there could possibly be too much to choose from. In the case of Interleave

The only thing left is to create the config file.This can be done in three ways:

1. Let the install procedure try to write the file itself
You must chmod 777 the file temporary to let this work!
2. Download the file to you browser and place it in the installation directory yourself
3. Copy the below printed text into the config.inc.php file yourself

Click this link to let the installer try to write the config.inc.php file.

Click this link to download the config.inc.php file.

If that doesn't work, create a file called config.inc.php in your installation directory containing the following:

```
<?php
$GLOBALS[LogonPageMessage] = "";
$host[0] = "localhost";
$user[0] = "root";
$pass[0] = "pantyhose";
$database[0] = "crmctt";
$table_prefix[0] = "CRM";
?>
```

---- Second article

I recently wrote an article covering the installation of a very powerful Enterprise-ready process automation system called Interleave. This tool is exceptional for tracking and accountability. It's features go beyond the scope of many small company needs (but shouldn't keep smaller ventures from deploying it) so it can cover just about any company.

Getting the system up and running was no cake walk but it's do-able for just about anyone. Using the system can, at first, seem very daunting (due to the incredible amount of features), but it needn't be so. It's just a matter of making Interleave fit your needs.

With that in mind, let's get to work.

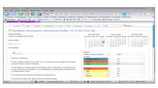
Entities and Customers

One of the first things to understand about Interleave is that most everything revolves around Entities. The nice thing about this system is that Interleave doesn't decide what an Entity is (or does) you do. So an entity can be an invoice, a process, a function, a meeting, a department, an employee, a request, help desk ticket, the sky is the limit here. That's why Interleave is so flexible.

To add an Entity you must first add Customers. Now a Customer should be thought of in a more flexible way than traditionally thought of. A Customer can be a client, customer, employee, agent, etc. Let's say we are going to add a department so we can keep track of certain processes within the department. We'll go with Graphic Arts and tracking art assigned to a story about Linux Kernel Development.

To add the new Customer click on the Customers tab new the top of the screen (see Figure A below.)

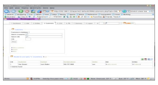
Figure A



If you are logged in as administrator you won't have to go to the administration page to add Customers and Entities.

Once in the Customers page (see Figure B below) you need to click the "Add a customer" link.

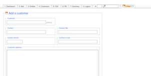
Figure B



From this screen you can do a search on your customer database.

Once you are in the Add A Customer page (see Figures C and D below) you need to fill out the required data. Remember, in this case you are creating a customer for a specific department so you can "bend" the required fields to suit your needs (say use the Address section to list the office locations of each employee within that department). Remarks could be just about any type of information you might need to have (IP addresses, computer OS type, favorite candy bar...).

Figure C



You can check to see if a customer name is already used by entering the name in the Customer field and pressing the "check" link.

Figure D

The homepage could be the departments' intranet page.

Near the bottom of this page is the really important information. Here you assign the customer an owner. Of course to assign an owner you will have to have entered the owner into the system (NOTE: Adding users was covered in the first article). The customer owner, in this case our customer being a department, could be the person that manages the department or the person that accepts the work the department generates for approval.

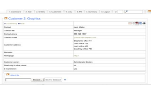
You will also want to check the "Read-only to other users" box if you want to ensure that only the owner of the department can edit the customer. Once you have finished entering the necessary data, click the Save To Database link to save the customer. Now that the customer is saved you will see the customer listed in the Customers page (see Figure E below.)

Figure E

The Add A Record link actually is a direct link to adding an Entity to that customer.

From the Customer listing, if you click on a particular Customer that Customers' information page will appear (see Figure F below.) From here you can do a number of nifty tricks.

Figure F



You can also attach files to the customer information page.

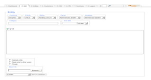
There is a row of five icons in the upper right hand of the customer information. These icons are (from left to right   see Figure F above):

- Graph Customer activity
- Show Customer journal
- Open Customer information in PDF file
- Use results for mail merge
- Print customer information

Now most of these features aren't useable until the customer has had activity in the system.

Now that we have a Customer, let's add an entity. Remember, this entity will relate to a story covering Linux Kernel Development. So click on the Customers tab and then click the "Add an entry" link associated with the Graphic Arts customer and the new Entity window will open (see Figure G below.)

Figure G



You can over-ride the read-only settings from the Customer creation here.

Now one of the only drawbacks to this system is there is no way to create a global category database. So each category will have to be entered by hand and it will be up to the administrator to control the categories used.

One of the things you will notice is the default status is "Awaiting Closure". When creating an entity obviously the status should be changed to Open.

One nifty little feature that was added (and one that could be very helpful in tracking progress) is the "Insert date, time, and your name" icon above th e large text area. If you click that button it automatically inserts a line like:

[Sun Dec 16 2007 10:14:19 GMT-0500 (EST)] - Administrator jlwallen:

I would highly recommend every time you open this Entity up to make changes you add that line to the bottom of the information in the text box. This will help you track any changes made to the Entity.

When you want to add a due date, click the due date box and a calendar will appear (see Figure H below). Select your date and the calendar will disappear.

Figure H

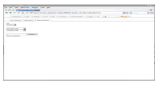
You can close this calendar window by hitting the escape key or clicking a date.

Once you have all the information filled out (and necessary files attached) click Save To Database to create the Entity. Now we have an issue. How can the graphics department see or use the Entity? Never fear there is a solution.

Users and Profiles

Within the Interleave system you can create Profiles to add groups to your system. Each Profile created can have a variety of permissions and associated available actions. Let's create a profile for the Graphic Arts department. To create a new profile go to the Administration page and click the Users & Profiles tab. Within this tab (see Figure I below) there is critical information to creating a profile that will keep the various users safe from doing any damage.

Figure I



Take note of the Forms selection (more on this in a bit.)

The first thing you will want to do is find the CID (Customer Identification Number) of the Graphics department (in my case it is 2). This number you will enter in the "Limit To Customer Numbers" field. This will then limit this profile to only the groups assigned. Another very important field is the Clearance Level. In the case of our Graphics department you would want to give them full access but only to the entities assigned to them. This will allow them to function within their department but now take any action on other departments.

Once you have all the necessary information click Apply Changes and your profile will be saved. Now when you add a new user, and they belong to the Graphics department, you will assign them this profile.

Forms

One of the very nice features of this tool is the ability to create your own forms. Forms allow you make just about any process simple. Need to have a form for your Graphics department to submit their graphics with? Simple: create a form for them to use. Forms do not have to be in the shape of "download-then-print-and-fill-out" type. They can be HTML forms complete with editable elements.

By default there are two Customer-usable forms installed "Joe's Own Helpdesk" and "Default". Let's create a very simple form for the Graphics department to use to upload files. To do this go to the Administration page and click on the Templates tab. Now click on New Template, give the template a name, and select HTLM Entity Form Template. Click Create. Now click on the All tab to see your new template listed. Click the Edit button to work on the template.

You will notice near the top of this page (see Figure J below) there is a compilation error. This is because no tags have been entered into the form. You have to add a minimum of #CUSTOMER# and @CUSTOMER@ tags for the form to work. Here's what we are going to enter:

@CUSTOMER@

#CUSTOMER#

#OWNER#

 # ASSIGNEE #

 # FILEBOX #

 # SAVEBUTTON #

This will create a very simple form to allow the user to upload a file to the system. Once you have entered that data and entered a Subject, click the "Save template to database" button and the form will compile. Now this form is ready to use by those that are assigned the Graphics profile.

When a user from the Graphics department logs in they will have an Add tab at the top of their Dashboard. If they click that they will see all the available forms assigned to their profile (see Figure K below.)

Figure K

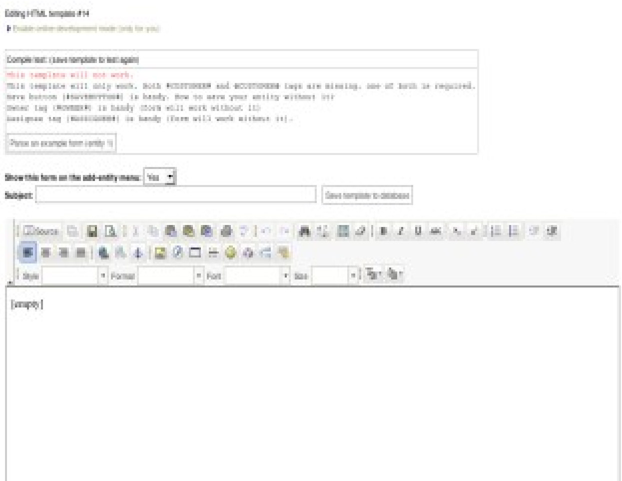
The Default form is simply an Add Entity Form.

You can get as detailed with the forms as you want. You can add text areas, check lists, drop downs, etc. These forms can easily become your Interleaves' bread and butter.

Extra Fields

Let's say the default entry fields for your entities or customers lacks some critical fields for your companies use. Not a problem. Go to the Extra Fields tab and select the New entity extra field tab. From here (see Figure L below) you can create a new field unique to either your company or to a customer.

Figure L



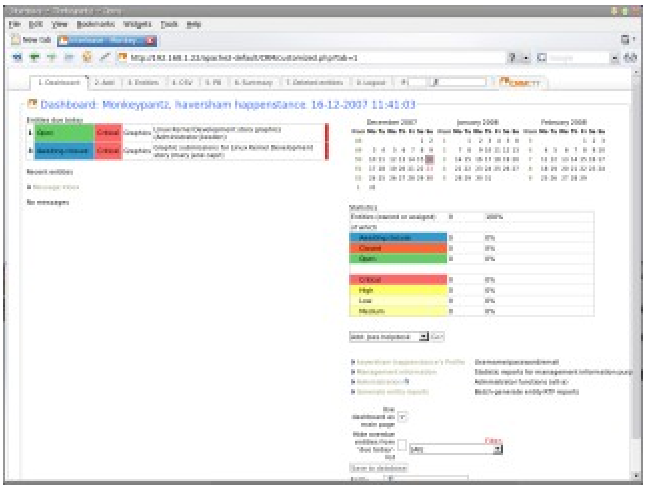
You can use HTML-tags in field names if you like.

The Type drop down contains 25 different types of entries you can use. Each time you select a different type the entry fields below the type change to suit the needs of that type. Poke around to see the different types you can add.

What the user sees

When a user assigned to our Graphics profile logs in, that user will see all assignments assigned to the Graphics Department profile (see Figure M below.)

Figure M



The user can set their own defaults on their dashboard.

As you can see user Haversham Happenstance can view the Entities assigned to the Graphics department. Haversham can click on an Entity, check out the attached files, work on the files, and check them back in. Haversham will also have permission to change the status, priority, owner, assignee, make notes, and send email out, regarding the Entity, to users in the profile.

Final Thoughts

As you can see Interleave is a system that could change your companies process from a jumbled mess of spreadsheets and emails into a well-oiled, trackable process machine. And we have just skimmed the surface of the power of this system. We have yet to dig into the report generation and other higher-level features.

So if you have a small company in need of tracking a single department or a large company needing to track multiple departments, Interleave is the way to go.