

Content Delivery Service (CDS)

Xyleme delivers content management for learning and development. We transform the way you author, publish, deliver, and analyze learning content to drive business performance. With Xyleme, you have everything you need to create a dynamic learning environment — from rapid single-source content development to anywhere delivery — a content management solution that brings increased velocity to your entire learning technology ecosystem and makes it your competitive advantage.

Product Highlights

- Centralized learning content
- Publish once and deliver personalized training to any system, application or device
- Smart Updates from Studio lets you publish object-level changes to many systems at once
- Track and learn how users interact with your content through reports and analytics
- Highly secure and scalable solution

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Dynamic Learning Content Delivery from the Cloud

As learning becomes more decentralized, you need a central repository for finished content that can serve your many systems and learners anywhere in the world. From CDS, content is securely delivered to any system, application or device — putting the most current information into the hands of your learners wherever they are. Tracking and analyzing learner's interactions with your learning content - at the object level - gives you newfound insights into how your content is performing.

With CDS, you will:

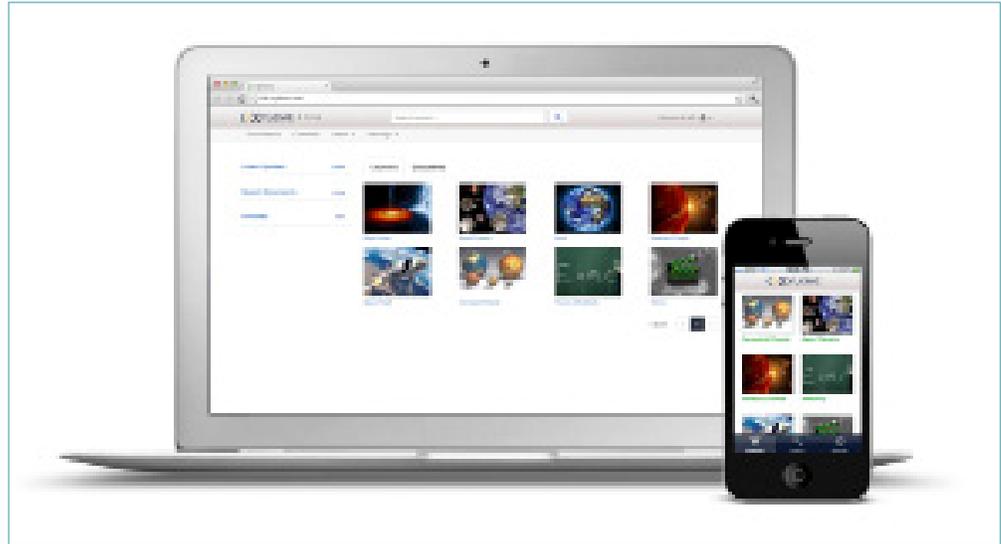
- Give users access to up-to-date content anywhere and on any device, with flexible delivery solutions.
- Make all of your content easy to find and available at the moment of need.
- Know what content is hitting the mark and what isn't with built-in analytics.
- Get ease of use with other systems, with integration solutions that tie your content into the bigger picture.

How it works

Content is published directly from Studio to CDS, which includes the Portal; an end-user interface for managing, searching and experiencing content. Under the hood, the Learning Object Repository (LOR) maintains the content both at the object level and the document (course) level. All content maintains a reference to its source content in Studio, thus providing a 100% single-source platform from authoring to delivery. Object data (XML) is used to search for individual "nuggets" of content and the user can choose to view either the full document or individual nugget from the search results. As content is consumed, learner activity is captured in the Learning Record Store (LRS). The Cloud Player reports SCORM data to connected LMSs in real time. This vertically integrated, single-source platform provides many benefits to authors and publishers in the areas of content management efficiency, analytics and feedback, and offers a dynamic, personalized learning experience to end users.

Other content formats developed in 3rd-party tools, including SCORM, video, audio, PDF, Word and PowerPoint, can also be uploaded, enhanced with descriptive metadata, and accessed by applications connected to CDS in a variety of ways. CDS keeps all versions of the content you publish together with the metadata, providing an audit trail that can be retrieved at any time.





Portal

Deliver

CDS provides administrative tools that allow you to easily manage your content and users. Through the User Manager, you can manage users and groups, and assign different roles to control what operations they are permitted to perform in the system. Integration with your Identity Provider will streamline user management and access control. Xyleme supports SAML 2.0 integration.

You can organize your documents in folders and assign permissions at the folder or document level to control the level of access for each user group.

Personalized Learning Channels

The Portal can be branded to suit your needs. To create a more personalized experience for end users, you can create any number of learning channels that act as collections of content around a given topic. Personalized Learning Channels leverage the power of the search engine to create feeds of content that are dynamically updated based on a predefined set of criteria.

Administrators can define any number of Channels to help their users find relevant content faster. Learning Channels are available to any application and to any device, to let users quickly navigate and browse content that is most relevant to them without having to figure out how to search for it.

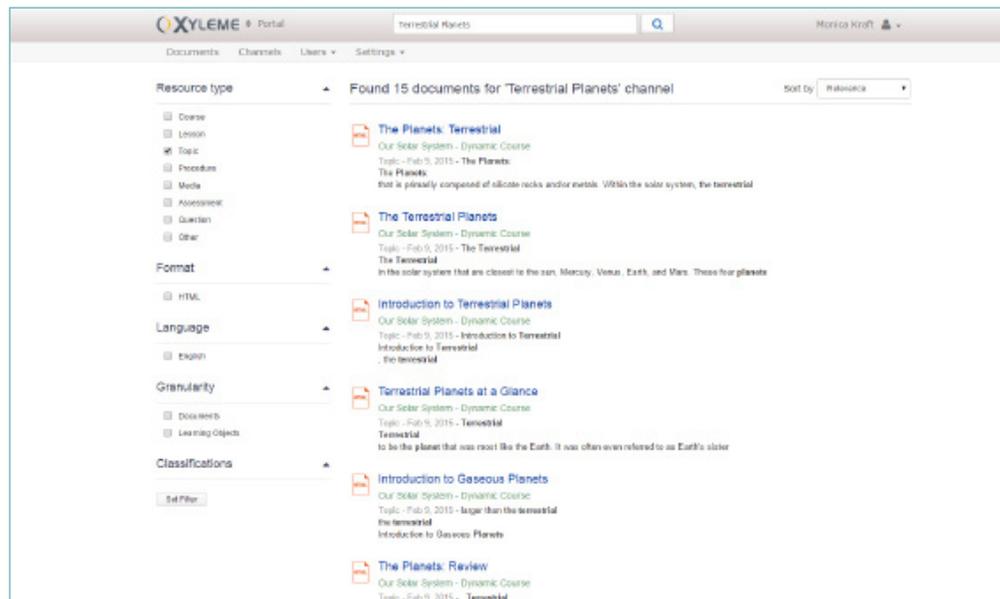
Training organizations use Channels to rapidly and effortlessly build specialized portals that are relevant to different audiences. For example, you can build portals with learning channels set up for specific constituencies such as dealers or OEMs; specific functions such as call center or repair; or lines of business such as machinery or financial products. When relevant learning assets are added to the cloud, they are automatically added to the corresponding channels.

Tagging and Searching

Any piece of content published to CDS can be tagged using flexible metadata. Administrators can define the taxonomies in Studio or CDS to classify the content that is published to the cloud.

Users can combine content and metadata criteria to run searches that return highly relevant results. Tagging and metadata searches can be used to personalize the content for a specific user based on their user profile. For example, content can be classified based on position, geography and skill level so only results that are relevant to the current user are returned by the search engine.

In the case of content published from Studio, users can additionally filter their results by the level of granularity they want to receive. For example, they could ask the search engine to return entire courses or only matching individual topics or procedures.



Search

Mobile Performance Support

The Xyleme Portal App is an extension of the Portal, designed for viewing and filtering content from the cloud on iPhone and Android devices over a standard cellular or Wi-Fi network.

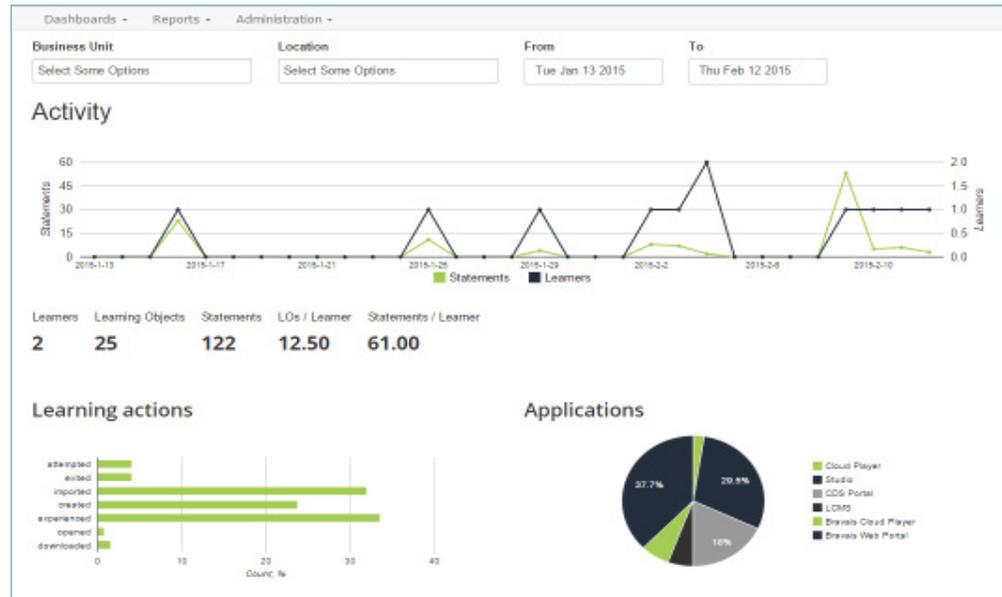
Xyleme's mobile capabilities have been designed for field workers that need quick access to information to perform their day-to-day tasks. The app leverages cloud search engine capabilities to return the most relevant results first. Results are filtered based on the user profiles and permissions to increase the accuracy of results. The app can be custom branded to match the branding requirements of your organization.

Analyze

CDS knows your users. The system tracks how they interact with your content regardless of what device or application they use. Whether the content is accessed by a computer running a SCORM course in an LMS or by searching content in the Portal, CDS will keep track of learner activities relative to the source content. Because Xyleme is xAPI-compliant, our applications track how users consume individual objects like topics or videos instead of whole courses, providing you with more granular and relevant data.

All the tracked data is available so you can view it on our dashboards or connect to the data directly to build custom reports. It is the deep content analytics that will provide insights into the quality and usefulness of your content, help you identify gaps and inform your strategic decisions.

The Content Overview dashboard provides a "Google Analytics"-like look at learning activity by learners, activities and applications, and includes most popular content and most active learners rankings. All data can be filtered by group, location and other attributes of learners. The Course dashboard dives deep into learner progress, scores and completions. Import/Export of xAPI statements is also supported.



Content Overview Dashboard

Cloud Player - SCORM Delivery Made Simple

The Cloud Player lets users launch SCORM courses hosted in Xyleme from any SCORM compliant LMS. The tracking data, completion status and scores are sent back to the LMS just as if the course was actually hosted in the LMS. From the Web Portal, you can download a "Thin Package" which is a very small SCORM-compliant package that only contains a pointer to launch the course in CDS. The package is uploaded to one, or multiple LMS's, as any other SCORM course. When a user launches it, the course content is actually delivered from the cloud and the course can send and read information from the LMS by using browser-compatible cross-domain JavaScript communication.

The Cloud Player lets you centralize the management of SCORM courses which has the following advantages:

- Maintain control of your IP by eliminating the need to send the full SCORM package to third parties and letting you manage permissions to access the content.
- Eliminate redundancy and time-consuming course updates by keeping one single copy of the course and have any LMS point to it.
- Manage content integrity by allowing you to know at any time, which version of the content is being seen by end-users.
- Continuous improvement of content by showing you how your content is used and if it is performing as designed.
- Ensure LMS Compliance by taking care of the final communication with the LMS and hence ensuring that any course that runs on the Cloud Player is compatible with all the LMS's it supports.

Integrate

CDS exposes content and all its functionality through a set of well-defined REST APIs. This ensures that the APIs can be accessed from any development language and can be leveraged to build your own custom applications or to integrate with other existing applications.

Currently, CDS offers the following API Services:

User Management

- Create, update, view and delete users and groups
- Add and remove users from groups

Content Management

- Publish, update, view and delete content
- Create, update, view and delete spaces
- List content in spaces
- Manage user and group permissions for both content and spaces

Learning Channels Management

- Create, edit, delete and display learning channels
- Classification Taxonomy Management
- Add, edit, view and delete categories from the taxonomy

Content Search

- Full-text search
- Advanced search combining metadata and content
- Analytics

Every day, Xyleme helps organizations transform their learning content into a high-performing business asset.

Personalized learning delivery means users get just what they need, just in time, in the format they prefer, on the device of their choice. This is only possible if your learning content is bite-sized, centralized, and can be dynamically delivered.

CDS is the new backbone for learning content delivery in your learning technology architecture, solving complex content management issues that your LMS was not designed to handle.

Your Custom Apps

You can use the CDS APIs to quickly create unique and targeted applications. Here are some examples:

Learning portals: Allow a retail chain to create “store profiles” that define the service offered, products sold and systems used in the store to dynamically generate store-specific training by location.

Online and mobile performance support: Enables users to search for content, filter by lessons, topics, procedures and other specific types, and returns matching results to the browser or smartphone.

Social Platform Applications: Bring all of the learning assets to your social platform and allow your users to search, consume, review, comment, rate and annotate the content to increase the value of your learning objects.

Dynamic Learning: Organizations can build custom learning packages for SCORM, AICC, Common Cartridge or other packaging formats by searching and assembling different pieces of content in Xyleme.

Scale

The Content Delivery Service has been designed and built to run in the cloud. The benefits from its main features include:

- Dynamic scaling of the server infrastructure based on user load.
- Application and data replicated on multiple data centers for additional availability.
- Virtually unlimited data storage capacity.

Learning content like videos, images or documents stored in CDS are delivered through a Content Delivery Network (CDN). The CDN keeps a copy of your learning assets in multiple locations around the globe and automatically delivers the content to end users from the closest location. This ensures that users get access to the content with low latency and better download speeds. Content updates are seamlessly propagated without the need for human intervention.

Security

Requests and Sessions

- Authentication and authorization on every request.
- All requests and parameters are sanitized and validated before processing them.
- Possibility to set up absolute timeouts to expire sessions after a certain period of time regardless of activity.
- No-cache headers are set in all application responses to avoid caching of session tokens by proxies and client machines.
- All privileged operations are logged for audit purposes.

Data transmission

- All traffic between the application and the client machine is encrypted using SSL with a public key of 2048 bit.
- No sensitive data is ever transmitted as part of URLs.
- Secure CDN distribution by using dynamically signed URLs, which are only valid for a limited period of time and whose access can be restricted to a certain range of IP addresses.

Data storage

- All learning assets stored are encrypted at rest.
- No user sensitive information is stored on client machines.

Single Sign On

- Integration with SAML 2.0 compatible Identity Providers.

Testing and assessment

- Penetration testing performed annually by an independent security based on OWASP Top Ten security flaws.

About Xyleme

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Xyleme is headquartered in Boulder, Colo., and can be found online at www.Xyleme.com.