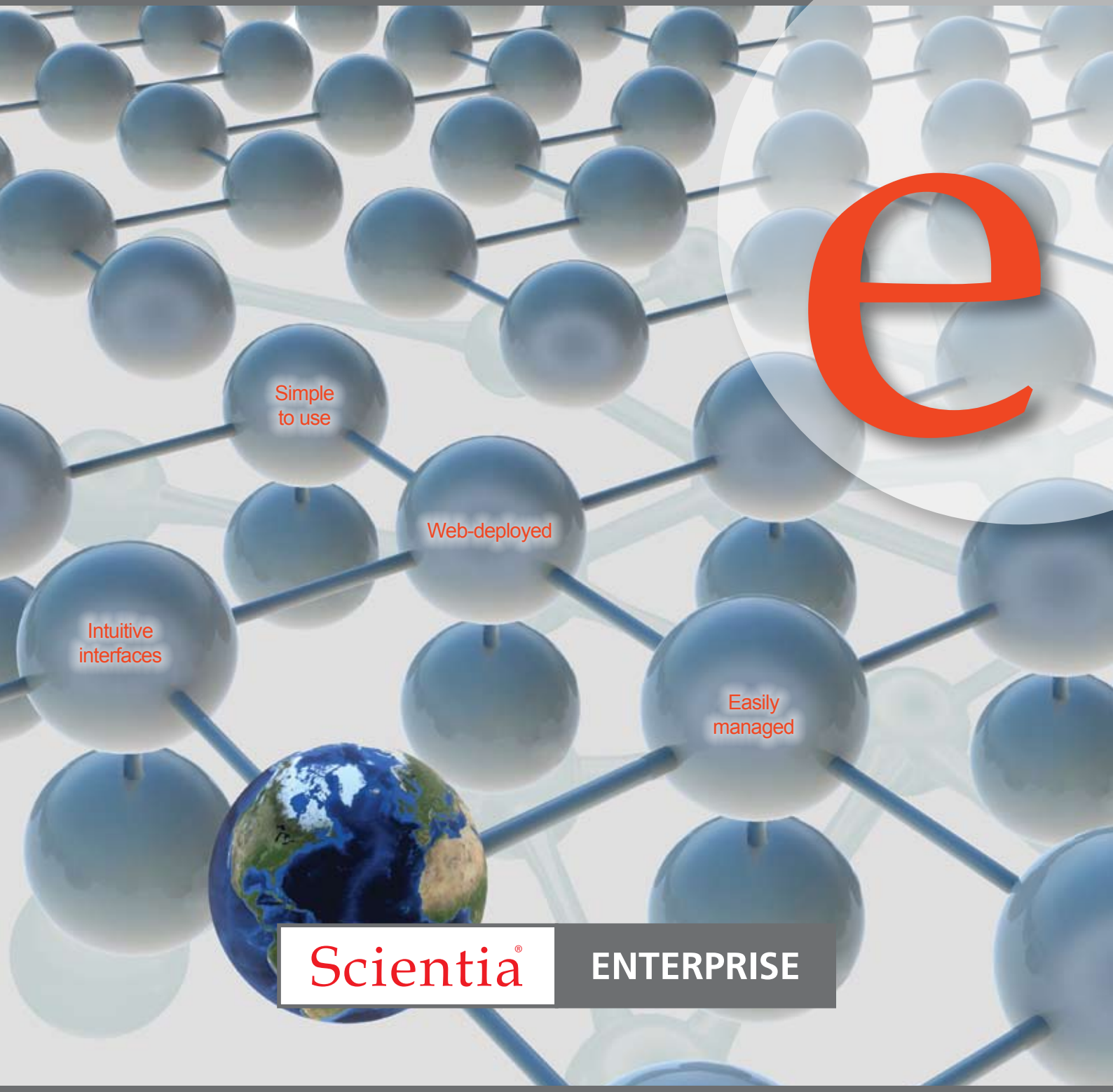


Web Flexibility + Efficiency + Real Time Control

Solutions for Optimisation and Growth

- Lower administration costs
- Increase user satisfaction
- Leverage ICT investment
- Enable better management

Contents

What is Scientia Enterprise?

Syllabus Plus Enterprise is a fully integrated suite of software modules that support the full range of processes involved with planning and scheduling in institutions of education. There is Enterprise software to support:

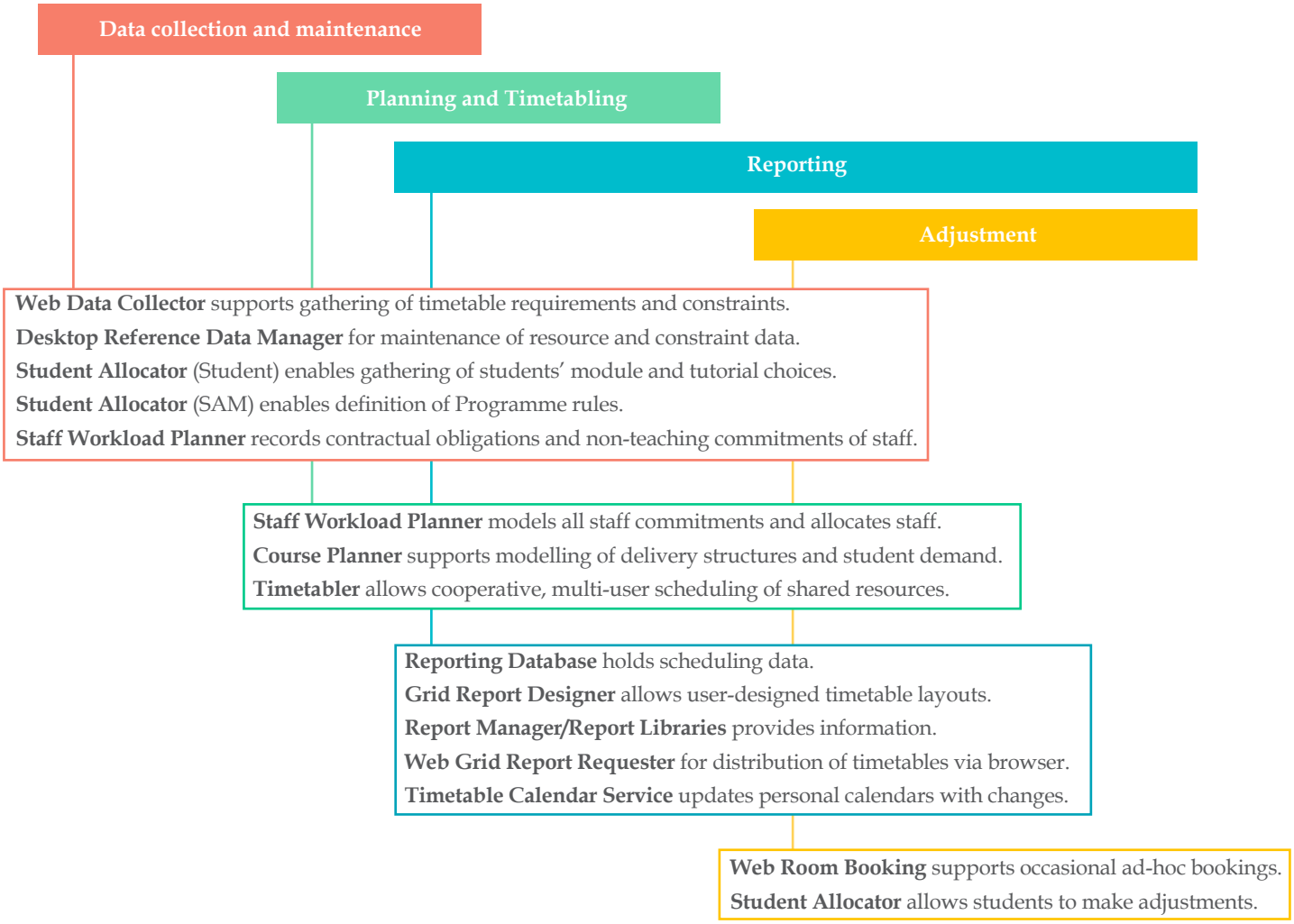
- Description of Programme rules.
- Definition of Module delivery.
- Planning to accommodate expected numbers.
- Planning staff workload.
- Responding to changing demand.
- Clash-free scheduling and effective resource allocation.
- Allocation of students to activities.
- Dissemination of timetable information.
- Dealing with ad-hoc changes.
- Ad-hoc room bookings.

Access to all Enterprise applications is controlled via a central Authorisation Manager that determines who is allowed to use which applications and what data they will be able to see or change.

Enterprise applications are either browser-based or, for those requiring a highly interactive interface, delivered to the desktop via a browser, so that you don't need to install software on client machines.

Supporting the Academic Lifecycle

The Enterprise suite offers a range of applications that support the whole spectrum of processes encountered during a planning cycle.



ENTERPRISE Web Data Collector

Replace manual data collection with an easy-to-use web interface.

- Electronic input – no need to re-key data.
- Enforces data accuracy/quality.
- Easy to use with the minimum of training.
- Customisable to suit your terminology.
- Creates an audit trail (what/when/whom).

Collecting timetable data electronically leads to a more efficient use of staff time, both within academic departments and in administration. Less time and effort is spent on data validation, leading to a shorter time span between provision of data and the production of a timetable.

Increased data quality also means that the traditional 'tidy up' process between the circulation of the timetable and the start of teaching can be considerably reduced, avoiding last minute clashes and changes.

Web Data Collection in the Scientia Enterprise configuration enables subject specialists who are knowledgeable about their department's timetables to submit and revise their requirements directly. Hard and soft constraints on resource availability can also be collected using this versatile tool.

ENTERPRISE **Student Allocator**

Student Allocator provides students and staff with efficient and controlled on-line selection of modules, tutorials, and other elements of a student's academic programme.

Student Allocator can help your institution:

- Increase student and staff satisfaction.
- Maintain high academic and quality standards.
- Provide self-service to reduce costly administration workload.
- Facilitate improved attendance monitoring and improve retention rates.
- Provide staff approval of students' choices.
- Avoid timetable clashes and travel problems.
- Add value to data in student record systems.
- Provide up-to-date, accurate reporting of information.

As part of the Enterprise suite of applications, Student Allocator is completely integrated with Syllabus Plus planning and timetabling.

Student Allocator has a number of components, including:

- The Student component enables students via a browser to make valid individual choices, e.g. modules, tutorials or practicals. Students can swap onto other modules or activities, with checks that their choices are valid and there is available capacity.
- The Student Advisor component enables staff users, e.g. tutors or student advisors, to make or approve choices for individual students using a simple browser interface. It includes the ability to waive programme rules to cater for individual circumstances.
- The SAM (Subject Area Manager) component is used to build academic programme structures. With its focus on flexibility, it can reflect the institution's award and delivery rules - including sizes and option choices. Its graphical user interface provides visual feedback on the structures being built.
- The Staff component allows academic or administrative staff to allocate or move groups of students between lectures, tutorials, etc. Filtering features allow groups of students on similar programmes to be kept together. A full audit trail is maintained.

ENTERPRISE **Desktop Reference Data Manager**

This application is designed to allow the creation and maintenance of data related to resources (Staff, Locations and Equipment) and their related properties (e.g. Departments, Zones, Suitabilities, Tags, Groups, Constraint Profiles and Named Patterns).

- Web-deployed, making it accessible to users with the required knowledge of the data.
- Simple-to-use interface.
- Authorisation permissions control who is allowed to edit what data.

Before construction of a timetable can begin, the timetabler must know about the resources available and any constraints or preferences that will influence the way those resources are used. Some examples, by no means an exhaustive list, are described below:

Staff

- May only be available for teaching delivered by their own department or may deliver service teaching for other departments.
- Individuals may have personal preferences about when they deliver their teaching.
- Accepted working practice might dictate that staff have agreed break times and must satisfy specified loading criteria.

Locations

- Reducing travel time for staff and students might be a key scheduling goal.
- A building may be closed at a specific time of day, making all locations within that building unavailable.
- A given activity may require a location with very specific properties (e.g. it must be wheelchair accessible with a data projector and a water supply).

Equipment

- May be fixed in a room or portable.
- Some items of equipment may be owned by departments while others are centrally owned resources.
- Time must be allowed for equipment to be transported from one class to another.

ENTERPRISE **Staff Workload Planner**

As well as their commitment to the delivery of the timetable, academic staff spend time at a variety of other tasks. Enterprise Staff Workload Planner (ESWP) gives you a complete overview of the duties and allowances for each member of staff and assists the user to distribute tasks equitably.

- Users can define and create their own allowances.
- Categorisation by type and time block for easy reporting.
- Authorisation permissions control who is allowed to edit what data.

Authorised users can add as many tasks and allowances as required to represent the different duties undertaken by staff in their institution. These may be independent of the timetable (e.g. a member of staff is allowed time for setting examination questions) or associated with a teaching activity (e.g. a member of staff has extra time allocated for teaching a large group or outside of normal working hours).

Allowances may contribute a fixed time to the workload or a time dependent on the number of students (e.g. marking exams gives an allowance of n minutes per student) or the duration of the activity (e.g. weekend teaching counts as an extra 50% of the time actually taught).

The user can specify named blocks of weeks (e.g. terms, semesters) and statistical analysis can be viewed by week or, in summary form, by named block.

When allocating staff to timetabled activities, scheduling constraints are applied and ESWP reports on the scheduling problems that would be caused by any allocation.

ENTERPRISE **Course Planner**

Enterprise Course Planner (ECP) is designed to help you to plan the Programmes of Study and associated Modules being offered.

- Web-deployed making it accessible to people with the knowledge of Programme structures.
- Enables you to plan the right number of activities to deliver based on estimated demand.
- Tracks real demand as data becomes available and flags discrepancies with the plan.

A Programme of Study will typically include a mixture of mandatory and optional components with rules describing to students what constitutes a valid choice. The recent trend has been towards increasing student choice, resulting in a corresponding increase in the number of valid permutations that must be kept clash-free.

Increased flexibility in the Programmes offered to students has not usually been matched with increased resources to deliver them. So the challenge facing the timetable planner is how to ensure a clash-free timetable is possible for all the students on the Programme without repeating activities unnecessarily, using resources inefficiently as a result.

Enterprise Course Planner rises to the challenge, assisting the user to plan in advance based on estimated numbers or partial data from a student record system and then to respond rapidly to changing demand as more accurate information becomes available.

ENTERPRISE **Timetabler**

Enterprise Timetabler (ET) is the core scheduling software for Timetablers.

- Saves administration time.
- Supports manual or automated scheduling.
- Prevents errors/clashes.
- Controls who has access to timetable data.
- Responds rapidly to change.
- Delivers complex teaching delivery patterns.
- Improves services to staff and students.

ET combined with the Enterprise Authorisation Manager provides the flexibility necessary to accommodate the needs of timetablers from those responsible for a few Modules or a Programme through to those handling institution-wide timetabling. Because the scheduling engine performs clash checking more rapidly and accurately than a human, the timetabler is free to use their time and skills in more creative ways.

Each user may adopt an entirely manual approach, describing a candidate solution for clash checking by the engine or an automated approach, describing a pure requirement for the scheduling engine to satisfy. In practice, most users fall somewhere between these two extremes. Even at individual activity level, the user may adopt a hybrid approach; fixing some aspects of the activity manually while describing the requirement for others.

When working in manual timetabling mode the scheduling engine gives a wealth of advice on constraint violations; indicating why an activity may not be scheduled at certain times. ET also offers guidance in choosing the best time using a soft-constraint scoring system that weighs the scheduling preferences of the institution and their relative importance.

Each user can be given permissions that define what data they are allowed to see and what data they can change.

ENTERPRISE **Reporting Database**

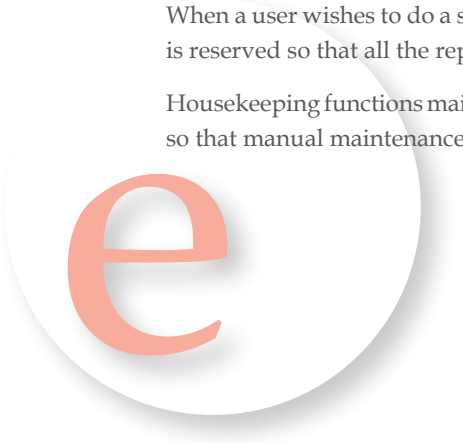
Enterprise Reporting Database (ERD) presents timetable related data in a format that is easy to report against (SQL Server and Oracle versions are available) so that you can use your preferred reporting tools to create your own reports, leveraging your in-house expertise.

- Data is autonomously updated.
- Snapshots can be reserved for future use.
- Housekeeping is automated.

The ERD is updated on a timed basis by the Reporting Database Generator. You don't need to think about updating the reporting view when changes are made to the timetable; that happens automatically so that reports are always against the latest data.

When a user wishes to do a series of reports against the data as held at a particular time, the snapshot is reserved so that all the reports will be against an internally consistent set of data.

Housekeeping functions maintain an up-to-date view and remove redundant snapshots automatically so that manual maintenance of the ERD is kept to a minimum.



ENTERPRISE **Report Manager**

Enterprise Report Manager (ERM) allows you to control who has access to what information via the reporting system.

- Uses roles in Enterprise Authorisation Manager.
- Permissons are granted per report and against data items.

Potentially, thousands of users in an institution will wish to access timetable information via ERM. Rather than adding all of these as individual users, they can be described in terms of a role or roles. One such role might be "Student". Others might be "Academic Staff" or "Head of Department".

Each role may be given permission to see a specified list of reports. For example, students would not be allowed to view staff timetables whereas academic staff would, academic staff would not be allowed to see staff cost reports, whereas heads of departments would.

Permissions may also be given at the data level so that heads of departments might access reports only against staff in their own department.

ENTERPRISE **Report Libraries**

Report Libraries are a cost effective way to provide everyone in your institution with access to structured information from a browser. The Reports that each person can run, and the information that each person can access, is controlled by data held in Authorisation Manager. Enterprise Report Manager enforces the authorisation rules and delivers the information to the person's web browser.

Each Report Library contains a large number of Reports and an institution would normally select only the subset of reports that provides the information required in the desired format.

Report Libraries are available for:

- Timetable information.
- Utilisation information.
- Academic information.
- General information.

New Libraries will be created in response to user needs, and Scientia will extend the reports in each Library in response to user feedback.

Information can be displayed in different formats including: browser text; pdf; Excel datafile; RTF.

As part of maintenance services, Scientia will ensure that Report Libraries continue to operate correctly with each new version of the Reporting Database and Enterprise Report Manager.

ENTERPRISE **Grid Report Designer**

The timetable grid style of presentation (days by times or vice versa) is peculiar to the world of timetabling. Enterprise suite provides an application specifically for the design of timetable grid layouts.

- Flexible content of headers/footers and timetable cells.
- User-defined formatting of text.
- Option to include graphics.
- PDF output gives true WYSIWYG print preview.

Each report layout has headers and footers at the report, object and page level. The content of each header can include graphics (institution logo, photograph of room etc), text entered by the user and data from ERD.

The details shown respecting each timetabled activity are also flexible as part of the layout design. The user can define the number of rows of information that are shown and select items of data from ERD to appear at the left, centre or right justified position.

The text for each item of data can be independently formatted by the designer. There is freedom to change the colour, the size and style, alignment and wrapping options as well as including graphics. There are also options for background shading of cells and label boxes.

ENTERPRISE **Web Grid Report Requester**

Every member of academic staff and every student in the institution will wish to access their personal timetable. Web Grid Report Requester (WGRR) allows them to do so.

- Users authorised via roles.
- Reports can be previewed on screen or printed locally.

There is no need to add all of the thousands of users who may wish to view timetables to Authorisation Manager. By creating roles, authorisation can be managed simply.

Authorised users can request a grid-style timetable using any of the layouts created and published using Enterprise Grid Report Designer. The user may not change the layout of the report but can parameterise their request, defining the object they wish to report against, the layout to use as well as the weeks, days, and times to be included.

The Report Requester returns a PDF to the user. They may then choose whether to view this on screen, save it electronically, send as an attachment to email or print locally.

ENTERPRISE **Timetable Calendar Service**

If the institution already uses a common calendar application (like Microsoft Outlook®) then Enterprise Timetable Calendar Service (ETCS) is a common sense solution for the distribution of timetable information.

- Calendars automatically updated.
- Read-only view of timetable information.

Each user subscribes to the ETCS and from that point on will receive automatic updates to their timetable calendar whenever they are connected to the service. The data comes from ERD so is continuously being updated.

The timetable calendar can be viewed alongside or merged with the user's personal calendar (when using Microsoft Outlook) but activities in the timetable can not be rescheduled.

ENTERPRISE **Web Room Booking**

Enterprise Web Room Booking supports self-service with total control for users wishing to make or request ad-hoc room bookings.

- Make or request room bookings.
- View the status of existing bookings.
- Cancel redundant bookings.

Authorisation allows you to determine whether users are allowed to make a booking immediately or whether they must register a request to be approved by another user. Each user may be authorised to book some locations while only requesting others.

The whole process of ad-hoc bookings can thus be dealt with on a self-serve basis. A configurable booking form allows you to ensure that bookers give all of the required information before they can request or secure a booking, dramatically reducing the time spent administering the process. Email notifications on receipt of a request, confirmation of a booking and cancellation are sent automatically. The notifier can be configured to send emails to multiple addresses (e.g. send to the requester and Cc to the department that owns the room).

Web room booking provides an equitable solution by chanelling all requests via a single medium so that they can be processed in the order in which they arrived. Users quickly become accustomed to the easy-to-use interface and receive a rapid and responsive service.

Each user can view the status of their current bookings and can cancel any that are no longer required, meaning that available space is much more readily returned to the room stock rather than remaining booked but unused.

ENTERPRISE **Authorisation Manager**

At the heart of the Enterprise suite, Enterprise Authorisation Manager (EAM) facilitates the assigning of permissions to users and roles associated with Enterprise software.

- Roles simplify management.
- Fine-grained control.
- Integrates with authentication system.

Many users of Enterprise software can be authorised via a role in EAM rather than requiring an individual entry as a user. For example, a user of Enterprise Web Room Booking might be in the role of "Departmental Room Booker" and have permission as a result to book rooms within their own department while being able to request those belonging to other departments.

Because the role in EAM understands the concept of "My Department", all departmental room bookers can be assigned the same role with their permissions being clarified by a department that they are said to represent.

Where required, EAM allows the definition of fine-grained permissions. For example, a user may be authorised to reschedule only the tutorial activities of a specified set of Modules. Another user might have permission to allocate only rooms within a specified department and of a particular type.

EAM does not store user passwords, it is integrated with the institution's existing authentication system so that each user only needs to remember a single user name and password combination to sign on. Once the user has been authenticated EAM determines which Enterprise applications they are allowed to use and their permissions. Information contained within the authentication system can be used as the basis for associating the user with a role or roles.

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Scientia – the company

Scientia Ltd was formed in 1989 and has built an enviable reputation as the global market leader in timetabling, scheduling and planning software, with 450+ Education institutions, Government bodies and Corporate clients in 24 countries covering 4 Continents worldwide.

The company is committed to developing and delivering advanced Enterprise resource optimisation solutions that meet the needs of our users.

To find out more about our range of web-deployed applications and custom solutions, including the Scientia Enterprise suite, visit the 'contact us' page on www.scientia.com to register your details and receive updates/news.

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