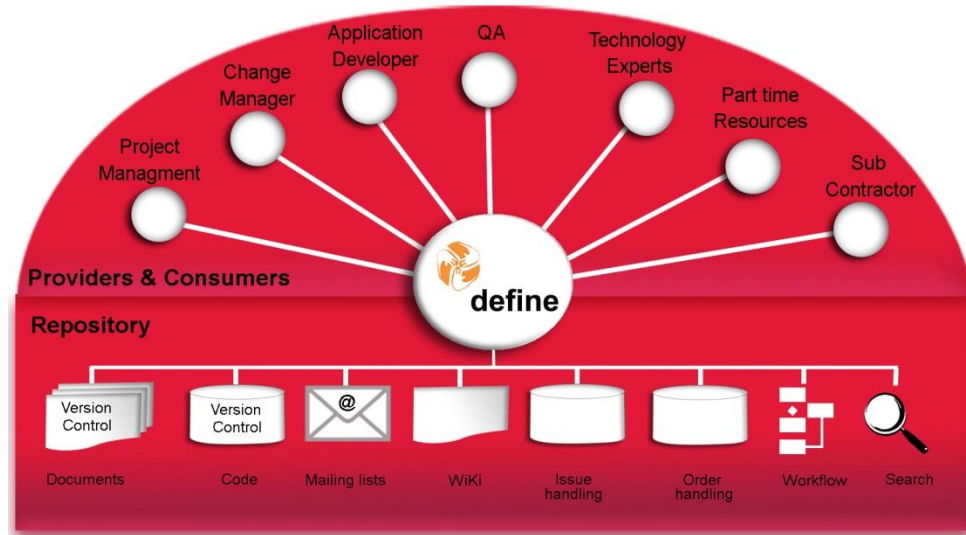# #define

What is #define

#define is CGI's production system for Application Management and Development, offered in the context of software as a service. It is a project management tool, configuration management system and collaborative workspace. As the preferred toolset for hundreds of CGI projects across the globe, #define is used by thousands of users every day to support some of CGIs most important deliveries. Ranging from small distributed projects to global outsourcing commitments, #define enables distributed delivery teams to store artifacts in a secure, central repository and share information using version controlled wiki pages and archived mailing lists.

Built using a core of well-established open source components, #define takes advantage of the quality, robustness and flexibility open source software offers, while minimising cost and adhering to open standards.

The purpose of #define

#define was developed to facilitate collaboration amongst CGI members, increase productivity through re-use and encourage industry best practice. By embracing the working practices and methodologies of distributed development teams within the open source community, #define offers deliveries greater levels of control and reduces the burden of infrastructure through Software-as-a-Service.

Our Tool

As a tool developed in house by CGI we encourage a sense of ownership in #define as *our tool*. With over 10,000 users across the globe, #define has a strong and vibrant community who engage with application services in the UK and application management in Sweden to inspire the future development of #define. We appreciate all forms of participation and communication with members to ensure we offer the services and features needed to support tomorrow's deliveries.

Features of #define

File Archive with Version Control

Each #define project includes a Subversion file archive. This facilitates and encourages collaboration, allowing users to share documents in a secure central repository. To interact with the file archive users can access the #define web interface, use windows explorers clients such as TortoiseSVN or IDEs including Visual Studio and Eclipse.

	▲ Name	Size	Rev	Modified	Author	Last Change
☐	▸ ☐ Application Management ⌄		10 ⚙	○ 16s	Milsom, Danny	List of available application man...
☐	▸ ☐ Reports ⌄		8 ⚙	○ 2m	Milsom, Danny	Uploading 2013 financial report
☐	▸ ☐ Training ⌄		9 ⚙	○ 1m	Milsom, Danny	First draft of training doc

The use of Subversion as a version control system means every modification to the state of files in the archive is recorded, leading to greater traceability and confidence that changes are easily reversible. To see these modifications users can use view colour coded change-sets in the online browser, which adds syntax highlighting for source code. Users can also use the annotate feature to see which change-set and author last modified each line in the file.

```
trunk/define/define/htdocs/js/define-layout.js  ⬇

r21910  r21912
 524    524
 525    525    $(document).ready(function() {
 526                $(".to-select2").select2({ width: "off" });
        526        $(".to-select2").select2({
        527          width: "off",
        528          dropdownCssClass: "ui-dialog"
        529        });
 527    530
 528    531    if($("#content.milestone").length) {
```

Project managers can configure read and write permissions to the file archive through access control lists. This means that permissions to certain file paths can be regulated based on groups or individual users.

Remove	Path Members	Read	Write
☐	@project_members	☑	☑
☐	@project_viewers	☑	☐

Issue Tracking

At the heart of every #define project is an extensive issue tracking system, a tool that underpins the entire application lifestyle process. All types of work and activities ranging from bugs to major feature enhancement can be documented in tickets, assigned to project members and associated with particular milestones. To meet the unique requirements of individual projects, ticket types, layouts and workflows are fully customizable.

#10 — **As a user, I want to search for my customers by their last names.** edit   ⊙ Add Hours

Priority	Type	Status	Owner
major	story	inprogress	Milsom, Danny

Reporter	CC	Opened	Linked To
Milsom, Danny	Piper, Nick	1h	#9

A powerful query builder allows users to search for tickets which satisfy certain criteria and can return these results in a variety of forms. This includes a RSS feed which allows for direct integration with mail client such as Microsoft Outlook.

Ticket	Component	Milestone	Priority	Status	Summary	Type
#6	component1	Alpha	critical	new	Add new reporting features	enhancement
#5	component2	Alpha	minor	review	Create some sales web document	defect
#9	component1	Alpha	minor	review	Email service desk after unsuccessful log in	defect

#define also includes a real time, interactive task board. Supporting drag and drop functionality, users can easily move tickets between different statuses and assign work to different team members. If any changes are made to tickets while viewing the task board, users will be able to watch the ticket update in real time.

new 1	assigned 1	accepted 1	review 1/10	testing 1	integration 1	closed 1	reopened 1
#14: Close this ⬗ defect ⛺ ❶ blocker ⚑ Alpha	#15: Add so... ⬗ enhancem... ⛺ groupinfr... ❶ major ⚑ Alpha	#6: Add new... ⬗ enhancem... ⛺ groupinfr... ❶ critical ⚑ Alpha	#9: Email se... ⬗ def... ⛺ groupir... ❶ m... ⚑ Alpha	#5: Create s... ⬗ defect ⛺ groupinfr... ❶ blocker ⚑ Alpha	#8: Fix IE8 fl... ⬗ defect ⛺ groupinfra... ❶ minor ⚑ Alpha	#1: hello ⬗ defect ⛺ ❶ major ⚑ Alpha	#16: API call to ⬗ defect ⛺ groupinfra... ❶ major ⚑ Alpha

Wiki

Instead of word documents stored on individual hard-drives integrated wiki pages are a centralised source of information which inspire collaboration and a sense of ownership. They are a rapid and efficient way of sharing content with other employees, version controlled to ensure all changes are recorded and reversible. This means that users can view the history of each wiki page and compare different versions.

Version	Compare older with newer	Date	Author	Comment
3	○ ●	8s	Milsom, Danny	Highlighted that proxy settings need to be configured
2	● ○	56s	Milsom, Danny	Adding some styling to the header
1	○ ○	10 Oct	trac	

When editing a wiki page users can even preview their changes in real time using the side by side editor and preview feature. The wiki toolbar provides a simple interface to format text, making it simple to use wiki syntax. Wiki marcos can also retrieve information from components including the ticket system, file archive and mailing list and display this dynamic content on each page.

```
== Macro Example ==

[[TicketQuery(milestone=Alpha, format=table, priority=blocker)]]
```
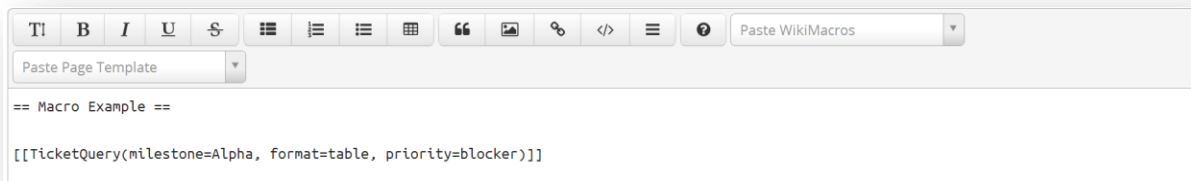
Page hierarchies can be used to provide intuitive navigation, productivity increased by drafting templates and aesthetics improved with the use of wiki processers. To keep project members updated with the latest changes, email notifications can be sent each time a wiki page is modified. A project member can subscribe to individual pages, or set matches for groups of pages within a hierarchy.

Planning

#define encourages tickets be assigned to milestones, which can have name, description, start and due date attributes. Managers can quickly analyse progress by viewing a high level, graphical summary of every milestone on the roadmap page, allowing them to plan ahead and anticipate potential problems before they impact the delivery. To represent the need for larger milestones to have several smaller iterations, #define allows milestones to be placed into a hierarchical order.
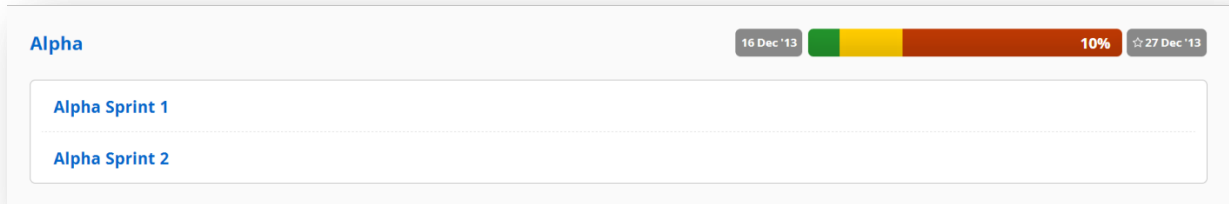

Users can also drill down into a more detailed to view of each milestone, to view lower level statistics displayed visually alongside links to related ticket queries. Milestone pages include a burn down chart to help teams monitor progress, track performance and evaluate the accuracy of effort estimates. Plotting three series to represent the ideal effort, remaining effort and team effort during the milestone; burn down charts give you a snapshot of the project at the end of each day.
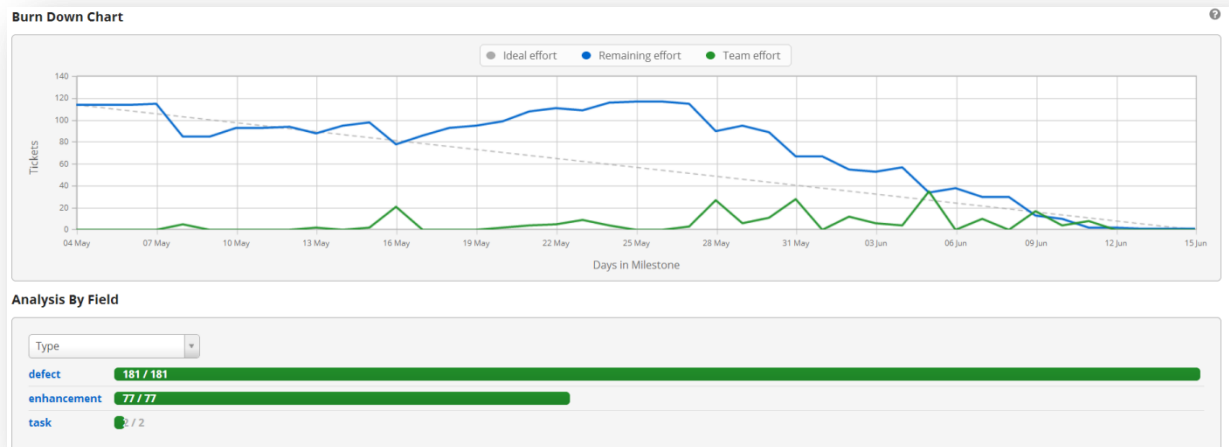
Reporting Service

Our data processing service allows projects to generate and schedule custom reports. These retrieve project data and then transform this information into detailed reports using Pentaho. Once generated reports can be stored in the #define file archive or downloaded for user convenience. To create reports for a #define project you should contact service desk, who will configure and schedule the reports required.
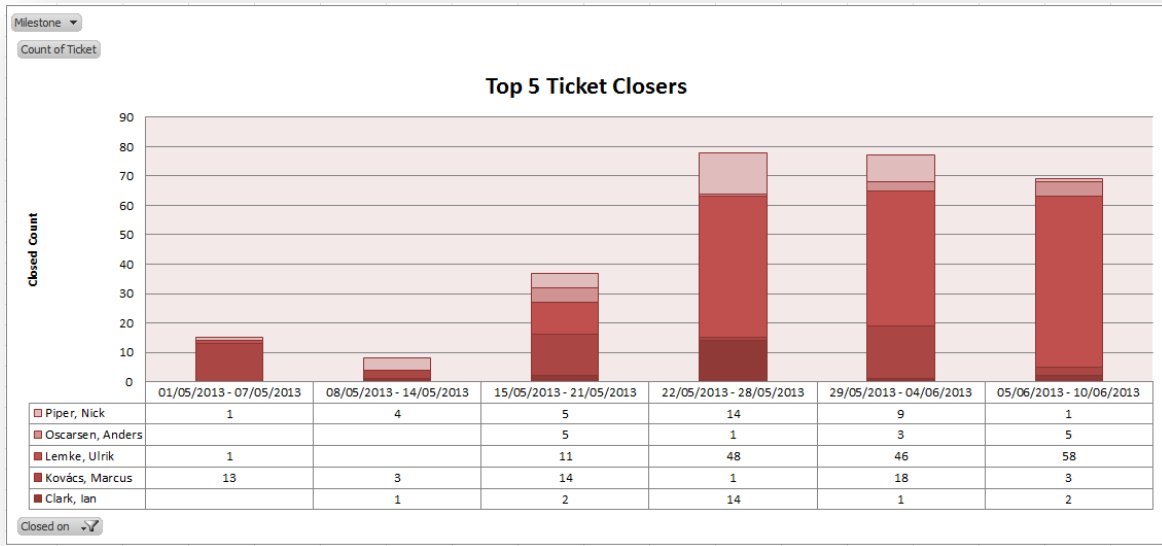
Mailing Lists

Usually used as discussion board for different interest groups, mailing lists are a simple and powerful way to distribute and communicate project related information. All mails sent to a mailing list are stored in a mail archive and are fully searchable inside the #define web interface. Permissions can also be applied to restrict access to only those subscribed to the mailing list.

Name	Description	Members	Conversations	Actions		
General	General project mailing list	25	0	✉ Send mail	👁 Unsubscribe	⤢ More info
Managers	Project managers mailing list	25	0	✉ Send mail	👁 Unsubscribe	⤢ More info
Testing	A discussion platform for the test team	0	0	✉ Send mail	👁 Subscribe	⤢ More info
Developers	Discussion platform for developers to discuss latest technology	0	0	✉ Send mail	👁 Subscribe	⤢ More info

Agile

#define supports a range of software engineering approaches, including different flavours of Agile. To enable projects using such an agile approach get started quickly, #define includes a default user story ticket type and a simplified workflow. Each user story ticket type also includes a story point field, to support effort estimation.

Burn down charts are particularly popular with Scrum teams, and give projects an indication of their existing work rate and remaining effort. In #define burn down charts are generated for each milestone.

To help support Kanban projects where the concept of push and pull is imperative, project managers can set an upper limit for particular statuses inside individual milestones. This will restrict tickets moving into a workflow status if the limit has already been reached.

#define also offers backlog management functionality which includes a simple interface to drag and drop tickets between the backlog and different milestones based on priority. The total estimated hours for each milestone are also display to help managers estimate the effort needed to complete each milestone.

Open Source

#define is built on a range of mature and trusted open source components. CGI has enhanced many of these products to offer additional speed, security and workflow features that are needed for enterprise projects. These include:

- Python
- Red Hat Enterprise Linux
- Subversion
- PostgreSQL
- Apache
- Pentaho
- Cassandra
- jQuery

Mobile Friendly Web Interface

The #define web interface has been carefully designed to ensure a modern, fast and mobile-friendly experience for all our users. With a responsive and intuitive layout, #define supports a wide range of hand held devices, including mobiles and tablets.
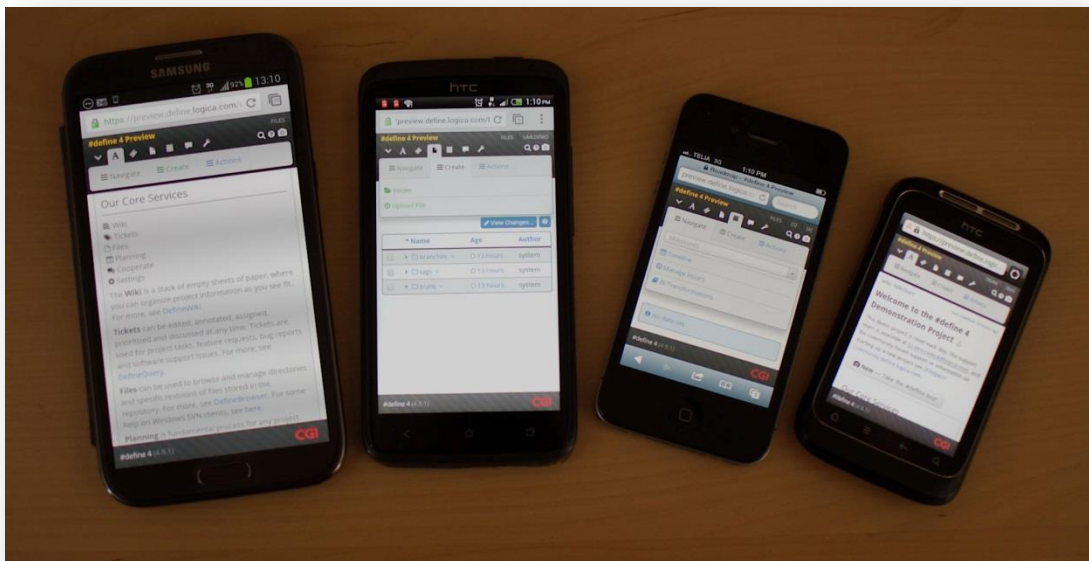
Benefits of Software as a Service

#define is offered in the context of Software as a Service. This can bring great benefits for clients and reduce both the workload and costs of the delivery considerably:

- **Quick deployment** – After completing the request form on our dashboard site your #define project can be up and running on our production server in less than twenty minutes.

- **No software downloads** – #define is offered as a web based platform so you don't need to download and install any new software on your computer.

- **Work anywhere** – As a web based platform with no software dependencies all you need if a network connection to reach your #define project. This offers the delivery greater flexibility and can particularly helpful for geographically separated teams.

- **No hardware configuration** – All the backend configuration of servers and other hardware are provided by the #define team. This means the delivery will save both in terms of hardware costs but also eradicate the cost of people monitoring and supporting such hardware.

- **24/7 Support** – We have a team in Sweden offering first line support to users 24 hours a day, 7 days a week. If they can't solve the problem the issue will be passed to the development team who will strive to resolve any problems as quickly as possible.

- **Automatic Upgrades –** Updates and upgrades to the latest releases of #define are handled by the #define team. This means no patches need to be downloaded and installed. Instead you will automatically benefit from the new features included in each releases.

- **Easier Budgeting** – Each #define project pays a fixed monthly rate for their subscription. This allows project managers to budget costs with more certainty as there are no additional variable costs.

Security

#define uses industry standard protocols and components to guarantee the security of each project.

- **Encryption** - #define uses SSL 3.0 and TLS 1.0 protocols to ensure the strong encryption of data.

- **Trac Permission Model** - #define is built on the Open Source Trac framework which implements a fully customisable permission model. This allows you to control which users have access to certain components and tickets inside #define. These permissions are easily configurable from the admin panel inside each #define project and can be applied to both memberships groups and individual users.

- **Subversion and Apache** - Access to the file archive included in every #define 4 project is managed by Subversion, and the Apache HTTP server which makes the repository available to clients. As an established Open Source version control system, Subversion is a trusted application used by millions of people around the world.

- **Subversion Authz** - In addition to restricting access to the entire file repository if users do not have the necessary credentials, Subversion also has a fine grain permission system which can enforce which users have read or write permissions to particular paths. These permissions are stored in the subversion authz file and are also configurable from the admin panel inside each #define project.

- **ADFS** - Access control to #define projects is managed centrally and built on federated Active Directory. This allows
users to use their existing corporate username and password credentials to access #define projects.

- **Auditing** - All accesses and changes are logged and tracked for full audit capability. To ensure this is comprehensive we collect information from Apache, Subversion and Trac logs.

Training and Education

We offer an extensive range of training material to ensure the learning curve for users moving to #define is minimised. These educational resources will assist users understand how #define works quickly to ensure productivity and efficiency are maximised for the delivery from the outset.

- **User Guide** - Our User Guide will give you a brief introduction to the interface and features available in #define. This is available as a PDF.

- **Help Guide** - Each #define project has a built in help guide, which is accessible by selecting the question mark icon in the ribbon of your #define project. This is a much more extensive document than the User Guide.

- **Training Videos** - We have created a range of training videos, focusing both on specific features and wider components of #define.

- **Tour** - If you are unsure about the features available on any given page, you can take the #define tour via the tour icon in the ribbon. This highlights different features on the page and offers a high level, user friendly description.

- **Community** - For informal support you can visit the #define community site, which contains additional training materials and videos. You can even discuss topics with other #define users via one of the community mailing lists.

- **Formal Training and Support** - If you would like us to provide formal training to your project members this can also be arranged.

PrimePortal

To provide a more efficient means of communication between the delivery and client, CGI also develops and offers PrimePortal, a powerful tool that gives clients a transparent overview of the entire delivery.

PrimePortal achieves this by offering a "Single-Point-of-Information" service where it becomes easy for the clients to obtain information and reports relating to project progress. As a result clients can drive the outsourcing commitment to ensure the solution delivered satisfies all of their requirements. Features which support this include a powerful ticketing system clients can use to communicate with the delivery, a file archive which can be used by the delivery to share documentation and dashboard which is tightly integrated with Remedy.

PrimePortal is also fully customisable to meet the needs of the client. For example the web GUI can include client branding and industry specific terminology, while bespoke ticket workflows and reports can be designed to meet the business needs of each individual client.

Comments from clients using PrimePortal clearly demonstrate its value, with one stating it was "a tremendous success" and "cornerstone of our service".
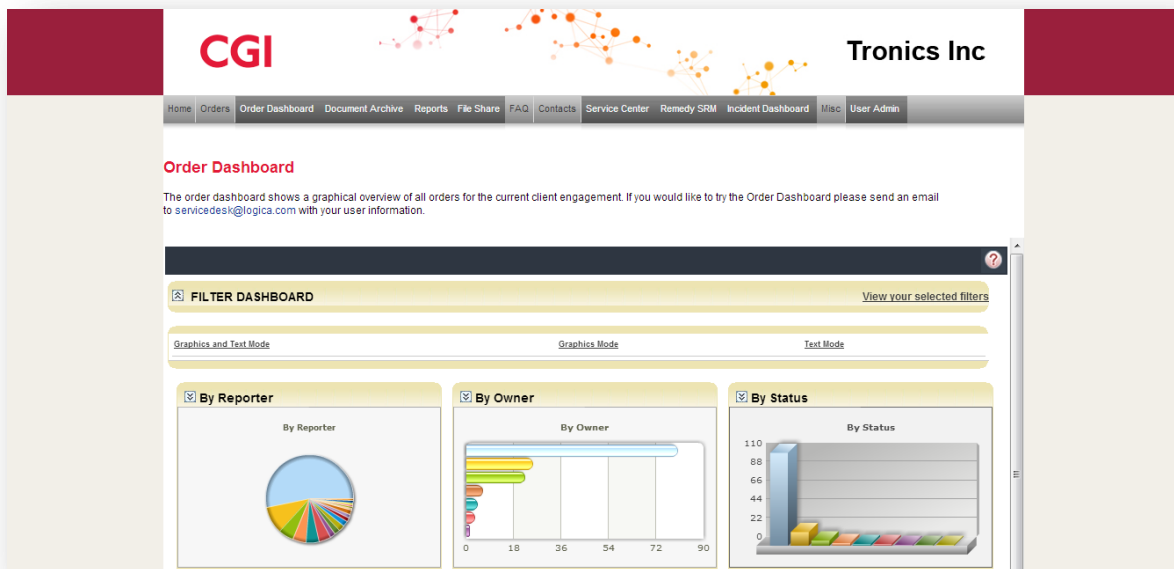
Get Your #define 4 Project Now

To take advantage of the benefits provided by #define you can request your own #define 4 project by visiting define.primeportal.com. Here you should follow the request new project link and complete the subsequent form.

Sign up today and join our ever expanding community across the globe delivering cutting edge solutions to CGI's clients.
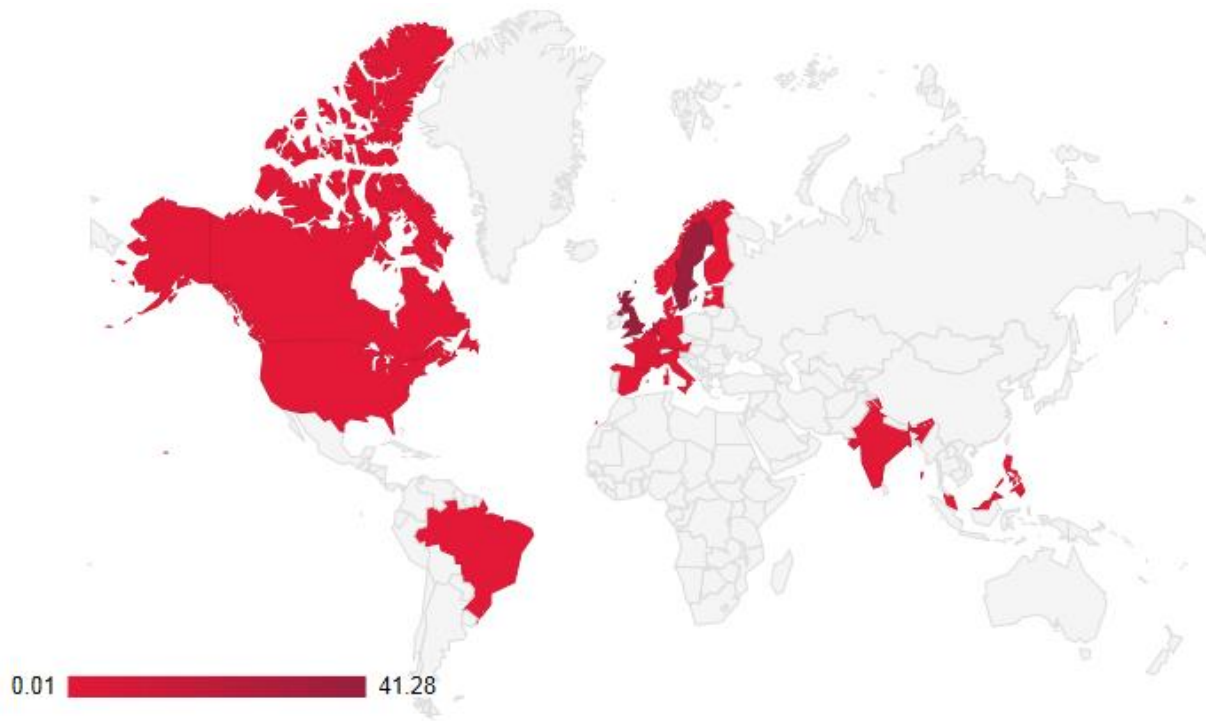
Note: Statistics represent the relative percentage of #define use across the globe, based on the HTTPS requests for #define3 and #define4 content between 18th September and 2nd October 2012. The UK has the highest percentage of total requests with 41.28% and is closely followed by Sweden with 38.7%.

Screenshots

File Archive

Change-set Viewer

Ticket Query Builder
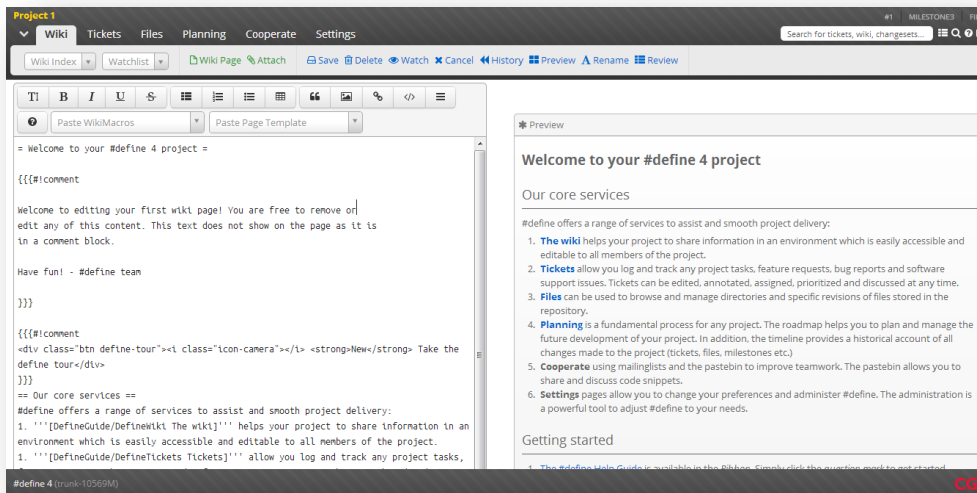
Wiki Editor With Preview

Milestone Information

Mailing List Archive