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≻ CIMERA™ Managing the Big Picture
A holistic approach to IT development

Cimera replaces all of the disparate lists, spreadsheets and databases that contain your management information with a single, state-of-the-art, repository.

The pressure is on IT development organisations to deliver better value for money, reduce operating costs and increase responsiveness to change. These organisations contain a wealth of management information that is essential for their operation, but often this is littered throughout the organisation and has an unnecessarily high cost of management.

IT staff who should be managing projects, developing code or testing are having to spend too much time searching for information or working from inaccurate data.

The solution

Cimera provides a single point for storing and accessing all of the information that an IT development organisation must record and manage. It enables a holistic approach to managing the IT development process.

Features:

- Manages user-defined information items with user-defined attributes. You decide what information is stored

- Manages relationships between information items allowing drill-down into the organisation

- Manages information through its lifecycle and enables workflow

- Fine-grained security

- Comprehensive audit trails

- Integrates with existing information repositories

- Fast Google-style searching and highlighting

- Fully extensible and customisable

Benefits:

Using Cimera reduces costs, reduces risk and prevents slippage.

- Cuts the operating costs directly associated with managing diverse information (recording, retrieving, reporting) by providing a single relational repository.

- Shrinks the elapsed time of key processes by managing the workflow and ensuring that the right people are notified at the right time.

- Reduces time wasted looking for information and mistakes resulting from inaccuracies; when accurate information is easily accessible better informed decisions can be made, resulting in fewer errors.

WHAT IS CIMERA?

The simplest way to understand what Cimera does is through an example. Figure 1, over, depicts a typical IT development organisation with all the teams that you would expect to find within it.

A bigger IT department may have additional, more specialised, teams and in a smaller one some of the functions may be combined into a single team.

This organisation appears to be doing all the right things:

- They have tools to take care of version control and automated testing

- They have processes in place (although inconsistent across teams)

- They are storing a wealth of information

Cimera resolves the common problems associated with having silos of management information stored in ad-hoc lists, documents, spreadsheets and databases:

- Can't find information
- Duplicated information
- Out-of-date information
- Unreliable relationships
- Expensive reporting
- No audit trail

How?
Cimera brings your disparate management information into a single, secure and managed location where it can be made to work, boosting your IT staff's productivity:

- Single point access
- Single point querying
- Single point reporting
- Information relationships
- Managed workflow
- Role-based security
- Comprehensive audit

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However, there are a large number of independent repositories holding information in different formats and locations.

This is a serious problem, the impact of which is often under-estimated or even ignored. It seems that we *expect* accurate information to be hard to find; we *accept* that it will take us sometimes hours to get the information we need; we *accept* that if a key person is unavailable then we will either have to wait for their return or make do without the information.

We've already talked about wasted time and effort, but what this actually boils down to is *money*. Spending 20 minutes a day battling against the environment seems innocuous enough - a minor irritation - but it represents between four and five percent of the organisation's labour cost.

The CIMERA engine

Cimera is an extensible, meta-data driven, information management platform. There are pre-defined jump-start packages available, which comprise the meta-data and plug-ins necessary to configure Cimera to fulfil a particular role (for example managing the IT development environment).

With the appropriate configuration Cimera is equally at home managing the IT development environment, supporting ITIL in an IT operational environment, managing the assets and workflow of a local authority or managing patients and healthcare within an NHS trust.

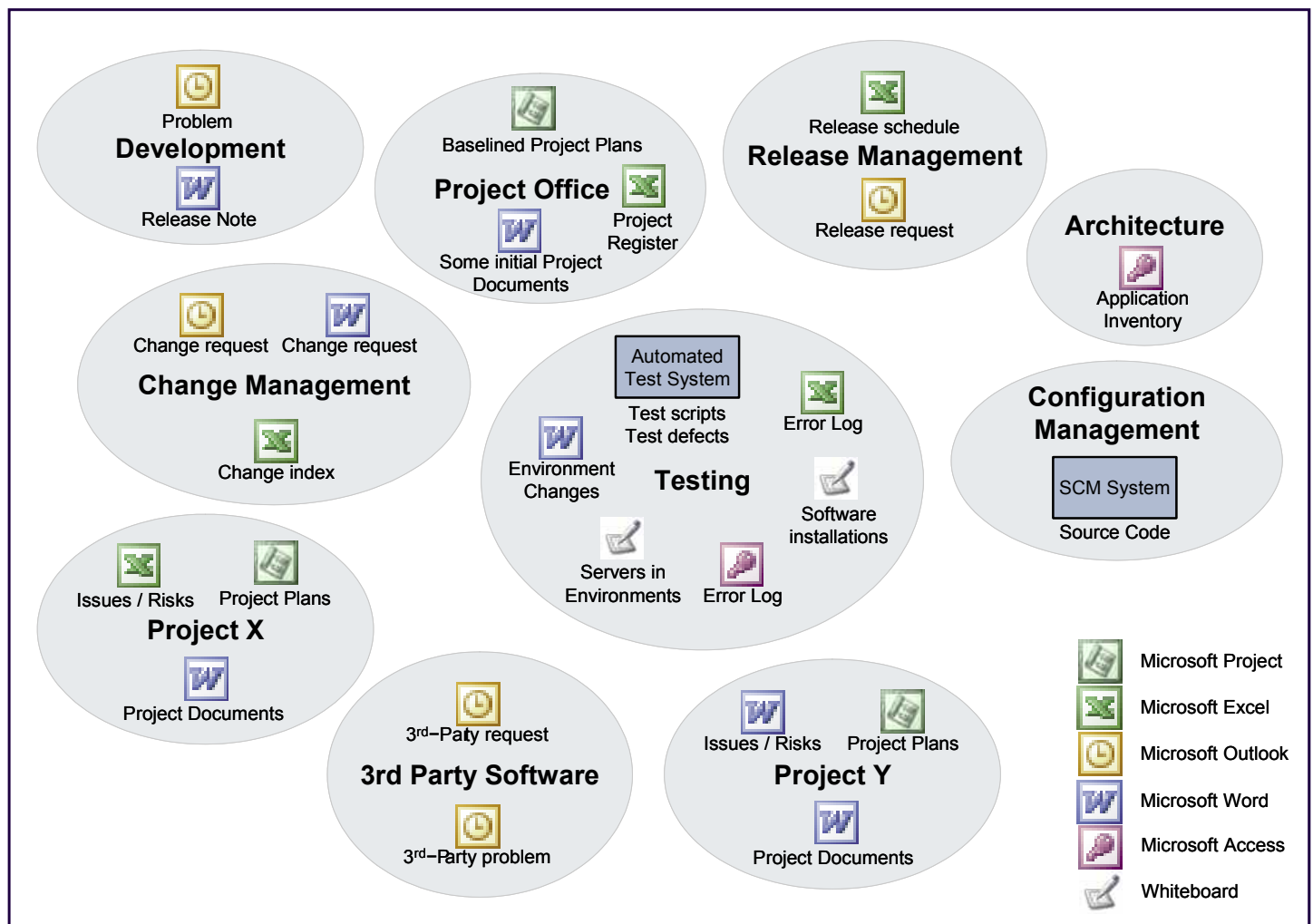Best of all, if you don't like what it does you can easily change it.

Figure 1. Typical Development Organisation

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Figure 2 shows the organisation's information after implementing Cimera. All the individual silos have been brought together. Spreadsheets, lists and ad-hoc databases have been replaced with Cimera items. Real documents and project plans are now attached to Cimera items and stored centrally in the Cimera Item Library.

The information stored in third-party tools has been integrated into Cimera. While the information is still managed using the third-party tool, it is now also available read-only through Cimera. Lifecycles have been created and applied to the appropriate items and Cimera enforces prescribed routes for items to follow through these lifecycles. It also ensures that assignees are aware of items that require their attention.

The green lines in figure 2 represent valid relationships that have been defined. Individual items can now be related accordingly. This then allows the information to be navigated via relationships.

For example, from a particular product release we can navigate to find out what technical changes were included in it, what business changes the technical changes were raised in response to, what defects were discovered in the release and what machines the release has been installed on.

All information now benefits from centralisation, security and audit trails and real-time management reporting across the organisation is possible.
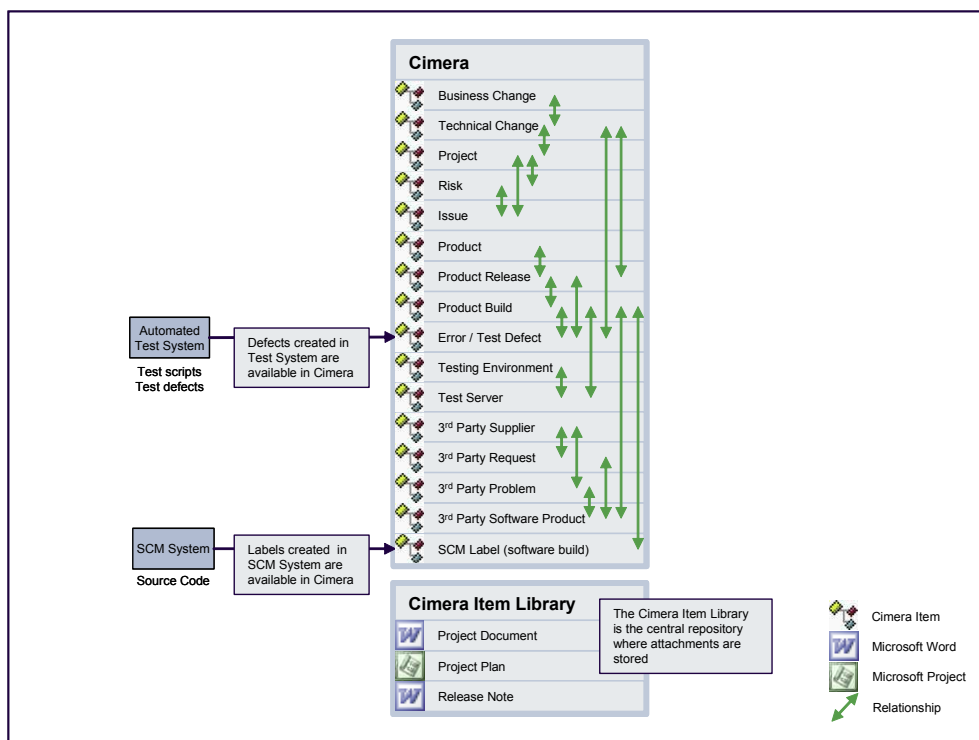

Figure 2. Development Organisation using Cimera

New opportunities

Cimera enables you to make more use of your information and do things that weren't possible before. For example:

- Cimera can be integrated with the operational organisation's service desk so that development changes can be related to production changes and problems.

- Third parties can be given secured access to Cimera over an extranet (or even the Internet) allowing them to participate in end-to-end processes.

- Cimera reports can be written and made available through a web server, allowing anyone with a browser to access them.

These new opportunities can be leveraged to improve service levels, be more responsive to change, and make changes more effectively and efficiently.

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LOOK FOR THE DANGER SIGNS!

Without Cimera

■ **Information is hard to find**
Finding information is time consuming because it is held in so many different, usually undocumented, locations.

■ **Person unavailable = information unavailable**
If the person responsible for a silo of information is unavailable, their information becomes unavailable.

■ **Information is duplicated**
Inevitably there will be multiple, independent copies of information. It is highly unlikely that the duplicated information will be synchronised and therefore these copies are unreliable. But everyone assumes that the information is correct.

■ **Information. What information?**
Where there are silos of information people are frequently unaware of their existence. This leads to duplication of effort and decisions being made without the benefit of the full facts.

■ **Information is hard to relate**
There are many logical relationships between items of information. It is possible to manually record these relationships but as the information is managed independently it is hard to ensure that they are kept up to date.

■ **No big picture**
With disparate information it is extremely time-consuming to gather the information required to see a complete picture. And if you can't see it, you can't manage it.

■ **Disparate information is less accessible**
Information that is littered throughout the organisation is not easily made available remotely, for example, across the Internet.

■ **Hard to secure, hard to audit, hard to manage**
The nature of the information stores (e.g. Word, Excel etc.) makes it very hard to secure the data against corruption. There is no proper audit trail of any changes and each store must be backed up independently.

■ **Poor process adherence**
Word processors and spreadsheets are very flexible. Unfortunately this means that any data can be entered, not just the expected data. It is difficult to insist that mandatory information is captured at certain states in the lifecycle or to prevent people from entering invalid data or updating data that should be fixed.

With Cimera

■ **Information is easy to find**
Information is all stored in a single place. Includes Google-style searching across all your information and attached files

■ **Person unavailable = information available**
Information is available when the owner or custodian is unavailable.

■ **No duplication of information**
With information stored in a single place there is no need for duplication.

■ **All available information is visible**
It is clearly visible to any Cimera user exactly what information is available within the organisation.

■ **Information is easy to relate**
Relationships can be formed between items stored in Cimera. This includes the information held in third-party tools.

■ **Manage the big picture**
Querying and reporting across the entire organisation is possible. Information relationships enable powerful drill-down.

■ **Centralised information is more accessible**
All of the information stored in Cimera can be accessed remotely across the Internet.

■ **Easy to secure, easy to audit, easy to manage**
Cimera offers ownership and role-based security that operate down to field level. All actions are recorded, and a single repository means a single point to back up and restore.

■ **Encourages process adherence**
Cimera can ensure that only valid information is entered. It can highlight undesirable (but valid) information (e.g. out of normal range). It can also validate across fields, ensure that mandatory information is completed, and prevent selected information from being changed at certain points in the lifecycle.

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> CIMERA™ The Gateway to your organisation

Cimera is the information hub at the centre of your organisation, where you can find what changes are pending approval, what software is installed in test environments, what releases are scheduled, what problems are outstanding - any information you need on your IT development environment. And if Cimera is your primary information management tool then it's also the only place you need to go to raise a change or problem or schedule a release.

Cimera's workflow focus ensures that you see the items that require your attention. Powerful drill-down enables you to understand quickly the impact of any changes before you make them. Its flexibility means it can be readily adapted to the processes you are already comfortable with. And its extensibility means you can add your own bespoke behaviour. Want to click on a build and have it automatically install? You can.

ITEMS

Cimera allows you to define as many different types of item as you need, with as many attributes and relationships. Attributes include alphanumeric, numeric, long text, boolean, date/time, file attachments and so on. Different types of relationships can even have their own attributes.

It's possible to make attributes mandatory and they can also be validated against complex criteria, including the values of other attributes. You can even change the colour of the attribute's display area according to criteria to highlight, for example, valid but unsatisfactory or unexpected values.

Figure 4. Each item has the attributes and relationships that you define

inferior way, as if they were an afterthought. In Cimera each item type can be defined as versionable or non-versionable.

A versionable item comprises of a stem and zero or more versions. The stem holds the information that is common to all versions. Both the stem and versions can have user-defined attributes and relationships to other non-versionable items, stems or versions.
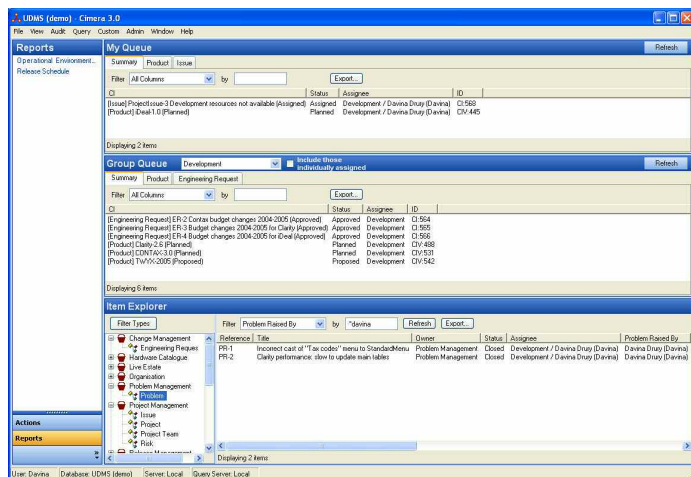

Figure 3. Cimera's main window is the gateway into your organisation. From here you have immediate access to all the items managed by Cimera. Further, it shows the items that require your attention.

VERSIONS

Item versions are first-class citizens in Cimera. Specific-focus tools like asset management or service management either don't acknowledge versions or handle them in some
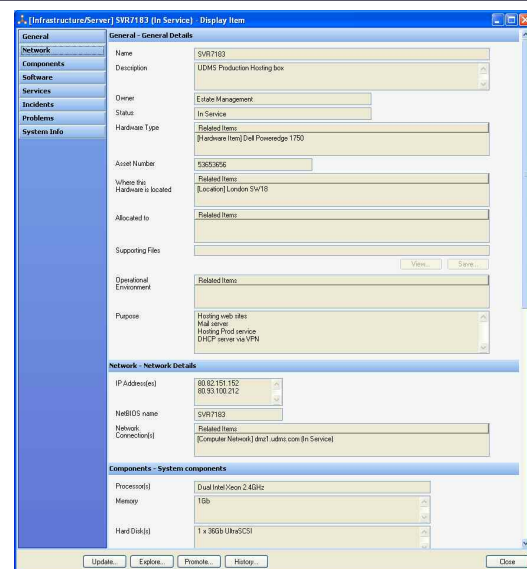
LIFECYCLES

A lifecycle is the ordered series of states that an item progresses through during its lifetime. Lifecycles help ensure consistent processing of items such as changes, problems and software releases.

In Cimera each item type can be assigned a lifecycle. The status (position in the lifecycle) of an item can be used to determine which information is mandatory and which is unchangeable.

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WORKFLOW

Cimera supports workflow. Lifecycle states can be set to indicate that an action is required. For example, an item with a status of pending release implies that there is an outstanding activity to be performed whereas an item with a status of closed clearly requires no action.

Cimera ensures that you see items that are assigned to you, or your group, at a state in their lifecycle where action is required.

DRILLING DOWN

Relationship Explorer is used to navigate through the items by their relationships. This is a very powerful way to quickly find answers to questions. It makes impact assessment a breeze, saving time and encouraging more thorough analysis.
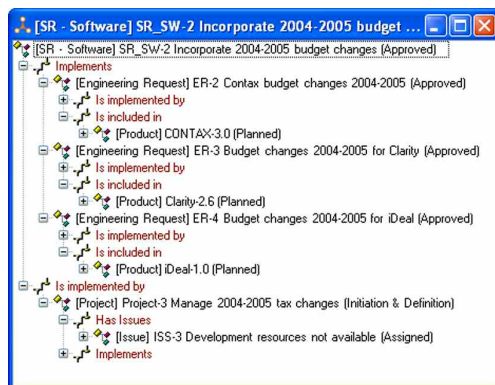

Figure 5. Point-and-click impact assessment.

COMPLEX QUERYING

For more complicated queries the Query Builder guides you through the process, making it as simple as possible while providing a fine degree of control. Queries can be saved and every listing window within Cimera gives you the ability to export the filtered list.
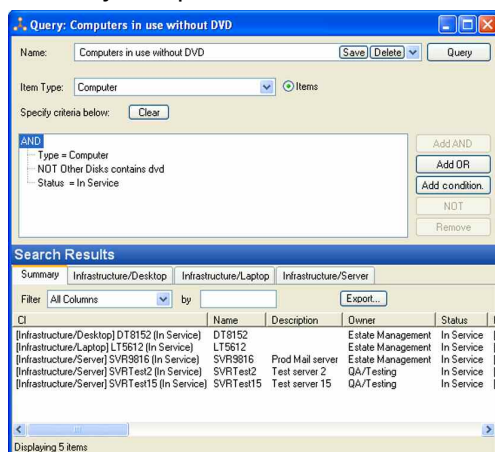

Figure 6. Comprehensive querying.

FULL TEXT SEARCHING

Cimera allows you to search all items, relationships and attachments in a matter of seconds, in much the same way as Google allows you to search the Internet, by specifying combinations of words and phrases to include or exclude.
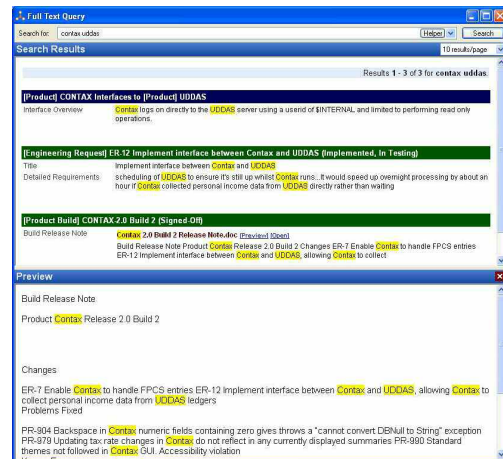

Figure 7. Fast Google-style full text searching.

Searched words are highlighted in the search results list. File attachments returned in the list can be opened directly from the search results or in a text-only preview. Advanced search syntax allows searches to be limited to particular item types and/or fields.

The Cimera indexing server checks for new and updated items every few minutes ensuring that the information returned is always up to date. Attachments are indexed using the same technology that the Windows and Google desktop search products use. Indexing filters for standard file types (such as Office) are built into Windows and additional filters for non-Microsoft formats (such as PDF) can be freely downloaded or purchased from specialist providers.
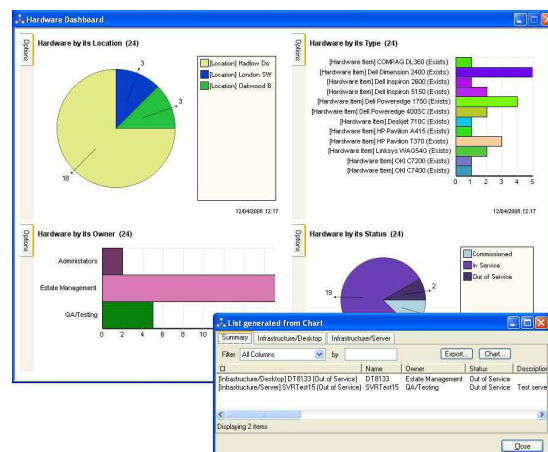
DASHBOARDS

Figure 8. Bespoke dashboards are drill-down enabled

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Bespoke dashboards are easily created using Cimera plug-in technology to give an instant view of all, or part, of the organisation. It's a powerful tool for managers wishing to quickly understand how their department or project is performing, and get advance warning of potential problems.

Cimera allows you to select different types of charts, all of which are interactive. Click on a pie segment or bar and Cimera will display all of the underlying items.

AUDIT TRAILS

Every action performed in Cimera is subject to an audit trail. Selecting the history of an item shows every action that has been performed against it, right down to the attribute values that were changed.

GRANULAR, OWNERSHIP AND ROLE-BASED, SECURITY

Cimera implements a very granular security model, extending down to the individual attributes of an item. Security can also be applied depending on the lifecycle state of an item, or to restrict progression of items to authorised users.

Every item in Cimera must be owned by either a group or a member of a group. This encourages accountability and enables effective security. Access is role-based and each user may be given multiple roles on multiple groups. Combinations of groups, roles and users are then given access to items or types of items.
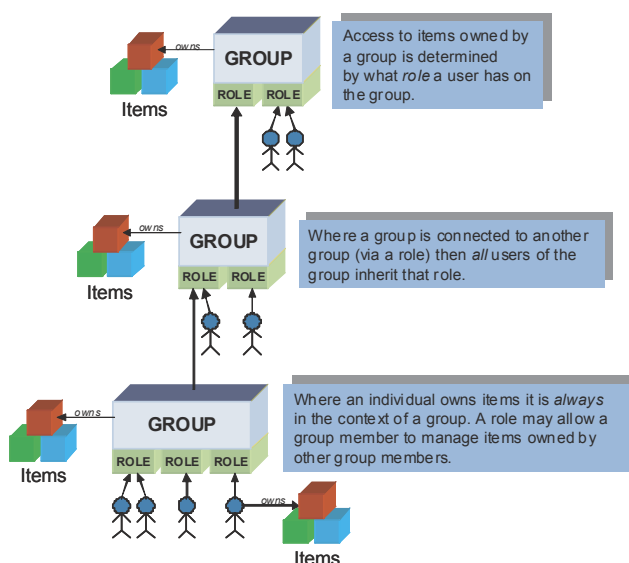
For example: the change items for a particular project are owned by a group representing the project. A security rule permits full access over change items to any user connected to the owning group with the Change Manager role.

This means that a user could be connected to multiple groups with the Change Manager role and this one security rule would give the user full control over all changes owned by those groups.

Similarly, security can be determined based on who an item is assigned to. Or who the item was created by. It is extremely flexible.

Security is embedded in the Cimera architecture. Passwords are never sent across the network as clear text. In fact they're only ever passed (encrypted) across the network when they're being set. All non-read requests must be accompanied across the network with a non-replayable session key.

EXTENSIBLE META-DATA DRIVEN ARCHITECTURE

Cimera's flexibility comes from its meta-data driven design. Item types, attributes, relationship, lifecycles, security groups and roles and screen layout are all configurable through meta-data. This is stored as XML which simplifies remote support of customisation.

When meta-data doesn't provide enough customisation flexibility, Cimera plug-ins can be used to add extra functionality. Plug-ins are security-aware so you can ensure that only the intended users with the right roles can use their functionality.
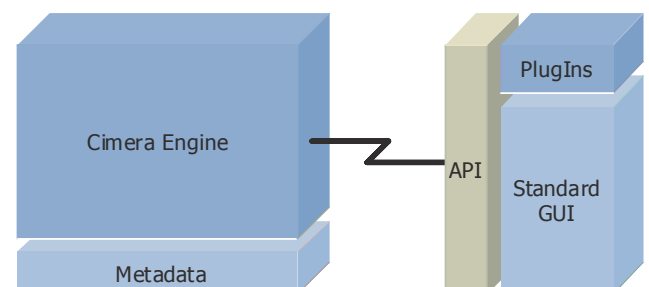

Figure 9. Security is all about ownership and roles. Clear information ownership encourages responsibility

Figure 10. Cimera's behaviour is determined by meta-data and plug-ins.

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A SCALABLE, ACCESSIBLE, ARCHITECTURE

Cimera's client server architecture is designed to scale from a single user up to thousands of users. On average over 95% of client requests will be read-only and the remainder will be create, update and delete operations. The architecture reflects this – there is a single update server but there may be an unlimited number of query servers.

Additionally, a Cimera server can be configured to manage multiple Cimera databases concurrently.It has been completely developed in .NET and runs on all Microsoft Windows versions that support the .NET framework 3.5.

The back-end database is hosted in SQL Server. A separate SQL Server reporting database may be created, synchronised with the main Cimera database. This allows users to create reports against a user-friendly schema using their favourite SQL reporting tools such as Sql Server Reporting Services (SSRS).

Jump-start your implementation

Cimera is supplied with an IT development jump-start package that covers many of the elements involved in the software development and support environment: change management, problem management, project management, release management, deployment and estate management, testing, development and supplier management.

The jump-start package comes pre-configured with item types, lifecycles, relationships, groups and roles. Then, because one size does not fit all, the Cimera meta-data can be modified to meet your specific needs.

COMMON QUESTIONS

Q: Is Cimera just a CMDB (Configuration Management Database)?
A: This is a hard question to answer, as there is no universal definition of what a CMDB actually is. Many service management tool vendors have labelled their back-end database as a CMDB and consequently a lot of people now think of the CMDB as something which holds asset information and helpdesk tickets.

We define CMDB as a repository that is able to hold information about any type of object: logical, physical or conceptual. In a CMDB valid relationships should be definable between the different types of objects. So Cimera performs the role of a CMDB but it offers a lot more.

Q: Do I have to implement it in one go?
A: No. In fact we usually recommend that you implement in stages, starting with the area where you're experiencing the greatest pain. This way the implementation can be fine-tuned to deliver the greatest benefit and the initial group of users will become your sales force; preaching the benefits to the unconverted.

Q: But our people don't like bureaucracy, we're agile
A: The truth is that an organisation already has processes, it's how things get done, they're often just undocumented and performed in a less structured manner. While this might seem more agile, a well-structured environment will mean people spend less time overall dealing with the mundane process-related tasks (and the downstream effects). Spending 15 minutes properly completing a release note may seem like an unnecessary drag to the developer but the testers will know what's in the release which will save them having to pester the developer later, retest a problem that hasn't been fixed or test a feature that is known not to work. Cimera can be configured to be as strict or as relaxed as you like, within reason. It will always enforce a certain amount of data integrity.

To find out more about how Cimera technology can help your business, call us today on +44 (0)8456 447 554 or email info@propelsystems.com.